

PIERS 2019 Rome

Photonics & Electromagnetics Research Symposium
also known as Progress In Electromagnetics Research Symposium

Advance Program

June 17–20, 2019
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T.-W. Lee	G. Leone	U. Levy	J. Li
M. C. Li	T. Li	X. F. Li	E. Limiti
Y.-H. Lin	F. W. Liu	L. Liu	Z. W. Liu
Z. W. Liu	P. E. Longhi	X. Y. Lu	M. Lucido
A. Lukowiak	S. Lupi	Y. G. Ma	S. Maddio
A. Marcelli	V. M. Primiani	S. Martin	G. Z. Mashanovich
L. Mei	C. Merla	F. Michelotti	R. M. Montereali
T. A. N. Morgado	I. Naydenova	X. J. Ni	Y. Okuno
S. K. Ozdemir	P. Pagliusi	M. Panella	V. M. N. Passaro
M. Pastorino	L. Petti	E. Pettinelli	N. Pierdicca
R. Pierri	S. M. Pietralunga	I. M. Pinto	S. Pisa
S. Pissadakias	E. PiuZZi	S. K. Podilchak	M. Principe
F. PrudenZano	R. Przesmycki	D. Psaltis	J. Ptasinski
C. Y. Qiu	N. Razavi-Ghods	S. Romeo	C. Ronda
C.-J. Ruan	P. Russo	M. Y. Sander	M. G. Saphiannikova
G. Schettini	F. Scotognella	S. Selleri	G. C. Shan
Y. V. Shestopalov	A. Shishido	C. Sibilial	M. G. Silveirinha
F. S. Marzano	F. Simoni	R. Solimene	H.-Z. Song
I. T. Sorokina	V. Spagnolo	E. L. Tan	S. Tomljenovic-Hanic
G. Vallone	J. Vrba	S. Wabnitz	J. Wang

U. Willer
A. B. Yakovlev
C.-P. Yu
L. Zeni
D. C. Zografopoulos

Y. Wu
T. Yamasaki
C. X. Yuan
O. Zeni

M. Xiao
L. Yang
S. H. Yueh
M. L. Zheng

C. X. Xu
P. Yang
R. P. Zaccaria
D. Zhu

SYMPOSIUM VENUE

The 2019 Photonics & Electromagnetics Research Symposium, will be held in Rome from 17 to 20 June 2019, at the Faculty of Engineering of the University of Rome “La Sapienza” in Italy (Address: Via Eudossiana 18, 00184 Rome, Italy).

REGISTRATION

The PIERS technical sessions will begin at 09:00 on Monday, June 17, 2019. You may come to register during 16:00–19:00 on Sunday, June 16, 2019, at the registration desks at the Faculty of Engineering, in Via Eudossiana 18, Rome. Registration is also available from 08:00 to 18:00 on Monday, June 17, 2019 and from 08:30 to 18:00 on June 18–20, 2019.

The on-site registration fee is USD 760, and the reduced registration fee for a student is USD 470 (a valid student ID is required). Please be reminded that the on-site payments will be collected in Euro. If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration counter during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

SPECIAL EVENTS

Symposium Reception

On Monday evening, June 17, 2019, all conference participants are invited to a welcome reception at the Cloister of the Faculty of Engineering of the University of Rome “La Sapienza”. The tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception within May 27.

Symposium Banquet

On Wednesday evening, June 19, symposium banquet is planned for PIERS participants and their guests at Palazzo Brancaccio. A limited number of banquet tickets will be available. For all participants, the price is USD 110 per person. Please make reservation and pay in advance for the banquet within May 27.

PIERS ONLINE

Information on PIERS 2019 Rome and future PIERS is posted at www.piers.org.

GUIDELINE FOR PRESENTERS

Oral Presentations

- **Load and TEST presentation files in advance:**

All Oral Presenters must load and test presentation files in their own session room computers no later than 12 hours before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session room.

- **Presentation files format:**

PDF, Power Point are recommended. Movies or animations in MPEG, Windows Media, and etc, should be tested in PIERS computer in PIERS OFFICE no later than half-day before the session. Presentation files in USB disk are acceptable by PIERS Computer.

- **Report to Session Chair:**

Presenters are required to report to their session chairs at least 10 minutes prior to the start of their session.

- **Length of your talk:**

In a regular session, the time length for each talk is 20 minutes. In a focus session, the presentation time limit is 30 minutes for a keynote talk, 20 minutes for an invited talk, and 15 minutes for a contributed talk.

- **DO NOT change presentation sequence:**

Session Chairs, please be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each paper and refrain from changing paper presentation sequence.

- **NO picture request:**

When such a request is made by the presenter, the session chair and session helpers will do their best to ensure that no pictures will be taken at the presentation.

Poster Presentations

Presenters should post time slots of their presence on the panel and be present for interactive questions at the given time. Each poster can be posted at 09:30–12:30 and 15:00–18:00, and all presenters are suggested to be present at least during 11:00–11:30 and 16:30–17:00.

One panel will be available for each poster. The panel size may be different for each PIERS.

All presenters are required to mount their papers 30 minutes before the session and remove them at the end of their sessions.

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English.

CURRENCY AND CREDIT CARDS

The local currency is EURO and the exchange rate is 1 USD for about 0.8894 EUR (as of April 22, 2019). Credit cards and cash are acceptable for payments. International credit cards are acceptable in most shops, restaurants etc.

TAX AND TIP

In Italy tips are not necessary but it is possible to tip a waiter/waitress or a taxi driver and other persons who provides regular service. All advertised merchandise prices normally include tax.

TAXI

Usually, a taxi is available along the roadsides (while you wave for it) or right in front of a hotel. You may also call to book a taxi: (+39) 060609, (+39) 063570. Taxis licensed by Rome City Council are white and have a sign bearing the word "TAXI" on their roofs.

BUSINESS OPENING HOURS

- **Post Office**
Opening hours: usually 08:30 – 13:30 (main ones up to 18:30) from Monday to Friday; 08:30 – 12:30 (Saturday).
- **Bank**
Opening hours: usually 09:00 – 13:30 and 14:30 – 15:45 from Monday to Friday.
- **Store**
Opening hours: usually 09:30 – 19:30 from Monday to Saturday, some of them also on Sunday. There are 24 h service shops also.
- **Public Transportation**
Operating hours: generally 05:30 – 23:30

ELECTRICITY

In Rome area in Italy, the standard outlets provide AC of 220 V/50 Hz.

PIERS 2019 ROME ORGANIZERS AND SPONSORS

Organized under the auspices and with the support of:

- Sapienza University of Rome
- ARAPhEE — Association for the Research Advancement on Photonics and Electronic Engineering
- The Electromagnetics Academy

Technically co-sponsored by:

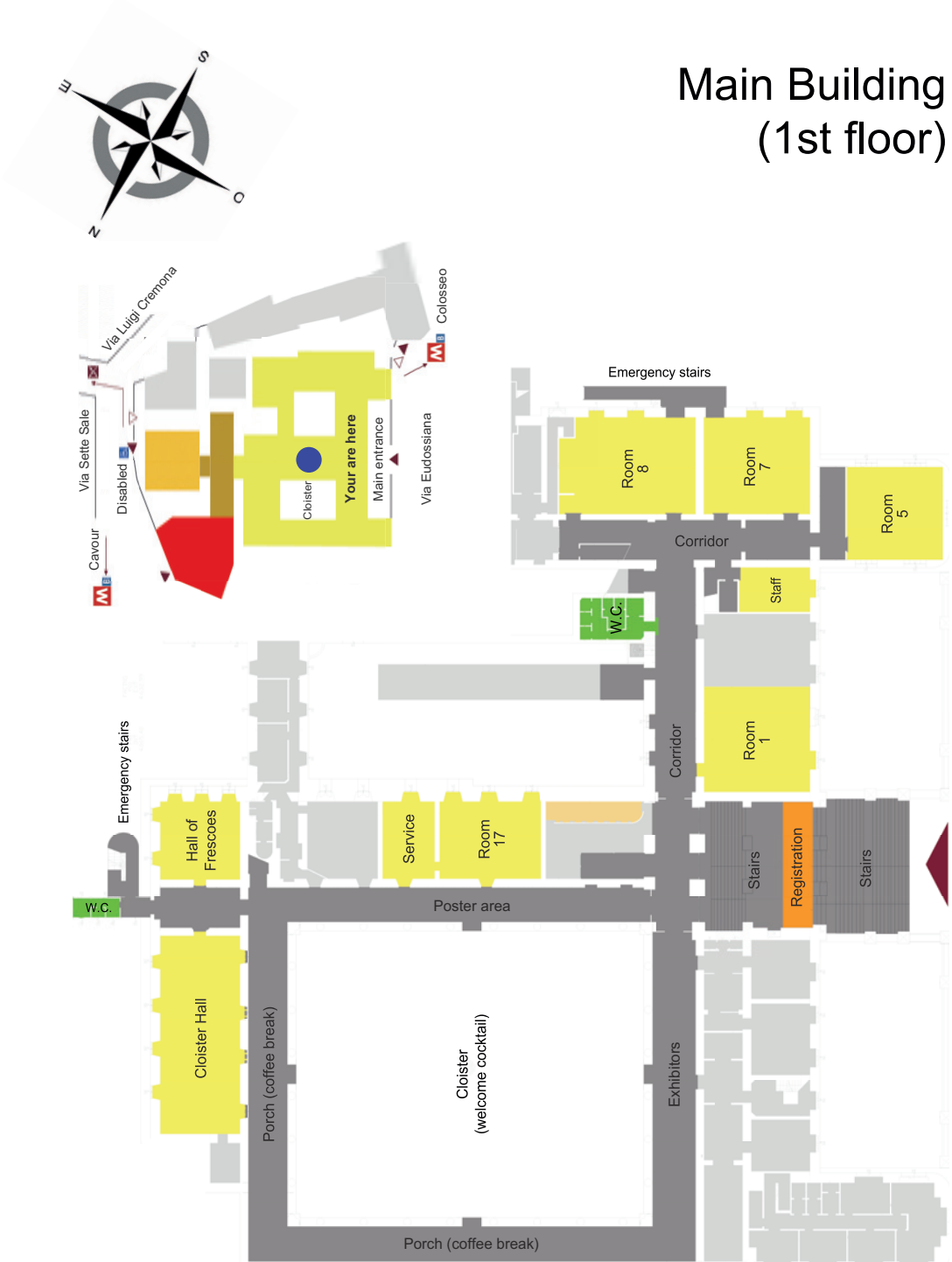
- Institute of Electrical and Electronics Engineers (IEEE)
- IEEE Geoscience and Remote Sensing Society (IEEE GRSS)
- IEEE Antennas and Propagation Society (IEEE AP-S)
- IEEE Photonics Society
- Italian Society of Electronics — SIE
- Italian Society of Electromagnetics — SIEm
- Gallium Arsenide Applications Symposium
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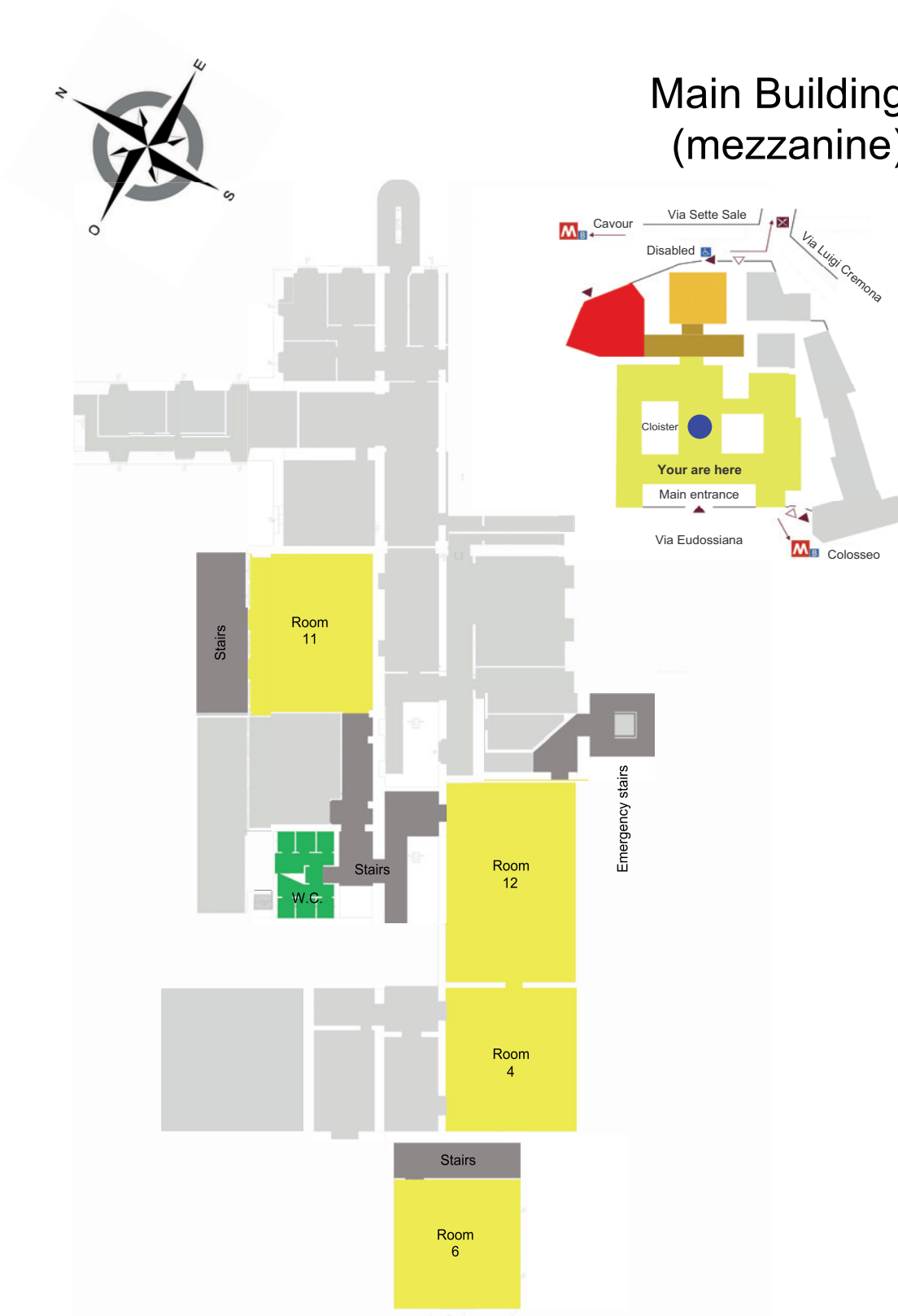
- ZEISS
- MACHINE LEARNING SOLUTIONS
- PIXAPP
- IONVAC PROCESS SRL



MAP OF CONFERENCE SITE



(*) Cloister Hall is "Sala del Chiostro" (Italian name)
Hall of Frescoes is "Sala degli Affreschi" (Italian name)

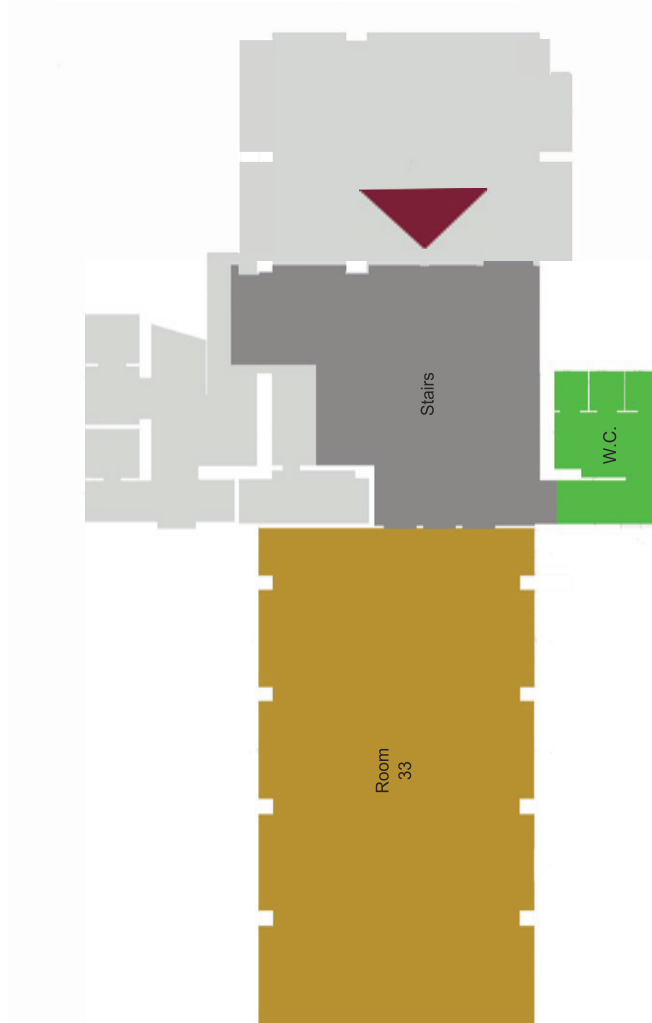
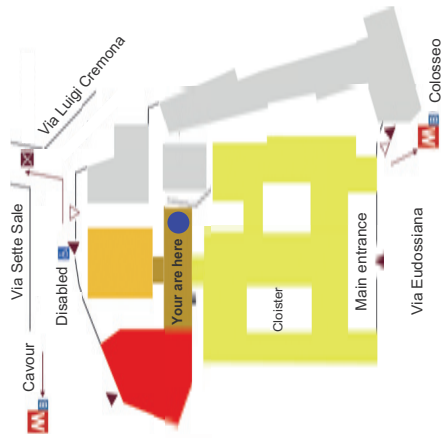


Main Building (mezzanine)

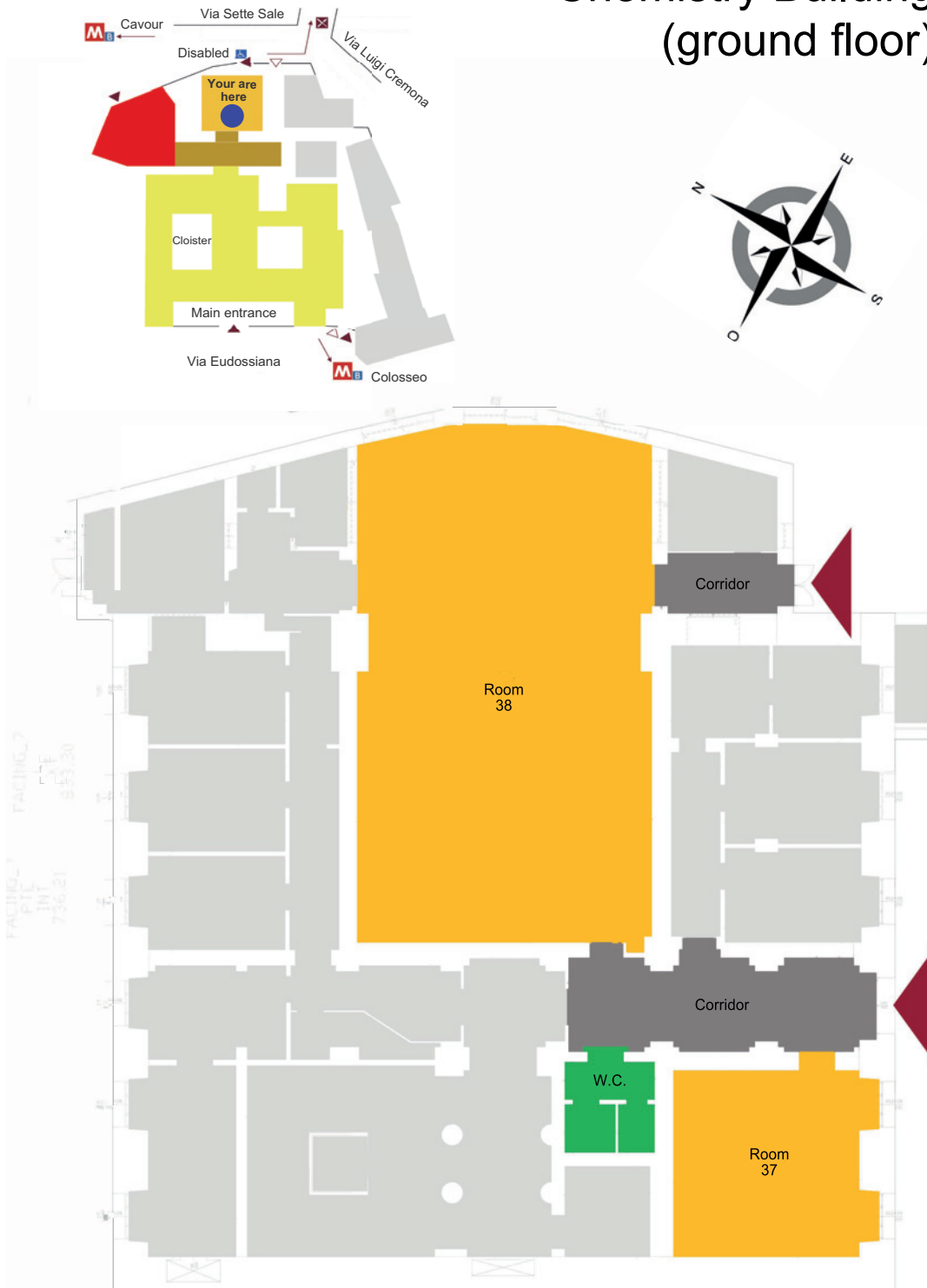


(*) Council Hall is "Sala del Consiglio" (Italian name)

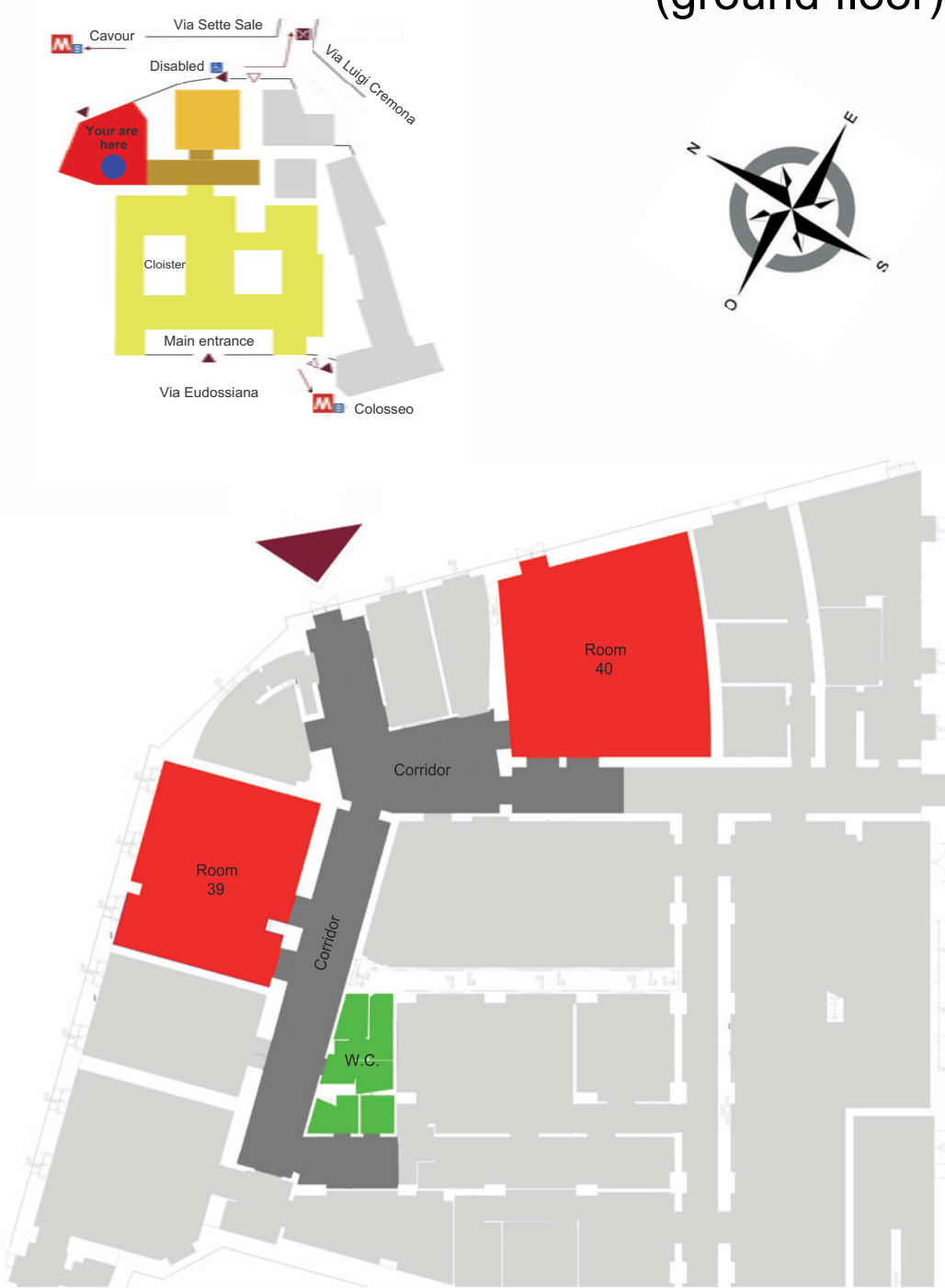
Bank Building (low floor)



Chemistry Building (ground floor)



Electrical Building (ground floor)



PIERS 2019 ROME TECHNICAL PROGRAM

Session 1A1

FocusSession.SC5: Modeling in Remote Sensing 1

Monday AM, June 17, 2019

Room 1 - 1st Floor

Organized by Joel T. Johnson, Nazzareno Pierdicca

Chaired by Davide Comite, Shanka N. Wijesundara

09:00 Microwave Remote Sensing of Soil, Vegetation and Ocean Using Numerical Solutions of Maxwell Equations
Keynote

Leung Tsang (University of Michigan); Jiyue Zhu (University of Michigan); Yanlei Du (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Huanting Huang (University of Michigan);

09:30 Electromagnetic Interactions with Vegetated Soils: An Integrative Modeling Approach
Invited

Ismail Baris (Microwaves and Radar Institute); Thomas Jagdhuber (Microwaves and Radar Institute); Francois Jonard (Institute of Bio- and Geosciences: Agrosphere (IBG-3)); Jasmeet Judge (University of Florida); Harald Anglberger (Microwaves and Radar Institute);

09:50 Modeling Covariability of Active-passive Observations of Vegetated Surfaces at L- and C-band
Invited

Moritz Link (Earth and Mission Science Division, European Space Agency); Thomas Jagdhuber (Microwaves and Radar Institute); Paolo Ferrazzoli (Università di Roma Tor Vergata); Leila Guerriero (Università di Roma Tor Vergata); Ralf Ludwig (Ludwig-Maximilians University Munich); Dara Entekhabi (Massachusetts Institute of Technology);

10:10 EM Simulations Supporting the Analysis of Temporal Effects Observed with Tower-Scat Experiments on Tropical Dense Forests
Invited

Ludovic Villard (CESBIO); Salma El Idrissi Essebtey (Université de Toulouse); Thierry Koleck (Centre National d'Etudes Spatiales (CNES)); Pierre Borderies (Office National d'Etudes et de Recherches Aerospatiales (ONEAR)); Thuy Le Toan (CNES-CNRS-Universite Paul Sabatier);

10:30 SAR Image Simulation Based on the SBR/PTD-SDFSM

Li-Xin Guo (Xidian University); Chunlei Dong (Xidian University); Xiao Meng (Xidian University);

10:45 Retrieval of Tropical Peatland Forest Biomass from Polarimetric Features in Central Kalimantan, Indonesia

Mirza Muhammad Waqar (Chiba University); Rahmi Sukmawati (Padang State University); Ya Qi Ji (Chiba University); Josephat Tetuko Sri Sumantyo (Chiba University); Hendrik Segah (Universitas Palangka Raya); Lilik Budi Prasetyo (Bogor Agricultural University);

11:00 **Coffee Break**

11:30 Analytical Evaluation of Sea Surface Backscattering via the Anisotropic Polarimetric Two-scale Model
Invited

Gerardo Di Martino (Università di Napoli "Federico II"); Antonio Iodice (University of Naples "Federico II"); Daniele Riccio (University of Naples "Federico II");

11:50 Swell Effects on Near-coastal SMAP L-band High-resolution NRCS Data
Invited

Shanka N. Wijesundara (The Ohio State University); Joel T. Johnson (The Ohio State University);

12:10 Electromagnetic Modeling of Scattering of Signals of Opportunity
Invited

Davide Comite ("Sapienza" University of Rome); Leila Guerriero (Tor Vergata University of Rome); L. Dente (Tor Vergata University); F. Ticconi (Remote Sensing and Product Unit); N. Pierdicca (Sapienza Università di Roma);

12:30 Electromagnetic Modeling of Canonical-target forward Scattering for Radar Applications
Invited
Marta Tecla Falconi (Sapienza University of Rome); Davide Comite ("Sapienza" University of Rome); Pierfrancesco Lombardo (Sapienza University of Rome); Frank Silvio Marzano (Sapienza University of Rome); D. Pastina (Sapienza University of Rome); Alessandro Galli (Sapienza University of Rome);

12:50 Optical Wave Scattering from Large Rough Objects
Invited
Gerard Berginc (Thales Optronique);

Session 1A2

SC3: Characterization Techniques: Novelty and Short-term Requirements 1

Monday AM, June 17, 2019

Room 5 - 1st Floor

Organized by Ilka Kriegel, Francesco Scotognella

Chaired by Ilka Kriegel, Francesco Scotognella

09:00 UHV Ultrafast Scanning Electron Microscopy
Invited
Silvia Maria Pietralunga (Italy Chapter Chair IEEE Photonics Society); Vittorio Sala (Istituto Italiano di Tecnologia); Maurizio Zani (Politecnico di Milano); Gabriele Irde (Istituto Italiano di Tecnologia); Giulio Cerullo (Politecnico di Milano); Guglielmo Lanzani (Politecnico di Milano); Alberto Tagliaferri (Istituto Italiano di Tecnologia);

09:20 New Tools for Plasmonic Particles: Localized Plasmon-voltammetry and Nanoscopic Light Bulbs to Determine a Plasmonic Horizon
Invited
Thomas A. Klar (Johannes Kepler University Linz);

09:40 Unconventional Use of X-ray Photoelectron Spectroscopy: From Characterization to a Patterning Tool
Invited
Mirko Prato (Istituto Italiano di Tecnologia); Francisco Palazon (Istituto Italiano di Tecnologia); Liberato Manna (Istituto Italiano di Tecnologia);

10:00 XPS Characterization of Materials for Photonic Applications
Invited
Giorgio Speranza (FBK CMM FMPS Unit); Lam Thi Ngoc Tran (IFN — CNR CSMFO Lab. & FBK CMM); Victor Micheli (IFN — CNR CSMFO Lab. & FBK CMM); Alessandro Chiasera (IFN-CNR CSMFO Lab. and FBK CMM); Maurizio Ferrari (CNR-IFN, Istituto di Fotonica e Nanotecnologie);

10:20 Unconventional Plasmonic Architectures for Exploring Low-energy Excitations in Nanomaterials
Invited
Andrea Toma (Istituto Italiano di Tecnologia);

10:40 Interband Decay and Absorption Mechanisms in Amorphous Silica Probed by Synchrotron Light
Invited
Roberto Lorenzi (University of Milano-Bicocca); Francesco Meinardi (University of Milano-Bicocca); Sergio Brovelli (University of Milano-Bicocca); Alberto Paleari (University of Milano-Bicocca);

11:00 **Coffee Break**

11:30 Frontiers of UV Resonant Raman Spectroscopy by Using Synchrotron Radiation
Invited
Barbara Rossi (Elettra-Sincrotrone Trieste); Cettina Bottari (Elettra-Sincrotrone Trieste); Francesco D'Amico (Elettra-Sincrotrone Trieste); Alessandro Gessini (Elettra-Sincrotrone Trieste); Claudio Masciovecchio (Elettra-Sincrotrone Trieste);

11:50 Integrated Laser Sensor (ILS) for Characterization and Extended Mapping of Remote Targets
Violeta Lazic (ENEA, Dep. FSN-TECFIS-DIM); Antonio Palucci (ENEA, Dep. FSN-TECFIS-DIM); Marcello Nuvoli (ENEA, Dep. FSN-TECFIS-DIM); Marco Pistilli (ENEA, Dep. FSN-TECFIS-DIM); Ivano Menicucci (ENEA, Dep. FSN-TECFIS-DIM); Francesco Colao (ENEA, Dep. FSN-TECFIS-DIM); Luigi De Dominicis (ENEA, Dep. FSN-TECFIS-DIM); Salvatore Almagia (ENEA, Dep. FSN-TECFIS-DIM);

12:10 Time Resolved Optical Studies of Exciton and Spin/Valley Dynamics in 2D Materials
Stefano Dal Conte (Politecnico di Milano);

12:30 Light Point-scanning Microscopy with Single-photon-avalanche-diode Array
Invited
Marco Castello (Istituto Italiano di Tecnologia); Giorgio Tortarolo (Istituto Italiano di Tecnologia); Sami Koho (Istituto Italiano di Tecnologia); Eli Slenders (Istituto Italiano di Tecnologia); Alessandro Rossetta (Istituto Italiano di Tecnologia); Mauro Buttafava (Politecnico di Milano); Federica Villa (Politecnico di Milano); Takahiro Deguchi (Istituto Italiano di Tecnologia); Paolo Bianchini (Istituto Italiano di Tecnologia); Colin J. R. Sheppard (Istituto Italiano di Tecnologia); Alberto Diaspro (Istituto Italiano di Tecnologia); Alberto Tosi (University of Genoa); Giuseppe Vicidomini (Istituto Italiano di Tecnologia);

Session 1A3
SC4: Microwave Electronics for Space and Ground Segment Applications 1

Monday AM, June 17, 2019
Room 7 - 1st Floor

Organized by Paolo Colantonio, Franco Giannini

 Chaired by Paolo Colantonio, Franco Giannini

- 09:00 Design and Implementation of Microwave Circuits in 0.35 μm SiGe BiCMOS Technology for UWB Applications
Miroslav Sokol (Technical University of Kosice); Pavol Galajda (Technical University of Kosice); Stanislav Slovak (Technical University of Kosice); Martin Pecovsky (Technical University of Kosice); Milos Drutarovsky (Technical University of Kosice);
- 09:20 Single-ended Power Amplifier at 185 GHz with Output Power More than 12 dBm
Abdul Ali (University of Rome Tor Vergata); Jongwon Yun (IHP-Leibniz-Institut fur innovative Mikroelektronik); H. J. Ng (IHP Leibniz — Institut fur Innovative Mikroelektronik); Dietmar Kissinger (Ulm University); Franco Giannini (University of Rome Tor Vergata); Paolo Colantonio (University of Rome Tor Vergata);
- 09:40 Integrated Circuits and Modules Based on Advanced HEMT Technologies up to 600 GHz for Sensing and Communication
Michael Schlechtweg (Fraunhofer Institute for Applied Solid State Physics (IAF)); A. Tessmann (Fraunhofer Institute for Applied Solid State Physics (IAF)); Arnulf Leuther (Fraunhofer Institute for Applied Solid State Physics (IAF)); Hermann Massler (Fraunhofer Institute for Applied Solid State Physics (IAF)); Markus Rosch (Fraunhofer Institute for Applied Solid State Physics (IAF)); Rainer Weber (Fraunhofer Institute for Applied Solid State Physics (IAF)); Michael Kuri (Fraunhofer Institute for Applied Solid State Physics (IAF)); Jutta Kuehn (Fraunhofer Institute for Applied Solid State Physics (IAF)); Martin Zink (Fraunhofer Institute for Applied Solid State Physics (IAF)); Markus Riessle (Fraunhofer Institute for Applied Solid State Physics (IAF));
- 10:00 High-order Mode Monopulse Tracking Architectures for Earth Station Antennas: An Overview
Angel Mediavilla Sanchez (University of Cantabria); Juan Luis Cano (Universidad de Cantabria); Antonio Tazon (University of Cantabria); Tomas Fernandez (Universidad de Cantabria);
- 10:20 Future Trends of GaN MMIC T/R Module Front-Ends for X-band Pulsed Radar
Francesco Scappaviva (MEC S.r.l.); Davide Resca (MEC s.r.l.); Andrea Biondi (MEC S.r.l.); Sara D'Angelo (MEC S.r.l.);
- 10:40 Modelling Asymmetric Two-port Reciprocal Microwave Structures by Means of Compact Equivalent Circuits
Elena Abdo-Sanchez (Universidad de Malaga); Teresa M. Martin-Guerrero (Universidad de Malaga); Jaime Esteban (Universidad Politécnic de Madrid); Carlos Camacho-Penalosa (Universidad de Malaga);
- 11:00 **Coffee Break**
- 11:30 Advances in Microwave Equipment Technologies for Next Generation Satellite Services
Marziale Feudale (Thales Alenia Space); Suriani Andrea (Thales Alenia Space Italia); Francesco Vitulli (Thales Alenia Space Italia); Antonio Leuzzi (University of L'Aquila); Leonardo Pantoli (University of Laquila); Ernesto Limiti (University of Rome Tor Vergata); Sergio Colangeli (University of Roma Tor Vergata);
- 11:50 Leonardo Company — GaN Technology for Space Applications
Alessio Pantellini (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Andrea Lucibello (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Marco Natali (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Donatella Dominijanni (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Flavia Crispoldi (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Paolo Romanini (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Antonio Nanni (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Luca Mazzola (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Stefano Casagrande (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability); Claudio Lanzieri (Leonardo S.p.A. — GaAs/GaN Foundry R&D, CET & Reliability);
-

- 12:10 K/Ka-band Receiver Front-Ends Based on Commercial Components for Future Moon Exploration Missions
Federico Alimenti (University of Perugia); Valentina Palazzi (University of Perugia); Paolo Mezzanotte (Universita' degli Studi di Perugia); Luca Roselli (University of Perugia); Federico Pergolesi (PICOSATS); Mario Fragiaco (PicoSaTs s.r.l.); Alessandro Cuttin (University of Trieste); Erica De Fazio (PICOSATS); Federico Dogo (PICOSATS); Anna Gregorio (University of Trieste);
- 12:30 Ultra-low Phase Noise RF Oscillator Using High-Q Quad Spiral Resonator
Mahmoud Samy Saad Mahmoud Abouyoussef (Misr International University); Ayman M. El-Tager (MTC); Hassan El-Ghitani (Misr International University);
- 12:50 Assessment of Wireless Ranging Sensor Network System Performance in Indoor and Outdoor Environments
Divya Unnikrishnan (National Physical Laboratory); Tian Hong Loh (National Physical Laboratory); David Cheadle (National Physical Laboratory); Adam Jones (National Physical Laboratory);
- 09:40 Initial Potential-based Time Domain Surface Integral Equations for Dielectric Regions
Thomas Edgar Roth (University of Illinois at Urbana-Champaign); Weng Cho Chew (University of Illinois);
- 10:00 Computational Design and Analysis of Efficient Couplers for Nano-optical Links
Askin Altinoklu (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 10:40 High Frequency Diffraction by Rectangular Hole in a Thick Conducting Screen — H Polarization Case
Khanh Nam Nguyen (Chuo University); Hiroshi Shirai (Chuo University);
- 11:00 **Coffee Break**

Session 1A4b
Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 1

Monday AM, June 17, 2019
Room 8 - 1st Floor

 Organized by Mariana Nikolova Georgieva-Grosse,
 Georgi Nikolov Georgiev

 Chaired by Mariana Nikolova Georgieva-Grosse

Session 1A4a
Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory

Monday AM, June 17, 2019
Room 8 - 1st Floor

 Chaired by Qing Huo Liu, Yury V. Shestopalov, Eng Leong Tan

- 09:00 2D Through-the-wall Radar Imaging Using a Level Set Approach
G. Incorvaia (The University of Manchester); Oliver Dorn (University of Manchester);
- 09:20 Hybridization of the Method of Auxiliary Sources (MAS) with the Fast Multipole Method (FMM) for Scattering from Large Arrays of Cylinders
Eleftherios J. Mastorakis (Division of Electronics, Electric Power, Telecommunications); Panagiotis J. Papakanellos (Division of Electronics, Electric Power, Telecommunications); Hristos T. Anastassiou (Technological Education Institute of Central Macedonia); Nikolaos L. Tsitsas (Aristotle University of Thessaloniki);
- 11:30 Fundamental Leapfrog ADI-FDTD Method
 Invited
Eng Leong Tan (Nanyang Technological University); Ding Yu Heh (Nanyang Technological University);
- 11:50 Interaction of Transverse-magnetic Waves with Space-time Multiperiodic Filling of the Waveguide
 Invited
Eduard A. Gevorkyan (Plekhanov Russian Economic University);
- 12:10 New Infinitely Differentiable Spline-like Basis Functions
Yaroslav Yu. Konovalov (Bauman Moscow State Technical University);
- 12:30 Continuity Condition of the Normal Derivative of the E -field across an Arbitrary Interface and Its Application to Scattering
Alex J. Yuffa (National Institute of Standards and Technology); Johannes Markkanen (Max Planck Institute for Solar System);
- 12:50 Quantum Electromagnetic Principles and Quantum Maxwell's Equations
Weng Cho Chew (University of Illinois); Peter Bermel (Purdue University);

Session 1A5
Inverse Problems in Antennas, Scattering and Optics: Theory & Applications 1

Monday AM, June 17, 2019
Room Hall of Frescoes - 1st Floor

Organized by Rocco Pierri, Giovanni Leone

 Chaired by Rocco Pierri, Xudong Chen

- 09:00 Applying Compressed Sensing with Predictable Accuracy to Spherical Antenna Near-field Measurements
Bernd Hofmann (Technical University of Munich); Ole Neitz (Lehrstuhl für Hochfrequenztechnik, TU München); Thomas F. Eibert (Technical University of Munich);
- 09:20 High-order Functional Derivatives of the Scattered Field according to the Permittivity-contrast. A Powerful Tool for Nonlinear Inversion
Slimane Arhab (Université d'Avignon et des Pays de Vaucluse); Dimitrios Anagnostou (Université d'Avignon et des Pays de Vaucluse);
- 09:40 Spatial Prediction of Undersampled Electromagnetic Fields
D. V. S. S. N. Karteekeya Sastry (Indian Institute of Technology Madras); Chandan Bhat (Indian Institute of Technology Madras); Uday K. Khankhoje (Indian Institute of Technology Madras);
- 10:00 An Efficient Method for Imaging of Inhomogeneous Objects in Arbitrary Shaped Multilayer Cylindrical Structures
Tolga Ulas Gurbuz (Gaziantep University); Birol Aslanyurek (Yildiz Technical University);
- 10:20 On the Achievable Resolution in Inverse Source beyond the Fresnel Approximation: Numerical Results
Maria Antonia Maisto (Università degli studi della Campania Luigi Vanvitelli); Raffaele Solimene (Università degli studi della Campania Luigi Vanvitelli); Rocco Pierri (Università degli studi della Campania Luigi Vanvitelli);
- 10:40 Experimental Assessment of a Tomographic Measurement System for Quantitative Microwave Imaging
Alessandro Fedeli (University of Genoa); M. Maffongelli (University of Applied Sciences of Southern Switzerland); Matteo Pastorino (University of Genoa); S. Poretti (University of Applied Sciences of Southern Switzerland); Andrea Randazzo (University of Genoa); A. Salvade (University of Applied Sciences of Southern Switzerland);

 11:00 **Coffee Break**

- 11:30 Solving Full-wave Inverse Scattering Problem by Deep Learning
Zhun Wei (National University of Singapore); Xudong Chen (National University of Singapore);
- 11:50 Circular Trace Scanning SAR Imaging Based on Compressive Sensing
Lingjuan Yu (Jiangxi University of Science and Technology); Yadong Wang (Jiangxi University of Science and Technology); Xiao-Chun Xie (Gannan Normal University);
- 12:10 The Design of Online FPGA-based Electromagnetic Tomography System for Rail Crack Inspection
Jiwei Huo (Beijing Jiaotong University); Ze Liu (Beijing Jiaotong University); Chengfei Wang (Beijing Jiaotong University); Zheliang Liu (Beijing Jiaotong University);
- 12:30 Updated Comparison between Quantitative and Qualitative Approaches to Microwave-based Medical Diagnosis Imaging
Jean-Charles Bolomey (University Paris-Sud);
- 12:50 A New Field Expansion Enabling the Compressive-sensing-based Diagnosis of Realistic Planar Arrays through Phaseless Measurements
Andrea Francesco Morabito (University 'Mediterranea' of Reggio Calabria); Roberta Palmeri (Mediterranea University of Reggio Calabria); Tommaso Isernia (Mediterranea University of Reggio Calabria);

Session 1A6
SC1&SC4: Progress in Broadband and UWB Printed and Dielectric Antennas for Wireless Applications 1

Monday AM, June 17, 2019
Room Cloister Hall - 1st Floor

Organized by Renato Cicchetti, Antonio Faraone

 Chaired by Renato Cicchetti, Antonio Faraone

- 09:00 A Dielectric-horn Integrated Resonator Antenna for Point-to-point Wireless Communications
Edoardo Baldazzi (Sapienza University of Rome); A. Al-Rawi (Eindhoven University of Technology); Renato Cicchetti (Sapienza University of Rome); Adrianus Bernardus Smolders (Technical University of Eindhoven); Diego Caratelli (The Antenna Company Nederland B.V.);

- 09:20 Design of Irregularly Shaped Lens Antennas including Supershaped Feed
Luciano Mescia (Politecnico di Bari); C. M. Lamacchia (Politecnico di Bari); M. A. Chiapperino (Polytechnic University of Bari); Pietro Bia (Elettronica S.p.A.); J. Gielis (University of Antwerp); Diego Caratelli (The Antenna Company Nederland B.V.);
- 09:40 Dielectric Resonant Antennas via Additive Manufacturing for 5G Communications
Invited *Valeria Marrocco (Institute of Technologies and Systems Industrial Technologies and Automation — National Research Council); Vito Basile (Institute of Technologies and Systems Industrial Technologies and Automation — National Research Council); Irene Fassi (Institute of Industrial Technologies and Automation — National Research Council); Marco Grande (Politecnico di Bari); Dario Laneve (Polytechnic University of Bari); Francesco Pruden- zano (Politecnico di Bari); Antonella D’Orazio (Po- litecnico di Bari);*
- 10:00 High-gain V-band Dielectric Lens Antenna for Com-
Keynotemunication and Direction Finding Systems
Omid Manoochehri (University of Illinois at Chicago); Alan Salari (University of Cologne); Amin Darvaze- hban (University of Queensland); Danilo Erricolo (University of Illinois at Chicago);
- 10:30 A Two-arm Slot Sinuous Antenna with Improved Po-
Invited larization Stability
L. Bartalucci (Universita di Firenze); S. Maddio (Universita di Firenze); Giuseppe Pelosi (Univer- sity of Florence); M. Righini (Universita di Firenze); Luca Scorrano (Elettronica SpA); Stefano Selleri (University of Florence);
- 11:00 **Coffee Break**
- 11:30 A Novel Class of Super-elliptical Vivaldi Antennas for UWB Applications
Simay Kazici (The Antenna Company); Abra- ham Loutridis (The Antenna Company); Diego Caratelli (The Antenna Company Neder- land B.V.);
- 11:50 Deterministic Synthesis of Conformal Aperiodic An-
Invited tenna Arrays with Pencil-beam Radiation Pattern Characteristics
Diego Caratelli (The Antenna Company);
- 12:10 A Dual Polarized Stacked Antenna for 5G Mobile De-
Invited vices
Marco Simone (Consorzio Nazionale Interuniver- sitario delle Telecomunicazioni); Alessandro Fanti (University of Cagliari); Luigi Boccia (University of Calabria); Giandomenico Amendola (University of Calabria); Giuseppe Mazzarella (University of Cagliari);
- 12:30 An Optimized Broadband Waveguide Magic-T for X-
band Applications
Mahdi Khorsandy (Tarbiat Modares University); Alan Salari (University of Cologne); Alireza Pilevar (Shahid Beheshti University); Danilo Erricolo (Uni- versity of Illinois at Chicago);
- 12:50 A Numerical Study on the Robustness of Ultrawide Band Wearable Antennas with Respect to the Human Body Proximity
Giovanni Andrea Casula (University di Cagliari); Giuseppe Mazzarella (University of Cagliari);
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- Session 1A7**
Optical Sensors, Fundamentals and Applications
-
- Monday AM, June 17, 2019**
Room 17 - 1st Floor
Organized by Cees Ronda
-
- 09:00 Sensitivity Comparison under Flow-through and Flow-over Conditions of a Porous Silicon Film De-
tached by Lift-off
David Martin-Sanchez (Universitat Politècnica de València); Salvador Ponce-Alcantara (Universitat Politècnica de València); Jaime Garcia Ruperez (Uni- versitat Politècnica de València);
- 09:20 Thermo-optic Coefficient of Porous Silicon in the In-
frared Region and Modelling of the Oxidation Process
David Martin-Sanchez (Universitat Politècnica de València); Miroslavna Kovylina (Universitat Politècnica de València); Salvador Ponce-Alcantara (Universitat Politècnica de València); Jaime Gar- cia Ruperez (Universitat Politècnica de València);
- 09:40 Commercial Polycarbonate Filtration Membranes as
Optical Sensors
Paula Martinez-Perez (Universitat Politècnica de València); Jaime Garcia Ruperez (Universitat Politècnica de València);

- 10:00 Design and Performance Analysis of Ultra-compact Nano-plasmonic Refractive Index Sensor
Md. Farhad Hassan (Islamic University of Technology (IUT)); Md. Moudud Hasan (Islamic University of Technology (IUT)); Ishmam Ahmed Chowdhury (Islamic University of Technology (IUT)); Rakibul Hasan Sagor (Islamic University of Technology);
- 10:20 Non-invasive Optical Sensing Method Based on Random Lasing
Federico Tommasi (Universita di Firenze); Lorenzo Fini (Universita di Firenze); Emilio Ignesti (Universita di Firenze); Fabrizio Martelli (Universita di Firenze); Stefano Cavalieri (Universita di Firenze);
- 10:40 Multi-beam Processing Technology for High Resolution LiDAR Sensor
Jungwoo Kim (Samsung Advanced Institute of Technology); Tatsuhiko Otsuka (Samsung Advanced Institute of Technology); Yongchul Cho (Samsung Advanced Institute of Technology); Kyoung-Ho Ha (Samsung Advanced Institute of Technology);
- 11:00 **Coffee Break**
- 11:30 Deployable Sensor for Trace Identification of Hazardous Chemicals in Dirty Environment, Based on FAST Gas-chromatography and Quartz Enhanced Photoacoustic Spectroscopy
R. Viola (Consorzio CREO); Sandro Mengali (Consorzio CREO); N. Liberatore (Consorzio CREO); S. Zampolli (CNR-IMM Bologna); I. Elmi (CNR-IMM Bologna); F. Mancarella (CNR-IMM Bologna);
- 00:00 Relationship between Human Glucose Level and Optical De/Polarization Information in 600 nm–800 nm Wavelength Region
Ercan Menguc (Akdeniz University); Selcuk Helhel (Akdeniz University);
- 09:20 Wafer-level Packaging of Photonics and Electronics for Terabit-scale Optical Interconnects
Paraskevas Bakopoulos (MellanoX Technologies Ltd.); Peter Ossieur (IMEC and Ghent University); Antonio Jose Trindade (X-Celeprint, Ltd.); Patrick Steglich (IHP — Leibniz-Institut für Innovative Mikroelektronik); Igor Krestnikov (Innolume GmbH); Francesco Floris (University College Cork); Gunther Roelkens (Ghent University, IMEC); Mesut Inac (IHP — Leibniz-Institut für Innovative Mikroelektronik); Dimitrios Kalavrouziotis (MellanoX Technologies Ltd.); David Gomez (X-Celeprint, Inc.); Lars Zimmermann (IHP); Joris Van Campenhout (IMEC); Elad Mentovich (MellanoX Technologies Ltd.);
- 09:40 Pluggable Freespace Connectors Enabling Consumable Photonics
Kamil Gradkowski (Tyndall National Institute); Carmelo Scarcella (CERN); Luca Zagaglia (Tyndall National Institute); Francesco Floris (University College Cork); Peter O'Brien (Tyndall National Institute);
- 10:00 Packaging Challenges in Field-programmable Photonic Arrays (FPPAs)
Prometheus Dasmahapatra (Photonics Research Labs (PRL));
- 10:20 CORNERSTONE: Silicon Photonics MPW Capability
H. Du (University of Southampton); C. Littlejohns (University of Southampton); D. T. Tran (University of Southampton); Xingzhao Yan (University of Southampton); M. Banakar (University of Southampton); Milos Nedeljkovic (University of Southampton); Graham Sharp (University of Glasgow); Marc Sorel (University of Glasgow); Roger Webb (University of Surrey); J. England (University of Surrey); Harold M. H. Chong (University of Southampton); Frederic Y. Gardes (University of Southampton); David J. Thomson (University of Southampton); Goran Z. Mashanovich (University of Southampton); Graham T. Reed (University of Southampton);
- 10:40 Optimized Design Procedure for Low-cost Grating-couplers in Photonics-packaging
Luca Zagaglia (Tyndall National Institute); Francesco Floris (University College Cork); Peter O'Brien (Tyndall National Institute);

Session 1A8

Photonics Packaging & Integration 1

Monday AM, June 17, 2019

Room 6 - Mezzanine

Organized by Francesco Floris

Chaired by Francesco Floris

- 09:00 PIXAPP and European Open Access Pilot Lines for Integrated Photonics
Padraic E. Morrissey (Tyndall National Institute);
- 11:00 **Coffee Break**
- 11:30 Much More than Just Telecom/Datacom: Differentiation in Photonics Automated Assembly and Test
Ignazio Piacentini (ficonTEC Service GmbH);

- 11:50 The Integrated Photonics Education Kit
Abdelkrim El Amili (University of California at San Diego); Jordan Davis (University of California at San Diego); Francesco Floris (University College Cork); Lee Carroll (Tyndall National Institute); Peter O'Brien (Tyndall National Institute); Yeshaihu Shaya Fainman (University of California at San Diego);
- 12:10 Micro-transfer-printing of InP Photonic Devices to Silicon Photonics
Ruggero Loi (X-Celeprint Ltd.); James O'Callaghan (Tyndall National Institute); Brendan Roycroft (Tyndall National Institute); Antonio Jose Trindade (X-Celeprint, Ltd.); Alin Fecioru (X-Celeprint, Ltd.); Alex Farrell (X-Celeprint Ltd.); Steven Kelleher (X-Celeprint Ltd.); Raja Fazan Gul (X-Celeprint Ltd.); Simone Iadanza (Cork Institute of Technology); Liam O'Faolain (Cork Institute of Technology); Emanuele Pelucchi (Tyndall National Institute); Brian Corbett (Tyndall National Institute); David Gomez (X-Celeprint, Inc.);
- 12:30 Packaging Design Challenges of High Density High Speed Silicon Photonic Receiver
How Yuan Hwang (Tyndall National Institute); Padraic Morrissey (Tyndall National Institute); Alexander Gazman (Columbia University); Yanir London (Columbia University); Keren Bergmen (Columbia University); Peter O'Brien (Tyndall National Institute);
- 12:50 Electronic-photonic Wafer-level Technologies for Fast Prototyping and Application Specific Solutions
Andreas Mai (IHP — Leibniz-Institut für Innovative Mikroelektronik); Patrick Steglich (IHP — Leibniz-Institut für Innovative Mikroelektronik); Christian Mai (IHP — Leibniz-Institut für Innovative Mikroelektronik); Stefan Simon (IHP — Leibniz-Institut für Innovative Mikroelektronik); Rene Scholz (IHP — Leibniz-Institut für Innovative Mikroelektronik);
- 09:00 How does Chemistry Enable Graphene Functionalities for Microwave Applications?
Invited Giuseppe Valerio Bianco (Istituto di Nanotecnologia, CNR-NANOTEC); Marco Grande (Politecnico di Bari); A. D'Orazio (Politecnico di Bari); G. Bruno (Istituto di Nanotecnologia, CNR-NANOTEC);
- 09:20 A Woodpile Directional Coupler for Particle Acceleration
Andrea Locatelli (Istituto Nazionale di Fisica Nucleare — Sezione di Pavia); Giorgio Sebastiano Mauro (Istituto Nazionale di Fisica Nucleare); Giuseppe Torrisi (Istituto Nazionale di Fisica Nucleare (INFN)); Luigi Celona (Istituto Nazionale di Fisica Nucleare (INFN)); Gino Sorbello (Istituto Nazionale di Fisica Nucleare); Costantino De Angelis (Università degli Studi di Brescia);
- 09:40 RF and DC Electrical Characterization of a Woodpile EBG Waveguide for Microwave Ion Sources
Giorgio Sebastiano Mauro (Istituto Nazionale di Fisica Nucleare); Andrea Locatelli (Istituto Nazionale di Fisica Nucleare — Sezione di Pavia); Giuseppe Torrisi (Istituto Nazionale di Fisica Nucleare); O. Leonardi (Istituto Nazionale di Fisica Nucleare); F. Chines (Istituto Nazionale di Fisica Nucleare); Luigi Celona (Istituto Nazionale di Fisica Nucleare (INFN)); Costantino De Angelis (Università degli Studi di Brescia); Gino Sorbello (Istituto Nazionale di Fisica Nucleare); S. Gammino (Istituto Nazionale di Fisica Nucleare);
- 10:00 Graphene Based Tunnel Field Effect Transistor for RF Applications
Manjula Vijh (Amity University Uttar Pradesh); R. S. Gupta (Maharaja Agrasen Institute of Technology); Sujata Pandey (Amity University);
- 10:20 Guided Mode Resonances in Periodic Nanostructures
Marco Grande (Politecnico di Bari); Muhammad Fayyaz Kashif (Politecnico di Bari); Giuseppe Valerio Bianco (Istituto di Nanotecnologia, CNR-NANOTEC); Tiziana Stomeo (Istituto Italiano di Tecnologia (IIT)); Massimo De Vittorio (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia); Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM); Giovanni Bruno (Istituto di Nanotecnologia, CNR-NANOTEC); Antonella D'Orazio (Politecnico di Bari);
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- Session 1A9**
Integrated Nanophotonics, Plasmonics and Graphene-based Devices 1
-
- Monday AM, June 17, 2019**
Room 4 - Mezzanine
Organized by Marco Grande, Antonella D'Orazio
Chaired by Marco Grande, Antonella D'Orazio
-

10:40 Aluminum Based Engineered Plasmonic Nanostructures for Enhanced Refractive Index and Thickness Sensing in Ultraviolet-visible-near Infrared Spectral Range

Pankaj Arora (Birla Institute of Technology and Science Pilani); H. V. Awasthi (Birla Institute of Technology and Science Pilani);

11:00 **Coffee Break**

11:30 Second-harmonic Generation from Hybrid Dielectric-Invited semiconductor Metasurfaces

Domenico De Ceglia (University of Padova); R. Sarma (Sandia National Laboratories); N. Nookala (University of Texas at Austin); M. A. Vincenti (University of Brescia); S. Campione (Sandia National Laboratories); O. Wolf (Sandia National Laboratories); Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM); Michael B. Sinclair (Sandia National Laboratories); M. Belkin (University of Texas at Austin); Igal Brener (Sandia National Laboratories);

11:50 Plasmon-emitter Interactions of a Three-level System beyond the Weak-coupling Regime

Alvaro Cuartero-Gonzalez (Universidad Autónoma de Madrid); Antonio I. Fernandez-Dominguez (Universidad Autonoma de Madrid);

12:10 Single- and Multi-channel Nonlinear Effects in Graphene-enhanced Resonators

Thomas Christopoulos (Aristotle University of Thessaloniki); Odysseas Tsilipakos (Institute of Electronic Structure and Laser, FORTH); Georgios Sinatkas (Aristotle University of Thessaloniki); Emmanouil E. Kriezis (Aristotle University of Thessaloniki);

12:30 Surface and Bulk Harmonic Generation in the Opaque Invited Region of GaAs

Crina Cojocaru (Universitat Politecnica de Catalunya); L. R. Sune (Universitat Politecnica de Catalunya); Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM); R. Vilaseca (Universitat Politècnica de Catalunya); J. Trull (Universitat Politecnica de Catalunya);

00:00 Electrodynamics of Conductive Oxides: The New Invited Metals

Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM); J. Trull (Universitat Politecnica de Catalunya); C. Cojocaru (Universitat Politecnica de Catalunya); M. A. Vincenti (University of Brescia); D. De Ceglia (University of Padova); N. Akozbek (AEgis Technologies Inc.); Joseph W. Haus (University of Dayton);

Session 1A10

SC3: Applications of Luminescence in Resonant Photonic Structures

Monday AM, June 17, 2019

Room 12 - Mezzanine

Organized by Francesco Michelotti, Norbert Danz

Chaired by Norbert Danz

09:00 Plasmonic Light Management for Fluorescence-based Invited Biosensors

Jakub Dostalek (AIT Austrian Institute of Technology GmbH);

09:20 Simultaneous Detection of 3D Orientation and 3D Spatial Localization of Single Fluorescent Emitters

Valentina Curcio (Aix Marseille Univ., CNRS, Centrale Marseille, Institut Fresnel); Thomas G. Brown (University of Rochester); Miguel A. Alonso (Aix Marseille Univ., CNRS, Centrale Marseille, Institut Fresnel); Sophie Brasselet (Aix Marseille Univ., CNRS, Centrale Marseille, Institut Fresnel);

09:40 Surface Concentration Quenching in Highly Resonant Photonic Crystal Fluorescence Biosensors

Alberto Sinibaldi (Sapienza University of Rome); A. Fieramosca (CNR NANOTEC Institute of Nanotechnology); Norbert Danz (Fraunhofer Institute for Applied Optics and Precision Engineering); Peter Munzert (Fraunhofer Institute for Applied Optics and Precision Engineering IOF); A. Occhicone (Sapienza University of Rome); C. Barolo (University of Turin); Francesco Michelotti (Sapienza Università di Roma);

10:00 Zeemann-splitting and Valley Polarization in Exciton-polaritons of Monolayer MoSe₂ embedded in a Monolithic Optical Cavity

Nils Lundt (Universität Würzburg); Evgeny S. Sedov (University of Southampton); Max Waldherr (Universität Würzburg); Martin Klaas (Universität Würzburg); Heiko Knopf (Fraunhofer Institute of Applied Optics and Precision Engineering IOF); Sefaating Tongay (Arizona State University); Sebastian Klemmt (Universität Würzburg); Ulrike Schulz (Fraunhofer Institute of Applied Optics and Precision Engineering IOF); Alexey V. Kavokin (University of Southampton (GB)); Sven Hofting (Universitat Würzburg); Falk Eilenberger (Friedrich Schiller University); Christian Schneider (Universität Würzburg);

10:20 Anisotropic Light Absorption and Emission in Structured Nanoparticles

Kristiaan Neyts (Ghent University); Yerzhan Ussembayev (Ghent University); Zeger Hens (Ghent University);

11:00 **Coffee Break**

11:30 Tailoring of Photoluminescence Properties of Self-organized InAs Quantum Dots by Coupling with Plasmonic Nanoparticles

Vladimir V. Chaldyshev (The Ioffe Institute); Alexander Nikolaevich Kosarev (Ioffe Institute); Alexey Kondikov (Peter the Great St. Petersburg Polytechnic University); Ilya A. Akimov (University of Dortmund); Manfred Bayer (Technische Universität Dortmund); Nikita Toropov (ITMO University); Igor Gladskikh (ITMO University); Polina Gladskikh (ITMO University); Tigran A. Vartanyan (ITMO University); Valeriy V. Preobrazhenskiy (Rzhanov Institute of Semiconductor Physics); Michael A. Putyato (Rzhanov Institute of Semiconductor Physics); Boris Semyagin (Rzhanov Institute of Semiconductor Physics);

11:50 Optimisation of Photonic Multilayer Structures to Enhance the Efficiency of Upconversion Processes

Fabian Spallek (Albert-Ludwigs-Universität); A. Buchleitner (Albert-Ludwigs-Universität); Thomas Wellens (Albert-Ludwigs-Universität);

12:10 Analysis of Emitter Orientation Utilizing Resonant Emission on 1D Photonic Crystals

Norbert Danz (Fraunhofer Institute for Applied Optics and Precision Engineering); Dirk Michaelis (Fraunhofer Institute for Applied Optics and Precision Engineering); Peter Munzert (Fraunhofer Institute for Applied Optics and Precision Engineering IOF); Christof Pflumm (Merck KGaA); Antonia Horn (Merck KGaA); Francesco Michelotti (Sapienza Università di Roma);

12:30 Non-isotropic Light-emission from Organic and Perovskite Nanostructures

Thomas Morgenstern (University of Augsburg); Wolfgang Bruetting (University of Augsburg);

Session 1A11

SC2: Modeling of Metamaterials and Metasurfaces 1

Monday AM, June 17, 2019

Room 11 - Mezzanine

Organized by Ying Wu

Chaired by Ying Wu

09:00 Theory for Plasmonic Open Systems Derived from First Principles

Jing Lin (Fudan University); Meng Qiu (Fudan University); Xiyue Zhang (Fudan University); Huijie Guo (Fudan University); Qiong He (Fudan University); Shiyi Xiao (Fudan University); Lei Zhou (Fudan University);

09:20 Metasurface-enabled Airborne Fractional Acoustic Vortex Emitter

Yu-Rou Jia (Nanjing Normal University); Qi Wei (Nanjing Normal University); Da-Jian Wu (Nanjing Normal University); Xue-Wei Wu (Nanjing University); De-Sheng Ding (Southeast University);

09:40 Metamaterial-based Subwavelength Acoustic Antenna with Tunable Directivity

Jin Zhang (Nanjing University); Ying Cheng (Nanjing University); Xiaojun Liu (Nanjing University);

10:00 Extremely Anisotropic Media by Waveguide Metamaterials with Low Loss

Wenjie Ji (Soochow University); Jie Luo (Soochow University); Yun Lai (Nanjing University);

10:20 Duality of Spoof Surface Plasmon Polaritons on the Complementary Structures of Ultrathin Metal Films

Hong Xiang (Chongqing University); Dezhuan Han (Chongqing University);

10:40 2D All-dielectric Metasurfaces Based on Electric and Magnetic Mie Resonances

Jun Mei (South China University of Technology); Yanzhi Chen (South China University of Technology);

11:00 **Coffee Break**

11:30 Type-II Dirac Phonons in a Monolayer Phononic Crystal

Chang Qing Xu (Soochow University); Guancong Ma (Hong Kong Baptist University); Ying Wu (King Abdullah University of Science and Technology (KAUST));

11:50 Modeling and Experimental Characterization of Rapidly-produced Microwave Metasurfaces

Dragoslav Grbovic (Naval Postgraduate School); Fabio Alves (Naval Postgraduate School);

12:10 Green's Function of a Single Scatterer Applied to Periodic Scatterer Analysis
Shurun Tan (University of Michigan); Leung Tsang (University of Michigan);

12:30 Coding Metasurface Modeling Using MoM-GEC Method in Conjunction with Genetic Algorithm
Imen Soltani (Tunis El Manar University); Takoua Soltani (Tunis El Manar University); Taoufik Aguilu (University of Tunis El Manar (UTM));

Session 1A12

FocusSession.SC2: Hybrid and Plasmonic Metastructures 1

Monday AM, June 17, 2019

Room 21 - 2nd Floor

Organized by Roberto Caputo, Antonio De Luca

Chaired by Roberto Caputo

09:00 Hot-electron Effects in Plasmonic Heterostructures
 Invited

Pan Wang (King's College London); J. Salmon (King's College London); A. Bykov (King's College London); Giovanni Sartorello (King's College London); D. Roth (King's College London); A. V. Krasavin (King's College London); Anatoly V. Zayats (King's College London);

09:20 Ultrafast Transient Optical Response of Gold, Silver and Gold-silver Nanoparticles
 Invited

T. O. Otomalo (Univ. Paris Saclay); L. Di Mario (Istituto di Struttura della Materia (ISM), CNR, Division of Ultrafast Processes in Materials (FLASHit)); F. Martelli (Istituto di Struttura della Materia (ISM), CNR, Division of Ultrafast Processes in Materials (FLASHit)); Patrick O'Keeffe (CNR-ISM); D. Catone (CNR-ISM); C. Hamon (Universite Paris Saclay); K.-V. Do (Univ. Paris Saclay); T. Lin (Istituto per la Microelettronica e i Microsistemi (IMM), CNR); S. Turchini (CNR-ISM); Bruno Palpant (Univ. Paris Saclay);

09:40 Enhanced Nonlinear Nanophotonics with Dielectric and Hybrid Antennas
 Invited

Michele Celebrano (Politecnico di Milano); Lavinia Ghirardini (Politecnico di Milano); Giovanni Pellegrini (Politecnico di Milano); Lamberto Duo (Politecnico di Milano); Marco Finazzi (Politecnico di Milano); Carlo Gigli (Laboratoire Materiaux et Phenomenes Quantiques, CNRS UMR 7162, Universite Paris Diderot); Valerio F. Gili (Universite Paris Diderot-CNRS); Giuseppe Marino (Universite Paris Diderot & CNRS); Ioan Favero (Universite Paris Diderot, UMR7162, CNRS); Giuseppe Leo (Universite Paris Diderot); Davide Rocco (Universita degli Studi di Brescia & INO-CNR); Luca Carletti (University of Brescia); Andrea Locatelli (Istituto Nazionale di Fisica Nucleare — Sezione di Pavia); Costantino De Angelis (Universita degli Studi di Brescia); Aristide Lemaitre (LPN/CNRS); Dragomir N. Neshev (Australian National University);

10:00 Hot-spots in Plasmonic Photocatalysis

Invited

Miguel A. Correa-Duarte (Universidade de Vigo);

10:20 Recent Advances in the Bottom-up Approach to Artificial Optical Magnetism
 Invited

Philippe Barois (CNRS, Universite de Bordeaux); A. Baron (CNRS, Universite de Bordeaux); R. Dezert (CNRS, Universite de Bordeaux); E. Duguet (CNRS, Universite de Bordeaux); R. Elancheliyan (CNRS, Universite de Bordeaux); V. Many (CNRS, Universite de Bordeaux); O. Mondain-Monval (CNRS, Universite de Bordeaux); V. Ponsinet (CNRS, Universite de Bordeaux); S. Ravaine (CNRS, Universite de Bordeaux); P. Richetti (CNRS, Universite de Bordeaux); M. Treguer-Delapierre (CNRS, Universite de Bordeaux);

10:40 Label-free Sensitive Detection of Enteric Viruses Based on Octupolar Nanostructures
 Invited

Massimo Rippa (Institute of Applied Sciences and Intelligent Systems "E. Caianiello", CNR); Riccardo Castagna (Institute of Applied Sciences and Intelligent Systems "E. Caianiello", CNR); G. Fusco (Istituto Zooprofilattico Sperimentale del Mezzogiorno); Joseph Zyss (LPQM-Ecole Normale Supérieure de Cachan); Lucia Petti (Institute of Applied Sciences and Intelligent Systems — ISASI, CNR);

11:00 **Coffee Break**

- 11:30 Photonics of Hybrid Nanostructures and Bio-Keynote assemblies: Coherent Transfer of Plasmons, Hot Electrons and Chirality
Alexander O. Govorov (Ohio University); Lucas V. Besteiro (Ohio University);
- 12:00 CMOS-based Nano-plasmonic Systems on Chip
Kaushik Sengupta (Princeton University);
- 12:15 Low-loss Spoof Surface Plasmon-polariton Transmission Lines for Microwave and Integrated Circuits Applications
Vladimir Litun (Bauman Moscow State Technical University); Konstantin Lyulyukin (Bauman Moscow State Technical University);
- 12:30 Optical Cages as Highly Absorbing Screens
J. P. Walker (NJIT); V. Kumar (NJIT); Haim Grebel (NJIT: New Jersey's Science & Technology University);

Session 1A13

SC3&SC4: Advances in Optical Sources: Materials, Devices, Applications 1

Monday AM, June 17, 2019

Room 22 - 2nd Floor

Organized by Francesco Prudenzano, Irina T. Sorokina

Chaired by Francesco Prudenzano

- 09:00 Nonlinear Laser Frequency Conversion in Microstructured Periodically Poled photonic Crystals: Experiments and Computational Modeling
Oleg A. Louchev (Center for Advanced Photonics, RIKEN); Satoshi Wada (Center for Advanced Photonics, RIKEN);
- 09:20 RF-sputtering Technique for Fabrication of Glass Based 1D Photonic Crystals
Invited
C. Meroni (Universita di Trento); Francesco Scognella (Politecnico di Milano); Yann G. Boucher (ENIB); Anna Lukowiak (Institute of Low Temperature and Structure Research, PAS); D. Ristic (Institut Ruder Boskovic); G. Speranza (FBK CMM FMPS Unit); S. Varas (IFN-CNR CSMFO Lab. and FBK CMM); L. Zur (IFN-CNR CSMFO Lab. and FBK CMM); Mile Ivanda (Ruder Boskovic Institute); Stefano Taccheo (Swansea University); O. Sayginer (University of Trento); L. T. N. Tran (IFN-CNR CSMFO Lab. and FBK CMM); C. Armellini (IFN-CNR CSMFO Lab. and FBK CMM); D. Zonta (IFN-CNR CSMFO Lab. and FBK CMM); O. S. Bursi (University of Trento); Roberta Ramponi (Institute of Photonics and Nanotechnology (IFN) — CNR); G. C. Righini (IFAC CNR); Maurizio Ferrari (CNR-IFN, Istituto di Fotonica e Nanotecnologie); Alessandro Chiasera (IFN-CNR CSMFO Lab. and FBK CMM);
- 09:40 Modeling and Design of Brillouin Integrated Optical Sources
Invited
Vittorio M. N. Passaro (Politecnico di Bari); Francesco De Leonardis (Politecnico di Bari); Richard A. Soref (University of Massachusetts Boston);
- 10:00 Hybrid Plasmonic-ferroelectric Architectures for Integrated Nonlinear Optics
Invited
Alejandro Gomez Tornero (Universidad Autonoma de Madrid); Pablo Palacios Alonso (Universidad Autonoma de Madrid); Pablo Molina (Universidad Autonoma de Madrid); Luisa E. Bausa (Universidad Autonoma de Madrid); Mariola O. Ramirez (Universidad Autonoma de Madrid);
- 10:20 Design and Optimization of Wideband Spectrum Lasing
Mario Christian Falconi (Polytechnic University of Bari); Dario Laneve (Polytechnic University of Bari); Stefano Taccheo (Swansea University); Francesco Prudenzano (Politecnico di Bari);
- 10:40 Ultrafast Dy:fluoride Fiber Laser beyond 3 μm
Invited
Y. Wang (Istituto di Fotonica e Nanotecnologie — CNR); Simon Duval (Universite Laval); L. R. Robichaud (Universite Laval); M. Olivier (Universite Laval); F. Jobin (Universite Laval); P. Paradis (Universite Laval); Vincent Fortin (Universite Laval); Martin Bernier (Universite Laval); M. Piche (Universite Laval); P. Laporta (Universite Laval); Gianluca Galzerano (Istituto di Fotonica e Nanotecnologie — CNR); R. Vallee (Universite Laval);

11:00 **Coffee Break**

11:30 Mid-IR Supercontinuum Generation in Rare Earth-doped Optical Fibers

Mario Christian Falconi (Polytechnic University of Bari); Dario Laneve (Polytechnic University of Bari); Caterina Clemente (Polytechnic University of Bari); Giovanna Ricchiuti (Polytechnic University of Bari); Antonio Crudele (Polytechnic University of Bari); Michele Bozzetti (Politecnico di Bari); Virginie Nazabal (Universite de Rennes 1); Irina T. Sorokina (Norwegian University of Science and Technology); Francesco Prudenzano (Politecnico di Bari);

11:50 Narrow Band Amplification and Tunability in a Two-turn Erbium-doped Microfiber Coil Resonator

Mojtaba Arjmand (Malek-Ashtar University of Technology); Ayda Aray (Isfahan University of Technology);

12:10 All-fiber, Ultrafast Seed Sources Operating in 2 μm Spectral Range

Jaroslav Sotor (Wroclaw University of Technology); Maria Pawliszewska (Wroclaw University of Science and Technology); Olga Drozdowska (Wroclaw University of Science and Technology); Dorota Tomaszewska (Wroclaw University of Science and Technology); Grzegorz Sobon (Wroclaw University of Technology);

12:30 $\text{Pr}^{3+}/\text{Dy}^{3+}$ Codoped Selenide-chalcogenide Multimode Fiber Based MIR Spontaneous Emission Sources with Broad Emission Spectra for Sensor Applications

L. Sojka (Wroclaw University of Science and Technology); D. Jayasuriya (The University of Nottingham); M. Shen (University of Nottingham); Z. Q. Tang (University of Nottingham); David Furniss (The University of Nottingham); E. Barney (University of Nottingham); Trevor Mark Benson (The University of Nottingham); A. B. Seddon (University of Nottingham); Slawomir Sujecki (Wroclaw University of Science and Technology);

12:50 Simulation of Aperiodic Amplitude Diffraction Gratings Based on Prouhet-Thue-Morse Sequence

Dobrosław P. Egorov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); Dmitry Victorovich Churikov (Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences); Oleg V. Kravchenko (Bauman Moscow State Technical University); Mikhail A. Basarab (Bauman Moscow State Technical University);

Session 1A14**FocusSession.SC3: Nanophotonics 1**

Monday AM, June 17, 2019

Room 24 - 2nd Floor

Organized by Yeshaiahu Shaya Fainman, Newton C. Frateschi

Chaired by Yeshaiahu Shaya Fainman, Newton C. Frateschi

09:00 Waves, Modes, and Nanophotonics

Keynote

David A. B. Miller (Stanford University);

09:30 Large-scale Silicon Photonic Switches

Invited

Ming C. Wu (UCLA (University of California, Los Angeles));

09:50 Large-scale Silicon Photonics Switch for High Throughput and Energy Efficient Datacenter Network

Invited

Kazuhiro Ikeda (National Institute of Advanced Industrial Science and Technology (AIST)); Keijiro Suzuki (National Institute of Advanced Industrial Science and Technology (AIST)); Ryotaro Konoike (National Institute of Advanced Industrial Science and Technology (AIST)); Shu Namiki (National Institute of Advanced Industrial Science and Technology (AIST)); Hitoshi Kawashima (National Institute of Advanced Industrial Science and Technology (AIST));

10:10 Nanomaterial-enhanced Integrated Photonics

Invited

Andrea M. Armani (University of Southern California); Hyungwoo Choi (University of Southern California); Xiaoqin Shen (University of Southern California); Andre Kovach (University of Southern California); Jinghan He (University of Southern California);

10:30 Kerr Nonlinear Optical Signal Processing in Ultra-silicon-rich Nitride-based Devices

Invited

*Dawn T. H. Tan (Singapore University of Technology and Design); K. J. A. Ooi (Singapore University of Technology and Design); D. K. T. Ng (Technology and Research (A*STAR)); E. Sahin (Singapore University of Technology and Design); J. W. Choi (Singapore University of Technology and Design); P. Xing (Singapore University of Technology and Design); G. F. R. Chen (Singapore University of Technology and Design); B. U. Sohn (Singapore University of Technology and Design); H. Gao (Singapore University of Technology and Design);*

11:00 **Coffee Break**

- 11:30 Enabling Novel Features of Heterogeneous III-V on Si Lasers with Resonant Si Embedded Photonic Molecules Mirrors
Invited *G. F. M. De Rezende (University of Campinas); Gunther Roelkens (Ghent University-IMEC); Newton C. Frateschi (Universidade Estadual de Campinas);*
- 11:50 Mechanism of Ultra-broad Wavelength Tuning Range from InP/InGaAs Nano-lasers Grown on SOI
Wai Kit Ng (Hong Kong University of Science and Technology); Yu Han (Hong Kong University of Science and Technology); Kei-May Lau (Hong Kong University of Science and Technology); Kam Sing Wong (Hong Kong University of Science and Technology);
- 12:05 Progress on Neuromorphic Silicon Photonics
Keynote
Paul R. Prucnal (Princeton University); Alexander N. Tait (NIST); Mitchell A. Nahmias (Princeton University); Thomas Ferreira De Lima (Princeton University); Hsuan-Tung Peng (Princeton University); Bhavin J. Shastri (Queen's University);
- 12:35 Slow Plasmonic and Photonic Waveguides: A Parallel
Invited
Philippe Lalanne (Institut d'Optique-LP2N/CNRS);
- 12:55 Reflective Color Filters with Enlarged Color Gamut Enabled by Stacking Silicon Nanowires on Thin-film Coatings
Young Min Song (Gwangju Institute of Science and Technology); Gil Ju Lee (Gwangju Institute of Science and Technology); Yeong Jae Kim (Gwangju Institute of Science and Technology); Young Jin Yoo (Gwangju Institute of Science and Technology);
- 09:20 Beyond Azobenzenes: Diversifying the Toolbox of Light-responsive Molecules for Soft Actuators
Invited
Alexander Ryabchun (University of Twente); Federico Lancia (University of Twente); Nathalie Katsonis (University of Twente);
- 09:40 Mechanical Motions by Photo-induced Reversible Crystal-to-liquid Phase Transition of Azobenzene
Invited
Yasuo Norikane (National Institute of Advanced Industrial Science and Technology (AIST));
- 10:00 Photoinduced Mass Transfer Directed by Inkjet Printing Patterns on Photoresponsive Liquid Crystalline Polymer Films
Issei Kitamura (Nagoya University); Mitsuo Hara (Nagoya University); Shusaku Nagano (Nagoya University Venture Business Laboratory); Takahiro Seki (Nagoya University);
- 10:15 Design and Implementation of Complex Periodic Patterns on Thin Azopolymer Films
Marcella Salvatore (University of Naples "Federico II"); Stefano Luigi Oscurato (University of Naples "Federico II"); Fabio Borbone (University of Naples "Federico II"); Pasqualino Maddalena (University of Naples "Federico II"); Antonio Ambrosio (Harvard University);
- 10:30 Towards Autonomous, Adaptive, and Programmable Photomechanical Actuators
Keynote(Re)
Arri Priimagi (Tampere University of Technology);
- 11:00 **Coffee Break**
- 11:30 Photoinduced Healing and Pressure-sensitive Adhesion Properties of Amorphous Polymers Containing Azobenzene-doped Liquid Crystals
Invited
Takahiro Yamamoto (National Institute of Advanced Industrial Science and Technology);
- 11:50 Reversible Phase Transition of Three-arm Azobenzene Stars under the Influence of UV-Vis Light
Invited
Olga Guskova (Leibniz-Institut für Polymerforschung Dresden); Markus Koch (Leibniz-Institut für Polymerforschung Dresden);
- 12:10 Two-dimensional Alignment Control of Liquid Crystals by Scanning Wave Photopolymerization
Invited
Atsushi Shishido (Tokyo Institute of Technology);
- 12:30 Reversible Surface Structuring of Photosensitive Polymer Films: In-situ Atomic Force Microscopy and Diffraction Efficiency Measurements
Invited
Joachim Jelken (University of Potsdam); Svetlana Santer (University of Potsdam);

Session 1A15

FocusSession.SC3: Photosensitive Materials and Devices for Opto-mechanical Applications 1

Monday AM, June 17, 2019

Room 25 - 2nd Floor

Organized by Atsushi Shishido, Marina Grenzer Saphiannikova

Chaired by Marina Grenzer Saphiannikova

- 09:00 Creation of Functional Photostimuli Responsive Supramolecular Materials Based on Host-guest Interactions
Invited
Yoshinori Takashima (Osaka University);

12:50 Mechano-optical Behavior of Chiral Liquid-crystalline
Invited Elastomers
*Osamu Tsutsumi (Ritsumeikan University);
Ku Kyosun (Ritsumeikan University); Seiya Kimura
(Ritsumeikan University); Kyoko Yuasa (Ritsumeikan
University); Kyohei Hisano (Ritsumeikan University);*

Session 1A16

**3_ PIER_ Special_ Issue_ Session: Organic and
Perovskite Optoelectronics 1**

Monday AM, June 17, 2019

Room 15 - 2nd Floor

Organized by Wallace C. H. Choy, Tae-Woo Lee

Chaired by Wallace C. H. Choy, Tae-Woo Lee

09:00 A New Method to Enable Stable and High-brightness
Invited EL in Perovskite LEDs through Self-passivation by
Subsequently Growing Large and Small Grains with
Configuration of Attaching Small Grains on Surfaces
of Large Grains through One-step Solution Processing
Bin Hu (University of Tennessee);

09:20 Grazing-incidence X-ray Scattering Characterization
Invited of Organic and Perovskite Solar Cells
Xinhui Lu (The Chinese University of Hong Kong);

09:40 Perovskite Optoelectronics: From Photoconversion to
Invited Light Emission
Dong Ha Kim (Ewha Womans University);

10:00 High-performance Polymer: PCBM Organic Photo-
Invited voltaics Enabled by Conjugated Random Copolymer
Taeshik Earmme (Hongik University);

10:20 The Application of 2-D Materials in Organic and Per-
Invited ovskite Solar Cells
Feng Yan (The Hong Kong Polytechnic University);

10:40 Vertical Re-crystallization Control for Efficient and
Invited Stabled Formamidinium Perovskite Solar Cells
Fengxian Xie (Fudan University);

11:00 **Coffee Break**

11:30 Nanoparticle-enhanced Silver Nanowire Plasmonic
Invited Electrodes for High-performance Polymer Solar Cells
*Jin Young Kim (Ulsan National Institute of Science
and Technology (UNIST));*

11:50 Molecularly Engineered Interfaces in Perovskite Ma-
Invited terials and Devices
Hin-Lap Yip (South China University of Technology);

12:10 Interface Engineering in Solution processed Organic
Invited and Hybrid Perovskite Solar Cells
*Gang Li (Hong Kong Polytechnic University);
Ping-Li Qin (Hong Kong Polytechnic University);
Guang Yang (Hong Kong Polytechnic University);
Mriganka Singh (Hong Kong Polytechnic University);
Chih-Wei Chu (Research Center for Applied Sciences,
Academia Sinica);*

12:30 Solution-processed Electrodes for Flexible Organic
Invited and Perovskite Solar Cells
*Zijian Zheng (Hong Kong Polytechnic University);
Yaokang Zhang (Hong Kong Polytechnic University);*

12:50 Enhance Efficiency of MAPbI₃ Perovskite Solar Cells
Invited with FAPbX₃ Perovskite Quantum Dots
*Lung-Chien Chen (National Taipei University of
Technology); Zong-Liang Tseng (National Taipei Uni-
versity of Technology);*

Session 1A17

**SC1&SC4: Localized Waves: Science and
Applications 1**

Monday AM, June 17, 2019

Room 33 - Bank Building

Organized by Mauro Ettore, Walter Fuscaldo

Chaired by Mauro Ettore, Walter Fuscaldo

09:00 Localized Waves for Wireless Near-field Links: Per-
spectives and Challenges
*Walter Fuscaldo (Sapienza University of Rome);
M. Ettore (Universite de Rennes 1);*

09:20 Time-diffracting Wave Packets and Localized Waves
*Miguel A. Porras (Universidad Politecnica de
Madrid);*

09:40 Quantum and Classical X-waves with Angular Mo-
Invited mentum
*Marco Ornigotti (Tampere University); Alexan-
der Szameit (Universitat Rostock); Claudio Conti
(University Sapienza);*

10:10 Problems of Generation and Propagation of Spa-
tiotemporally Localized Wavepackets
Peeter Saari (University of Tartu);

10:30 Extended Spatiotemporally Localized Waves in the
Presence of Inhomogeneity and Temporal Dispersion
*Ioannis M. Besieris (Virginia Polytechnic Institute
and State University); Amr M. Shaarawi (The Amer-
ican University in Cairo);*

11:00 **Coffee Break**

- 11:30 Constructing Millimeter-structured Surface Beams from Non-diffracting Zeroth-order Bessel Beams in Lossless Media
Jhonas Olivati De Sarro (University of Sao Paulo); Leonardo Andre Ambrosio (University of Sao Paulo);
- 11:50 Design of a Wireless Link at Microwaves in the Radiative Near-field by Using RLSA Bessel Beam Launchers
Santi Concetto Pavone (University of Siena); Matteo Albani (University of Siena);
- 12:10 Two-dimensional Quasi-Bessel Beam Synthesis and Frequency-scanning Leaky-wave Launchers
Miguel Poveda-Garcia (Technical University of Cartagena); Jose Luis Gomez Tornero (Technical University of Cartagena);
- 12:30 Generating and Steering of Quasi-nondiffraction Beam by Substrate Integrated Waveguide Slot Array Antenna
Ya Fei Wu (University of Electronic Science and Technology of China); Yujian Cheng (University of Electronic Science and Technology of China);
- 12:50 A Simple Method for the Design of Millimeter-structured Inclined Beams: Inclined Superpositions of Zeroth-order Bessel Beams
Vinicius Soares De Angelis (University of São Paulo); Leonardo Andre Ambrosio (University of Sao Paulo);
- 00:00 QEYSSAT: A Dedicated Quantum Receiver in Space
Invited
Thomas Jennewein (University of Waterloo);
- 10:00 Modulation Schemes for Long Distance Optical Communication
Andrea Farkasvolgyi (Budapest University of Technology and Economics); Istvan Frigyes (Budapest University of Technology and Economics);
- 10:20 Accurate BER Estimation Scheme in Coherent Optical Communication
Yanfu Yang (Harbin Institute of Technology); Qun Zhang (Harbin Institute of Technology); Yong Yao (Harbin Institute of Technology);
- 11:00 **Coffee Break**
- 11:30 Space Laser Communication Systems for High Rate Data Transmission and Quantum Key Distribution
Invited
Florian Moll (Institute of Communications and Navigation); Benjamin Roediger (Institute of Communications and Navigation); Christopher Schmidt (Institute of Communications and Navigation); Christian Fuchs (Institute of Communications and Navigation);
- 11:50 Towards High-dimensional Quantum Communication in Space
Invited
Fabian Steinlechner (Fraunhofer Institute for Applied Optics and Precision Engineering); Oliver De Vries (Fraunhofer Institute for Applied Optics and Precision Engineering); Markus Grafe (Fraunhofer Institute for Applied Optics and Precision Engineering); Erik Beckert (Fraunhofer Institute for Applied Optics and Precision Engineering);

Session 1A18

SC3: Satellite Quantum and Optical Communication

Monday AM, June 17, 2019

Room 38 - Chemistry Building

Organized by Giuseppe Vallone

Chaired by Florian Moll, Eleni Diamanti

- 09:00 Quantum Research CubeSat (QUARC)
Invited
Luca Mazzarella (University of Strathclyde); Christopher Lowe (University of Strathclyde); David Lownes (University of Bristol); Steve Greenland (Craft Prospect LTD); Steve R. Owens (University of Strathclyde); Siddarth Joshi (University of Bristol); Doug McNeil (Craft Prospect Ltd); Malcolm Macdonald (University of Strathclyde); John G. Rarity (University of Bristol); Daniel K. L. Oi (University of Strathclyde);
- 09:20 Continuous-variable Quantum Key Distribution on Ground and in Space
Invited
Eleni Diamanti (Sorbonne University);
- 12:10 Quantum Communications and Fundamental Physics in Space
Giuseppe Vallone (University of Padova); C. Agnesi (University of Padova); G. Bianco (Matera Laser Ranging Observatory, Agenzia Spaziale Italiana); L. Calderaro (University of Padova); D. Dequal (Matera Laser Ranging Observatory, Agenzia Spaziale Italiana); D. G. Marangon (University of Padova); V. Luceri (E-GEOS spa); M. Schiavon (University of Padova); A. Santamato (University of Padova); A. Stanco (University of Padova); M. Tomasin (University of Padova); F. Vedovato (University of Padova); P. Villosesi (University of Padova);
- 12:30 Estimation of Optical Wireless Communication Link Availability Using Meteorological Visibility Data for Major Locations in South Africa
Olabamidele O. Kolawole (University of KwaZulu-Natal); Thomas Joachim Odhiambo Afullo (University of KwaZulu-Natal (UKZN)); Modisa Mosalaosi (University of KwaZulu-Natal);

Session 1A19
Electromagnetic Theory

Monday AM, June 17, 2019
Room 39 - Electrical Building

- 09:00 Broadband Green's Function and Radiation for Irregularly Shaped Waveguide
Tien-Hao Liao (California Institute of Technology); Kung-Hau Ding (Air Force Research Laboratory, Wright-Patterson AFB); Leung Tsang (University of Michigan);
- 09:20 Scattering by Wide-angle Cones: Exact and Asymptotic Solutions
Michael Katsav (Tel Aviv University); Ehud Heyman (Tel-Aviv University);
- 09:40 Exact Geometrical Optics Scattering by a Truncated Metallic Cylinder of Rectangular Cross Section under Multiple Plane Waves Illumination
Piorgiorgio L. E. Uslenghi (University of Illinois at Chicago);
- 10:00 \mathcal{PT} -symmetric Tight-binding Model with Asymmetric Couplings
Lilian Aurora Moreno Rodriguez (Universidad Autonoma de Puebla); Felix M. Izrailev (Universidad Autonoma de Puebla); Jose Antonio Mendez Bermudez (Universidad Autonoma de Puebla);
- 10:20 Backward Energy Flux in Sharp Focus of Beams with Linear and Circular Polarization
Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences); Anton G. Nalimov (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS); Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS);
- 10:40 Tiered Structure of Maxwell's Equations
Manuel Fernandez-Guasti (Universidad Autonoma Metropolitana Iztapalapa);
- 11:00 **Coffee Break**
- 11:30 Numerical Simulation of Magnetohydrodynamic Blood Flow through Stenosed Arteries Using the R-functions Method
Mikhail A. Basarab (Bauman Moscow State Technical University); Natalia S. Konnova (Bauman Moscow State Technical University); Dmitrii A. Basarab (St. Ioasaf's Belgorod Regional Hospital); Oleg V. Kravchenko (Bauman Moscow State Technical University);
- 11:50 Remote Assembly of Magnetic and Nonmagnetic Microspheres into Discrete Symmetric Geometries Using External Magnetic Field, and Their Permanent Fixation
Kanna Aoki (National Institute of Information and Communications Technology); Shoya Takidani (Kobe University); Takuma Yamamoto (Kobe University); Minoru Fujii (Kobe University);
- 12:10 Artificial Intelligence Techniques Applied to the Characterization of Magnetic Materials
Simone Quondam Antonio (University of Perugia);
- 12:30 Characteristics of Rain Attenuation for Microwave-to-terahertz Waveband from Raindrop Size Distribution Observation in Indonesia
Marzuki (Andalas University); Meri Yoseva (Andalas University); Hiroyuki Hashiguchi (Kyoto University); Mutya Vonnisa (Andalas University); Harmadi (Andalas University); Lorenzo Luini (DEIB — Dipartimento di Elettronica, Informazione e Bioingegneria); Sugeng Nugroho (Indonesian Agency for Meteorological, Climatological and Geophysics); Muzirwan (National Institute of Aeronautics and Space); Mohammad Ali Shafii (Andalas University);
- 00:00 The Effect of Feeding Point on Electromagnetic Emission due to Heat Sink
Alparslan Bozkurt Karaman (Akdeniz University); Atalay Kocakusak (Akdeniz University); Abdullah Genc (Suleyman Demirel University); Selcuk Helhel (Akdeniz University);

Session 1A20
Topological Acoustics 1

Monday AM, June 17, 2019
Room 40 - Electrical Building

Organized by Meng Xiao, Chunyin Qiu

Chaired by Meng Xiao, Chunyin Qiu

- 09:00 Sonic Valley-Hall Topological Antennas and Non-Hermitian Second-order Topological Insulator
Zhiwang Zhang (Nanjing University); Maria Rosendo Lopez (Universidad Carlos III de Madrid); Ying Cheng (Nanjing University); Xiao-Jun Liu (Nanjing University); Johan Christensen (Universidad Carlos III de Madrid);
- 09:20 Spin-redirected Geometric Phase of Acoustic Vortices
Shubo Wang (City University of Hong Kong); Guancong Ma (Hong Kong Baptist University); Che Ting Chan (The Hong Kong University of Science and Technology);

- 09:40 Observation of Second-order Topology and Multi-dimensional Topological Transitions in Sonic Crystals
Xiujuan Zhang (Nanjing University); Hai-Xiao Wang (National Taiwan University); Zhi-Kang Lin (Soochow University); Yuan Tian (Nanjing University); Biye Xie (Nanjing University); Ming-Hui Lu (Nanjing University); Yan-Feng Chen (Nanjing University); Jian-Hua Jiang (Soochow University);
- 10:00 Reconfigurable Topological Acoustic Devices
Zhiwang Zhang (Nanjing University); Ying Cheng (Nanjing University); Xiaojun Liu (Nanjing University); Johan Christensen (Nanjing University);
- 10:20 Experimental Observation of Acoustic Weyl Points and Topological Surface States
Hao Ge (Nanjing University); Xu Ni (Nanjing University); Ming-Hui Lu (Nanjing University); Yan-Feng Chen (Nanjing University);
- 10:40 Efficient Characterizations of Topological Acoustics Using the Broadband Green's Function
Shurun Tan (University of Michigan); Leung Tsang (University of Michigan);
- 11:00 **Coffee Break**
- 11:30 Bandwidth-tunable Extraordinary Acoustic Transmission Assisted by Multiple Surface Acoustic Resonance
Mengjia He (Zhejiang University); Yu Luo (Nanyang Technological University); Baile Zhang (Nanyang Technological University); Hongsheng Chen (Zhejiang University); Fei Gao (Zhejiang University);
- 11:50 Robustness of Conventional and Topologically Protected Edge States in Phononic Crystal Plates
Yabin Jin (Tongji University); Daniel Torrent (Universitat Jaume I); Bahram Djafari-Rouhani (Université de Lille);
- 12:10 Layer Polarization for Valley States in Bilayer Phononic Crystals
Jiuyang Lu (South China University of Technology); Chunyin Qiu (Wuhan University); Weiyin Deng (South China University of Technology); Xueqin Huang (South China University of Technology); Feng Li (South China University of Technology); Zhengyou Liu (Wuhan University);
- 12:30 Acoustic Topological Fano Resonances
Farzad Zangeneh-Nejad (Ecole Polytechnique Federale de Lausanne (EPFL)); Romain Fleury (Ecole Polytechnique Federale de Lausanne (EPFL));
- 12:50 Scattering and Topological Effects in Acoustic Networks
Chenkai Liu (Soochow University); Jie Luo (Soochow University); Yun Lai (Nanjing University);
-
- Session 1P1a**
FocusSession.SC5: Modeling in Remote Sensing 2
-
- Monday PM, June 17, 2019**
Room 1 - 1st Floor
Organized by Joel T. Johnson, Nazzareno Pierdicca
Chaired by Shanka N. Wijesundara, Davide Comite
-
- 14:30 Scattering Modeling and Imaging Simulation Based on Mini-SAR
J. X. Wan (Fudan University); Lan Chen (Shanghai Institute of Technology);
- 14:50 Inverse Synthetic Aperture Radar Imaging of Space Debris Objects
A. I. Baskakov (National Research University "Moscow Power Engineering Institute"); V. G. Grachyov (National Research University "Moscow Power Engineering Institute"); Aleksey Aleksandrovich Komarov (National Research University "Moscow Power Engineering Institute"); A. V. Ruban (National Research University "Moscow Power Engineering Institute");
- 15:10 The Use of Phase-shift Keyed Signals with a Zero Autocorrelation Zone in a Multi-position Radar System for Searching and Detecting of Space Debris Objects
A. I. Baskakov (National Research University "Moscow Power Engineering Institute"); R. N. Ipanov (National Research University "Moscow Power Engineering Institute"); Aleksey Aleksandrovich Komarov (National Research University "Moscow Power Engineering Institute");
- 15:30 Laser Images and 3D Reconstruction
Gerard Berginc (Thales Optronique);
- 15:50 Assessment of the Urban Three-dimensional Structural Influence on the Satellite Thermal Infrared Measurement
Xiaopo Zheng (ICube, UdS, CNRS); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Xia Zhang (Hebei GEO University); Guofei Shang (Hebei GEO University);
- 16:30 **Coffee Break**

Session 1P1b
Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

Monday PM, June 17, 2019
Room 1 - 1st Floor

 Chaired by Steven K. Chan, Xiaofeng Li, Simonetta Paloscia

- 17:00 A Mimo Radar for Vital Signs Recording
Giulia Sacco (Sapienza University of Rome); Stefano Pisa (Sapienza University of Rome);
- 17:20 Vortex Electromagnetic Waves Based Synthetic Aperture Radar Interferometry Technique
Xiangxi Bu (Institute of Electronics, Chinese Academy of Sciences); Xingdong Liang (Institute of Electronics, Chinese Academy of Sciences); Long-Yong Chen (Institute of Electronics, Chinese Academy of Sciences); Zhuo Zhang (Institute of Electronics, Chinese Academy of Sciences); Ruichang Cheng (Institute of Electronics, Chinese Academy of Science); Jie Niu (Institute of Electronics, Chinese Academy of Sciences); Xiangwei Dang (Institute of Electronics, Chinese Academy of Sciences); Qi-Chang Guo (Institute of Electronics, Chinese Academy of Sciences);
- 17:40 Iterative Data Clustering Algorithm of Doppler-associated RPM Imaging for UWB Human Body Imaging Radar
Takumi Hayashi (The University of Electro-Communications); Shouhei Kidera (The University of Electro-Communications);
- 18:00 RF and Network Signature-based Machine Learning on Detection of Wireless Controlled Drone
Yan Jun John Teoh (University of Glasgow); Chee Kiat Seow (University of Glasgow);
- 18:20 A CNN-based Super-resolution Technique for Active Fire Detection on Sentinel-2 Data
Massimiliano Gargiulo (University Federico II); Domenico Antonio Giuseppe Dell'Aglio (University Federico II); Antonio Iodice (University of Naples "Federico II"); Daniele Riccio (University of Naples "Federico II"); Giuseppe Ruello (Universita di Napoli "Federico II");

Session 1P2a
SC3: Characterization Techniques: Novelty and Short-term Requirements 2

Monday PM, June 17, 2019
Room 5 - 1st Floor

 Organized by Ilka Kriegel, Francesco Scotognella
 Chaired by Ilka Kriegel, Francesco Scotognella

- 14:30 New Generation Solar Cells Stability Measurement: An Overview on Lights and Shadows
Invited Francesca Brunetti (University of Rome Tor Vergata);
- 14:50 Blind Ghost Imaging
Jacopo Bertolotti (University of Exeter); A. M. Paniagua-Diaz (University of Exeter); I. Starshinov (University of Exeter); N. Fayard (ESPCI Paris, PSL Research University); A. Goetschy (ESPCI Paris, PSL Research University); R. Pierrat (ESPCI ParisTech); Remi Carminati (ESPCI);
- 15:10 Hybrid Plasmonic/Photonic Crystals for Optical Detection of Bacterial Contaminants
Invited Giuseppe Maria Paterno (Istituto Italiano di Tecnologia); Liliana Moscardi (Istituto Italiano di Tecnologia); Stefano Donini (Istituto Italiano di Tecnologia); Davide Ariodanti (Politecnico di Milano); Emilio Parisini (Istituto Italiano di Tecnologia); Guglielmo Lanzani (Politecnico di Milano); Francesco Scotognella (Politecnico di Milano);
- 15:30 Ultrafast Characterization of Indium Tin Oxide Grating
Michele Guizzardi (Politecnico di Milano); Silvio Bonfadini (Istituto Italiano di Tecnologia); Liliana Moscardi (Istituto Italiano di Tecnologia); Ilka Kriegel (IIT Central Research Lab Genova); Francesco Scotognella (Politecnico di Milano); Luigino Criante (Istituto Italiano di Tecnologia);
- 15:50 Metal Oxide Based Photonic Crystals with Tunable Optical Properties
Liliana Moscardi (Istituto Italiano di Tecnologia); Giuseppe Maria Paterno (Istituto Italiano di Tecnologia); Ilka Kriegel (IIT Central Research Lab Genova); Francesco Scotognella (Politecnico di Milano); Guglielmo Lanzani (Politecnico di Milano);

- 16:10 High Resolution Magneto-optical Microscopy of Bi:YIG-thin Films with Both Domains and Topography Characterization
Yu. E. Vysokikh (*Science Scientific and Technological Center of Unique Instrumentation RAS*); S. Yu. Krasnoborodko (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*); T. V. Mikhailova (*V.I. Vernadsky Crimean Federal University*); A. N. Shaposhnikov (*V.I. Vernadsky Crimean Federal University*); Marat F. Bulatov (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*); Dmitry V. Churikov (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*);
- 16:30 **Coffee Break**
- 17:00 Defocused Ion Beam Etching of the Silicon Probes for High Resolution Atomic-force Microscopy
S. Yu. Krasnoborodko (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*); Yu. E. Vysokikh (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*); S. A. Smagulova (*North-Eastern Federal University in Yakutsk*); M. F. Bulatov (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*); D. V. Churikov (*Science Scientific and Technological Center of Unique Instrumentation of the RAS*); V. I. Shevyakov (*National Research University of Electronic Technology*);
- 17:20 Whispering Gallery Mode Sensors Implemented in Microstructured Optical Fibers
Invited Stavros Pissadakis (*Institute of Electronic Structure and Laser (IESL)*);
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- Session 1P2b**
SC1: Real Life Scene Modeling and Big Data Applications for Radar and Microwave Technology
-
- Monday PM, June 17, 2019**
Room 5 - 1st Floor
Organized by Paola Russo, Ozlem Kilic
Chaired by Paola Russo
-
- 17:40 Intelligent Three-dimensional Gait Analysis Using IR-UWB Sensing
Soumya Prakash Rana (*London South Bank University*); Maitreyee Dey (*London South Bank University*); Mohammad Ghavami (*London South Bank University*); Sandra Dudley-McEvoy (*University of Essex*);
- 18:00 Ray Tracing for Simulation of Automotive Scenarios
Stefan O. Wald (*Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR*); Frank Weimann (*Research Institute for High Frequency Physics and Radar Techniques*);
- 18:20 Simulation Tool to Characterize the Radar Cross Section of Human Subjects
Giovanni Manfredi (*Universita Politecnica delle Marche*); Paola Russo (*Universita Politecnica delle Marche*); Alfredo De Leo (*Universita Politecnica delle Marche*); Graziano Cerri (*Universita Politecnica delle Marche*);
- 18:40 Smartphones Reference Signal Received Power MDT Radio Measurement Statistical Analysis Reveals People Feelings during Music Events
Davide Micheli (*TIM S.p.A.*); Giuliano Muratore (*TIM S.p.A.*);
-
- Session 1P3a**
SC4: Microwave Electronics for Space and Ground Segment Applications 2
-
- Monday PM, June 17, 2019**
Room 7 - 1st Floor
Organized by Paolo Colantonio, Franco Giannini
Chaired by Paolo Colantonio, Franco Giannini
-
- 14:30 System Level Analysis of Millimetre-wave GaN-based MIMO Radar for Detection of Micro Unmanned Aerial Vehicles
Alessandro Cidronali (*University of Florence*); Marco Passafiume (*University of Florence*); Paolo Colantonio (*University of Rome Tor Vergata*); Giovanni Collodi (*University of Florence*); C. Florian (*University of Bologna*); G. Leuzzi (*University of L'Aquila*); Marco Pirola (*Politecnico di Torino*); C. Ramella (*Polytechnic of Turin*); A. Santarelli (*University of Bologna*); P. Traverso (*University of Bologna*);
- 14:50 Improving Parameters of Cherry-Hooper Amplifier Using Parasitic Elements on the Layout
Miroslav Sokol (*Technical University of Kosice*); Pavol Galajda (*Technical University of Kosice*); Stanislav Slovak (*Technical University of Kosice*); Martin Pecovsky (*Technical University of Kosice*);
- 15:10 S Band Wideband LNA for Future GNSS Receiver with L Band Legacy
Muhammad Arsalan (*Beihang University*); Falin Wu (*Beihang University*);

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- 15:30 Analysis of Dispersion Characteristics of Helix Slow-wave Structures for Broadband Traveling Wave Tubes with Exact Floquet Approach
Agah Oktay Ertay (Istanbul Technical University); Serkan Şimşek (Istanbul Technical University);
- 15:50 Two-stage Class F-C Power Amplifier with an Optimum 2nd Harmonic Control at the Power Stage Input
Xiaoxiao Li (University of Rome Tor Vergata); Paolo Colantonio (University of Rome Tor Vergata); Franco Giannini (University of Rome Tor Vergata); Hongxi Yu (China Academy of Space Technology (CAST));
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- Session 1P3b**
RF MEMS for Antenna and Radar Application
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- Monday PM, June 17, 2019**
Room 7 - 1st Floor
Organized by Zewen Liu
Chaired by Zewen Liu
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- 16:10 Adaptive Switched Beam Reconfigurable Antenna for Wireless Sensor Network Applications
Mukendi Leingthone Muamba (Universite de Quebec en Abitibi-Temiscamingue and Underground Communications Research Laboratory (LRTCS));
- 16:30 **Coffee Break**
- 17:00 Ka-band Tunable Filter with Closed-loop MEMS Control for 5G Wireless Communications
Mohammad Javad Asadi (Lehigh University); Renfeng Jin (Lehigh University); Zhibo Cao (Lehigh University); Guanghai Ding (Lehigh University); Vahid Gholizadeh (Lehigh University); Herman F. Nied (Lehigh University); James C. M. Hwang (Lehigh University); Derek Scarbrough (MEMtronics Corp); C. L. Goldsmith (MEMtron Corp);
- 17:20 Modeling and Analysis of DC-contact RF MEMS Switch Considering Crosstalk between DC and RF Signals
Yulong Zhang (Tsinghua University); Zhuhao Gong (Tsinghua University); Zewen Liu (Tsinghua University);
- 17:40 A Tunable Omnidirectional Circularly Polarized Antenna Realized by the Gravity Field Tailored
Guo-Biao Liu (Nanjing University of Posts and Telecommunications); Li Zeng (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Tong Huang (Nanjing University of Posts and Telecommunications);
- 18:00 A Novel Tailored Coplanar Waveguide Circularly Polarized Antenna Realized by the Gravity Field Control
Tong Huang (Nanjing University of Posts and Telecommunications); Li Zeng (Nanjing University of Posts and Telecommunications); Guo-Biao Liu (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications);
- 18:20 Design of a Printed Yagi Array Antenna with Additional Director Element for Broadband Radar Applications
Berkay Atabay (ASELSAN Inc.); G. Dural (Middle East Technical University);
- 18:40 An X-band Portable 3D-printed Lens Antenna with Integrated Waveguide Feed for Microwave Imaging
Nonchanutt Chudpooti (King Mongkut's University of Technology North Bangkok); Sukanya Praesomboon (King Mongkut's University of Technology North Bangkok); Nattapong Duangrit (King Mongkut's University of Technology North Bangkok); Nutapong Somjit (University of Leeds); Prayoot Akkaraekthalin (King Mongkut's University of Technology North Bangkok);
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- Session 1P4**
Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 2
-
- Monday PM, June 17, 2019**
Room 8 - 1st Floor
Organized by Mariana Nikolova Georgieva-Grosse,
Georgi Nikolov Georgiev
Chaired by Mariana Nikolova Georgieva-Grosse
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- 14:30 Solution of the Plane Wave Diffraction by the Meta-Invited material Strip with the Complex Fractional Derivative Method
Vasil Tabatadze (Informatics Institute of Istanbul Technical University); Eldar I. Veliyev (Informatics Institute of Istanbul Technical University); Kamil Karacuha (Informatics Institute of Istanbul Technical University); Ertugrul Karacuha (Informatics Institute of Istanbul Technical University);
- 14:50 Application of the Family of Kravchenko-Rvachev Invited Atomic Weight Functions (Windows) in Welch Method EEG Power Spectral Density Estimation
Kristina Andreevna Budunova (Bauman Moscow State Technical University); Victor Filipovich Kravchenko (Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences); Dmitry Victorovich Churikov (Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences);
- 15:10 Electromagnetic Resonance Scattering by a Field-Invited aligned Cylindrical Density Depletion in a Magnetoplasma
Alexander V. Kudrin (University of Nizhny Novgorod); Alexander V. Ivoninsky (University of Nizhny Novgorod);
- 15:30 Contributions to the Qualitative Theory of Scattering Invited
Giovanni Franco Crosta (University of Milan Bicocca);
- 15:50 Generalized Theorem for the $G_1(\mathbf{c}, \mathbf{n})$ Numbers Invited
Mariana Nikolova Georgieva-Grosse (Consulting and Researcher in Physics and Computer Sciences); Georgi Nikolov Georgiev (University of Veliko Tirnovo "St. St. Cyril and Methodius");
- 16:10 Utilization of Symmetries for MIMO Systems
Michal Masek (Czech Technical University in Prague); Miloslav Capek (Czech Technical University in Prague); L. Jelínek (Czech Technical University in Prague);
- 16:30 **Coffee Break**
- 17:00 Analysis of Mathematical Techniques for the Calcul-Invited lation of the Electrostatic Field in a Dielectric-loaded Waveguide
Andres Berenguer Alonso (Universidad Miguel Hernandez de Elche); Angela Coves Soler (Universidad Miguel Hernandez de Elche); Enrique Bronchalo (Universidad Miguel Hernandez de Elche); Francisco L. Mesa (Universidad de Sevilla);
- 17:20 The Boundary Integral Equation Method for the EM Scattering from Randomly Rough Multilayers
Gabriel Soriano (Aix-Marseille Université); Myriam Zerrad (Université Paul Cézanne); Claude Amra (Université Paul Cézanne);
- 17:40 Asymptotic Analysis of the Potential of Superlumi-Invited nally Moving Source
Valery V. Achkasov (Scientific Department of Fryazino Experimental Factory Ltd.); Mikhail Ye. Zhuravlev (Saint Petersburg State University);
- 18:00 Geometrical Interpretation of Transition Radiation in a Waveguide
Mikayel I. Ivanyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)); Lusine Aslyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE));
- 18:20 Transmission Line Model Based on PCB Units and Modified π Circuits
Thaina Guimaraes Pereira (Sao Paulo State University (UNESP), Campus of Sao Joao da Boa Vista); Afonso Jose Do Prado (UNESP — Universidade Estadual Paulista); Leonardo Da Silva Lessa (Universidade Estadual Paulista); Paula Ghedini Der Agopian (Sao Paulo State University (UNESP), Campus of Sao Joao da Boa Vista); Rafael Abrantes Penchel (Sao Paulo State University (UNESP), Campus of Sao Joao da Boa Vista); Andre Alves Ferreira (Sao Paulo State University (UNESP), Campus of Sao Joao da Boa Vista); Jose Pissolato Filho (UNICAMP — State University of Campinas);
- 18:40 Numerical Modeling of the Parabolic Wave Equation in Lossless and Lossy Media
Andrew J. Knisely (Institute of Electrical and Electronics Engineers (IEEE)); Andrew J. Terzuoli (Institute of Electrical and Electronics Engineers (IEEE));
- 19:00 Calculation of Resonances in Diffractive Structures and Metasurfaces Based on Analytical Derivation of the Scattering Matrix
L. Yu. Pogorelskaya (ITMO University); Alexey A. Shcherbakov (ITMO University); A. A. Bogdanov (ITMO University);

Session 1P5
Inverse Problems in Antennas, Scattering and Optics: Theory & Applications 2

Monday PM, June 17, 2019
Room Hall of Frescoes - 1st Floor

Organized by Rocco Pierri, Giovanni Leone

 Chaired by Rocco Pierri, Qing Huo Liu

- 14:30 Feasibility Study of Applying Deep Learning Techniques to Computational Electromagnetics
Maokun Li (Tsinghua University); Tao Shan (Tsinghua University); Rui Guo (Tsinghua University); Fan Yang (Tsinghua University); Shenheng Xu (Tsinghua University);
- 14:50 Phase Retrieval of Scalar Fields Radiated by Finite-dimensional Sources from Single-surface Measurements
Andrea Francesco Morabito (University ‘Mediterranea’ of Reggio Calabria); Roberta Palmeri (Mediterranea University of Reggio Calabria); Tommaso Isernia (University “Mediterranea” of Reggio Calabria);
- 15:10 Deep Learning for Applications to Ground Penetrating Radar and Electromagnetic Diagnostic
Francesca Ponti (“La Sapienza” University of Rome); Francesco Barbuto (“La Sapienza” University of Rome); Pietro Paolo Di Gregorio (“La Sapienza” University of Rome); Fabio Mangini (“La Sapienza” University of Rome); Patrizio Simeoni (“La Sapienza” University of Rome); Maurizio Troiano (“La Sapienza” University of Rome); Fabrizio Frezza (“La Sapienza” University of Rome);
- 15:30 The “Traps” Issue in a Non Linear Inverse Problem: The Phase Retrieval in Circular Case
Raffaele Moretta (Università degli Studi della Campania “Luigi Vanvitelli”); Rocco Pierri (Università degli Studi della Campania “Luigi Vanvitelli”);
- 15:50 Orbital Angular Momentum and Virtual Experiments for Microwave Imaging
Loreto Di Donato (University Mediterranea of Reggio Calabria); M. T. Bevacqua (University “Mediterranea” of Reggio Calabria); A. F. Morabito (University “Mediterranea” of Reggio Calabria); T. Isernia (University “Mediterranea” of Reggio Calabria);
- 16:10 Fluorescence Nanoscopy Using Multiple Signal Classification Algorithm (MUSICAL): From Electromagnetics Inverse Scattering Problem to Optics Inverse Source Problem
Sebastian Andres Acuna Maldonado (UiT — The Arctic University of Norway); Ida Sundvor Opstad (UiT — The Arctic University of Norway); Luis Enrique Villegas Hernandez (UiT — The Arctic University of Norway); Mona Nystad (University Hospital of North Norway); Milton Aguilera (Instituto de Histologia y Embriologia de Mendoza (IHEM)); Merete Storflor (UiT — The Arctic University of Norway); Cristina Ionica Oie (UiT — The Arctic University of Norway); Soren Abel (UiT — The Arctic University of Norway); Asa Birna Birgisdottir (University Hospital of North Norway); Trine Karstad (University Hospital of North Norway); Deanna L. Wolfson (UiT — The Arctic University of Norway); Jean-Claude Tinguely (UiT — The Arctic University of Norway); Truls Myrnel (University Hospital of North Norway); Peter McCourt (UiT — The Arctic University of Norway); Terje Johansen (UiT — The Arctic University of Norway); Balpreet Singh Ahluwalia (UiT — The Arctic University of Norway); Krishna Agarwal (UiT — The Arctic University of Norway);
- 16:30 **Coffee Break**
- 17:00 Defining Reference Scenarios for Inverse Methods by Using the Cylindrical-wave Approach
Cristina Ponti (“Roma Tre” University); Giuseppe Schettini (“Roma Tre” University);
- 17:20 Solving Inverse Problems of Nonimaging Optics Using Optimal Mass Transport and Linear Assignment Problems
Leonid L. Doskolovich (“Crystallography and Photonics” of Russian Academy of Sciences); Dmitry Alexandrovich Bykov (Image Processing Systems Institute of the Russian Academy of Sciences); Evgeni A. Bezus (Image Processing Systems Institute of the Russian Academy of Sciences); N. L. Kazansky (Image Processing Systems Institute of the Russian Academy of Sciences);
- 17:40 Particle Size Distribution Analysis in Concentrated Suspensions by Frequency Domain Photon Density Wave Spectroscopy
Lena Bressel (University of Potsdam); Oliver Reich (University of Potsdam);
- 18:00 3D Inverse Scattering Problem for Anisotropic Objects in an Anisotropic Background
Jianliang Zhuo (Xiamen University); Feng Han (Xiamen University); Qing Huo Liu (Duke University);

Session 1P6
**SC1&SC4: Progress in Broadband and UWB
Printed and Dielectric Antennas for Wireless
Applications 2**

Monday PM, June 17, 2019
Room Cloister Hall - 1st Floor

Organized by Renato Cicchetti, Antonio Faraone

 Chaired by Renato Cicchetti, Antonio Faraone

- 14:30 UWB Reversible Structure All-textile Antenna for Wireless Body Area Networks Applications
Antonio Di Natale (Universita degli Studi dell'Aquila); Emidio Di Giampaolo (Universita degli Studi dell'Aquila);
- 14:50 Assessment of Actual Maximum RF EMF Exposure Invited from Radio Base Stations with Massive MIMO Antennas
Davide Colombi (Ericsson AB); Paramananda Joshi (Ericsson AB); Ricardo Pereira (Ericsson Portugal); Dimple Thomas (Ericsson Canada); Denish Shleifman (Ericsson Canada); Babak Tootoonchi (Ericsson Canada); Bo Xu (Ericsson AB); Christer Tornevik (Ericsson AB);
- 15:10 MM-wave Patch Antenna with Embedded Photoconductive Elements for 1-bit Phase Shifting
Elena Shepeleva (Bauman Moscow State Technical University); Mikhail N. Makurin (Samsung Moscow Research Center); Artem Vilenskiy (Samsung Research Institute Russia); Sergey Chernyshev (Bauman Moscow State Technical University);
- 15:30 Reconfigurable MIMO Filtenna for Spectrum Underlay Cognitive Radio
Raghvendra Kumar Chaudhary (Indian Institute of Technology (Indian School of Mines)); Sreenath Reddy Thummaluru (Indian Institute of Technology (Indian School of Mines) Dhanbad);
- 15:50 ACS-fed Electrically Small Metamaterial Inspired Dual Polarized Antenna Enabled with Staircase Radiating Strips for UMTS/WiMAX/WLAN Applications
Mohammad Ameen (Indian Institute Of Technology (ISM)); Rakesh Chowdhury (Indian Institute of Technology (Indian School of Mines)); Raghvendra Kumar Chaudhary (Indian Institute of Technology (Indian School of Mines));
- 16:10 Dual Circularly Polarized Slot Antenna with Novel Isolator
Sumantra Chaudhuri (Indian Institute of Technology Guwahati); Rakesh Singh Kshetrimayum (Indian Institute of Technology); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati); Darpan Mishra (Indian Institute of Technology Guwahati);
- 16:30 **Coffee Break**
- 17:00 A Novel X-band Circularly Polarized Vivaldi Antenna Array
Ziqiang Yi (University of Electronic Science and Technology of China); Hong-Yan Tang (University of Electronic Science and Technology of China (UESTC)); Sibao Xiao (University of Electronic Science and Technology of China); Shuai Tian (University of Electronic Science and Technology of China); Yafei Liu (University of Electronic Science and Technology of China); Kai Kang (University of Electronic Science and Technology of China); Yunqiu Wu (University of Electronic Science and Technology of China);
- 17:20 An Ultrawide-band Dual Polarization SAR Antenna for Space Applications
Alessandro Di Carlofelice (University of L'Aquila); Piero Tognolatti (University of L'Aquila); Emidio Di Giampaolo (Universita degli Studi dell'Aquila); Andrea Suriani (Thales Alenia Space Italia);
- 17:40 Dielectric Resonator Based MIMO Antenna with Circular Polarization Diversity for WiMAX Applications
Nikesh Kumar Sahu (Indian Institute of Technology (Indian School of Mines)); Gourab Das (Indian School of Mines); Ravi Kumar Gangwar (Indian School of Mines);
- 18:00 Dielectric Resonator Based MIMO Antenna with Circular Polarization Diversity for WiMAX Applications
Nikesh Kumar Sahu (Indian Institute of Technology (Indian School of Mines)); Gourab Das (Indian School of Mines); Ravi Kumar Gangwar (Indian School of Mines);
- 18:20 Design of Shark Fin Integrated Antenna Systems for Automotive Applications
C. Demien (Antonine University); Remi M. Sarkis (TICKET Laboratory);
- 18:40 Design of Frame Integrated Antennas for Mobile Handset
M. El Bacha (Antonine University); Remi M. Sarkis (TICKET Laboratory);
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- 19:00 A 60 GHz Rectangular Patch Antenna with Cavity Resonator for 5G Applications
Sara Yehia Abdelfatah Ahmed (Egyptian Chinese University); Ehab K. I. Hamad (Aswan University); Wael Swelam (Egyptian Armed Forces); Mohamed Fathy Abo Sree (Arab Academy for Science & Technology and Maritime Transport); Mohamed Hassan Abdelzeem (Cairo Branch AASTMT);

Session 1P7

SC3: Light Robotics: Harnessing the Forces of Light for Micro-robotic Actuation and Control

Monday PM, June 17, 2019

Room 17 - 1st Floor

Organized by Ada-Ioana Bunea, Jesper Gluckstad

Chaired by Ada-Ioana Bunea, Kirstine Berg-Sorensen

- 14:30 All-optical Manipulation of Flexible Metasurfaces
 Invited
Andrea Di Falco (University of St Andrews);
- 14:50 Optical Trapping Techniques for the Control and Actuation of Microstructures
Alexandre Wetzel (Technical University of Denmark); Einstom Engay (Technical University of Denmark); Ada-Ioana Bunea (Technical University of Denmark); Jesper Gluckstad (Technical University of Denmark);
- 15:10 Patterned Actuators for Micro-robotic Applications
 Invited
Michael O'Donnell (University of Bristol); Simon Hanna (University of Bristol);
- 15:30 Manipulation and Cell Injection of Fluorescence Microsensor with Multiple Wavelength Lights
 Invited
Hisataka Maruyama (Nagoya University); Ryota Yanagawa (Nagoya University); Fumihito Arai (Nagoya University);
- 15:50 Indirect Optical Manipulation of Live Cells and Its Application in Multiview Microscopy
 Invited
Pal Ormos (Institute of Biophysics, Biological Research Centre); Andras Buzas (Institute of Biophysics, Biological Research Centre); Tamas Fekete (Institute of Biophysics, Biological Research Centre); Istvan Grexa (Institute of Biophysics, Biological Research Centre); Gaszton Vizsnyiczai (Institute of Biophysics, Biological Research Centre); Lorand Kelemen (Institute of Biophysics, Biological Research Centre);
- 16:10 Disk-tip Microtools for Light Robotics
Einstom Engay (Technical University of Denmark); Alexandre Wetzel (Technical University of Denmark); Ada-Ioana Bunea (Technical University of Denmark); Jesper Gluckstad (Technical University of Denmark);

16:30 Coffee Break

- 17:00 Light Robots Based on Shape-changing Materials
Arri Priimagi (Tampere University of Technology);
- 17:20 Soft Microrobots Controlled by Structured Light
 Invited
Stefano Palagi (Istituto Italiano di Tecnologia);
- 17:40 3D Printing for Light-fueled Polymeric Microrobots
 Invited
Sara Nocentini (European Laboratory for Non-linear Spectroscopy); Daniele Martella (European Laboratory for Non-linear Spectroscopy); Camilla Parmeggiani (European Laboratory for Non-linear Spectroscopy); Diederik S. Wiersma (European Laboratory for Non-linear Spectroscopy);
- 18:00 Biomimetic 3D Micro-structures for Soft Micro-robotics
 Invited
Larisa Florea (College Green); Alexa Ennis (College Green); Colm Delaney (University College Dublin);
- 18:20 Circumgyration of Nonlinear Nanoparticles by Focusing Gaussian Ultrashort Pulses
Yaqiang Qin (Institute of Genetics and Developmental Biology, Chinese Academy of Sciences); Lu Huang (Institute of Genetics and Developmental Biology, Chinese Academy of Sciences); Yuqiang Jiang (Institute of Genetics and Developmental Biology, Chinese Academy of Sciences);

Session 1P8a

Photonics Packaging & Integration 2

Monday PM, June 17, 2019

Room 6 - Mezzanine

Organized by Francesco Floris

Chaired by Francesco Floris

- 14:30 ACTPHAST — Accelerating Photonics Innovation for SME's and Researchers
Marc Rensing (Tyndall National Institute);
- 14:50 Actilabel: A Smart Active Label for Monitoring Real Shelf Life of Goods
Carlo Maria Carbonaro (University of Cagliari); Daniele Chiriu (University of Cagliari); Pier Carlo Ricci (University of Cagliari);
- 15:10 From Laboratory Measurements to a Commercial Prototype: The Case of Plasmore
Franco Marabelli (University of Pavia); Lucia Fornasari (Plasmore s.r.l.); L. Lopez-Sanchez (Plasmore s.r.l.); P. Pellacani (Plasmore s.r.l.);

15:30 A High-speed Vertical Transition for Multi-layer AlN Carrier Boards Designed by Time-domain Reflectometry
Moises A. Jezzini (Tyndall National Institute); P. J. Marraccini (Tyndall National Institute); F. H. Peters (Tyndall National Institute);

Session 1P8b

SC3: Mid-infrared Integrated Photonics and Applications

Monday PM, June 17, 2019

Room 6 - Mezzanine

Organized by Zhenzhou Cheng, Yingdong Han

Chaired by Zhenzhou Cheng

15:50 Miniaturization of Mid-IR Sensors on Si: Challenges and Perspectives

Invited Jean-Guillaume Coutard (Universite Grenoble Alpes); S. Nicoletti (CEA-Leti MINATEC Campus); J.-M. Fedeli (CEA LETI); M. Fournier (Universite Grenoble Alpes); P. Labeye (CEA-Leti MINATEC Campus); Pierre Barritault (Universite Grenoble Alpes); A. Marchant (Universite Grenoble Alpes); Alain Gliere (Universite Grenoble Alpes); A. Teulle (Universite Grenoble Alpes); L. Duraffourg (Universite Grenoble Alpes);

16:10 The Chalcogenide Waveguides for Mid-infrared Optical Applications

Invited Xin Gai (City University of Hong Kong);

16:30 **Coffee Break**

17:00 Mid-IR Devices and Sub-systems Based on SOI Technology

Invited Fabio Pavanello (Ghent University); Anton Vasiliev (Ghent University); Ruijun Wang (Ghent University); Muhammad Muneeb (Ghent University); A. Malik (Ghent University); Guy Lepage (Imec); Peter DeHeyn (Imec); Joris Van Campenhout (IMEC); Ieva Simonyte (Brolis Semiconductors); Augustinas Vizbaras (Brolis Semiconductors); Kristijonas Vizbaras (Brolis Semiconductors); Roe Baets (Ghent University); Gunther Roelkens (Ghent University, IMEC);

17:20 Mid-infrared Integrated Photonic Devices for On-chip Chemical Sensing

Invited Yi Zou (ShanghaiTech University);

17:40 Silicon and Germanium Active Devices for the Mid-infrared

Invited Goran Z. Mashanovich (University of Southampton); W. Cao (University of Southampton); Z. Qu (University of Southampton); A. Osman (University of Southampton); Y. Wu (University of Southampton); D. Hagan (McMaster University); A. P. Knights (McMaster University); T. Li (University of Southampton); Z. Zhou (Peking University); J. Soler Penades (University of Southampton); F. Y. Gardes (University of Southampton); K. Li (University of Southampton); D. J. Thomson (University of Southampton); M. Nedeljkovic (University of Southampton);

18:00 Mid-infrared Non-linear Optical Properties of Ge-rich SiGe Waveguides

Invited Jacopo Frigerio (Politecnico di Milano and L-NESS); Joan Manel Ramirez (III-V Lab); Samuel Serna (Universite Paris-Sud); Andrea Ballabio (Politecnico di Milano and L-NESS); Vladyslav Vakarin (Univ. Paris-Sud, Universite Paris Saclay); Qiankun Liu (Univ. Paris-Sud, Universite Paris Saclay); Miguel Montesinos (Univ. Paris-Sud, Universite Paris Saclay); Xavier Le Roux (Universite Paris-Sud); Giovanni Isella (Politecnico di Milano); Laurent Vivien (Universite Paris-Sud); Delphine Marris-Morini (Universite Paris 11);

18:20 Design of Integrated Silicon Optical Phased Array at 2 μm Waveband

Zhiyu Li (Harbin Institute of Technology); Yingjie Liu (Harbin Institute of Technology); Hucheng Xie (Harbin Institute of Technology); Lulu Sun (Harbin Institute of Technology); Yong Yao (Harbin Institute of Technology); Jiajun Tian (Harbin Institute of Technology); Jun Jun Xiao (Harbin Institute of Technology); Ke Xu (Harbin Institute of Technology);

18:40 Mid-infrared Suspended Membrane Photonic Integrated Circuits

Zhenzhou Cheng (Tianjin University);

Session 1P9a

Integrated Nanophotonics, Plasmonics and Graphene-based Devices 2

Monday PM, June 17, 2019

Room 4 - Mezzanine

Organized by Marco Grande, Antonella D'Orazio

Chaired by Marco Grande, Antonella D'Orazio

14:30 Implantable Probes for Optogenetics and Neurophotonics
Invited

Massimo De Vittorio (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia); Ferruccio Pisanello (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia);

14:50 Silicon Optical Modulators and Their Integration with CMOS Electronics
Invited

Abdul Shakoor (University of Southampton); Ke Li (University of Southampton); Shenghao Liu (University of Southampton); Fanfan Meng (University of Southampton); Ali Z. Khokhar (University of Southampton); Wei Cao (University of Southampton); Weiwei Zhang (University of Southampton); Peter Wilson (University of Bath); Kapil Debnath (University of Southampton); Callum Littlejohns (University of Southampton); James Byers (University of Southampton); Lorenzo Mastronardi (University of Southampton); Muhammad K. Hussain (University of Southampton); Frederic Y. Gardes (University of Southampton); Shinichi Saito (University of Southampton); Graham T. Reed (University of Southampton); David J. Thomson (University of Southampton);

15:10 Micro and Nanostructuring of Tapered Optical Fibers with Focused Ion Beam and Two-photon Lithography
F. Pisano (Center for Biomolecular Nanotechnologies); Antonio Balena (Center for Biomolecular Nanotechnologies); Marco Grande (Politecnico di Bari); T. Stomeo (); M. Pisanello (Center for Biomolecular Nanotechnologies); A. Quattieri (Univ Salento); Muhammad Fayyaz Kashif (Politecnico di Bari); A. D'Orazio (Politecnico di Bari); Massimo De Vittorio (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia); Ferruccio Pisanello (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia);

15:30 High Resolution Imaging and Sub 10 nm Nanostructuring with He and Ne Ions

Peter Gnauck (Carl Zeiss Microscopy GmbH);

Session 1P9b

Nanophotonic Materials for Biomedical Imaging and Sensing

Monday PM, June 17, 2019

Room 4 - Mezzanine

Organized by Asma Khalid, Snjezana Tomljenovic-Hanic

Chaired by Asma Khalid

- 15:50 New Approaches for Biomedical Imaging at Depth
Kishan Dholakia (University of St Andrews);
- 16:10 Fluorescent Nanodiamonds for Intracellular Measurements
Ryuji Igarashi (QST); Kūichi Kaminaga (QST); Daiki Terada (Kyoto University); Takahiro Fujisaka (Kyoto University); Takuya Genjo (Kyoto University); Takuya F. Segawa (Eidgenössische Technische Hochschule (ETH)); Akinari Yokoya (National Institutes for Quantum and Radiological Science and Technology); Masahiro Shirakawa (Kyoto University);
- 16:30 **Coffee Break**
- 17:00 Quantum Tools to Explore Radiobiological Effects on Living Systems
Akinari Yokoya (National Institutes for Quantum and Radiological Science and Technology);
- 17:20 Utilising Glycobiology for Fluorescent Nanodiamond Uptake and Imaging in the Central Nervous System
Lindsay M. Parker (Macquarie University); Philipp Reineck (RMIT University); Mina Ghanimi-Fard (Macquarie University); Emma R. Wilson (RMIT University); Sameera Iqbal (Macquarie University); Michael Baratta (University of Colorado Boulder); Nicole M. Cordina (Macquarie University); Anna Guller (Macquarie University); Annemarie Nadort (Macquarie University); Brant Gibson (RMIT University); Nicolle H. Packer (Macquarie University);
- 17:40 Bio-inspired Optical Silk Coatings for Fibre Sensing Applications
Asma Khalid (Rmit University); Lu Peng (The University of Adelaide); Azim Arman (The University of Adelaide); Stephen C. Warren-Smith (Univ Adelaide); Erik Schartner (The University of Adelaide); Mark Hutchinson (The University of Adelaide); Heike Ebendorff-Heidepriem (The University of Adelaide); Robert McLaughlin (The University of Adelaide); Brant Gibson (RMIT University); Jiawen Li (The University of Adelaide);

- 18:00 Wavefront Shaping Techniques for Deep Tissue Raman Spectroscopy
Jacopo Bertolotti (University of Exeter); A. M. Paniagua-Diaz (University of Exeter); A. Ghita (University of Exeter); T. Vettenburg (University of Exeter); N. Stone (University of Exeter);
- 18:20 Measurement of Axonal Transport in the Brain of Zebrafish Larvae, by Single Nanocrystal Tracking with Fast Non-linear Microscopy
F. Terras (Univ. Paris-Sud); M. Freteau (Virologie et Immunologie Moleculaires); Q.-L. Chou (Univ. Paris-Sud); G. Allard (Univ. Paris-Sud); A. Houel (Virologie et Immunologie Moleculaires); M. Simonneau (Univ. Paris-Sud); F. Del Bene (PSL Research University); C. Langevin (Virologie et Immunologie Moleculaires); F. Marquier (Univ. Paris-Sud); Francois Treussart (Univ. Paris-Sud);
- 18:40 The Influence of the Microwave Radiation on the Water Desorption from the Tungsten Nanopowder
Andrei Vladimirovich Mostovshchikov (National Research Tomsk Polytechnic University); Alexander Petrovich Ilyin (Tomsk Polytechnic University); Pavel Yurievich Chumerin (Tomsk Polytechnic University);
- 15:50 Optically-pumped Atomic Spin Magnetometer
Guangcun Shan (Beihang University, City University of Hong Kong);
- 16:10 Continuous Measurements for Advanced Quantum Metrology
Invited *F. Albarelli (University of Warwick); M. A. C. Rossi (University of Turku); D. Tamascelli (Universita degli Studi di Milano); Matteo G. A. Paris (University of Milan); Marco G. Genoni (Universita degli Studi di Milano);*
- 16:30 **Coffee Break**

Session 1P10b
**SC3: Wide Bandgap Semiconductors
Photonics**

Monday PM, June 17, 2019
Room 12 - Mezzanine

 Organized by Francesco Giuseppe Della Corte,
Xiyuan Lu

 Chaired by Francesco Giuseppe Della Corte

Session 1P10a
SC3: Photonic Quantum Metrology

Monday PM, June 17, 2019
Room 12 - Mezzanine

Organized by Marco Barbieri

 Chaired by Animesh Datta, Magdalena Stobinska

- 14:30 Next Generation Quantum Sensing — Multiple Parameters and Fault Tolerance
Invited *Animesh Datta (University of Warwick);*
- 14:50 Optical Phase Measurements with Entangled Photon States
Invited *Sergei Slussarenko (Griffith University);*
- 15:10 Measuring Quantum and Thermal Noise in Optomechanical Systems
Thomas Purdy (University of Pittsburgh); R. Singh (JQI — NIST & University of Maryland);
- 15:30 Long-range Distribution of Multiphoton Entanglement
Invited *M. E. Mycroft (University of Warsaw); A. Buraczewski (University of Warsaw); S. Barz (University of Stuttgart); Magdalena Stobinska (University of Stuttgart);*
- 17:00 Multimode Scanning Near-field Optical Microscopy of InGaN/GaN Quantum Wells
Saulius Marcinkevicius (KTH Royal Institute of Technology);
- 17:20 Study of Piezoelectric-mechanical Properties of III-V Nitride Based Tunnel FET
Manjula Vijh (Amity University Uttar Pradesh); R. S. Gupta (Maharaja Agrasen Institute of Technology); Sujata Pandey (Amity University);
- 17:40 Brillouin Lasing in Wide Bandgap AlGaIn Platform for the Visible Range
Vittorio M. N. Passaro (Politecnico di Bari); Francesco De Leonardis (Politecnico di Bari); Richard A. Soref (University of Massachusetts Boston);
- 18:00 Thermo-optic Effect of 4H-silicon Carbide at Fiber-optic Communication Wavelengths
Giuliana Faggio (University "Mediterranea" of Reggio Calabria); Giacomo Messina (University "Mediterranea" of Reggio Calabria); Andrea Gnisci (University "Mediterranea" of Reggio Calabria); Angela Malara (University "Mediterranea" of Reggio Calabria); Sandro Rao (Universita Mediterranea, DIIES);
- 18:20 Electro-optical Modulation in a Silicon Carbide Waveguiding Schottky Structure
Sandro Rao (Universita Mediterranea, DIIES); F. G. Della Corte (Universita Mediterranea, DIIES);

- 18:40 Silicon Carbide Photonic Crystal for Optical Beam Steering
Valentina Di Meo (Institute for Microelectronics and Microsystems, National Research Council); Alessio Crescitelli (Institute for Microelectronics and Microsystems, National Research Council); Emanuela Esposito (Institute for Microelectronics and Microsystems, National Research Council); Vito Moccia (Institute for Microelectronics and Microsystems, National Research Council); Ivo Rendina (CNR-IMM — Unità di Napoli); Caterina Summonte (National Research Council); Giuseppe Cocorullo (University of Calabria);
- 19:00 Photodiode Detectors Based on Synthetic Single Crystal Diamond for Extreme-UV Measurements
Claudio Verona (Università di Roma “Tor Vergata”); Silvia Cesaroni (Università di Roma “Tor Vergata”); M. Marinelli (Università di Roma “Tor Vergata”); G. Verona-Rinati (Università di Roma “Tor Vergata”);

Session 1P11a

SC2: Modeling of Metamaterials and Metasurfaces 2

Monday PM, June 17, 2019

Room 11 - Mezzanine

Organized by Ying Wu

Chaired by Ying Wu

- 14:30 Optimal Design of All-dielectric 3D Gradient Metasurfaces
Mahmoud M. R. Elsayw (INRIA); Regis Duwigneau (INRIA); Stephane Lanteri (Cote d’Azur University, Inria, CNRS, LJAD); Peinan Ni (CNRS, CRHEA, Universite Cote d’Azur); Gauthier Briere (CNRS, CRHEA, Universite Cote d’Azur); Patrice Genevet (CNRS, CRHEA, Universite Cote d’Azur);
- 14:50 Advancements in Multiscale Computation with the Discontinuous Galerkin Time Domain Method and Geometrical Optics
Sawyer D. Campbell (The Pennsylvania State University); Huaguang Bao (The Pennsylvania State University); Pingjuan L. Werner (The Pennsylvania State University); Douglas H. Werner (The Pennsylvania State University);
- 15:10 Photonic Helical Edge States in Dispersive Metamaterials
Ruey-Lin Chern (National Taiwan University); You-Zhong Yu (National Taiwan University);

- 15:30 Chiral Metamaterials with Parity-Time Symmetry
Maria Kafesaki (Institute of Electronic Structure and Laser (IESL)); I. Katsantonis (Institute of Electronic Structure and Laser (IESL)); S. Droulias (Institute of Electronic Structure and Laser (IESL)); Eleftherios N. Economou (Institute of Electronic Structure and Laser (IESL)); Costas M. Soukoulis (Iowa State University);

Session 1P11b

SC3: Optical Metamaterials: Applications, Materials and Fabrication Methods

Monday PM, June 17, 2019

Room 11 - Mezzanine

Organized by Anders Kristensen, Uriel Levy

Chaired by Anders Kristensen

- 15:50 Hot Nanophotonics: Let’s Do Something Useful with Metal Losses
 Invited *Romain Quidant (ICFO);*
- 16:10 Generating Colors from Colorless Materials
 Invited *Joel K. W. Yang (Singapore University of Technology and Design);*
- 16:30 **Coffee Break**
- 17:00 Nano Hole Arrays: Structural Colour Metasurface to Perfect Absorption
 Invited *Mehdi Keshavarz Hedayati (Durham University); Anders Kristensen (Technical University of Denmark);*
- 17:20 Silicon Nanostructures for Directional Emission and Active Tuning of Light
 Invited *Soren Raza (Technical University of Denmark);*
- 17:40 High-density Information Storage in Metasurfaces: Laser Post-processing of Morphology-dependent Resonances
 Invited *N. Asger Mortensen (University of Southern Denmark);*

- 18:00 Multi-level Security Devices for Viewing in Bright Field, Dark Field and Infrared Light
*Ray Jia Hong Ng (Singapore University of Technology and Design); Ravikumar Venkat Krishnan (Institute of Materials Research and Engineering, A*STAR (Agency for Science, Technology and Research)); Hailong Liu (Singapore University of Technology and Design); Qifeng Ruan (Singapore University of Technology and Design); Zhaogang Dong (Institute of Materials Research and Engineering, A*STAR (Agency for Science, Technology and Research)); Jin Fa Ho (Institute of Materials Research and Engineering, A*STAR (Agency for Science, Technology and Research)); Kin-Leong Pey (Singapore University of Technology and Design); Joel K. W. Yang (Singapore University of Technology and Design);*
- 18:20 Sensing Spatial Coherence of Light with Metasurfaces
 Invited
Tom Frank (University of Southampton); Oleksandr Buchnev (University of Southampton); Tamzin Cookson (University of Southampton); Malgosia Kaczmarek (University of Southampton); Pavlos G. Lagoudakis (University of Southampton); Vasily A. Fedotov (University of Southampton);
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- Session 1P12**
SC2&SC3: Linear and Nonlinear Optics of Chiral Metasurfaces
-
- Monday PM, June 17, 2019**
Room 21 - 2nd Floor
 Organized by Concita Sibilìa, Alessandro Belardini
-
- 14:30 Nonlinear Optical Response of 2D Ordered Plasmonic Nanoprism Arrays
Tiziana Cesca (University of Padova); Raul Rangel-Rojo (Centro de Investigacion Cientifica y de Educacion Superior de Ensenada (CICESE)); Jorge A. Reyes-Esqueda (Universidad Nacional Autonoma de Mexico (UNAM)); Giovanni Mattei (University of Padova);
- 14:50 Nonlinear Stage of Modulational Instability
Stefano Trillo (University of Ferrara); C. Naveau (Universite de Lille); P. Szirotyi (Universite Lille 1); Matteo Conforti (Universite Lille 1); F. Copie (Universite de Lille); Alexandre Kudlinski (Univ. Lille); S. Li (State University of New York at Buffalo); G. Biondini (State University of New York at Buffalo); Arnaud Mussot (Universite des Sciences et Technologies de Lille 1);
- 15:10 Extrinsic Optical Chirality in Self-assembled Semiconductor-metal Hybrid Nanowires
Teemu Hakkarainen (Tampere University); Grigore Leahu (Universita di Roma, La Sapienza); Emilija Petronijevic (Sapienza Universita di Roma); Alessandro Belardini (Sapienza University of Rome); Marco Centini (SAPIENZA Universita di Roma); Eero Koivusalo (Tampere University); Marcelo Rizzo Piton (Tampere University); Roberto Li Voti (Sapienza University of Rome); Concita Sibilìa (Sapienza University of Rome); Mircea Guina (Tampere University);
- 15:30 Chiral Bio-plasmonics with Colloidal Nanocrystals and Metamaterials: Optical, Thermal and Hot-electron Effects
Alexander O. Govorov (Ohio University); Lucas V. Besteiro (Ohio University); Xiang-Tian Kong (Ohio University);
- 15:50 Plasmon-enhanced Vibrational Circular Dichroism with Gold Slit Arrays
Paolo Biagioni (Politecnico di Milano); Giovanni Pellegrini (Politecnico di Milano); Marco Finazzi (Politecnico di Milano); Michele Celebrano (Politecnico di Milano); Lamberto Duo (Politecnico di Milano); Marialilia Pea (Istituto di Fotonica e Nanotecnologie (IFN), CNR); Sara Cibella (Istituto di Fotonica e Nanotecnologie (IFN), CNR); Francesco Mattioli (Istituto di Fotonica e Nanotecnologie (IFN)); Chiara Zanchi (Politecnico di Milano); Matteo Tommasini (Politecnico di Milano); Giuseppe Mazzeo (Univ. di Brescia); Giovanna Longhi (Univ. di Brescia); Sergio Abbate (Univ. di Brescia); Leonetta Baldassarre (Sapienza University of Rome); Valeria Giliberti (Istituto Italiano di Tecnologia); Alessandro Nucara (Sapienza Università di Roma); Michele Ortolani (Sapienza University of Rome);
- 16:10 Multi-frequency and Cascaded Nonlinear Effects in Meta-optics
Luca Carletti (University of Padova); Sergey S. Kruk (Australian National University); Yuri S. Kivshar (Australian National University); Costantino De Angelis (Universita degli Studi di Brescia);
- 16:30 **Coffee Break**
- 17:00 Optimal Design of Simplistic Photonic Systems in the Presence of Actual Losses
Constantinos Valagiannopoulos (Nazarbayev University);

- 17:20 Design of a Fractal Metasurface Based Terahertz Broadband Absorber
Amna Zubair (Information Technology University (ITU) of the Punjab); Muhammad Qasim Mehmood (Information Technology University (ITU)); Muhammad Zubair (Information Technology University (ITU));
- 17:40 Surface Optimally Chiral Fields to Empower Chirality Characterization at Nanoscale
Mina Hanifeh (University of California Irvine); Mohammad Albooyeh (Iran University of Science and Technology); Filippo Capolino (University of California-Irvine);
- 18:00 Novel Composite Materials by Crystal Growth
Dorota A. Pawlak (Institute of Electronic Materials Technology (ITME)); P. Paszke (University of Warsaw); R. Nowaczynski (University of Warsaw); K. Szlachetko (University of Warsaw); P. Piotrowski (University of Warsaw); M. Tomczyk (University of Warsaw); K. Sadecka (Institute of Electronic Materials Technology (ITME)); A. Materna (Institute of Electronic Materials Technology (ITME)); B. Surma (Institute of Electronic Materials Technology (ITME)); Alessandro Belardini (Sapienza University of Rome); J. Toudert (Instituto de Óptica); Concita Sibilica (Sapienza University of Rome);
- 18:20 First Experimental Observation of the Hyper-Rayleigh Scattering Optical Activity Effect
Ventsislav K. Valev (University of Bath);
- 14:50 Superradiance Achievable via SiV Color Centers in Broken-symmetry and Symmetrical Arrays in Ellipsoidal Core-shell Plasmonic Nanoresonators
David Vass (University of Szeged); Andras Szenes (University of Szeged); Balazs Banhelyi (University of Szeged); Tibor Csendes (University of Szeged); Maria Csete (University of Szeged);
- 15:10 Topological Decompositions of Single Point Spaces and Null Spaces as Photon Source: Creation Phases of Light at Early Universes
Taner Sengor (Yildiz Technical University);
- 15:30 Blue and Orange Dual-light Implementation in Periodically Poled MgO:LiNbO₃
Dismas K. Choge (Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences); Huaixi Chen (Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences); Lei Guo (Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences); Guang-Wei Li (Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences); Wanguo Liang (Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences);
- 15:50 Optical Properties of Two-dimensional InSe, GaSe and Their Heterostructures, from Visible to the THz Range
Vladimir Fal'ko (University of Manchester);
- 16:10 MWIR and LWIR Emissions of Rare Earth Doped Chalcogenide Glasses and Waveguides Devoted to Optical Sensors
G. Louwet (Université de Rennes 1); N. Abdellaoui (University of Rennes 1); J. Ari (Université de Rennes 1); E. Baudet (University of Pardubice); Florent Starecki (University of Rennes 1); C. Boussard-Pledel (University of Rennes 1); Joel Charrier (Université de Rennes 1); Loic Bodiou (Université de Rennes 1); Alain Braud (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); J. L. Doualan (Université de Caen); P. Camy (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); Petr Nemeč (University of Pardubice); K. Michel (BRGM); L. Quétel (IDIL Fibers Optics); Bruno Bureau (Univ Rennes 1); Jean-Luc Adam (Université de Rennes 1); Virginie Nazabal (Université de Rennes 1);

Session 1P13a

SC3&SC4: Advances in Optical Sources: Materials, Devices, Applications 2

Monday PM, June 17, 2019

Room 22 - 2nd Floor

Organized by Francesco Prudeniano, Irina T. Sorokina

Chaired by Francesco Prudeniano

- 14:30 A Single TE₀₁ Mode Fiber Laser
Yimin Zhang (University of Science and Technology of China); Hongxun Li (University of Science and Technology of China); Chuansheng Dai (University of Science and Technology of China); Runxia Tao (University of Science and Technology of China); Lixin Xu (University of Science and Technology of China); Chun Gu (University of Science and Technology of China); Peijun Yao (University of Science and Technology of China);
- 16:30 **Coffee Break**
- 17:00 Resonantly Enhanced Moiré Superlattice Coupling for Excitons in Transition-metal Dichalcogenide Heterostructures
Vladimir Fal'ko (University of Manchester);

Session 1P13b
Fiber Gratings and Optical Sensors

Monday PM, June 17, 2019

Room 22 - 2nd Floor

Organized by Chin-Ping Yu

Chaired by Chin-Ping Yu

- 17:20 Single-longitudinal-mode Bragg Grating Based Brillouin Fiber Laser with a Saturable Absorber Ring Resonator
Yi Liu (Taiyuan University of Technology); Yao Shang (Taiyuan University of Technology); Rongrong Guo (Taiyuan University of Technology);
- 17:40 Fiber-optic Temperature Sensing Scheme by Using Stimulated Brillouin Scattering Effect in a Recirculating Fiber Ring
Jin Yun (Xiamen University); Xinying Chen (Xiamen University); Hongyan Fu (Xiamen University);
- 18:00 Study on a Multi-channel Switchable and Environment Self-adaptive Ultrasonic Sensor in a Erbium-doped Fiber Ring Laser
Yuan Li (Harbin Institute of Technology); Jiajun Tian (Harbin Institute of Technology); Yong Yao (Harbin Institute of Technology); Ke Xu (Harbin Institute of Technology); Jun Jun Xiao (Harbin Institute of Technology);
- 18:20 Elastomeric Substrate-integrated Pd Film/Nanostructures for High-contrast Visual Optical Hydrogen Sensor
Yang Shen (Sun Yat-Sen University); Xiaoyi She (Sun Yat-Sen University); Chongjun Jin (Sun Yat-sen University);
- 18:40 Optical Bi-parameter Sensor Formed by Integrating a Fiber Bragg Grating and a Mach-Zehnder Interferometer
Cheng-Yen Yu (National Sun Yat-sen University); Chin-Ping Yu (National Sun Yat-Sen University);

Session 1P14

FocusSession.SC3: Nanophotonics 2

Monday PM, June 17, 2019

Room 24 - 2nd Floor

Organized by Yeshaiahu Shaya Fainman, Newton C. Frateschi

Chaired by Yeshaiahu Shaya Fainman, Newton C. Frateschi

- 14:30 Parity-time and Other Symmetries in Optics and Photonics
Demetrios N. Christodoulides (University of Central Florida);
- 15:00 Topological Light Sources
Invited
Boubacar Kante (University of California San Diego);
- 15:20 Ultrafast Characterization of Photonic Topological Edge Modes
Invited
Liang Feng (University of Pennsylvania); Zhifeng Zhang (University of Pennsylvania); Mingsen Pan (University of Pennsylvania); Han Zhao (University of Pennsylvania); Pei Miao (University of Pennsylvania);
- 15:40 Collective Mechanisms for the Self-organization of Dynamic Photonic and Phononic Crystals out of Thermodynamic Equilibrium
Invited
Nicolas Bachelard (University of California); Chad Ropp (University of California); Xiang Zhang (University of California);
- 16:00 Quantum Behavior in Mesoscale Lasers
Invited
A. F. J. Levi (University of Southern California);
- 16:30 **Coffee Break**
- 17:00 Nanoscale Light in Resonant Nanostructures
Invited
C. P. T. McPolin (King's College London); Pan Wang (King's College London); A. V. Krasavin (King's College London); Anatoly V. Zayats (King's College London);
- 17:20 Bound States in the Continuum Supported by Simple Nanophotonic Elements Integrated into a Slab Waveguide
Evgeni A. Bezus (Image Processing Systems Institute of the Russian Academy of Sciences); Dmitry Alexandrovich Bykov (Image Processing Systems Institute of the Russian Academy of Sciences); Leonid L. Doskolovich ("Crystallography and Photonics" of Russian Academy of Sciences); V. A. Soifer (Image Processing Systems Institute of the Russian Academy of Sciences);
- 17:35 High-temperature Lasing Mode Regulation in 3D Perovskite Micro-cubic Cavity
Beier Zhou (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science); Hongxing Dong (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science); Mingming Jiang (Nanjing University of Aeronautics and Astronautics); Long Zhang (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science);

17:50 Polariton Meta-optics with Phase-change Materials
Keynote

Federico Capasso (Harvard University); Michele Tamagnone (Harvard University); Kundan Chaudhary (Harvard University); Xinghui Yin (Harvard University); Christina Spagele (Harvard University); Jiahuan Li (Kansas State University); Stefano Oscurato (Harvard University); Noah A. Rubin (Kansas State University); Luis Jauregui (Harvard University); Philip Kim (Harvard University); James H. Edgar (Kansas State University); Antonio Ambrosio (Harvard University);

18:20 Optical Gain at Extremely Low Level of Carriers in
Invited 2D Materials

Zhen Wang (Tsinghua University); Hao Sun (Tsinghua University); Qiyao Zhang (Tsinghua University); Jiabin Feng (Tsinghua University); Jianxing Zhang (Tsinghua University); Yongzhuo Li (Tsinghua University); Cun-Zheng Ning (Arizona State University);

18:40 Passive and Active Integrated Devices in Hybrid Plasmonics
Invited

Amr S. Helmy (University of Toronto);

Session 1P15

FocusSession.SC3: Photosensitive Materials and Devices for Opto-mechanical Applications 2

Monday PM, June 17, 2019

Room 25 - 2nd Floor

Organized by Atsushi Shishido, Marina Grenzer Saphiannikova

Chaired by Atsushi Shishido

14:30 Soft Mass Migration for Micro/Nanophotonics

Invited

Seungwoo Lee (Korea University);

14:50 Modeling Photomechanical Response of Azobenzene
Invited Polymers

Marina Grenzer Saphiannikova (Leibniz-Institut für Polymerforschung Dresden);

15:10 Azobenzene-assisted Formation of Non-spherical
Invited Light Responsive Polymeric Nanoparticles with Tunable Morphologies

Aihua Chen (Beihang University);

15:30 Photoalignment and Surface Morphing Attained from
Keynotethe Free Surface

Takahiro Seki (Nagoya University);

16:00 Soft Mechanism and Actuation

Invited

Shingo Maeda (Shibaura Institute of Technology);

16:30 **Coffee Break**

17:00 Biological, Optical and Acoustic Applications of
Invited Azopolymeric Structures

Emiliano Descrovi (Politecn Torino); Alberto Puliafito (University of Turin); Carlo Liberale (King Abdullah University of Science and Technology); Antonio S. Gliozzi (Polytechnic University of Turin);

17:20 Complex Light-induced Surface Structuring of
Invited Azopolymer Films

Stefano Luigi Oscurato (University of Naples "Federico II");

17:40 Stimuli-responsive Luminescent Chromism of Flexible
Invited Complexes Containing Group 13 Elements

Kazuo Tanaka (Kyoto University);

18:00 Turn-on Mode Photoswitchable Fluorescent
Invited Molecules Based on Photochromic Diarylethenes

Masakazu Morimoto (Rikkyo University);

Session 1P16

FocusSession.SC2: Thermoplasmonics and Photo-thermal Applications 1

Monday PM, June 17, 2019

Room 15 - 2nd Floor

Organized by Alessandro Alabastri, Remo Proietti Zaccaria

Chaired by Remo Proietti Zaccaria

14:30 Laser-induced Thermoelectric Effects in Electrically
Biased Nanoscale Constrictions

M. M. Mennemanteuil (Universite de Bourgogne Franche-Comte); A. Cuadrado (University Complutense of Madrid); J. Alda (University Complutense of Madrid); Alexandre Bouhelier (Universite Bourgogne Franche-Comte);

14:45 Towards Plasmonic Photon-to-phonon Energy Transfer and Control

Joao Cunha (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Tian-Long Guo (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science); Alessandro Alabastri (Rice University); Remo Proietti Zaccaria (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials and Technology Engineering, Chinese Academy of Sciences);

15:00 Thermal Phonon Transport and Coherent Interference
Keynote in Nanomaterials and Metamaterials

Martin Maldovan (Georgia Institute of Technology);

15:30 Photothermal Energy Flow in Nanocrystal Assemblies: Experiments and Modeling

Invited *Andrea Mazzanti (Univ. Modena); Zhijie Yang (Universite Paris Diderot); Marie-Paule Pileni (CEA/IRAMIS); Giulio Cerullo (Politecnico di Milano); Giuseppe Della Valle (Politecnico di Milano);*

15:50 Extraordinary Heat Transport at the Nanoscale

Invited

Bai Song (Peking University);

16:10 Thermo-optic Single-plasmon Nonlinearity in Graphene Nanoislands

Invited *Joel Douglas Cox (ICFO-Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO-Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology);*

16:30 **Coffee Break**

17:00 Quantitative Phase Imaging for Thermoplasmonics

Keynote

Guillaume Baffou (Aix Marseille University);

17:30 Plasmonics of Noble Metal Nanoparticles in a Hot Thermodynamic Bath

Michele Magnozzi (Università di Genova); Marzia Ferrera (Università di Genova); Lorenzo Mattera (Istituto Nazionale per la Fisica della Materia); Maurizio Canepa (Istituto Nazionale per la Fisica della Materia); Francesco Bisio (CNR-SPIN);

17:45 Thermoplasmonics with Ultrashort Laser Pulses

Invited

Xue Hou (Univ. Paris Saclay, CNRS UMR 8537); N. Djellali (Univ. Paris Saclay, CNRS UMR 8537); Bruno Palpant (Univ. Paris Saclay);

18:05 Plasmonic Hot Holes: Fundamentals and Devices

Invited

Giulia Tagliabue (California Institute of Technology); Joseph S. DuChene (California Institute of Technology); Harry A. Atwater (California Institute of Technology);

18:25 Quantifying Photothermal and Hot Charge Carrier Effects in Plasmon-driven Nanoparticle Syntheses

Invited *Rifat Kamarudheen (DIFFER); Gabriel W. Castellanos (Eindhoven University of Technology); Leon P. J. Kamp (Eindhoven University of Technology); Herman J. H. Clercx (Eindhoven University of Technology); Andrea Baldi (DIFFER);*

Session 1P17a

Electromagnetic Radiation Applications for Materials Diagnostics and Modification

Monday PM, June 17, 2019

Room 33 - Bank Building

Organized by Fedor Alexandrovich Gubarev

Chaired by Fedor Alexandrovich Gubarev, Dong Feng He

14:30 Corrosion Evaluation of Steel Reinforcing Bar Using Electromagnetic Method

Invited *Dong Feng He (National Institute for Materials Science); S. Takaya (Kyoto University); N. Tsutsumi (National Institute for Materials Science); Koichi Tsuchiya (National Institute for Materials Science);*

14:50 Distant Monitoring of Nanopowder Combustion

Lin Li (National Research Tomsk Polytechnic University); Petr A. Antipov (National Research Tomsk Polytechnic University); Andrei Vladimirovich Mostovshchikov (National Research Tomsk Polytechnic University); Alexander Petrovich Ilyin (Tomsk Polytechnic University); Fedor Alexandrovich Gubarev (National Research Tomsk Polytechnic University);

15:10 Magnetic Anomaly Detection of Defects in Underground Ferromagnetic Pipeline Using Variational Mode Decomposition and Scale-space Segmentation

Haiyang Ju (Beijing University of Technology); Xinhua Wang (Beijing University of Technology); Tao Zhang (Beijing University of Technology); Yizhen Zhao (Beijing University of Technology); Zia Ullah (Beijing University of Technology);

15:30 Defect Detection of Metal Pipeline Based on Harmonic Eddy Current

Yizhen Zhao (Beijing University of Technology); Xinhua Wang (Beijing University of Technology); Yingchun Chen (Beijing University of Technology); Haiyang Ju (Beijing University of Technology); Tao Zhang (Beijing University of Technology); Zia Ullah (Beijing University of Technology);

15:50 Optical Imaging of Blood Vessels

Denis Olegovich Zyatkov (National Research Tomsk State University); Glushkov Gleb Sergeevich (Research Institute of Semiconductor Devices); Bakin Nikolay Nikolaevich (Research Institute of Semiconductor Devices); Lukinyh Igor Vitalievich (Research Institute of Semiconductor Devices); Dambaev George Tsirenovich (Siberian State Medical University);

16:10 Whole Blood Clotting Time Assessment by Method of Laser-speckle Correlation
Lin Li (National Research Tomsk Polytechnic University); Iuliia Dmitrievna Sytnik (Tomsk Polytechnic University); Alexey Vasil'evich Nosarev (Siberian State Medical University); Viktoria Sergeevna Rydchenko (Siberian State Medical University); Fedor Alexandrovich Gubarev (National Research Tomsk Polytechnic University);

16:30 Coffee Break

Session 1P17b

SC1&SC4: Localized Waves: Science and Applications 2

Monday PM, June 17, 2019

Room 33 - Bank Building

Organized by Mauro Ettore, Walter Fuscaldo

Chaired by Mauro Ettore, Walter Fuscaldo

17:30 Helicity of EM Pulses with Gaussian Envelope
Manuel Fernandez-Guasti (Universidad Autonoma Metropolitana Iztapalapa);

18:10 Axially Localized Waves Carrying Orbital Angular Momentum: Physics, Emitters and Radio-links Limitations
Olivier Pascal (LAPLACE); Jerome Sokoloff (Universite de Toulouse - UPS);

17:00 Investigation of Fractional Cylindrical Bessel Beams
 Keynote
Oscar V. Cespedes (Ecole Polytechnique de Montreal); Christophe Caloz (Ecole Polytechnique de Montreal);

18:30 Localized Bessel Beams for Through-the-wall Communications
Sandra Costanzo (University of Calabria); Giuseppe Di Massa (Universita della Calabria);

17:50 First Demonstration of Localized Rogue Wave Event in Cavity-free Structured Random Fiber Laser
Jiangming Xu (National University of Defense Technology); Pu Zhou (National University of Defense Technology); Jun Ye (National University of Defense Technology); Jiabin Song (National University of Defense Technology); Jian Wu (National University of Defense Technology); Hanwei Zhang (National University of Defense Technology);

18:50 Experimental Observation of Robust Boundary Modes in Photonic Kagome Lattices
Jina Ma (Nankai University); Haiping Wang (Nankai University); Xiuyan Zheng (Nankai University); Liqin Tang (Nankai University); Daohong Song (Nankai University); Zhigang Chen (Nankai University);

Session 1P18

Integrated and Fiber-based Photonic Circuits and Devices

Monday PM, June 17, 2019

Room 38 - Chemistry Building

Organized by M. E. Belkin

Chaired by A. S. Sigov, M. E. Belkin

14:30 An Influence of the Coupling Region Geometry on the Transmission Characteristics of the Optical Micro-ring Resonators

Galina Zaretskaya (Saint Petersburg Electrotechnical University "LETI"); Andrey Drozdovskii (Saint Petersburg Electrotechnical University "LETI"); Boris A. Kalinikos (Saint Petersburg Electrotechnical University "LETI");

14:50 Numerical Optimization of Grating Coupler Parameters for InP-based Photonic Circuits

Konstantin S. Grishakov (National Research Nuclear University MEPhI); Nikolay I. Kargin (National Research Nuclear University MEPhI);

15:10 Fields and Modes in Thin Film Coated Optical Waveguides

E. I. Golant (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences); K. M. Golant (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences);

15:30 Control of the Bistability in Spin-wave Optoelectronic Ring Resonators

Vitaliy V. Vitko (Saint Petersburg Electrotechnical University "LETI"); Andrey A. Nikitin (Saint Petersburg Electrotechnical University "LETI"); Alexey B. Ustinov (Saint Petersburg Electrotechnical University "LETI"); Boris Kalinikos (Saint Petersburg Electrotechnical University "LETI");

- 15:50 Modelling of Quantum-confined Stark Effect in III-V Heterostructures for Electro-optic Modulator Applications
Yuri D. Sibirmovsky (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)); Nikolay I. Kargin (National Research Nuclear University MEPhI); I. S. Vasil'evskii (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute));
- 16:10 Design of a Silicon Photonics Beam-steering Network Based on Fast Selective Phase Shift of a Multi-carrier Optical Source Using Doped Microring Resonators
C. Porzi (TeCIP Institute); F. Falconi (CNIT); A. Bogoni (TeCIP Institute, CNIT); P. Ghelfi (TeCIP Institute);
- 16:30 **Coffee Break**
- 17:00 Integrated Optical Circuits Enhanced by Single Photon Detectors
G. Goltzman (National Research University Higher School of Economics); O. Kahl (University of Munster, Karlsruhe Institute of Technology); S. Ferrari (University of Munster, Karlsruhe Institute of Technology); V. Kovalyuk (Moscow State Pedagogical University); A. Vetter (Karlsruhe Institute of Technology); G. Lewes-Malandrakis (Fraunhofer Institute for Applied Solid State Physics); C. Nebel (Fraunhofer Institute for Applied Solid State Physics); A. Korneev (Moscow State Pedagogical University, Moscow Institute of Physics and Technology (State University)); W. Pernice (University of Munster);
- 17:20 Temperature and Pump Dependent Operation of Short-cavity Erbium-doped Fiber Laser
A. M. Smirnov (Kotel'nikov Institute of Radioengineering and Electronics of RAS; Lomonosov Moscow State University); A. P. Bazakutsa (Kotel'nikov Institute of Radioengineering and Electronics of RAS); O. V. Butov (Kotel'nikov Institute of Radioengineering and Electronics of RAS);
- 17:40 Porous Ferroelectric Ceramics Films for Electronics and Photonics Applications
K. A. Vorotilov (Russian Technological University (MIREA-RTU)); A. S. Sigov (Russian Technological University (MIREA-RTU));
- 18:00 Studying Key Principles for Design and Fabrication of Silicon Photonic-based Beamforming Networks
T. Bakhvalova (MIREA — Russian Technological University); M. E. Belkin (MIREA — Russian Technological University); V. V. Kovalyuk (MSPU — Moscow State Pedagogical University); A. I. Prokhotcov (MSPU — Moscow State Pedagogical University); HSE — National Research University Higher School of Economics); G. N. Goltzman (MSPU — Moscow State Pedagogical University); HSE — National Research University Higher School of Economics); A. S. Sigov (MIREA — Russian Technological University);
- 18:20 Optoelectronic Microwave Signal Time-retarding Device
M. E. Belkin (MIREA — Russian Technological University); T. Bakhvalova (MIREA — Russian Technological University); D. A. Fofanov (MIREA — Russian Technological University); M. G. Vasil'ev (Kurnakov Institute of General and Inorganic Chemistry, Russian Academy of Sciences); A. S. Sigov (MIREA — Russian Technological University);
- 18:40 Influence of Molecular Hydrogen Loading on Luminescent Properties of Heavily Er³⁺-doped Silica Optical Fibers
A. P. Bazakutsa (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); Alexander M. Smirnov (Kotel'nikov Institute of Radioengineering and Electronics of RAS); Oleg V. Butov (Kotel'nikov Institute of Radio-Engineering and Electronics of RAS);

Session 1P19a
Oral Presentations for Best Student Paper Awards — SC2: Metamaterials, Plasmonics and Complex Media

Monday PM, June 17, 2019
Room 39 - Electrical Building

 Chaired by Francesca Apollonio, Guido Valerio,
Alexander B. Yakovlev

- 14:30 Tunable Wave Isolators Based on Space-time Modulated Graphene Sheets
Invited Xu-Chen Wang (Aalto University); Ana Diaz-Rubio (Aalto University); Huanan Li (City University of New York); Andrea Alu (City University of New York);

- 14:50 RF Coils for Preclinical Multinuclear Imaging Based on Coupled-wire Structures Working in Resonant and Non-resonant Regime
Tania S. Vergara Gomez (Aix-Marseille Université); Marc Dubois (Aix-Marseille Université); Stanislav B. Glybovski (ITMO University); Benoit Larrat (ITMO University); Julien De Rosny (PSL Research University); Carsten Rockstuhl (Karlsruhe Institute of Technology); Monique Bernard (Aix-Marseille Université); Redha Abdeddaim (ES-PCI Paris Tech.); Stefan Enoch (Institut Fresnel); Frank Kober (Aix-Marseille Université);
- 15:10 Multiband Microwave Metamaterials Based on Optimized Arrangements of Split-Ring Resonators
Hande Ibili (Middle East Technical University); Selen Keles (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 15:30 A 3D Linear-to-circular Polarization Converter Regulated by the Gravity Field
Li Zeng (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Guo-Biao Liu (Nanjing University of Posts and Telecommunications); Tong Huang (Nanjing University of Posts and Telecommunications);
- 15:50 Comparison of Complementary Metamaterials in Microstrip Transmission Line and Applications
Tanveer Ul Haq (Beihang University); Cun-Jun Ruan (Beihang University); Xing-Yun Zhang (Beihang University); Shahid Ullah (Beihang University); Ayesha Kosar Fahad (Beihang University); Jun Dai (Beihang University);
- 16:30 **Coffee Break**

Session 1P19b

Oral Presentations for Best Student Paper Awards — SC4: Antennas and Microwave Technologies

Monday PM, June 17, 2019

Room 39 - Electrical Building

Chaired by Vincenzo Ferrara, Giuseppe Schettini,
Jan Vrba

- 17:00 Full-space Coverage Leaky-wave Antenna Based on Successive Space Harmonics
Amar Al-Bassam (RWTH Aachen University); Dirk Heberling (RWTH Aachen University); Christophe Caloz (Ecole Polytechnique de Montreal);

- 17:20 A Times-4 Frequency Multiplier from K- to W-band
Lorenzo Pace (University of Rome "Tor Vergata"); A. Salvucci (University of Rome "Tor Vergata"); Silvio Fenu (University of Rome "Tor Vergata"); Walter Ciccognani (University of Roma Tor Vergata); Patrick Ettore Longhi (University of Rome Tor Vergata); Sergio Colangeli (University of Roma Tor Vergata); Ernesto Limiti (University of Rome Tor Vergata); P. Frijlink (OMMIC SAS); M. Renvoise (OMMIC SAS);
- 17:40 A Reduced Sampling Scheme for Planar Near-field Measurements Using Pointwise Probe Correction in the Spherical Harmonics Basis
Cosme Culotta-Lopez (RWTH Aachen University); Dirk Heberling (RWTH Aachen University);
- 18:00 Daisy Chain MIMO Antenna: A Big Challenge to Full-azimuth 100 Gbps Capacity
Nana Narukawa (Toyama University); Taiki Fukushima (Toyama University); Kazuhiro Honda (Toyama University); Koichi Ogawa (Toyama University);
- 18:20 Over-the-air Testing of a 32×32 Daisy Chain MIMO Antenna
Taiki Fukushima (Toyama University); Nana Narukawa (Toyama University); Kazuhiro Honda (Toyama University); Koichi Ogawa (Toyama University);
- 18:40 Frequency Content of Carrier Oscillations along B-DNA Aperiodic and Periodic Polymers
M. Mantela (National and Kapodistrian University of Athens); K. Lambropoulos (National and Kapodistrian University of Athens); C. Vantaraki (Uppsala University); P. Bilia (National and Kapodistrian University of Athens); A. Morphis (National and Kapodistrian University of Athens); Constantinos Simserides (National and Kapodistrian University of Athens);
- 19:00 A Miniaturized Design of Shared-aperture Antenna with High Aperture Reuse Ratio for 5G Applications
Chunxu Bai (UESTC); Yu Jian Cheng (University of Electronic Science and Technology of China);

Session 1P20a

SC2: Novel Symmetry of Electromagnetic and Acoustic Metamaterials

Monday PM, June 17, 2019

Room 40 - Electrical Building

Organized by Jensen Li, Johan Christensen
Chaired by Jensen Li

- 14:30 Asymmetric Coupling Induced by Photonic Spin-orbit Interactions
Invited
Shubo Wang (City University of Hong Kong); Bo Hou (Soochow University); Che Ting Chan (The Hong Kong University of Science and Technology);
- 14:50 Realizing Higher-order Topological Protection via Mechanical Structure
Invited
D. Zeb Rocklin (Georgia Institute of Technology); Adrien Saremi (Georgia Institute of Technology);
- 15:10 Unidirectional Invisibility Realized by PT-symmetry
Invited
Jie Luo (Soochow University); Hongchen Chu (Soochow University); Jensen Li (Hong Kong University of Science and Technology); Yun Lai (Nanjing University);
- 15:30 A Theoretical Investigation of Three-dimensional All-dielectric Dual-band Polarization Based on Multi-folds Arrow Structure
Yong-Diao Wen (Nanjing University of Aeronautics and Astronautics); Shaobin Liu (Nanjing University of Aeronautics and Astronautics); Zheng-Yu Huang (Nanjing University of Aeronautics and Astronautics); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Xiang-Kun Kong (Nanjing University of Aeronautics and Astronautics); Ling-Ling Wang (Nanjing University of Aeronautics and Astronautics); Qiming Yu (Nanjing University of Aeronautics and Astronautics);
- 15:50 Hemispherical Acoustic Luneburg Lens Using an Orifrice Type Metamaterial
Choon Mahn Park (Dong-A University); Sang Hun Lee (Sogang University);
- 16:10 Bound States in the Continuum in the One- and Two-dimensional Electromagnetic Systems
Invited
Hong Xiang (Chongqing University); Dezhuan Han (Chongqing University);
- 16:30 **Coffee Break**
- 17:00 On-chip Elastic Wave Manipulation by Valley Topological Materials
Feng Li (South China University of Technology); Mou Yan (South China University of Technology); Jiuyang Lu (South China University of Technology); Weiyin Deng (South China University of Technology); Xueqin Huang (South China University of Technology); Jiahong Ma (South China University of Technology); Zhengyou Liu (Wuhan University);
- 17:20 Topological Phenomena in Acoustics
Andrea Alu (City University of New York);
- 17:40 Observation of Acoustic Landau Quantization and Quantum-Hall-like Edge States
Chunyin Qiu (Wuhan University); Xinhua Wen (Wuhan University); Zhengyou Liu (Wuhan University);
- 18:00 Topologically Charged Nodal Surface and Nodal Line
Meng Xiao (Wuhan University); Liping Ye (Wuhan University); Chunyin Qiu (Wuhan University); Zhengyou Liu (Wuhan University); Shanhui Fan (Stanford University);

Session 2A1

FocusSession.SC5: Applications of Microwave Remote Sensing in Terrestrial Hydrology

Tuesday AM, June 18, 2019

Room 1 - 1st Floor

Organized by Steven K. Chan, Rajat Bindlish

Chaired by Steven K. Chan, Rajat Bindlish

- 09:00 A Radiative Transfer Algorithm for Global Retrieval of Vegetation Water Content
Steven K. Chan (NASA Jet Propulsion Laboratory, California Institute of Technology);
- 09:20 A Genetic Algorithm for the Retrieval of Soil Multi-scale Roughness and Moisture Parameters
Ibtissem Hosni (Université El Manar); Lilia Benaceur Farah (Université El Manar); Imed Riadh Farah (Universite de la Manouba); M. S. Naceur (Université El Manar);
- 09:40 Integrated SMAP and SMOS L-band Observations
Rajat Bindlish (NASA Goddard Space Flight Center); Steven K. Chan (NASA Jet Propulsion Laboratory, California Institute of Technology); Andreas Colliander (NASA Jet Propulsion Laboratory, California Institute of Technology); Yann H. Kerr (Centre d'Etudes Spatiales de la Biosphere (CES-BIO (CNRS/IRD/CNES/UPS))); Thomas J. Jackson (USDA (retired));

Session 1P20b

Topological Acoustics 2

Monday PM, June 17, 2019

Room 40 - Electrical Building

Organized by Meng Xiao, Chunyin Qiu

Chaired by Meng Xiao, Chunyin Qiu

- 10:00 Using the ASCAT Dynamic Vegetation Parameters for Terrestrial Hydrology
Susan C. Steele-Dunne (Delft University of Technology); Sebastian Hahn (Vienna University of Technology); Wolfgang Wagner (Vienna University of Technology); Mariette Vreugdenhil (Vienna University of Technology);
- 10:20 Retrieval of Soil Moisture Using Sliced Regression Inversion Technique
Siddhant Gautam (Indian Institute of Technology Madras); Sakees V. Chidambaram (SFO Technologies); Niharika Gunturu (Indian Institute of Technology Madras); Uday K. Khankhoje (Indian Institute of Technology Madras);
- 10:40 Hybrid Method of Numerical Solutions of 3D Maxwell Equations of the Effects of Vegetation and Forests in Microwave Remote Sensing of Soil Moisture at L band
Leung Tsang (University of Michigan); Huan-ting Huang (University of Michigan); Andreas Colliander (California Institute of Technology); Simon H. Yueh (California Institute of Technology);
- 11:00 **Coffee Break**
- 11:30 Polarized Bistatic Scattering from a Spatially Anisotropic Rough Surface with Inhomogeneous Dielectric Profile
Ying Yang (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences);
- 11:50 Sensitivity of CYGNSS Reflectivity to Vegetation Water Content and Surface Roughness
Simon H. Yueh (California Institute of Technology); Rashmi Shah (California Institute of Technology); Xi-aolan Xu (California Institute of Technology); Andreas Colliander (California Institute of Technology); Akiko Hayashi (California Institute of Technology);
- 12:10 Global Scale Estimate of Forest Biomass by Using GNSS Reflectometry Techniques
Emanuele Santi (Consiglio Nazionale delle Ricerche); Simonetta Paloscia (CNR-IFAC); Simone Pettinato (Consiglio Nazionale delle Ricerche); G. Fontanelli (Institute of Applied Physics — National Research Council (IFAC-CNR)); Leila Guerriero (Università di Roma Tor Vergata); Nazzareno Pierdicca (University of Rome La Sapienza); M. P. Clarizia (Deimos Space UK Ltd.);
- 12:30 Improving the Spatial Resolution of SMAP Soil Moisture Using Vegetation and Surface Temperature for CONUS
Bin Fang (University of Virginia); Venkataraman Lakshmi (University of Virginia); Rajat Bindlish (NASA Goddard Space Flight Center); Thomas J. Jackson (USDA (retired));
- 12:50 Ultrawideband Microwave Radiometry: Model Estimations and Results from the First Antarctic Campaign
Marco Brogioni (Consiglio Nazionale delle Ricerche); M. Andrews (The Ohio State University); Joel T. Johnson (The Ohio State University); K. Jezek (The Ohio State University); Giovanni Macelloni (Consiglio Nazionale delle Ricerche); L. Kaleschke (AWI); M. Leduc (IFAC-CNR); Leung Tsang (University of Michigan);
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- Session 2A2a**
SC5: Radar Sounding Investigations of Terrestrial and Planetary Ices
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- Tuesday AM, June 18, 2019**
Room 5 - 1st Floor
Organized by Elena Pettinelli, Sebastian Emanuel Lauro
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- 09:00 Beyond Imaging the Ice/Ocean Interface: Deeper Information from European Radar Sounding
Dustin M. Schroeder (Stanford University);
- 09:20 Jovian Icy Moons: Prospects for Deep Radar Probing of Thick Ice
Yaroslav A. Ilyushin (Moscow State University); P. Hartogh (Max-Planck-Institut fur Sonnensystemforschung);
- 09:40 Characterization of Polar and Potential Icy Mid-latitude Deposits on Mars with SHARAD
Bruce A. Campbell (Smithsonian Institution); Jennifer L. Whitten (Department of Earth and Environmental Sciences); Gareth A. Morgan (Planetary Science Institute);
- 10:00 Global Mapping of Volatile Ices on Mars with SHARAD
Nathaniel E. Putzig (Planetary Science Institute);
- 10:20 Structure and Composition of Cometary Nucleus from Concert Experiment on Rosetta Mission
Wlodek Kofman (Univ. Grenoble Alpes, CNRS, CNES, IPAG); Alain Herique (Univ. Grenoble Alpes, CNRS, CNES, IPAG);

- 10:40 Radar Direct Observations of Asteroid Interior
Alain Herique (Université Grenoble Alpes, CNRS, CNES, IPAG); Wlodek Kofman (Université Grenoble Alpes, CNRS, CNES, IPAG);
- 11:00 **Coffee Break**
- 11:30 Radar Evidence of Subglacial Liquid Water on Mars
Roberto Orosei (Istituto Nazionale di Astrofisica); S. E. Lauro (Universit degli Studi Roma Tre); E. Pettinelli (Universit degli Studi Roma Tre); A. Cicchetti (Istituto Nazionale di Astrofisica); M. Coradini (Agenzia Spaziale Italiana); B. Cosciotti (Universit degli Studi Roma Tre); F. Di Paolo (Istituto Nazionale di Astrofisica); E. Flamini (Universit degli Studi "Gabriele d'Annunzio"); E. Mattei (Universit degli Studi Roma Tre); M. Pajola (Istituto Nazionale di Astrofisica); F. Soldovieri (Istituto per il Rilevamento Elettromagnetico dell'Ambiente); M. Cartacci (Istituto Nazionale di Astrofisica); F. Cassenti (Universit degli Studi di Roma "La Sapienza"); A. Frigeri (Istituto Nazionale di Astrofisica); S. Giuppi (Istituto Nazionale di Astrofisica); R. Martufi (Universit degli Studi di Roma "La Sapienza"); A. Masdea (E.P. Elettronica Progetti s.r.l.); G. Mitri (Universit degli Studi "Gabriele d'Annunzio"); C. Nenna (Danfoss Italia); R. Noschese (Istituto Nazionale di Astrofisica); M. Restano (C/o ESA Centre for Earth Observation); R. Seu (Universit degli Studi di Roma "La Sapienza");

Session 2A2b

Microwave Remote Sensing, Polarimetry SAR, and Radar Imaging 1

Tuesday AM, June 18, 2019

Room 5 - 1st Floor

- 11:50 MIMO Radar with Dense or Random Pattern: Analysis of Phase and Positioning Error Sensitivity
Massimiliano Pieraccini (University of Florence); Neda Rohjani (University of Florence); Lapo Miccinesi (University of Florence);
- 12:10 Application of Polarimetric Decomposition and Interferometry SAR Using ALOS-2 PALSAR-2 Data to Detect Potential of Burned Peat Areas
Joko Widodo (Chiba University); Ayaka Takahashi (Chiba University); Yuta Izumi (Chiba University); Peberlin Parulian Sitompul (Chiba University); Husnul Kausarian (Universitas Islam Riau); A. Munir (Institut Teknologi Bandung); Josaphat Tetuko Sri Sumantyo (Chiba University);

- 12:30 Impact of a Spatial Decorrelation of the Noise on the Performance of Despeckling Filters for Polarimetric SAR Data
Alberto Arienzo (University of Florence); Fabrizio Argenti (Universita di Firenze); Luciano Alparone (University of Florence);
- 12:50 Usage of Cellular Device for Mapping of Moving and Obscured Targets
Isahar Gabay (Bar-Ilan University); Meir Danino (Bar-Ilan University); Zeev Zalevsky (Bar-Ilan University);

Session 2A3a

SC4: RF Energy Harvesting and Rectennas

Tuesday AM, June 18, 2019

Room 7 - 1st Floor

Organized by Francesco Giuseppe Della Corte,
Giuseppe Ferri

Chaired by Francesco Giuseppe Della Corte

- 09:00 Inductive Double-layer Harvester with Changeable Geometry
Gorana Mijatovic (University of Novi Sad); Nikola Djuric (University of Novi Sad); Kristian Haska (University of Novi Sad);
- 09:20 Antennas Design for the Characterization of an UHF Remotely Powered UWB Pulse Generator
Matthieu Egels (Aix-Marseille University); R. Vauche (Aix-Marseille University); Emmanuel Bergeret (AMU (Aix-Marseille University));
- 09:40 Design of Practical Rectennas for RF Energy Harvesting
Tolulope Christiana Erinoshio (Federal University of Agriculture); Sulaiman Adeniyi Adekola (University of Lagos);
- 10:00 On Impedance Matching for RF Energy Harvesting Resonant Half-wave Dipole Antennas
Tolulope Christiana Erinoshio (Federal University of Agriculture); Sulaiman Adeniyi Adekola (University of Lagos); K. Akinwale Amusa (Federal University of Agriculture);
- 10:20 Self-adapting Impedance Matching Circuit for UHF RF Energy Harvester
Massimo Merenda ("Mediterranea" University of Reggio Calabria);

- 10:40 Effects of the Temperature on the Efficiency Degradation in Multi-stage RF Energy Harvesters
Massimo Merenda (“Mediterranea” University of Reggio Calabria); *R. Carotenuto* (Universita “Mediterranea” di Reggio Calabria); *D. Iero* (“Mediterranea” University of Reggio Calabria); *Francesco Giuseppe Della Corte* (“Mediterranea” University of Reggio Calabria);

11:00 **Coffee Break**

- 11:30 A Multiband 150 nm CMOS Energy Harvester Architecture
I. Ulisse (Universita degli Studi dell’Aquila); *Leonardo Pantoli* (University of Laquila); *Giuseppe Ferri* (Universita degli Studi dell’Aquila);

Session 2A3b

Microstrip Antenna, Theory and Radiation

Tuesday AM, June 18, 2019

Room 7 - 1st Floor

- 00:00 Gain and Bandwidth Enhancement of Patch Antenna
Guthi Srinivas (National Institute of Technology); *Nookala Venkata Satya Narasimha Sarma* (National Institute of Technology); *Damera Vakula* (National Institute of Technology);
- 00:00 Design of a Batman Shaped Compact Conformal Antenna for WiMAX Application
Ratikanta Sahoo (National Institute of Technology); *Damera Vakula* (National Institute of Technology); *Nookala Venkata Satya Narasimha Sarma* (National Institute of Technology);
- 00:00 Planar Antenna for Cellular and Ultra-wideband Communications
Umair Rafique (Capital University of Science and Technology); *Iftikhar Ahmad* (Capital University of Science and Technology); *Shobit Agarwal* (Indian Institute of Technology, Ropar); *Hisham Khalil* (The University of Lahore);
- 00:00 A Compact Planar Antenna for Super-wideband Applications
Shobit Agarwal (Indian Institute of Technology, Ropar); *Umair Rafique* (Capital University of Science and Technology); *Hisham Khalil* (The University of Lahore);

Session 2A4

Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 3

Tuesday AM, June 18, 2019

Room 8 - 1st Floor

Organized by *Mariana Nikolova Georgieva-Grosse*, *Georgi Nikolov Georgiev*

Chaired by *Mariana Nikolova Georgieva-Grosse*

- 09:00 Approximate T -matrix and Optical Properties of Spheroidal Particles to Third Order in Size Parameter
Matt R. A. Majic (Victoria University of Wellington); *Luke Pratley* (Victoria University of Wellington); *Dmitri Schebarchov* (Victoria University of Wellington); *Walter R. C. Somerville* (Victoria University of Wellington); *Baptiste Auguie* (Victoria University of Wellington); *Eric C. Le Ru* (Victoria Univ Wellington);
- 09:20 Modeling Molecular Orientation Effects in Dye-coated Nanostructures Using a Thin-shell Approximation of Mie Theory for Radially Anisotropic Media
Chhayly Tang (Victoria University of Wellington); *Baptiste Auguie* (Victoria University of Wellington); *Eric C. Le Ru* (Victoria Univ Wellington);
- 09:40 Currents and Voltages Induced by Electric Field in Two Converging Single-wire Overhead Transmission Lines
K. A. Zimin (Joint-Stock Company “Research and Development Center of the Federal Grid Company of Unified Energy System”); *Nina B. Rubtsova* (FS-BSI “Research Institute of Occupational Health”); *V. N. Ryabchenko* (Joint-Stock Company “Research and Development Center of the Federal Grid Company of Unified Energy System”); *A. Yu. Tokarskij* (JSC Federal Network Company Branch “Main Power Networks of the Center”);
- 10:00 Electromagnetic Waves Guided by a Myelinated Axon Invited in the Optical and Infrared Ranges
Oleg M. Ostafiychuk (University of Nizhny Novgorod); *Vasiliy Alekseevich Es’kin* (University of Nizhny Novgorod); *Alexander V. Kudrin* (University of Nizhny Novgorod); *A. A. Popova* (University of Nizhny Novgorod);
- 10:20 Computation of Electropulse-driven Regeneration of Magnetic Heterogeneous Materials
Rongshan Qin (The Open University);

- 10:40 Resonant Properties of Impedance of a Two-layer Cylindrical Metal-dielectric Structure
Mikayel I. Ivanyan (Center for the Advancement of Natural Discoveries Using Light Emission (CAN-DLE)); Lusine Aslyan (Center for the Advancement of Natural Discoveries Using Light Emission (CAN-DLE));
- 11:00 **Coffee Break**
- 11:30 Magnetic Current Distributions in slot Antennas within UHF/K/Ka Bands
Sulaiman Adeniyi Adekola (University of Lagos); K. Akinwale Amusa (Federal University of Agriculture);
- 11:50 Dual Circular Polarization Textile Antenna for L1 and L2 GPS Applications
Walaa Mohamed Sobhy Hassen (Electronics Research Institute); Ahmed Mohamed Attiya (Electronics Research Institute);
- 12:10 Calculation of Optimal Noise Levels for the Detection of Conductive Lenses in Permafrost with Low Frequency Pulsed Radar Scans
Kees Van den Doel (Adrok Ltd); G. Stove (Adrok Ltd);
- 12:30 Statistical Design Centering of Microwave Circuits Using Modified Trust Region Optimization and Space Mapping Surrogates
Abdel-Karim S. O. Hassan (Cairo University); Ahmed Sayed Abdelsamea Mohamed (Cairo University); Ahmed E. El-Qenawy (Cairo University);
- 12:50 Electromagnetic Field Computations Using Axial Green Function Methods
Junhong Jo (Inha University); Do Wan Kim (Inha University);
- 09:40 A Study on the Effect of Diagonal Elements of Scattering Matrix in Microwave Imaging
Won-Kwang Park (Kookmin University); Kwang-Jae Lee (Electronics and Telecommunications Research Institute); Seong-Ho Son (Soonchunhyang University);
- 10:00 Applications of Deep Learning in Inverse Scattering
Yash Sanghvi (Indian Institute of Technology Madras); Yaswanth Kalepu (Indian Institute of Technology Madras); Uday K. Khankhoje (Indian Institute of Technology Madras);
- 10:20 Inverse Scattering Analysis Using Incident Field Extracted from Measured Total Field Data
Tomonori Tsuburaya (Fukuoka University); Zhi Qi Meng (Fukuoka University); Takashi Takenaka (Nagasaki University);
- 10:40 Electromagnetic Detection of Buried Targets by Means of an Adaptive Inversion Approach
C. Estatico (University of Genoa); Alessandro Fedeli (University of Genoa); Matteo Pastorino (University of Genoa); Andrea Randazzo (University of Genoa);
- 11:00 **Coffee Break**
- 11:30 Numerical Results by Fourier Analysis for the Reconstruction of Source Currents on Conic Curves
Giovanni Leone (Universita della Campania Luigi Vanvitelli); Fortuna Munno (Universita della Campania Luigi Vanvitelli); Rocco Pierrri (Universita degli studi della Campania Luigi Vanvitelli);
- 11:50 Plane-wave Field Synthesis for Monostatic RCS Prediction from Multistatic Near-field Samples on Irregular Grids
Ole Neitz (Lehrstuhl fur Hochfrequenztechnik, TU Munchen); Bernd Hofmann (Technical University of Munich); Thomas F. Eibert (Technical University of Munich);
- 12:10 Radar Image Analysis for Detection of Wind Turbine Blade Damage
Young-Jae Choi (Hannam University); Yu-Jin Kim (Hannam University); In-Sik Choi (Hannam University);
- 12:30 Numerical Analysis of Electromagnetic Multiphase Fraction Sensor
Yu Ke Lim (National University of Singapore); Cheng-Gang Xie (Schlumberger Oilfield (S) Pte Ltd.); Xudong Chen (National University of Singapore);

Session 2A5

Microwave Inverse Scattering Problems and Applications 1

Tuesday AM, June 18, 2019

Room Hall of Frescoes - 1st Floor

Organized by Uday K. Khankhoje, Raffaele Solimene

Chaired by Uday K. Khankhoje, Raffaele Solimene

- 09:00 A SVD-based Approach to the Study Local Minima in Inverse Scattering Problems
Adriana Brancaccio (Seconda Universita' di Napoli);
- 09:20 Single-step Phaseless Inverse Scattering Approach
Sandra Costanzo (University of Calabria); Giuseppe Lopez (University of Calabria);

Session 2A6
FocusSession.SC1&SC2&SC4: Leaky Waves in Electromagnetics 1

Tuesday AM, June 18, 2019
Room Cloister Hall - 1st Floor

 Organized by Paolo Baccarelli, Paolo Burghignoli,
Alessandro Galli, Paolo Lampariello

 Chaired by Paolo Lampariello, Alessandro Galli

 09:00 The Role of Leaky Waves in the Beamforming of 2-D
Keynote Leaky-wave Antennas

*David Richard Jackson (University of Houston);
Filippo Capolino (University of California-Irvine);
Sohini Sengupta (Energeous Corporation); Ahmad T. Almutawa (University of California);
Hamidreza Kazemi (University of California);
Paolo Burghignoli (Sapienza University of Rome);
Giampiero Lovat (University of Roma "La Sapienza");*

 09:30 The Physics of the Zenneck Wave and Its Numerical
Invited Computation

*Francisco L. Mesa (Universidad de Sevilla);
David Richard Jackson (University of Houston);*

 09:50 Leaky Modes in 1-D Periodic Layered Structures:
Invited Dyadic Green's Function Computation

*Guido Valerio (Sorbonne Université); Donald R. Wilton (University of Houston);
David Richard Jackson (University of Houston);
Paolo Baccarelli (Roma Tre University); Alessandro Galli (Sapienza University of Rome);*

 10:10 A Full-wave Numerical Approach for Leaky Modes in
Invited EBG Structures

*Vakhtang Jandieri (University of Duisburg-Essen);
Paolo Baccarelli (Roma Tre University); Guido Valerio (Sorbonne Université);
Giuseppe Schettini ("Roma Tre" University);*

 10:30 Surface Impedance Boundary Conditions under
Invited Transmit and Receive Conditions

*Bakhtiar Ali Khan (Concordia University Montreal);
Robert Paknys (Concordia University);*

 11:00 **Coffee Break**

 11:30 Analytical Formulas for Frequency-unbalanced Peri-
Invited odic Leaky-wave Antennas

*Amar Al-Bassam (RWTH Aachen University); Simon Otto (IMST GmbH);
Dirk Heberling (RWTH Aachen University); Christophe Caloz (Ecole Polytechnique de Montreal);*

11:50 Novel Prototypes of Single and Dual Elements of
Invited CRLH SIW LWA for Continuous Beam-scanning
*Rihem Noumi (University of Tunis El Manar);
Jan Machac (Czech Technical University);
Ali Gharsallah (University of Tunis El Manar);*

 12:10 Proximity-coupled Half-width Microstrip Leaky-wave
Invited Guided Structure

*Ching-Kuang Tzuang (Tianjin University);
Lawrence D. Tzuang (DR Technology Consulting Co., Ltd.);*

 12:30 New Beamwidth Formulas for 1-D Leaky-wave Anten-
Invited nas: A Review

*Walter Fuscaldo (Sapienza University of Rome);
D. R. Jackson (University of Houston); A. Galli (Sapienza University of Rome);*

Session 2A7
SC3: Optical Management in Solar Cells 1

Tuesday AM, June 18, 2019
Room 17 - 1st Floor

Organized by Meicheng Li

 Chaired by Meicheng Li

 09:00 Optical Properties of Thin-walled Nanotube TiO₂ Ar-
rays

Christin David (Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanoscience));

 09:20 Monolayer-like Halide Perovskite Films for High Per-
formance Solar Cells

Jianjun Tian (University of Science and Technology Beijing);

 09:40 Photoexcitation Dynamics in Perovskite Solar Cells
Run Long (Beijing Normal University);

 10:00 Light Harvesting and Absorption of Novel Hybrid So-
lar Cells

*Jun Ji (North China Electric Power University);
Zhongliang Gao (North China Electric Power University);
Hao Huang (North China Electric Power University);
Yupeng Zheng (North China Electric Power University);
Yingfeng Li (North China Electric Power University);
Meicheng Li (North China Electric Power University);*

 10:20 Optical Design for Advanced Tandem and Semitrans-
parent Polymer Solar Cells

Hin-Lap Yip (South China University of Technology);

10:40 Optical Management by Silicon Nanowire
Yingfeng Li (North China Electric Power University); Hejin Yan (North China Electric Power University); Zhongliang Gao (North China Electric Power University); Meicheng Li (North China Electric Power University);

11:00 **Coffee Break**

11:30 Performance Enhancement of Thin-film Amorphous Silicon Solar Cells: Geometry Engineering and Coupled Optical/Electrical Modeling
Dongdong Li (Shanghai Advanced Research Institute, Chinese Academy of Sciences);

11:50 Light and Charge Management in Solar Cell
Kong Liu (Institute of Semiconductors, Chinese Academy of Sciences); Shengchun Qu (Institute of Semiconductors, Chinese Academy of Sciences); Zhijie Wang (Institute of Semiconductors, Chinese Academy of Sciences);

12:10 Lysine Assisted Self-assembly of Silica Microspheres on Textured Polycrystalline Silicon Solar Cells for Light Trapping
Dan Su (Southeast University); Ning Zhao (Southeast University); Shan-Jiang Wang (Southeast University); Huan-Li Zhou (Southeast University); Yi Yang (Southeast University); Meng Xiong (Southeast University); Tong Zhang (Southeast University);

12:30 Tuning Exciton Diffusion Distance and Charge Transport Mobility for OSCs
Hui Huang (University of Chinese Academy of Sciences); Lei Yang (University of Chinese Academy of Sciences); Jianfei Wu (University of Chinese Academy of Sciences); Lei Lv (University of Chinese Academy of Sciences); Tao Dong (University of Chinese Academy of Sciences);

12:50 Flexible Thin-film Solar Cells with High Weight-specific Power
Min Yin (Shanghai Advanced Research Institute, Chinese Academy of Sciences); Linfeng Lu (Shanghai Advanced Research Institute, Chinese Academy of Sciences); Dongdong Li (Shanghai Advanced Research Institute, Chinese Academy of Sciences);

Session 2A8

SC3: Infrared Detectors

Tuesday AM, June 18, 2019

Room 6 - Mezzanine

Organized by Michele Goano, Enrico Bellotti

Chaired by Michele Goano, Enrico Bellotti

09:00 Interband Cascade Infrared Photodetectors — Current Status and Future Trends
Piotr Martyniuk (Military University of Technology);

09:20 Polarization Insensitive High Detection Efficiency via Single-photon Detectors Based on Two-dimensional Plasmonic Grating Integrated into a Crossed Absorbing Nanowire Pattern
Bendeguz Toth (University of Szeged); Andras Szenes (University of Szeged); Maraczi David (University of Szeged); Balazs Banhelyi (University of Szeged); Tibor Csendes (University of Szeged); Maria Csete (University of Szeged);

09:40 CMOS Pixel Sensors on Thick Fully-depleted Silicon Substrates for NIR Imaging
Lucio Pancheri (Universita di Trento and TIFPA-INFN); J. Olave (INFN Torino and Politecnico di Torino); S. Panati (INFN Torino and Politecnico di Torino); A. Rivetti (INFN Torino); F. Cossio (INFN Torino and Politecnico di Torino); M. D. Da Rocha Rolo (INFN Torino); N. Demaria (INFN Torino); P. Giubilato (Universita di Padova and INFN Padova); D. Pantano (Universita di Padova and INFN Padova); S. Mattiazzo (Universita di Padova and INFN Padova);

10:00 Development and Production of IR Detectors at Sofradir with a Vertical Industrial Model
Laurent Rubaldo (SOFRADIR); Alexandre Brunner (SOFRADIR); Nicolas Pere-Laperne (SOFRADIR); Jocelyn Berthoz (SOFRADIR); Pierre Guinedor (SOFRADIR); Alexandre Kerlain (SOFRADIR); Alexandru Nedelcu (SOFRADIR); Vincent Deste-fanis (SOFRADIR); Rachid Taalat (SOFRADIR); Olivier Gravrand (CEA-LETI, MINATEC Campus); Johan Rothman (CEA-LETI, MINATEC Campus); David Billon-Lanfrey (SOFRADIR);

10:20 Assessment of the Modulation Transfer Function in Infrared Focal Plane Arrays
Jonathan Schuster (U.S. Army Research Laboratory (ARL));

- 10:40 Infrared Detectors for Imaging, Spectroscopy, and Scientific Instrumentation
Lorenzo Faraone (University of Western Australia); Jarek Antoszewski (University of Western Australia); Gilberto A. Umana-Membreno (University of Western Australia); Wen Lei (University of Western Australia); Nima Dehdashtikhavan (University of Western Australia); Renjie Gu (University of Western Australia);
- 11:00 **Coffee Break**
- 11:30 NEGF Modeling of Carrier Transport in Antimonide-based Type-II Superlattice Absorbers
Francesco Bertazzi (Politecnico di Torino); Alberto Tibaldi (Politecnico di Torino); J. A. Gonzalez Montoya (Politecnico di Torino); Michele Goano (Politecnico di Torino); Enrico Bellotti (Boston University);
- 11:50 Numerical Modeling of the C-V Characteristics of InAsSb-based nBn Infrared Detectors
Ilya Prigozhin (Boston University); Andreu Glasmann (Boston University); Enrico Bellotti (Boston University);
- 12:10 Efficient Electrical Detection of Mid-infrared Graphene Plasmons at Room Temperature
Qiushi Guo (Yale University); Renwen Yu (The Barcelona Institute of Science and Technology); Cheng Li (Yale University); Shaofan Yuan (Yale University); Bingchen Deng (Yale University); F. Javier Garcia De Abajo (ICFO Institut de Ciencies Fotoniques, Mediterranean Technology Park); Fengnian Xia (Yale University);
- 12:30 Inter-pixel Crosstalk in Auger-Suppressed Dense Infrared Detectors
Marco Vallone (Politecnico di Torino); M. Goano (Politecnico di Torino); F. Bertazzi (Politecnico di Torino); G. Ghione (Politecnico di Torino); S. Hanna (AIM Infrarot-Module GmbH); D. Eich (AIM Infrarot-Module GmbH); H. Figgemeier (AIM Infrarot-Module GmbH);
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- Session 2A9**
SC3: Resonant Optics: Fundamentals and Applications 1
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- Tuesday AM, June 18, 2019**
Room 4 - Mezzanine
Organized by Philippe Lalanne, Sven Burger
Chaired by Philippe Lalanne, Sven Burger
-
- 09:00 Exact Dispersive Quasi-normal Mode (DQNM) Expansion of Unbounded and Dispersive Nanophotonic Structures
Invited Andre Nicolet (Aix-Marseille Universite); M. D. Truong (Aix-Marseille Universite); Guillaume Demesy (Aix-Marseille Universite); Frederic Zolla (Aix-Marseille Universite);
- 09:20 Optical Microdisk Cavities with Weak Boundary Deformation
Invited Jan Wiersig (Otto-von-Guericke-Universitat Magdeburg);
- 09:40 The Complex-valued Nature of the Mode Volume of Photonic and Plasmonic Nanocavities
Philippe Lalanne (Institut d'Optique/LCFIO);
- 10:00 Ultra Sensitive Biological Detection with Optical Resonances
Invited Frank Vollmer (University of Exeter);
- 10:20 Polymeric Whispering Gallery Resonators
Invited Heinz Kalt (Karlsruhe Institute of Technology (KIT));
- 10:40 Finite Element Simulations of Optical Resonances in Dispersive Nanoresonators
Sven Burger (Zuse Institute Berlin); Felix Binkowski (Zuse Institute Berlin); Lin Zschiedrich (JCMwave GmbH);
- 11:00 **Coffee Break**
- 11:30 Intuitive Semi-analytical Model of Quasinormal Modes in Plasmonic Nanoresonators
Invited Haitao Liu (Nankai University); Jianing Wan (Nankai University); Junda Zhu (Nankai University); Ying Zhong (Tianjin University);
- 11:50 Numerical Dipoles Method for Light Scattering by Complex Resonant Nanostructures
Invited Maxime Bertrand (Univ. Bordeaux); Alexis Devilez (Univ. Bordeaux); Jean-Paul Hugonin (Institut d'Optique/LCFIO); Philippe Lalanne (Institut d'Optique-LP2N/CNRS); Kevin Vynck (CNRS-IOGS-University Bordeaux);
- 12:10 Quasinormal Mode Modeling of Leaky Optical Cavities and Plasmonic Nanoresonators
Invited Philip Trost Kristensen (Humboldt Universitat zu Berlin);
- 12:30 Modal Expansion of the T -matrix for Resonant Light Scatterers
Invited A. Oucharenko (Universite Paris-Saclay); Jean-Paul Hugonin (Institut d'Optique/LCFIO); Christophe Sauvan (Universite Paris-Sud 11);

12:50 Line Broadening Mechanisms in Hybrid Plasmonic
Invited Systems for Strong Coupling
Gunter Keues (Humboldt-University Berlin); F. Binkowski (Zuse Institute Berlin); S. Burger (Zuse Institute Berlin); L. Zschiedrich (JCMwave GmbH Berlin); F. Stepe (University of Potsdam); W. Koopman (University of Potsdam); M. Bargheer (University of Potsdam); O. Benson (Humboldt-University Berlin);

10:10 Competition between Size and Shape Effects in
Invited the Second Harmonic Generation from Plasmonic Nanoparticles

Pierre-Francois Brevet (Université Claude Bernard Lyon 1);

10:30 Nonlinear Near Field Coupling of Graphene Plasmons
with Quantum Emitters

Joel Douglas Cox (ICFO-Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology);

11:00 **Coffee Break**

11:30 Single-cycle Autocorrelation in Attosecond Coherent
Invited Nanotransport

Daniele Brida (Université du Luxembourg);

11:50 Spatial Distribution and Modulation of Hot Electron
Invited Nonlinear Photoluminescence in Au Nanowires

A. Agreda (Université de Bourgogne Franche-Comté); D. Sharma (Indian Institute of Science Education and Research (IISER)); S. Viarbitskaya (Université de Bourgogne Franche-Comté); R. Hernandez (Université de Bourgogne Franche-Comté); B. Cluzel (Laboratoire ICB — Université de Bourgogne Franche-Comte); Olivier Demichel (UMR 6303 CNRS/Université de Bourgogne); Gerard Colas des Francs (CNRS-Université de Bourgogne); G. V. Pavan Kumar (IISER); Alexandre Bouhelier (Université Bourgogne Franche-Comte);

12:10 Bichromatic Lattices, Harmonic Photonic Potential
Invited and Novel Sources for Integrated Photonics

Gabriel Marty (Thales Research and Technology); Delphin Dodane (Thales Research and Technology); Ines Ghorbel (Thales Research and Technology); Sylvain Combrie (Thales Research & Technology); Fabrice Raineri (Université Paris Saclay); Alfredo De Rossi (Thales Research and Technology);

12:30 Second Harmonic Generation in the Mid-infrared by
Invited Hole-doped Germanium Quantum Wells on Silicon Wafers

Jacopo Frigerio (Politecnico di Milano and L-NESS); Andrea Ballabio (Politecnico di Milano and L-NESS); Michele Virgilio (Università di Pisa); Jonas Allerbeck (University of Konstanz); Joel Kuttruff (University of Konstanz); Daniele Brida (Université du Luxembourg); Chiara Ciano (Università Roma Tre); Monica De Seta (Università Roma Tre); Andrea Mancini (Sapienza University of Rome); Leonetta Baldassarre (Sapienza University of Rome); Michele Ortolani (Sapienza University of Rome);

Session 2A10

FocusSession.SC3: Nonlinear Optics at the Nanoscale 1

Tuesday AM, June 18, 2019

Room 12 - Mezzanine

Organized by Costantino De Angelis, Michele
Celebrano

Chaired by Costantino De Angelis, Michele Celebrano

09:00 Taming Ultrafast Nonlinear Response of Plasmonic
Keynote Nanostructures

Luke H. Nicholls (King's College London); Francisco J. Rodriguez Fortuno (King's College London); A. V. Krasavin (King's College London); Gregory A. Wurtz (King's College London); Anatoly V. Zayats (King's College London);

00:00 Reevaluation of Radiation Reaction and Con-
Invited sequences for Light-matter Interactions at the Nanoscale

Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM); M. A. Vincenti (University of Brescia); D. De Ceglia (University of Padova); N. Akozbek (AEGIS Technologies Inc.); M. J. Bloemer (Charles M. Bowden Research Center, AMRDEC, RDECOM); L. Roso (Centro de Laseres Pulsados (CLPU)); J. Trull (Universitat Politècnica de Catalunya); C. Cojocar (Universitat Politècnica de Catalunya); Joseph W. Haus (University of Dayton);

09:50 Competing Second and Third-order Nonlinear Effects
Invited in Plasmonic Nanoantennas

Andrea Locatelli (Istituto Nazionale di Fisica Nucleare — Sezione di Pavia); Michele Celebrano (Politecnico di Milano); Lavinia Ghirardini (Politecnico di Milano); Giovanni Pellegrini (Politecnico di Milano); Paolo Biagioni (Politecnico di Milano); Xiaofei Wu (University of Wurzburg); Swen Grossmann (University of Wurzburg); Costantino De Angelis (Università degli Studi di Brescia); Lamberto Duo (Politecnico di Milano); Bert Hecht (University of Wurzburg); Marco Finazzi (Politecnico di Milano);

12:50 Strong-field-driven Dynamics and High-harmonic Generation in Interacting 1D Systems
Sandra De Vega (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Joel D. Cox (The Barcelona Institute of Science and Technology); Fernando Sols (Universidad Complutense de Madrid); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);

Session 2A11

SC2: Recent Advances of Metamaterials for Novel Electromagnetic and Photonic Devices 1

Tuesday AM, June 18, 2019

Room 11 - Mezzanine

Organized by Yungui Ma, Sailing He

Chaired by Sailing He

09:00 Simplified Magnetic Cloaks
Alvaro Sanchez (Universitat Autònoma de Barcelona);

09:20 Metasurface Based Integrated Imaging Devices
Tao Li (Nanjing University); B. B. Xu (Nanjing University); Ji Chen (Nanjing University); C. Chen (Nanjing University); W. G. Song (Nanjing University); Shi-Ning Zhu (Nanjing University);

09:40 Excitation of Leaky Surface Plasmon Polaritons in the Attenuated Total Reflection Configuration: A Fully-analytical Model
Haitao Liu (Nankai University); Hongwei Jia (Nankai University); Yunya Xie (Nankai University); Ying Zhong (Tianjin University);

10:00 Coherent Diffractive Imaging under Partially Coherent Illumination
Yangjian Cai (Soochow University); Xingyuan Lu (Soochow University); Chengliang Zhao (Soochow University); Jun Zeng (Soochow University); Xinlei Zhu (Soochow University); Leixin Liu (Soochow University);

10:20 Large-scale Tunable Broadband Absorber Based on Phase-changing Material GST
Nanli Mou (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science); Tao Wei (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science); Hongxing Dong (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science); Long Zhang (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science); Shulin Sun (Fudan University);

10:40 Gap-surface Plasmon Metasurfaces for Structured Beams Generation
Fei Ding (University of Southern Denmark); Yiting Chen (University of Southern Denmark); Yuanqing Yang (University of Southern Denmark); Sergey I. Bozhevolnyi (University of Southern Denmark);

11:00 **Coffee Break**

11:30 Dielectric Metasurfaces for Local Enhancement and Coupling of Light
Sailing He (Zhejiang University);

11:50 Ultra-wideband Polarization Converter Using Anisotropic Metasurface
Yinrui Zhao (Lanzhou University); Buxiong Qi (Lanzhou University); Zhong-Lei Mei (Lanzhou University);

12:10 A Transparent Radar-infrared Bi-stealth Structure with a Microwave Transmission Window
Shuomin Zhong (Ningbo University); Lijie Wu (Ningbo University); Wei Jiang (Zhejiang University); Taijun Liu (Ningbo University); Ji Fu Huang (Ningbo University); Yungui Ma (Zhejiang University);

12:30 Fully All-optical Multi-input Logic Gates Based on Bandgap Solitons in Guiding Photonic Crystal Nanostructures
Tornike Onoprishvili (Free University of Tbilisi); Vakhtang Jandieri (University of Duisburg-Essen); Ramaz Khomeriki (Tbilisi State University); Daniel Erni (University of Duisburg-Essen, Campus Duisburg);

Session 2A12a

FocusSession.SC2: Hybrid and Plasmonic Metastructures 2

Tuesday AM, June 18, 2019

Room 21 - 2nd Floor

Organized by Roberto Caputo, Antonio De Luca

Chaired by Roberto Caputo

09:00 Photonic Metamaterials Mechanically Re-configurable at Nanoscale via Liquid Crystals
Oleksandr Buchnev (University of Southampton); Nina Podoliak (University of Southampton); Malgosia Kaczmarek (University of Southampton); Lidi Jiang (University of Southampton); Vasily A. Fedotov (University of Southampton);

09:20 Cooperative Energy Transfer Controls the Spontaneous Emission Rate beyond Field Enhancement Limits
Invited
Mohamed ElKabbash (Case Western Reserve University); Tigran V. Shahbazyan (Jackson State University); Jesse Berezovsky (Case Western Reserve University); Francesco De Angelis (Istituto Italiano di Tecnologia); Giuseppe Strangi (Case Western Reserve University);

09:40 Multifunctional Flat Optics

Keynote

Federico Capasso (Harvard University);

10:10 Complex Plasmonic Systems: Interactions with Nanoscale Emitters
Invited

Pierre-Michel Adam (Universite de Technologie de Troyes);

10:30 Negative Refractive Index and Optical Activity in Key Natural Compound Structures

Nantakan Wongkasem (University of Texas Rio Grande Valley);

11:00 **Coffee Break**

Session 2A12b

Trends in Metasurfaces: New Materials and Applications

Tuesday AM, June 18, 2019

Room 21 - 2nd Floor

Organized by Josep Canet-Ferrer

11:30 Effect of Activating Agent on Electromagnetic Waves Absorption of Carbon-based Radar Absorber Material
Yohandri (Universitas Negeri Padang); Zulpadrianto (Universitas Negeri Padang); Debi Rianto (Universitas Negeri Padang); Nova Satria (Universitas Negeri Padang); Ananda Putra (Universitas Negeri Padang); Josaphat Tetuko Sri Sumantyo (Chiba University);

11:50 Making an Active Carbon from Candlenut Shell for the Application of Electromagnetic Wave Absorbers
Hanifah Hutami (Universitas Negeri Padang); Gita Rabelsa (Universitas Negeri Padang); Ananda Putra (Universitas Negeri Padang); Yohandri Azwir (Universitas Negeri Padang);

12:10 Pyramidal Radar Absorber Based on Coconut Shell Activated Carbon for Anechoic Chamber Application
Gita Rabelsa (Universitas Negeri Padang); Debi Rianto (Universitas Negeri Padang); Ananda Putra (Universitas Negeri Padang); Cahya Edi Santosa (Chiba University); Josaphat Tetuko Sri Sumantyo (Chiba University); Yohandri (Universitas Negeri Padang);

12:30 Analysis of Electrical Properties of NiFe₂O₄-PVDF Nanocomposite for Supercapacitor Application

Alia Hanafia Fadli (Universitas Negeri Padang); Moulia Fadhilah (Universitas Negeri Padang); Nezilla Miftahul Nisa (Universitas Negeri Padang); Yessy Arinda Putri (Universitas Negeri Padang); Yenni Darvina (Universitas Negeri Padang); Yulkifli (Universitas Negeri Padang); Yohandri (Universitas Negeri Padang); Ramli (Universitas Negeri Padang);

12:50 An Ultra-broadband Tunable Metamaterial Absorber Based on the Vanadium Dioxide

Ri-Na Dao (Nanjing University of Posts and Telecommunications); Xin-Ru Kong (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Xing-Liang Tian (Nanjing University of Posts and Telecommunications);

Session 2A13

FocusSession.SC3: Advanced Optofluidics: Where Photonics Meets Microfluidics and Life Science 1

Tuesday AM, June 18, 2019

Room 22 - 2nd Floor

Organized by Francesco Simoni, Luigino Criante

Chaired by Francesco Simoni, Luigino Criante

09:00 Optical Tweezers Comes of Age: New Studies in Liquid, Air and Vacuum
Keynote

Kishan Dholakia (University of St Andrews);

09:30 Contactless Optorheology of Complex Fluids at Small Scale Using Optical Radiation Pressure
Invited

Gopal Verma (Université de Bordeaux); Michelle Ash (Université de Bordeaux); Hugo Chesneau (Université de Bordeaux); Hamza Chraïbi (Université of Bordeaux); Ulysse Delabre (Université of Bordeaux); Regis Wunenburger (Sorbonne Université); Jean-Pierre Delville (Université of Bordeaux);

09:50 Optofluidic Sensor for Point-of Care Hemolysis Detection
Invited

Anders Kristensen (Technical University of Denmark); Chen Zhou (Technical University of Denmark); Mehdi Keshavarz Hedayati (Durham University); Xiaolong Zhu (Technical University of Denmark); Frank Nielsen (Radiometer Medical ApS); Uriel Levy (Hebrew University of Jerusalem);

10:10 Spin-dependent Lateral Force Induced on a Mie Particle in an Evanescent Optical Field
Invited

Lulu Liu (Harvard University); Andrea Di Donato (Harvard University); Vincent Ginis (Vrije Universiteit Brussel); Simon Kheifets (Harvard University); Arman Amirzhan (Harvard University); Federico Capasso (Harvard University);

10:30 Battery-free Fully Integrated Microfluidic Light Source for Portable Lab-on-a-chip Applications
Invited

Filippo Storti (Istituto Italiano di Tecnologia); Silvio Bonfadini (Istituto Italiano di Tecnologia); Luigino Criante (Istituto Italiano di Tecnologia);

11:00 **Coffee Break**

11:30 Photo-controllable Active Liquid Crystalline Droplet
Invited

Kenji Katayama (Chuo University);

11:50 Nanometer-precision Linear Sorting with Synchronized Optofluidic Dual Barriers
Invited

Ai Qun Liu (Nanyang Technological University);

12:10 Raman Spectroscopy for Biomedical Applications: From Label-free Cancer Cell Sorting to Imaging
Invited

S. Manago (Institute of Protein Biochemistry (IBP), National Research Council of Italy); Gianluigi Zito (Institute of Protein Biochemistry (IBP), National Research Council of Italy); Anna Chiara De Luca (Institute of Protein Biochemistry (IBP), National Research Council of Italy);

12:30 Surface-enhanced Raman Spectroscopy in Microfluidic Chips for Directed Evolution of Enzymes and Environmental Monitoring
Invited

Zdenek Pilat (Institute of Scientific Instruments of the CAS); Jan Jezek (Institute of Scientific Instruments of the CAS); Martin Kizovsky (Institute of Scientific Instruments of the CAS); Tereza Klementova (Institute of Scientific Instruments of the CAS); Stanislav Kratky (Institute of Scientific Instruments of the CAS); Jaroslav Sobota (Institute of Scientific Instruments of the CAS); Ota Samek (Institute of Scientific Instruments of the CAS); Pavel Zemanek (Institute of Scientific Instruments of the CAS); Tomas Buryska (Institute of Scientific Instruments of the CAS); Jiri Damborsky (Masaryk University); Zbynek Prokop (Masaryk University);

12:50 Reusable Localized Surface Plasmon Sensors Based on Octupolar Nanostructures for dsDNA Detection
Invited

Riccardo Castagna (Institute of Applied Sciences and Intelligent Systems “E. Caianiello”, CNR); R. K. Trojanowicz (Wroclaw University of Science and Technology); Massimo Rippa (Institute of Applied Sciences and Intelligent Systems “E. Caianiello”, CNR); Joseph Zyss (LPQM-Ecole Normale Supérieure de Cachan); K. Matczyszyn (Wroclaw University of Science and Technology); Lucia Petti (Institute of Applied Sciences and Intelligent Systems — ISASI, CNR);

Session 2A14

FocusSession.SC3: Advanced Photonic Technologies for Spectroscopic Applications 1

Tuesday AM, June 18, 2019

Room 24 - 2nd Floor

Organized by Wei Dong Chen, Vincenzo Spagnolo, Ulrike Willer

Chaired by Wei Dong Chen, Vincenzo Spagnolo, Ulrike Willer

09:00 Wavelength Stabilized and Tunable High-power Diode Lasers for Spectroscopic Applications
Invited

Bernd Sumpf (Leibniz-Institut für Höchstfrequenztechnik);

09:20 Long Wave Infrared ($\lambda = 10\text{--}25\ \mu\text{m}$) Quantum Cascade Lasers for Molecular Spectroscopy Applications
Invited

Roland Teissier (Université de Montpellier); Zeineb Loghmari (Université de Montpellier); Michael Bahriz (Université de Montpellier); Alexei N. Baranov (Université de Montpellier);

09:40 Parametric Sources for Chemicals and Gas Sensing
Invited

Jean-Baptiste Dherbecourt (ONERA — The French Aerospace Lab); Julie Armougom (ONERA, DPHY, Université Paris Saclay); Guillaume Walter (ONERA, DPHY, Université Paris Saclay); Thomas Hamoudi (ONERA, DPHY, Université Paris Saclay); Jean-Michel Melkonian (ONERA — The French Aerospace Lab); Antoine Godard (ONERA — The French Aerospace Lab); Myriam Raybaut (ONERA, DPHY, Université Paris Saclay);

- 10:00 **Interband Cascade Lasers Frequency Noise Characterization and Stabilization**
Invited
Simone Borri (CNR-INO, Istituto Nazionale di Ottica); Mario Siciliani De Cumis (ASI Agenzia Spaziale Italiana — Centro di Geodesia Spaziale); Silvia Viciani (CNR-INO, Istituto Nazionale di Ottica); Francesco D'Amato (CNR-INO, Istituto Nazionale di Ottica); Paolo De Natale (CNR-INO, Istituto Nazionale di Ottica);
- 10:20 **Strategies for Frequency Stabilization and Noise Reduction in Dual-QCL-comb Spectroscopy**
Invited
Stephane Schilt (Universite de Neuchâtel); Pierre Brochard (Universite de Neuchâtel); Atif Shehzad (Universite de Neuchâtel); Renaud Matthey (Université de Neuchatel); Andreas Hugi (IRsweep AG); Pierre Jouy (IRsweep AG); Filippos Kapsalidis (Institute for Quantum Electronics, ETH Zurich); Mehran Shahmohammadi (Institute for Quantum Electronics, ETH Zurich); Michele Gianella (Laboratory for Air Pollution/Environmental Technology); Jerome Faist (ETH Zurich); Lukas Emmenegger (Laboratory for Air Pollution/Environmental Technology); Thomas Sudmeyer (Universite de Neuchâtel);
- 10:40 **Vernier Superstructure Grating Quantum Cascade Lasers with Gain Compensation and Non-uniform Channel Spacing**
Nicolas Villa (Alpes Lasers SA); Gregory Strubi (Alpes Lasers SA); Stephane Blaser (Alpes Lasers SA); Tobias Gresch (Alpes Lasers SA); Jeremy Butet (Alpes Lasers SA); Antoine Muller (Alpes Lasers SA);
- 11:00 **Coffee Break**
- 11:30 **Quantum Cascade Lasers and Frequency Combs**
Keynote
Jerome Faist (ETH Zurich);
- 12:00 **Spectrally Tunable Germanium-on-silicon Photodetectors: Design and Simulations**
Andrea De Iacovo (University Roma Tre); Andrea Ballabio (Politecnico di Milano and L-NESS); Jacopo Frigerio (Politecnico di Milano and L-NESS); Lorenzo Colace (University Roma Tre); Giovanni Isella (Politecnico di Milano);
- 12:15 **QCLs and QCDs: On-chip and Remote Sensing**
Invited
Gottfried Strasser (Vienna University of Technology (TU Wien)); B. Hinkov (Technische Universitaet Wien); Rolf Szedlak (Technische Universitaet Wien); H. Detz (Technische Universitaet Wien); A. M. Andrews (Technische Universitaet Wien); W. Schrenk (Technische Universitaet Wien); B. Schwarz (Technische Universitaet Wien);
- 12:35 **Germanium Quantum Wells for Far-infrared Lasers Assembled Using Silicon-based Heterostructures (FLASH)**
Chiara Ciano (Università Roma Tre); Michele Virgilio (Università di Pisa); Michele Montanari (Università Roma Tre); Luca Persichetti (Università Roma Tre); Luciana Di Gaspare (Università Roma Tre); Michele Ortolani (Sapienza University of Rome); Leonetta Baldassarre (Sapienza University of Rome); Luigi Bagolini (Università Roma Tre); Marvin H. Zoellner (IHP — Leibniz-Institut für Innovative Mikroelektronik); Oliver Skibitzki (IHP — Leibniz-Institut für Innovative Mikroelektronik); David Stark (Institute for Quantum Electronics); Giacomo Scarlari (ETH Zurich); Jerome Faist (Eidgenössische Technische Hochschule); Douglas J. Paul (University of Glasgow); Kirsty Rew (University of Glasgow); Mario Scuderi (Istituto per la Microelettronica e Microsistemi (CNR-IMM)); Giuseppe Nicotra (Istituto per la Microelettronica e Microsistemi (CNR-IMM)); Thomas Grange (Nextnano GmbH); Stefan Birner (Nextnano GmbH); Giovanni Capellini (Università Roma Tre); Monica De Seta (Università Roma Tre);
- 12:50 **Long Path Optical Absorption Spectroscopy for Measurement of Greenhouse Gases and Dissolved Gases**
Invited
Jiajin Chen (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Yang Dong (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Jingjing Wang (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Kunyang Wang (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Mingsi Gu (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Xingyu Zhou (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Kun Liu (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Tu Tan (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Guishi Wang (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Xiaoming Gao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);

Session 2A15
Disordered Photonics 1

Tuesday AM, June 18, 2019

Room 25 - 2nd Floor

Organized by Pedro David Garcia Fernandez, Jacopo Bertolotti

Chaired by Jacopo Bertolotti, Pedro David Garcia Fernandez

09:00 Transverse Localization of Transmission Eigenchannels in Diffusive Slabs

Invited *Hui Cao (Yale University);*

09:20 Interference Effects in Raman Scattering Propagation in Complex Media

Invited *Barbara Fazio (Consiglio Nazionale delle Ricerche — Istituto per i Processi Chimico-Fisici (IPCF));*

09:40 Light Propagation in Complex Media, Meets Signal Processing: From Imaging, to Optical Computing

Invited *Sylvain Gigan (Université Pierre et Marie Curie);*

10:00 An Experimental Test for the Anderson Localization of Light

Invited *Marco Leonetti (CNR NANOTEC — Institute of Nanotechnology); Behnam Abaie (University of New Mexico); Arash Mafi (University of New Mexico); Giancarlo Ruocco (University “La Sapienza”); Walter Schirmacher (Institut für Physik, Universität Mainz);*

10:20 Anderson Light Localization in Natural and Biological Media

Invited *Young L. Kim (Purdue University);*

10:40 Nonlinear Frequency Mixing Imaging through Highly Scattering Biological Tissues

Invited *Matthias Hofer (Aix-Marseille Université); Sophie Brasselet (Aix-Marseille Université);*

11:00 **Coffee Break**

11:30 Real-time Mode Control for Compressive Imaging through Multimode Fibers

Invited *Sakshi Singh (University of Colorado Boulder); Simon Labouesse (University of Colorado Boulder); Omer Tzang (University of Colorado Boulder); Eyal Niv (University of Colorado Boulder); Rafael Piestun (University of Colorado Boulder);*

11:50 Imaging the Electromagnetic Fields

Invited *Massimo Gurioli (University of Florence);*

12:10 Super-resolved Single-molecule Mapping of the Local Density of States

Invited *G. Blanquer (PSL University); B. Van Dam (PSL University); D. Bouchet (PSL University); S. Marguet (Université Paris-Saclay); Yannick De Wilde (Institut Langevin); I. Izeddin (PSL University); Valentina Krachmalnicoff (Institut Langevin, ESPCI ParisTech, CNRS);*

12:30 Nanophotonic Lasers on a Graph

Invited *Riccardo Sapienza (Imperial College London);*

12:50 Speckle Statistics in Disordered Media under Partially Polarized Illumination Predicted with a Unique Correlation Parameter

Invited *Myriam Zerrad (Université Paul Cézanne); Gabriel Soriano (Aix-Marseille Université); Claude Amra (Université Paul Cézanne);*

Session 2A16

3_ PIER_ Special_ Issue_ Session: Organic and Perovskite Optoelectronics 2

Tuesday AM, June 18, 2019

Room 15 - 2nd Floor

Organized by Wallace C. H. Choy, Tae-Woo Lee

Chaired by Wallace C. H. Choy, Tae-Woo Lee

09:00 Efficient Strategies for Polycrystalline Perovskite Light-emitting Diodes

Invited *Min-Ho Park (Seoul National University); Su-Hun Jeong (Seoul National University); Himchan Cho (Seoul National University); Tae-Woo Lee (Seoul National University);*

09:20 Nanopatterning of Thin Perovskite Films for High Performance Photo-electronic Applications

Invited *Beomjin Jeong (Yonsei University); Hyowon Han (Yonsei University); Cheolmin Park (Yonsei University);*

09:40 Improved Efficiency of Metal Halide Based Perovskite Light-emitting Diodes by Passivation Methods

Invited *Seungjin Lee (Ulsan National Institute of Science and Technology (UNIST)); Chung Hyeon Jang (Ulsan National Institute of Science and Technology (UNIST)); Jong Hyun Park (Ulsan National Institute of Science and Technology (UNIST)); Ah-young Lee (Ulsan National Institute of Science and Technology (UNIST)); Myoung Hoon Song (Ulsan National Institute of Science and Technology (UNIST));*

10:00 Thermally Stable, Planar Hybrid Perovskite Solar
Invited Cells with High Efficiency
Taiho Park (Pohang University of Science and Technology (POSTECH));

10:20 Sequentially Stamped Bilayer Polymer Solar Cells
Invited from Water
Jung-Yong Lee (Korea Advanced Institute of Science and Technology (KAIST));

10:40 Investigation on Inhomogeneous Schottky Barrier in
Small Molecular Organic Photovoltaics and Its Appli-
cation as Indoor Photovoltaics
*Sajal Biring (Ming Chi University of Technology);
Thanh Phuc Nguyen (Ming Chi University of Technol-
ogy); Anhyuday Paliwal (Ming Chi University of Tech-
nology); Ken-Tsong Wong (National Taiwan Univer-
sity); Shun-Wei Liu (Ming Chi University of Technol-
ogy);*

11:00 **Coffee Break**

11:30 Organic Upconversion Device: The Integrated Out-
Invited come of Organic Photodetector, Exciplex Organic
Light-emitting Diode, and Transparent Electrode
*Shun-Wei Liu (Ming Chi University of Technology);
Chih-Chien Lee (National Taiwan University of Sci-
ence and Technology); Sajal Biring (Ming Chi Univer-
sity of Technology);*

11:50 Bright and Efficient Light-emitting Diodes Based on
Invited Perovskite Nanocrystals
*Kai Wang (Southern University of Science and Tech-
nology);*

12:10 The Photophysics of the Disruptive Perovskites
Keynote

Tze Chien Sum (Nanyang Technological University);

12:40 Dopant-free Organic Hole Transporting Materials for
Invited Stable and Efficient Perovskite Solar Cells
*Xue Lai (Southern University of Science and Tech-
nology); Fei Meng (Southern University of Science
and Technology); Wenhui Li (Southern University
of Science and Technology); Gongqiang Li (Nanjing
Tech University (NanjingTech)); Aung Ko Ko Kyaw
(Southern University of Science and Technology);*

13:00 Realizing Monolithic Tandem Solar Cells with
Invited Solution-processed Perovskites through a New Class
of Interconnection Structure System
*Wallace C. H. Choy (The University of Hong
Kong); Can Li (The University of Hong Kong);
Zi Shuai Wang (The University of Hong Kong);*

Session 2A17

Electromagnetic Wave Propagation in Ionized and Complex Media 1

Tuesday AM, June 18, 2019

Room 33 - Bank Building

Organized by Anatoly A. Kudryavtsev, Chengxun
Yuan

Chaired by Anatoly A. Kudryavtsev, Chengxun Yuan

09:00 Statistical Characteristics of Scattered Electromag-
netic Waves in the Conductive Magnetized Plasma
*George Jandieri (VSB — Technical University of
Ostrava); Akira Ishimaru (University of Washing-
ton); Jaromir Pistora (VSB — Technical University
of Ostrava); Banmali Rawat (University of Nevada);
Zhuzhuna Diasamidze (Batumi Shota Rustaveli State
University);*

09:20 Electron Multiplication Kinetics in a Stepped Wave-
guide Impedance Transformer
*Zach C. Shaw (Texas Tech University);
Melvin C. Powell (Texas Tech University);
James Claude Dickens (Texas Tech University);
John J. Mankowski (Texas Tech University); An-
dreas A. Neuber (Texas Tech University);*

09:40 The Propagation Characteristics of Terahertz Wave
in a DBD Plasma
*Chengxun Yuan (Harbin Institute of Technology);
Jingfeng Yao (Harbin Institute of Technology);
Jinyue Fan (Harbin Institute of Technology);
Ying Wang (Harbin Institute of Technology);
Xiaou Wang (Harbin Institute of Technology);
Zhongxiang Zhou (Harbin Institute of Technology);
A. A. Kudryavtsev (Harbin Institute of Technology);*

10:00 Nonlinear Propagating Characteristics of Gaussian
Laser Beam in Weakly Ionized Dusty Plasma
*Ying Wang (Harbin Institute of Technology);
Chengxun Yuan (Harbin Institute of Technology);
Zhongxiang Zhou (Harbin Institute of Technology);*

10:20 The Microwave Propagation in a Dust Plasma of a
DC Glow Discharge
*Shubo Li (Harbin Institute of Technology);
Hengyang Xia (Harbin Institute of Technology);
Chengxun Yuan (Harbin Institute of Technol-
ogy); Zhe Ding (Harbin Institute of Technology);
Xiaou Wang (Harbin Institute of Technology);
Zhongxiang Zhou (Harbin Institute of Technology);
A. A. Kudryavtsev (Harbin Institute of Technology);*

10:40 Analysis and Optimization of Microwave Transmission in a Magnetized Plasma-Metal Model
Jingfeng Yao (Harbin Institute of Technology); Zhi Yu (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Ying Wang (Harbin Institute of Technology); Xiaou Wang (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); A. A. Kudryavtsev (Harbin Institute of Technology);

11:00 **Coffee Break**

11:30 Diagnostics of Large Volume Coaxial Gridded Hollow Cathode DC Discharge for the Experiments of Electromagnetic Wave Propagation in Plasma
Anatoly A. Kudryavtsev (St. Petersburg State University); Almaz I. Saifutdinov (Harbin Institute of Technology); Sergey S. Sysoev (St. Petersburg State University); C. Yuan (Harbin Institute of Technology);

11:50 Electromagnetic Wave Propagation in a DC Grid Anode Discharge Helium Plasma
Xingbao Lv (Harbin Institute of Technology); Xiaou Wang (Harbin Institute of Technology); Jingfeng Yao (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology); Zhe Ding (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology); Anatoly A. Kudryavtsev (Harbin Institute of Technology);

12:10 Numerical Simulation of Electromagnetic-wave Absorption of a Plasma Layer of Plane Obstructed Glow Discharge with Gridded Anode
Stepan I. Eliseev (St. Petersburg State University); Anatoly A. Kudryavtsev (St. Petersburg State University); Chengxun Yuan (Harbin Institute of Technology);

12:30 Effect of EDF Nonlocality on the Propagation Coefficients of Electromagnetic Waves in Plasma
A. A. Kudryavtsev (St. Petersburg State University); Kurban M. Rabadanov (St. Petersburg State University); C. Yuan (Harbin Institute of Technology);

12:50 Electrical Conductivity and Dielectric Permittivity in Microwave Non-maxwellian Plasmas
Igor K. Getmanov (St. Petersburg State University); Anatoly A. Kudryavtsev (Harbin Institute of Technology); Chengxun Yuan (Harbin Institute of Technology);

Session 2A18

Antenna and RCS Measurements 1

Tuesday AM, June 18, 2019

Room 38 - Chemistry Building

Organized by Amedeo Capozzoli, Francesco D'Agostino

Chaired by Francesco D'Agostino, Amedeo Capozzoli

09:00 Bandwidth Enhancement of a Dual-loop Antenna for Circular Polarization
Kazuhide Hirose (Shibaura Institute of Technology); Kyosuke Okiyama (Shibaura Institute of Technology); Yuto Kikkawa (Shibaura Institute of Technology); Hisamatsu Nakano (Hosei University);

09:20 A Circularly Polarized Dual-loop Antenna Array Fed by Unbalanced Parallel Lines
Kazuhide Hirose (Shibaura Institute of Technology); Daiki Kitaoka (Shibaura Institute of Technology); Hisamatsu Nakano (Hosei University);

09:40 Method for Phased Antenna Array Autofocusing with Amplitude-only Measurements
Artem Vilenskiy (Samsung Research Institute Russia); Mikhail N. Makurin (Samsung Moscow Research Center); Elena Shepeleva (Bauman Moscow State Technical University); Chongmin Lee (Samsung Research);

10:00 Experimental Analysis of Fully Polarimetric Radar Cross Section of Fixed-wing UAV
Yong Yang (National University of Defense Technology); Xuesong Wang (National University of Defense Technology); Shunping Xiao (National University of Defense Technology); Yongzhen Li (National University of Defense Technology); Longfei Shi (National University of Defense Technology);

10:20 A Ku-band Filtering Duplex Antenna for Satellite Communications
Mostafa Gamal Aly (University of Greenwich); Chunxu Mao (Pennsylvania State University); Steven Gao (University of Kent); Yi Wang (University of Birmingham);

10:40 Experimental Testing of a Nonredundant Spherical Spiral NFFF Transformation for Offset Mounted Quasi-planar AUTs
Francesco D'Agostino (Università degli Studi di Salerno); Flaminio Ferrara (Università degli Studi di Salerno); Claudio Gennarelli (University of Salerno); Rocco Guerriero (University of Salerno); Massimo Migliozi (University of Salerno);

11:00 **Coffee Break**

- 11:30 Design and Implementation of External Calibration System for GF-3 Polarimetric Transponder
Yu Wang (Institute of Electronics, Chinese Academy of Sciences); Jun Hong (Institute of Electronics, Chinese Academy of Science); Shaoyan Du (Institute of Electronics, Chinese Academy of Sciences); Qiaona Zheng (Institute of Electronics, Chinese Academy of Sciences);
- 11:50 Improved-accuracy Calderon Projector with Rao-Wilton-Glisson Discretization for Inverse Equivalent Current Methods
Jonas Kornprobst (Technical University of Munich); Raimund A. M. Mauermayer (Lehrstuhl für Hochfrequenztechnik, TU München); Emre Kilic (Technische Universität München); Bjoern Moehring (Technical University of Munich); Thomas F. Eibert (Technical University of Munich);
- 12:10 Fabrication Challenges in Embedding of Components and Embroidered Conductors into 3D-printed Textile Electronics Structures
Zahangir Khan (Tampere University); Han He (Tampere University); Xiaochen Chen (Tampere University); Leena Ukkonen (Tampere University); Johanna Virkki (Tampere University);
- 12:30 Experimental Study of a Low-profile Wideband Antenna Array Unit Cell with Integrated EBG Structure
Vladimir Litun (Bauman Moscow State Technical University); Konstantin Lyulyukin (Bauman Moscow State Technical University); Artem Vilenskiy (Samsung Research Institute Russia); Sergey Chernyshev (Bauman Moscow State Technical University);
- 12:50 DC Grounded 45° Band Switchable Slant Polarized Antenna
Muhammad Shahzad Sadiq (NUAA); Cun-Jun Ruan (Beihang University);
- 09:20 An Exploration of Curriculum Teaching Reform in the Electromagnetic Field Course Based on the Idea of Engineering Education Professional Certification
Peng An (Ningbo University of Technology); Zhuoyuan Wang (Zhejiang University); You Zheng (Ningbo University of Technology); Jinxia Wang (Ningbo University of Technology);
- 09:40 Smartphone Experiments in Optics at University
A. Girot (Université de Bordeaux); N. Goy (Univ. Bordeaux, CNRS, LOMA); A. Vilquin (Univ. Bordeaux, CNRS, LOMA); Ulysse Delabre (Université de Bordeaux);
- 10:00 Demonstration of Electromagnetic Wave Propagation along Coupled Transmission Lines on iPad
Eng Leong Tan (Nanyang Technological University); Ding Yu Heh (Nanyang Technological University);
- 10:20 The Educational Link between Technical Interpretation and 3-D Vector Field Visualization of Time-marching Electromagnetic Fields
Gary Junkin (Universitat Autònoma de Barcelona);
- 10:40 Lasagna and Spaghetti in the Space-time Map: An Absolute Metric-less Picture of Electromagnetic Fields
Fabrice Pardo (Univ. Paris-Saclay); M. Yakovleva (Univ. Paris-Saclay); Jean-Luc Pelouard (Université Paris-Sud, Université Paris-Saclay);
- 11:00 **Coffee Break**
- 11:30 Einstein at a Crossroads: The Lorentz Force and Time Dependence of a Charged Particle Mass
Dragan V. Redzic (University of Belgrade);
- 11:50 The Misconception of Closed Magnetic Flux Lines — A Review
Luca Zilberti (Istituto Nazionale di Ricerca Metrologica);
- 12:10 Portable Device Charger using Wireless Charging Coils Based on an Inductive Coupling Strategy
Fahad Aziz Khan (University of Engineering and Technology (UET)); Noor Ul Ain (UET Lahore); Syed Abdul Rahman Kashif (University of Engineering and Technology (UET)); Muhammad Zeeshan (University of Engineering and Technology (UET)); Asadullah Wallana (University of Engineering and Technology (UET)); Muhammad Ehsan (University of Engineering and Technology (UET));
- 12:30 Resonant Half-wave Dipole and Its Odd Integral Multiples
Sulaiman Adeniyi Adekola (University of Lagos); Tolulope Christiana Erinoshon (D.S. Adegbenro ICT Polytechnic); K. Akinwale Amusa (Federal University of Agriculture);

Session 2A19
Education in Electromagnetics

Tuesday AM, June 18, 2019
Room 39 - Electrical Building

Organized by Eng Leong Tan

 Chaired by Eng Leong Tan

- 09:00 Developing a Pooling Infrastructure for Remote Laboratory Sharing
Timothy D. Drysdale (University of Edinburgh);

12:50 Grating Lobes Suppression in Linear Arrays of Resonant Dipoles
Sulaiman Adeniyi Adekola (University of Lagos); Tolulope Christiana Erinosh (D.S. Adegbenro ICT Polytechnic); K. Akinwale Amusa (Federal University of Agriculture);

10:40 Increased Hippocampal Level of Kinases after Long-term Exposure to GSM-2100 Cell Phone Radiation
Cigdem Gokcek-Sarac (Akdeniz University); Sukru Ozen (Akdeniz University); Narin Derin (Akdeniz University);

11:00 **Coffee Break**

11:30 Biological Effects of Power Frequency Electric Field Shielding
Nina B. Rubtsova (FSBSI "Research Institute of Occupational Health"); Sergey Yu. Perov (RAMS Institute of Occupational Health); Olga V. Belaya (Institute of Occupational Health); Tatyana A. Konshina (FSBSI "Research Institute of Occupational Health");

11:50 Research of Biological Effects of EM Field in Microwave Frequency Band
Jan Vrba (Czech Technical University in Prague); Jiri Kubes (Proton Therapy Center); Ferdinand Trebicky (Institute of Radiation Oncology); Frantisek Vozech (Charles University); Jan Barcal (Charles University in Prague); Luca Vannucci (Institute of Microbiology, Czech Academy of Sciences); Jan Vrba, Jr. (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Ondrej Fiser (Czech Technical University in Prague); Ilja Merunka (Czech Technical University in Prague); Jesus Cumana (Czech Technical University);

12:10 The Proliferation of *Saccharomyces Cerevisiae* Exposed to Pulsed Magnetic Fields of Low Intensity Suggests the Presence of a Frequency Window between 20 Hz and 77.5 Hz
Erandeni Xuxumarat Rodriguez-Perez (University of Guanajuato); Veronica Alejandra Mondragon-Jaimes (Autonomous University of Nayarit); Benjamin Hernandez-Reyes (University of Guanajuato); Modesto Sosa Aquino (University of Guanajuato, Campus Leon);

Session 2A20
Biological Effects of EM Fields

Tuesday AM, June 18, 2019
Room 40 - Electrical Building

Organized by Jan Vrba
 Chaired by Jan Vrba

09:00 The Model of Equivalent Radiofrequency Electromagnetic Field Exposure for Biological Effect Assessment
Nina B. Rubtsova (FSBSI "Research Institute of Occupational Health"); Sergey Yu. Perov (RAMS Institute of Occupational Health); Olga V. Belaya (Institute of Occupational Health);

09:20 Hydration as Classifier of Dielectric Measurement Data from 500 MHz to 50 GHz
Simona Di Meo (University of Pavia); Iman O. Farhat (University of Malta); Julian Bonello (University of Malta); Lourdes Farrugia (University of Malta); Marco Pasian (University of Pavia); Charles V. Sammut (University of Malta);

09:40 3D Printed Multi-layer Molds of Human Head Tissue Phantoms for Microwave Stroke Detection
Tomas Pokorny (Czech Technical University in Prague); Jan Tesarik (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague);

10:00 Evaluating of Spatial and Contrast Resolution Ability of 2D Microwave Imaging System
Jan Tesarik (Czech Technical University in Prague); Ondrej Fiser (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague);

10:20 Multi-physic Numerical Study of Microwave Hyperthermia Treatment
Giacomo Muntoni (Cagliari University); Alessandro Fanti (University of Cagliari); Giorgio Montisci (University di Cagliari);

Session 2A0
Poster Session 1

Tuesday AM, June 18, 2019

9:30 AM - 12:30 AM

Room Corridor

- 1 Juxtapose Technique for Interconnected Events Video-streams Registered by Multiple Web-cameras
P. V. Arakcheev (Bauman Moscow State Technical University); Fedor Borisovich Baulin (Bauman Moscow State Technical University); Evgeny Vladlenovich Buryi (Bauman Moscow State Technical University); Dmitriy Alekseevich Semerenko (Bauman Moscow State Technical University);
- 2 Broadband Electrodynamic Response of Thin Dielectric Films
Gennadii A. Komandin (Prokhorov General Physics of Russian Academy of Science); Arseniy A. Gavidush (Bauman Moscow Technical University (BMSTU)); Igor E. Spektor (A.M. Prokhorov General Physics Institute of the Russian Academy of Sciences); Kirill Igorevich Zaytsev (Bauman Moscow State Technical University); O. E. Porodinkov (Prokhorov General Physics of Russian Academy of Science);
- 3 Resonance Energy Transfer Between Two Atoms in an External Environment
Michelangelo Domina (Universita degli Studi di Palermo); Giuseppe Fiscelli (Universita degli Studi di Palermo); Lucia Rizzuto (Universita degli Studi di Palermo and CNISM); Roberto Passante (University of Palermo);
- 4 Spectro-Spatial Graph-based Deep Restricted Boltzmann Networks for Hyperspectral Image Classification
Akrem Sellami (SIIVT); Imed Riadh Farah (Ecole Nationale des Sciences de l'Informatique);
- 5 A Computational Model for Electromagnetic Characteristics of Anisotropic Composites Based on Machine Learning
Yanan Chen (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle); Chunyong Han (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle); Guochang Shi (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle); Liming Yuan (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle); Xiaojun Ying (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle); Yi Liao (Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle);
- 6 High-order Algorithms with High-order Curved Mesh for Physics-based Simulations of Large-scale Problems in Electromagnetics
Vijaya Shankar (HyPerComp, Inc.);
- 7 Elastic Pseudospin Transport for Integratable Topological Phononic Circuits
Si-Yuan Yu (Nanjing University); Cheng He (Nanjing University); Xiao-Ping Liu (Nanjing University); Ming-Hui Lu (Nanjing University); Yan-Feng Chen (Nanjing University);
- 8 Low Temperature Plasmonics of Silver Nanorod Metamaterials
Yuyi Feng (Beijing Institute of Technology); Yoshiaki Nishijima (Yokohama National University); Clayton A. Nemitz (University of North Carolina); Zhaoke Zheng (Shandong University); Ruizhe Zhao (Beijing Institute of Technology); Na Han (Beijing Institute of Technology); Dewen Cheng (Beijing Institute of Technology); Juan Liu (Beijing Institute of Technology); Lingling Huang (Beijing Institute of Technology); Yongtian Wang (Beijing Institute of Technology); Lukas Schmidt-Mende (University of Konstanz); Paul Leiderer (University of Konstanz);
- 9 Graphene-silver Hybrid Nanocomposites Infrared Absorbers
ChunYu Lu (Khalifa University); Mariam Ali Almahri (Khalifa University); Matteo Chiesa (Khalifa University);
- 10 Measurement of the Dielectric Properties of Metal Oxides in the Sub-terahertz Frequency Range
Alexander V. Vodopyanov (Institute of Applied Physics of the Russian Academy of Sciences); A. Tsvetkov (Institute of Applied Physics RAS); D. Mansfeld (Institute of Applied Physics RAS); A. Fokin (Institute of Applied Physics RAS); M. Glyavin (Institute of Applied Physics RAS);
- 11 Design and Analysis of Improved Performance Amorphous-silicon Thin Film Solar Panel
Shashi K. Dargar (University of KwaZulu-Natal); Viranjay M. Srivastava (University of KwaZulu-Natal);
- 12 Chirped Pulse Splitting in Heavily Doped Thulium Fiber Amplifiers through Modal Instability: Numerical Modeling and Simulation
Mohd Mansoor Khan (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati);
- 13 Novel Quantum Photonics Devices Using Colloidal Nanocrystals
Yang Song (University of Science and Technology of China); Fengjia Fan (University of Science and Technology of China);

- 14 Investigation of Optical Signal Regeneration Impact on Power Efficiency of Single-line-rate and Mixed-line-rate Wavelength Division Multiplexing Systems
Deniss Pavlovs (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University); Klinta Vilcane (Riga Technical University); Girts Ivanovs (Riga Technical University);
- 15 Study on the Enhancement of Diamond Fluorescence Characteristics by Multi-layer Anti-reflection Coating
Xuejiao Li (Xi'an Jiaotong University); Libo Zhao (Xi'an Jiaotong University); Zhikang Li (Xi'an Jiaotong University); Guoxi Luo (Xi'an Jiaotong University); Mingzhi Yu (Xi'an Jiaotong University); Yintao Ma (Xi'an Jiaotong University); Lei Li (Xi'an Jiaotong University); Xudong Fang (Xi'an Jiaotong University); Zhuangde Jiang (Xi'an Jiaotong University);
- 16 Population Mobility Data Retrieval from Wireless Cellular Networks
Miroslav Voznak (VSB — Technical University of Ostrava); Jiri Hylmar (VSB — Technical University of Ostrava); Jakub Hendrych (VSB — Technical University of Ostrava); Lukas Orcik (VSB — Technical University of Ostrava); Martin Hajek (VSB — Technical University of Ostrava); Radek Fujdiak (Brno University of Technology); Jiri Misurec (Brno University of Technology);
- 17 A Novel MEMS Cantilever-based Photoacoustic Sensor for Trace-gas Detection
Inaki Lopez Garcia (CNR-INO, Istituto Nazionale di Ottica); Mario Siciliani De Cumis (ASI Agenzia Spaziale Italiana — Centro di Geodesia Spaziale); Simone Borri (CNR-INO, Istituto Nazionale di Ottica); Mariaconcetta Canino (INFN, Istituto Nazionale di Fisica Nucleare); Filippo Bonafe (INFN, Istituto Nazionale di Fisica Nucleare); Alberto Roncaglia (INFN, Istituto Nazionale di Fisica Nucleare); Paolo De Natale (CNR-INO, Istituto Nazionale di Ottica);
- 18 Correlation Problems in Optical Multichannel Systems in Satellite Communication
Andrea Farkasvolgyi (Budapest University of Technology and Economics); Istvan Frigyes (Budapest University of Technology and Economics);
- 19 Multiple Hydrocarbons Detection Exploiting Quartz-enhanced Photoacoustic Spectroscopy
Giansergio Menduni (Politecnico and University of Bari); A. Sampaolo (Politecnico and University of Bari); M. Giglio (Politecnico and University of Bari); P. Patimisco (Politecnico and University of Bari); F. Sgobba (Politecnico and University of Bari); A. Elefante (Politecnico and University of Bari); V. Passaro (Politecnico di Bari); F. K. Tittel (Rice University); V. Spagnolo (Politecnico and University of Bari);
- 20 Focal-plane Avalanche Photodiodes and the Application in Laser Detection and Ranging
Hai-Zhi Song (Southwest Institute of Technical Physics); Jian Chen (Southwest Institute of Technical Physics); Qiang Xu (Southwest Institute of Technical Physics); Xiumin Xie (Southwest Institute of Technical Physics); Guangwei Deng (University of Electronic Science and Technology of China); Qiang Zhou (University of Electronic Science and Technology of China);
- 21 A Multiscale, Multiphysics Approach to Vertical-cavity Surface-emitting Laser Simulation
Alberto Tibaldi (Politecnico di Torino); Francesco Bertazzi (Politecnico di Torino); Michele Goano (Politecnico di Torino); M. Daubenschuz (Philips Photonics GmbH); R. Michalzik (Ulm University); P. Debernardi (Nazionale delle Ricerche (CNR));
- 22 Graphene-on-Silicon Hybrid Photonic Integrated Circuits
Zhengkun Xing (Tianjin University); Yingdong Han (Tianjin University); Haofeng Hu (Tianjin University); Tiegeng Liu (Tianjin University); Zhenzhou Cheng (Tianjin University);

- 23 Production of Nanopowders by the Evaporation-condensation Method Using Millimeter and Sub-Terahertz Radiation
Alexander V. Vodopyanov (*Institute of Applied Physics of the Russian Academy of Sciences*); Andrey V. Samokhin (*Baykov Institute of Metallurgy and Materials Science*); Nikolay V. Alexeev (*Baykov Institute of Metallurgy and Materials Science*); Mikhail A. Sinayskiy (*Baykov Institute of Metallurgy and Materials Science*); Aleksandr I. Tsvetkov (*Institute of Applied Physics RAS, Russia; Research Center for Development of Far Infrared Region, University of Fukui, Japan*); Dmitry A. Mansfeld (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); Mikhail Yu. Glyavin (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*);
- 24 Fundamental Limits in the Coupling Between Light and 2D Polaritons Using Point and Line Scatterers
Eduardo J. C. Dias (*ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology*); F. Javier Garcia de Abajo (*ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology*);
- 25 Interface Analysis in Ferroelectric Structures
Alexander S. Sigov (*Moscow Technological University MIREA*); Konstantin A. Vorotilov (*Moscow State Technical University of Radioengineering, Electronics and Automation (MIREA)*);
- 26 Photonic Band Gaps in Self-assembled Colloidal Structures
Duanduan Wan (*University of Michigan*); Sharon C. Glotzer (*University of Michigan*);
- 27 Research of Magnetic Fluid in the THz Frequency Range
Denis Olegovich Zyatkov (*National Research Tomsk State University*); Zahar Kochnev (*National Research Tomsk State University*); Anastasia Knyazkova (*National Research Tomsk State University*); Vladimir Borisovich Balashov (*Research Institute of Semiconductor Devices*); Viktor Nikolayevich Cherepanov (*National Research Tomsk State University*); Vasily Ivanovich Yurchenko (*Research Institute of Semiconductor Devices*); Valery Svetlichnyi (*National Research Tomsk State University*); Alexey Vladimirovich Borisov (*National Research Tomsk State University*);
- 28 A Novel Design and Simulation of a Ku Broadband Double Ridged Guide Horn Antenna for Satellite Communications
Adelaida Cristina Heiman (*University POLITEHNICA of Bucharest*); Alina-Mihaela Badescu (*University Politehnica of Bucharest*);
- 29 Modeling of Magnetolectric Effect in Multiferroic Antenna
A. O. Nikitin (*Novgorod State University*); Roman Valer'evich Petrov (*Novgorod State University*); M. A. Khavanova (*Novgorod State University*); Alexander Sergeevich Tatarenko (*Novgorod State University*); Mirza Imamovich Bichurin (*Novgorod State University*);
- 30 Study on Equivalent Circuit of Wideband Microstrip Bandpass Filter Involving Defected Ground Structure
Achmad Munir (*Institut Teknologi Bandung*); Shita Fitria Nurjihan (*Jakarta State Polytechnic*); Hartuti Mistialustina (*Institut Teknologi Bandung*);
- 31 Dual-polarized Wideband Horn Antenna with Lower Frequency Extension for Microwave Imaging Application
Folin Oktafiani (*Institut Teknologi Bandung*); Budi Syihabuddin (*Institut Teknologi Bandung*); Effrina Yanti Hamid (*Institut Teknologi Bandung*); Achmad Munir (*Institut Teknologi Bandung*);
- 32 Multiband Microstrip Antenna Using Square-shaped SRR Based Artificial Magnetic Conductors
Eki Ahmad Zaki Hamidi (*UIN Sunan Gunung Djati Bandung*); Siti Sarah Hardianti (*UIN Sunan Gunung Djati Bandung*); Nanang Ismail (*UIN Sunan Gunung Djati Bandung*); Achmad Munir (*Institut Teknologi Bandung*);
- 33 Proposal of Design Procedure for Wideband Bandpass Filter Using Dual-mode Resonators
Yuta Ishikawa (*National Institute of Technology, Kisarazu College*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Takanobu Ohno (*National Institute of Technology, Kisarazu College*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);
- 34 Circularly Symmetric Photonic-bandgap Antennas
J. Yamauchi (*Hosei University*); Seita Saito (*Hosei University*); R. Ando (*Hosei University*); H. Nakano (*Hosei University*);
- 35 Gain Enhancement of Patch Antenna Using an Artificial Material
Yoshikazu Fujita (*Ryukoku University*); Yangjun Zhang (*Ryukoku University*);

- 36 Analytical Study of Voltage-controlled Oscillator with Microstrip Line Resonator
Junya Nonaka (National Institute of Technology, Kisarazu College); Kosei Tanii (National Institute of Technology, Kisarazu College); Takano Ohno (National Institute of Technology, Kisarazu College); Masahiro Uehara (National Institute of Technology, Kisarazu College);
- 37 Evaluation of Receiver Operating Characteristic Curves in a Microwave Apparatus for Breast Lesions Detection
Gianluigi Tiberi (London South Bank University); Lorenzo Sani (Spin off of University of Perugia); Alessandro Vispa (Spin off of University of Perugia); Martina Paoli (Spin off of University of Perugia); Alessandra Bigotti (UBT — Umbria Bioengineering Technologies, Spin off of University of Perugia); Giovanni Raspa (Spin off of University of Perugia); Navid Ghavami (University of Oxford); Andrea Saracini (Perugia Hospital); Michele Duranti (Perugia Hospital); Mohammad Ghavami (London South Bank University);
- 38 Multi-section Unequal Power Divider Using a Decomposition Method
Youngchul Yoon (Catholic Kwandong University); Young Kim (Kumoh National Institute of Technology);
- 39 Ku-band Bandpass Filter Design with Compact Size and Broad Stopband by pHEMT Process
Jyh Sheen (National Formosa University); Yang-Hung Cheng (National Formosa University); Weihsing Liu (National Formosa University);
- 40 Microwave Imaging for Stroke Detection: Validation on Head-mimicking Phantom
Behnaz Sohani (London South Bank University); Gianluigi Tiberi (London South Bank University); Navid Ghavami (Umbria Bioengineering Technologies, Spin off of University of Perugia); Mohammad Ghavami (London South Bank University); Sandra Dudley (London South Bank University); Amir Rahmani (Castlet Ltd.);
- 41 Design and Fabrication of a 670 GHz Sub-harmonic Mixer with Hybrid Integration
Guangyu Ji (University of Chinese Academy of Sciences); De Hai Zhang (Center for Space Science and Applied Research, Chinese Academy of Sciences); Jin Meng (Chinese Academy of Sciences);
- 42 A Timing Synchronization Technique for DHT-based ACO-OFDM Visible Light Communication
Te-Chin Chang (National Central University); Chii-Shyang Kuo (National Central University); Chih-Feng Wu (National Central University); Muh-Tian Shiue (National Central University);
- 43 High Gain Dual Linearly Polarized Patch Antenna Array
Sumantra Chaudhuri (Indian Institute of Technology Guwahati); Rakesh Singh Kshetrimayum (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati); Darpan Mishra (Indian Institute of Technology Guwahati);
- 44 Gate Recessed Normally-off AlGaIn/GaN MIS-HEMTs with TiO₂/Al₂O₃ Gate Dielectric Stack
Jun Hyeok Jung (Kyungpook National University); Young Jun Yoon (Kyungpook National University); Min Su Cho (Kyungpook National University); Won Douk Jang (Kyungpook National University); In Man Kang (Kyungpook National University);
- 45 Analysis of the Effects of Different Propagation Mechanisms on Ray-tracing-based Coverage Predictions in Urban Microcellular Environments
Zhong-Yu Liu (Xidian University); Yuwei Cao (Xidian University); Li-Xin Guo (Xidian University);
- 46 Electromagnetic Analysis and Performance Comparison of Fully 3D-printed Antennas
Riccardo Colella (University of Salento); Francesco Chietera (University of Salento); Giovanni Andrea Casula (University di Cagliari); Andrea Michel (University of Pisa); Giorgio Montisci (University di Cagliari); Gianluca Gatto (University of Cagliari); Paolo Nepa (University of Pisa); Hendrik Rogier (Ghent University); Luca Catarinucci (University of Salento);
- 47 Insulator Contamination Measurement Based on Infrared Thermal and Visible Image Information Fusion
Shu Jia Yan (Shanghai University of Engineering Science); Wen Shuang Duan (Shanghai University of Engineering Science); Hong Tao Shan (Shanghai University of Engineering Science); Mei Song Tong (Tongji University);
- 48 A Study on the Development of High Efficiency Internal Antenna for Wireless Access Point
Ho-Jun Lee (Korea Electronics Technology Institute); Jong-Moon Choi (DAVOLINK Inc.); Jeong-Pyo Kim (ATcodi Co., Ltd.);

- 49 Studies on Metamaterial CRLH-TL Based Wide-band/Multiband Dual Performance Circularly Polarized Conformal Antenna with Beam Steering Properties for Modern Wireless Applications
Mohammad Ameen (Indian Institute of Technology (ISM)); Sachin Kalraiya (Indian Institute of Technology (ISM)); Sreenath Reddy Thummaluru (Indian Institute of Technology (Indian School of Mines) Dhanbad); Raghvendra Kumar Chaudhary (Indian Institute of Technology (Indian School of Mines));
- 50 Design Novel Structure of High-voltage MOSFET with Double-Trench Gates
Hongjin Yang (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);
- 51 Use of Periodic Common-mode Filtering Structures in Embedded Broadside-coupled Coplanar Waveguides
Zach Bergstedt (Rose-Hulman Institute of Technology); Yujie He (Rose-Hulman Institute of Technology); Alex Hobbie (Rose-Hulman Institute of Technology); Anita Hsu (Rose-Hulman Institute of Technology); Charles Lynch (Rose-Hulman Institute of Technology); Michael Rosier (Rose-Hulman Institute of Technology); Michael Cracraft (IBM Systems and Technology Group); Edward Wheeler (Rose-Hulman Institute of Technology);
- 52 Multimode Horn Antennas with Square Aperture Loading Grooves
Ryo Wakabayashi (Doshisha University); Reiko Omi (Doshisha University); Hiroyuki Deguchi (Doshisha University); Mikio Tsuji (Doshisha University);
- 53 Frequency Selective Resorber with a Wideband Transmission and Two-sided Absorption Bands
Ling-Ling Wang (Nanjing University of Aeronautics and Astronautics); Shaobin Liu (Nanjing University of Aeronautics and Astronautics); Zheng-Yu Huang (Nanjing University of Aeronautics and Astronautics); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Xiang-Kun Kong (Nanjing University of Aeronautics and Astronautics); Qiming Yu (Nanjing University of Aeronautics and Astronautics); Yong-Diao Wen (Nanjing University of Aeronautics and Astronautics);
- 54 Design of 5W Dual-side Pocket type Qi-compatible Wireless Charger for Smart Phone
Seong-Min Kim (Electronics and Telecommunications Research Institute); Sang-Won Kim (Electronics and Telecommunications Research Institute (ETRI)); Jung-Ick Moon (Electronics and Telecommunications Research Institute); In-Kui Cho (Electronics and Telecommunications Research Institute);
- 55 Triple Band Uniplanar Antenna Loaded with Multiple Radiating Elements for Compact Wireless Systems
Praveen Vummadisetty Naidu (JNT University Kakinada — Velagapudi Ramakrishna Siddhartha Engineering College); Arvind Kumar (Kautilya Institute of Technology and Engineering); Rengasamy Rajkumar (VIT University); G. Harika (Velagapudi Ramakrishna Siddhartha Engineering College); Vege Priyanka (Velagapudi Ramakrishna Siddhartha Engineering College); Md. Arsha (Velagapudi Ramakrishna Siddhartha Engineering College);
- 56 Design, Fabrication, and Wireless Evaluation of a Passive 3D-printed Moisture Sensor on a Textile Substrate
Xiaochen Chen (Tampere University); Han He (Tampere University); Zahangir Khan (Tampere University); Lauri Sydanheimo (Tampere University of Technology); Leena Ukkonen (Tampere University); Johanna Virkki (Tampere University);
- 57 Feasibility Study on Target Detection and Localization Using Uncooperative PRI-agile Phased Array Radar
Panhe Hu (National University of Defense Technology); Zengping Chen (National University of Defense Technology); Jiameng Pan (National University of Defense Technology); Shiyong Xu (Sun Yat-sen University); Qinglong Bao (National University of Defense Technology);
- 58 Coherent Integration Method of High-speed Target for Random PRI and Staggered PW Radar
Jiameng Pan (National University of Defense Technology); Zengping Chen (National University of Defense Technology); Panhe Hu (National University of Defense Technology); Qinglong Bao (National University of Defense Technology); Shiyong Xu (Sun Yat-sen University);
- 59 The Possibilities of Using LED Photometry and Ellipsometry Technology for Monitoring the Aquatic Environment
Ferdinand A. Mkrtchyan (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences); V. F. Krapivin (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences); V. V. Klimov (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences);

- 60 Improved Fingerprint Segmentation Based on Gradient and Otsu's Method for Online Fingerprint Recognition
Guo Chun Wan (Tongji University); He Xu (Tongji University); Fozhi Zhou (Tongji University); Mei Song Tong (Tongji University);
- 61 GPU-based SSA for the Fast Prediction of EM Characteristics from the Ship-induced Kelvin Wake on the Rough Sea Surface
Xiao Meng (Xidian University); Li-Xin Guo (Xidian University); Chunlei Dong (Xidian University);
- 62 An Accelerated SBR for EM Scattering from the Coated Objects
Chunlei Dong (Xidian University); Li-Xin Guo (Xidian University); Xiao Meng (Xidian University);
- 63 Study on Electromagnetic Scattering Characteristics of Random Rough Surface Based on Monte Carlo Method
Jun Gu (Shanghai Radio Equipment Research Institute);
- 64 Human Movement Classification Based on Polarization Micro-doppler Signatures Using Deep Convolutional Neural Network
Wenwu Kang (National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Xiao Dong (Center for Space Science and Applied Research, Chinese Academy of Sciences);
- 65 Sampling the Near Field Radiated by a Planar Source: Numerical Results
Maria Antonia Maisto (Universita degli Studi della Campania "Luigi Vanvitelli"); Raffaele Solimene (Universita degli Studi della Campania "Luigi Vanvitelli"); Rocco Pierri (Universita degli Studi della Campania "Luigi Vanvitelli");
- 66 Numerical Experiments on the Impact of Constraints in Phaselift
Raffaele Moretta (Università degli Studi della Campania "Luigi Vanvitelli"); Maria Antonia Maisto (Università degli Studi della Campania "Luigi Vanvitelli"); Rocco Pierri (Università degli Studi della Campania "Luigi Vanvitelli");
- 67 Fabrication of Three Dimensional Liquid Crystal Alignment Layer by Scanning Wave Photopolymerization
Yoshiaki Kobayashi (Tokyo Institute of Technology); Miho Aizawa (Tokyo Institute of Technology); Norihisa Akamatsu (Tokyo Institute of Technology); Atsushi Shishido (Tokyo Institute of Technology);
- 68 Nonlinear Optical Effect of Polymer-stabilized Dye-doped Liquid Crystals Triggered by Collimated Light
Kohsuke Matsumoto (Tokyo Institute of Technology); Koji Usui (Tokyo Institute of Technology); Norihisa Akamatsu (Tokyo Institute of Technology); Atsushi Shishido (Tokyo Institute of Technology);
- 69 Single-step Creation of Q-plate Array Generated by Scanning Wave Photopolymerization
Megumi Ota (Tokyo Institute of Technology); Miho Aizawa (Tokyo Institute of Technology); Norihisa Akamatsu (Tokyo Institute of Technology); Atsushi Shishido (Tokyo Institute of Technology);
- 70 Long-range Ordered Hetero Smectic Structure Constructed by Random Copolymers with Azobenzene and Alkyl Side Chain
Keisuke Takishima (Nagoya University); Mitsuo Hara (Nagoya University); Shusaku Nagano (Nagoya University Venture Business Laboratory); Takahiro Seki (Nagoya University);
- 71 On-demand Phase Transition of Organic-inorganic Hybrid with Lyotropic Liquid Crystal and Polysiloxane
Yuta Iijima (Nagoya University); Mitsuo Hara (Nagoya University); Shusaku Nagano (Nagoya University Venture Business Laboratory); Takahiro Seki (Nagoya University);
- 72 Photoalignment Control of Hetero Lamellar Structure of Random Copolymer with Liquid Crystalline Azobenzene and Oligo(Methyl Methacrylate) Side Chains
Ryota Higashi (Nagoya University); Mitsuo Hara (Nagoya University); Shusaku Nagano (Nagoya University Venture Business Laboratory); Takahiro Seki (Nagoya University);
- 73 Phase-weighted UWB Imaging through Huygens Principle
Gianluigi Tiberi (London South Bank University); Banafsheh Khalesi (University of Pisa); Behnaz Sohani (London South Bank University); Navid Ghavami (Umbria Bioengineering Technologies, Spin off of University of Perugia); Sandra Dudley (London South Bank University); Mohammad Ghavami (London South Bank University);
- 74 Technical Developments for Sidelobes Suppression of Millimeter Wave Array Antennas
Shih-Chung Tuan (Oriental Institute of Technology); Hsi-Tseng Chou (National Taiwan University); Hao-Ju Huang (National Chung-Shan Institute of Science and Technology);

- 75 Meter Wave Radar Cross Section Analysis: What Does “Resonance” Really Mean?
Shih-Chung Tuan (Oriental Institute of Technology); Shen Shou Max Chung (Air Force Institute of Technology);
- 76 A Register Loaded Polarization Insensitive Ultra-thin Wide Band Metamaterial Microwave Absorber for C & X Band Applications
Prakash Ranjan (National Institute of Technology); Arvind Choubey (National Institute of Technology); Santosh Kumar Mahto (National Institute of Technology); Rashmi Sinha (National Institute of Technology); Chetan Barde (National Institute of Technology);
- 77 Gas Phase Nitrophenols Measurements by Integrated Absorption Spectroscopy
Meng Wang (University of Shanghai for Science and Technology); Jun Chen (University of Shanghai for Science and Technology); Dean S. Venables (University College Cork);
- 78 A Frequency Tunable 0.33 THz Gyrotron for DNP Enhanced Nuclear Magnetic Resonance (NMR) Spectroscopy
Anil Kumar (Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR)); Nitin Kumar (Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR));
- 15:10 Synergistic Use of Satellite Active and Passive Microwave Observations to Estimate Typhoon Intensity
Xiao Feng Yang (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Kunsheng Xiang (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences);
- 15:30 High Resolution SAR Wind Stress and Sea Surface Temperature Covariability over the Somali Current
Michael J. Caruso (University of Miami); Hans C. Graber (University of Miami);
- 15:50 Application of SMAP Data for Ocean Surface Remote Sensing
Alexander G. Fore (California Institute of Technology); Simon H. Yueh (California Institute of Technology); Wenqing Tang (California Institute of Technology); Bryan W. Stiles (California Institute of Technology); Akiko Hayashi (California Institute of Technology);
- 16:10 Variability of L-band Sea Surface Salinity in Response to the Freshwater Fluxes Anomaly in the Hudson Bay
Wenqing Tang (California Institute of Technology); Simon H. Yueh (California Institute of Technology); Alexander G. Fore (California Institute of Technology); Akiko Hayashi (California Institute of Technology); Estrella Olmedo (Institut de Ciències del Mar); Justino Martinez (Institut de Ciències del Mar); Carolina Gabarro (Institut de Ciències del Mar); Daqing Yang (National Hydrology Research Center); Elliee Mcleod (National Hydrology Research Center);

Session 2P1

FocusSession.SC5: Microwave Remote Sensing of Ocean

Tuesday PM, June 18, 2019

Room 1 - 1st Floor

Organized by Xiaofeng Li, Simon H. Yueh

Chaired by Xiaofeng Li, Simon H. Yueh

- 14:30 AI-based Algorithm for Sentinel-1 SAR High Ocean Surface Wind Retrieval
Xiaofeng Li (National Oceanic and Atmospheric Administration (NOAA)); Dongliang Shen (Shanghai Ocean University); Bin Liu (Shanghai Ocean University);
- 14:50 The JPL SCATSAT Near Real Time Data Product: Calibration, Validation, and Latency
Alexander G. Fore (California Institute of Technology); Bryan W. Stiles (California Institute of Technology); Sermsak Jaruwatanadilok (California Institute of Technology); Ernesto Rodriguez (California Institute of Technology);
- 15:30 Coffee Break
- 17:00 Architectures for Future Spaceborne Salinity Missions
Shannon Brown (California Institute of Technology); Sidharth Misra (California Institute of Technology); Simon H. Yueh (California Institute of Technology); Tony Lee (California Institute of Technology);
- 17:20 Next Generation Microwave Radiometer for Polar Sea State Measurements
Sidharth Misra (California Institute of Technology); Xavier Bosch-Lluis (California Institute of Technology); Carl Felten (California Institute of Technology); Mehmet Ogut (California Institute of Technology); Isaac Ramos-Perez (California Institute of Technology); Barron Latham (California Institute of Technology); Tong Lee (California Institute of Technology); Simon H. Yueh (California Institute of Technology); Shannon Brown (California Institute of Technology);

- 17:40 Global Navigational Satellite System Phase Altimetry of the Sea Level: Systematic Bias Effect Caused by Sea Surface Waves
Yaroslav A. Ilyushin (Moscow State University); Artem M. Padokhin (M. V. Lomonosov Moscow State University); V. E. Smolov (Marine Hydrophysical Institute);
- 18:00 Ocean Target Radar Image Reconstruction from GNSS-R Delay-Doppler Map
Wei Liu (Shanghai Maritime University); Yuan Hu (Shanghai Ocean University); Tsung-Hsuan Hsieh (Shanghai Maritime University); Jiansen Zhao (Shanghai Maritime University); Shengzheng Wang (Shanghai Maritime University);
- 18:20 Impact of Emulsification of Crude Oil on the Normalized Radar Cross Section
Jie Guo (CAS Key Laboratory of Coastal Environmental Processes and Ecological Remediation, Yantai Institute of Coastal Zone Research (YIC), Chinese Academy of); Tianlong Zhang (CAS Key Laboratory of Coastal Environmental Processes and Ecological Remediation, Yantai Institute of Coastal Zone Research (YIC), Chinese Academy of); Xi Zhang (First Institute of Oceanography Ministry of Natural Resources); Genwang Liu (First Institute of Oceanography Ministry of Natural Resources); Sijing Su (First Institute of Oceanography Ministry of Natural Resources);
- 18:40 Accuracy of Era-Interim Re-analysis Data on Some Atmospheric Parameters over Open Oceans, Estimated with the AMSR2 Data
Elizaveta V. Zabolotskikh (Russian State Hydrometeorological University); Bertrand Chapron (Institut Francais de Recherche pour l'Exploitation de la Mer);
- 14:50 Polarized Scattering in Release 3.0 of the Community Invited Radiative Transfer Model
Patrick Stegmann (NOAA Center for Weather and Climate Prediction); Benjamin Johnson (NOAA Center for Weather and Climate Prediction);
- 15:10 Horizontally Oriented Crystals in Ice Clouds: Scattering Properties and Remote Sensing
Masanori Saito (Texas A&M University); Ping Yang (Texas A&M University);
- 15:30 Accurate Computation of Backscattering Optical Properties of Atmospheric Aerosols
Lei Bi (Zhejiang University);
- 15:50 Visualizing Healthy Clouds and Aerosol Plumes Using a Micropulse Lidar
Timothy Logan (Texas A&M University);
- 16:10 Satellite Retrieval and Aircraft Validation of Above-cloud Biomass Burning Aerosols and Cloud Properties in the Southeast Atlantic
Ian Chang (University of Oklahoma); Hong Chen (University of Colorado); Connor Flynn (Pacific Northwest National Laboratory); Meloe Kacenenbogen (Bay Area Environmental Research Institute); Samuel Leblanc (Bay Area Environmental Research Institute); Kerry Meyer (NASA Goddard Space Flight Center); Kristina Pistone (Bay Area Environmental Research Institute); Sebastian Schmidt (University of Colorado); Michal Segal-Rosenhaimer (Bay Area Environmental Research Institute); Yohei Shinozuka (Bay Area Environmental Research Institute); Jens Redemann (University of Oklahoma); Sundar A. Christopher (University of Alabama in Huntsville);
- 16:30 **Coffee Break**

Session 2P2

Light Scattering, Radiative Transfer, and Remote Sensing

Tuesday PM, June 18, 2019

Room 5 - 1st Floor

Organized by Ping Yang, Bryan A. Baum

Chaired by Ping Yang, Bryan A. Baum

- 14:30 Impacts of 3D Radiative Transfer Effects on Passive Invited Satellite Cloud Property Remote Sensing: Brief History and Recent Advances
Zhibo Zhang (University of Maryland, Baltimore County);
- 17:00 The Impact of Short-wave Radiative Forcing on Estimates of Climate Sensitivity
Andrew E. Dessler (Texas A&M University);
- 17:20 Thomson Scattering of Short Laser Pulses in Maxwellian Plasma
Valeriy A. Astapenko (Moscow Institute of Physics and Technology); Egor Sergeevich Khramov (Moscow Institute of Physics and Technology); V. S. Lisitsa (National Research Center "Kurchatov Institute"); F. B. Rosmej (Sorbonne University);
- 17:40 Long-range Dipole-dipole Interaction and Many-body Cooperative Effects in Atomic Ensemble Coupled to a Waveguide
Aleksei S. Kuraptsev (Peter the Great St. Petersburg Polytechnic University); Igor M. Sokolov (Peter the Great St. Petersburg Polytechnic University);

- 18:00 Estimating Surface Solar Radiation with Voronoi Ice Scattering Model from Advanced Himawari Imager
Husi Letu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)); Hiroshi Ishimoto (Meteorological Research Institute); Takashi M. Nagao (Earth Observation Research Center (EORC)); Takashi Y. Nakajima (Tokai University);
- 18:20 Impact of Sub-millimeter Scattering Properties on Retrievals of Ice Cloud Parameters
Adam Bell (Texas A&M University); Ping Yang (Texas A&M University); D. L. Wu (NASA Goddard Space Flight Center);
- 18:40 Towards Continuity in IR Absorption Radiances from AVHRR, MODIS and VIIRS through Use of HIRS, CrIS, and IASI
Bryan A. Baum (Science and Technology Corp.); Elisabeth Weisz (University of Wisconsin-Madison); W. Paul Menzel (University of Wisconsin-Madison);
- 19:00 Single- and Multiple-scattering Modeling Capabilities in Support of Remote Sensing Implementations
Ping Yang (Texas A&M University); Jiachen Ding (Texas A&M University); Masanori Saito (Texas A&M University); Patrick Stgemann (Joint Center for Satellite Data Assimilation/NOAA Center for Weather and Climate Prediction); Bryan A. Baum (Science and Technology Corp.); Xianglei Huang (The University of Michigan);
- 14:50 Giant Broadband Refraction in the Visible in a Disordered Ferroelectric Perovskite
Ludovica Falsi (University of Rome "La Sapienza"); Fabrizio Di Mei (University of Rome "La Sapienza"); Mariano Flammini (University of Rome "La Sapienza"); Davide Pierangeli (University of Rome "La Sapienza"); Paolo Di Porto (University of Rome "La Sapienza"); A. J. Agranat (Hebrew University of Jerusalem); E. DelRe (University of Rome "La Sapienza");
- 15:10 Photobleaching at the Surface of 1D-photonic Crystal Biochips
Elisabetta Sepe (SAPIENZA University of Rome); Alberto Sinibaldi (Sapienza University of Rome); M. Allegretti (IRCCS Regina Elena National Cancer Institute); Norbert Danz (Fraunhofer Institute for Applied Optics and Precision Engineering); Peter Munzert (Fraunhofer Institute for Applied Optics and Precision Engineering IOF); F. Mura (SAPIENZA University of Rome); P. Giacomini (IRCCS Regina Elena National Cancer Institute); Francesco Miccheli (Sapienza Università di Roma);
- 15:30 Thin Film Photosensor Integrated on Planar Waveguide for Lab-on-Chip Applications
Alessio Buzzin (Sapienza University of Rome); Rita Asquini (Sapienza University of Rome); Domenico Caputo (Università degli Studi di Roma "La Sapienza"); Giampiero De Cesare (Università degli Studi di Roma "La Sapienza");
- 15:50 Focusing 1D Silicon Photonic Grating Coupler for the Excitation of the Fundamental TM Mode
Galina Georgieva (Technische Universität Berlin); Karsten Voigt (Technical University of Berlin); Lars Zimmermann (IHP);
- 16:30 **Coffee Break**

Session 2P3a

Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics

Tuesday PM, June 18, 2019

Room 7 - 1st Floor

Chaired by Rita Asquini, Sailing He, Francesco Simoni

- 14:30 Polarization-independent Tunable Optical Filter with Variable Bandwidth Based on Silicon-on-insulator Waveguides
Haoyan Wang (Institute of Semiconductors, Chinese Academy of Sciences); Jincheng Dai (Institute of Semiconductors, Chinese Academy of Sciences); Hao Jia (Institute of Semiconductors, Chinese Academy of Sciences); Sizhu Shao (Institute of Semiconductors, Chinese Academy of Sciences); Xin Fu (Institute of Semiconductors, Chinese Academy of Sciences); Lei Zhang (Institute of Semiconductors, Chinese Academy of Sciences); Lin Yang (Institute of Semiconductors, Chinese Academy of Sciences);

Session 2P3b

SC4: UWB Components for Defence Applications

Tuesday PM, June 18, 2019

Room 7 - 1st Floor

Organized by Patrick Ettore Longhi, Ernesto Limiti
Chaired by Patrick Ettore Longhi, Ernesto Limiti

- 17:00 A Novel Integrated RESM-CESM Antenna for Naval Platforms
Pietro Bia (Elettronica S.p.A.); Domenico Gaetano (Elettronica S.p.A.); Christian Canestri (Elettronica S.p.A.); Antonio Manna (Elettronica S.p.A.); Daniele Santoro (Elettronica S.p.A.); Marco Pietrantuono (Elettronica S.p.A.); Cosmo Mitrano (Elettronica S.p.A.);
- 17:20 DDS Based Wideband and Fast Chirp FMCW Radar for Tracing Discontinuities on Transmission Lines
Bjorn Mohring (Technical University of Munich); Clemens Moroder (Technical University of Munich); Uwe Siart (Technical University of Munich); Thomas F. Eibert (Technical University of Munich);
- 17:40 Wideband Reflectometer Design Using Complex Ratio Measuring Unit and Broadband Directional Coupler
Nadera Najib Al-Areqi (Universiti Teknologi Malaysia); Kok Yeow You (Universiti Teknologi Malaysia); Nor Hisham Haji Bin Khamis (Universiti Teknologi Malaysia); Man Seng Sim (Universiti Teknologi Malaysia);
- 18:00 Robust GaN Limiting LNA for C-Ku Band T/R Modules
Jim Mayock (Viper-RF Ltd.); Pratik Deshpande (Viper-RF Ltd.); Qing Sun (Viper-RF Ltd.); Diego Palombini (Elettronica S.p.A.); Marco Papi (Elettronica S.p.A.);
- 18:20 Spurious-free Ultra-wideband Downconverter in 3U Size for EW System
Giuliano Gabrielli (Elettronica S.p.A.); Roberto Antonio Gualano (Elettronica S.p.A.); Elvio Barbato Aureliano Imparato (Elettronica S.p.A.); Marco Pietrobono (Elettronica S.p.A.); Vittorio Cirella (Elettronica S.p.A.); Cosmo Mitrano (Elettronica S.p.A.);
- 18:40 40 nm-CMOS W-band Phase Shifter for Millimeter-wave Phased Array
Ching-Ying Huang (National Chiao-Tung University); Kuan-Han Hsieh (National Chiao-Tung University); Robert (Shu-I) Hu (National Chiao Tung University);
- 19:00 A Ka Band GaN on Si Power Amplifier for Space Environment
Ferdinando Costanzo (University of Roma "Tor Vergata"); Rocco Giofre (University of Roma "Tor Vergata"); Patrick Ettore Longhi (University of Rome Tor Vergata); Sergio Colangeli (University of Roma Tor Vergata); Ernesto Limiti (University of Rome Tor Vergata);

Session 2P4**Novel Mathematical Methods in Electromagnetics: Part 1**

Tuesday PM, June 18, 2019**Room 8 - 1st Floor**

Organized by Yury V. Shestopalov, Kazuya Kobayashi, Mario Lucido

Chaired by Yury V. Shestopalov, Kazuya Kobayashi

- 14:30 A Theoretical Method for Estimating the Influence of an Alternating Electric Field on Atomic Spectral Line Profiles
Elena Vladimirovna Koryukina (National Research Tomsk State University); Vladimir Ivanovich Koryukin (Siberian State Medical University);
- 14:50 Improved Design Techniques for High Performance Planar Waveguide Slot Arrays
Giovanni Andrea Casula (University di Cagliari); Giuseppe Mazarella (University of Cagliari); G. Montisci (University di Cagliari);
- 15:10 Synthesis of an Impedance Plane Which Reflects Several Incident Plane Waves in a Given Direction
Yury Vladimirovich Yukhanov (Southern Federal University); Tatyana Yurievna Privalova (Southern Federal University); E. E. Privalov (Southern Federal University); T. O. Amirokov (Southern Federal University);
- 15:30 Analysis of the Scattering Characteristics of Single-mode Van Atta Waveguide Arrays on a Perfectly Conducting Cylinder
Yury Vladimirovich Yukhanov (Southern Federal University); Tatyana Yurievna Privalova (Southern Federal University); E. V. Kriuk (Southern Federal University); Feruz Setmerovich Topalov (Southern Federal University); Ilya Vladimirovich Merglodov (Southern Federal University);
- 15:50 Novel High-sensitivity Non-destructive Technique for the Measurement of Permittivity of a Low-loss Dielectric Slab in Free Space
Roman Kushnin (Riga Technical University); Glebs Kuzminovs (Riga Technical University); Janis Semenjako (Riga Technical University); Yury V. Shestopalov (University of Gaule);

- 16:10 Stability of Least Squares for the Solution of an Ill-posed Inverse Problem of Reconstructing Real Value of the Permittivity of a Dielectric Layer in a Rectangular Waveguide
E. A. Sheina (Lomonosov Moscow State University); Yury V. Shestopalov (University of Gavle); Alexander P. Smirnov (M.V. Lomonosov Moscow State University);
- 16:30 **Coffee Break**
- 17:00 Electromagnetic Scattering from Truncated Thin Cylinders: An Approach Based on the Incomplete Hankel Functions and Surface Impedance Boundary Conditions
Diego Caratelli (The Antenna Company Nederland B.V.); Renato Cicchetti (Sapienza University of Rome); Valentina Cicchetti (University of Rome "La Sapienza" Via Eudossiana); Antonio Faraone (Motorola Solutions, Inc.); Orlandino Testa (Sapienza University of Rome);
- 17:20 Excitation of Layered Slab Structures by Complex-source-point Beams
Nikolaos L. Tsitsas (Aristotle University of Thessaloniki);
- 17:40 Reduction of the RCS of Metal Cylinder Using Conformal Anisotropic Metasurface and Linear Tightly Coupled Dipole Array
Andrey I. Semenikhin (Southern Federal University); Diana V. Semenikhina (Southern Federal University); Yury Vladimirovich Yukhanov (Southern Federal University); Pavel V. Blagovisnyy (Southern Federal University);
- 18:00 Extended Maxwell's Diamond Equations to Unify Electromagnetism, Weak Gravitation, and Classical and Quantum Mechanics and Their Application for Semiconductor Devices
Hideki Mutoh (Link Research Corporation);
- 18:20 Hybrid Waves in a Cylindrical Anisotropic Inhomogeneous Metal-dielectric Waveguide
Eugene Smolkin (Penza State University); Maxim Snegur (Penza State University); Yuri Shestopalov (University of Gavle);
- 18:40 Introduction to TTs Guided by Null-to-Wave-to-Particle Deformations: Inflective Wave Functions of a Single Point Space
Taner Sengor (Yildiz Technical University);
- 19:00 Simulator of Hydroacoustic Signals for a Complex System of Underwater Environment
Dmitry M. Klionskiy (Saint Petersburg Electrotechnical University "LETI"); Dmitrii I. Kaplun (SPbETU "LETI"); V. V. Geppener (Saint Petersburg Electrotechnical University "LETI"); A. S. Voznesenskiy (Saint Petersburg Electrotechnical University "LETI");

Session 2P5
Microwave Inverse Scattering Problems and Applications 2

Tuesday PM, June 18, 2019
Room Hall of Frescoes - 1st Floor

Organized by Uday K. Khankhoje, Raffaele Solimene

Chaired by Uday K. Khankhoje, Raffaele Solimene

- 14:30 Techniques for Incorporating Prior Information in Microwave and Ultrasound Imaging — A Review
Max Hughson (University of Manitoba); Joe LoVetri (University of Manitoba); Ian Jeffrey (University of Manitoba);
- 14:50 Regularization of the Inverse Problem in Focusing Medium Formed by Antenna Array
J. Feroj (University of Manitoba); L. Shafai (University of Manitoba); Vladimir Okhmatovski (University of Manitoba);
- 15:10 Joint Sparsity and Inverse Source for Three-dimensional Shape Estimation of Unknown Targets
Martina Teresa Bevacqua (University "Mediterranea" of Reggio Calabria); Tommaso Isernia (University "Mediterranea" of Reggio Calabria);
- 15:30 A Comparison between Beamforming and Microwave Tomography Approach in Radar Imaging
Ilaria Catapano (Institute for Electromagnetic Sensing of Environment, National Research Council); Francesco Soldovieri (Institute for Electromagnetic Sensing of Environment, National Research Council);

- 15:50 Multiple Signal Classification: Challenges on the Route from Millimeter Resolution to Nanometer Resolution
Sebastian Andres Acuna Maldonado (UiT — The Arctic University of Norway); G. M. A. Mehedi Hussain (UiT — The Arctic University of Norway); Fred Godtliebsen (UiT — The Arctic University of Norway); Balpreet Singh Ahluwalia (UiT — The Arctic University of Norway); Hoai Phuong Ha (UiT — The Arctic University of Norway); Dilip K. Prasad (UiT — The Arctic University of Norway); Krishna Agarwal (UiT — The Arctic University of Norway);
- 16:10 Microwave Inverse Profiling for Plasma Diagnostics in Compact Ion Sources
Loreto Di Donato (University Mediterranea of Reggio Calabria); Andrea Francesco Morabito (University ‘Mediterranea’ of Reggio Calabria); D. Mascali (Istituto Nazionale di Fisica Nucleare (INFN) — Laboratori Nazionali del Sud (LNS)); Giuseppe Torrisi (Istituto Nazionale di Fisica Nucleare); Tommaso Isernia (University “Mediterranea” of Reggio Calabria); Gino Sorbello (University of Catania);
- 16:30 **Coffee Break**
- 17:00 Time-domain Microwave Imaging Using a Discontinuous Galerkin Method Forward Solver
Forouz Mahdinezhad Saraskanroud (University of Manitoba); Ian Jeffrey (University of Manitoba);
- 17:20 A Novel Microwave Staring Correlated Imaging Method Based on Coherent Processing
Yuanyue Guo (University of Science and Technology of China); Bo Yuan (University of Science and Technology of China);
- 17:40 Real Time GPR Image Reconstruction Using a General Purpose Graphic Processing Unit Based Approach
Daniel Flores-Tapia (Nqube Inc.); Anastasia Baran (Nqube Inc.); Jason Fiege (Nqube Inc.);
- 14:30 Leakage from Metasurfaces: From Basic Theory to Antenna Applications
Keynote Stefano Maci (University of Siena);
- 15:00 On the Use of Bianisotropic Huygens’ Metasurfaces to Build Leaky-wave Antennas
Invited Elena Abdo-Sanchez (Universidad de Malaga); M. Chen (University of Toronto); Ariel Epstein (Technion-Israel Institute of Technology); George V. Eleftheriades (University of Toronto);
- 15:20 Enlarging Bandwidth of Modulated Metasurface Antennas
Invited Marco Faenzi (Univ Rennes); David Gonzalez-Ovejero (Univ Rennes); Enrica Martini (University of Siena); Stefano Maci (University of Siena);
- 15:40 Terahertz Fabry-Perot Cavity Leaky-wave Antennas
Invited Walter Fuscaldo (Sapienza University of Rome); S. Tofani (Sapienza University of Rome); Paolo Burghignoli (Sapienza University of Rome); Paolo Baccarelli (Roma Tre University); Alessandro Galli (Sapienza University of Rome);
- 16:00 A Binary-switch Controlled Periodic Half-width Leaky-wave Antenna for Fixed Frequency Beam Steering near the Endfire Region
Invited Debabrata K. Karmokar (Macquarie Univ); Karu P. Esselle (Macquarie University); Trevor S. Bird (CSIRO ICT Centre); Y. Jay Guo (University of Technology Sydney (UTS));
- 16:30 **Coffee Break**
- 17:00 Exotic Leaky-wave Phenomena in Meta-structures
Keynote Andrea Alu (City University of New York);
- 17:30 Study of the Near Field from an Electro-optic Leaky Waveguide for Application in All-optical Analog-to-digital Converters
Pierre-Vincent Dugue (University Brittany Loire, University of Nantes, Institute of Electronics and Telecommunications of Rennes, UMR CNRS 6164); Mohammed El-Gibari (University Brittany Loire, University of Nantes, Institute of Electronics and Telecommunications of Rennes, UMR CNRS 6164); Jean-Pierre Vilcot (Institute of Electronics, Microelectronics and Nanotechnologies, UMR CNRS 8520, University of Lille); Hongwu Li (Universite de Nantes, UBL);

Session 2P6a

FocusSession.SC1&SC2&SC4: Leaky Waves in Electromagnetics 2

Tuesday PM, June 18, 2019

Room Cloister Hall - 1st Floor

Organized by Paolo Baccarelli, Paolo Burghignoli,
Alessandro Galli, Paolo Lampariello

Chaired by Paolo Baccarelli, Paolo Burghignoli

00:00 Leaky Wave Antennas with Distributed Gain Based on Exceptional Points of Degeneracy
Ahmed F. Abdelshafy (University of California); Tarek Mealy (University of California); Hamidreza Kazemi (University of California); Mohamed Y. Nada (University of California); Filippo Capolino (University of California);

Session 2P6b

SC3: Optical Management in Solar Cells 2

Tuesday PM, June 18, 2019

Room Cloister Hall - 1st Floor

Organized by Meicheng Li

Chaired by Meicheng Li

Session 2P7

SC3: Liquid Crystal Devices and Applications 1

Tuesday PM, June 18, 2019

Room 17 - 1st Floor

Organized by Yi-Hsin Lin, Wei Hu

Chaired by Wei Hu

14:30 Beam Shaping via Photopatterned Liquid Crystals
Wei Hu (Nanjing University); Peng Chen (Nanjing University); Yan-Qing Lu (Nanjing University);

14:50 Multidimensional Twist Structure Liquid Crystals and Photonic Application
Tengfei Huang (Shanghai Jiao Tong University); Yifan Feng (Shanghai Jiao Tong University); Changli Sun (Shanghai Jiao Tong University); Jiangang Lu (Shanghai Jiao Tong University);

15:10 Vortex-vector Airy Beams Realized via Photopatterning Liquid Crystals
Bing-Yan Wei (Northwestern Polytechnical University); Sheng Liu (Northwestern Polytechnical University); Peng Chen (Nanjing University); Wei Hu (Nanjing University); Yan-Qing Lu (Nanjing University); Jian-Lin Zhao (Northwestern Polytechnical University);

15:30 Tandem TN-cell Achromatic Polarization Rotator Tolerance Analysis
Te-Yuan Chung (National Central University); Wei-Lun Cao (National Central University); Ko-Ting Cheng (National Central University);

15:50 Fast Electrooptical Modes in Ferroelectric Liquid Crystal and Their Applications
Qi Guo (Beihang University); Huijie Zhao (Beihang University); Vladimir G. Chigrinov (Hong Kong University of Science and Technology); Hoi Sing Kwok (Hong Kong University of Science and Technology);

16:10 Polarization-controlled Guided-mode Resonance Filter with a 90° Hybrid-twisted Nematic Liquid Crystal Cladding
Chun-Ta Wang (National Sun Yat-sen University); Li-Min Chang (National Sun Yat-sen University); Chuan-Ci Yin (National Sun Yat-sen University); Duan-Yi Guo (National Sun Yat-sen University); Yung-Jr Hung (National Sun Yat-sen University);

16:30 Coffee Break

17:00 Light Distribution Control by Layer-structured PDLC Fabricated by Using Anisotropically Diffused UV Light

Takahiro Ishinabe (Tohoku University); Yuya Horii (Tohoku University); Yosei Shibata (Tohoku University); Hideo Fujikake (Tohoku University);

17:20 From Scalar to Rigorous Optical Modeling with Experimental Verification for Phase-only Liquid Crystal on Silicon Device in the Telecommunication Application

Po-Ju Chen (Delft University of Technology); Philip Engel (HOLOEYE Photonics AG); H. Paul Urbach (Delft University of Technology);

17:40 Dual-domain Nematic Liquid Crystal Deflector

Irina I. Rushnova (Belarusian State University); Volha S. Kabanava (Belarusian State University); E. A. Melnikova (Belarusian State University); A. L. Tolstik (Belarusian State University);

18:00 Our Initiatory Work on Microwave Application Using Liquid Crystal: From Material Synthesis, Measurement, Device Developments

Xiangru Wang (University of Electronic Science and Technology of China); Zhiyong Zhang (Wuhan Polytechnic University); En Li (University of Electronic Science and Technology of China); Chengyong Yu (University of Electronic Science and Technology of China);

18:20 Ultrafast Synthesis and Switching of Orthogonal Optical Eigenstates Using Cholesteric Liquid Crystals
Yikun Liu (Sun Yat-sen University);

00:00 Lasing Modes in Double- and Triple-emulsion Cholesteric Liquid Crystalline Droplets Fabricated by Microfluidics

Lujian Chen (Xiamen University);

Session 2P8**SC3: Soft Matter Photonics:
Photo-responsive Materials and Devices**

Tuesday PM, June 18, 2019**Room 6 - Mezzanine**

Organized by Gabriella Cipparrone, Pasquale Pagliusi

Chaired by Gabriella Cipparrone, Pasquale Pagliusi

14:30 Self-regulating Capabilities in Photonic Robotics

Invited

Daniele Martella (University of Florence); Sara Nocentini (University of Florence); Camilla Parmeggiani (University of Florence); Diederik S. Wiersma (University of Florence);

14:50 Photoactivated Liquid Crystal Hierarchical Architectures for Optics

Invited

Zhigang Zheng (East China University of Science and Technology); Yan-Qing Lu (Nanjing University); Quan Li (Kent State University);

15:10 Optical Sensing of Relative Humidity via Azobenzene Photoisomerization

Invited

Arri Priimagi (Tampere University of Technology);

15:30 Holographic Recording on Photochromic Liquid Crystalline Triblock Copolymers

Biagio Audia (University of Calabria); M. A. Bugakov (Lomonosov Moscow State University); N. I. Boiko (Lomonosov Moscow State University); Pasquale Pagliusi (University of Calabria); Gabriella Cipparrone (University of Calabria); P. V. Shibaev (Lomonosov Moscow State University);

15:50 Light-responsive Nanocarriers Based on Amphiphilic Block Copolymers

Invited

*M. Abad (Universidad de Zaragoza-CSIC); H. Garcia (Universidad de Zaragoza-CSIC); A. Roche (Universidad de Zaragoza-CSIC); R. M. Tejedor (Centro Universitario de la Defensa, Academia General Militar); M. Pinol (Universidad de Zaragoza-CSIC); Luis Oriol (Universidad de Zaragoza-CSIC);*16:30 **Coffee Break**

17:00 Shining Light on Life-like Molecular Systems

Invited

Nathalie Katsonis (University of Twente);

17:20 Light Control of Whispering Gallery Modes in Liquid Crystal Optical Microcavities

Invited

Marusa Mur (Jozef Stefan Institute); Igor Musevic (Jozef Stefan Institute);

17:40 Photonic Micro-fingerprints as Anti-counterfeiting Devices

Maria Penelope De Santo (University of Calabria); Gia Petriashvili (Institute of Cybernetics of the Georgian Technical University); Mauro Daniel Luigi Bruno (University of Calabria); Erica Fuoco (University of Calabria); Riccardo Barberi (University of Calabria);

18:00 Light-controlled Polymeric Photonic Structures

Sara Nocentini (European Laboratory for Non-linear Spectroscopy); Francesco Riboli (European Laboratory for Non-linear Spectroscopy); Daniele Martella (European Laboratory for Non-linear Spectroscopy); Camilla Parmeggiani (University of Florence); Diederik S. Wiersma (University of Florence);

18:20 Disorder-mediated Optical Self-assembly of Colloidal Structures

Invited

Giorgio Volpe (University College London);

Session 2P9**SC3: Resonant Optics: Fundamentals and Applications 2**

Tuesday PM, June 18, 2019**Room 4 - Mezzanine**

Organized by Philippe Lalanne, Sven Burger

Chaired by Philippe Lalanne, Sven Burger

14:30 Spatio-temporal Lasing Dynamics in Wave-chaotic and Disordered Resonators

Invited

Hui Cao (Yale University);

14:50 Computation of Field Approximations in Dispersive Media Using Quasinormal Mode Expansions

Invited

Jorn Torsten Zimmerling (University of Michigan); Rob F. Remis (Delft University of Technology);

15:10 Resonant Metastructures and Nanomaterials: Hot-electron Generation and Anomalous Ultrafast Carrier Dynamics

Invited

Alexander Govorov (University of Electronic Science and Technology of China); Lucas V. Besteiro (University of Electronic Science and Technology of China); Larousse Khosravi Khorashad (Ohio University); Gary P. Wiederrecht (Argonne National Laboratory);

15:30 The Reflectionless Scattering Modes

Invited

William R. Sweeney (Yale University); Chia Wei Hsu (Yale University); A. Douglas Stone (Yale University);

- 15:50 Transformation Optics Modal Decomposition for the Study of Light-forbidden Transitions in Plasmon-emitter Coupling
Alvaro Cuartero-Gonzalez (Universidad Autónoma de Madrid); Antonio I. Fernandez-Dominguez (Universidad Autonoma de Madrid);
- 16:10 Programmable Plasmonic Phase Modulation of Free-space Wavefronts at GHz Rates
Invited *Yeshaiahu Shaya Fainman (University of California at San Diego); Alexei Smolyaninov (University of California at San Diego);*
- 16:30 **Coffee Break**
- 17:00 Modal Analysis of Dielectric Mie Resonators
Invited *R. Colom (Aix Marseille Univ., CNRS, Centrale Marseille, Institut Fresnel); R. C. R. C. McPhedran (University of Sydney); B. Stout (Aix Marseille Univ., CNRS, Centrale Marseille, Institut Fresnel); Nicolas Bonod (Aix Marseille Univ., CNRS, Centrale Marseille, Institut Fresnel);*
- 17:20 Light-matter Interaction in Optical Resonators: Spectral Expansion by Riesz Projection
Invited *Lin Zschiedrich (JCMwave GmbH); Felix Binkowski (Zuse Institute Berlin); Sven Burger (Zuse Institute Berlin);*
- 17:40 Computing Optical Resonances in Plasmonic Systems Using a Contour Integral Method
Felix Binkowski (Zuse Institute Berlin); Lin Zschiedrich (JCMwave GmbH); Sven Burger (Zuse Institute Berlin);
- 18:00 Zero-order Optical Harmonic Generation from Semi-conductor Metasurfaces
Invited *Giuseppe Marino (Universite Paris Diderot & CNRS); Carlo Gigli (Universite Paris Diderot & CNRS); Davide Rocco (Universita degli Studi di Brescia & INO-CNR); Ivan Favero (Universite Paris Diderot, UMR7162, CNRS); Aristide Lemaitre (LPN/CNRS); Costantino De Angelis (Universita degli Studi di Brescia); Giuseppe Leo (Universite Paris Diderot);*
- 18:20 Multipolar Decomposition of Quasi-normal Modes: A New Design Tool for Nano-optics
Invited *Tong Wu (CRPP); Philippe Lalanne (Institut d'Optique-LP2N/CNRS); A. Baron (University Bordeaux); Kevin Vynck (CNRS-IOGS-University Bordeaux);*
- 18:40 Octupole-dependent Electromagnetic Field-induced Inter-molecular Energy Shift
Akbar Salam (Wake Forest University);
- 19:00 On the Nanosphere Resonances in the Full-wave Regime
Invited *Carlo Forestiere (Universita degli Studi di Napoli Federico II); Giovanni Miano (Universita di Napoli Federico II); M. Pascale (Universita degli Studi di Napoli Federico II); R. Tricarico (Universita degli Studi di Napoli Federico II);*
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- Session 2P10**
FocusSession.SC3: Nonlinear Optics at the Nanoscale 2
-
- Tuesday PM, June 18, 2019**
Room 12 - Mezzanine
Organized by Costantino De Angelis, Michele Celebrano
Chaired by Costantino De Angelis, Michele Celebrano
-
- 14:30 Vector-field Nonlinear Microscopy of Nano-objects
Invited *Martti Kauranen (Tampere University); Xiaorun Zang (Tampere University); Leo Turquet (Tampere University); Mikko Huttunen (Tampere University); Godofredo Bautista (Tampere University);*
- 14:50 Photon-pair Generation at the Nanoscale: From Nanoantennas to Metasurfaces
Invited *Giuseppe Marino (Universite Paris Diderot & CNRS); Adrien Borne (Universite Paris Diderot & CNRS); Carlo Gigli (Universite Paris Diderot & CNRS); Aristide Lemaitre (LPN/CNRS); Ivan Favero (Universite Paris Diderot, UMR7162, CNRS); Giuseppe Leo (Universite Paris Diderot);*
- 15:10 Mie Resonators in Nonlinear Metal Oxide Nanostructures
Invited *Flavia Timpu (ETH Zurich);*
- 00:00 Nonlinear Light Frequency Conversion with Resonant Silicon-based Nanoparticles
Invited *Sergey Makarov (ITMO University);*
- 15:50 Harmonic Nanoparticles: Nonlinear Dielectric Nanophotonics Meets Bioimaging
Invited *G. Campargue (Universite de Geneve); V. Kilin (Universite de Geneve); S. Sakong (Universite de Geneve); G. Giardina (Universite de Geneve); J.-P. Wolf (Universite de Geneve); Luigi Bonacina (Universite de Geneve);*

- 16:10 Third Harmonic Generation Modulation through Ground State Depletion
Szu-Yu Chen (National Central University); Hao-Hao Wu (National Central University); Jui-Ting Hung (National Central University); Jian-Ling Chen (National Central University);
- 16:30 **Coffee Break**
- 17:00 Optical Control of Second Harmonic Generation from Invited AlGaAs Nanopillars
Marco Finazzi (Politecnico di Milano); Lavinia Ghirardini (Politecnico di Milano); Francesco Rusconi (Politecnico di Milano); Michele Celebrano (Politecnico di Milano); Paolo Biagioni (Politecnico di Milano); Lamberto Duo (Politecnico di Milano); Giuseppe Della Valle (Politecnico di Milano); Eva Pogna (Politecnico di Milano); Giulio Cerullo (Politecnico di Milano); Luca Carletti (University of Brescia); Davide Rocco (Universita degli Studi di Brescia & INO-CNR); Costantino De Angelis (Universita degli Studi di Brescia); Carlo Gigli (Laboratoire Materiaux et Phenomenes Quantiques, CNRS UMR 7162, Universite Paris Diderot); Giuseppe Leo (Universite Paris Diderot);
- 17:20 Second- and Third-harmonic Generation from Mie-Invited resonant GaAs Nanowires
Domenico De Ceglia (University of Padova); L. Carletti (University of Padova); Andrea Galtarossa (Universita di Padova); M. A. Vincenti (University of Brescia); Costantino De Angelis (Università degli Studi di Brescia); Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM);
- 17:40 Transient Optical Dichroism in Nonlinear Anisotropic Invited Dielectric Metasurfaces
Giuseppe Della Valle (Politecnico di Milano); Lucia Ganzer (Politecnico di Milano); Andrea Mazzanti (Politecnico di Milano); Andrea Camellini (Politecnico di Milano); Giulio Cerullo (Politecnico di Milano); Margherita Zavelani-Rossi (Politecnico di Milano); Costantino De Angelis (Universita degli Studi di Brescia); Francesco Buatier de Mongeot (Istituto Nazionale per la Fisica della Materia); Ben Hopkins (The Australian National University); Mohsen Rahmani (Imperial College London); Yuri S. Kivshar (Australian National University); Dragomir N. Neshev (Australian National University);
- 18:00 Enhancing Ultrafast Nonlinearities with Dielectric Keynote Nanocavities
Stefan Maier (LMU Munich);
- 18:30 Talbot Carpets by Rogue Waves of the Extended Non-linear Schrödinger Equation
Milivoj R. Belic (Texas A&M University at Qatar); Stanko N. Nikolic (Texas A&M University at Qatar); Omar A. Ashour (University of California); Najdan B. Aleksic (Institute of Physics Belgrade); Yiqi Zhang (Xi An Jiao Tong University); Siu A. Chin (TAMU College Station);
- 18:45 Conservation of the Spin Angular Momentum in Second-harmonic Generation
Bing Gu (Southeast University); Tianyu Liu (Southeast University); Guanghao Rui (Southeast University); Changgui Lv (Southeast University); Yiping Cui (Southeast University);

Session 2P11a
SC3: Quantum Sensing and Information Processing

Tuesday PM, June 18, 2019
Room 11 - Mezzanine

Organized by Joanna Ptasinski

 Chaired by Joanna Ptasinski

- 14:30 Quantum Dynamics of Nonlinear Optical Eigenmodes
Graeme Docherty-Waltheu (University of St Andrews); Kyle Ballantine (University of St Andrews); Michael Mazilu (University of St. Andrews);
- 14:50 Symmetry Adapted Quantum Computing
Sean A. Fischer (U.S. Naval Research Laboratory); Stephen Hellberg (U.S. Naval Research Laboratory); Sergio Tafur (U.S. Naval Research Laboratory); Daniel Gunlycke (U.S. Naval Research Laboratory);
- 15:10 Transport Dynamics of Step Edge YBCO SQUID Arrays
Marcio C De Andrade (SPAWAR Systems Center Pacific); Michael O'Brien (Space and Naval Warfare Systems Center Pacific (SSC Pacific)); Susan Berggren (SPAWAR Systems Center Pacific);
- 15:30 SQUID Arrays for Underwater Sensing
Michael O'Brien (Space and Naval Warfare Systems Center Pacific (SSC Pacific));
- 15:50 Superconducting Quantum Interference Device Arrays for Radio Frequency Detection
Anna M. Leese De Escobar (SPAWAR Systems Center Pacific);
- 16:10 Quantum-enhanced Magnetic Field Sensing Using a Transmon Qubit
Gheorghe Sorin Paraoanu (Aalto University);
- 16:30 **Coffee Break**

- 17:00 Prediction of Neutral Oxygen-vacancy Defect in Cubic Boron Nitride for a Plausible Qubit
G. C. Bian (Beihang University); Guangcun Shan (Beihang University, City University of Hong Kong); J. C. Fang (Beihang University);
- 17:20 Spin Decoherence in Inhomogeneous Media
John Alexander Crosse (New York University Shanghai & New York University);

Session 2P11b

SC2: Recent Advances of Metamaterials for Novel Electromagnetic and Photonic Devices 2

Tuesday PM, June 18, 2019

Room 11 - Mezzanine

Organized by Yungui Ma, Sailing He

Chaired by Sailing He

- 17:40 Optical Metamaterials with Large Optical Nonlinearity
Haoliang Qian (University of California); Shilong Li (University of California); Ching-Fu Chen (University of California); Su-Wen Hsu (University of California); Steven Edward Bopp (University of California); Qian Ma (University of California); Andrea R. Tao (University of California); Zhaowei Liu (University of California);
- 18:00 Experimental Observation of Superscattering
Chao Qian (Zhejiang University); Xiao Lin (Nanyang Technological University); Yi Yang (Massachusetts Institute of Technology); Xiaoyan Xiong (Zhejiang University); Huaping Wang (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute); Ido Kaminer (Massachusetts Institute of Technology); Baile Zhang (Nanyang Technological University); Hongsheng Chen (Zhejiang University);
- 18:20 Novel Effects and Applications Based on the Combination of Coherent Perfect Absorption and Zero-index Media
Jie Luo (Soochow University); Yun Lai (Nanjing University);
- 18:40 Orbital Angular Momentum Generation by Using a Point Defect in Photonic Crystals
Menglin L. N. Chen (The University of Hong Kong); Li Jun Jiang (University of Hong Kong); Wei E. I. Sha (Zhejiang University);

Session 2P12

FocusSession.SC2: Thermoplasmonics and Photo-thermal Applications 2

Tuesday PM, June 18, 2019

Room 21 - 2nd Floor

Organized by Alessandro Alabastri, Remo Proietti Zaccaria

Chaired by Remo Proietti Zaccaria

- 14:30 Advanced Josephson Junction Quantum Circuits: The KeynotePhase Coherence in Thermal Transport
Francesco Giazotto (Istituto Nanoscienze-CNR & Scuola Normale Superiore);
- 15:00 Photoexcited Hot-electron Dynamics in Plasmonic Invited Materials
Daniele Catone (CNR-ISM); Alessandra Paladini (CNR-ISM); Lorenzo Di Mario (Istituto di Struttura della Materia (ISM), CNR, Division of Ultrafast Processes in Materials (FLASHit)); Patrick O’Keeffe (CNR-ISM); Francesco Toschi (CNR-ISM); Jacopo Stefano Pelli Cresi (CNR-ISM); Michele Magnozzi (Università di Genova); Andrea Toma (Istituto Italiano di Tecnologia); Francesco Bisio (CNR-SPIN); Paola Luches (Università di Modena e Reggio Emilia); Sergio D’Addato (Università di Modena e Reggio Emilia);
- 15:20 Nanoscale Optical Memristors for Digital Opto-Invited electronic Applications
Alexandros Emboras (ETH Zurich); Alessandro Alabastri (Rice University); Fabian Ducry (ETH Zurich); Bojun Cheng (ETH Zurich); Yannick Salamin (Institute of Electromagnetic Fields (IEF), ETH Zurich); Ping Ma (ETH Zurich); Kevin Portner (ETH Zurich); Christoph Weillmann (ETH Zurich); Mila Lewerenz (ETH Zurich); Jan Aeschlimann (ETH Zurich); Mathieu Luisier (ETH Zurich); Peter Nordlander (Rice University); Juerg Leuthold (Institute of Electromagnetic Fields (IEF), ETH Zurich);
- 15:40 Active and Passive Control of Thermal Radiation at Invited the Nanoscale
Svend-Age Biehs (Carl von Ossietzky Universität); Annika Ott (Carl von Ossietzky Universität); R. Messina (Institut d’Optique, CNRS, Université Paris-Saclay); Philippe Ben-Abdallah (Université Paris-Sud 11);

- 16:00 From Perfect Absorber to Perfect Heater: Photon-to-phonon Conversion and Thermal Management
Tian-Long Guo (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science); Joao Cunha (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Alessandro Alabastri (Rice University); Remo Proietti Zaccaria (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials and Technology Engineering, Chinese Academy of Sciences);
- 16:30 **Coffee Break**
- 17:00 Nanoscale Surface Thermal Gradients Activated by Enhanced Molecular Absorption in Mid-infrared Vertical Antenna Arrays
Invited *Andrea Mancini (Sapienza University of Rome); Valeria Giliberti (Istituto Italiano di Tecnologia); Alessandro Alabastri (Rice University); Eugenio Calandrini (Synchrotron SOLEIL); Francesco De Angelis (Istituto Italiano di Tecnologia); Denis Garoli (Istituto Italiano di Tecnologia); Michele Ortolani (Sapienza University of Rome);*
- 17:20 Mid-infrared Photothermal Imaging beyond the Diffraction Limited Spot Size
Panagis D. Samolis (Boston University); Michelle Y. Sander (Boston University);
- 17:35 Releasable Micro-waveplates
Keynote
L. Grineviciute (State Research Institute Center for Physical Sciences and Technology); T. Tolenis (State Research Institute Center for Physical Sciences and Technology); M. Ryu (Tokyo Institute of Technology); T. Moein (Swinburne University of Technology); S.-H. Ng (Swinburne University of Technology); T. Katkus (Swinburne University of Technology); Jovan Maksimovic (Swinburne University of Technology); R. Drazdys (State Research Institute Center for Physical Sciences and Technology); Junko Morikawa (Tokyo Institute of Technology); Saulius Juodkazis (Swinburne University of Technology);
- 18:05 Hyperbolic Meta-antennas: Arbitrary Control of Light Scattering and Absorption towards Thermoplasmonic Bio-medical Applications
Invited *Nicolò Maccaferri (University of Luxembourg); Yingqi Zhao (University of Luxembourg); Tommi Isoniemi (Istituto Italiano di Tecnologia); Marzia Iarossi (Istituto Italiano di Tecnologia); Antonietta Parracino (Istituto Italiano di Tecnologia); Giuseppe Strangi (Case Western Reserve University); Francesco De Angelis (Istituto Italiano di Tecnologia);*
- 18:25 Thermoplasmonics for Light Robotics
Ada-Ioana Bunea (Technical University of Denmark); Einstom Engay (Technical University of Denmark); Jesper Gluckstad (Technical University of Denmark);
- 18:40 Passive High-yield Seawater Distillation and Cogeneration under One Sun by Modular and Low-cost Assembly
Invited *Matteo Fasano (Politecnico di Torino); Matteo Morciano (Politecnico di Torino); Matteo Alberghini (Politecnico di Torino); Giovanni Antonetto (Politecnico di Torino); Eliodoro Chiavazzo (Politecnico di Torino); Pietro Asinari (Politecnico di Torino);*
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- Session 2P13**
FocusSession.SC3: Optical Fibers for High Power Applications
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- Tuesday PM, June 18, 2019**
Room 22 - 2nd Floor
Organized by Stefano Selleri, Jesper Lægsgaard
Chaired by Stefano Selleri, Jesper Lægsgaard
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- 14:30 Supermodes in Yb-doped Multi-core Fibers under Heat Load
Invited *Federica Poli (University of Parma); Jesper Lægsgaard (Technical University of Denmark);*
- 14:50 Thermo-optic Mode Instabilities in Single- and Dual-core Amplifiers
Jesper Lægsgaard (Technical University of Denmark); F. Poli (University of Parma); Annamaria Cucinotta (Università di Parma); Stefano Selleri (Università di Parma);
- 15:10 Random Fiber Laser Reaching to Kilo-watt Level
Hanwei Zhang (National University of Defense Technology); Long Huang (National University of Defense Technology); Jiaxin Song (National University of Defense Technology); Pu Zhou (National University of Defense Technology); Xiaolin Wang (National University of Defense Technology); Jian Wu (National University of Defense Technology); Jiangming Xu (National University of Defense Technology); Xiaojun Xu (National University of Defense Technology);
- 15:30 Fundamental Power Scaling Limits in High Power Fibre Lasers and Amplifiers
Keynote *Michalis N. Zervas (University of Southampton);*

- 16:00 Review on Fully-Aperiodic Large-pitch-fiber for High Power Mode-switchable Fiber Laser
 KeynoteAverage/Peak Power Operation: Concept and Last Experimental Results
Philippe Roy (University of Limoges); Marie-Alicia Malleville (University of Limoges); Baptiste Leconte (University of Limoges); Romain Dauliat (University of Limoges); Anka Schwuchow (Leibniz Institute of Photonic Technology); Katrin Wondraczek (Leibniz Institute of Photonic Technology); Julien Didierjean (Eolite Systems); Raphael Jamier (University of Limoges);
- 16:30 **Coffee Break**
- 17:00 Incoherently Pumped High Power Random Fiber Laser with Ultra-high Spectral Purity
Jun Ye (National University of Defense Technology); Jiangming Xu (National University of Defense Technology); Jiaxin Song (National University of Defense Technology); Jinyong Leng (National University of Defense Technology); Pu Zhou (National University of Defense Technology);
- 17:20 Reduced Pulse Duration with Thin Film Compression and Potential Application in Coherent Array of Fiber Lasers
Masruri Masruri (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); J. Wheeler (IZEST); A. Naziru (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); R. Secareanu (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); F. Perez (Ecole Polytechnique); S. Mironov (Institute of Applied Physics of the Russian Academy of Science (IAP RAS)); I. Dancus (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); Daniel Ursescu (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); R. Dabu (Extreme Light Infrastructure Nuclear Physics (ELI-NP));
- 17:40 Electromagnetic Analysis of a 9-core Yb-doped Fiber for High Power Applications
Seyyedhossein Mckee (University of Parma); Lorenzo Rosa (University of Modena and Reggio Emilia); Federica Poli (University of Parma); Stefano Selleri (Universita di Parma); Luca Vincetti (University of Modena and Reggio Emilia); Annamaria Cucinotta (Universita di Parma);
- 18:00 First Demonstration of Temperature Control Enabled High Power Mode-switchable Fiber Laser
Jiaxin Song (National University of Defense Technology); Haiyang Xu (National University of Defense Technology); Hanshuo Wu (National University of Defense Technology); Liangjin Huang (National University of Defense Technology); Jiangming Xu (National University of Defense Technology); Pu Zhou (National University of Defense Technology);
- 18:20 Full Non-destructive Characterization of Doped Optical Fibre Preforms for Advanced Applications
Marilena Vivona (University of Southampton); Michalis N. Zervas (University of Southampton);
- 18:40 Bend Loss Properties of Octagonal-core and Nodeless Large-mode-area Anti-resonant Hollow-core Fibers
Elizaveta A. Yelistratova (Bauman Moscow State Technical University); S. O. Leonov (Bauman Moscow State Technical University); V. V. Demidov (Research and Production Association S.I. Vavilov State Optical Institute); V. A. Ananyev (Research and Production Association S.I. Vavilov State Optical Institute); Grigory K. Alagashev (Fiber Optics Research Center of the Russian Academy of Sciences); Andrey D. Pryamikov (Fiber Optics Research Center of the Russian Academy of Sciences);
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- Session 2P14**
FocusSession.SC3: Nanophotonics 3
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- Tuesday PM, June 18, 2019**
Room 24 - 2nd Floor
 Organized by Yeshaiahu Shaya Fainman, Newton C. Frateschi
 Chaired by Yeshaiahu Shaya Fainman, Newton C. Frateschi
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- 14:30 Nonclassical Surface Response in Nanoplasmonics
 Invited
Thomas Christensen (Massachusetts Institute of Technology); Marin Soljacic (Massachusetts Institute of Technology);
- 14:50 Plasmonic Nanoparticles for Water Purification
 Invited
Ye Pu (Ecole Polytech Fed Lausanne); Demetri Psaltis (Ecole Polytechnique Federale de Lausanne (EPFL));
- 15:10 Epsilon (and mu) Near Zero Materials — Photonics
 Keynoteon Steroids?
Jacob B. Khurgin (Johns Hopkins University);

- 15:40 Two-dimensional Electron Energy-loss Spectroscopy
George Mouloudakis (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Renwen Yu (The Barcelona Institute of Science and Technology); F. Javier Garcia de Abajo (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology);
- 15:55 Zero Admittance Multidielectric Stratified Materials for Energy Density Engineering
Myriam Zerrad (Universite Paul Cezanne); D. Niu (Aix Marseille Univ., CNRS); F. Lemarchand (Aix Marseille Univ., CNRS); A. Lereu (Aix Marseille Univ., CNRS); V. Aubry (Centre Technique de Velizy); A. Passian (Oak Ridge National Laboratory); A. Zapien (City University of Hong Kong); M. Lequime (Aix Marseille Univ., CNRS); C. Amra (Aix Marseille Univ., CNRS);
- 16:05 Quantum Landau Damping Resonances and Dark Photonic Modes
Nykolay M. Makarov (Benemerita Universidad Autonoma de Puebla); S. G. Castillo-Lopez (Benemerita Universidad Autonoma de Puebla); A. A. Krokhin (University of North Texas); Felipe Perez-Rodriguez (Benemerita Universidad Autonoma de Puebla);
- 16:30 **Coffee Break**
- 17:00 Toward Strong Coupling between Free Electrons and Confined Optical Modes
Valerio Di Giulio (ICFO-Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Vahagn Mkhitarian (ICFO-Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology);
- 17:15 Optical Wireless Power Transfer between an Optical Antenna and a Transducing Rectenna
A. Dasgupta (Université de Bourgogne Franche-Comté); Gerard Colas des Francs (CNRS-Université de Bourgogne); Alexandre Bouhelier (Université Bourgogne Franche-Comte);
- 17:30 High Order Toroidal Moments and Anapole States in Focus of Irreducible Cartesian Multipole Decomposition
Egor A. Gurvitz (ITMO University); Konstantin S. Ladutenko (St. Petersburg National Research University of Information Technologies, Mechanics and Optics); Pavel A. Dergachev (National Research University Moscow Power Engineering Institute); Andrey B. Evlyukhin (Laser Zentrum Hannover e.V.); Andrey E. Miroshnichenko (Australian National University); Alexander Sergeevich Shalin (ITMO University);
- 17:45 Resonant Diffractive Structure for Enhancing and Beaming the Spontaneous Emission from Organic Dyes on Dielectric Multilayers
Emiliano Descrovi (Polytechnic University of Turin); Ugo Stella (Polytechnic University of Turin); Luca Boarino (Istituto Nazionale di Ricerca Metrologica, INRIM); Natascia De Leo (Istituto Nazionale di Ricerca Metrologica, INRIM); Peter Munzert (Fraunhofer Institute for Applied Optics and Precision Engineering IOF);
- 18:00 Grating Filters in Nanophotonics Integration
Invited
Mario Dagenais (University of Maryland);
- 00:00 Metasurfaces — Myths and Reality
Invited
Hans Peter Herzig (Swiss Federal Institute of Technology in Lausanne (EPFL));

Session 2P15a
Photonics for Microwave Systems

Tuesday PM, June 18, 2019

Room 25 - 2nd Floor

Organized by A. Bogoni, P. Ghelfi

Chaired by A. Bogoni

- 14:30 Investigation of 100 GHz Output Power Performance in Uni-travelling Carrier Photodetector under Zero-bias Condition
Toshimasa Umezawa (National Institute of Information and Communications Technology); Atsushi Matsumoto (National Institute of Information and Communications Technology); Atsushi Kanno (National Institute of Information and Communications Technology); Naokatsu Yamamoto (National Institute of Information and Communications Technology); Tet-suya Kawanishi (National Institute of Information and Communications Technology);

- 14:50 Automated Prototype of Photonics-based RF Receiver with Extended Bandwidth and Increased Tuning Speed
Filippo Scotti (CNIT); D. Onori (TeCIP Institute); A. Zaccaron (Elettronica S.p.A.); Luca Scorrano (Elettronica SpA); Marco Bartocci (Elettronica SpA); Antonio Tafuto (Elettronica SpA); Antonella Bogoni (Sant'Anna School of Advanced Studies); Paolo Ghelfi (CNIT);
- 15:10 Beamforming with Photonic Integrated Circuits for Millimeter Wave Communications and Phased Arrays
Jonathan Klamkin (University of California); Yuan Liu (University of California);
- 15:30 Photonics for Radar Systems
Leonardo Lembo (Scuola Superiore Sant'Anna); Filippo Scotti (CNIT); Giovanni Serafino (Scuola Superiore Sant'Anna); Antonio Malacarne (Scuola Superiore Sant'Anna); Paolo Ghelfi (CNIT); Antonella Bogoni (Scuola Superiore Sant'Anna);
- 15:50 Recent Advances in Optoelectronic Oscillators
Ming Li (Institute of Semiconductors, Chinese Academy of Sciences); Tengfei Hao (Institute of Semiconductors, Chinese Academy of Sciences);
- 16:10 Photonics-based Radar Systems
Shilong Pan (Nanjing University of Aeronautics and Astronautics); Fangzheng Zhang (Nanjing University of Aeronautics and Astronautics); Yamei Zhang (Nanjing University of Aeronautics and Astronautics);
- 16:30 **Coffee Break**
- 17:00 Integrated Microwave Photonics Chip Platform by Hybrid Integration of InP and TriPleX
Chris G. H. Roeloffzen (LioniX International BV); Ilka Visscher (LioniX International BV); Caterina Taddei (LioniX International BV); Marcel Hoekman (LioniX BV); Ruud M. Oldenbewing (SATRAX BV); Paulus W. L. Van Dijk (LioniX International BV); Roelof Bernardus Timens (LioniX International BV); Jorn P. Epping (LioniX International BV); Robert Grootjans (LioniX International BV); Dimitri Geskus (LioniX International BV); Ronald Dekker (LioniX International BV); Arne Leinse (LioniX International BV); Rene G. Heideman (LioniX BV);
- 17:20 Plasmonic Modulators for Sub-THz Analog Photonics
Maurizio Burla (Institute of Electromagnetic Fields, ETH Zurich); Claudia Hoessbacher (Institute of Electromagnetic Fields, ETH Zurich); Wolfgang Heni (Institute of Electromagnetic Fields, ETH Zurich); Christian Haffner (Institute of Electromagnetic Fields, ETH Zurich); Yuriy Fedoryshyn (Institute of Electromagnetic Fields (IEF), ETH Zurich); Dominik Werner (Institute of Electromagnetic Fields, ETH Zurich); Tatsuhiko Watanabe (Institute of Electromagnetic Fields, ETH Zurich); Hermann Massler (Fraunhofer Institute for Applied Solid State Physics (IAF)); Delwin Elder (University of Washington); Larry R. Dalton (University of Washington); Juerg Leuthold (Institute of Electromagnetic Fields (IEF), ETH Zurich);
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- Session 2P15b**
Disordered Photonics 2
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- Tuesday PM, June 18, 2019**
Room 25 - 2nd Floor
Organized by Pedro David Garcia Fernandez, Jacopo Bertolotti
Chaired by Jacopo Bertolotti, Pedro David Garcia Fernandez
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- 17:40 Role of Anisotropy and Refractive Index in Scattering and Whiteness Optimization
Gianni Jacucci (University of Cambridge); Jacopo Bertolotti (University of Exeter); Silvia Vignolini (University of Cambridge);
- 18:00 All-optical Radio-frequency Modulation of Anderson-localized Modes
Guillermo Arregui (CSIC and The Barcelona Institute of Science and Technology, Campus UAB);
- 18:20 Massively-parallel Calculation of Multiple Light Scattering in Discrete Random Media
Lorenzo Pattelli (University of Florence); Amos Egel (Light Technology Institute, Karlsruhe Institute of Technology (KIT)); Ulrich Lemmer (Light Technology Institute, Karlsruhe Institute of Technology (KIT)); Diederik S. Wiersma (University of Florence);

- 18:40 Optimized Reflectance in Bioinspired Polymer Network Structures
Lorenzo Pattelli (*University of Florence*); Weizhi Zou (*Beijing National Laboratory for Molecular Sciences, CAS Research/Education Center for Excellence in Molecular Sciences, Laboratory of Polymer Physics*); Jing Guo (*Beijing National Laboratory for Molecular Sciences, CAS Research/Education Center for Excellence in Molecular Sciences, Laboratory of Polymer Physics*); Shijia Yang (*Beijing National Laboratory for Molecular Sciences, CAS Research/Education Center for Excellence in Molecular Sciences, Laboratory of Polymer Physics*); Meng Yang (*Beijing National Laboratory for Molecular Sciences, CAS Research/Education Center for Excellence in Molecular Sciences, Laboratory of Polymer Physics*); Ning Zhao (*Beijing National Laboratory for Molecular Sciences, CAS Research/Education Center for Excellence in Molecular Sciences, Laboratory of Polymer Physics*); Jian Xu (*Institute of Chemistry, Chinese Academy of Sciences*); Diederik S. Wiersma (*University of Florence*);
- 00:00 Correlations and Entropy of the LDOS in Disordered Photonic Systems
Invited Francesco Riboli (*European Laboratory for Nonlinear Spectroscopy (LENS)*);
- 15:15 Switching Thermo-plasmonic Behavior of Au Nanoparticles in Presence of an Optically Tunable Organic Layer
Invited Giovanna Palermo (*University of Calabria*); A. Guglielmelli (*University of Calabria*); U. Cataldi (*University of Geneva*); T. Burgi (*University of Geneva*); Luciano De Sio (*Beam Engineering for Advanced Measurements Company*); N. V. Tabiryan (*BEAM Corp*); Cesare Paolo Umeton (*University of Calabria*); Roberto Caputo (*University of Calabria*);
- 15:35 Reflective Anisotropic Lenses via Nematic Liquid Crystals
Invited Yu-Jen Wang (*National Chiao Tung University*); Ozan Cakmakci (*Google Inc.*); Yi-Hsin Lin (*National Chiao Tung University*);
- 15:55 Structured Liquid Crystal Patterns for Switchable Diffraction Gratings
Invited Kristiaan Neyts (*Ghent University*); Inge Nys (*Ghent University*); Jeroen Beeckman (*Ghent University*);
- 16:05 Multi-photon Laser Fabrication of Compact, Low-loss Waveguides in Polydimethylsiloxane
Giulia Panusa (*Ecole Polytechnique Federale de Lausanne (EPFL)*); Ye Pu (*Ecole Polytech Fed Lausanne*); Jieping Wang (*Ecole Polytechnique Federale de Lausanne (EPFL)*); Christophe Moser (*Ecole Polytechnique Federale de Lausanne (EPFL)*); Demetri Psaltis (*Ecole Polytechnique Federale de Lausanne (EPFL)*);

Session 2P16

FocusSession.SC3: Organic Photonics for Optical Interconnections and Switching

Tuesday PM, June 18, 2019

Room 15 - 2nd Floor

Organized by Antonio d'Alessandro, Rita Asquini

Chaired by Antonio d'Alessandro, Rita Asquini

- 14:30 Liquid Crystalline Photonic Crystals for Ultrafast Keynote(pico-femtoseconds) All-optical Self-action Processes
Iam-Choon Khoo (*Pennsylvania State University*); Chun-Wei Chen (*Pennsylvania State University*);
- 15:00 Photonic Switches Based on Liquid Crystal Electro-optical Waveguides
Antonio d'Alessandro (*Sapienza University of Rome*); Luca Civita (*University of Rome La Sapienza*); Rita Asquini (*Sapienza University of Rome*); Cesare Chiccoli (*Istituto Nazionale di Fisica Nucleare*); Paolo Pasini (*Istituto Nazionale di Fisica Nucleare*);
- 16:30 **Coffee Break**
- 17:00 Slippery Interfaces
Invited Jun Yamamoto (*Kyoto University*);
- 17:20 Controlling Reflected Light Based on Cholesteric Liquid Crystals
Invited Masanori Ozaki (*Osaka University*); Hiroyuki Yoshida (*Osaka University*);
- 17:40 Plasmons at the Interface between Physics and Biophotonics
Invited Giuseppe Strangi (*Case Western Reserve University*);
- 18:00 Enhanced Efficiency of Electric Field Tunability in Au/Ag Nanoparticles-doped Photonic Liquid Crystal Fibers
Invited Tomasz R. Wolinski (*Warsaw University of Technology*); D. Budaszewski (*Warsaw University of Technology*); M. Chychlowski (*Warsaw University of Technology*); A. Budaszewska (*Warsaw University of Technology*); B. Bartosewicz (*Military University of Technology*); B. Jankiewicz (*Military University of Technology*);

- 18:20 Thermo-plasmonic Driven Hydrogel Based Optical
Invited Beam Shutter
Filippo Pierini (Institute of Fundamental Technological Research, Polish Academy of Sciences); Alexa Guglielmelli (University of Calabria); Olga Urbanek (Institute of Fundamental Technological Research, Polish Academy of Sciences); Pawel Nakielski (Institute of Fundamental Technological Research, Polish Academy of Sciences); Sylwia Pawlowska (Institute of Fundamental Technological Research, Polish Academy of Sciences); Tomasz A. Kowalewski (Institute of Fundamental Technological Research, Polish Academy of Sciences); Timothy J. Bunning (Wright-Patterson Air Force Base); Luciano De Sio (Beam Engineering for Advanced Measurements Company);
- 18:40 Metamaterial-liquid Crystal Ultra-thin Spatial Phase
Invited Modulator for THz Applications
Oleksandr Buchnev (University of Southampton); Nina Podoliak (University of Southampton); Korbinian Kaltenecker (Technical University of Denmark); Markus Walther (University of Freiburg); Malgosia Kaczmarek (University of Southampton); Vasily A. Fedotov (University of Southampton);
- 19:00 All-organic Integrated LC Optical Polarization Cross-
Invited connect
Manuel Cano-Garcia (Universidad Politecnica de Madrid (UPM)); Fernando Jose Gordo Quiroga (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid); Jeroen Missinne (Ghent University and IMEC); Morten A. Geday (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid); Jose M. Oton (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid); Geert Van Steenberge (Ghent University and IMEC); Xabier Quintana (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid);
- 14:30 Preparation and Microwave Absorption Properties of
Doped Barium Ferrite Ceramics
Jun Li (Harbin Institute of Technology); San He (Harbin Institute of Technology); Kouzhong Shi (Harbin Institute of Technology); You Wu (Harbin Institute of Technology); Han Bai (Harbin Institute of Technology); Yang Hong (Harbin Institute of Technology); Qingxin Meng (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology);
- 14:50 Structure, Electromagnetic and Microwave Absorption
Properties of Bismuth Ferrite Nanoparticles
Yang Hong (Harbin Institute of Technology); Jun Li (Harbin Institute of Technology); Kouzhong Shi (Harbin Institute of Technology); Han Bai (Harbin Institute of Technology); Zhongxiang Zhou (Harbin Institute of Technology);
- 15:10 Influence of Dust Particles on a Wave Propagation in
a Glow Discharge Plasma
Dmitry V. Bogdanov (St. Petersburg State University); E. A. Bogdanov (St. Petersburg State University); A. A. Kudryavtsev (St. Petersburg State University); C. Yuan (Harbin Institute of Technology);
- 15:30 GMM Estimation and BER of Bursty Impulsive Noise
in Low-voltage PLC Networks
Steven Omondi Awino (University of KwaZulu Natal); Thomas Joachim Odhiambo Afullo (University of KwaZulu-Natal (UKZN)); Modisa Mosalaosi (University of KwaZulu-Natal); Peter O. Akuon (University of Kwa-Zulu Natal (UKZN));
- 15:50 The Features and Improvements of the Topside Ionospheric
Data Extraction from the Irkutsk Incoherent Scatter Radar
Denis S. Khabituev (Institute of Solar Terrestrial Physics); Boris G. Shpynev (Institute of Solar Terrestrial Physics of Siberian Branch of Russian Academy of Sciences); A. G. Setov (Institute of Solar Terrestrial Physics);

Session 2P17

**Electromagnetic Wave Propagation in Ionized
and Complex Media 2**

Tuesday PM, June 18, 2019

Room 33 - Bank Building

Organized by Anatoly A. Kudryavtsev, Chengxun
Yuan

Chaired by Anatoly A. Kudryavtsev, Chengxun Yuan

- 16:10 Features of Longitudinal Variations of Geomagnetic and Ionospheric Parameters during Severe Magnetic Storms in 2015
Marina A. Chernigovskaya (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences); Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences); Denis S. Khabituiev (Institute of Solar Terrestrial Physics); Konstantin G. Rarovsky (Institute of Solar-Terrestrial Physics, SB RAS); Anastasiya Yu. Belinskaya (Geophysical Survey SB RAS); Alexander E. Stepanov (Institute of Cosmophysical Research and Aeronomy of Siberian Branch of Russian Academy of Sciences); Vasily V. Bychkov (Institute of Cosmophysical Researches and Radio Wave Propagation EB RAS); Svetlana A. Grigorieva (Institute of Geophysics UB RAS); Valery A. Panchenko (Pushkov Institute of Terrestrial Magnetism Ionosphere and Radio Wave Propagation); Daniel Kouba (Institute of Atmospheric Physics CAS); Jens Mielich (Kuhlungsborn);
- 16:30 **Coffee Break**
- 17:00 Two Approaches for Point-to-point Radio Ray Tracing in the Ionosphere: Comparison, Scope and Advantages
Daria Sergeevna Kotova (West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation RAS); Igor A. Nosikov (Immanuel Kant Baltic Federal University); Maxim V. Klimenko (Immanuel Kant Baltic Federal University); Elizaveta R. Somina (Immanuel Kant Baltic Federal University);
- 17:20 Equatorial Ionosphere Perturbation Indices Based on BDS-GEO Data
Yu. S. Tumanova (Lomonosov Moscow State University); Nikita Alekseyevich Tereshin (Lomonosov Moscow State University); Ekaterina Anatolyevna Kozlovteva (Lomonosov Moscow State University); G. A. Kurbatov (Lomonosov Moscow State University); Artem M. Padokhin (M. V. Lomonosov Moscow State University);
- 17:40 Possibilities of Satellite Radio Tomography and Related Products for Studying the Ionospheric Structures in Various Geophysical Conditions
Elena S. Andreeva (M. V. Lomonosov Moscow State University); M. O. Nazarenko (M. V. Lomonosov Moscow State University); I. A. Nesterov (M. V. Lomonosov Moscow State University); Artem M. Padokhin (M. V. Lomonosov Moscow State University); Nikita Alekseyevich Tereshin (Lomonosov Moscow State University); Yulia S. Tumanova (M. V. Lomonosov Moscow State University);
- 18:00 Dispersion Properties of a Backward Wave Oscillator with Modified Rectangular Corrugations
Rakibul Hasan Sagor (Islamic University of Technology); Md. Ruhul Amin (Islamic University of Technology);

Session 2P18
Antenna and RCS Measurements 2

Tuesday PM, June 18, 2019
Room 38 - Chemistry Building

Organized by Amedeo Capozzoli, Francesco D'Agostino

 Chaired by Amedeo Capozzoli, Francesco D'Agostino

- 14:30 Measurements of Polarized Radar Clutter of Tree Canopy at Ka-band
Chiung-Shen Ku (Institute of Remote Sensing and Digital Earth, CAS); Chih-Yuan Chu (Xuchang University); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Gen-Yuan Du (Xuchang University);
- 14:50 Use of Software Defined Radio Receivers for Antenna Measurements
Ruben Tena Sanchez (Universidad Politecnica de Madrid); Manuel Sierra Castaner (Universidad Politecnica de Madrid); L. J. Foged (SATIMO);
- 15:10 Antenna Microstrip Square Patch C-band with Circularly Polarization for CP-SAR Application
Reppi Desna Yenti (Universitas Negeri Padang); Josaphat Tetuko Sri Sumantyo (Chiba University); Yohandri Azwir (Universitas Negeri Padang); Cahya Edi Santosa (Chiba University);
- 15:30 On the Optimality of SVO in Near-field Antenna Characterization
Amedeo Capozzoli (Universita di Napoli Federico II); Claudio Curcio (Universita di Napoli Federico II); Angelo Liseno (Universita di Napoli Federico II);

- 15:50 Optimized Partial Near Field Antenna Characterization
Amedeo Capozzoli (Universita di Napoli Federico II); Claudio Curcio (Universita di Napoli Federico II); Angelo Liseno (Universita di Napoli Federico II);
- 16:10 Design and Electrical Characteristics of a Microwave Multiband Single Slotted Antenna with Different Dielectric Substrate Materials
Vandana (Amity University); Sujata Pandey (Amity University); Mukul Varshney (Amity University); Manoj Kumar Pandey (Amity University);
- 16:30 **Coffee Break**
- 17:00 Design and Analysis of Microstrip Line Bandpass Filter
Vandana Jagdish (Amity University); Sujata Pandey (Amity University); Mukul Varshney (Amity University); Manoj Kumar Pandey (Amity University);
- 17:20 Spatial Sampling Patterns for Robust Field Reconstruction in 2-D
Alex J. Yuffa (National Institute of Standards and Technology); Benjamin F. Jamroz (National Institute of Standards and Technology); Jacob D. Rezac (National Institute of Standards and Technology);
- 17:40 The Radar Detection Method Based on Detecting Signal to Clutter Ratio (SCR) in the Spectrum
Jiangkun Gong (Wuhan University); Jun Yan (Wuhan University); Deren Li (Wuhan University);
- 18:00 On the Influence of Probe Positioning Errors due to Mechanical Uncertainties in Spherical Near-field Measurements at Terahertz Frequencies in Modern Positioner Systems
Cosme Culotta-Lopez (RWTH Aachen University); R. Moch (RWTH Aachen University); R. Wilke (RWTH Aachen University); Dirk Heberling (RWTH Aachen University);
- 18:20 Wideband Spiral Antenna with Superstrate Designs for Radio Altimeter
Shashank Khorgade (National Institute of Technology); Damera Vakula (National Institute of Technology); Nookala Venkata Satya Narasimha Sarma (National Institute of Technology);
- 18:40 A Comparative Study of Conformal Antenna Arrays for Aerodynamic Applications
Hisham Khalil (The University of Lahore); Umair Rafique (Capital University of Science and Technology); Muhammad Mansoor Ahmed (Mohammad Ali Jinnah University); Saeed Ur Rehman (Nanjing University of Aeronautics and Astronautics (NUAA));

Session 2P19**SC1: Stochastic Methods in Electromagnetic Compatibility**

Tuesday PM, June 18, 2019**Room 39 - Electrical Building**

Organized by Gabriele Gradoni, Valter Mariani Primiani

Chaired by Valter Mariani Primiani, Gabriele Gradoni

- 14:30 Performance Enhancement Estimation of a Source Stirred Reverberation Chamber with Stochastic Diffractors
Alfredo De Leo (Universita Politecnica delle Marche); Gabriele Gradoni (University of Nottingham); Graziano Cerri (Universita Politecnica delle Marche); Paola Russo (Universita Politecnica delle Marche); Valter Mariani Primiani (Universita Politecnica delle Marche);
- 14:50 Full Wave Simulations of Reverberation Chamber Deformed by Hemispheres
Luca Bastianelli (DII — Universita Politecnica delle Marche); V. Mariani Primiani (DII — Universita Politecnica delle Marche); F. Moglie (DII — Universita Politecnica delle Marche); G. Gradoni (University of Nottingham);
- 15:10 Efficient Stirring and Field Uniformity Criterion in Reverberation Chambers with Tunable Metasurfaces
Jean-Baptiste Gros (PSL Research University); U. Kuhl (University of Nice Sophia Antipolis); Olivier Legrand (Universite Cote d'Azur, CNRS, INΦNI); G. Lerosey (Greenerwave, ESPCI Paris Incubator PC'up);
- 15:30 Calibration of a Reverberation Chamber for Radiated Emission Measurements by Wall Mounted Antennas
Alfredo De Leo (Universita Politecnica delle Marche); Graziano Cerri (Universita Politecnica delle Marche); Paola Russo (Universita Politecnica delle Marche); Valter Mariani Primiani (Universita Politecnica delle Marche);
- 15:50 Probabilistic Approach for Radiated Susceptibility Tests in Reverberation Chambers
Guillaume Andrieu (XLIM laboratory); Nicolas Ticaud (University of Limoges and CNRS);
- 16:10 Transient Simulation of the Pulse Excitation of Transmission Line Networks with Linear and Nonlinear Loads in Reverberation Chambers
Mathias Magdowski (Otto-von-Guericke-University); Ralf Vick (Otto-von-Guericke University of Magdeburg);

- 16:30 **Coffee Break**
- 17:00 Statistics of Scattering and Impedance Matrices for Complex Topologies
Thomas M. Antonsen, Jr. (University of Maryland); F. Adnan (University of Maryland); L. Chen (University of Maryland); B. Frazier (University of Maryland); T. Ghutishvili (University of Maryland); S. Ma (University of Maryland); M. Zhou (University of Maryland); Steven M. Anlage (University of Maryland); Edward Ott (University of Maryland); Sendy Phang (University of Nottingham); Gabriele Gradoni (University of Nottingham); Gregor Tanner (University of Nottingham);
- 17:20 Statistical Analysis of Interference in a Real LTE Access Network by Massive Collection of MDT Radio Measurement Data from Smartphones
Davide Micheli (TIM S.p.A.); Riccardo Diamanti (Telecom Italia Mobile);
- 17:40 Quasi Monte Carlo Methods for Uncertainty Quantification of Partial Element Equivalent Circuit Models
Mauro Parise (University Campus Bio-Medico of Rome); F. Ferranti (Institut Mines-Telecom Atlantique); D. Romano (Universita degli Studi dell'Aquila); L. Lombardi (Universita degli Studi dell'Aquila); Giulio Antonini (University of L'Aquila);
- 18:00 Cyclostationary Source Separation Based on Electromagnetic Measurements in the Near-field of PCB
Yury Kuznetsov (Moscow Aviation Institute (National Research University)); Andrey Baev (Moscow Aviation Institute (National Research University)); Maxim Konovalyuk (Moscow Aviation Institute (National Research University)); Anastasia Gorbunova (Moscow Aviation Institute (National Research University)); Michael Haider (Technical University of Munich); Johannes A. Russer (Technical University of Munich);
- 18:20 A Novel Approach to Radiated Emissions Modeling of Low Voltage Differential Signal on SpaceWire Cable Employing Differential Evolution
Chris D. Nikolopoulos (National Technical University of Athens); Anargyros T. Baklezos (National Technical University of Athens); Christos N. Capsalis (National Technical University of Athens);
- 18:40 Deep Learning Method for Prediction of Frequency-dependent Electromagnetic Radiating Sources Distribution at IC Level
Hanzhi Ma (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute); Jose Schutt-Aine (University of Illinois at Urbana-Champaign); Andreas C. Cangellaris (University of Illinois at Urbana-Champaign);
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- Session 2P20**
SC4: Recent Diagnostic and Therapeutic Applications of Microwaves
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- Tuesday PM, June 18, 2019**
Room 40 - Electrical Building
Organized by Marta Cavagnaro, Lorenzo Crocco
Chaired by Marta Cavagnaro, Lorenzo Crocco
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- 14:30 Properties and Status of Radiofrequency and Microwave Electromagnetic Applicators Used in Clinical Hyperthermia
Invited *Johannes Crezee (University of Amsterdam);*
- 14:50 3D Patient-specific Hyperthermia Treatment Planning to Improve the Quality of Clinical Hyperthermia
Invited *H. P. Kok (University of Amsterdam);*
- 15:10 Recent Advances in Hyperthermia Technology for Controlled Tumor Heating
Invited *Gerard C. van Rhoon (Hyperthermia Unit);*
- 15:30 New Tools for Hyperthermia Treatment Planning
Martina Teresa Bevacqua (Mediterranea University of Reggio Calabria); Gennaro G. Bellizzi (DIIES — Universita Mediterranea di Reggio Calabria); Lorenzo Crocco (CNR — National Research Council of Italy); Tommaso Isernia (Mediterranea University of Reggio Calabria);
- 15:50 New Clinical Indications for Microwave Thermal Ablation and Corresponding Challenges in the Applicator Design
Giuseppe Ruvio (Endowave Ltd.); Marta Cavagnaro (Sapienza University of Rome);
- 16:10 Optimizing Temperature-dependent Material Property Models for Microwave Tumor Ablation
Invited *Christopher L. Brace (University of Wisconsin);*
- 16:30 **Coffee Break**

17:00 Microwave Ablation Antenna for Functional Adenomas in the Adrenal Gland
Invited

Laura Farina (National University of Ireland Galway); Andrea John De Marco (University of Malta); Anna Bottiglieri (Galway); Giuseppe Ruvio (Endowave Ltd.); Jimmy Eaton-Evans (Endowave Ltd., Research and Innovation Centre, NUI Galway); Michael C. Denny (National University of Ireland Galway); Muhammad Elahi Adnan (National University of Ireland Galway); Martin O'Halloran (National University of Ireland Galway);

17:20 Experimental Prototype for the Monitoring of Brain Stroke via Microwave Tomography

J. A. Tobon Vasquez (CNR-IREA); Rosa Scapatucci (Institute for Electromagnetic Sensing of the Environment); G. Turvani (CNR-IREA); Gennaro Bellizzi (University of Naples Federico II); N. Joachimowicz (Universite Paris Saclay); Bernard Duchene (CNRS, CentraleSupélec, Université Paris-Sud); Mario Roberto Casu (Politecnico di Torino); Lorenzo Crocco (CNR — National Research Council of Italy); Francesca Vipiana (Politecnico di Torino);

17:40 Non-linear Microwave Imaging Using Fast Iterative Shrinkage Thresholding
Invited

Pan Lu (King's College London); Juan Corcoles (Universidad Autónoma de Madrid); Panagiotis Kosmas (King's College London);

18:00 From Microwave Tomography to Electric Properties Tomography
Invited

Alessandro Arduino (Istituto Nazionale di Ricerca Metrologica (INRIM)); Oriano Bottauscio (Istituto Nazionale di Ricerca Metrologica); M. Chiampi (Istituto Nazionale di Ricerca Metrologica (INRIM)); Luca Zilberti (Istituto Nazionale di Ricerca Metrologica);

18:20 Mapping Coaxial Probe Sensitivity to Material Heterogeneities
Invited

Christopher L. Brace (University of Wisconsin);

18:40 MRM Probe at 17 Tesla Based on High Permittivity Dielectric Resonators

Marine A. C. Moussu (Multiwave Innovation); Redha Abdeddaim (ESPCI Paris Tech.); Ivan Voznyuk (Multiwave Innovation); Stanislav B. Glybovski (ITMO University); Stefan Enoch (Institut Fresnel); Luisa Ciobanu (Université Paris-Saclay);

Session 2P0

Poster Session 2

Tuesday PM, June 18, 2019

15:00 PM - 18:00 PM

Room Corridor

- 1 Three-dimensional Model of Gastric Pacemaking Using Finite-elements and Stochastically Coupled Oscillators
Aleksandar Jeremic (McMaster University);
- 2 Generation of Energy-time Entangled Photon Pairs by Cascaded $\chi^{(2)}$ -processes in Periodically Poled LiNbO₃ Waveguide at 1.5 μm
Zichang Zhang (University of Electronic Science and Technology of China); Qiang Zhou (University of Electronic Science and Technology of China); Guangwei Deng (University of Electronic Science and Technology of China); Ruiming Zhang (University of Electronic Science and Technology of China); Hao Yu (University of Electronic Science and Technology of China); Qiang Xu (Southwest Institute of Technical Physics); Si Shen (University of Electronic Science and Technology); You Wang (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics);
- 3 Accurate Nyström Solution for Electromagnetic Scattering by Sharp-corner Objects
Qing Xu (Tongji University); Jian Zhang (Tongji University); Mei Song Tong (Tongji University);
- 4 Comparison of Approaches to Localization of a Wide-band Pulse Signal
Radim Kadlec (Brno University of Technology); Petr Drexler (Brno University of Technology); Zdenek Roubal (Brno University of Technology);
- 5 A Temperature Measurement Method Based on Visible Light Chromaticity Index and \mathbf{k} -nearest Neighbors Algorithm
Ming Wang (Huazhong University of Science and Technology); Qizheng Ye (Huazhong University of Science and Technology); Zhe Yuan (Huazhong University of Science and Technology);
- 6 Study on Design Method of Two-layer Electromagnetic Wave Absorber Using Frequency Selective Surface
Keita Kunda (Doshisha University); Fumiya Osame (Doshisha University); Yuuki Sato (Doshisha University); Shinzo Yoshikado (Doshisha University);
- 7 The Design of Automatic Gain Control Amplifier with Fast Response
Dong Su (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);

- 8 A Dual CS-FMM for Multi-static Scattering Problems
Shui-Rong Chai (Xidian University); Li-Xin Guo (Xidian University); Ying Dai (Xidian University);
- 9 The UAPO Solution for the Plane Wave Diffraction by a DPS/DNG Material Coated Wedge
Gianluca Gennarelli (National Research Council); Giovanni Riccio (University of Salerno);
- 10 Wide Incidence Angle with Single Polarized Absorption: A Smart Single Layer Structure
Francesco Voci (IDS Ingegneria Dei Sistemi S.p.A.);
- 11 Magnetic-field Induced SPP Near-field Modulation in Magnetoplasmonic Heterostructures with Ultralong-range Propagating Modes
Daria O. Ignatyeva (Lomonosov Moscow State University); Andrey N. Kalish (Russian Quantum Center); Vladimir I. Belotelov (Russian Quantum Center);
- 12 Two Dimension Zero Index Materials Design
Jiayi Cheng (Miss Halls School);
- 13 Complete Transfer of Terahertz Surface Plasmon-polaritons Based on STIRAP
Wei Huang (Guilin University of Electronic Technology); S. Yin (Guilin University of Electronic Technology); Wentao Zhang (Guilin University of Electronic Technology);
- 14 Magneto-optical Properties of Magnetoplasmonic Structure Containing Partially Patterned Gold Layer
Mikhail P. Mandrik (M. V. Lomonosov Moscow State University); Andrey N. Kalish (Russian Quantum Center); Mikhail A. Kozhaev (Russian Quantum Center); Daria O. Ignatyeva (Lomonosov Moscow State University); E. Popova (Universite Paris-Saclay); Niels Keller (Universite Paris-Saclay); Sarkis A. Dagesyan (Lomonosov Moscow State University); Vladimir I. Belotelov (M. V. Lomonosov Moscow State University);
- 15 Effective Parameters of Ferroelectric Dielectric Mixtures
Benjamin Vial (Queen Mary University of London); Yang Hao (Queen Mary University of London);
- 16 Local Symmetries, Compact Localization, and Non-local Currents in Discrete Photonic Media
Christian V. Morfonios (Hamburg University); Malte Rontgen (University of Hamburg); Peter Schmelcher (University of Hamburg);
- 17 Theoretical Assessment of Plasma Current Measurement in Tokamaks in Relation with the OTDR Detector Noise
Rastislav Motuz (Brno University of Technology); Eva Gescheidtova (Brno University of Technology); Williem Leysen (Belgian Nuclear Research Center SCK-CEN); Phillippe Jacques Moreau (CEA, IRFM); Andrei I. Gusarov (Belgian Nuclear Research Center SCK-CEN); Petr Drexler (Brno University of Technology); Marc Wuilpart (Universite de Mons, Service d'Electromagnetisme et de Telecommunications);
- 18 Inverse-design of an Ultra-compact and High-efficiency Silicon-on-insulator Mode Expander
Gang Yang (University of Sydney); Shijie Song (University of Sydney); Suenxin Chew (University of Sydney); Liwei Li (University of Sydney); Xiaoke Yi (University of Sydney);
- 19 Network Slicing in the Scope of Net Neutrality Rules
Inga Smirnova (Public Utilities Commission); Elmars Lipenbergs (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University); Peteris Gavars (Riga Technical University); Girts Ivanovs (Riga Technical University);
- 20 DNA Based Materials for Applications in Photonics
Ana-Maria Manea-Saghin (University POLITEHNICA of Bucharest); Francois Kajzar (University Politehnica of Bucharest); Ileana Rau (University Politehnica of Bucharest);
- 21 Secrecy Performances of Wireless Relay Systems Affected by Hardware Impairments
Phu Tran Tin (VSB — Technical University of Ostrava); Miroslav Voznak (VSB — Technical University of Ostrava); Radek Fajdiak (Brno University of Technology); Jiri Misurec (Brno University of Technology);
- 22 Transverse Mode Instability in High-power Fiber Amplifiers through the Coupled Mode Theory
Jiri Petracek (Brno University of Technology); Annamaria Cucinotta (Universita di Parma); Federica Poli (University of Parma); Stefano Selleri (Universita di Parma);
- 23 Physical and Mathematical Aspects of Equivalent Temperature Concept in Laser Physics
Georgii A. Aloian (Moscow Institute of Physics and Technology); N. V. Kovalenko (Moscow Institute of Physics and Technology); D. M. Mukhankov (Kotelnikov Institute of Radio-engineering and Electronics of RAS); Aleskey Viktorovich Konyashkin (Moscow Institute of Physics and Technology); Oleg A. Ryabushkin (State University);

- 24 Optoelectronic Oscillator Based on a Fiber Optic Line and the Mach-Zehnder Modulator for Large Values of a Loop Gain
Danil A. Maurer (Tomsk State University of Control Systems and Radioelectronics); V. V. Litvinov (Tomsk State University of Control Systems and Radioelectronics); Albert S. Buller (Tomsk State University of Control Systems and Radioelectronics); Rudolph V. Litvinov (Tomsk State University of Control Systems and Radioelectronics); Natalia Rudolfovna Litvinova (Tomsk State University of Control Systems and Radioelectronics);
- 25 Piezoelectric Resonance Laser Calorimetry of Nonlinear-optical Crystals at Low Air Pressures
Irina Shebarshina (Moscow Institute of Physics and Technology); Alexey Kozhevnikov (Bauman Moscow State Technical University); George Aloyan (Moscow Institute of Physics and Technology); Alexey Konyashkin (Moscow Institute of Physics and Technology); Oleg A. Ryabushkin (State University);
- 26 Silicon Photonic Resonator Design with Tunable Multimode Interference Coupling Structures
Nattapol Ittipratheep (Chiang Mai University); Ukrit Mankong (Chiang Mai University); Suruk Udomsom (Chiang Mai University); Atsushi Matsumoto (National Institute of Information and Communications Technology); Toshimasa Umezawa (National Institute of Information and Communications Technology); Naokatsu Yamamoto (National Institute of Information and Communications Technology);
- 27 Detection of Optically-generated THz Radiations by EO Sampling Using Modulator-based Optical Comb Source
Isao Morohashi (National Institute of Information and Communications Technology); Norihiko Sekine (National Institute of Information and Communications Technology); Akifumi Kasamatsu (National Institute of Information and Communications Technology); Iwao Hosako (National Institute of Information and Communications Technology);
- 28 Optical Properties of the Helix-free Ferroelectric Liquid Crystals
Tatiana B. Andreeva (P. N. Lebedev Physical Institute of RAS); Igor N. Kompanets (P. N. Lebedev Physical Institute of RAS); Nikolay V. Zalyapin (P. N. Lebedev Physical Institute of RAS);
- 29 Cooling System Impact on Temperature Distribution in Multi-core Photonic Crystal Fibers
Katia Tragni (Università di Parma); Federica Poli (University of Parma); Stefano Selleri (Università di Parma); Annamaria Cucinotta (Università di Parma);
- 30 Theoretical Studies on InGaAs SAGCM Avalanche Photodiodes
Chuanbo Li (Minzu University of China); Siyu Cao (Institute of Semiconductors, Chinese Academy of Sciences); Yue Zhao (Institute of Semiconductors, Chinese Academy of Sciences); Sajid ur Rehman (Institute of Semiconductors, Chinese Academy of Sciences); Shuai Feng (Minzu University of China);
- 31 Multiparameter-detecting Refractive Index Sensor Based on the Coupling of Photonic Crystal Slabs' Surface and Waveguide Modes
Shuai Feng (Minzu University of China); Honglian Guo (Minzu University of China); Chuanbo Li (Minzu University of China); Yiquan Wang (Minzu University of China);
- 32 Capacitive Sensing Element with a Magnetic Fluid for Detecting of Change of Magnetic Field
Denis Olegovich Zyatkov (National Research Tomsk State University); Vladimir Borisovich Balashov (Research Institute of Semiconductor Devices); Vasily Ivanovich Yurchenko (Research Institute of Semiconductor Devices); Viktor Nikolayevich Cherepanov (National Research Tomsk State University); Zahar Kochnev (National Research Tomsk State University);
- 33 Beam Position Error Model (BPEM) for Improved Range Estimation in Real-time RSS Based Localization
Dorathy O. Abonyi (The University of Sheffield); Jonathan M. Rigelsford (The University of Sheffield);
- 34 Miniature Multiferoic Interferometer for Voltage-controlled Spin-wave Logic Gates
Aleksei A. Nikitin (Saint Petersburg Electrotechnical University "LETI"); Vitaliy V. Vitko (Saint Petersburg Electrotechnical University "LETI"); Andrey A. Nikitin (Saint Petersburg Electrotechnical University "LETI"); Alexey B. Ustinov (Saint Petersburg Electrotechnical University "LETI"); Boris A. Kalinikos (Saint Petersburg Electrotechnical University "LETI");

- 35 Experimental Study of Complex Relative Permittivity for Volume-reducing High Loss Material by Using Cavity Resonator
Shuya Miyakoshi (National Institute of Technology, Kisarazu College); Naoki Keicho (National Institute of Technology, Kisarazu College); Takano Ohno (National Institute of Technology, Kisarazu College); Kosei Tanii (National Institute of Technology, Kisarazu College); Masahiro Uehara (National Institute of Technology, Kisarazu College);
- 36 Multi-sensor Data Mining of Single Train Braking System Based on Long Short-term Memory Network
Wen Jing Liu (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);
- 37 Analysis of RF Performance of AlGaIn/GaN Based Fin-type HEMT with T-gate Depending on Gate Resistance
Won Douk Jang (Kyungpook National University); Young Jun Yoon (Kyungpook National University); Min Su Cho (Kyungpook National University); Jun Hyeok Jung (Kyungpook National University); In Man Kang (Kyungpook National University);
- 38 Defected Ground Structure for Characteristic Enhancement of CSRR-based Substrate Integrated Waveguide BPF
Nanang Ismail (UIN Sunan Gunung Djati Bandung); Abdul Latip (UIN Sunan Gunung Djati Bandung); Eki Ahmad Zaki Hamidi (UIN Sunan Gunung Djati Bandung); Achmad Munir (Institut Teknologi Bandung);
- 39 Intelligent Control of Freight Train Braking System Based on Hardware-in-the-Loop Simulation Platform
Yong Kang Kuang (Tongji University); Guo Chun Wan (Tongji University); Wen Jing Liu (Tongji University); Mei Song Tong (Tongji University);
- 40 A Novel Bluetooth-based Vital-sign Sensing Technique
Kang-Chun Peng (National Kaohsiung University of Science and Technology); Jen-Hao Lee (National Kaohsiung University of Science and Technology);
- 41 A Tunable Power Divider with Continuous Dividing Ratio and Wide Tuning Range
Shih-Fong Chao (National Kaohsiung University of Science and Technology); Yen-Ting Lin (National Kaohsiung University of Science and Technology);
- 42 Electro-thermal Model of Approximated Organic Tissue for Investigation of Harmful Electrosurgical Impacts
Michal Frivaldsky (University of Zilina); Dagmar Faktorova (University of Zilina); Miroslav Pavelek (University of Zilina);
- 43 A 5.8 GHz MMIC Class-F Power Amplifier Using 0.25 μm GaN on SiC HEMT Technology
Chia-Hao Yu (Chang Gung University); Chia-Han Lin (Chang Gung University); Hsien-Chin Chiu (Chang Gung University); Hsuan-Ling Kao (Chang Gung University);
- 44 Radio Astronomical Signal Preprocessing Technology in the Future
Jiyun Li (Shanghai Astronomical Observatory, Chinese Academy of Science); Shaoguang Guo (Shanghai Astronomical Observatory, Chinese Academy of Science); Renjie Zhu (Shanghai Astronomical Observatory, Chinese Academy of Science); Baoqiang Lao (Shanghai Astronomical Observatory, Chinese Academy of Sciences);
- 45 Triple-band Ring-type Monopole Antenna for WLAN/WiMAX Applications
Sungwoo Park (Kyungsoong University); Jong-Sung Kim (Kyungsoong University);
- 46 Design and Analysis of DC/DC Boost Converter Using InAlGaIn/GaN-based High Electron Mobility Transistors
Min Su Cho (Kyungpook National University); Young Jun Yoon (Kyungpook National University); Jun Hyeok Jung (Kyungpook National University); Won Douk Jang (Kyungpook National University); In Man Kang (Kyungpook National University);
- 47 Non-contact Pulse-based Radar with an Excited RF Pulse Generator for Vital-sign Application
Wei-Hsien Chen (National Chiao Tung University); Chia-Hung Chang (Feng Chia University); Chien-Nan Kuo (National Chiao-Tung University); Chia-Chin Hsu (Feng Chia University);
- 48 Optimization of Magnetics Component Performance of the Interleaved Converters
Jan Morgos (University of Zilina); Branislav Hanko (University of Zilina); Miroslav Pavelek (University of Zilina); Michal Frivaldsky (University of Zilina);
- 49 Wireless Power Transmission System for a Rotating Propulsive Shaft with Multiple Transmit and Receive Coils
Van Ai Hoang (Mokpo National Maritime University); Young Chul Lee (Mokpo National Maritime University);

- 50 Performance Analysis of Quarter-wavelength Rectangular Microstrip Antenna for Mechanical Strain Detection
Guo Chun Wan (Tongji University); He Xu (Tongji University); Fozhi Zhou (Tongji University); Mei Song Tong (Tongji University);
- 51 The Study of P-pillar and Trench Technology in VDMOS
Xi Zhou (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Xiaopei Chen (Southwest Jiaotong University);
- 52 Simulation Tool for Optimization of Planar Inductors
Jelena Bjelica (University of Novi Sad); Nikola Djuric (University of Novi Sad); Snezana M. Djuric (University of Novi Sad);
- 53 A Phase Array Antenna with Four-bit Phase Shifter
Jwo-Shiun Sun (National Taipei University of Technology); Guan-Pu Pan (National Taipei University of Technology); Yen-Wen Peng (National Taipei University of Technology);
- 54 Design of 850 V VDMOS Termination Structure
Fei Ran (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Xiaopei Chen (Southwest Jiaotong University); Hongjin Yang (Southwest Jiaotong University);
- 55 Relaying Selection for Information Transmission and Energy Transfer with Energy Harvesting Relaying
Yifan Hu (Hohai University); Ning Cao (Hohai University); Ye Feng (Hohai University); Minghe Mao (Hohai University); Rui Li (Hohai University);
- 56 A Novel Sparse Deconvolution Algorithm Based on Iterative Regularization
Bo Pang (National University of Defense Technology); Shiqi Xing (National University of Defense Technology); Dahai Dai (National University of Defense Technology); Yongzhen Li (National University of Defense Technology); Xuesong Wang (National University of Defense Technology);
- 57 Integrated Scattering Model of Moving Radar Platform and Sea Surface
Wei Liu (Xidian University); Zeming Liang (Xidian University); Lixin Guo (Xidian University);
- 58 Resource Scheduling Algorithm for Multi-function Phased Array Radar Based on Waveform Optimization
Yijun Chen (Air Force Engineering University); Yi Qu (Xidian University); Hao Lou (Engineering University of PAP); Depeng Song (Engineering University of PAP);
- 59 Estimation of the Size of Space Debris Objects by the Value of the Radar Cross Section Variations
A. I. Baskakov (National Research University "Moscow Power Engineering Institute"); Aleksey Aleksandrovich Komarov (National Research University "Moscow Power Engineering Institute"); A. V. Ruban (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeevich Mikhailov (National Research University "Moscow Power Engineering Institute");
- 60 Machine Vision for Obstacle Avoidance, Tripwire Detection, and Subsurface Radar Image Correction on a Robotic Vehicle for the Detection and Discrimination of Landmines
Alessandro Bartolini (University of Florence); Luca Bossi (University of Florence); Lorenzo Capineri (Universita di Firenze); Pierluigi Falorni (Universita di Firenze); A. Bulletti (Universita di Firenze); Mattia Dimitri (Universita di Firenze); Gennadiy Pochanin (O. Ya. Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine); V. Ruban (O. Ya. Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine); T. Ogurtsova (O. Ya. Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine); Fronefield Crawford (Franklin & Marshall College); Timothy D. Bechtel (Franklin & Marshall College); G. Sallai (Franklin & Marshall College); A. Kuske (Franklin & Marshall College); J. Sinton (Franklin & Marshall College); S. Truskavetsky (Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky); T. Byndych (Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky);
- 61 Inverse Filtering of 2018 Mars X Radar Section Image
Karl F. Kaspareck (Energy & Engineering Consultant (CTE));
- 62 A Non Invasive Life Signal Detection System Based on X Band Doppler Radar for Anxiety Disorders
Mohammedhusen Manekiya (University of Trento); Massimo Donelli (ELEDIA Research Center);

- 63 On the Application of Randomness in Radars
Yunhua Zhang (*National Space Science Center, Chinese Academy of Sciences*); Dong Li (*National Space Science Center, Chinese Academy of Sciences*); Xiao Dong (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); Jiefang Yang (*The Key Laboratory of Microwave Remote Sensing, Chinese Academy of Sciences*); Xiaowen Zhao (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); Jiafang Liu (*National Space Science Center, Chinese Academy of Sciences*);
- 64 Parallel Computation of 1 mm Diameter Core Plastic Optical Fiber Modes
Masashi Eguchi (*Chitose Institute of Science and Technology*);
- 65 Acid Mediated Tunability of Stimulated Laser Emission from Dye Doped Chiral Microdroplets
Erica Fuoco (*University of Calabria*); Gia Petriashvili (*Institute of Cybernetics of the Georgian Technical University*); Mauro D. L. Bruno (*University of Calabria*); Maria P. De Santo (*University of Calabria*); Riccardo Barberi (*University of Calabria*);
- 66 Laser Emission Tuning from Dye Doped Cholesteric Liquid Crystal Microresonators
Mauro Daniel Luigi Bruno (*University of Calabria*); Erica Fuoco (*University of Calabria*); Gia Petriashvili (*Institute of Cybernetics of the Georgian Technical University*); Maria P. De Santo (*University of Calabria*); Riccardo Barberi (*University of Calabria*);
- 67 Comparison of Raindrop Size Distribution Parameters from GPM and Parsivel Network in Indonesia
Marzuki (*Andalas University*); Hiroyuki Hashiguchi (*Kyoto University*); Mutya Vonnisa (*Andalas University*); Harmadi (*Andalas University*); Muzirwan (*National Institute of Aeronautics and Space*); Sugeng Nugroho (*Indonesian Agency for Meteorological, Climatological and Geophysics*);
- 68 Experimental Study on Noise Suppression Sheet with Periodic Double Open Square Metal Film
Yugo Uchida (*National Institute of Technology, Kisarazu College*); Takano Ohno (*National Institute of Technology, Kisarazu College*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);
- 69 Realization and Location Control of Attenuation Pole by CRLH-TL Resonator Applying Tap Coupling
Ryota Shinozaki (*National Institute of Technology, Kisarazu College*); Takano Ohno (*National Institute of Technology, Kisarazu College*); Alphones Arokiaswami (*Nanyang Technological University*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);
- 70 Analytical Study on Extracting Complex Permittivity of High Loss Material Using Rectangular Cavity Resonator with Four Ports
Naoki Keicho (*National Institute of Technology, Kisarazu College*); Shuya Miyakoshi (*National Institute of Technology, Kisarazu College*); Takano Ohno (*National Institute of Technology, Kisarazu College*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);
- 71 Analytical Study on Selective Heating of Food in Microwave Oven by Using Triplexer
Yukiya Sagawa (*National Institute of Technology, Kisarazu College*); Takano Ohno (*National Institute of Technology, Kisarazu College*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);
- 72 Analytical Study on Aperture Antenna of Diplexer Used for Microwave Oven
Wataru Azukizawa (*National Institute of Technology, Kisarazu College*); Yukiya Sagawa (*National Institute of Technology, Kisarazu College*); Takano Ohno (*National Institute of Technology, Kisarazu College*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);
- 73 Analytical Study of Diplexer Using BPFs Composed within a 50-ohm Transmission Line
Tomoya Suzuki (*National Institute of Technology, Kisarazu College*); Fumiya Sawamura (*National Institute of Technology, Kisarazu College*); Kosei Tanii (*National Institute of Technology, Kisarazu College*); Takano Ohno (*Kisarazu National College of Technology*); Masahiro Uehara (*National Institute of Technology, Kisarazu College*);

- 74 Open-ring Dual-band Bandpass Filter with Independently Selective Passband
Yutaro Ikeda (National Institute of Technology, Kisarazu College); Kosei Tanii (National Institute of Technology, Kisarazu College); Takano Ohno (National Institute of Technology, Kisarazu College); Masahiro Uehara (National Institute of Technology, Kisarazu College);
- 75 Vital-sign Radar with Digital-assisted Calibration for Noise Reduction and DC Offset Elimination
Wei-Hsien Chen (National Chiao Tung University); Chia-Hung Chang (Feng Chia University); Chien-Nan Kuo (National Chiao-Tung University);
- 76 Regional Variability of Raindrop Size Distributions in Indonesia as Inferred from Principal Component Analysis
Marzuki (Andalas University); Hiroyuki Hashiguchi (Kyoto University); Sugeng Nugroho (Indonesian Agency for Meteorological, Climatological and Geophysics); Muzirwan (National Institute of Aeronautics and Space); Mutya Vonnisa (Andalas University); Harmadi (Andalas University);
- 77 A Python-based Automatic Detection Method for the Performance of Vibration-temperature Composite Sensor
Chen Yang (Tongji University); Guo Chun Wan (Tongji University); Wen Jing Liu (Tongji University); Mei Song Tong (Tongji University);
- 78 Output Power of the Carbon Nanotube-based Rectenna
David Gabrielyan (National Research University "MPEI"); Olga Stanislavovna Safina (Scientific and Technological Center of Unique Instrumentation RAS); Dmitry V. Churikov (Science Scientific and Technological Center of Unique Instrumentation of the RAS); Oleg V. Kravchenko (Bauman Moscow State Technical University); A. Safin (National Research University); Marat F. Bulatov (Science Scientific and Technological Center of Unique Instrumentation of the RAS);
- 09:00 Geocalibrating Millimeter-wave Spaceborne Radiometers for Global-scale Cloud Retrieval
Mario Papa (Universita "Sapienza" di Roma); Vinia Mattioli (European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)); Janja Avbelj (European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)); Frank Silvio Marzano (Sapienza University of Rome);
- 09:20 Applications of the Scheimpflug Lidar Technique in Atmospheric Remote Sensing
Liang Mei (Dalian University of Technology); Zheng Kong (Dalian University of Technology); Teng Ma (Dalian University of Technology); Limei Li (Dalian University of Technology); Zhi Liu (Dalian University of Technology);
- 09:40 Comparison of Satellite Products on Total Atmospheric Water Vapor Content over the Arctic Sea Ice
Elizaveta V. Zabolotskikh (Russian State Hydrometeorological University); Bertrand Chapron (Institut Francais de Recherche pour l'Exploitation de la Mer);
- 10:00 Satellite-based Diurnal Variations in Global Particulate Mass Concentration Derived from Active Remote Sensing Observations
Zhongwei Huang (Lanzhou University); Xiaojun Ma (Lanzhou University);
- 10:20 Assessing the Benefits of Rapid Scan for Severe Storm Warning with Multifunction Radar
Tian-You Yu (University of Oklahoma); Andrew Mahre (University of Oklahoma); David Bodine (University of Oklahoma);
- 10:40 Atmospheric Retrievals in Hurricane Based on MWHTS Aboard FY-3C Satellite
Jieying He (National Space Science Center, Chinese Academy of Sciences); Shengwei Zhang (National Space Science Center, Chinese Academy of Sciences); Na Li (National Space Science Center, Chinese Academy of Sciences);
- 11:00 **Coffee Break**
- 11:30 The Improvement and Application of Convective Parameters in Mesoscale Convective Systems over the Southeastern Tibetan Plateau Based on AIRS Satellite Observations
Guoping Li (Chengdu University of Information Technology); Lingyun Wang (Meteorological Centre of Southwest Air Traffic Management Bureau);
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- Session 3A1**
Remote Sensing of the Earth, Ocean, and Atmosphere 1
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- Wednesday AM, June 19, 2019**
Room 1 - 1st Floor
Organized by Liang Mei
Chaired by Liang Mei
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- 11:50 A Design of High Speed and Broadband Hyperspectral Microwave Receiver Subsystem for Sounding Atmosphere
Yangjin Luo (National Space Science Center, CAS); Shengwei Zhang (National Space Science Center, Chinese Academy of Sciences); Hao Lu (National Space Science Center, Chinese Academy of Sciences);
- 00:00 Optical Similitude Absorption Spectroscopy Applied to Greenhouse Gases Remote Sensing
Sandrine Galtier (Universite Lyon 1); Alain Miffre (Universite Lyon 1); Clement Pivard (Universite de Lyon, Universite Lyon 1); Patrick Rairoux (Universite Lyon 1);
- 12:30 Improved Spatial Collocation and Parallax Correction Approaches for Intercalibration among Different Sensors in Thermal Infrared Band under the Framework of GSICS
Qiang Guo (National Satellite Meteorological Center);
- 00:00 Ionospheric Morphology and Irregularities Detection Using Global GNSS Receivers Network and Computer Vision
Artem M. Vesnin (Institute of Solar-Terrestrial Physics SB RAS); Alexander V. Kiselev (Institute of Solar-Terrestrial Physics SB RAS); Ilya K. Edemskiy (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences); Yu. V. Yasukevich (Institute of Solar-Terrestrial Physics SB RAS);
- 00:00 Assessment of Spatiotemporal Variations in Precipitation in Global Mid-low Latitudes from 1998 To 2018 Based on TRMM and GPM
Dong Fan (University of Chinese Academy of Sciences); Xiaoguang Jiang (University of Chinese Academy of Sciences); Hua Wu (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences);
- 09:20 Study of Time-reversal Music Performance in a Half-space Medium
Raffaele Solimene (Universita degli studi della Campania Luigi Vanvitelli);
- 09:40 Toward Quantitative Inversion Methods via Orthogonality Sampling Method
Invited
Martina Teresa Bevacqua (Mediterranea University of Reggio Calabria); Roberta Palmeri (Mediterranea University of Reggio Calabria); Lorenzo Crocco (CNR — National Research Council of Italy); Tommaso Isernia (Mediterranea University of Reggio Calabria);
- 10:00 A 1–3 GHz Stepped Frequency Radar System Equipped with Vivaldi Antennas for Through-the-wall Radar Imaging
Invited
Stefano Pisa (Sapienza University of Rome); Renato Cicchetti (Sapienza University of Rome); Emanuele Piuze (Sapienza University of Rome); Erika Pittella (Sapienza University of Rome); Orlandino Testa (Sapienza University of Rome); Giulia Sacco (Sapienza University of Rome);
- 10:20 Rigorous Integral-equation Modeling of Wave Scattering and Guiding by All-dielectric Grating-assisted Metasurfaces
Invited
Nikolaos L. Tsitsas (Aristotle University of Thessaloniki);
- 10:40 Gradient Methods in the Minimization of Quartic Functionals: Phase Retrieval in Circular Case
Invited
Giovanni Leone (Universita della Campania Luigi Vanvitelli); Raffaele Moretta (Universita degli Studi della Campania “Luigi Vanvitelli”); Rocco Pierrri (Universita degli studi della Campania Luigi Vanvitelli);
- 11:00 **Coffee Break**
- 11:30 An Effective Microwave Tomography Imaging Approach for Stratified Reference Scenarios
Invited
Ilaria Catapano (Institute for Electromagnetic Sensing of Environment, National Research Council); G. Ludeno (Institute for Electromagnetic Sensing of Environment, National Research Council); Gianluca Gennarelli (Institute for Electromagnetic Sensing of Environment, National Research Council); F. Soldovieri (Institute for Electromagnetic Sensing of Environment, National Research Council);
- 11:50 A Study on Spectral-domain Approach to Electromagnetic Scattering from Finite Periodic Circular Cylinder Array
Invited
Koki Watanabe (Fukuoka Institute of Technology);

Session 3A2

SC1&SC5: Direct and Inverse Scattering Methods in Complex Environments 1

Wednesday AM, June 19, 2019

Room 5 - 1st Floor

Organized by Matteo Pastorino, Giuseppe Schettini

Chaired by Matteo Pastorino, Giuseppe Schettini

- 09:00 An Air Quality Monitoring System with Enhanced Coverage Capabilities by Using the Modulated Scattering Technique (MST)
Mohammedhusen Manekiya (University of Trento); Massimo Donelli (ELEDIA Research Center);

- 12:10 Polarization Tensors for Underground Object Detection
Invited
Paul Ledger (University of Manchester); William R. B. Lionheart (University of Manchester); Francis Watson (University of Manchester);
- 12:30 Effect of Finite Terms on the Truncation Error of Addition Theorems for Spherical Vector Wave Function
Sidra Batool ("La Sapienza" University of Rome); Alessio Benedetti (Universita di Roma, La Sapienza); Fabrizio Frezza ("La Sapienza" University of Rome); F. Mangini (Santa Lucia Foundation); Yu-Lin Xu (Jacobs, NASA Johnson Space Center);
- 12:50 Amplitude-only Microwave Imaging in Banach Spaces: Numerical and Experimental Results
Invited
C. Estatico (University of Genoa); Alessandro Fedeli (University of Genoa); Matteo Pastorino (University of Genoa); Andrea Randazzo (University of Genoa); E. Tavanti (University of Genoa);
- 10:20 Electromagnetic Characterization and Design Note of a Sub-THz SiGe Voltage-controlled Oscillator
H. Bello (University of L'Aquila); Leonardo Pantoli (University of L'Aquila); Jongwon Yun (IHP-Leibniz-Institut für innovative Mikroelektronik); Dietmar Kissinger (Ulm University); G. Leuzzi (University of L'Aquila);
- 10:40 Development, Microfabrication and Study of Planar Slow Wave Structures for Millimeter-band Vacuum Electronic Devices
Andrei Victorovich Starodubov (1. Saratov State University; 2. IRE RAS — Saratov Branch); Alexey Alexandrovich Serdobintsev (Saratov State University); Anton Mikhailovich Pavlov (Saratov State University); Victor Vladimirovich Galushka (Saratov State University); Ilya Olegovich Kozhevnikov (Saratov State University); Igor Shamilevich Bakhteev (Central Institute of Measurement Equipment (JSC CIME)); Sergei Yurevich Molchanovanov (Central Institute of Measurement Equipment (JSC CIME)); Andrei Georgievich Rozhnev (Saratov State University); Roman Antonovich Torgashov (V. A. Kotelnikov Institute of Radio Engineering and Electronics RAS); Gennadiy Vasilievich Torgashov (V. A. Kotelnikov Institute of Radio Engineering and Electronics RAS); Nikita Mikhailovich Ryskin (V. A. Kotelnikov Institute of Radio Engineering and Electronics RAS);

Session 3A3

SC4: Millimetre-wave Components for Next-generation Communications

Wednesday AM, June 19, 2019

Room 7 - 1st Floor

Organized by Sergio Colangeli, Ernesto Limiti

Chaired by Sergio Colangeli, Ernesto Limiti

- 09:00 Physics-based Analysis to Address Critical Aspects of FinFET Mm-wave Applications: Variability and Thermal Management
Guerrieri Simona Donati (Politecnico di Torino); Fabrizio Bonani (Politecnico di Torino); Giovanni Ghione (Politecnico di Torino);
- 09:20 Theory and Experiment of a Compact Waveguide Polarization Diplexer
Vladimir Litun (Bauman Moscow State Technical University); Vasily Ovechkin (SVV, Ltd.); Maxim Golubtsov (SVV, Ltd.);
- 09:40 Spinning Resonators Allow Irreversible Refractive Index
Tal Carmon (Technion — Israel Institute of Technology);
- 10:00 Integrated Fourth Harmonic Mixer Based on Schottky Diode Technology and Flip Chip Local Oscillator Developed on Planar Technology
Jose M. Perez-Escudero (Public University of Navarra); Carlos Quemada (Public University of Navarra); Ramon Gonzalo (Universidad Publica de Navarra); Inigo Ederra (Public University of Navarra);
- 11:00 **Coffee Break**
- 11:30 An Air-filled Circularly Polarized Monochromatic Multimode Helical Beam Antenna
Gary Junkin (Universitat Autònoma de Barcelona);
- 11:50 3-D Beamforming Wideband Antenna for 5G Application
Shailendra Kaushal (Fujikura Ltd.); Ning Guan (Fujikura Ltd.);
- 12:10 Design and Implementation of a Multi-gigabaud, mm-wave Communication System
Adriana Brancaccio (Seconda Università di Napoli); Aldo Minardo (Università della Campania "Luigi Vanvitelli"); Alessandro Lo Schiavo (Università di Campania "Luigi Vanvitelli"); Valerio Di Maio (MBDA Italia SPA); Giuseppe Santoriello (Medinok SPA); Alfonso Avella (Medinok SPA); Massimo Costarella (Medinok SPA);

Session 3A4
**SC1: Computational Techniques in
Electromagnetics and Applications 1**

Wednesday AM, June 19, 2019
Room 8 - 1st Floor

Organized by Tsuneki Yamasaki, Yoichi Okuno

 Chaired by Tsuneki Yamasaki, Yasuhide Tsuji

- 09:00 Design and Modeling of a Microstrip Patch Antenna by Using Finite Difference Time Domain (FDTD) Method and Computer Aided Simulations
Kayhan Ates (Akdeniz University); Sukru Ozen (Akdeniz University); Halil Ibrahim Keskin (Akdeniz University); Lutfiye Nurel Ozdinc Polat (Akdeniz University);
- 09:20 Analysis of a TM-pass Terahertz Waveguide Polarizer
J. Shibayama (Hosei University); Shoko Gomi (Hosei University); J. Yamauchi (Hosei University); H. Nakano (Hosei University);
- 09:40 EM Simulation and Characterization of \mathbf{E} -field Distribution around Human Arm for Human Body Communication Applications
Andrey S. Andrenko (National Institute of Information and Communications Technology); Kanako Wake (National Institute of Information and Communications Technology);
- 10:00 Tunable Plasmonic Nanocavities: Optical Properties of the Light Emitted from a Tunnel Junction
Christin David (Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanoscience)); A. Martin Jimenez (Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanoscience)); R. Otero Martin (Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanoscience));
- 10:20 Interpolation Type Schemes Application to Analysis of Electromagnetic Field Propagation
Oleg V. Kravchenko (Bauman Moscow State Technical University); Dobroslav P. Egorov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); N. T. Vilisova (Bauman Moscow State Technical University); Dmitry V. Churikov (Science Scientific and Technological Center of Unique Instrumentation of the RAS); A. D. Titov (Bauman Moscow State Technical University);
- 10:40 A Mechanism of Simultaneous Switching Noise in Multiple Plane Conductors Using Two Dimensional Transport Theory
Souma Jinno (Osaka University); Shuji Kitora (Osaka University); Hiroshi Toki (Osaka University); M. Abe (Osaka University);

11:00 Coffee Break

- 11:30 Beam Propagation Analysis for Discontinuity Structures of Plasmonic Waveguides Using Field-based Propagation Operator
Keita Morimoto (Muroran Institute of Technology); Yasuhide Tsuji (Muroran Institute of Technology);
- 11:50 Structural Optimization with Sensitivity Analysis for Optical Waveguide Devices Utilizing Bi-directional Beam Propagation Method
Akito Iguchi (Muroran Institute of Technology); Yasuhide Tsuji (Muroran Institute of Technology);
- 12:10 Solution of Large-scale Problems with Surface-Volume-Surface Electric Field Integral Equation
Vladimir Okhmatovski (University of Manitoba); S. Zheng (University of Manitoba); R. Gholami (University of Manitoba); J. Mojolagbe (University of Manitoba); Z. Cheng (University of Manitoba);
- 12:30 Development of Mode-matching Techniques to Efficiently Model Multi-mode Horns with Non-PEC Walls
Joseph Brennan (Maynooth University); Marcin Gradziel (Maynooth University); Neil Trappe (Maynooth University);

Session 3A5
**SC1&SC5: Machine Learning Techniques for
Remote Sensing and Electromagnetic
Applications 1**

Wednesday AM, June 19, 2019
Room Hall of Frescoes - 1st Floor

Organized by Massimo Panella

 Chaired by Massimo Panella

- 09:00 Fast Evaluation of Refractive Index with Machine Learning
Ergun Simsek (University of Maryland Baltimore County);
- 09:20 Neural Networks for Reconstruction of Nanostructures from Wide-angle X-ray Scattering Images
Thomas Stielow (Institut fur Physik, Universitat Rostock); Robin Schmidt (Institut fur Physik, Universitat Rostock); Thomas Fennel (University of Rostock); Stefan Scheel (University of Rostock);
- 09:40 Deep Learning of Wildfire Intensity Using Bitemporal Synthetic Aperture Radar Images
Zhiqiang Chen (University of Missouri-Kansas City); Shiming Tang (University of Missouri-Kansas City); Jay W. Parker (California Institute of Technology);

- 10:00 Model of Resonant Frequency of Rectangular Microstrip Antenna Based on Gaussian Process with Mixed Kernel Function
Xie Zheng (Jiangsu University of Science and Technology); Yu-Bo Tian (Jiangsu University of Science and Technology);
- 10:20 Change Detection in Sentinel 2 Images Using Fully Convolutional Siamese ResNets with Local Similarity Loss Function
Andrea Pomente (University of Rome "Tor Vergata"); Matteo Picchiani (GEO-k s.r.l.); Fabio Del Frate (University of Rome "Tor Vergata"); Giovanni Schiavon (University of Rome "Tor Vergata");
- 11:00 **Coffee Break**
- 11:30 A Deep Recurrent Neural Network Architecture for Land Cover and Crop Classification from Heterogeneous Remote Sensing Data
Corrado Avolio (E-GEOS — An Italian Space Agency/Telespazio Company); Alessia Tricomi (E-GEOS — An Italian Space Agency/Telespazio Company); Claudio Mammone (E-GEOS — An Italian Space Agency/Telespazio Company); Massimo Zavagli (E-GEOS — An Italian Space Agency/Telespazio Company); Mario Costantini (E-GEOS — An Italian Space Agency/Telespazio Company);
- 11:50 Change Detection in Off-nadir Satellite Images Using a Hybrid CNN and an Ensemble Learning Approach
Mohammad Rezaee (University of New Brunswick); Shabnam Jabari (University of New Brunswick); Yun Zhang (University of New Brunswick);
- 12:10 Performance Comparison of Learned vs. Engineered Features for Polarimetric SAR Terrain Classification
Muharrem Mete Ahishali (Izmir University of Economics); Turker Ince (Izmir University of Economics); Serkan Kiranyaz (Qatar University); Moncef Gabbouj (Tampere University of Technology);
- 12:30 Neural Networks Algorithms for the Retrieval of Geophysical Parameters from Microwave Satellite Acquisitions
Emanuele Santi (Consiglio Nazionale delle Ricerche); Simonetta Paloscia (CNR-IFAC); Simone Pettinato (Consiglio Nazionale delle Ricerche); G. Fontanelli (Institute of Applied Physics — National Research Council (IFAC-CNR)); Enrico Palchetti (IFAC CNR);

Session 3A6a
Special Antennas for Direction of Arrival Estimation/Positioning

Wednesday AM, June 19, 2019

Room Cloister Hall - 1st Floor

Organized by Stefano Maddio

Chaired by Stefano Maddio, Stefano Selleri

- 09:00 Single-input Multiple-output Multi-carrier Wireless Indoor Direction Finding in a Compact Multipath Scenario Using 2.4 GHz ISM Band
Burak Sahinbas (Friedrich Alexander University); Doga Gurgunoglu (Bilkent University); Maximilian Rausch (Metirionic GmbH); Dietmar Eggert (Metirionic GmbH); Jorn Thielecke (Friedrich Alexander University);
- 09:20 Adaptive Beamforming Algorithm in Real Numbers Arithmetic
Ilya V. Korogodin (National Research University "Moscow Power Engineering Institute"); Sergey P. Ippolitov (Moscow Power Engineering Institute); Ivan V. Lipa (Moscow Power Engineering Institute);
- 09:40 Triangulation Positioning by Means of Wi-Fi Signals in Indoor Conditions
Ilya V. Korogodin (National Research University "Moscow Power Engineering Institute"); Vladimir V. Dneprov (Moscow Power Engineering Institute); Olga K. Mikhaylova (National Research University);
- 10:00 Reconfigurable Antenna Based System for Spectrum Monitoring and Radio Direction Finding
Hassan El-Sallabi (Emiri Signal and Information Technology Corps); Abdalla Albadr (Emiri Signal and Information Technology Corps); Abdulaziz Aldosari (Emiri Signal and Information Technology Corps);
- 10:20 Comparison of Phase-less Direction of Arrival Estimation Methods for Switched Beam Antennas
Alessandro Cidronali (University of Florence); Giovanni Collodi (University of Florence); Matteo Lucarelli (Universita di Firenze); Stefano Maddio (Univ Florence); Marco Passafiume (University of Florence); Giuseppe Pelosi (University of Florence); Stefano Selleri (University of Florence);
- 11:00 **Coffee Break**

Session 3A6b
Massive MIMO

Wednesday AM, June 19, 2019

Room Cloister Hall - 1st Floor

Organized by Mario Marques da Silva

Chaired by Mario Marques da Silva

- 11:30 Performance Evaluation of IB-DFE Schemes in Underwater MIMO Spatially Correlated Channels
Joao Guerreiro (Instituto de Telecomunicacoes); Sergio Silva (Universidade Autonoma de Lisboa); Mario Marques Da Silva (Instituto de Telecomunicacoes); Rui Dinis (Universidade Nova de Lisboa); Paulo Montezuma Carvalho (Universidade Nova de Lisboa);
- 11:50 Performance Evaluation of Low-complexity Receivers for MIMO Underwater Spatially Correlated Channels
Mario Marques da Silva (Universidade Autonoma de Lisboa); Joao Aleixo (Instituto de Telecomunicacoes); Joao Guerreiro (Instituto de Telecomunicacoes); Rui Dinis (ISCTE/Instituto de Telecomunicacoes); Paulo Montezuma Carvalho (Universidade Nova de Lisboa);
- 12:10 A Multi-antenna Iterative Frequency-domain Detection for Power-efficient NOMA Schemes
Joao Guerreiro (Instituto de Telecomunicacoes); Filipe Casal Ribeiro (IT — Instituto de Telecomunicacoes); Rui Dinis (ISCTE/Instituto de Telecomunicacoes); Paulo Montezuma Carvalho (Universidade Nova de Lisboa); Dushantha Jayakody (National Research Tomsk Polytechnic University); Mario Marques Da Silva (Instituto de Telecomunicacoes);
- 12:30 Multi-beam Physical Security Scheme: Security Assessment and Impact of Array Impairments on Security and Quality of Service
Pedro Viegas (FCT Universidade Nova de Lisboa); Paulo Montezuma Carvalho (Universidade Nova de Lisboa); David Borges (FCT Universidade Nova de Lisboa); Rui Dinis (Universidade Nova de Lisboa); Mario Marques Da Silva (Instituto de Telecomunicacoes);
- 12:50 Low Complexity Millimeter Wave Point-to-point Communication: Interference Assessment of BPSK vs QPSK Decomposition
David Borges (FCT Universidade Nova de Lisboa); Pedro Viegas (FCT Universidade Nova de Lisboa); Paulo Montezuma Carvalho (Universidade Nova de Lisboa); Rui Dinis (Universidade Nova de Lisboa); Mario Marques da Silva (Universidade Autonoma de Lisboa);

Session 3A7

SC3: Ultrafast Nonlinear Optics: Ultrafast Fiber Lasers and Nonlinear Applications 1

Wednesday AM, June 19, 2019

Room 17 - 1st Floor

Organized by Zhiwen Liu, Michelle Y. Sander

Chaired by Michelle Y. Sander

- 09:00 Gain-managed Nonlinear Fiber Amplification
Keynote
Pavel Sidorenko (Cornell University); Frank Wise (Cornell University);
- 09:30 Advanced Designs for Passively Modelocked Fibre Lasers
Invited
Neil G. R. Broderick (University of Auckland); Claude Aguergaray (University of Auckland); Miro Erkintalo (University of Auckland); S. Tang (University of Auckland);
- 09:50 Polarization Soliton Dynamics in Linear Ultrafast Fiber Lasers
Invited
Junjie Zeng (Boston University); Michelle Y. Sander (Boston University);
- 10:10 Repetition Rate Adjustable Dual-wavelength Solitons Fiber Laser Based on Highly Nonlinear Fiber
Qianchao Wu (The University Town of Shenzhen); Yong Yao (Harbin Institute of Technology); Yanfu Yang (Harbin Institute of Technology); Jiajun Tian (Harbin Institute of Technology); Ke Xu (Harbin Institute of Technology); Yunxu Sun (The University Town of Shenzhen); Jun Jun Xiao (Harbin Institute of Technology);
- 10:30 Dynamics of High Peak Power Pulses near 1.9 μm in a Standard Single-mode Telecom Fiber
Aleksandr I. Donodin (Bauman Moscow State Technical University); Vasilii Sergeevich Voropaev (Bauman Moscow State Technical University); A. I. Voronec (Bauman Moscow State Technical University); V. A. Lazarev (Bauman Moscow State Technical University); M. K. Tarabrin (Bauman Moscow State Technical University); Valeriy E. Karasik (Bauman Moscow State Technical University);
- 11:00 **Coffee Break**

11:30 Frequency Comb Optical Two-way Time-frequency Transfer
Invited

Laura C. Sinclair (National Institute of Standards and Technology); Jean-Daniel Deschenes (Octosig Consulting Inc.); Martha Bodine (National Institute of Standards and Technology); Sarah Stevenson (National Institute of Standards and Technology); Jennifer Ellis (National Institute of Standards and Technology); William C. Swann (National Institute of Standards and Technology); Isaac Khader (National Institute of Standards and Technology); Emily Hannah (National Institute of Standards and Technology); Paritosh Manurkar (National Institute of Standards and Technology); Nathan R. Newbury (National Institute of Standards and Technology);

11:50 New Optical Comb Spectroscopy Combined with Optical Vortex
Invited

Akifumi Asahara (University of Electro-Communications); Kaoru Minoshima (University of Electro-Communications);

12:10 Voltage Controlled Graphene Supercapacitors for Femtosecond Pulse Generation in the Near Infrared
Invited

Alphan Sennaroglu (Koc University); Isinsu Baylam (Koc University); Nurbek Kakenov (Bilkent University); Coskun Kocabas (Bilkent University); Sarper Ozharar (Bahcesehir University);

12:30 Novel Ultrashort-pulse Sources

Invited

William Renninger (University of Rochester);

12:50 High Power Multi-soliton and Noise-like Pulse Generation Regimes in a Passively Mode-locked Thulium-doped All-fiber Ring Oscillator

Vasilii Sergeevich Voropaev (Bauman Moscow State Technical University); Aleksandr I. Donodin (Bauman Moscow State Technical University); A. I. Voronets (Bauman Moscow State Technical University); D. S. Vlasov (Bauman Moscow State Technical University); D. T. Batov (Bauman Moscow State Technical University); V. A. Lazarev (Bauman Moscow State Technical University); M. K. Tarabrin (Bauman Moscow State Technical University); V. E. Tarabrin (Bauman Moscow State Technical University); A. A. Krylov (Fiber Optics Research Center of the Russian Academy of Sciences);

Session 3A8
2D Materials and Optoelectronic Devices

Wednesday AM, June 19, 2019

Room 6 - Mezzanine

Organized by Guangcun Shan

Chaired by Guangcun Shan

09:00 Perovskite Solar Cells with 2D Materials

Invited

Aldo Di Carlo (Universita di Roma "Tor Vergata"); Antonio Agresti (University of Rome Tor Vergata); Sara Pescetelli (University of Rome Tor Vergata); Paolo Mariani (Universita di Roma "Tor Vergata"); Anna Pazniak (National University of Science and Technology NUST-MISIS); Dimitry Muratow (National University of Science and Technology NUST-MISIS); Danila Saranin (National University of Science and Technology NUST-MISIS);

09:20 Plasmon Generation through Electron Tunneling in Double-Layer-Graphene and Metal-Insulator-Graphene Systems

Sandra De Vega (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);

09:40 Nonlinear Optical Properties and Ultrafast Carrier Dynamics in Layered PtSe₂ and Nonlayered PtS Materials

Jun Wang (Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);

10:00 Numerical Analysis of EL-spectra of Blue-green Light-emitting Diode with InGaN/GaN Quantum Wells and Patterned Electrode

Yohei Nishidate (University of Aizu); Irina Khmyrova (The University of Aizu); S. Shapoval (IMT RAS);

10:20 Yb-doped Fiber Laser with Black Phosphorus: Versatility in Spatial/Temporal Domain

Jian Wu (National University of Defense Technology); Tao Wang (National University of Defense Technology); Hanshuo Wu (National University of Defense Technology); Hanwei Zhang (National University of Defense Technology); Rongtao Su (National University of Defense Technology (NUDT)); Pu Zhou (National University of Defense Technology);

10:40 Plasmonics in Two-dimensional Crystals

Invited

F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);

11:00 **Coffee Break**

11:30 Electronic and Optical Properties of Few-layer Films
Keynote of 2D Semiconductors

Vladimir Fal'ko (University of Manchester);

12:00 Bismuth and Bismuth Telluride Thin Films Deposited by MOCVD upon Tapered Fiber Sections as Q-switches for Fiber Lasers

Evgeny Aleksandrovich Savelyev (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences); Petr Ivanovich Kuznetsov (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences); Dmitriy Petrovich Sudas (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences); Leonid Yur'yevich Zakharov (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences); Konstantin Mikhailovich Golant (Kotel'nikov Institute of Radioengineering and Electronics of the Russian Academy of Sciences);

12:20 Wave Propagation Behavior of Photonic Structure
Seckin Filiz (Tekirdag Namik Kemal University);

00:00 Laser-induced Super-long-living Spin Excitations in a Purely Electronic Two-dimensional Gas
Sergey M. Dickmann (Institute of Solid State Physics RAS);

Session 3A9

FocusSession.SC3: Multimode Nonlinear Optical Fibers 1

Wednesday AM, June 19, 2019

Room 4 - Mezzanine

Organized by Stefan Wabnitz, Demetri Psaltis

Chaired by Stefan Wabnitz, Demetri Psaltis

09:00 Multimodal Propagation, Deep Learning, and Optical
Invited Neural Networks

Claudio Conti (University Sapienza);

09:20 Spectrally-selective Holography for Space-division Modal-demultiplexing and Dispersion Compensation in Multimode Fiber

Kelvin H. Wagner (University of Colorado at Boulder); M. Brand (University of Colorado at Boulder);

09:35 Imaging with Multimode Fibers

Keynote

Demetri Psaltis (Ecole Polytechnique Federale de Lausanne (EPFL));

10:05 Fast and Nonlinear Wavefront Control in Multimode
Invited Fibers

Omer Tzang (University of Colorado Boulder); Antonio M. Caravaca-Aguirre (University of Colorado Boulder); Eyal Niv (University of Colorado Boulder); Sakshi Singh (University of Colorado Boulder); Simon Labouesse (University of Colorado Boulder); Kelvin Wagner (University of Colorado at Boulder); Rafael Piestun (University of Colorado Boulder);

10:25 Four-wave Mixing with Orbital Angular Momentum Light in a Ring-core Fiber

Wen-Tan Fang (University of Science and Technology of China); Runxia Tao (University of Science and Technology of China); Zhi-Yuan Zhou (University of Science and Technology of China); Baosen Shi (University of Science and Technology of China); Lixin Xu (University of Science and Technology of China);

10:40 Nonlinear Propagation in Optical Fibers for Space-
Invited division Multiplexing

Cristian Antonelli (University of L'Aquila); A. Mecozzi (University of L'Aquila); M. Shtaif (Tel Aviv University);

11:00 **Coffee Break**

11:30 Efficient Simulation of Symmetric Field Propagation in Parabolic-index Fibers

Jesper Lægsgaard (Technical University of Denmark);

11:45 Characterization and Control of Whispering Gallery
Invited Modes on Surface of Optical Fibers

Zhiyong Han (Novosibirsk State University); Semen S. Fast (Novosibirsk State University); Emile Klotz (Institut d'Optique Graduate School); Darya Bocheck (Novosibirsk State University); Ilya D. Vatnik (Novosibirsk State University); Misha Sumetsky (Aston University); Dmitry V. Churkin (Novosibirsk State University);

12:05 Complex Optical Pulse Shaping in Nonlinear Multi-
Keynotemode Optical Fibers

Alessandro Tonello (Universite de Limoges); Vincent Couderc (University of Limoges); Katarzyna Krupa (Universite Bourgogne Franche-Comte, ICB, UMR CNRS 6303); Guy Millot (Universite de Bourgogne); Daniele Modotto (Universita degli Studi di Brescia); Evgeny V. Podivilov (Institute of Automation and Electrometry, Siberian Branch, Russian Academy of Sciences); Denis S. Kharenko (Institute of Automation and Electrometry, SB, RAS); Sergey A. Babin (Institute of Automation and Electrometry SB RAS); Stefan Wabnitz (Sapienza University of Rome);

12:35 Impact of Periodic Self-imaging on the Nonlinear Propagation in GRIN Multimode Fibers
Invited
Tigran Mansuryan (Universite de Limoges); K. Krupa (Universite Bourgogne Franche-Comte, ICB, UMR CNRS 6303); A. Niang (Universita degli Studi di Brescia); E. Deliancourt (Universite de Limoges); A. Tonello (Universite de Limoges); P. Leproux (Universite de Limoges); Marc Fabert (Universite de Limoges); J. L. Auguste (Universite de Limoges); Agnes Desfarges-Berthelemot (Universite de Limoges); V. Kermene (Universite de Limoges); Alain Barthelemy (XLIM/Universite de Limoges); Umberto Minoni (Universita degli Studi di Brescia); Daniele Modotto (Universita degli Studi di Brescia); Guy Millot (Universite de Bourgogne); Stefan Wabnitz (Sapienza University of Rome); Vincent Couderc (Universite Bourgogne Franche-Comte, ICB, UMR CNRS 6303);

Session 3A10

SC3: Luminescence and Lasing of Nanomaterials

Wednesday AM, June 19, 2019

Room 12 - Mezzanine

Organized by Chunxiang Xu, Lei Liu

Chaired by Chunxiang Xu

09:00 New Approach to Control Photoluminescence Efficiency by Using Orbit-orbit Interaction in Perovskite Quantum Dots
Bin Hu (University of Tennessee);

09:20 Electric-driven Mode Regulation for ZnO Whispering-gallery Lasing
Chunxiang Xu (Southeast University); Jie Zhao (Southeast University);

09:40 Developing Lasers from All-inorganic Halide Perovskites
Handong Sun (Nanyang Technological University);

10:00 Optical Studies of Electron Transfer in Two-dimensional Heterostructures
Yongsheng Wang (Beijing Jiaotong University); Hui Zhao (Beijing Jiaotong University);

10:20 Photocarrier Dynamics in Black Phosphorus and Its Heterostructures Studied by Photoluminescence and Transient Absorption
Dawei He (Beijing Jiaotong University);

00:00 Upconversion Photoluminescence in van der Waals Multilayers due to Charge Transfer
Hui Zhao (Beijing Jiaotong University); Dawei He (Beijing Jiaotong University); Yongsheng Wang (Beijing Jiaotong University);

11:00 Coffee Break

11:30 Highly Efficient Light Emitting Devices on Silicon With Rare Earth Doped Al₂O₃ Nanolaminated Gate Oxides
Jiaming Sun (Nankai University); Yao Liu (Nankai University); Na Li (Nankai University); Xihuan Xiong (Nankai University);

11:50 Mapping Strain/Pressure with ZnO Nanowire Arrays by Piezotronic and Piezo-phototronic Effect
Caofeng Pan (Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences);

12:10 Anderson Localization of Surface Plasmon Polaritons with Engineered Disorder
Ru-Wen Peng (Nanjing University); Wen-Bo Shi (Nanjing University); Ren-Hao Fan (Nanjing University); Mu Wang (Nanjing University);

12:30 Time-resolved Measurements of Two-photon Absorption Coefficients of 2D Semiconductors
Qiannan Cui (Southeast University); Yuanyuan Li (Nanjing University of Information Science & Technology); Jianhua Chang (Nanjing University of Information Science & Technology); Hui Zhao (University of Kansas); Chunxiang Xu (Southeast University);

12:50 Side-mode Suppression in Ultraviolet Quasi-semicircle GaN Microlaser Cavity
Canran Zhang (Jiangsu University of Science and Technology); Songchao Shen (Jiangsu University of Science and Technology); Jun Dai (Southeast University);

Session 3A11

SC2: Analytical Methods for Metamaterials, Metasurfaces, and 2D Materials from Microwaves to Optics 1

Wednesday AM, June 19, 2019

Room 11 - Mezzanine

Organized by Alexander B. Yakovlev, Juan Sebastian Gomez-Diaz

Chaired by Alexander B. Yakovlev, Juan Sebastian Gomez-Diaz

- 09:00 Nanophotonics in Graphene and van der Waals Structures
Invited
Alexey Nikitin (Donostia International Physics Center (DIPC));
- 09:20 Analytical Models of Polaritonic Antennas and Metasurfaces Using 2D Materials
Invited
Michele Tamagnone (Harvard University); Juan R. Mosig (Ecole Polytechnique Federale de Lausanne); Federico Capasso (Harvard University);
- 09:40 Transient Excitation of Free-standing Graphene Sheets
Invited
Paolo Burghignoli (Sapienza University of Rome); Giampiero Lovat (University of Roma "La Sapienza"); Rodolfo Araneo (University of Roma "La Sapienza"); Salvatore Celozzi (Sapienza University of Rome);
- 10:00 Mantle Cloaking of a Dielectric Cylinder under Oblique Incidence with Metasurfaces
Invited
Zahra Hamzavi-Zarghani (Shiraz University); Alireza Yahaghi (Shiraz University); Ladislau Matekovits (Politecnico di Torino);
- 10:20 Chiral Metamaterials for a Robust Waveguiding Scheme
Invited
Bakhtiyar Orzabayev (Ecole Polytechnique Federale de Lausanne (EPFL)); Nadege Kaina (Ecole Polytechnique Federale de Lausanne (EPFL)); Romain Fleury (Ecole Polytechnique Federale de Lausanne (EPFL));
- 10:40 Electromagnetic "Beasts" and Where to Find Them: Analyzing Extreme Effects and Singularities in Metasurfaces
Invited
Francesco Monticone (Cornell University);
- 11:00 **Coffee Break**
- 11:30 Nonreciprocal Light Manipulation Using Time-modulated Metasurfaces
Invited
Alejandro Alvarez Melcon (Universidad Politecnica de Cartagena); J. Zang (University of California Davis); D. Correas-Serrano (University of California Davis); J. Do (University of California Davis); X. Liu (University of California Davis); Juan Sebastian Gomez-Diaz (University of California Davis);
- 11:50 Understanding the Leaky-wave Mechanism on Truncated Subwavelength Hole Arrays with Method of Moments and Quasi-optical Measurements
Invited
Miguel Camacho (University of Exeter); Rafael R. Boix (University of Seville); Sergei Alexandrovich Kuznetsov (Novosibirsk State University); Miguel Beruete (Universidad Publica de Navarra); Miguel Navarro-Cia (Imperial College London);
- 12:10 Circuit Models for Classical Electromagnetic Analogs of Electromagnetically Induced Transparency
Invited
Raul Rodriguez-Berral (University of Seville); Francisco L. Mesa (Universidad de Sevilla); Francisco Medina (University of Seville); Fulya Bagci (Ankara University);
- 12:30 Impedance Matrix Approach for MRI Metamaterials Applications
Marc Dubois (Aix-Marseille Université); Redha Abdeddaim (ESPCI Paris Tech.); Luisa Ciobanu (Université Paris-Saclay); Alexandre Vignaud (Université Paris-Saclay); Stefan Enoch (Institut Fresnel);
- 12:50 Equivalent Transmission Network for Bounded Wire-Medium Structures with Arbitrary Terminations
Invited
Alexander B. Yakovlev (The University Mississippi); Mario G. Silveirinha (University of Lisbon); George W. Hanson (University of Wisconsin-Milwaukee); Chandra S. R. Kaipa (Independent Researcher);
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- Session 3A12**
FocusSession.SC2: Advanced Metasurface Designs and Devices 1
-
- Wednesday AM, June 19, 2019**
Room 21 - 2nd Floor
Organized by Tao Li, Yun Lai
Chaired by Tao Li, Yun Lai
-
- 09:00 A Compact On-chip Spectrometer Enabled by Metasurface-decorated Waveguides
Invited
Xingjie Ni (Pennsylvania State University); Yimin Ding (Pennsylvania State University); Yao Duan (Pennsylvania State University); Xi Chen (Pennsylvania State University); Xueue Guo (Pennsylvania State University);
- 09:20 Tomographic Microscopy by Chromatic Metalens
Invited
Chen Chen (Nanjing University); Jia-Wern Chen (Research Center for Applied Sciences, Academia Sinica); Din Ping Tsai (Academia Sinica); Shi-Ning Zhu (Nanjing University); Tao Li (Nanjing University);
- 09:40 Active Tunable Photonic Microstructures
Invited
Xiaoyong Hu (Peking University); Yutian Ao (Peking University); You Wu (Peking University); Xinziang Niu (Peking University);

00:00 Metasurface Empowered Wide-angle Fourier Lens

Invited

Shuqi Chen (Nankai University); Wenwei Liu (Nankai University); Jian-Guo Tian (Nankai University);

00:00 A Broadband Achromatic Metalens Array for Integral

Invited Imaging in the Visible

Zhi-Bin Fan (Sun Yat-Sen University); Hao-Yang Qiu (Sun Yat-Sen University); Han-Le Zhang (Beihang University); Xiao-Ning Pang (Sun Yat-Sen University); Lidan Zhou (Sun Yat-sen University); Lin Liu (Sun Yat-Sen University); Hui Ren (Beihang University); Qiong-Hua Wang (Beihang University); Jian-Wen Dong (Sun Yat-Sen University);

10:40 Multifunctional Optical Device Constructed with

Invited Stereo-metastructure Arrays

Xiang Xiong (Nanjing University); Sijia Sun (Nanjing University); Yajun Gao (Nanjing University); R. W. Peng (Nanjing University); M. Wang (Nanjing University);

11:00 **Coffee Break**

11:30 Deep-learning Designs of Deflection Digital Coding

Invited Metasurfaces with Continuous Controls of Beams

Che Liu (Southeast University); Qian Zhang (Southeast University); Tie Jun Cui (Southeast University);

11:50 Angular-adaptive Spin-locked Retroreflector Based on

Invited Reconfigurable Magnetic Metagrating

Min Li (Zhejiang University); Zuoqia Wang (Shandong University); Hongsheng Chen (Zhejiang University);

12:10 Controlling Angular Dispersions in Metasurfaces:

Invited Physics and Applications

Xiyue Zhang (Fudan University); Qi Li (Fudan University); Feifei Liu (Fudan University); Meng Qiu (Fudan University); Shulin Sun (Fudan University); Qiong He (Fudan University); Lei Zhou (Fudan University);

12:30 Chirality-dependent Surface Wave Excitations and

Invited Wavefront Controls by Metasurfaces

Xiaoer Li (Fudan University); Zhuo Wang (Fudan University); Shaohua Dong (Fudan University); Sixiong Yi (Fudan University); Yizhen Chen (Fudan University); Huijie Guo (Fudan University); Fuxin Guan (Fudan University); Qiong He (Fudan University); Lei Zhou (Fudan University); Shulin Sun (Fudan University);

12:50 Design of a Broadband Omnidirectional Metasurface Antenna Using Characteristic Mode Analysis

Junjie Tang (Northwestern Polytechnical University); Huiling Zhao (Northwestern Polytechnical University); Lin Song (Northwestern Polytechnical University);

Session 3A13

SC3: Resonant Optics: Fundamentals and Applications 3

Wednesday AM, June 19, 2019

Room 22 - 2nd Floor

Organized by Philippe Lalanne, Sven Burger

Chaired by Philippe Lalanne, Sven Burger

09:00 Regularization and Completeness of Quasi-normal Modes Using Causality Principle

Boris Gralak (CNRS, Aix-Marseille University); Mohamed I. Abdelrahman (CNRS, Aix-Marseille University);

09:20 Dielectric Nanocavities for Enhanced Purcell Effect and Strong Directionality

Riccardo Sapienza (Imperial College London);

09:40 Disorder Induced Phase Transition in an Optical Metasurface

A. Rahimzadegan (Karlsruhe Institute of Technology); D. Arslan (Friedrich Schiller University Jena); R. N. S. Suryadharma (Karlsruhe Institute of Technology); Stefan Fasold (Friedrich Schiller University); Matthias Falkner (Friedrich-Schiller-Universität Jena); Thomas Pertsch (Friedrich-Schiller-Universität); Isabelle Staude (Friedrich-Schiller-Universität Jena); Carsten Rockstuhl (Karlsruhe Institute of Technology);

10:00 On the Mechanisms of Plasmon-enhanced Chiroptical Response

Invited *Thomas Weiss (University of Stuttgart); Egor A. Muljarov (Cardiff University);*

10:20 Photonic Crystal Structures Treated by the Resonant State Expansion

Invited *Sam Neale (Cardiff University); Egor A. Muljarov (Cardiff University);*

10:40 Rigorous Modal Analysis of Resonators with Dispersive Materials

Alexandre Gras (Univ. Bordeaux); Philippe Lalanne (Univ. Bordeaux); Wei Yan (Univ. Bordeaux);

11:00 **Coffee Break**

11:30 Quasi-normal Mode Expansion of Electromagnetic Fields Using Dispersive Perfectly Matched Layers

Guillaume Demesy (Aix-Marseille Université); B. Gralak (Aix-Marseille Université); A. Nicolet (Aix-Marseille Université); F. Zolla (Aix-Marseille Université);

- 11:50 Interference Phenomena at Resonances in Dense Silicon Metasurfaces
Saeid Jamilan (Michigan Technological University); George Semouchkin (Michigan Technological University); Fatemeh Safari (Michigan Technological University); Elena Semouchkina (Michigan Technological University);
- 12:10 Scattering Electromagnetic Eigenstates of a Two-constituent Composite and Their Exploitation for Calculating a Physical Field
David J. Bergman (Tel Aviv University);
- 12:30 Lasing and Amplification from Two-dimensional Atom Arrays
Invited
Vahagn Mkhitarian (ICFO-Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Lijun Meng (The Barcelona Institute of Science and Technology); Andrea Marini (The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);
- 12:50 Optomechanical Interaction in Complex Dielectric Media
Guillermo Arregui (CSIC and The Barcelona Institute of Science and Technology, Campus UAB); C. M. Sotomayor-Torres (Catalan Institute of Nanotechnology); Pedro David Garcia Fernandez (Catalan Institute of Nanoscience and Nanotechnology (ICN2));
- 09:20 Spectroscopic Instrumentation for Measurement of Gaseous and Volatile Biomarkers of Infectious Disease
Invited
Jane Hodgkinson (Cranfield University); Daniel Francis (Cranfield University); Christopher Walton (Cranfield University); Celia Lourenco (Cranfield University); Jeremy Sizer (Bedford Hospital NHS Trust); Paul Black (Cascade Technologies Ltd); Beth Livingstone (Cascade Technologies Ltd); Dawn P. Fowler (Cranfield University); Mitesh K. Patel (Cranfield University); Ralph P. Tatam (Cranfield University);
- 09:40 Precision Biodiagnostics Using Cascade Lasers
Invited
Boris Mizaikoff (Ulm University);
- 10:00 Development of a SERS-based Diagnostic Method for Coronary Heart Disease with Urine
Invited
Huinan Yang (University of Shanghai for Science and Technology); Mengmeng Xing (University of Shanghai for Science and Technology); Wenyong Qiao (University of Shanghai for Science and Technology); Chengfang Luo (University of Shanghai for Science and Technology); Xiaoshu Cai (University of Shanghai for Science and Technology);
- 10:20 Broadband Detection of Nitrous Oxide and Methane Exploiting a Quartz-enhanced Photoacoustic Spectroscopy-based Sensor
Marilena Giglio (University and Politecnico of Bari); Pietro Patimisco (University and Politecnico of Bari); Angelo Sampaolo (University and Politecnico of Bari); Andrea Zifarelli (Universita degli Studi di Bari and Politecnico di Bari); Giansergio Menduni (Politecnico and University of Bari); Arianna Elefante (Politecnico and University of Bari); Romain Blanchard (Pendar Technologies); Christian Pfluegl (Pendar Technologies); Mark F. Witinski (Pendar Technologies); Daryoosh Vakhshoori (Pendar Technologies); Hongpeng Wu (Shanxi University); Lei Dong (Shanxi University); Vittorio M. N. Passaro (Politecnico di Bari); Frank K. Tittel (Rice University); Vincenzo Spagnolo (Technical University of Bari);

Session 3A14

FocusSession.SC3: Advanced Photonic Technologies for Spectroscopic Applications 2

Wednesday AM, June 19, 2019

Room 24 - 2nd Floor

Organized by Wei Dong Chen, Vincenzo Spagnolo, Ulrike Willer

Chaired by Wei Dong Chen, Vincenzo Spagnolo, Ulrike Willer

- 09:00 Chemical Sensing and Hyperspectral Imaging Using Dual Quantum- and Interband-cascade Frequency Comb Spectrometers
Invited
Gerard Wysocki (Princeton University);
- 10:40 Formaldehyde Detection with an Interband Cascade Laser at 3.53 μm
Weixiong Zhao (Hefei Institutes of Physical Science, Chinese Academy Sciences); Bo Fang (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Nana Yang (Anhui Institute of Optics and Fine Mechanics, Chinese Academy Sciences); Chunhui Wang (Beijing University of Posts and Telecommunications); Weijun Zhang (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Weidong Chen (Universite du Littoral Cote d'Opale);

11:00 **Coffee Break**

11:30 Trace Gas Detection with Quartz-enhanced Photoacoustic Spectroscopy for Real World Applications

Invited *Pietro Patimisco (University and Politecnico of Bari); Angelo Sampaolo (University and Politecnico of Bari); Marilena Giglio (University and Politecnico of Bari); Giansergio Menduni (Politecnico and University of Bari); Arianna Elefante (Politecnico and University of Bari); Stefano Dello Russo (Universita degli Studi di Bari and Politecnico di Bari); Andrea Zifarelli (Universita degli Studi di Bari and Politecnico di Bari); Fabrizio Sgobba (Universita degli Studi di Bari and Politecnico di Bari); Lei Dong (Shanxi University); Hongpeng Wu (Shanxi University); Frank K. Tittel (Rice University); Vincenzo Spagnolo (Technical University of Bari);*

11:50 Development of Multi-gas Photoacoustic Sensor for SF₆ Decomposition Online Monitoring

Invited *Lei Dong (Shanxi University); Xukun Yin (Shanxi University); Hongpeng Wu (Shanxi University); Liantuan Xiao (Shanxi University); Suotang Jia (Shanxi University); Frank K. Tittel (Rice University);*

12:10 Simultaneous Dual Gas QEPAS Sensors for Environmental Monitoring and Natural Gas Analysis

Angelo Sampaolo (University and Politecnico of Bari); Pietro Patimisco (University and Politecnico of Bari); Marilena Giglio (University and Politecnico of Bari); Giansergio Menduni (Politecnico and University of Bari); Arianna Elefante (Politecnico and University of Bari); Lei Dong (Shanxi University); Hongpeng Wu (Shanxi University); Vittorio M. N. Passaro (Politecnico di Bari); Frank K. Tittel (Rice University); Vincenzo Spagnolo (Technical University of Bari);

12:30 Phase Optimized Photoacoustic Sensing of Gas Mixtures

Invited *Mario Mordmuller (Clausthal University of Technology); Ulrike Willer (Clausthal University of Technology); Wolfgang Schade (Clausthal University of Technology); Simon Edelmann (Knestel Technologie und Elektronik GmbH); Markus Knestel (Knestel Technologie und Elektronik GmbH);*

12:50 Trace Gases and Aerosols Measurement with Photoacoustic Spectroscopy

Kun Liu (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Yuan Cao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Guishi Wang (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Weidong Chen (Universite du Littoral Cote d'Opale); Xiaoming Gao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences);

Session 3A15

Optical Coatings for Extreme Metrology

Wednesday AM, June 19, 2019

Room 25 - 2nd Floor

Organized by Maria Principe, Innocenzo M. Pinto

09:00 Aluminum Gallium Arsenide as a Low Thermal Noise Coating for Gravitational Wave Interferometers

Invited *Gregory M. Harry (American University);*

09:20 Substrate-transferred Crystalline Coatings for Next-generation Gravitational-wave Detectors

Invited *Garrett D. Cole (Crystalline Mirror Solutions LLC);*

09:40 Annealing Effect on the Nano-meter Scale Titania/Silica Multi-layers for Mirror Coatings of the Laser Interferometer Gravitational Waves Detector

Invited *Ling-Chi Kuo (National Tsing Hua University); Huang-Wei Pan (National Tsing Hua University); Chi-Li Chang (National Tsing Hua University); Shiuh Chao (National Tsing Hua University); Maria Principe (University of Salerno and Centro Fermi); Innocenzo M. Pinto (Universita del Sannio a Benevento); Joshua Neilson (University of Sannio); Riccardo De Salvo (University of Sannio at Bénévento);*

10:00 Fabrication of Ta₂O₅, Zr:Ta₂O₅ and aSi by ECR Ion Beam Deposition for Use as High-index Coating Layers in Ultra-stable Optical Cavities

Stuart Reid (SUPA University of Strathclyde); Svetoslava Angelova (SUPA University of Strathclyde); Ross Birney (SUPA University of Strathclyde); Chalisa Gier (SUPA University of Strathclyde); Paul R. Edwards (SUPA University of Strathclyde); Desmond Gibson (SUPA University of the West of Scotland); James Hough (SUPA University of Glasgow); Sean MacFoy (SUPA University of Strathclyde); Iain Martin (SUPA University of Glasgow); Robert W. Martin (SUPA University of Strathclyde); Sheila Rowan (SUPA University of Glasgow); Jessica Steinlechner (Universitat Hamburg); Zeno Tornasi (SUPA University of Glasgow); Simon Tait (SUPA University of Glasgow); David Vine (SUPA University of the West of Scotland); Gavin Wallace (SUPA University of Strathclyde);

- 10:20 High-index Coating Materials and Their Impact on the Limits of High-precision Experiments
Invited
Stefanie Kroker (Physikalisch-Technische Bundesanstalt); Rene Glaser (Friedrich-Schiller-Universität Jena); Johannes Dickmann (Physikalisch-Technische Bundesanstalt); Walter Dickmann (Technische Universität Braunschweig); Tim Kaseberg (Physikalisch-Technische Bundesanstalt); Jan Meyer (Technische Universität Braunschweig); Ronny Nawrodt (Universität Stuttgart); Richard Norte (Faculty 3mE); Carol B. Rojas Hurtado (Physikalisch-Technische Bundesanstalt); Thomas Siefke (Friedrich-Schiller-Universität Jena); P. Steeneken (Faculty 3mE); Andrey Surzhykov (Physikalisch-Technische Bundesanstalt); Sebastian Ulbricht (Physikalisch-Technische Bundesanstalt);
- 10:40 Extreme Metrology for High-performance Optical Coatings: Transmittance, Reflectance and Scattering
Myriam Zerrad (Université Paul Cézanne); Michel Lequime (Aix-Marseille Université, CNRS); C. Amra (Aix Marseille Univ., CNRS);
- 11:00 **Coffee Break**
- 11:30 Semiconducting 2D-Materials: New Platform for Sub-nanometer-functionalization of Optical Coatings and Nano-sandbox for Fundamental Physics, and Quantum Light Sources
Falk Eilenberger (Friedrich Schiller University);
- 11:50 High-frequency Analysis of Diffraction from Baffles in Gravitational Wave Interferometers
Giuseppe Pelosi (University of Florence); Stefano Selzeri (University of Florence); Innocenzo M. Pinto (Università del Sannio a Benevento);
- 12:10 Problems Connected with Fempto-scatterers in Dielectric Coating Mirrors for Gravitational Wave Detectors
Invited
Riccardo De Salvo (University of Sannio at Benevento); Mary Becker (California State University Los Angeles); Timothy Bennett (California State University Los Angeles); Jeremy Blow (Incera Solutions LLC); Chi-Li Chang (National Tsing Hua University); Shih-Chao (National Tsing Hua University); Fred Daneshgaran (California State University Los Angeles); Lara Daneshgaran (University of California San Diego); Ling-Chi Kuo (National Tsing Hua University); Seth Linker (California State University Los Angeles); Michael Milovich-Goff (California State University Los Angeles); Marina Mondin (Politecnico di Torino); Bhavna Nayak (California State University Los Angeles); Joshua Neilson (University of Sannio); Huang-Wei Pan (National Tsing Hua University); Innocenzo M. Pinto (Università del Sannio a Benevento); Maria Principe (University of Salerno and Centro Fermi); Eric Robinson (California State University Los Angeles); John Tamkin (California State University Los Angeles); Harry Themann (California State University Los Angeles); Deanna Zapata (California State University Los Angeles);
- 12:30 Acoustic Spectroscopy as a Tool for Thermo-mechanical Characterization of Materials in Coating Research
Elisabetta Cesarini (INFN — Istituto Nazionale di Fisica Nucleare); L. Aiello (INFN — Istituto Nazionale di Fisica Nucleare); V. Fafone (INFN — Istituto Nazionale di Fisica Nucleare); M. Lorenzini (INFN — Istituto Nazionale di Fisica Nucleare); D. Lumaca (INFN — Istituto Nazionale di Fisica Nucleare); Y. Minenkov (INFN — Istituto Nazionale di Fisica Nucleare); I. Nardecchia (INFN — Istituto Nazionale di Fisica Nucleare); A. Rocchi (INFN — Istituto Nazionale di Fisica Nucleare);

Session 3A16
**SC3: Visible, Near-infrared and Beyond:
Materials and Devices 1**

Wednesday AM, June 19, 2019
Room 15 - 2nd Floor

 Organized by Silvia Maria Pietralunga, Jonathan D.
B. Bradley

 Chaired by Silvia Maria Pietralunga, Jonathan D. B.
Bradley

- 09:00 Ultra-narrow-linewidth Rare-earth-doped Integrated Lasers
Invited Markus Pollnau (*University of Surrey*);
- 09:20 Mid-IR Lasers in Fluoride Fibres
Invited Slawomir Sujecki (*Wroclaw University of Science and Technology*); L. Sojka (*Wroclaw University of Science and Technology*); L. Pajewski (*Wroclaw University of Science and Technology*); A. B. Seddon (*University of Nottingham*); Trevor Mark Benson (*The University of Nottingham*); Samir Lamrini (*Fotonics Laser GmbH*); K. Scholle (*Fotonics Laser GmbH*); P. Fuhrberg (*Fotonics Laser GmbH*); Ori Henderson-Sapir (*The University of Adelaide*); A. Malouf (*The University of Adelaide*); David J. Ottaway (*The University of Adelaide*);
- 09:40 Silicon-germanium: A Material Platform for Near- and Mid-infrared Photonics
Invited Giovanni Isella (*Politecnico di Milano*);
- 10:00 Functionalisation of Optical Fibres via Deposition of 2D Materials and Semiconductors
Invited Pier J. A. Sazio (*University of Southampton*); Adam H. Lewis (*University of Southampton*); Francesco De Lucia (*University of Southampton*); Walter Belardi (*University of Southampton*); John R. Hayes (*University of Southampton*); Francesco Poletti (*University of Southampton*); Chung-Che Huang (*University of Southampton*); Daniel Hewak (*University of Southampton*); John V. Badding (*Pennsylvania State University*);
- 10:20 Spectroscopic Techniques for Agrofood and Energy
Invited Luca Poletto (*CNR — Institute for Photonics and Nanoechnologies*); Lorenzo Cocola (*CNR — Institute for Photonics and Nanoechnologies*); Massimo Fedel (*CNR — Institute for Photonics and Nanoechnologies*); Giuseppe Tondello (*CNR — Institute for Photonics and Nanoechnologies*);
- 10:40 Nanostructured SiGeSn Alloy Layers and Structures for Optoelectronic Applications
Peter I. Gaiduk (*Belarusian State University*);
- 11:00 **Coffee Break**
- 11:30 Photonics Glass-ceramics
Invited T. N. L. Tran (*IFN-CNR CSMFO Lab. and FBK CMM*); D. Massella (*University of Trento*); L. Zur (*IFN-CNR CSMFO Lab. and FBK CMM*); Anna Lukowiak (*Institute of Low Temperature and Structure Research, PAS*); A. Chiasera (*IFN-CNR CSMFO Lab. and FBK CMM*); Andrea Chiappini (*IFN-CNR CSMFO Lab. and FBK CMM*); Francesco Prudenzano (*Politecnico di Bari*); Wilfried Blanc (*Universite Cote d'Azur, Institut de Physique de Nice*); S. Varas (*IFN-CNR CSMFO Lab. and FBK CMM*); C. Armellini (*IFN-CNR CSMFO Lab. and FBK CMM*); A. Carpentiero (*IFN-CNR CSMFO Lab. and FBK CMM*); D. Zonta (*IFN-CNR CSMFO Lab. and FBK CMM*); B. Boulard (*IMMM UMR CNRS 6283, Universite du Maine*); J. Gates (*ORC, University of Southampton*); Pier J. Sazio (*University of Southampton*); B. Rossi (*Elettra-Sincrotrone Trieste*); S. Berneschi (*Istituto di Fisica Applicata "Nello Carrara", C.N.R.*); Gualtiero Nunzi Conti (*Istituto di Fisica Applicata "Nello Carrara", C.N.R.*); G. C. Righini (*IFAC CNR*); Maurizio Ferrari (*CNR-IFN, Istituto di Fotonica e Nanotecnologie*);
- 11:50 Silicon-based Nanostructured Thin Films for Photonic Applications
Invited Peter Mascher (*McMaster University*);
- 12:10 Impact of the Pressure Applied during Sintering on the Structure and Persistent Luminescence Properties of the Ceramics
Invited Pawel Gluchowski (*Institute of Low Temperature and Structure Research, PAS*); M. Lastusaari (*University of Turku*); A. Patej (*Wroclaw University*); K. Rajfur (*Wroclaw University of Technology*); R. Tomala (*Institute of Low Temperature and Structure Research, PAS*); Wieslaw Strek (*Institute of Low Temperature and Structure Research, PAS*);

12:30 Active Graphene-based Composites for Biological Applications
Invited

Anna Lukowiak (Institute of Low Temperature and Structure Research, PAS); Yuriy Gerasymchuk (Institute of Low Temperature and Structure Research, PAS); Leili Tahershamsi (Institute of Low Temperature and Structure Research, PAS); Katarzyna Halubek-Gluchowska (Institute of Low Temperature and Structure Research, PAS); Maria Wierzbowska (Wroclaw University of Science and Technology); Beata Borak (Wroclaw University of Science and Technology); Dominika Piatek (F. Skubiszewski Medical University); Anna Kedziora (University of Wroclaw); Gabriela Bugla-Ploskonska (University of Wroclaw); Maurizio Ferrari (IFN-CNR CSMFO Lab.);

12:50 Double-gate Tri-active Layer Channel Amorphous-IGZO Thin Film Transistor for AMLCD Pixel Circuit
Shashi K. Dargar (University of KwaZulu-Natal); Vivanjay M. Srivastava (University of KwaZulu-Natal);

Session 3A17

FocusSession.SC1: Casimir Effect and Forces at the Nanoscale 1

Wednesday AM, June 19, 2019

Room 33 - Bank Building

Organized by Mauro Antezza, Brahim Guizal

Chaired by Mauro Antezza, Brahim Guizal

09:00 Nonreciprocity and the Casimir Effect

Invited

Mario G. Silveirinha (University of Lisbon);

09:20 Quantum Levitation of Antihydrogen above a Casimir-Polder Well
Invited

Pierre-Philippe Crepin (Sorbonne Universite, CNRS); Romain Guerout (Sorbonne Universite, CNRS); Serge Reynaud (Sorbonne Universite, CNRS);

09:40 Casimir Forces in Nonlinear Systems

Invited

Matthias Kruger (Georg-August-Universitat Göttingen); Heino Soo (Georg-August-Universitat Göttingen);

10:00 Casimir Forces in Inhomogeneous Media

Invited

Kimball A. Milton (University of Oklahoma);

10:20 Casimir-van der Waals Torques in Nanoparticles

Invited

Raul P. Esquivel-Sirvent (Universidad Nacional Autonoma de Mexico);

10:40 Ice Coatings Stabilised by Lifshitz Forces Can Induce a Size Dependent Float to Sink Transition for CO₂ Gas Hydrate Clusters in Remote Water Worlds

Mathias Bostrom (Norwegian University of Science and Technology); Robert Corkery (KTH Royal Institute of Technology); Eduardo R. A. Lima (Universidade do Estado do Rio de Janeiro); Oleksandr I. Malyi (University of Oslo); Stefan Yoshi Buhmann (University of Freiburg); Clas Persson (University of Oslo); Iver Brevik (Norwegian University of Science and Technology); Drew F. Parsons (Murdoch University); Johannes Fiedler (University of Oslo);

11:00 **Coffee Break**

11:30 Collective Dipole-dipole Interactions in Planar Cavities
Invited

Helge Dobbertin (University of Rostock); Stefan Scheel (University of Rostock);

11:50 Engineering Casimir Forces: From Topological Insulators to (Collective) Photon Recoil
Invited

Stefan Yoshi Buhmann (University of Freiburg); Pablo Barcellona (University of Freiburg); Robert Bennett (Freiburg University); Sebastian Fuchs (University of Freiburg); Frieder Lindel (University of Freiburg); Mauro Antezza (Universite de Montpellier);

12:10 Screening of the Casimir Interaction across an Electrolyte Solution
Invited

L. B. Pires (UFRJ); Diney S. Ether, Jr. (Instituto de Fisica UFRJ); F. S. S. Da Rosa (UFRJ); A. Canaguier-Durand (UPMC-Sorbonne Universite, CNRS); Astrid Lambrecht (ENS-PSL Research Universities); Romain Guerout (Sorbonne Universite, CNRS); Serge Reynaud (Sorbonne Universite, CNRS); B. Pontes (UFRJ); G. R. S. Araujo (UFRJ); S. Frases (UFRJ); B. Spreng (Universitat Augsburg); Gert-Ludwig Ingold (Universitat Augsburg); H. Moyses Nussenzeig (Instituto de Fisica UFRJ); Nathan B. Viana (Instituto de Fisica UFRJ); Paulo A. Maia Neto (Universidade Federal do Rio de Janeiro);

12:30 Repulsive Casimir Force, and Magnetodielectric Casimir Friction
Invited

Iver Brevik (Norwegian University of Science and Technology);

12:50 Calculations of Casimir Force Using Hybrid FMA and Randomized SVD

Tian Xia (University of Illinois); Weng Cho Chew (University of Illinois);

Session 3A18
Terahertz Radiation: From Generation to Applications in Condensed Matter, Biomedicine and Particle Physics 1

Wednesday AM, June 19, 2019
Room 38 - Chemistry Building

 Organized by Stefano Lupi, Augusto Marcelli

09:00 The TeraFERMI THz Beamline at the FERMI Free-Invited electron-laser

Paola Di Pietro (Elettra — Sincrotrone Trieste S.C.p.A); Nidhi Adhlakha (Elettra — Sincrotrone Trieste S.C.p.A); Federica Piccirilli (CNR-IOM); Simone Di Mitri (Elettra — Sincrotrone Trieste S.C.p.A); Stefano Lupi (Università La Sapienza); Andrea Perucchi (Elettra — Sincrotrone Trieste S.C.p.A);

09:20 Novel Schemes for Compact FELs in the THz Region: ENEA Experience and Perspectives

Andrea Doria (ENEA); Emilio Giovenale (ENEA); Gian Piero Gallerano (ENEA);

09:40 Extremely Efficient THz High Harmonic Generation Invited in Graphene

Hassan A. Hafez (Universitat Duisburg-Essen); Sergey Kovalev (Helmholtz-Zentrum Dresden-Rossendorf); Jan-Christoph Deinert (Helmholtz-Zentrum Dresden-Rossendorf); Mischa Bonn (Max-Planck-Institut für Polymerforschung); Michael Gensch (Institut für Optische Sensorsysteme); Dmitry Turchinovich (Universitat Bielefeld);

10:00 Spiral Metamaterials for Terahertz Magnetic Field Invited Enhancement

Debanjan Polley (Stockholm University); Matteo Pancaldi (Stockholm University); Nanna Zhou Hagstrom (Stockholm University); Matthias Hudl (Stockholm University); Paolo Vavassori (CIC NanoGUNE); Sergei Urazhdin (Emory University); Clemens von Korff Schmising (MBI Max-Born Institute for Nonlinear Optics and Short Pulse Spectroscopy); Stefan Eisebitt (MBI Max-Born Institute for Nonlinear Optics and Short Pulse Spectroscopy); Stefano Bonetti (Stockholm University);

10:20 Light-induced Superconductivity in Strong Magnetic Invited Fields

Daniele Nicoletti (Max Planck Institute for the Structure and Dynamics of Matter);

10:40 Terahertz Modal Analysis of a Grounded Liquid-crystal Cell and Its Application as a Tunable Cavity Antenna

Silvia Tofani (Sapienza University of Rome); Walter Fuscaldo (Sapienza University of Rome); Dimitris C. Zografopoulos (Istituto per la Microelettronica e Microsistemi (CNR-IMM)); Paolo Burghignoli (Sapienza University of Rome); Paolo Baccarelli (Roma Tre University); Romeo Beccherelli (Istituto per la Microelettronica e Microsistemi (CNR-IMM)); Alessandro Galli (Sapienza University of Rome);

 11:00 **Coffee Break**

11:30 THz Field Induced Second Harmonic Generation in Invited Air

Sen Mou (Università di Roma ‘La Sapienza’); Andrea Rubano (Università di Napoli ‘Federico II’); Domenico Paparo (ISASI — Institute of Applied Sciences and Intelligent Systems);

11:50 Electromagnetic Characterization of Materials in the Invited Sub-THz Frequency Range Using Time Domain Waveguide Measurements

Antonello Andreone (University of Naples ‘Federico II’); G. P. Papari (University of Naples ‘Federico II’); A. Passarelli (University of Naples ‘Federico II’); C. Koral (INFN Naples Unit); Maria Rosaria Masullo (Ist Nazl Fis Nucl); V. G. Vaccaro (INFN Naples Unit); H. Bartosik (CERN); Y. Papaphilippou (CERN);

12:10 Volatile Organic Compounds Characterization with Invited THz Time-domain Spectroscopy

Annalisa D’Arco (INFN); Marta Di Fabrizio (Roma University ‘La Sapienza’); Valerio Dolci (INFN); Massimo Petrarca (Sapienza University of Rome); Giancarlo Della Ventura (University ROMA TRE); Augusto Marcelli (LNF-INFN); Stefano Lupi (Sapienza University of Rome);

12:30 THz Applications: From Acceleration to Laser Pulse Invited and Plasma Diagnostic

Massimo Petrarca (Sapienza University of Rome);

Session 3A19
Computational Fractional Dynamic Systems and Its Applications

Wednesday AM, June 19, 2019
Room 39 - Electrical Building

Organized by Fawang Liu, Minling Zheng

 Chaired by Fawang Liu, Minling Zheng

- 09:00 Computational Multi-term Time-space Fractional Bloch-Torrey Models in Three-dimensions
Fawang Liu (Queensland University of Technology); Jing Li (Changsha University of Science and Technology); Vo Anh (Swinburne University of Technology);
- 09:20 On Fractional Viscoelastic Fluids Flowing over a Permeable Surface
Botong Li (University of Science and Technology Beijing); Fawang Liu (Queensland University of Technology); Yang Liu (Inner Mongolia University);
- 09:40 Heat Transfer of Fractional Maxwell Fluid over a Moving Plate with Cattaneo-Christov Flux
Lin Liu (University of Science and Technology Beijing); Liancun Zheng (University of Science and Technology Beijing); Fawang Liu (Queensland University of Technology);
- 10:00 Investigations on Thermal Shock Resistance of Edge Cracked Plate Subjected to Convective Cold Shock with Fractional Conduction Equation
Jin-Bao Wang (Zhejiang Ocean University); Da-Wen Xue (Zhejiang Ocean University); Guang-Ying Xu (Zhejiang Ocean University);
- 10:20 Unsteady Mixed Convection Heat Transfer of Fractional Viscoelastic Nanofluids over an Inclined Plate
Xuehui Chen (University of Science and Technology Beijing); Yifan Ye (University of Science and Technology Beijing); Xinru Zhang (University of Science and Technology Beijing); Liancun Zheng (University of Science and Technology Beijing); Fawang Liu (Queensland University of Technology);
- 11:00 **Coffee Break**
- 11:30 High-order Numerical Method for the Time-space Fractional Bloch-Torrey Equation
Kyle Anthony McLaren (Queensland University of Technology); Fawang Liu (Queensland University of Technology);
- 11:50 Numerical Simulation of Fractional Model of Tumor Growth
Minling Zheng (Huzhou University); Fawang Liu (Queensland University of Technology);
- 00:00 Numerical Study of Temperature Distribution in Biological Tissue Based on Time Fractional Dual-phase-lag Heat Conduction Model
Xiaoping Wang (Shandong University); Haitao Qi (Shandong University); Huanying Xu (Shandong University);

Session 3A20**Applications of EM Field in Medical Diagnostics and Therapy**

Wednesday AM, June 19, 2019**Room 40 - Electrical Building**

Organized by Jan Vrba

Chaired by Jan Vrba

- 09:00 The Impact of Antenna Positioning Errors in Breast Microwave Imaging Systems
Mario Solis Nepote (University of Manitoba); Tyson Reimer (University of Manitoba); Stephen Pistorius (University of Manitoba);
- 09:20 Sensitivity and Sensing Depth Analysis of Open-ended Contact Probes for Cancer Diagnosis
Cemanur Aydinalp (Istanbul Technical University); Sulayman Joof (Istanbul Technical University); Tuba Yilmaz (Istanbul Technical University); Ibrahim Akduman (Istanbul Technical University);
- 09:40 Numerical Comparison of Antennas in Terms of Differential Temperature Imaging via UWB Radar
Ondrej Fiser (Czech Technical University in Prague); Vojtech Hruby (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Jan Vrba (Czech Technical University in Prague);
- 10:00 Dielectric-loaded 5.8 GHz Interstitial Monopole Antenna for Spherically-shaped Hepatic Tumors Ablation
Mazen M. Yassin (Minia University); Emad Tamam (Minia University); Ahmed A. Ibrahim (El-Minia University); Ashraf M. Said (Minia University); Ahmed I. Galal (El-Minia University);
- 10:20 Non-contact Monitoring of Respiration and Heart Activity of Infants Using UWB Signals
Ondrej Fiser (Czech Technical University in Prague); Jan Tesarik (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague);
- 10:40 Redesign of Hyperthermia System with Non-invasive Temperature Measurement via UWB Radar
Ondrej Fiser (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague); Jan Vrba (Czech Technical University in Prague);
- 11:00 **Coffee Break**

- 11:30 Improving SAR Homogeneity in a Layered Spherical Model of Head for Hyperthermia Treatments with RF Phased Array Systems
Fernando Bardati (University of "Tor Vergata"); Piero Tognolatti (University of L'Aquila); Alessandro Di Carlofelice (University of L'Aquila);
- 11:50 Lens Applicator for Deep-local Treatment of Cancer by Microwave Hyperthermia
Jan Vrba (Czech Technical University in Prague); Jiri Kubes (Proton Therapy Center); Ferdinand Trebicky (Institute of Radiation Oncology); Jan Vrba, Jr. (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Ondrej Fiser (Czech Technical University in Prague); Ilja Merunka (Czech Technical University in Prague); Jesus Cumana (Czech Technical University);
- 12:10 MRI-induced Heating of Coils for Microscopic Magnetic Stimulation at 1.5 Tesla
Giorgio Bonmassar (Massachusetts General Hospital); Peter Serano (Massachusetts General Hospital);
- 00:00 Metamaterial Hyperthermia Applicators for Cancer Treatment
David Vrba (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague);
-
- Session 3A0**
Poster Session 3
-
- Wednesday AM, June 19, 2019**
9:30 AM - 12:30 AM
Room Corridor
-
- 1 A Nyström Method with Lagrange's Interpolation for Solving Electromagnetic Scattering by Dielectric Objects
Ruo Xing Gao (Tongji University); Shu Run Tan (ZJU-UIUC Institute, Zhejiang University); Leung Tsang (University of Michigan); Mei Song Tong (Tongji University);
- 2 Design Analysis of Omnidirectional Single Reflector Antennas Synthesized for a Coscant Squared Coverage in Elevation Plane
Isabelle Marcansola (Sao Paulo State University (UNESP)); Rafael Abrantes Penchel (Sao Paulo State University (UNESP), Campus of Sao Joao da Boa Vista); Denilson Paulo Souza Dos Santos (Sao Paulo State University (UNESP));
- 3 Research of Time-domain Model of Microwave Radiation Field Measurement System Based on Scatter Parameters Transient Analysis
Zhen-Bo Cheng (Northwest Institute of Nuclear Technology); Tingyong Jiang (Northwest Institute of Nuclear Technology); Jiawei Yao (Northwest Institute of Nuclear Technology); Youjie Yan (Northwest Institute of Nuclear Technology); Zhanjun Liu (Northwest Institute of Nuclear Technology);
- 4 NDF and PSF Results for Semi-elliptical Sources
Giovanni Leone (Universita della Campania Luigi Vanvitelli); Fortuna Munno (Universita della Campania Luigi Vanvitelli); Rocco Pierri (Universita degli Studi della Campania "Luigi Vanvitelli");
- 5 Accurate Image Recognition in Convolutional Neural Networks Based on Two-dimensional Discrete Fourier Transform
Fozhi Zhou (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);
- 6 Experimental X and Gamma Ray Measurement of Nanoparticles and Nanolayers
Pavel Fiala (Brno University of Technology); P. Londak (Brno University of Technology); Karel Bartusek (Institute of Scientific Instruments of the ASCR);
- 7 Design of Effective Gradient-index Lenses Involving Penetrable Elements via Heuristic Optimizations and Full-wave Simulations
Sadri Guler (Middle East Technical University); Ozgur Eris (Middle East Technical University); Ali Samet Ayik (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 8 Detection of Multiple Nonlinear Targets using the PI-DORT Method
Rohit Chandra (Rose-Hulman Institute of Technology); Matthew Howlett (Rose-Hulman Institute of Technology); Ian Sheffert (Rose-Hulman Institute of Technology); John Michael Van Treeck (Rose-Hulman Institute of Technology); Sun K. Hong (Soongsil University); Edward Wheeler (Rose-Hulman Institute of Technology);
- 9 Combining Parabolic Equation Method with Surface Integral Equations
Mikhail Sergeevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Aleksey Aleksandrovich Komarov (National Research University "Moscow Power Engineering Institute");

- 10 Impulsive Noise Characterization in Narrowband Power Line Communication
L. Bai (University of Pisa); Mauro Tucci (University of Pisa); Sami Barmada (University of Pisa); Marco Raugi (Universita di Pisa); T. Zheng (Xi'an Jiaotong University);
- 11 Multi-chip Communication System of VLBI Hardware Correlator
Jiangying Gan (Shanghai Astronomical Observatory, Chinese Academy of Science); Zhijun Xu (Shanghai Astronomical Observatory, Chinese Academy of Science);
- 12 The Use of Electronic Terrain Maps for Solving the Problem of Calculating the Propagation of Radio Waves above the Earth's Surface
Elena Sergeevna Malevich (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); A. A. Volkova (National Research University "Moscow Power Engineering Institute");
- 13 Photonic Doped Zero-index Media for Coherent Perfect Absorption
Wenjie Ji (Soochow University); Jie Luo (Soochow University); Yun Lai (Nanjing University);
- 14 A Bending and Absorption Band Shift Absorber Based on Plasma
Xin-Ru Kong (Nanjing University of Posts and Telecommunications); Ri-Na Dao (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Xing-Liang Tian (Nanjing University of Posts and Telecommunications);
- 15 Comparing Planar Resonant Periodic Structures
Tomas Kriz (Brno University of Technology); Radim Kadlec (Brno University of Technology);
- 16 Graphene Plasmonics Modulator Structured by Groove Array Metasurface
Yulin Wang (Nanjing Tech University);
- 17 Subwavelength Diffraction Grating with Continuous Ridges for Inverse Energy Flux Generation
Sergey A. Degtyarev (Samara National Research University (Samara University)); Dmitry A. Savelyev (Samara National Research University); Svetlana N. Khonina (Samara State Aerospace University);
- 18 Differentiation of the Laser Pulse in a Waveguide with a Bragg Grating
Stanislav V. Krasnov (Samara National Research University); Sergey G. Volotovskii (Image Processing Systems Institute of RAS — Branch of the FSRC "Crystallography and Photonics" RAS); Dmitry A. Savelyev (Samara National Research University);
- 19 Fabrication of Polymer-based Optical Waveguides Using Direct Laser Writing Techniques for Biosensing in the Visible Spectrum
Fernando Jose Gordo Quiroga (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid); Manuel Cano-Garaia (Universidad Politecnica de Madrid (UPM)); Morten A. Gedday (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid); Xabier Quintana (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid); Jose M. Oton (Technical University of Madrid (UPM), CEMDATIC, Universidad Politecnica de Madrid);
- 20 Application of Optimization Methods to DWDM Optical Node Model
K. Wnuk (Wroclaw University of Science and Technology); Slawomir Sujecki (Wroclaw University of Science and Technology); S. Kozdrowski (Wroclaw University of Science and Technology);
- 21 Modeling of Distorted Optical Signals in Long-haul Transmission Systems
Andis Supe (Riga Technical University); Jurgis Porins (Riga Technical University);
- 22 General Theory of the Resonant Spectrum of Multi-ring Resonators
Vitaliy V. Vitko (Saint Petersburg Electrotechnical University "LETI"); Andrey A. Nikitin (Saint Petersburg Electrotechnical University "LETI"); Alexey B. Ustinov (Saint Petersburg Electrotechnical University "LETI"); Boris Kalinikos (Saint Petersburg Electrotechnical University "LETI");
- 23 Simultaneous Measurement of NO₂ and Particulate Matter (PM) by Broad-band Cavity-enhanced Absorption Spectroscopy Using Supercontinuum Light
Gaoxuan Wang (Universite du Littoral Cote d'Opale); Lingshuo Meng (Universite du Littoral Cote d'Opale); Benjamin Hanoune (Universite de Lille1); Suzanne Crumeyrolle (Universite de Lille1); Eric Fertein (University of the Littoral Opal Coast); Thomas Fagniez (Universite du Littoral Cote d'Opale); Cecile Coeur (Universite du Littoral Cote d'Opale); Wei Dong Chen (Universite du Littoral Cote d'Opale);

- 24 Terahertz Pulsed Spectroscopy of Astrophysical Ice Analogs: A Pilot Study
Arseniy A. Gvdush (*Bauman Moscow Technical University (BMSTU)*); B. M. Giuliano (*Max-Planck-Institute fur extraterrestrische Physik*); B. Muller (*Max-Planck-Institute fur extraterrestrische Physik*); Gennadii A. Komandin (*Prokhorov General Physics of Russian Academy of Science*); M. E. Palumbo (*Osservatorio Astrofisico di Catania*); G. A. Baratta (*Osservatorio Astrofisico di Catania*); C. Scire (*Osservatorio Astrofisico di Catania*); Stanislav Olegovich Yurchenko (*Bauman Moscow State Technical University*); Kirill Igorevich Zaytsev (*Bauman Moscow State Technical University*); A. V. Ivlev (*Max-Planck-Institute fur extraterrestrische Physik*); P. Caselli (*Max-Planck-Institute fur extraterrestrische Physik*);
- 25 Localization of a Spin-orbit Coupled Bose-Einstein Condensate in a Bichromatic Optical Lattice
Yongshan Cheng (*Hubei Normal University*); Gao-hui Tang (*Hubei Normal University*); S. K. Adhikari (*UNESP — Universidade Estadual Paulista*);
- 26 Effect of Electric Fields on Magnetic Resonance in Multiferroic Borates
A. M. Kuzmenko (*Prokhorov General Physics Institute, Russian Academy of Sciences*); A. A. Gvdush (*Prokhorov General Physics Institute, Russian Academy of Sciences*); D. Szaller (*Vienna University of Technology*); Th. Kain (*Vienna University of Technology*); L. Weymann (*Vienna University of Technology*); A. Shuvaev (*Vienna University of Technology*); Anna Pimenov (*Vienna University of Technology*); Alexander A. Mukhin (*Prokhorov General Physics Institute, Russian Academy of Sciences*); V. Yu. Ivanov (*Prokhorov General Physics Institute, Russian Academy of Sciences*); A. Pimenov (*Vienna University of Technology*);
- 27 Quantization of Landau Damping in Metal Nanoslabs
Felipe Perez-Rodriguez (*Benemerita Universidad Autonoma de Puebla*); S. G. Castillo-Lopez (*Benemerita Universidad Autonoma de Puebla*); Nikolay M. Makarov (*Benemerita Universidad Autonoma de Puebla*);
- 28 Elimination of Fabry-Pérot Resonances in a Broad Spectrum by Designing Terahertz Photonic Crystals
Shanshan Li (*Soochow University*); Yu Wang (*Soochow University*); Wenya Zhang (*Soochow University*); Weixin Lu (*Soochow University*); Bo Hou (*Soochow University*); Jie Luo (*Soochow University*); Yun Lai (*Nanjing University*);
- 29 Second Harmonic Scattering from Hybrid Gold — Dielectric Nanoparticles
Zacharie Behel (*UMR CNRS 5306 and Université Claude Bernard Lyon 1*); Rachael Taitt (*Université de Lyon*); Virginie Monnier (*Université de Lyon*); Yann Chevolut (*Université de Lyon*); Melissa Maldonado (*Universidade Federal de Pernambuco*); Renato E. De Araujo (*Federal University of Pernambuco*); Anderson S. L. Gomes (*Universidade Federal de Pernambuco*); Ch. Jonin (*Université de Lyon*); Pierre-Francois Brevet (*Université Claude Bernard Lyon 1*);
- 30 Heat-induced Active Centers in Bismuth-doped Optical Fibers for 1.7- μm -region Laser Applications
Sergei V. Firstov (*Fiber Optics Research Center of the Russian Academy of Sciences*); A. V. Kharakhordin (*Fiber Optics Research Center of the Russian Academy of Sciences*); S. V. Alyshev (*Fiber Optics Research Center of the Russian Academy of Sciences*); K. E. Riumkin (*Fiber Optics Research Center of the Russian Academy of Sciences*); E. G. Firstova (*Fiber Optics Research Center of the Russian Academy of Sciences*); M. A. Melkumov (*Fiber Optics Research Center of the Russian Academy of Sciences*); A. M. Khagai (*Fiber Optics Research Center of the Russian Academy of Sciences*); V. F. Khopin (*Institute of Chemistry of High-Purity Substances of the Russian Academy of Sciences*); Alexej N. Guryanov (*Institute of Chemistry of High Purity Substances of RAS*);
- 31 Temperature Rises in Human Fetuses in Second and Third Trimesters of Pregnancy during MRI
Tomoaki Nagaoka (*National Institute of Information and Communications Technology*);
- 32 Design and PIC Simulation Study of S-band Axial-partition Dielectric Loaded Bifrequency MILO
Arjun Kumar (*Indian Institute of Technology (BHU)*); Prabhakar Tripathi (*Indian Institute of Technology (BHU)*); Smrity Dwivedi (*Indian Institute of Technology (BHU)*); P. K. Jain (*Indian Institute of Technology (BHU)*);
- 33 A DOA Estimation Method for Co-prime Linear Arrays Based on Gradient Descent
Sen Wang (*National University of Defense Technology*); Zengping Chen (*National University of Defense Technology*); Qinglong Bao (*National University of Defense Technology*); Shiyong Xu (*Sun Yat-sen University*);

- 34 Development of a Robotic Surgical System of Thermal Ablation and Microwave Coagulation
Mattia Dimitri (Universita di Firenze); Guido Biffi Gentili (Università degli Studi di Firenze); Fabio Staderini (Dipartimento di Chirurgia e Medicina Traslazionale (DCMT)); Margherita Brancadoro (Istituto di BioRobotica — Scuola Superiore Sant’Anna); Arianna Menciacchi (Istituto di BioRobotica — Scuola Superiore Sant’Anna); Andrea Coratti (Università degli Studi di Firenze); Fabio Cianchi (Dipartimento di Chirurgia e Medicina Traslazionale (DCMT)); Andrea Corvi (Università degli Studi di Firenze); Lorenzo Capineri (Universita di Firenze);
- 35 An 150 GHz Waveguide Bandpass Filter Based on Micro-satellite Platform
Yao Chen (University of Chinese Academy of Sciences); Shengwei Zhang (National Space Science Center, Chinese Academy of Sciences); Jing Wang (University of Chinese Academy of Sciences);
- 36 A 3-Bit Passive Wireless Strain Sensor Design Based on Backscattering Principle
Guo Chun Wan (Tongji University); M. X. Zhang (Tongji University); Meng Meng Li (Tongji University);
- 37 Image Reconstruction Based on Compressive Sensing Using Total Variation Spatial Regulation for Microwave Imaging
Izra Halim Razzak (Universitas Indonesia); Mia Rizkinia (Universitas Indonesia); Basari Basari (Universitas Indonesia);
- 38 Ring Resonator Characterization at Microwave Frequencies of a Novel Soft Dielectric
Tessnim Sghaier (University of Nantes); Mohammed El-Gibari (Lunam Universite, Universite de Nantes); Benoit Guiffard (University of Nante);
- 39 Novel Distance Measurement Method Using Inband-RFID-Technology
Philip Schmidt (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Peter Kuhn (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Thorben Greuter (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Anton Grabmaier (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS));
- 40 Evaluation of Biophysical Therapy on Stress Management through Salivary Alpha-amylase in a Randomized Controlled Trial
Ida Ferrara (Clinical Biophysics International Research Group); Alberto Foletti (Clinical Biophysics International Research Group);
- 41 Many-body Near Field Radiative Heat Transfer between a Dielectric Nanoparticle and Plates
Jie-Long Fang (Harbin Institute of Technology); Yong Zhang (Harbin Institute of Technology); Hong-Liang Yi (Harbin Institute of Technology);
- 42 Design a Boost DC-DC Converter Using PFM Control Scheme
Yu-Hsiang Tseng (National Central University); Wen-Yuan Tsai (National United University); Jen-Chieh Liu (National United University);
- 43 Measurement of Electromagnetic Characteristics Materials in a Rectangular Waveguide
Vladimir Ivanovich Evseev (LLC “Arzamas Instrument-making Design Bureau”); Elena Alexandrovna Lupanova (Nizhniy Novgorod State Technical University n.a. R. E. Alekseev); Sergey Michailovich Nikulin (Alekseev’s Nizhny Novgorod State Technical University); Vitaliy Vladimirovich Petrov (Nizhniy Novgorod State Technical University n.a. R. E. Alekseev);
- 44 A Compact UHF Planar Monopole Antenna Using Magnetodielectric Ferrite Substrate
Yongwei Li (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);
- 45 Manufacturing Process Development of the Multi Steps Optical Filter for Narrow Spectral Selection
Sergey A. Fomchenkov (Samara National Research University); Elena Sergeevna Kozlova (Samara National Research University);
- 46 Wireless Energy Harvesting Circuit for IoT Sensor Networks
Jin-Sup Kim (Korea Electronics Technology Institute);
- 47 A Dual-band CPW-fed Circularly Polarized Open-slot Antenna for WLAN/WiMAX Applications
Lingling Li (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Yongwei Li (Southwest Jiaotong University);
- 48 A GaAs Integrated Power Divider Based on Microstrip and **LC** Structure with Optimized Capacitance
Mingye Fu (Southwest Jiaotong University); Qianyin Xiang (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);
- 49 A Wireless Charging Station for Multipurpose Electronic Systems
Josef Pokorný (Brno University of Technology); Petr Marcon (Brno University of Technology); Jiri Janousek (Brno University of Technology); Tomas Kriz (Brno University of Technology); Premysl Dohnal (Brno University of Technology);

- 50 Fourth-order Electrical Tunable Microstrip LC Cross-coupled Bandpass Filter
Xue Li (Chengdu Agricultural College); Chengjun Zou (Chengdu Agricultural College); Qianyin Xiang (Southwest Jiaotong University);
- 51 Design and Optimization of High-efficiency Rectenna for RF Energy Harvesting
Chayma Bahhar (University of Tunis El Manar); Mourad Aidi (University of Tunis El Manar); Fethi Mejri (Ecole Nationale d'Ingenieurs de Tunis); Taoufik Aguilu (University of Tunis El Manar (UTM));
- 52 Reflectarray Cloaking Using Spiral-shaped Resonant Elements for Dual-polarization
Shinichiro Wakashima (Doshisha University); Yuki Fujimoto (Sony Mobile Communications Inc); Hiroyuki Deguchi (Doshisha University); Mikio Tsuji (Doshisha University);
- 53 Design of W-band Millimeter-wave CMOS Low-power Active Ring Mixer
Chia-Yu Liu (National Cheng Kung University); Huey-Ru Chuang (National Cheng Kung University);
- 54 Analytic MTF Expression for a Turbid Medium
Ruizhong Rao (Anhui Institute of Optics and Fine Mechanics, The Chinese Academy of Sciences);
- 55 Dielectric Relaxation in Wet Soils at Frequencies from 10 kHz to 10 MHz
Pavel Petrovich Bobrov (Omsk State Pedagogical University); T. A. Belyaeva (Omsk State Pedagogical University); E. S. Kroshka (Omsk State University); O. V. Rodionova (Omsk State Pedagogical University);
- 56 Dielectric Relaxation in Clays in a Wide Range of Frequencies at Temperatures from -15°C to 25°C
E. S. Kroshka (Omsk State University); Andrey V. Repin (Omsk State Pedagogical University); O. V. Rodionova (Omsk State Pedagogical University);
- 57 A New Method for Estimation of Baseline Incline Angle for Double-side Looking Interferometric Imaging Radar Altimeter
Wenshuai Zhai (Center for Space Science and Applied Research, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Xiaojin Shi (Center for Space Science and Applied Research, CAS); Xiao Dong (Center for Space Science and Applied Research, Chinese Academy of Sciences); Xueyan Kang (National Space Science Center, Chinese Academy of Sciences);
- 58 Reducing the Noise Level in a Gaussmeter with a Hall Probe for Reliable Magnetic Impedance Tomography
Tomas Hejtmanek (Brno University of Technology); Zdenek Roubal (Brno University of Technology);
- 59 High-vivid Uniformly-moving Target Deception Jamming Method against SAR-GMTI Based on Inverse Omega-K Algorithm
Qingyang Sun (Shanghai Jiao Tong University); Mang Tang (Shanghai Jiao Tong University); Ting Shu (Shanghai Jiaotong University); Kai-Bor Yu (Shanghai Jiao Tong University); Wenxian Yu (Shanghai Jiao Tong University);
- 60 Land Deformation Observation due to the Earthquake Intensity Observe from Space
Pakhrur Razi (Chiba University); Josephat Tetuko Sri Sumantyo (Chiba University); Katsumoshin Nishi (Chiba University); Joko Widodo (Chiba University); Achmad Munir (Bandung Institute of Technology); Fajar Febriany (Universitas Negeri Padang);
- 61 Researches on Wavenumber Domain Stolt Interpolation Algorithm for Highly-squint Wide Swath FMCW SAR
Zhan Wang (National University of Defense Technology); Shuang-Xun Li (National University of Defense Technology);
- 62 A Distributed Cooperative SAR Three-dimensional Imaging Method
Dou Sun (National University of Defense Technology); Shiqi Xing (National University of Defense Technology); Bo Pang (National University of Defense Technology); Yongzhen Li (National University of Defense Technology); Xuesong Wang (National University of Defense Technology);
- 63 An Optimized Calibration Method for Integrated Nephelometer: A Case Study in Winter Shanghai
Yingying Du (University of Shanghai for Science and Technology); Jun Chen (University of Shanghai for Science and Technology); Arun Ramachandran (National Institute of Technology Calicut); Ravi Varma (National Institute of Technology Calicut);
- 64 ^{14}N NQR Study of Tetrazole Derivatives for Potential Applications in Security, Detection of Counterfeit Drugs and Pharmaceuticals
Sultonazar Mamadazizov (Gebze Technical University); Galina S. Kupriyanova (I. Kant Baltic Federal University); Marina Shelyapina (Saint-Petersburg State University); Georgy Mozhukhin (Gebze Technical University); Bulat Rameev (Gebze Technical University);

- 65 Design of a Photoconductive Vacuum Diode Arrays in Terahertz Band
Yikun Ding (Beihang University); Jun Dai (Beihang University); Cun-Jun Ruan (Beihang University);
- 66 Relation of Traveling Ionospheric Disturbances Characteristics with Planetary Waves in the Middle Atmosphere
Maxim V. Tolstikov (Institute of Solar-Terrestrial Physics); Alexey V. Oinats (Institute of Solar-Terrestrial Physics, SB RAS); Irina V. Medvedeva (Institute of Solar-Terrestrial Physics); Andrey V. Medvedev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences); Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics, SB RAS); Nozomu Nishitani (Nagoya University);
- 67 Ionospheric Response to the Atmospheric Waves Generated during First Launches from the Vostochny Space Center
Geliy A. Zherebtsov (Institute of Solar-Terrestrial Physics, SB RAS); Nataly Petrovna Perevalova (Institute of Solar-Terrestrial Physics (ISTP) SB RAS); Irina V. Medvedeva (Institute of Solar-Terrestrial Physics);
- 68 Evaluation of the Impact of MZM Frequency Response on BER Performance of PAM-4 Modulated WDM-PON
Sandis Spolitis (Riga Technical University); Inna Kurbatska (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University);
- 69 Performance Analysis of Electronic Dispersion Compensation for 40 Gbit/s WDM-PON Transmission System with ITU-T G.652 Optical Fiber
Valts Dilendorfs (Riga Technical University); Mareks Parfjonovs (Riga Technical University); Sandis Spolitis (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University);
- 70 Research of Four-wave Mixing Optical Effect for Realization of up to 16-channel DWDM Transmission Systems
Klinta Vilcane (Riga Technical University); Svitlana Matsenko (Sumy State University); Mareks Parfjonovs (Riga Technical University); Marina Alekseejeva (Riga Technical University); Sandis Spolitis (Riga Technical University);
- 71 Light Attenuation by Sand/Dust Storms
Li Xie (Lanzhou University); Jun Zhou (Lanzhou University); H. Zhong (Lanzhou University); Z. Du (Lanzhou University);
- 72 Microwave Absorbing Sheets of Two-layer Composites Laminate for Surface Wave Attenuation at Wide Frequency Band of 1–18 GHz
Yinrui Li (Huazhong University of Science and Technology); Jiayi Yang (Huazhong University of Science and Technology); Xian Wang (Huazhong University of Science and Technology); Jieling Liu (Huazhong University of Science and Technology); Hui Luo (Huazhong University of Science and Technology); Dong Qi (Huazhong University of Science and Technology); Rongzhou Gong (Huazhong University of Science and Technology);
- 73 Features of the Secondary Sources Method Modeling of the Three-dimensional Electromagnetic Field in the Objects that Contain a Defect
Dmitriy Maximovich Filippov (V. I. Vernadsky Crimean Federal University); Alexandr Alexandrovich Shuyskiy (V. I. Vernadsky Crimean Federal University); Vladimir Naumovich Berzhansky (V. I. Vernadsky Crimean Federal University); Nazar Victorovich Lugovskoy (V. I. Vernadsky Crimean Federal University);
- 74 The Influence of Temperature on Pulse Duration and Spectrum of Laser Diode Matrixes Used for Range-gate Vision Systems
Denis V. Shabrov (B. I. Stepanov Institute of Physics); V. A. Gorobets (SSPA "Optics, Optoelectronics and Laser Technology"); B. F. Kuntsevich (SSPA "Optics, Optoelectronics and Laser Technology"); R. Y. Mikulich (SSPA "Optics, Optoelectronics and Laser Technology");
- 75 A Boundary Element Method for the Study of Printed Antenna Comprising Numerous Radiating Elements
Siham Benkouda (University of Constantine 1); Ahmed Mahamdi (University of Mentouri Brothers — Constantine 1); Tarek Fortaki (Universite de Batna);
- 76 Effective Rotation Potential of the Diatomic Molecular Ion in the RF Trap
Ivan A. Vasilev (ITMO University); Semyon S. Rudi (ITMO University); Olga Kuschenko (ITMO University); Yury Rozhdestvensky (ITMO University);

Session 3P1
Remote Sensing of the Earth, Ocean, and
Atmosphere 2

Wednesday PM, June 19, 2019

Room 1 - 1st Floor

Organized by Liang Mei

Chaired by Liang Mei

- 14:30 Remote Sensing of Coastal Water-quality Parameters from Sentinel-2 Satellite Data in the Tyrrhenian and Adriatic Seas
Michele Iacobelli (Sapienza Universita di Roma); Massimo Orlandi (Sapienza Universita di Roma); Domenico Cimini (CNR-IMAA — Potenza); Frank Silvio Marzano (Sapienza University of Rome);
- 14:50 Underwater Suspended Particle Monitoring by Hyperspectral Lidar
Guangyu Zhao (South China Normal University); Zheng Duan (South China Normal University); Ying Li (South China Normal University); Jinlei Wang (South China Normal University); Sune Svanberg (Lund University);
- 15:10 Skew Detection and Ortho-rectification for System Corrected Landsat TM Images
Hiroyuki Saito (Hiroasaki University); Yuta Miura (Hiroasaki University);
- 15:30 Three-dimensional Micro-motion Feature Extraction for Rotation-symmetric Space Targets
Ying Luo (Air Force Engineering University); Le Kang (Air Force Engineering University); Jian Hu (Air Force Engineering University); Jia-Cheng Ni (Air Force Engineering University); Qun Zhang (Air Force Engineering University);
- 15:50 Improving Land Surface Temperature Retrieval from FengYun-3 Data for Agro-drought Monitoring in China
Zhihao Qin (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Jianlong Fan (National Satellite Meteorological Center (NSMC)); Wenhui Du (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Shifeng Li (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Shuhe Zhao (Nanjing University); Offer Rozenstein (Institute of Soil, Water and Environmental Sciences, Agricultural Research Organization);
- 16:10 Game Model in Multi-target Imaging Task Allocation
Xiao-Wen Liu (Air Force Engineering University); Qun Zhang (Air Force Engineering University); Bi-Shuai Liang (Army Academy of Border and Coastal Defence); Jia Liang (Air Force Engineering University); Hui-Wei Zhang (No. 93534, Unit of PLA);
- 16:30 **Coffee Break**
- 17:00 Sun-induced Chlorophyll Fluorescence Retrieval from Chinese TanSat in Southeast China
Shilei Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Maofang Gao (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Ya Gao (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Si-Bo Duan (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Xiao-Jing Han (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences);
- 17:20 A Ship Detection Algorithm Based on K-distribution
Corrado Avolio (E-GEOS — An Italian Space Agency/Telespazio Company); Carmine Frascella (E-GEOS — An Italian Space Agency/Telespazio Company); Flavia Macina (E-GEOS — An Italian Space Agency/Telespazio Company); Massimo Zavagli (E-GEOS — An Italian Space Agency/Telespazio Company); Mario Costantini (E-GEOS — An Italian Space Agency/Telespazio Company);
- 00:00 GNSS Phase Altimetry of the Sea Level: Systematic Bias Effect Caused by Sea Surface Waves
Yaroslav A. Ilyushin (Moscow State University); Artem M. Padokhin (M. V. Lomonosov Moscow State University); Gregory A. Kurbatov (M. V. Lomonosov Moscow State University); M. O. Nazarenko (M. V. Lomonosov Moscow State University); V. E. Smolov (Marine Hydrophysical Institute);
- 00:00 Shipboard S-band Doppler Wave Radar and Its Experiment in the South China Sea
Xi Chen (Wuhan University); Zezong Chen (Wuhan University); Chen Zhao (Wuhan University); Zihan Wang (Wuhan University);
-

Session 3P2a
**SC1&SC5: Direct and Inverse Scattering
Methods in Complex Environments 2**

Wednesday PM, June 19, 2019
Room 5 - 1st Floor

Organized by Matteo Pastorino, Giuseppe Schettini

 Chaired by Matteo Pastorino, Giuseppe Schettini

 14:30 On Simulation of Electromagnetic Scattering in a
Invited Through-wall Environment

*Cristina Ponti (‘‘Roma Tre’’ University);
Giuseppe Schettini (‘‘Roma Tre’’ University);*

 14:50 Numerical Results in Subsurface Near Zone Inverse
Invited Source

*Maria Antonia Maisto (Universita degli Studi della
Campania ‘‘Luigi Vanvitelli’’); Raffaele Solimene
(Universita degli Studi della Campania ‘‘Luigi Van-
vitelli’’); Rocco Pierri (Universita degli Studi della
Campania ‘‘Luigi Vanvitelli’’);*

 15:10 Electromagnetic Analysis for Multi-constellation
GNSS Satellite Visibility Determination in Urban Ar-
eas

*Wei-Jiang Zhao (A*STAR Institute of High Perfor-
mance Computing); Binfang Wang (Institute of High
Performance Computing); En-Xiao Liu (Institute of
High Performance Computing);*

Session 3P2b
**SC3: Holographic Technologies in Sensing and
Light Redirection and Shaping**

Wednesday PM, June 19, 2019
Room 5 - 1st Floor

Organized by Izabela Naydenova, Suzanne Martin

 Chaired by Izabela Naydenova, Suzanne Martin

 15:30 Fabrication of Holographic Sensors by Optical Force
Invited Induced Interference Pattern

*Ali K. Yetisen (Imperial College London);
Yunuen Montelongo (Universidad De La Salle
Bajío); Haider Butt (University of Birmingham);*

 15:50 Investigation of Reversibility of Temperature Respon-
sive Diffractive Structures

*Muhammad Irfan (Technological University Dublin);
Suzanne Martin (Technological University Dublin); Iz-
abela Naydenova (Technological University Dublin);*

 16:10 Investigation of Sensing Responses of Holographic
Structures in Volatile Organic Compounds

*Graceson Antony (Technological University Dublin);
Dervil Cody (Technological University Dublin Insti-
tute of Technology); Izabela Naydenova (Technological
University Dublin);*

 16:30 **Coffee Break**

 17:00 Investigation of Hologram Recording Capability of
Magnetic Photopolymer Nanocomposite for Holo-
graphic Sensor/Actuator

*Muhammad Irfan (Technological University Dublin);
Suzanne Martin (Technological University Dublin); Iz-
abela Naydenova (Technological University Dublin);*

 17:20 Holographic Optical Elements as Solar Concentrators
Invited for Space Applications

*M. A. Ferrara (Institute for Microelectronics and
Microsystems-Unit of Napoli); V. Striano (CGS
S.p.A.); Giuseppe Coppola (Institute for Microelec-
tronics and Microsystems-Unit of Napoli);*

 17:40 Theoretical Analysis of a Volume Holographic Lens
Using Matlab

*Sanjay Kumar Keshri (Technological University
Dublin); Kevin Murphy (Technological University
Dublin); Izabela Naydenova (Technological University
Dublin); Suzanne Martin (Technological University
Dublin);*

 18:00 Development of Holographic Solar Concentrator in
Photopolymer with High Dynamic Range and Im-
proved Photosensitivity

*Brian Rogers (Technological University Dublin);
Suzanne Martin (Technological University Dublin); Iz-
abela Naydenova (Technological University Dublin);*

 18:20 Learning Based Holographic Reconstruction through
a Diffuser

*Lina Zhou (The Hong Kong Polytechnic University);
Yin Xiao (The Hong Kong Polytechnic University);
Wen Chen (The Hong Kong Polytechnic University);*

 00:00 Generation and Measurement of Arbitrary Vector
Beams Based on Pancharactnam-Berry Phase

*Sheng Liu (Northwestern Polytechnical University);
Shuxia Qi (Northwestern Polytechnical University);
Peng Li (Northwestern Polytechnical University);
Jian-Lin Zhao (Northwestern Polytechnical Univer-
sity);*

Session 3P3
**SC1&SC2: Computational
Bioelectromagnetics: from Single Molecule to
Human Body**

Wednesday PM, June 19, 2019
Room 7 - 1st Floor

Organized by Francesca Apollonio, Caterina Merla

 Chaired by Francesca Apollonio, Caterina Merla

- 14:30 Nanoscale and Macroscale Transport Across Electrically Stressed Cell Membranes — Beyond Multiscale to Multidimensional Models
P. Thomas Vernier (Old Dominion University);
- 14:50 A Multiscale Model of Skin Electroporation
Janja Dermol-Cerne (University of Ljubljana); Damijan Miklavcic (University of Ljubljana);
- 15:10 Electrode Montage Optimization for Modulating Interoception by Insula Stimulation
Parazzini Marta (Politecn Milan); Serena Fiochi (Politecn Milan, Dept Bioengn); Chiaramello Emma (Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni IEIIT CNR); Bonato Marta (Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni IEIIT CNR); Tognola Gabriella (Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni IEIIT CNR); Sagliano Laura (University of Campania 'Luigi Vanvitelli'); Dario Grossi (University of Campania 'Luigi Vanvitelli');
- 15:30 Cell Cluster Modeling to Assist Electropulsation Experiments Using Optical Microspectroscopy
Caterina Merla (ENEA, Division of Health Protection Technologies); Agnese Denzi (Sapienza University of Rome); Francesca Apollonio (Sapienza University of Rome); Lluis M. Mir (University Paris-Sud, Université Paris-Saclay); Micaela Liberti (Sapienza University of Rome);
- 15:50 Ultra-wideband Impedance Spectroscopy of a Live Biological Cell
Xiao Ma (Lehigh University); Xiaotian Du (Lehigh University); Hang Li (Lehigh University); Xuanhong Cheng (Lehigh University); James C. M. Hwang (Lehigh University);
- 16:10 A 2D FEM Model to Reproduce Local Stimulation of Excitable Cell
Patrizia Lamberti (University of Salerno); S. Elia (University of Salerno);
- 16:30 **Coffee Break**
- 17:00 A Novel Compact Circuit Model for Dielectric Parameters Extraction of Cell Suspensions
Nissar Karim (Bangor University); Caterina Merla (ENEA, Division of Health Protection Technologies); Cristiano Palego (Bangor University);
- 17:20 Non-invasive Magnetic Stimulation with a Microtms System: A Computational Study
Micol Colella (Universita di Roma, La Sapienza); Rebecca M. Laher (Harvard Medical School); Daniel Z. Press (Harvard Medical School); Courtney E. McIlduff (Harvard Medical School); Seward B. Rutkove (Harvard Medical School); Alvaro Pascual-Leone (Harvard Medical School); Francesca Apollonio (Sapienza University of Rome); Giorgio Bonmassar (Massachusetts General Hospital); Micaela Liberti ("Sapienza" University of Rome);
- 17:40 In Silico Electrical Modeling of Cell Aggregates
Pouria Mistani (University of California); Damien Voyer (EIGSI La Rochelle); Frederic G. Gibou (University of California); Clair Poignard (Univ. Bordeaux);
- 18:00 Investigation of the Exposure to Electromagnetic Fields in the Body with Metallic Orthopedic Implants
Lutfiye Nurel Ozdinc Polat (Akdeniz University); Sukru Ozen (Akdeniz University); Kayhan Ates (Akdeniz University); Halil Ibrahim Keskin (Akdeniz University);
- 18:20 On the Applicability of Homogenization in Composite Material Models for Tissue Analysis in the mm-wave Range
Kevin Jerbic (University of Duisburg-Essen); Benedikt Sievert (University of Duisburg-Essen); Jan Taro Svejda (University of Duisburg-Essen); Andreas Rennings (University of Duisburg-Essen); Daniel Erni (University of Duisburg-Essen, Campus Duisburg);
- 00:00 Toward the Determination of Molecular Mechanisms of Anti-tumor Action of TFields Using Measurements and Computational Modeling of Electroconductive Properties of Microtubules
Iara B. Santelices (University of Alberta); Aarat Kbra (University of Alberta); Clayton Bell (University of Alberta); Cameron M. Hough (University of Alberta); Piyush Kar (University of Alberta); Vahid Rezanian (MacEwan University); John D. Lewis (University of Alberta); Karthik Shankar (University of Alberta); Jack A. Tuszynski (University of Alberta);
-

00:00 Wireless Power Transfer for Biomedical Applications: Perspectives and Open Problems
Luciano Tarricone (University of Salento); Giuseppina Monti (University of Salento);

Session 3P4

Novel Mathematical Methods in Electromagnetics: Part 2

Wednesday PM, June 19, 2019

Room 8 - 1st Floor

Organized by Yury V. Shestopalov, Kazuya Kobayashi, Mario Lucido

Chaired by Yury V. Shestopalov, Mario Lucido

14:30 A New Method of Dielectric Characterization Using a Genetic Algorithm and a Coplanar Waveguide on Bilayer Films

Pierre-Vincent Dugue (University Brittany Loire, University of Nantes, Institute of Electronics and Telecommunications of Rennes, UMR CNRS 6164); Mohammed El-Gibari (University Brittany Loire, University of Nantes, Institute of Electronics and Telecommunications of Rennes, UMR CNRS 6164); Mathieu Halbwax (University of Lille); Massinissa Hadjloum (ERTE-ETSA (BOWEN Group)); Jean-Pierre Vilcot (Institute of Electronics, Microelectronics and Nanotechnologies, UMR CNRS 8520, University of Lille); Hongwu Li (Universite de Nantes, UBL);

14:50 The Scattering Characteristics of the Dual-element Vivaldi Antenna Arrays, Which Located on the Cylindrical Surface

A. V. Gevorkyan (Southern Federal University); Tatyana Yurievna Privalova (Southern Federal University);

15:10 Regularization Techniques for the Evaluation of the Induced Currents on a Thin Disk

Amedeo Andreotti (University of Naples "Federico II"); Rodolfo Araneo (University of Rome "La Sapienza"); Dario Assante (Universita Telematica Internazionale Uninettuno); Paolo Burghignoli (Sapienza University of Rome); Salvatore Celozzi (Sapienza University of Rome); Giampiero Lovat (University of Roma "La Sapienza"); Luigi Verolino (University of Naples "Federico II");

15:30 On the Efficient Evaluation of Improper Integrals Involving Oscillating and Slowly Decaying Functions

Fulvio Schettino (Universita degli Studi di Cassino);

15:50 Plane Wave Scattering by a Moving PEC Half-plane in Hertzian Electrodynamics

Burak Polat (Yildiz Technical University);

16:10 Complex Resonances of a Circular Patch in a Multilayered Medium: A Regularized Analysis

Fulvio Schettino (Universita degli Studi di Cassino);

16:30 **Coffee Break**

17:00 Singular and Nonsingular Boundary Integral Formulations for Scattering by Perfect Electric Conductors

Alex J. Yuffa (National Institute of Standards and Technology); Johannes Markkanen (Max Planck Institute for Solar System); Qiang Sun (University of Melbourne); Evert Klaseboer (Institute of High Performance Computing); Derek Y. C. Chan (University of Melbourne);

17:20 Validation of Hertzian Electromagnetism in a Rectangular Waveguide with Rotating PEC Termination

Burak Polat (Yildiz Technical University); Ramazan Dasbasi (Yildiz Technical University);

17:40 Tensor-Newton Reconstruction Scheme for Fluorescence Optical Tomography

Nishgandha Patil (Indian Institute of Technology); Naren Naik (Indian Institute of Technology);

18:00 Mathematical Foundations of a Geometric Theory of Diffraction for Light Scattering from a 3D Topographic Photomask

David H. Wei (ASML US, Inc.); Rafael Howell (ASML US, Inc.); Yen-Wen Lu (ASML US, Inc.); Yu Cao (ASML US, Inc.);

18:20 Topological Ingredients of Single Point Spaces: The Phases of Nonexistence to Existence Passages for Null Space to Thing Space

Taner Sengor (Yildiz Technical University);

18:40 Numerical Analysis on for Quantum Beam Splitter via Computational Electromagnetic Methods

Dong-Yeop Na (Purdue University); Jie Zhu (Purdue University); Weng Cho Chew (University of Illinois);

Session 3P5

SC1&SC5: Machine Learning Techniques for Remote Sensing and Electromagnetic Applications 2

Wednesday PM, June 19, 2019

Room Hall of Frescoes - 1st Floor

Organized by Massimo Panella

Chaired by Massimo Panella

- 14:30 Disruption Prediction Approaches Using Machine Learning Tools in Tokamaks
Giuliana Sias (University of Cagliari); Barbara Cannas (University of Cagliari); Sara Carcangiu (University of Cagliari); A. Fanni (University of Cagliari); A. Murari (Consorzio RFX (CNR, ENEA, INFN, Università di Padova, Acciaierie Venete SpA)); A. Pau (EUROfusion Consortium); JET Contributors (EUROfusion Consortium, JET, Culham Science Centre);
- 14:50 A Machine-learning and Compressive-sensing Inspired Approach to the Optimal Array Pattern Synthesis
Andrea Francesco Morabito (University 'Mediterranea' of Reggio Calabria); Cosimo Ieracitano (University 'Mediterranea' of Reggio Calabria); Francesco Carlo Morabito (University Mediterranea of Reggio Calabria);
- 15:10 RGBW Joint Demosaicking and Denoising Using a CNN
Fatemeh Fathollahi (University of New Brunswick); Mohammad Rezaee (University of New Brunswick); Yun Zhang (University of New Brunswick);
- 15:30 Decentralized Prediction of Electrical Time Series in Smart Grids Using Long Short-term Memory Neural Networks
Antonello Rosato (University of Rome "La Sapienza"); Rodolfo Araneo (University of Rome "La Sapienza"); Massimo Panella (University of Rome "La Sapienza");
- 15:50 Deep Learning Based Image Reconstruction and Tumor Detection in Multimodal Microwave-ultrasound Breast Images
Vahab Khoshdel (University of Manitoba); Ahmed Ashraf (University of Manitoba); Joe LoVetri (University of Manitoba);
- 16:10 Smart Distributed Sensing for Photovoltaic Applications
Antonino Laudani (Universita degli Studi Roma Tre); Gabriele Maria Lozito (Universita degli Studi Roma Tre);
- 16:30 **Coffee Break**
- 17:00 Application of Machine Learning to Synthesis of Maximally Sparse Linear Arrays
Xiaowen Zhao (Center for Space Science and Applied Research, Chinese Academy of Sciences); Qingshan Yang (Center for Space Science and Applied Research, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences);
- 17:20 Performance Estimate of Range Profile Feature Extraction for the Case of Defined Viewing Aspect by Means of Fisher Score
Fedor Borisovich Baulin (Bauman Moscow State Technical University); Evgeny Vladlenovich Buryi (Bauman Moscow State Technical University);
- 17:40 A Fuzzy Neural Network Approach to Quality Assessment of Water Reservoirs
Hieda Adriana Nascimento Silva (Federal University of Para); Antonello Rosato (University of Rome "La Sapienza"); Massimo Panella (University of Rome "La Sapienza");
- 18:20 A Methodology to Enforce Local Passivity in Generative Models for Linear Time-invariant Electromagnetic Systems
Xiao Ma (University of Illinois at Urbana-Champaign); Maxim Raginsky (University of Illinois at Urbana-Champaign); Andreas C. Cangellaris (University of Illinois at Urbana-Champaign);
- 18:00 Performance Estimate of Range Profile Feature Extraction by Means of Interclass Metric Histograms Analysis
Fedor Borisovich Baulin (Bauman Moscow State Technical University); Evgeny Vladlenovich Buryi (Bauman Moscow State Technical University);

Session 3P6

**SC1&SC4: Recent Advances in 2-D
Leaky-wave Antennas**

Wednesday PM, June 19, 2019

Room Cloister Hall - 1st Floor

Organized by Davide Comite, Symon K. Podilchak

Chaired by Davide Comite

- 14:30 Beam Control Using Fixed and Mechanically-reconfigurable Surface Patterns
Timothy D. Drysdale (University of Edinburgh);
- 14:50 Polarization-reconfigurable Omnidirectional Conical Leaky Wave Antenna
Yahong Liu (Northwestern Polytechnical University); Meize Li (Northwestern Polytechnical University); Kun Song (Northwestern Polytechnical University); Dingshan Hu (Northwestern Polytechnical University); Hongchao Liu (University of Birmingham); Xiao-Peng Zhao (Northwestern Polytechnical University); Shuang Zhang (University of Birmingham); Miguel Navarro-Cia (Imperial College London);

- 15:10 Bandwidth Enhancement of 2D Circularly-polarized Leaky-wave Antennas
Antoine Calteau (Univ Rennes); Maria Garcia-Vigueras (Univ Rennes); Herve Legay (Thales Alenia Space); Ronan Sauleau (University of Rennes 1); Mauro Ettorre (Universite de Rennes 1);
- 15:30 Millimeter-wave 2-D Leaky Wave Antennas: Design, Considerations and Measurements
Raheel M. Hashmi (Macquarie University); A. A. Baba (Macquarie University); Karu P. Esselle (Macquarie University);
- 15:50 Surface Impedance on a Corrugated or Perforated Dielectric on a Ground Plane
Bakhtiar Ali Khan (Concordia University Montreal); Robert Paknys (Concordia University Montreal);
- 16:10 60 GHz Low-dispersive Leaky-wave Antenna Integrated in Glide-symmetric Full-hole Structures
Qiao Chen (KTH Royal Institute of Technology); O. Dahlberg (KTH Royal Institute of Technology); Oscar Quevedo-Teruel (KTH Royal Institute of Technology);
- 16:30 **Coffee Break**
- 17:00 Metal-only Modulated Metasurface Antennas with Polarization and Amplitude Control
David Gonzalez-Ovejero (Univ Rennes); N. Chahat (Jet Propulsion Laboratory, California Institute of Technology); Mauro Ettorre (Universite de Rennes 1); Ronan Sauleau (University of Rennes 1); Goutam Chattopadhyay (California Institute of Technology); Stefano Maci (University of Siena);
- 17:20 Recent Advances in Modulated Metasurface Antennas
G. Minatti (Wave Up Srl); Francesco Caminita (Wave Up Srl); Enrica Martini (University of Siena); C. Della Giovampaola (Wave Up Srl); Stefano Maci (University of Siena);
- 17:40 Radially Periodic 2-D Leaky-wave Antenna with Wideband Broadside Radiation
Dejian Zhang (Tsinghua University); Davide Comite ("Sapienza" University of Rome); Hua Geng (Tsinghua University); Paolo Baccarelli (Roma Tre University); Paolo Burghignoli (Sapienza University of Rome); Symon K. Podilchak (Heriot-Watt University); Xiaoping Zheng (Tsinghua University);
- 18:00 Multi-fed 2-D Leaky-wave Antennas: Beam Steering and Polarization Reconfigurability
Davide Comite ("Sapienza" University of Rome); V. Gomez-Guillamon Buendia (Heriot-Watt University); Paolo Burghignoli (Sapienza University of Rome); Paolo Baccarelli (Roma Tre University); Symon K. Podilchak (Heriot-Watt University); Alessandro Galli (Sapienza University of Rome);
- 18:20 A Near-field Focusing System by Using Two Double-sided Leaky-wave Antennas in Substrate Integrated Waveguide Technology
Alejandro Javier Martinez Ros (Universidad de Sevilla); Jose Luis Gomez Tornero (Technical University of Cartagena); Francisco L. Mesa (Universidad de Sevilla);
- 00:00 Leaky Wave Analysis of Wideband Planar Fabry-Pérot Cavity Antennas
Ahmad T. Almutawa (University of California); Filippo Capolino (University of California-Irvine); David Richard Jackson (University of Houston);

Session 3P7a
SC3: Ultrafast Nonlinear Optics: Ultrafast Fiber Lasers and Nonlinear Applications 2

Wednesday PM, June 19, 2019
Room 17 - 1st Floor

Organized by Zhiwen Liu, Michelle Y. Sander

 Chaired by Michelle Y. Sander

- 14:30 Recent Developments in Ultrashort-laser-pulse Measurement, Including a 100% Reliable FROG Algorithm
Rana Jafari (Georgia Institute of Technology); Travis Jones (Georgia Institute of Technology); Zhe Guang (Georgia Institute of Technology); Ping Zhu (Georgia Institute of Technology); Rick Trebino (Georgia Institute of Technology);
- 15:00 Complex Ultrafast Fiber Laser Dynamics in Real Time
Philippe Grellu (Universite de Bourgogne); Z. Wang (Universite de Bourgogne); S. Hamdi (Universite de Bourgogne); K. Nithyanandan (Universite de Bourgogne); A. Coillet (Universite de Bourgogne); Patrice Tchofo-Dinda (Universite de Bourgogne);
- 15:20 Advanced Temporal Imaging Systems for Ultrafast Applications
Bowen Li (The University of Hong Kong); Wei Yuan (The University of Hong Kong); Kenneth Kin-Yip Wong (The University of Hong Kong);
- 15:40 Vector Dynamics of Ultrafast Phenomena
Moti Fridman (Bar Ilan University);

16:00 Spatially Modulated Nonlinear Optical Microscopy
Invited
Randy A. Bartels (Colorado State University); Keith Wernsing (University of Colorado at Boulder); Patrick Stockton (Colorado State University); Dave Smith (Colorado State University); Jeff Field (Colorado State University); Jeff A. Squier (Colorado School of Mines);

16:30 **Coffee Break**

17:00 Unveiling the Microscopic Structure at Graphene/Water Interface
Invited
Chuanshan Tian (Fudan University);

17:20 High-field Terahertz Generation by Novel Cascaded Interactions
Invited
Koustuban Ravi (Deutsches Elektronen Synchrotron); Franz X. Kartner (Deutsches Elektronen-Synchrotron DESY);

17:40 Ablation-cooled Laser-material Processing at GHz Repetition Rates
Invited
F. Oemer Ilday (Bilkent Univ);

Session 3P7b

SC3: Liquid Crystal Devices and Applications 2

Wednesday PM, June 19, 2019

Room 17 - 1st Floor

Organized by Yi-Hsin Lin, Wei Hu

Chaired by Wei Hu

18:00 Water Condensation on a Liquid Crystal and Polymer Film
Yi-Hsin Lin (National Chiao Tung University); Manjunath Somarapalli (National Chiao Tung University); Chia-Hao Kuo (National Chiao Tung University);

18:20 Optical Wave Propagation through a Curved Birefringent Medium with Anisotropic Absorption
Yu-Jen Wang (National Chiao Tung University); Ming-Long Lee (National Chiao Tung University); Po-Lun Chen (General Interface Solution Holding Ltd.); Yi-Hsin Lin (National Chiao Tung University);

18:40 Enhanced Pancharatnam-Berry Phase in Double-layered Liquid Crystal Structures
Hiroyuki Yoshida (Osaka University); S. Cho (Osaka University); M. Ono (Osaka University); Y. Tsuboi (Osaka University); Z. Fan (Osaka University); Masanori Ozaki (Osaka University);

19:00 Cholesteric Liquid Crystals for Terahertz Detection
Lei Wang (Nanjing University of Posts and Telecommunications);

00:00 Ferroelectric Liquid Crystal Pancharatnam-Berry Lens
Ying Ma (Northwestern Polytechnical University); Alwin M. W. Tam (Hong Kong University of Science and Technology); Liangyu Shi (Hong Kong University of Science and Technology);

00:00 Blue Phase Liquid Crystal Cells with Poly(2-hydroxyethyl methacrylate) Films
Chia-Yi Huang (Tunghai University); Yichen Ma (Tunghai University);

Session 3P8

SC1&SC3: Quantum Information Processing and Devices 1

Wednesday PM, June 19, 2019

Room 6 - Mezzanine

Organized by Hai-Zhi Song, Guangwei Deng

Chaired by Hai-Zhi Song, Guangwei Deng

14:30 Experimental Identification of Non-Abelian Topological Orders on a Quantum Simulator
Invited
Dawei Lu (Southern University of Science and Technology);

14:50 Improving Quantum State Tomography with Collective Measurements
Invited

Zhibo Hou (University of Science and Technology of China, CAS); Jun-Feng Tang (University of Science and Technology of China, CAS); Jiangwei Shang (Universitat Siegen); Huangjun Zhu (University of Cologne); Jian Li (Nanjing University of Posts and Telecommunications); Yuan Yuan (University of Science and Technology of China, CAS); Kang-Da Wu (University of Science and Technology of China, CAS); Guo-Yong Xiang (University of Science and Technology of China, CAS); Chuanfeng Li (University of Science and Technology of China, CAS); Guangcan Guo (University of Science and Technology of China, CAS);

15:10 Spectral Multiplexed Light-matter Interface Based on Erbium Doped Fibre
Invited

Qiang Zhou (University of Electronic Science and Technology of China); E. Saglamyurek (University of Alberta Edmonton); Daniel Oblak (University of Calgary); Wolfgang Tittel (University of Calgary);

15:30 Magnon Kerr Effect in a Cavity QED System
Invited

Tiefu Li (Tsinghua University);

- 15:50 Superconducting Single-photon Detectors and Semi-conductor Photon-pair Sources for Quantum Information Processing
Invited
Xiaolong Hu (Tianjin University); Nan Hu (Tianjin University); Yun Meng (Tianjin University); Kai Zou (Tianjin University); Liang Xu (Tianjin University); Zhao Wang (Tianjin University); Xiaojian Lan (Tianjin University); Xiaoming Chi (Tianjin University); Xiaoya Xie (Tianjin University); Chao Gu (Tianjin University); Yuhao Cheng (Tianjin University); Xiaotian Zhu (Tianjin University); Haiyi Liu (Tianjin University); Hao Wu (Tianjin University); Julien Zichi (Royal Institute of Technology (KTH)); Val Zwiller (Royal Institute of Technology (KTH));
- 16:10 Temporal Quantum Ghost Imaging and Its Application on Quantum Digital Signature
Invited
Wei Zhang (Tsinghua University);
- 16:30 **Coffee Break**
- 17:00 Proof-of-principle Demonstration of Passive Decoy-state Quantum Digital Signatures over 200 km
Invited
Qin Wang (University of Posts and Telecommunications); Chun-Hui Zhang (University of Posts and Telecommunications); Guang-Can Guo (University of Posts and Telecommunications);
- 17:20 Strong Coupling of a Cavity and a Transmission Line with an Artificial Atom
Invited
Zhihui Peng (Hunan Normal University);
- 17:40 Positioning Colloidal Nanocrystals in Optical Cavities for Single Photon Emission
Invited
Yang Song (University of Science and Technology of China); Fengjia Fan (University of Science and Technology of China);
- 18:00 Epsilon-near-zero-based On-chip Light Source
Invited
Cuicui Lu (Beijing Institute of Technology); You Wu (Peking University); Xiaoyong Hu (Peking University);
- 18:20 Nanostructured Key: Quantum Authentication System Based on Physical Unclonable Functions
Invited
Mo Li (Microsystem & Terahertz Research Center of CAEP); Feiliang Chen (Microsystem & Terahertz Research Center of CAEP); Pidong Wang (Microsystem & Terahertz Research Center of CAEP); Feng Huang (Microsystem & Terahertz Research Center of CAEP); Lijun Zhang (Microsystem & Terahertz Research Center of CAEP); Yao Yao (Microsystem & Terahertz Research Center of CAEP); Dong Li (Microsystem & Terahertz Research Center of CAEP); Jian Zhang (Institute of Electronic Engineering of CAEP);
- 18:40 Gain Lifetime Characterization in Whispering-gallery Mode Microcavities
Invited
Chuan Wang (Beijing University of Posts and Telecommunications); Xiao-Fei Liu (University of Electronic Science and Technology of China);
- 19:00 Experimental State Control in Multi-level Transmon Devices
Invited
Gheorghe Sorin Paraoanu (Aalto University);
-
- Session 3P9a**
FocusSession.SC3: Multimode Nonlinear Optical Fibers 2
-
- Wednesday PM, June 19, 2019**
Room 4 - Mezzanine
Organized by Stefan Wabnitz, Demetri Psaltis
Chaired by Stefan Wabnitz, Demetri Psaltis
-
- 14:30 Dramatic Acceleration of Wave Condensation Mediated by Disorder in Multimode Fibers
Invited
Adrien Fusaro (Universite Bourgogne Franche-Comte); Josselin Garnier (Centre de Mathematiques Appliquées, Ecole Polytechnique); Katarzyna Krupa (Universite Bourgogne Franche-Comte, ICB, UMR CNRS 6303); Guy Millot (Universite de Bourgogne); Antonio Picozzi (Université de Bourgogne);
- 14:50 Optical Thermodynamics of Highly Multimoded Non-linear Optical Systems
Invited
Demetrios N. Christodoulides (University of Central Florida);
- 15:10 Depletion Effects in Few-mode Fibers Parametric Amplification
A. Trichili (King Abdullah University of Science and Technology); Mourad Zghal (University of Carthage); Marco Santagiustina (Universita di Padova);
- 15:30 Spatiotemporal Mode-locking in Multimode Fiber Lasers
Invited
Frank Wise (Cornell University);

15:50 Random Lasing in Multicore and Multimode Fibers
Invited

Sergey A. Babin (Institute of Automation and Electrometry SB RAS); Mikhail I. Skvortsov (Institute of Automation and Electroetry, SB, RAS); A. A. Wolf (Institute of Automation and Electroetry SB RAS); Alexandr V. Dostovalov (Novosibirsk National Research State University); Ekaterina A. Zlobina (Institute of Automation and Electroetry, SB, RAS); S. I. Kablukov (Institute of Automation and Electroetry, SB, RAS); Evgeny V. Podivilov (Institute of Automation and Electrometry, Siberian Branch, Russian Academy of Sciences); Stefan Wabnitz (Sapienza University of Rome);

17:20 Design and Implementation of Fiber-embedded Plasmonic Structures in Microwires
Invited

Afroditi Petropoulou (Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation); Grigoris Antonopoulos (Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation); Paul Bastock (University of Southampton); George Kakarantzas (Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation); Christopher Craig (University of Southampton); Dimitris Drikakis (University of Nicosia); Daniel W. Hewak (University of Southampton); Michalis N. Zervas (University of Southampton); Christos Riziotis (Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation);

Session 3P9b

Optical Fibers and Sensors for Biochemistry, Medical Diagnostics and Imaging

Wednesday PM, June 19, 2019

Room 4 - Mezzanine

Organized by Annamaria Cucinotta, Stavros
Pissadakis

Chaired by Annamaria Cucinotta, Stavros Pissadakis

16:10 Cloud-based Sensors for Microbiological Analysis of
Invited Agri-food Products

Gabriella Cincotti (University Roma Tre); G. Caramitti (University Roma Tre); M. Di Paolo (Axit Srl); M. Munalli (Axit Srl); Alessandro Candiani (DNAPhone S.r.l.); Alessandro Tonelli (DNA-Phone S.r.l.); A. Mari (M.B.S. Srl); G. Antonini (University Roma Tre);

16:30 **Coffee Break**

17:00 Biosensing with Hollow Core Inhibited Coupling
Invited Fibers

Fabio Giovanardi (University of Modena and Reggio Emilia); Fetah Benabid (University of Limoges); Annamaria Cucinotta (Universita di Parma); Luca Vincetti (University of Modena and Reggio Emilia);

17:40 Brillouin Optical Time Domain Analysis with
Wavelength-locked Low-noise Pump-probe Laser
Scheme

Leonardo Rossi (IMM Institute); Diego Marini (IMM Institute); Filippo Bastianini (Sestosensor S.r.l.); Gabriele Bolognini (IMM Institute);

18:00 Narrow Linewidth Fiber Brillouin Ring Laser for Sensing
Applications

Diego Marini (IMM Institute); Leonardo Rossi (IMM Institute); Filippo Bastianini (Sestosensor S.r.l.); Gabriele Bolognini (IMM Institute);

18:20 Fiber-based Michelson Interference Array for Ultra-
sonic Vibration Sensing

Xiangdong Ma (Beihang University); Jianguo Ma (Beihang University); Lijun Xu (Beihang University);

18:40 Silk Fibroin Infiltrated Photonic Crystal Fibers

Davide Vurro (IMEM-CNR); Georgios Violakis (Foundation for Research and Technology — Hellas (FORTH)); Dimitra Skiani (Foundation for Research and Technology — Hellas (FORTH)); Maria Konstantaki (Institute of Electronic Structure and Laser, Foundation for Research and Technology); Annamaria Cucinotta (Universita di Parma); Stefano Scleri (Universita di Parma); Salvatore Iannotta (IMEM-CNR); Stavros Pissadakis (Institute of Electronic Structure and Laser (IESL));

19:00 Conical Cross-section Nanohole Array Localized Sur-
face Plasmon Resonance Optical Fiber Tip Sensor

Hong Guo (University of Alabama in Huntsville); Junpeng Guo (University of Alabama in Huntsville);

Session 3P10
SC3: Label-free Optical Nanobiosensors for Bio-diagnostics, Environmental Monitoring and Food Safety

Wednesday PM, June 19, 2019
Room 12 - Mezzanine

Organized by Lucia Petti

 Chaired by Lucia Petti, Riccardo Castagna

- 14:30 **Plasmonic Metamaterials with Readily Accessible Surfaces for Biosensing**
 Invited *M. Miscuglio (Istituto Italiano di Tecnologia); N. J. Borys (Lawrence Berkeley National Lab); P. J. Schuck (Lawrence Berkeley National Lab); Alexander Weber-Bargioni (Molecular Foundry, LBNL); V. Caligiuri (Istituto Italiano di Tecnologia); G. Biffi (Istituto Italiano di Tecnologia); M. Palei (Istituto Italiano di Tecnologia); D. Spirito (Istituto Italiano di Tecnologia); Remo Proietti Zaccaria (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials and Technology Engineering, Chinese Academy of Sciences); Roman Krahné (Istituto Italiano di Tecnologia);*
- 14:50 **Metallic Nanoparticles for Quadratic Nonlinear Optics: Size and Shape Effects**
 Invited *Hoang Minh Ngo (Institut d'Alembert, Ecole Normale Supérieure de Cachan); Joseph Zyss (LPQM-Ecole Normale Supérieure de Cachan); Ledoux-Rak Isabelle (ENS Paris Saclay);*
- 15:10 **Raman Nanosensors by Design: Photonic-plasmonic Enhanced Ultra-sensitivity, Tunable Biorelease, and Accelerated Detection via Motorization**
 Keynote *Donglei (Emma) Fan (University of Texas at Austin);*
- 15:40 **Cross-shaped Plasmonic Nanoantennas for Surface-enhanced InfraRed Absorption Spectroscopy**
 Invited *Emanuela Esposito (Institute for Microelectronics and Microsystems, National Research Council); Valentina Di Meo (Institute for Microelectronics and Microsystems, National Research Council); Andrea Caporale (Institute of Biostructure and Bioimaging, National Research Council); Alessio Crescitelli (Institute for Microelectronics and Microsystems, National Research Council); Mohammed Janneh (University of L'Aquila); Elia Palange (Univ Aquila); Andrea De Marcellis (University of L'Aquila); Marianna Portaccio (University of Campania "L. Vanvitelli"); Maria Lepore (University of Campania "L. Vanvitelli"); Ivo Rendina (CNR-IMM — Unità di Napoli); Menotti Ruvo (Institute of Biostructure and Bioimaging, National Research Council);*
- 16:00 **Optical Force Positioning and Aggregation of Nanoparticles**
 Invited *Maria Grazia Donato (CNR-IPCF); Antonino Foti (CNR IPCF, Istituto per i Processi Chimico-Fisici); Silvie Bernatova (Institute of Scientific Instruments of the CAS); Ota Samek (Institute of Scientific Instruments of the CAS); Pavel Zemanek (Institute of Scientific Instruments of the CAS); Raymond Gillibert (CNR-IPCF, Istituto per i Processi Chimico-Fisici); Pietro G. Gucciardi (CNR IPCF, Istituto per i Processi Chimico-Fisici); Onofrio M. Marago (CNR-IPCF, Istituto per i Processi Chimico-Fisici);*
- 16:30 **Coffee Break**
- 17:00 **Nanophotonic Metasurfaces for Label-free Biosensing**
 Keynote *Hatice Altug (Institute of Bioengineering, Ecole Polytechnique Federale de Lausanne);*
- 17:30 **Probing Interactions Relevant for Food Science and Eco/Nanotoxicology with Plasmonic Structures**
 Invited *Duncan S. Sutherland (Aarhus University);*
- 17:50 **Analysis of Cancer Cell Membrane by Surface Enhanced Raman Spectroscopy**
 Invited *Angela Capaccio (Università di Napoli "Federico II"); Giulia Rusciano (Università di Napoli "Federico II"); Emanuele Sasso (Università di Napoli "Federico II"); Antonio Sasso (University of Naples); Nicola Zambrano (Università di Napoli "Federico II");*
- 18:10 **An Optical-oscillator Scheme for the Interrogation and Readout of SPR Sensors**
 Invited *Antonio Giorgini (Istituto Nazionale di Ottica (INO)); Saverio Avino (Istituto Nazionale di Ottica (INO)); Pietro Malara (Istituto Nazionale di Ottica (INO)); Paolo De Natale (CNR-INO, Istituto Nazionale di Ottica); Gianluca Gagliardi (CNR, Istituto Nazionale di Ottica (INO));*
- 18:30 **Highly Photo-emissive Semiconductor Nanoparticles for Optical Imaging and Sensing**
 Invited *I. Rea (CNR-IMM); M. Terracciano (CNR-IMM); R. Moretta (CNR-IMM); C. Schiattarella (CNR-IMM); P. Dardano (CNR-IMM — Unità di Napoli); Luca De Stefano (Univ. Naples);*

18:50 Functionalized Plasmonic Nanosensors for a Sensitive
Invited Detection of Rotavirus

Massimo Rippa (Institute of Applied Sciences and Intelligent Systems “E. Caianiello”, CNR); R. Castagna (Institute of Applied Sciences and Intelligent Systems “E. Caianiello”, CNR); G. Fusco (Istituto Zooprofilattico Sperimentale del Mezzogiorno); M. Monini (Istituto Superiore di Sanita); Lucia Petti (Institute of Applied Sciences and Intelligent Systems — ISASI, CNR);

00:00 SERS-based Ultrasensitive Immunoassay of Cardiac
Troponin I by Using Au@Ag NPs Probes and Ag-
decorated TiO₂ Nanowires Substrate

Le Peng (Ningbo University); Jun Zhou (Ningbo University); Fuyan Wang (School of Medicine); Lucia Petti (Institute of Applied Sciences and Intelligent Systems — ISASI, CNR);

Session 3P11a

SC2: Analytical Methods for Metamaterials, Metasurfaces, and 2D Materials from Microwaves to Optics 2

Wednesday PM, June 19, 2019

Room 11 - Mezzanine

Organized by Alexander B. Yakovlev, Juan Sebastian
Gomez-Diaz

Chaired by Alexander B. Yakovlev, Juan Sebastian
Gomez-Diaz

14:30 2D Non-radiating Sources in Mie Scattering and In-
verse Problems

Giuseppe Labate (Politecnico di Torino); Andrea Alu (City University of New York); Tommaso Isernia (University “Mediterranea” of Reggio Calabria);

14:50 Design Tool for Wideband Transmission Polarization
Converters

Filippo Costa (University of Pisa — CNIT); Michele Borgese (University of Pisa);

15:10 Gradient Chiral Metasurfaces as Perfect Polarization
Invited Converter

Hamidreza Kazemi (University of California); Mohammad Albooyeh (University of California); Filippo Capolino (University of California-Irvine);

Session 3P11b

SC1: Short and Ultrashort Pulsed Electric Fields for Biomedical and Industrial Applications

Wednesday PM, June 19, 2019

Room 11 - Mezzanine

Organized by Olga Zeni, Stefania Romeo

Chaired by Olga Zeni, Stefania Romeo

15:30 Nanoscale Electrical Stress and the Molecular Land-
Invited scape of the Cell Membrane

Thomas Vernier (Old Dominion University);

15:50 Multiphysics Modelling of Membrane Electroporation
in Irregularly Shaped Cells

Luciano Mescia (Politecnico di Bari); Michele A. Chiapperino (Politecnico di Bari); Pietro Bia (Elettronica S.p.A.); C. M. Lamacchia (Politecnico di Bari); Johan Gielis (The Antenna Company); Diego Caratelli (The Antenna Company Nederland B.V.);

16:10 Calcium Electroporation: An Overview of an Innova-
tive Cancer Treatment Approach

Stefania Romeo (CNR — National Research Council of Italy, IREA); Stine Krog Frandsen (Zealand University Hospital); Julie Gehl (Zealand University Hospital); Olga Zeni (CNR — National Research Council of Italy);

16:30 **Coffee Break**

17:00 Dynamics of Ionic Channel Currents in a Circuital,
Hodgkin-Huxley Model of an Axon under ns Pulsed
Electric Field Stimulation

Patrizia Lamberti (University of Salerno); Michele Compitello (University of Salerno); Stefania Romeo (CNR — National Research Council of Italy, IREA);

17:20 Microsecond Kinetics of Ion Transport and Interface
Binding in Electrically Stressed Phospholipid Bilayers

Federica Castellani (Old Dominion University); Esin B. Sozer (Old Dominion University); P. Thomas Vernier (Old Dominion University);

17:40 Relevance of the Cell Membrane Modelling for Ac-
curate Analysis of the Pulsed Electric Field-induced
Electroporation

Luciano Mescia (Politecnico di Bari); Michele A. Chiapperino (Politecnico di Bari); Pietro Bia (Elettronica S.p.A.); C. M. Lamacchia (Politecnico di Bari); J. Gielis (University of Antwerp); Diego Caratelli (The Antenna Company Nederland B.V.);

- 18:00 Numerical Workflow for Percutaneous Electroporation Ablation of Deep-seated Tumors
Olivier Gallinato (Univ. Bordeaux, IMB, UMR 5251); B. Denis De Senneville (Univ. Bordeaux, IMB, UMR 5251); Olivier Seror (Hopitaux Universitaires Paris-Seine-Saint-Denis); Clair Poignard (Univ. Bordeaux);
- 18:20 Effect of Single nsPEF Stimuli Characteristics on a Neuronal Cell Model
Patrizia Lamberti (University of Salerno); S. Elia (University of Salerno); F. D'Onofrio (University of Salerno);
- 18:40 Modeling of a Platform to Test Innovative Electrodes for EP Application
Patrizia Lamberti (University of Salerno); Elia Sieni (University of Salerno); Vincenzo Tucci (University of Salerno);
- 19:00 Bacterial inactivation of E. Coli and S. Aureus by ZnO Nanoparticle Treatment Assisted with Femtosecond Laser Light
Crysthal Alvarez (University of California); Alma Hernandez (University of California); Natanael Cuando-Espitia (Universidad de Guanajuato); Guillermo Aguilar (University of California);
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- Session 3P12**
FocusSession.SC2: Advanced Metasurface Designs and Devices 2
-
- Wednesday PM, June 19, 2019**
Room 21 - 2nd Floor
Organized by Tao Li, Yun Lai
Chaired by Tao Li, Yun Lai
-
- 14:30 Diatomic Metagratings for Simultaneous Manipulation of Multiple Degrees of Freedom of Light
Invited *Zi-Lan Deng (Jinan University); Guixin Li (Southern University of Science and Technology); Xiangping Li (Jinan University);*
- 14:50 Metasurface Coupler for Guided SHG in LN Nanowaveguides
Bin Fang (Nanjing University); Shi-Ning Zhu (Nanjing University); Tao Li (Nanjing University);
- 15:10 Non-Huygens Invisible Metasurfaces
Hadi K. Shamkhi (ITMO University); Kseniia V. Baryshnikova (ITMO University); Andrey Sayanskiy1 (ITMO University); Pavel D. Terekhov (ITMO University); Egor A. Gurvitz (ITMO University); Adria Canos Valero (ITMO University); Alina Karabchevsky (Ben-Gurion University of the Negev); Polina Kapitanova (ITMO University); Andrey B. Evlyukhin (Laser Zentrum Hannover e.V.); Pavel A. Belov (ITMO University); Yuri S. Kivshar (Australian National University); Alexander Sergeevich Shalin (ITMO University);
- 15:30 Gradient Anti-reflecting Metasurfaces
Invited
Hongchen Chu (Nanjing University); Haoyang Zhang (Queen Mary University of London); Yang Hao (Queen Mary University of London); Yun Lai (Soochow University);
- 15:50 Metasurfaces for Controlling Terahertz Waves
Keynote
Lei Zhou (Fudan University);
- 16:30 **Coffee Break**
- 17:00 Clusters of Nanoparticles as Isotropic Huygens Sources for Metasurfaces Applications
R. Dezert (CNRS, Universite de Bordeaux); R. Elancheliyan (CNRS, Universite de Bordeaux); V. Ponsinet (CNRS, Universite de Bordeaux); O. Mondain-Monval (University of Bordeaux); Philippe Barois (CNRS, Universite de Bordeaux); P. Richetti (CNRS, Universite de Bordeaux); A. Baron (CNRS, Universite de Bordeaux);
- 17:20 Generation and Manipulation of Superoscillating Light Beams via Geometric Metasurface
Yanwen Hu (Jinan University); Shenhe Fu (Jinan University); Hao Yin (Guangdong Higher Educ. Inst.); Zhen Li (Jinan University); Zhenqiang Chen (Jinan University);
- 17:40 Optical Needle with Ultra-small Resolution Enabled by Integrated Metalens
Haowen Liang (Sun Yat-sen University); Qian Sun (Sun Yat-sen University); Yuhao Ren (Sun Yat-sen University); Juntao Li (Sun Yat-sen University);
- 18:00 A Novel and Fast Method to Design Metamaterial Absorbers Based on RBF-PSO Algorithm
Lin Song (Northwestern Polytechnical University); Huiling Zhao (Northwestern Polytechnical University); Junjie Tang (Northwestern Polytechnical University);

- 18:20 Electromagnetic Frequency Characteristics of Periodically Graded Wires
Ayse Nihan Basmaci Filiz (Tekirdag Namik Kemal University);
- 00:00 A High-efficiency Dual-wavelength Achromatic Met-alens Based on Crossed Si Nanorods
Junyi Chen (South China Normal University); Fan-wei Zhang (South China Normal University); Qiang Li (South China Normal University); Jiepeng Wu (South China Normal University); Lijun Wu (South China Normal University);
- 00:00 Layer Pseudospins in Photonic Valley-Hall Phases
Invited
Xiaoxiao Wu (The Hong Kong University of Science and Technology); Bo Hou (Soochow University); Wei-jia Wen (The Hong Kong University of Science and Technology);
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- Session 3P13**
FocusSession.SC3: Advanced Optofluidics: Where Photonics Meets Microfluidics and Life Science 2
-
- Wednesday PM, June 19, 2019**
Room 22 - 2nd Floor
Organized by Francesco Simoni, Luigino Criante
Chaired by Francesco Simoni, Luigino Criante
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- 14:30 Femtosecond Laser 3D Processing for Functional Keynote Biochip Fabrication
Koji Sugioka (RIKEN Advanced Science Institute);
- 15:00 Femtosecond Laser Fabrication of Monolithic Low Loss High Quality Optical Waveguides and Microfluidic Channels for Optical Sensing Applications
Invited
Paulo V. S. Marques (Unidade de Optoelectronica e Sistemas Electronicos); Joao M. Maia (University of Porto); Vitor A. Amorim (University of Porto); Duarte Viveiros (University of Porto);
- 15:20 Soft Micro-actuators Fabricated by Direct Laser Writing and Their Potential in Microfluidic Devices
Invited
Larisa Florea (College Green); Colm Delaney (University College Dublin); Dermot Diamond (Dublin City University);
- 15:40 Laser Fabrication of Microfluidic Devices in Glass for Applications in Chemistry
Invited
Argyro N. Giakoumaki (Politecnico di Milano); Vibhav Bharadwaj (Istituto di Fotonica e Nanotecnologie — Consiglio Nazionale delle Ricerche (IFN-CNR)); Luigino Criante (Istituto Italiano di Tecnologia); Roberta Ramponi (Institute of Photonics and Nanotechnology (IFN) — CNR); Giacomo Bergamini (University of Bologna); Shane Michael Eaton (Politecnico di Milano);
- 16:00 Thermocavitation and Its Application for Liquid Microjets Generation
Invited
Juan Pablo Padilla-Martinez (Benemerita Universidad Autonoma de Puebla); R. Zaca-Moran (Benemerita Universidad Autonoma de Puebla); Juan Castillo-Mixcoatl (Benemerita Universidad Autonoma de Puebla); P. Zaca-Moran (Benemerita Universidad Autonoma de Puebla); Julio C. Ramirez-San-Juan (Instituto Nacional de Astrofisica, Optica y Electronica); Ruben Ramos-Garcia (Instituto Nacional de Astrofisica, Optica y Electronica);
- 16:30 **Coffee Break**
- 17:00 Narrow Emission Line by Flexible-design Optofluidic Laser Based on Fabry-Perot Resonator
Invited
Silvio Bonfadini (Istituto Italiano di Tecnologia); Francesco Simoni (Universita Politecnica delle Marche); Luigino Criante (Istituto Italiano di Tecnologia);
- 17:20 Optofluidic Microscope On-chip: 3D Imaging of Cells and Tissues
Invited
Francesca Bragheri (Istituto di Fotonica e Nanotecnologie, CNR); F. Sala (Istituto di Fotonica e Nanotecnologie, CNR); A. Farina (Istituto di Fotonica e Nanotecnologie, CNR); P. Paie (Istituto di Fotonica e Nanotecnologie, CNR); Roberto Osellame (Consiglio Nazl Ric IFN CNR, Ist Foton & Nanotecnol); A. Bassi (Politecnico di Milano);
- 17:40 Surface Patterning for Photoresponsive Platforms
Invited
A. Roche (Universidad de Zaragoza-CSIC); H. Garcia-Juan (Universidad de Zaragoza-CSIC); J. Royes (Universidad de Zaragoza-CSIC); Luis Oriol (Universidad de Zaragoza-CSIC); M. Pinol (Universidad de Zaragoza-CSIC); Biagio Audia (University of Calabria); Pasquale Pagliusi (University of Calabria); Clementina Provenzano (University of Calabria); Gabriella Cipparrone (University of Calabria);

- 17:55 Deformation of Single Cells from Blood
Kirstine Sandager Nielsen (Technical University of Denmark); Freja Hoier (Technical University of Denmark); Anders Nymark Christensen (Technical University of Denmark); Morten Hanefeld Dziegiel (University Hospital Copenhagen); Rodolphe Marie (Technical University of Denmark); Kirstine Berg-Sorensen (Technical University of Denmark);
- 18:10 Conical Interfaces Induced by Optical Radiation Pressure: An Analogue of Taylor Cones
Ulysse Delabre (Université of Bordeaux); A. Girot (Université of Bordeaux); J. Petit (Université of Bordeaux); Raphael Saiseau (Université of Bordeaux); Thomas Guerin (Université of Bordeaux); Hamza Charaibi (Université of Bordeaux); Jean-Pierre Delville (Université of Bordeaux);
- 18:30 Interfacial Tension and Size-based Passive Droplet Sorting on Laser-patterned Surfaces
 Invited *Z. Rashid (Koc University); A. Rehman (Koc University); A. Erten (Istanbul Technical University); B. Morova (Koc University); M. Muradoglu (Koc University); A. Jonas (Institute of Scientific Instruments, Czech Academy of Sciences); Alper Kiraz (Koc University);*
- 00:00 Tomographic Microscopy in Microfluidics for Life Science
 Invited *Pietro Ferraro (Institute of Applied Science and Intelligent Systems of the National Council of Research (ISASI-CNR)); Francesco Merola (Institute of Applied Science and Intelligent Systems of the National Council of Research (ISASI-CNR)); Pasquale Memmolo (Institute of Applied Science and Intelligent Systems of the National Council of Research (ISASI-CNR)); Lisa Miccio (Institute of Applied Science and Intelligent Systems of the National Council of Research (ISASI-CNR)); Martina Mugnano (Institute of Applied Science and Intelligent Systems of the National Council of Research (ISASI-CNR)); Massimiliano Villone (Università degli Studi di Napoli Federico II); Pier Luca Maffettone (Università degli Studi di Napoli Federico II);*
- 00:00 Hollow Fiber Microfluidic Platforms
 Invited *Fei Xu (Nanjing University);*

Session 3P14a
FocusSession.SC3: Advanced Photonic Technologies for Spectroscopic Applications 3

Wednesday PM, June 19, 2019
Room 24 - 2nd Floor

 Organized by Wei Dong Chen, Vincenzo Spagnolo,
 Ulrike Willer

 Chaired by Wei Dong Chen, Vincenzo Spagnolo,
 Ulrike Willer

- 14:30 Recent Advances in Mid-IR Trace Gas Sensing Based on Photoacoustic and Photothermal Spectroscopy
 Invited *Jakob Hayden (Technische Universität Wien); Johannes Paul Waclawek (Technische Universität Wien); Stefan Lindner (Technische Universität Wien); Harald Moser (Technische Universität Wien); Bernhard Lendl (Technische Universität Wien);*
- 14:50 Tracking Molecules from the Ground to the Sky. Multi-wavelength QCLs in Mobile Analyzers
 Invited *Bela Tuzson (Laboratory for Air Pollution/Environmental Technology); Manuel Graf (Laboratory for Air Pollution/Environmental Technology); Herbert Looser (Laboratory for Air Pollution/Environmental Technology); Morten Hundt (Laboratory for Air Pollution/Environmental Technology); Philipp Scheidegger (Laboratory for Air Pollution/Environmental Technology); Lukas Emmenegger1 (Laboratory for Air Pollution/Environmental Technology);*
- 15:10 Opto-acoustics in Optical Fibres for Sensing Applications
 Invited *Luc Thevenaz (EPFL Ecole Polytechnique Federale de Lausanne); Zhisheng Yang (EPFL Ecole Polytechnique Federale de Lausanne); Desmond Chow (EPFL Ecole Polytechnique Federale de Lausanne);*
- 15:30 Open-path Cavity Ring-down Sensor for Mobile Detection of Methane Emissions
 Invited *Laurie McHale (Colorado State University); Benjamin Martinez (Colorado State University); Thomas Miller (TCB Engineering); Azer P. Yalin (Colorado State University);*

15:50 Laser Heterodyne Radiometry for Ground-based Measurement of CH₄ in the Atmospheric Column

Fengjiao Shen (Universite du Littoral Cote d'Opale); Pascal Jeseck (Universite Pierre et Marie-Curie (Paris 6)); Yao-Veng Te (Universite Pierre et Marie-Curie (Paris 6)); Tu Tan (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Xiaoming Gao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Eric Fertein (University of the Littoral Opal Coast); Wei Dong Chen (Universite du Littoral Cote d'Opale);

16:10 A Small Photoacoustic Ethane Sensor Based on Low Power Consumption Laser and Digital Lock-in Technology

Chunguang Li (Jilin University); Lei Dong (Shanxi University); Yiding Wang (Jilin University);

16:30 Coffee Break

Session 3P14b

Radio Astronomy Instrumentation

Wednesday PM, June 19, 2019

Room 24 - 2nd Floor

Organized by Nima Razavi-Ghods

Chaired by Nima Razavi-Ghods

17:00 The PHAROS2 Project

Keith Grainge (The University of Manchester); Alessandro Navarrini (National Institute for Astrophysics);

17:20 Polarimetric Performance of the Interconnected Crossed Ring Antenna Array

Yongwei Zhang (The University of Manchester); Dong Chen (East China Normal University); Ahmed El-Makadema (The University of Manchester); Laith Danoon (The University of Manchester); Anthony Brown (The University of Manchester);

17:40 Receiver Design for Low Frequency Radio Astronomy

Nima Razavi-Ghods (University of Cambridge);

18:00 Drone Characterization Approach for Radio Telescopes

Iman O. Farhat (University of Malta); Denis Cutajar (University of Malta); Mark Bezzina (University of Malta); Kristian Zarb Adami (University of Oxford);

18:20 Bayesian Techniques for Evaluating Noise Wave Parameters of Radiometer Systems

Ian L. V. Roque (University of Cambridge); W. Handley (University of Cambridge); Nima Razavi-Ghods (University of Cambridge);

18:40 Applying Simple Foreground Filters to Study the Spectral Smoothness of the HERA Signal Chain

Aaron Ewall-Wice (McGill University); Adrian Liu (McGill University); Nicholas Kern (UC Berkeley); Aaron Parsons (UC Berkeley); Tzu-Ching Chang (Jet Propulsion Laboratory); Joseph Lazio (Jet Propulsion Laboratory);

19:00 New Evidence for an Absorption Feature in the Radio Spectrum from EDGES Mid-band

Raul Monsalve (McGill University);

Session 3P15

SC3: Laser, Spectroscopy and Imaging for Functionalised Photonic Devices

Wednesday PM, June 19, 2019

Room 25 - 2nd Floor

Organized by Rosa Maria Montereali, Roberto Francini

Chaired by Rosa Maria Montereali

14:30 Raman Spectroscopy of Polymeric Microstructures with High Spatial Resolution

Tommaso Baldacchini (Chapman University);

14:50 Luminescent Silver Nanoclusters and Their Applications

Luca Burratti (University of Rome Tor Vergata); Erica Ciotta (University of Rome Tor Vergata); Fabio De Matteis (University of Rome Tor Vergata); Stefano Casciardi (National Institute for Insurance against Accidents at Work (INAIL)); Roberto Pizzoferrato (University of Rome Tor Vergata); Paolo Proposito (University of Rome Tor Vergata);

15:10 Measurement and Research of Liquid Transmission Spectrum Based on Continuous-wave Terahertz Spectroscopy

Sujie Guo (Beihang University); De-Yin Kong (Beihang University); Cun-Jun Ruan (Beihang University); Yan Zhang (Beihang University);

- 15:30 CdSe Nanoplatelets: A New Generation of Fluorescent Colloidal Nanocrystals with Tunable Color, Narrow Emission Band and Fast Lifetime
Invited
Sotirios Christodoulou (Istituto Italiano di Tecnologia); Anatolii Polovitsyn (Istituto Italiano di Tecnologia); Juan I. Climente (Universitat Jaume I); Josep Planelles (Universitat Jaume I); Jose L. Movilla (Universitat Jaume I); Zhiya Dang (Istituto Italiano di Tecnologia); Rosaria Brescia (Istituto Italiano di Tecnologia); Mirko Prato (Istituto Italiano di Tecnologia); Beatriz Martin-Garcia (Istituto Italiano di Tecnologia); Guillaume H. V. Bertrand (Istituto Italiano di Tecnologia); Ali Hossain Khan (Istituto Italiano di Tecnologia); Iwan Moreels (Istituto Italiano di Tecnologia);
- 15:50 Application of LiF Crystal Detector for High-performance Imaging and Radiography with XFEL Beam
Invited
Tatiana Pikuz (Osaka University; Joint Institute for High Temperatures RAS); Anatoly Faenov (Osaka University; Joint Institute for High Temperatures RAS); Norimasa Ozaki (Osaka University); Takeshi Matsuoka (Osaka University); Kento Katagiri (Osaka University); Daisuke Sagae (Osaka University); Sergey Makarov (Joint Institute for High Temperatures RAS); Michel Koenig (LULI, Ecole Polytechnique, CNRS, CEA, UPMC); Osaka University); Paul Mabey (LULI, Ecole Polytechnique, CNRS, CEA, UPMC); Bruno Albertazzi (LULI, Ecole Polytechnique, CNRS, CEA, UPMC); Gabriel Rigon (LULI, Ecole Polytechnique, CNRS, CEA, UPMC); Thibault Michel (LULI, Ecole Polytechnique, CNRS, CEA, UPMC); Alexis Casner (Universite de Bordeaux-CNRS-CEA, CELIA); Nickolas Hartley (Helmholtz-Zentrum Dresden-Rossendorf; Osaka University); Toshinori Yabuuchi (RIKEN SPring-8 Center); Yuichi Inubushi (JASRI/SPring-8); Makina Yabashi (RIKEN SPring-8 Center; JASRI/SPring-8); Alexei Buzmakov (FSRC “Crystallography and Photonics” RAS); Alexei N. Grum-Grzhimailo (Lomonosov Moscow State University); Francesca Bonfigli (ENEA C.R. Frascati); Maria Aurora Vincenti (ENEA C.R. Frascati); Massimo Piccinini (ENEA C.R. Frascati); Rosa Maria Montekali (ENEA C.R. Frascati); Enrico Nichelatti (ENEA C.R. Casaccia); Kohei Miyanishi (Osaka University); Sergey Pikuz (Joint Institute for High Temperatures RAS); Ryosuke Kodama (Osaka University);
- 16:10 Frequency Conversion of Multi-line CO Laser Radiation into THz Range by Nonlinear Crystal ZnGeP₂
Andrey A. Ionin (P. N. Lebedev Physical Institute, Russian Academy of Sciences); Igor O. Kinyavskiy (P. N. Lebedev Physical Institute, Russian Academy of Sciences); Yury M. Klimachev (P. N. Lebedev Physical Institute, Russian Academy of Sciences); Yury A. Mityagin (P. N. Lebedev Physical Institute, Russian Academy of Sciences); Adilya M. Sagitova (P. N. Lebedev Physical Institute, Russian Academy of Sciences); Sergey A. Savinov (P. N. Lebedev Physical Institute, Russian Academy of Sciences); Dmitriy V. Sinitsyn (P. N. Lebedev Physical Institute, Russian Academy of Sciences);
- 16:30 **Coffee Break**
- 17:00 Investigating the Beneficial Role of MXenes and 2D Materials in Perovskite Solar Cells
Antonio Agresti (University of Rome Tor Vergata); Sara Pescetelli (University of Rome Tor Vergata); Anna Pazniak (National University of Science and Technology NUST-MISIS); Danila Saranin (National University of Science and Technology NUST-MISIS); Di Carlo Aldo (Universita degli Studi di Roma “Tor Vergata”);
- 17:20 Quantum Dots Synthesis through Direct Laser Patterning
Invited
Francesco Antolini (Fusion and Nuclear Security Department, ENEA); L. Orazi (University of Modena and Reggio Emilia); J. Harwell (University of St Andrews); I. D. W. Samuel (University of St Andrews);
- 17:40 Bragg Curve Imaging and Dose Mapping by Photoluminescence of Color Centers in Lithium Fluoride Detectors for Proton Beam Diagnostics
Invited
Rosa Maria Montekali (ENEA C.R. Frascati); M. Piccinini (ENEA C.R. Frascati, Fusion and Technologies for Nuclear Safety and Security Department); Luigi Picardi (ENEA C.R. Frascati); Concetta Ronzivalle (ENEA C.R. Frascati, Fusion and Technologies for Nuclear Safety and Security Department); Francesca Bonfigli (ENEA C.R. Frascati, Fusion and Technologies for Nuclear Safety and Security Department); Enrico Nichelatti (ENEA C.R. Casaccia, Fusion and Technologies for Nuclear Safety and Security Department); Maria Aurora Vincenti (ENEA C.R. Frascati, Fusion and Technologies for Nuclear Safety and Security Department);

- 18:00 All-fiber Orbital Angular Momentum Mode Oscillator Based on Mode-selective Coupler
Runxia Tao (University of Science and Technology of China); Hongxun Li (University of Science and Technology of China); Peijun Yao (University of Science and Technology of China); Lixin Xu (University of Science and Technology of China); Chun Gu (University of Science and Technology of China);
- 18:20 All-fiber Cylindrical Vector Beam Laser Based on Ring-core Yb-doped Fiber
Hongxun Li (University of Science and Technology of China); Peijun Yao (University of Science and Technology of China); Chun Gu (University of Science and Technology of China); Lixin Xu (University of Science and Technology of China); Rui Zhang (Research Center of Laser Fusion, China Academy of Engineering Physics); Jingqin Su (Research Center of Laser Fusion, China Academy of Engineering Physics);
- 18:40 Near-infrared OLEDs and All-organic Optical Upconversion Devices
 Invited *Marco Cremona (Pontifical Catholic University of Rio de Janeiro); Rian Aderne (Pontifical Catholic University of Rio de Janeiro); Zubair Ahmed (Pontifical Catholic University of Rio de Janeiro); Cristiano Legnani (Federal University of Juiz de Fora); Sandra Jenatsch (Fluxim AG); Karen Strassel (Laboratory for Functional Polymers); Roland Hany (Laboratory for Functional Polymers); Frank Nuesch (Laboratory for Functional Polymers);*
- 14:30 Recent Advances on Nanostructured Metamaterial Silicon Photonics
 Invited *Carlos Alonso-Ramos (Universite Paris 11); D. Pavel Cheben (National Research Council of Canada); Robert Halir (Universidad de Malaga); Jens H. Schmid (National Research Council); Jiri Ctyroky (Institute of Photonics and Electronics AS CR, v.v.i.); Daniel Benedikovic (Universite Paris-Saclay); Alejandro Ortega-Monux (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos); A. Sanchez-Postigo (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos); David Gonzalez-Andrade (Instituto de Optica Daza de Valdes); J. G. Wanguemert-Perez (Universidad de Malaga); Inigo Molina-Fernandez (Malaga University); Aitor V. Velasco (Consejo Superior de Investigaciones Cientificas); Elaine Herrero-Bermello (Optics Institute "Daza de Valdes", Consejo Superior de Investigaciones Cientificas); J. M. Luque-Gonzalez (University Malaga); D. Pereira-Martin (University Malaga); Jean Lapointe (Information and Communication Technologies, National Research Council Canada); Siegfried Janz (Institute for Microstructural Sciences, National Research Council Canada (NRC)); Dan-Xia Xu (National Research Council Canada (NRC)); Daniele Melati (National Research Council of Canada); Yuri Grinberg (National Research Council of Canada); Shurui Wang (Information and Communication Technologies, National Research Council Canada); Martin Vachon (Information and Communication Technologies, National Research Council Canada); Mohsen Kamandar Dezfouli (Advanced Electronics and Photonics Research Centre, National Research Council Canada); R. Cheriton (Information and Communication Technologies, National Research Council Canada); V. Vakarín (Centre de Nanosciences et de Nanotechnologies, CNRS); M. Dado (University of Zilina); D. Oser (Centre de Nanosciences et de Nanotechnologies, CNRS); F. Mazeas (Universite Cote d'Azur, CNRS, Institut de Physique de Nice); D. Perez-Galacho (Centre de Nanosciences et de Nanotechnologies, CNRS); Xavier Le Roux (Universite Paris-Sud); Elena Duran-Valdeiglesias (Universite Paris 11); L. Labonte (Universite Cote d'Azur, CNRS, Institut de Physique de Nice); S. Tanzilli (Universite Cote d'Azur, CNRS, Institut de Physique de Nice); Eric Cassan (Universite Paris-Sud); Delphine Marris-Morini (Universite Paris 11); Laurent Vivien (Universite Paris-Sud);*

Session 3P16

**SC3: Visible, Near-infrared and Beyond:
Materials and Devices 2**

Wednesday PM, June 19, 2019

Room 15 - 2nd Floor

Organized by Silvia Maria Pietralunga, Jonathan D. B. Bradley

Chaired by Silvia Maria Pietralunga, Jonathan D. B. Bradley

- 14:50 Coherent Mid-infrared Super-continuum Generation
Invited in Tapered Chalcogenide Fiber Pumped by Femtosecond Cr:ZnSe Laser
Gianluca Galzerano (Istituto di Fotonica e Nanotecnologie — CNR);
- 15:10 Silicon Nitride for CMOS Photonics Systems
Invited
Frederic Y. Gardes (University of Southampton); Thalia Dominguez Bucio (University of Southampton); Lorenzo Mastronardi (University of Southampton); Mehdi Banakar (University of Southampton); Alexandre Bazin (University of Southampton); Ali Z. Khokhar (University of Southampton); Cosimo Lacava (University of Southampton); Periklis Petropoulos (University of Southampton); Moïse Sotto (University of Southampton); Shinichi Saito (University of Southampton); Inigo Molina-Fernandez (Malaga University); Robert Halir (Universidad de Malaga); Alejandro Ortega-Monux (University Malaga); J. G. Wanguemert-Perez (Universidad de Malaga); Chen Yang (Zhejiang University); Jian-Jun He (Zhejiang University); Pavel Cheben (National Research Council of Canada); Jens H. Schmid (National Research Council); Callum G. Littlejohns (Nanyang Technological University); Kapil Debnath (Univ St Andrews); Marco Clementi (Universita di Pavia); Marco Liscidini (Universita di Pavia); Daniele Bajoni (Universita di Pavia); Matteo Galli (Universita di Pavia);
- 15:30 ALD Assisted 2D Monolayer Transition Metal
Invited Dichalcogenides and Their Applications in Optoelectronics
Mustafa Demirtas (Eskisehir Technical University); Cem Odaci (Eskisehir Technical University); Yahaya Shehu (Eskisehir Technical University); Nihan Kosku Perkgoz (Eskisehir Technical University); Feridun Ay (Eskisehir Technical University);
- 15:50 VIS-NIR GeSi Photodetector with Voltage Tunable Spectral Response
Enrico Talamas Simola (Politecnico di Milano); Andrea De Iacovo (University Roma Tre); Jacopo Frigerio (Politecnico di Milano and L-NESS); Andrea Ballabio (Politecnico di Milano and L-NESS); Andrea Fabbri (Universita degli Studi di Roma Tre); Giovanni Isella (Politecnico di Milano); Lorenzo Colace (University Roma Tre);
- 16:10 Multispectral Photodetectors Based on PbS Colloidal Quantum Dots
Carlo Venettacci (University Roma Tre); Andrea De Iacovo (University Roma Tre); Carlo Giansante (University Roma Tre); Lorenzo Colace (University Roma Tre);
- 16:30 **Coffee Break**
- 17:00 On-chip Amplifiers and Lasers in the Al₂O₃ Oxide
Invited Platform
Jinfeng Mu (University of Twente); Michiel De Goede (University of Twente); Carlijn Van Emmerik (University of Twente); Lantian Chang (University of Twente); Meindert Dijkstra (University of Twente); Sonia M. Garcia-Blanco (University of Twente);
- 17:20 Extending into the IR with Reflective Semiconductor Composite Films
Kevin Conley (Aalto University); Vaibhav Thakore (University of Western Ontario); Mikko Karttunen (University of Western Ontario); Tapio Ala-Nissila (Aalto University);
- 17:40 Silicon and Germanium-based Mid-infrared Platforms
Invited
Goran Z. Mashanovich (University of Southampton); J. Soler Penades (University of Southampton); A. Osman (University of Southampton); A. Sanchez-Postigo (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos,); Z. Qu (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos,); Y. Wu (University of Southampton); C. J. Stirling (University of Southampton); D. P. Cheben (National Research Council Canada); A. Ortega-Monux (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos,); J. G. Wanguemert-Perez (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos,); I. Molina-Fernandez (Universidad de Malaga, ETSI Telecomunicacion, Campus de Teatinos,); M. Nedeljkovic (University of Southampton);
- 18:00 Photodoping of Transparent Conducting Oxide
Invited Nanocrystals
Ilka Kriegel (IIT Central Research Lab Genova); Carmine Urso (Italian Institute of Technology); Daniele Viola (Politecnico di Milano); Luca De Trizio (Italian Institute of Technology); Francesco Scotognella (Politecnico di Milano); Giulio Cerullo (Politecnico di Milano); Liberato Manna (Italian Institute of Technology);

18:20 Thulium-doped Tellurium Oxide Amplifier for Optical Communication in the 2- μm Window on a Silicon Nitride Integrated Optics Platform
Khadijeh Miarabbas Kiani (McMaster University); Henry C. Frankis (McMaster University); Richard Mateman (LioniX International BV); Arne Leinse (LioniX International BV); Andrew P. Knights (McMaster University); Jonathan D. B. Bradley (McMaster University);

15:50 Nonreciprocity-induced Quantum Optical Torque
 Invited
Seyyed Ali Hassani Gangaraj (Cornell University); Mario G. Silveirinha (University of Lisbon); George W. Hanson (University of Wisconsin-Milwaukee); Mauro Antezza (Universite de Montpellier); Francesco Monticone (Cornell University);

16:10 Dispersion Interaction between Two Hydrogen Atoms in a Static External Electric Field
 Invited
Giuseppe Fiscelli (Dipartimento di Fisica e Chimica); Lucia Rizzuto (Universita degli Studi di Palermo and CNISM); Roberto Passante (University of Palermo);

16:30 **Coffee Break**

17:00 Spontaneous Emission and Atom-surface Interaction of One Atom Nearby an Oscillating Conducting Plate
 Invited
Alessandro Ferreri (University of Paderborn); Michelangelo Domina (Universita degli Studi di Palermo); Antonio Noto (Universita degli Studi di Palermo and CNISM); Lucia Rizzuto (Universita degli Studi di Palermo and CNISM); Roberto Passante (University of Palermo);

17:20 Semiclassical Mie Scattering and the Casimir Effect: Contributions from Geometrical Optics and Diffraction for Large Aspect Ratios
 Invited
Vinicius Henning (Universidade Federal do Rio de Janeiro); Benjamin Spreng (Universitat Augsburg); Michael Hartmann (Universitat Augsburg); Gert-Ludwig Ingold (Universitat Augsburg); Paulo A. Maia Neto (Universidade Federal do Rio de Janeiro);

17:40 Impact of Continuum Electronic States on Dispersion Interactions within Atomistic and Macroscopic Pictures
Mohammad Reza Karimpour (University of Luxembourg); Dmitry Fedorov (University of Luxembourg); Alexandre Tkatchenko (University of Luxembourg);

18:00 The Auger Effect in Dispersing and Absorbing Environments
Janine Franz (University of Freiburg); R. Bennett (University of Freiburg); Stefan Yoshi Buhmann (University of Freiburg);

18:20 Nonperturbative Dynamical Casimir Effect in Optomechanical Systems
 Invited
Salvatore Savasta (University of Messina); Omar Di Stefano (RIKEN Cluster for Pioneering Research);

18:40 Interaction of Mechanical Oscillators Mediated by the Exchange of Virtual Photon Pairs
 Invited
Omar Di Stefano (RIKEN Cluster for Pioneering Research); Salvatore Savasta (University of Messina);

Session 3P17

FocusSession.SC1: Casimir Effect and Forces at the Nanoscale 2

Wednesday PM, June 19, 2019

Room 33 - Bank Building

Organized by Mauro Antezza, Brahim Guizal

Chaired by Mauro Antezza, Brahim Guizal

14:30 Forces at the Nanoscale for Trapping Gas Bubbles in Water at a Finite Distance below a Water-solid Interface
 Invited

Sol Carretero-Palacios (Consejo Superior de Investigaciones Cientificas — University of Seville); Victoria Esteso Carrizo (Consejo Superior de Investigaciones Cientificas — University of Seville); Priyadarshini Thiyam (Lund University); Hernan Miguez Garcia (Spanish National Research Council); Drew F. Parsons (Murdoch University); Iver Brevik (Norwegian University of Science and Technology); Mathias Bostrom (Norwegian University of Science and Technology);

14:50 Dispersion Forces in Inhomogeneous Planarly Layered Media

Johannes Fiedler (University of Oslo); C. Persson (University of Oslo); S. Y. Buhmann (University of Freiburg);

15:10 Casimir Interaction for Spherical Geometries in the Plane-wave Basis
 Invited

Benjamin Spreng (Universitat Augsburg); Paulo A. Maia Neto (Universidade Federal do Rio de Janeiro); Gert-Ludwig Ingold (Universitat Augsburg);

15:30 Recent Measurements of Casimir Forces and Torques
 Invited

Jeremy N. Munday (University of Maryland);

- 19:00 Controlling the Casimir-Lifshitz Force between Plane Parallel Systems with Multi-layered Dielectric Nanostructures
Victoria Esteso Carrizo (Consejo Superior de Investigaciones Científicas — University of Seville); Sol Carretero-Palacios (Consejo Superior de Investigaciones Científicas — University of Seville); Hernan Miguez Garcia (Spanish National Research Council);

Session 3P18a

Terahertz Radiation: From Generation to Applications in Condensed Matter, Biomedicine and Particle Physics 2

Wednesday PM, June 19, 2019

Room 38 - Chemistry Building

Organized by Stefano Lupi, Augusto Marcelli

- 14:30 Terahertz-driven Ultrafast Insulator-to-metal Transition in Vanadium Oxides VO₂ and V₂O₃
Flavio Giorgianni (Laboratory for Nonlinear Optics (LNO), PSI); Joe Sakai (Universite Francois Rabelais de Tours); Stefano Lupi (Università La Sapienza);
- 14:50 Terahertz Free-electron-laser and Its Applications
Akinori Irizawa (Osaka University);
- 15:10 Surface Damage Angular Dependence of Metallic Systems by High Gradient THz Radiation
Salvatore Macis (Università di Roma Tor Vergata); Stefano Lupi (Università La Sapienza); Akinori Irizawa (Osaka University); J. Rezvani (INFN — Istituto Nazionale di Fisica Nucleare); Augusto Marcelli (LNF-INFN);
- 15:30 Nonlinear THz Spectroscopy in Low-dimensional Semiconductors Using a Free-electron Laser
Stephan Winnerl (Helmholtz-Zentrum Dresden-Rossendorf); Johannes Schmidt (Helmholtz-Zentrum Dresden-Rossendorf); Jacob C. König-Otto (Helmholtz-Zentrum Dresden-Rossendorf); Martin Mittendorff (Universitat Duisburg-Essen); Harald Schneider (Helmholtz-Zentrum Dresden-Rossendorf); Manfred Helm (Helmholtz-Zentrum Dresden-Rossendorf);

- 15:50 Functionalized Materials for Integrated Photonics: Hybrid Integration of Organic Materials in Silicon-based Photonic Integrated Circuits for Advanced Optical Modulators and Light-sources
Invited Patrick Steglich (IHP — Leibniz-Institut für Innovative Mikroelektronik); Christian Mai (IHP); Siegfried Bondarenko (Technical University of Applied Sciences Wildau); Claus Villringer (Technical University of Applied Sciences Wildau); Silvio Pulver (Technical University of Applied Sciences Wildau); Christoph Zesch (Technical University of Applied Sciences Wildau); Birgit Dietzel (Technical University of Applied Sciences Wildau); Sigurd Schrader (Technical University of Applied Sciences Wildau); Francesco Vitale (University of Rome ‘Tor Vergata’); Fabio De Matteis (University of Rome ‘Tor Vergata’); Mauro Casalboni (University of Rome ‘Tor Vergata’); Andreas Mai (IHP — Leibniz-Institut für Innovative Mikroelektronik);

Session 3P18b

Millimeter Wave and Terahertz Source Devices

Wednesday PM, June 19, 2019

Room 38 - Chemistry Building

Organized by Cun-Jun Ruan

Chaired by Cun-Jun Ruan

- 16:10 High Power Terahertz Source Based on Planar Antenna Integrated Vacuum Photodiode
Jun Dai (Beihang University); Cun-Jun Ruan (Beihang University); Yikun Ding (Beihang University); Xing-Yun Zhang (Beihang University);
- 16:30 **Coffee Break**
- 17:00 Theory and Simulations of Drifting Plasmons for Terahertz Generation in Two-dimensional Devices
Simone Zonetti (Imperial College London); O. Sydoruk (Imperial College London);
- 17:20 Improvement of Output Performance in G-band Extended Interaction Klystron with Narrow Coupling Cavity
Shasha Li (Beihang University); Renjie Li (Beihang University); Cun-Jun Ruan (Beihang University);
- 17:40 A Novel High Power Millimeter Microwave Transit Time Oscillator
Weibing Tan (Northwest Institute of Nuclear Technology); Xiaoze Li (Northwest Institute of Nuclear Technology); Xiaoxin Zhu (Northwest Institute of Nuclear Technology); Ligang Zhang (Northwest Institute of Nuclear Technology);

- 18:00 Elimination of Mode Competition in TE_{0n} Mode Gyrottron
Narugopal Nayek (SAMEER Centre for High Power Microwave Tube and Component Technology); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati); Ratnajit Bhattacharjee (Indian Institute of Technology Guwahati);
- 18:20 Nonlinear Echelon Slab Based Terahertz Pulse Sources
Gyorgy Toth (University of Pécs); Priyo Syamsul Nugraha (MTA-PTE High-Field Terahertz Research Group); Laszlo Palfalvi (University of Pécs); Jozsef Andras Fulop (MTA-PTE High-Field Terahertz Research Group); Gergo Krizsan (University of Pécs); Levente Tokodi (University of Pécs); Zoltan Tibai (University of Pécs); Gabor Almasi (University of Pécs); Janos Hebling (University of Pécs);
- 18:40 A Dual-frequency High Power Microwave Generator with Low Guiding Magnetic Field
Huida Wang (Tsinghua University); Wei Song (Northwest Institute of Nuclear Technology); Renzhen Xiao (Northwest Institute of Nuclear Technology); Chenchen Tong (Northwest Institute of Nuclear Technology); Xiaoze Li (Northwest Institute of Nuclear Technology);
- 15:30 Wired Network Distributed Diagnosis and Sensors Fusion by Multi-carrier Time Domain Reflectometry and Graph Theory
Ousama Osman (WIN MS); Soumaya Sallem (CEA, LIST, GIF-SUR-YVETTE); Marc Olivas Carrion (CEA LIST); Laurent Sommervogel (CEA LIST); Pierre Bonnet (Clermont University, Blaise Pascal University); Françoise Paladian (Institut Pascal);
- 15:50 Shielding Damage Characterization in Twisted Pair Cables Using OMTDR-based Reflectometry and Inverse Problems
Wafa Ben Hassen (CEA, LIST, Laboratoire de Fiabilité et Integration Capteurs); Moussa Kafal (CEA, LIST);
- 16:10 Software Correction of Defective Lossy Transmission Line Networks
Ali Al Ibrahim (Universite Clermont Auvergne); C. Chauviere (Universite Blaise Pascal); Pierre Bonnet (Clermont University, Blaise Pascal University);
- 16:30 **Coffee Break**

Session 3P19b
Wireless Power Transfer for Biomedicine and IoTs

Wednesday PM, June 19, 2019
Room 39 - Electrical Building

Organized by Yongxin Guo

 Chaired by Yongxin Guo, Shao Ying Huang

- Session 3P19a**
- Health Monitoring of Structures and Electrical Wire Interconnect Systems**
- Wednesday PM, June 19, 2019**
- Room 39 - Electrical Building**
- Organized by Fabrice Auzanneau, Moussa Kafal
 Chaired by Fabrice Auzanneau, Moussa Kafal
-
- 14:30 Development of the Adaptive Fault Detection Method for Cable Considering the Wave Dispersion
Seung Jin Chang (Hanbat National University);
- 14:50 A Heuristic Approach Applied to Time Reversal MUSIC Method for Soft Fault Location in Noisy Transmission Line Networks
Moussa Kafal (CEA, LIST); Andrea Cozza (SUP-ELEC);
- 15:10 Electrical Tagging Devices of Complex Electrical Networks for Fault Location Diagnosis
Florent Loete (CentraleSupélec); Michel Sorine (INRIA-IRISA);

- 17:00 Wireless Power Transmission with Harmonics-enabled Antenna Alignment
Yongxin Guo (National University of Singapore); Hao Zhang (National University of Singapore);
- 17:20 Modularized Transmitter Design for Dynamic Wireless Power Transfer
Chen Xu (University of Liverpool); Yuan Zhuang (University of Liverpool); Chaoyun Song (University of Liverpool); Yi Huang (University of Liverpool); Jiafeng Zhou (University of Liverpool);
- 17:40 Effect of Biological Properties on Parasitic Capacitance Variation of Wireless Power Transfer Coil
Dongwook Kim (Korea Advanced Institute of Science and Technology (KAIST)); Jongwook Kim (Korea Advanced Institute of Science and Technology (KAIST)); Haerim Kim (Korea Advanced Institute of Science and Technology (KAIST)); Seungyoung Ahn (Korea Advanced Institute of Science and Technology (KAIST));

- 18:00 Towards Wireless Power Transfer in Human-involved Environment
Wenshen Zhou (Singapore University of Technology and Design); Shao Ying Huang (Singapore University of Technology and Design);
- 18:20 Wireless Power Transfer Using Capacitive Coupling for High Power Applications
Muhammad Hamza Saeed (UET Lahore); Syed Abdul Rahman Kashif (UET Lahore); Noor Ul Ain (UET Lahore); Abdullah Tariq Sipra (UET Lahore); Junaid Rafique (UET Lahore); Hammad ul Hassan (UET Lahore);
- 18:40 Electromagnetic Evaluation for RFID Localization System in Smart Healthcare Environments
Jose A. Hernandez (Canary University Hospital Consortium); Angeles M. Trillo (University Hospital Ramon y Cajal-IRYCIS); Silvia De Miguel (Health Institute Carlos III, Telemedicine and eHealth Research Unit); Oscar J. Suarez (Direccion General de Telecomunicaciones y Tecnologias de la Informacion); Francisco J. Falcone (Universidad Pública de Navarra); Victoria Ramos (Health Institute Carlos III);
- 19:00 Vertically Stacked Binomial-arrays of Resonant Dipoles for Mobile Wireless Communication and Scavenging Applications
Tolulope Christiana Erinoshio (D.S. Adegbenro ICT Polytechnic); Sulaiman Adeniyi Adekola (University of Lagos);
- 15:30 Multimedia Projector in the Process of Electromagnetic Infiltration
Rafal Przesmycki (Military University of Technology); Marek Bugaj (Military University of Technology); Marian Tadeusz Wnuk (Military University of Technology);
- 15:50 Electromagnetic Compatibility of LED Lamps
Marek Bugaj (Military University of Technology); Rafal Przesmycki (Military University of Technology); Jaroslaw Bugaj (Military University of Technology);
- 16:10 Immunity of LED Lamps to HPM Pulses
Marek Bugaj (Military University of Technology); Rafal Przesmycki (Military University of Technology);
- 16:30 **Coffee Break**
- 17:00 Logo Spiral Microstrip Antenna with Rotating Polarity to the Pulsar Clock
Rafal Przesmycki (Military University of Technology); Marek Bugaj (Military University of Technology); Marian Tadeusz Wnuk (Military University of Technology);
- 17:20 Application of Microstrip Antennas in Energy Harvesting Systems
Marian Tadeusz Wnuk (Military University of Technology); Marek Bugaj (Military University of Technology); Rafal Przesmycki (Military University of Technology);
- 17:40 Co-channel Interference in Multi-beam Receiving Antenna for 28 GHz
Cezary Ziolkowski (Military University of Technology); Jan M. Kelner (Military University of Technology);

Session 3P20
EMC Problems with Antennas & Wave Propagation

Wednesday PM, June 19, 2019
Room 40 - Electrical Building

Organized by Rafal Przesmycki

 Chaired by Marian Tadeusz Wnuk, Leszek Nowosielski

- 14:30 The Software Concept Used to HPM Pulse Measure
Rafal Przesmycki (Military University of Technology);
- 14:50 D-dot Probes Used in HPM Pulse Measurements
Rafal Przesmycki (Military University of Technology); Marek Bugaj (Military University of Technology);
- 15:10 The Configuration of Laboratory Stands for Shielding Effectiveness Measurements
Leszek Nowosielski (Military University of Technology); Michal Nowosielski (Medical University of Warsaw);
- 18:00 The Dynamic Range Maximisation of Shielding Effectiveness Measurements
Leszek Nowosielski (Military University of Technology); Marian Tadeusz Wnuk (Military University of Technology); Joanna Kuzba (Military University of Technology);
- 18:20 Method of Transmitter and Electric Field Strength Meter Synchronization during Shielding Effectiveness Measurement
Leszek Nowosielski (Military University of Technology); Jacek Rychlica (Military University of Technology);
- 18:40 Spatial Multiplexing of Channels by Using Multi-beam Antenna System for 60 GHz
Jan M. Kelner (Military University of Technology); Cezary Ziolkowski (Military University of Technology);

19:00 Influence of Spatial Selection of Antennas on Radio Link Attenuation in Multipath Propagation Environment for 73 GHz
Jan M. Kelner (Military University of Technology); Cezary Ziolkowski (Military University of Technology);

Session 3P0
Poster Session 4

Wednesday PM, June 19, 2019

15:00 PM - 18:00 PM

Room Corridor

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|---|--|
| <p>1 Comparison between EOT Properties of Metal and PEC Plates with Subwavelength Periodic Slits
 <i>J. Yamauchi (Hosei University); Masato Oishi (Hosei University); R. Nakada (Hosei University); H. Nakano (Hosei University);</i></p> <p>2 On the Choice of Curve Parameters for ED and SVD Analysis of Radiating Sources
 <i>Fortuna Munno (Universita della Campania Luigi Vanvitelli); Giovanni Leone (Universita della Campania Luigi Vanvitelli); Rocco Pierri (Universita degli studi della Campania Luigi Vanvitelli);</i></p> <p>3 The Progress of Mark6 Usage in Chinese Radio Astronomy Observatory
 <i>Shaoguang Guo (Shanghai Astronomical Observatory, Chinese Academy of Science); Jiyun Li (Shanghai Astronomical Observatory, Chinese Academy of Science); Renjie Zhu (Shanghai Astronomical Observatory, Chinese Academy of Science);</i></p> <p>4 Magnetolectric Current Sensor Based on MEMS Technology
 <i>Viktor Sergeevich Leontiev (Novgorod State University); O. V. Sokolov (Novgorod State University); Alexander Sergeevich Tatarenko (Novgorod State University); Roman Valerevich Petrov (Novgorod State University); Mirza Imamovich Bichurin (Novgorod State University);</i></p> <p>5 Properties of Axial Caustic under Autofocusing of Airy-like and Chirped Beams
 <i>Andrey V. Ustinov (Image Processing Systems Institute of RAS — Branch of the FSRC “Crystallography and Photonics” RAS); Dmitry A. Savelyev (Samara National Research University);</i></p> | <p>6 Calculation of Electron Beam Properties under the Presence of an Axially Varying Magnetostatic Field by Using the FDTD Code COCHLEA
 <i>Dimitrios V. Peponis (National and Kapodistrian University of Athens); George P. Latsas (National and Kapodistrian University of Athens); Ioannis G. Chelis (National and Kapodistrian University of Athens); Ioannis G. Tigelis (University of Athens);</i></p> <p>7 Design and Implementation of a Real-time Smart Home Automation System Based on Arduino Microcontroller Kit and LabVIEW Platform
 <i>Abdulwadoud A. Maash (Taif University); Mohamed O. Elhabib (Taif University); Ahmad A. Alahmadi (Taif University); Farhan Atallah Salem (Taif University); Mohamed S. Soliman (Taif University);</i></p> <p>8 Measurement Validation of Hybrid Electromagnetic Field Analysis Method for Airport Surface including Slope Ground in VHF Band
 <i>Satoshi Kuroda (Aoyama Gakuin University); Ryosuke Suga (Aoyama Gakuin University); Atsushi Kezuka (National Institute of Maritime, Port and Aviation Technology); Osamu Hashimoto (Aoyama Gakuin University);</i></p> <p>9 Shape Identification of Extended Dielectric Inhomogeneities in Inhomogeneous Medium via Factorization Method
 <i>Chi Young Ahn (National Institute for Mathematical Sciences); Taeyoung Ha (National Institute for Mathematical Sciences); Won-Kwang Park (Kookmin University);</i></p> <p>10 A Plasma Chamber: Electromagnetic Modeling and Experiments
 <i>Petr Drexler (Brno University of Technology); Pavel Fiala (Brno University of Technology); M. Klima (Brno University of Technology); Eva Gescheidtova (Brno University of Technology); L. Zajickova (Brno University of Technology);</i></p> <p>11 Visualization of Polarization Conversion Characteristics of Periodically Perforated Metal Plates
 <i>J. Yamauchi (Hosei University); Hiroya Ishihara (Hosei University); Shunsuke Yoshino (Hosei University); H. Nakano (Hosei University);</i></p> <p>12 Synthesis of Microwave Concave Semitransparent Screen for Reduction of Radiation in the Shadow Domain
 <i>Dmitry V. Tatarnikov (Topcon Positioning Systems, Moscow Aviation Institute (Technical University)); Alexey A. Generalov (Topcon Positioning Systems, Moscow Aviation Institute (Technical University)); Dmitry Voskresenskiy (Moscow Aviation Institute (National Research University));</i></p> |
|---|--|

- 13 Research of Time-domain Model of HPM Radiation Field Measurement System Based on Scatter Parameters Transient Analysis
Zhen-Bo Cheng (Northwest Institute of Nuclear Technology); Tingyong Jiang (Northwest Institute of Nuclear Technology); Jiawei Yao (Northwest Institute of Nuclear Technology); Youjie Yan (Northwest Institute of Nuclear Technology); Zhanjun Liu (Northwest Institute of Nuclear Technology);
- 14 MHD Analysis of Large Induction Electromagnetic Pumps
Jacob Eapen (North Carolina State University); Anant Raj (North Carolina State University);
- 15 Tow-tone Radar Sensor Based Target Detection and Classification Scheme
Eugin Hyun (DGIST); Young-Seok Jin (DGIST (Daegu Geongbuk Institute of Science & Technology));
- 16 Interpretation on Electromagnetic Interference between Open Cable Trays
Jaeyul Choo (Korea Institute of Nuclear Safety (KINS)); Dong Jin Lee (Korea Institute of Nuclear Safety);
- 17 Ultra-thin Absorptive Films Turn Perfect Reflector to Perfect Absorber
Wenyu Tong (Soochow University); Jie Luo (Soochow University); Yun Lai (Nanjing University);
- 18 Analysis of the Errors in Polarimetry with Full Poincaré Beams
Juan C. Suarez-Bermejo (Universidad Politécnica de Madrid); J. C. G. De Sande (Universidad Politécnica de Madrid); M. Santarsiero (Università Roma Tre); G. Piquero (Universidad Complutense de Madrid);
- 19 Performance Analysis of Cost-efficient High-speed up to 32 Gbit/s WDM-PON Next-generation Access Network with Dispersion Compensation
Ambra Korra (Polytechnic University of Tirana); Toms Salgals (Riga Technical University); Jurgis Porins (Riga Technical University); Edgars Kazoks (Riga Technical University); Rozeta Miho (Polytechnic University of Tirana); Sandis Spolitis (Riga Technical University);
- 20 Measuring the Orbital Angular Momentum of Asymmetric Light Beams by Two Cylindrical Lenses
Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences); Alexey A. Kovalev (Samara State Aerospace University, Image Processing Systems Institute of the Russian Academy of Science); Alexey P. Porfirev (Image Processing Systems Institute of the Russian Academy of Sciences);
- 21 Evaluation of Waveguide Crossings for Polarization Independent Optical Triplexer with Cascaded Multimode-interference Couplers
Hideki Yokoi (Shibaura Institute of Technology);
- 22 The Influence of the Refractive Index Contrast on the Transmission Characteristics of a Structure Consisting of Two Identical Optical Microwaveguides of Rectangular Cross-section
Galina Zaretskaya (Saint Petersburg Electrotechnical University "LETI"); Andrey Drozdovskii (Saint Petersburg Electrotechnical University "LETI"); Boris Kalinikos (Saint Petersburg Electrotechnical University "LETI");
- 23 Photonic Jets Arrays Produced by Triangular Dielectric Prisms for Mid-IR Imaging
Vladislav D. Zaitsev (Samara National Research University); Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of RAS);
- 24 High Cyclotron Harmonics Excitation in Multi-beam Terahertz Range Gyrotrons
Andrey P. Fokin (Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"); I. V. Bandurkin (Institute of Applied Physics RAS); Mikhail Yu. Glyavin (Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"); Vladimir N. Manuilov (Institute of Applied Physics RAS); Anton S. Sedov (Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"); A. I. Tsvetkov (Institute of Applied Physics RAS); I. V. Zotova (Institute of Applied Physics RAS); A. E. Fedotov (Institute of Applied Physics RAS); Toshitaka Idehara (University of Fukui); O. Dumbrajs (University of Latvia);
- 25 Realization of Moiré Pattern Photonic Crystal for Electromagnetic Wave Propagation Applications
R. Rachel Darchy (University of Madras (Guindy campus)); C. Venkateswaran (University of Madras (Guindy Campus)); Natesan Yogesh (University of Madras (Guindy Campus));

- 26 Frequency Doubling of Gyrotron Radiation at 263 GHz in A3B5 Semiconductors
Andrey P. Fokin (Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"); V. V. Romyantsev (Institute for Physics of Microstructures RAS); A. A. Dubinov (Institute for Physics of Microstructures RAS); V. V. Utochkin (Institute for Physics of Microstructures RAS); Mikhail Yu. Glyavin (Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"); S. V. Morozov (Institute for Physics of Microstructures);
- 27 High Refractive Index Dielectric Nanoparticles for Sensing, Sizing and Building Switching Devices
Angela I. Barreda (University of Cantabria); Fernando Moreno (University of Cantabria); Francisco Gonzalez (University of Cantabria);
- 28 Theoretical Analysis of Sub-THz Gyro-Klystrons for Spectroscopic Applications
Andrey P. Fokin (Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"); R. M. Rozental (Institute of Applied Physics of the Russian Academy of Sciences (IAP RAS)); N. S. Ginzburg (Institute of Applied Physics RAS); M. Yu. Glyavin (Institute of Applied Physics RAS); I. V. Zotova (Institute of Applied Physics RAS); A. S. Sergeev (Institute of Applied Physics RAS); T. Idehara (University of Fukui (FIR FU));
- 29 Controlling Non-steady-state Upconversion Pathways for Synergetic Anti-counterfeiting
Yingdong Han (Tianjin University); Fan Li (Tianjin University); Tiegen Liu (Tianjin University); Zhenzhou Cheng (Tianjin University);
- 30 Degenerate Energy Exchange between Optical TE₂-modes of the Planar Waveguide Based on a Thin Left-handed Film and a Nonlinear Substrate
Rudolf V. Litvinov (Tomsk Polytechnic University); Albert S. Buller (Tomsk State University of Control Systems and Radioelectronics); Danil A. Maurer (Tomsk State University of Control Systems and Radioelectronics); Natalia Rudolfovna Litvinova (Tomsk State University of Control Systems and Radioelectronics);
- 31 Ppb-level TDLAS Sensor for CO Detection of SF₆ Decomposition by Use of a 2.33 μm Diode Laser and Wavelength Modulation Spectroscopy
Hongpeng Wu (Shanxi University); Lei Dong (Shanxi University); Shangzhi Li (Shanxi University); Ruyue Cui (Shanxi University); Frank K. Tittel (Rice University);
- 32 Analog Radio-over-fiber WDM-PON Architecture for 5G Millimeter-wave Interface
Toms Salgals (Riga Technical University); Laura Skladova (Riga Technical University); Jurģis Porins (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University); Sandis Spolitis (Riga Technical University);
- 33 Reconstruction of Equivalent Human Heart Dipole Parameters for the Torso Model Represented by Elliptical Conducting Cylinder of a Finite Length
Nikolay Olegovich Strelkov (National Research University "Moscow Power Engineering Institute"); M. N. Kramm (National Research University "Moscow Power Engineering Institute");
- 34 Modeling Multilayered Samples of Inorganic and Organic Speckle Structures
Pavel Fiala (Brno University of Technology); Radim Kadlec (Brno University of Technology); Petr Drexler (Brno University of Technology);
- 35 Non-signaling MIMO OTA Platform for Antenna Testing with More Discerning Performance Indices
Jeng-Kuang Hwang (Yuan Ze University); Chien-Min Chen (Yuan-Ze University); Tzung-Wern Chiou (BWant Co. Ltd.);
- 36 Calculation and Physical Modeling of Electric Potentials Generated by a Dipole Source in the Conducting Cylinder of a Finite Length
Nikolay Olegovich Strelkov (National Research University "Moscow Power Engineering Institute"); M. N. Kramm (National Research University "Moscow Power Engineering Institute"); K. Y. Kozhevnikov (National Research University "Moscow Power Engineering Institute");
- 37 A Striking Coupling between Graphene and Black Phosphorus in Near-field Radiative Heat Transfer
Lei Qu (Harbin Institute of Technology); Hong-Liang Yi (Harbin Institute of Technology); Yong Zhang (Harbin Institute of Technology);
- 38 The Thermal Effect on RF Amplifiers Using Quarter Micron Gate Length GaN on SiC HEMT Technology
Yi-Jie Kang (Chang Gung University); Chia-Han Lin (Chang Gung University); Hsiang-Chun Wang (Chang Gung University); Chia-Hao Yu (Chang Gung University); Hsien-Chin Chiu (Chang Gung University); Hsuan-Ling Kao (Chang Gung University);

- 39 Towards a Biophysical Treatment of Leaky Gut Syndrome
Alberto Foletti (Clinical Biophysics International Research Group); Paolo Baron (Clinical Biophysics International Research Group);
- 40 Radiation-based Near-field Thermal Rectification via Asymmetric Nanostructures of the Single Material
Cheng-Long Zhou (Harbin Institute of Technology); Yong Zhang (Harbin Institute of Technology); Hongliang Yi (Harbin Institute of Technology); Lei Qu (Harbin Institute of Technology);
- 41 Coupling Effects Cancellation on the Channel Capacity of MIMO Systems Operating at 2.4 GHz
Intissar Adouni (University of Tunis EL Manar); Mourad Aidi (University of Tunis El Manar); T. Aguilu (University of Tunis EL Manar);
- 42 Digital Beam Forming System in Low Frequency Radio Array
Jiyun Li (Shanghai Astronomical Observatory, Chinese Academy of Science); Baoqiang Lao (Shanghai Astronomical Observatory, Chinese Academy of Sciences);
- 43 Characterization of Wideband Gain RF Amplifier for L-Band Frequency Application
Eki Ahmad Zaki Hamidi (UIN Sunan Gunung Djati Bandung); Annisa Fitri (Institut Teknologi Bandung); Azwar Mudzakkir Ridwan (UIN Sunan Gunung Djati Bandung); Achmad Munir (Institut Teknologi Bandung);
- 44 Contact Device with Tunable Strip Matching Circuits for Measuring Parameters of Microwave Transistors
Vladimir Ivanovich Evseev (LLC "Arzamas Instrument-making Design Bureau"); Elena Alexandrovna Lupanova (Nizhniy Novgorod State Technical University n.a. R. E. Alekseev); Sergey Michailovich Nikulin (Alekseev's Nizhny Novgorod State Technical University); Vitaliy Vladimirovich Petrov (Nizhniy Novgorod State Technical University n.a. R. E. Alekseev);
- 45 A Compact Octa-band Antenna for Handsets Application
Peng Wang (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Yongwei Li (Southwest Jiaotong University);
- 46 Photo-definable Low Loss Dielectric Material for mm Wave Packaging
Se-Hoon Park (Korea Electronics Technology Institute); Ji Yeon Park (Korea Electronics Technology Institute); Jong-In Ryu (Korea Electronics Technology Institute);
- 47 A Rotating Mechanical Magnetic Antenna for SLF Transmission
Qiang Zhou (National University of Defense Technology); Wei Shi (National University of Defense Technology); Zhenyang Hao (Nanjing University of Aeronautics and Astronautics); Bin Liu (National University of Defense Technology);
- 48 Bias Analysis and Correction for Wideband Polarimetric Phased Array Radar
Zhanling Wang (National University of Defense Technology); Chen Pang (National University of Defense Technology); Yongzhen Li (National University of Defense Technology); Xuesong Wang (National University of Defense Technology); Dou Sun (National University of Defense Technology);
- 49 Gradient Metamaterial Design for Substrate-free Lens
Lingyun Li (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Tianyu Pen (Shanghai Institute of Microsystem and Information Technology, CAS); Rui Luo (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Hao Sun (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Yuanyue Guo (University of Science and Technology of China);
- 50 Enhancement of Monopole Antenna Gain with Additional Vertical Wire Medium Structure
Saran Kampeephat (Rajamangala University of Technology Isan); Paowphattra Kamphikul (Chiang Mai University); Rangsarn Wongsan (Suranaree University of Technology);
- 51 Study of Resistive Thin-film Coatings for Application in Millimeter-band Vacuum Power Amplifiers
Andrei Victorovich Starodubov (Saratov State University); Stanislav Andreevich Makarkin (Saratov State University); Alexey Alexandrovich Serdobintsev (Saratov State University); Anton Mikhailovich Pavlov (Saratov State University); Victor Vladimirovich Galushka (Saratov State University); Ilya Olegovich Kozhevnikov (Saratov State University);
- 52 Design and Optimization of Multi-coil Wireless Charging System for Charging Area Expansion
Sang-Won Kim (Electronics and Telecommunications Research Institute (ETRI)); Jung-Ick Moon (Electronics and Telecommunications Research Institute); In-Kui Cho (Electronics and Telecommunications Research Institute); Soo-Ho Shon (Electronics and Telecommunications Research Institute (ETRI));

- 53 A Compact HAT Shaped Uniplanar Printed Antenna for Portable Wireless Systems
Praveen Vummadisetty Naidu (JNT University Kakinada — Velagapudi Ramakrishna Siddhartha Engineering College); Arvind Kumar (Kautilya Institute of Technology and Engineering); G. Harika (Velagapudi Ramakrishna Siddhartha Engineering College); Vege Priyanka (Velagapudi Ramakrishna Siddhartha Engineering College); Md. Arsha (Velagapudi Ramakrishna Siddhartha Engineering College);
- 54 Performance Evaluation of 24 GHz High-resolution Electromagnetic Wave Rain Gauge (EWRG)
Jeongho Choi (Chosun College of Science & Technology); Sanghun Lim (Korea Institute of Civil Engineering and Building Technology); Myoungsun Han (Korea Institute of Civil Engineering and Building Technology);
- 55 Data Assimilation and Application Based on MWHTS for Typical Tropical Cyclone
Jieying He (National Space Science Center, Chinese Academy of Sciences); Shengwei Zhang (National Space Science Center, Chinese Academy of Sciences); Yao Chen (National Space Science Center, Chinese Academy of Sciences);
- 56 Differential Phase Processing and Data Quality Control for Polarimetric Weather Radar in Southern China
Qiulei Xia (Chengdu University of Information Technology); Haonan Chen (Colorado State University); Jieying He (National Space Science Center, Chinese Academy of Sciences); Wenjuan Zhang (State Key Laboratory of Severe Weather, Chinese Academy of Meteorological Sciences); Zhendong Yao (Chengdu University of Information Technology);
- 57 Detection and Tracking of Moving UAVs
Jiri Janousek (Brno University of Technology); Petr Marcon (Brno University of Technology); Josef Pokorny (Brno University of Technology); Jan Mikulka (Brno University of Technology);
- 58 90 GHz-band Foreign Object Debris Detection System and Electromagnetic Radar Cross Section Simulation for Runway Surveillance
Nobuhiko Shibagaki (Hitachi Kokusai Electric Inc.); Yousuke Sato (Hitachi Kokusai Electric Inc.); Ken-ichi Kashima (Hitachi Kokusai Electric Inc.);
- 59 Modification of the IRI Electron Density Profile from an Observation Ionogram Using the Full Wave Method in the Lower Ionosphere
Tetsuo Fukami (National Institute of Technology, Ishikawa College); Isamu Nagano (Kanazawa University); Ryoichi Higashi (National Institute of Technology);
- 60 3-D ISAR Image Reconstruction Based on Distribution Optimization of Radar Network
Le Kang (Air Force Engineering University); Ying Luo (Air Force Engineering University); Xiao-Wen Liu (Air Force Engineering University); Jia-Cheng Ni (Air Force Engineering University); Qun Zhang (Air Force Engineering University);
- 61 Advanced Metal Detection Technique Based on Synchronized Chaotic Oscillators
Timur I. Karimov (Saint Petersburg Electrotechnical University “LETI”); Denis N. Butusov (Saint Petersburg Electrotechnical University “LETI” (SPbETU “LETI”)); Vyacheslav G. Rybin (Saint Petersburg Electrotechnical University “LETI” (SPbETU “LETI”)); Olga S. Druzhina (Saint Petersburg Electrotechnical University “LETI”); Ekaterina P. Solomevich (Saint Petersburg Electrotechnical University “LETI”); Dmitrii I. Kaplun (SPbETU “LETI”); Alexander S. Voznesenskiy (Saint Petersburg Electrotechnical University “LETI”);
- 62 A Convolution Neural Network based Non-destructive Optical Inspection of High Volume Parts
Reinhold Ludwig (Worcester Polytechnic Institute);
- 63 Performance Analysis of High- κ Dielectric Based Double-gate Carbon Nanotube MOSFET
Shashi K. Dargar (University of KwaZulu-Natal); Vikiranjay M. Srivastava (University of KwaZulu-Natal);
- 64 Compact Band-pass Filter with 2nd and 3rd Harmonic Rejection by Using Low Temperature Co-fired Ceramic
Jong-In Ryu (Korea Electronics Technology Institute); Dongsu Kim (Korea Electronics Technology Institute);
- 65 MIMO Performance Evaluation of 5G Antennas for Virtual Reality Applications
T. Frangieh (Antonine University); N. Musilmani (Antonine University); Remi M. Sarkis (TICKET Laboratory);
- 66 A Design of a 1 to 10 GHz Ultrawide Band Antenna
Fabiola Martinez-Zuniga (Instituto Politecnico Nacional); Jorge R. Sosa-Pedroza (Instituto Politecnico Nacional); Jair De Jesus Sebastian Villa (Instituto Politécnico Nacional);

- 67 A Highly Integrated LTCC-based Triplexer Using SAW Resonators
Dongsu Kim (Korea Electronics Technology Institute); Jin-Young Jeong (Korea Electronics Technology Institute); Jong-In Ryu (Korea Electronics Technology Institute); Jun-Chul Kim (Korea Electronics Technology Institute); Seongwook Kim (SAWNICS);
- 68 Periodic Rogue Waves of the Extended Nonlinear Schrödinger Equation
Stanko N. Nikolic (Texas A&M University at Qatar); Najdan B. Aleksic (Institute of Physics Belgrade); Omar A. Ashour (University of California); Ali Ali (Texas A&M University at Qatar); Milivoj R. Belic (Texas A&M University at Qatar); Siu A. Chin (Texas A&M University);
- 69 Phase Range Optimization of Broadband Reflectarray Antenna Based on Paper Substrates
Muhammad Yusof Bin Ismail (University of Tun Hussein Onn Malaysia); Hasan Ijaz Malik (University Tun Hussein Onn (UTHM) Johor);
- 70 Performances Evaluation of an Enhanced Modulation Technique for UWB Direct Chaotic Communication
M. Messadi (Ecole Militaire Polytechnique); Said Sadoudi (Ecole Militaire Polytechnique); Djamal Tegui (Ecole Militaire Polytechnique); A. Mesloub (Ecole Militaire Polytechnique); A. Boukhelifa (Ecole Militaire Polytechnique);
- 71 A Planar MIMO UWB Array Design for High-resolution Microwave Imaging
Djamila Ziani (University of Tlemcen); Sidi Mohammed Meriah (University of Tlemcen); Fouad Deraz (University of Tlemcen); L. Merad (Preparatory School in Science and Technology Tlemcen);
- 72 On Some Identities for Integral Operators in Computational Electromagnetics
Samuel Afoakwa (Hanbat National University); Young-Bae Jung (Hanbat National University);
- 73 A Novel Design of Broadband Reflectarray Antenna Embedded on Paper Based Substrates
Muhammad Yusof Bin Ismail (University of Tun Hussein Onn Malaysia); Hasan Ijaz Malik (University Tun Hussein Onn (UTHM) Johor);
- 74 A Tunable Terahertz Phase Shifter Based on Liquid Crystal Material
Jun Qing Wang (University of Electronic Science and Technology of China); Zongjun Shi (University of Electronic Science and Technology of China); Ziqiang Yang (University of Electronic Science and Technology of China); Jin Xin Shi (University of Electronic Science and Technology of China);
- 75 Detection of the Bulk and Leaky Acoustic Microwaves in Piezoelectric Materials by the Use of Wavelet Transform and Neural Network Classification
Djamel Benatia (University of Batna 2); Hichem Hafdaoui (University of Batna 2);
- 76 Design and Simulation of a Photonic Chip for Investigating Optical Compression in the Visible Range
Ali Azimi Fashi (Iran University of Science and Technology (IUST)); Mohammad Hashem Vadjed-Samiei (Iran University of Science and Technology); Antonio Teixeira (Aveiro University);
- 77 Compact Extremely-wideband Printed Antenna for MIMO Wireless Communication Systems
Ayman Ayd Ramadan Saad (Telecom Egypt); Hesham Abd Elhady Mohamed (Electronics Research Institute);
- 78 Graphene-like Si₃N₃ and Si₃N₄ Nanolayers on Silicon Surface
Yhor V. Lebiadok (SSPA "Optics, optoelectronics and Laser Technology"); A. A. Razumets (SSPA "Optics, optoelectronics and Laser Technology"); K. S. Zhuravlev (Rzhanov Institute of Semiconductor Physics, Siberian Branch, Russian Academy of Science); V. G. Mansurov (Rzhanov Institute of Semiconductor Physics, Siberian Branch, Russian Academy of Science); V. S. Kabanava (Belarusian State University);

Session 4A1
FocusSession.SC5: Atmospheric Remote Sensing and Propagation 1

Thursday AM, June 20, 2019
Room 1 - 1st Floor

Organized by Frank Silvio Marzano, Domenico Cimini

- 09:00 ESA Activities on Modelling and Analyses of the Atmospheric Radio Channel for Space Systems
Antonio Martellucci (European Space Agency);
- 09:30 Results from Four Years of Experimental Characterization of the Ka-/Q-band Earth-space Propagation Channel Using the Alphasat Receiver in Milan
Invited Lorenzo Luini (DEIB — Dipartimento di Elettronica, Informazione e Bioingegneria); C. Riva (Politecnico di Milano); James A. Nessel (NASA Glenn Research Center); M. Zemba (NASA Glenn Research Center);

- 09:50 Microwave Tropospheric Scintillation and Excess Attenuation Prediction for Satellite to Earth Links Using 3D High-resolution Meteorological Forecast Models: Data Validation and Case Study
A. M. Marziani (*DIET, Sapienza Universita di Roma, Istituto Superiore C.T.I., Ministero dello Sviluppo Economico*); F. Consalvi (*Fondazione Ugo Bordonini*); G. Fusco (*Istituto Superiore C.T.I., Ministero dello Sviluppo Economico*); C. Riva (*Politecnico di Milano*); L. Luini (*Politecnico di Milano*); A. Parodi (*CIMA Foundation*); Luca Pulvirenti (*CIMA Research Foundation*); M. Lagasio (*CIMA Research Foundation*); M. Biscarini (*Sapienza Universita di Roma*); N. Pierdicca (*Sapienza Universita di Roma*); Frank Silvio Marzano (*Sapienza University of Rome*);
- 10:10 Modeling and Predicting Down-link Tropospheric Channel above Ku Band for Interplanetary Exploration
Invited Marianna Biscarini (*Sapienza University of Rome*); A. Vittimberga (*Sapienza University of Rome*); S. Di Fabio (*University of L'Aquila*); K. De Sanctis (*HIMET*); L. Milani (*Sapienza University of Rome*); M. Montagna (*ESOC*); Frank Silvio Marzano (*Sapienza University of Rome*);
- 10:30 Ground-based Measurements of Slant-path Attenuation
Invited George Brost (*Air Force Research Laboratory*);
- 11:00 **Coffee Break**
- 11:30 Web Portal for a Databank of Microwave Radiometric Measurements of the Atmosphere in Resonant Band of Water Vapor 18–27 GHz
Dobroslav P. Egorov (*Kotel'nikov Institute of Radio Engineering and Electronics of RAS*); Boris Georgievich Kutuza (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences*); M. T. Smirnov (*Kotel'nikov Institute of Radioengineering and Electronics, RAS*);
- 11:50 Cloud Attenuation Stochastic Characterization from Ground-based Microwave Radiometric Data at Ka-band
Luca Milani (*Sapienza University of Rome*); M. Biscarini (*Sapienza Universita di Roma*); Frank Silvio Marzano (*Sapienza University of Rome*);
- 12:10 Practical Relationships between Propagation and Meteorological Variables Derived from Videodistrometer Measurement and Its Ambiguity Discussion — Examples from Prague (CZ)
Karel Pitas (*University of Pardubice*); Ondrej Fiser (*Czech Technical University in Prague*);
- 00:00 Evaluation of FSO-technology as a Candidate for Reliable Long-distance Communication Links for Deep Space Applications
Invited Hristo Ivanov (*Graz University of Technology*); Erich Leitgeb (*Graz University of Technology*); Thomas Plank (*Graz University of Technology*); Daniel Kraus (*Graz University of Technology*);

Session 4A2
**Remote Sensing of the Earth and Atmosphere
1**

Thursday AM, June 20, 2019
Room 5 - 1st Floor

- 09:00 Performance and Application of the MWHTS on Chinese FY-3C Meteorological Satellite
Na Li (*National Space Science Center, Chinese Academy of Sciences*); Shengwei Zhang (*National Space Science Center, Chinese Academy of Sciences*); Jieying He (*National Space Science Center, Chinese Academy of Sciences*);
- 09:20 Sun-induced Chlorophyll Fluorescence Retrieval from Chinese TanSat Data in Typical Arable Land of North China
Shilei Li (*Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences*); Maofang Gao (*Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences*); Ya Gao (*Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences*); Si-Bo Duan (*Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences*); Xiao-Jing Han (*Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences*); Zhao-Liang Li (*Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences*);
- 09:40 The Application of Layered Medium Theories to the Electromagnetic Problem of a Moving Charge between the Earth and the Ionosphere
Bo O. Zhu (*Nanjing University*);
- 10:00 Study of Phase Calibration for GEOSAR Based on Chinese Area Positioning System
Liang Li (*Institute of Electronics, Chinese Academy of Science*); Jun Hong (*Institute of Electronics, Chinese Academy of Science*); Feng Ming (*Institute of Electronics, University of Chinese Academy of Sciences*); Liangjiang Zhou (*Institute of Electronics, Chinese Academy of Sciences*);

- 10:20 Preliminary Study on Remote Sensing the Relationship between the Brightness Temperature Pulses Observed with a Ground-based Microwave Radiometer and the Lightning Action Integral
Sulin Jiang (Nanjing University of Information Science & Technology); Yun Pan (Nanjing University of Information Science & Technology); Qing Li (Nanjing University of Information Science & Technology); Lianfa Lei (Nanjing University of Information Science & Technology); Weitao Lyu (Chinese Academy of Meteorological Sciences); Yang Zhang (Chinese Academy of Meteorological Sciences); Zhenhui Wang (Nanjing University of Information Science & Technology);
- 10:40 Solar Influence to Ground-based Microwave Remote Sensing of the Atmosphere
Zhenhui Wang (Nanjing University of Information Science & Technology); Yun Pan (Nanjing University of Information Science & Technology); Qing Li (Nanjing University of Information Science & Technology); Sulin Jiang (Nanjing University of Information Science & Technology); Lianfa Lei (Nanjing University of Information Science & Technology);
- 11:00 **Coffee Break**
- 11:30 Effect of Internal Pore Sizes of the Silica Gel on the Dielectric Permittivity in the Frequency Range from 100 Hz to 8 GHz
E. S. Kroshka (Omsk State University); Pavel Petrovich Bobrov (Omsk State Pedagogical University);
- 11:50 Influence of Solar Rotation Influence on Ionospheric/Thermospheric Parameters: Modeling and Observations for Case Studies
Maxim V. Klimenko (Immanuel Kant Baltic Federal University); Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics, SB RAS); D. Themens (University of New Brunswick); Anna S. Yasyukovich (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences); Vladimir V. Klimenko (West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation RAS);
- 12:10 Dynamical Effects in Middle Atmosphere Energy Balance
Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences); Denis S. Khabituev (Institute of Solar Terrestrial Physics); Marina A. Chernigovskaya (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences);
- 12:30 Model of Information Logistics in EMF RATEL System for Long-term EMF Monitoring
Nikola Djuric (University of Novi Sad); Nikola Kavacan (Falcon-Tech, IT Consulting and Development); Dragan Kljajic (University of Novi Sad); Gorana Mijatovic (University of Novi Sad); Snezana M. Djuric (University of Novi Sad);
- 12:50 Underwater UXO Targets EMI Responses in a Multi-layer Environment
Fridon Shubitidze (Dartmouth College); Benjamin E. Barrowes (Cold Regions Research and Engineering Laboratory); Kevin O'Neill (Dartmouth College); Irma Sahmatava (Dartmouth College);
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- Session 4A3a**
SC4&SC5: Mobile and Satellite Parameters Estimations with Electromagnetic/Optical Technologies
-
- Thursday AM, June 20, 2019**
Room 7 - 1st Floor
Organized by Vincenzo Ferrara, Elena Pettinelli
Chaired by Vincenzo Ferrara
-
- 09:00 Comparison of Optical Quality of Some Passive Laser Ranged Satellites
Invited
Claudio Paris (Centro Fermi — Enrico Fermi Historical Museum of Physics and Study and Research Centre); Giampiero Sindoni (Centro Fermi — Enrico Fermi Historical Museum of Physics and Study and Research Centre);
- 09:20 Telecommunication Satellite Technical Solutions for Geo-localisation of Interfering Sources: An Innovative Approach
Invited
Vincenzo Schena (Thales Alenia Space Italia); Guglielmo Lulli (Thales Alenia Space Italia); Vincenzo Ferrara (Sapienza University of Rome); Luca Zuccaro ("Sapienza" Universita di Roma);
- 09:40 Low-cost Stellar Sensor for Attitude Control of Small Satellites
Invited
Sara Scibelli (Sapienza University of Rome); Vincenzo Ferrara (Sapienza University of Rome); Fabrizio Bernardini (Sapienza University of Rome);
- 10:00 Tunable Defected Ground Structure Band Pass Filter for Cognitive Radio Applications
Ahmed A. Ibrahim (El-Minia University); Mohamed K. Rashad (MSA University); Mostafa Ashraf (MSA University); Hassan Aboushady (University Pierre and Marie Curie, Sorbonne University);

10:20 Quadband Microstrip Slot Antenna Combined with U- and L-shape Strips for Multiband Body-centric Wireless Applications
Basari (Universitas Indonesia);

10:40 Design of a Novel Microwave Antenna
Vandana (Amity University); Mukul Varshney (Amity University); Sujata Pandey (Amity University); Arun Sanjeev (Amity University);

11:00 **Coffee Break**

11:30 Design of Coplanar Waveguide Fed Semi-compound Reconfigurable Slot Antenna for Wireless Applications
Yagateela Pandu Rangaiyah (Vardhaman College of Engineering); R. V. S. Satyanarayana (S.V. University);

11:50 Compressive Sensing in Direction of Arrival (DOA) Applications. A Comparative Study on Different Acquisition Systems
Marco Muzi ("La Sapienza" University of Rome); Nicola Tedeschi ("La Sapienza" University of Rome); Luca Scorrano (Elettronica SpA); Vincenzo Ferrara (Sapienza University of Rome); Fabrizio Frezza ("La Sapienza" University of Rome);

Session 4A3b

Microwave and Millimeter Wave Circuits and Devices 1

Thursday AM, June 20, 2019

Room 7 - 1st Floor

12:10 A Sub-2 dB NF and 5–5.8 GHz CMOS Low Noise Amplifier with Bandwidth Extension for WiFi Applications
Dongmyeong Kim (Chonbuk National University); Donggu Im (Chonbuk National University);

12:30 A Wideband Low Noise Flat Gain Amplifier for Interferometric Passive Microwave Imaging System
Chen Chen (Beihang University); Umar Dilshad (Beihang University); Anyong Hu (Beihang University); Jungang Miao (Beihang University);

12:50 94-GHz Millimeter-wave CMOS Low-LO-power Ring Mixer by Weak Inversion Biasing Technique
Chia-Yu Liu (National Cheng Kung University); Huey-Ru Chuang (National Cheng Kung University);

Session 4A4

SC1: Computational Techniques in Electromagnetics and Applications 2

Thursday AM, June 20, 2019

Room 8 - 1st Floor

Organized by Tsuneki Yamasaki, Yoichi Okuno

Chaired by Tsuneki Yamasaki, Andrey S. Andrenko

09:00 Scattering of Electromagnetic Wave by a Rectangular Cylinder with Conducting Strips
Tsuneki Yamasaki (Nihon University); Toshiki Shibayama (Nihon University); Ryosuke Ozaki (Nihon University);

09:20 Electromagnetic Interactions of Dye Molecules Surrounding a Nanosphere
Baptiste Auguie (Victoria University of Wellington); Eric C. Le Ru (Victoria Univ Wellington);

09:40 A Tool: Coverage Mapping with Direct and Reflected Rays from Lossy and Lossless Surfaces
Eray Arik (Valeo EMC Division); Mehmet Baris Tabakcioglu (Bursa Technical University);

10:00 A Tool: Finding Optimum Base Station Location with S-UTD Model
Ahmet Zorlu (Turk Telekom); Mehmet Baris Tabakcioglu (Bursa Technical University);

10:20 Simulation of the Forest Environment Using the Model of Individual Trees for Real-time Prediction of Radio Wave Propagation
Elena Sergeevna Malevich (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); A. A. Volkova (National Research University "Moscow Power Engineering Institute");

10:40 Study on Tracking of On-road Vehicles by Using Fractal Image Analysis
Takashi Kuroiwa (Nihon University); Syota Yazawa (Nihon University); Kiyozumi Niizuma (Nihon University);

11:00 **Coffee Break**

11:30 Flexible Tunable Silicon on Insulator Multimode Interference Coupler Using Multi-heater Design
Ukrit Mankong (Chiang Mai University); Nattapol Ittipratheep (Chiang Mai University); Suruk Udomsom (Chiang Mai University);

- 11:50 A New Design of an Active Integrated Patch Antenna Using a MESFET Transistor
Takoua Soltani (Tunis El Manar University); Imen Soltani (Tunis El Manar University); Taoufik Aguli (University of Tunis El Manar (UTM));
- 12:10 An Effective Approach to Optimization of Microwave Designs Using FDTD for Stochastic EM Fields
Piotr Gorniak (Poznan University of Technology);
- 00:00 Computation of Group Velocities and Group-velocity Dispersions of Optical Fibers through Automatic Differentiation of Explicit Forms of Propagation Constants
Yasuo Tsushima (Muroran Institute of Technology); Shingo Sato (Muroran Institute of Technology); Koji Hasegawa (Muroran Institute of Technology);
- 00:00 Electromagnetic Analysis of Multi-conductor Transmission Lines Using Adaptive Cross Approximation (ACA) Algorithm
Abdul Mueed (Nanjing Normal University); Yang Zhao (Nanjing Normal University); Nan Chen (Nanjing Normal University); Wei Yan (Nanjing Normal University); Huang Chao (Nanjing Normal University); Qiangqiang Liu (Nanjing Normal University); Zhibo Zhu (Nanjing Normal University);
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- Session 4A5**
SC5: Medical Applications of Radars
-
- Thursday AM, June 20, 2019**
Room Hall of Frescoes - 1st Floor
Organized by Stefano Pisa, Emanuele Piuzzi
Chaired by Stefano Pisa
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- 09:00 Recent Trends in Medical Radar
Stefano Pisa (Sapienza University of Rome); Emanuele Piuzzi (Sapienza University of Rome); Erika Pittella (Sapienza University of Rome); Giulia Sacco (Sapienza University of Rome);
- 09:20 Non-contact Sleep Disorders Detection Framework for Smart Home
Lesya N. Anishchenko (Bauman Moscow State Technical University); Andrey V. Zhuravlev (Bauman Moscow State Technical University); Vladimir V. Razevig (Bauman Moscow State Technical University); Margarita A. Chizh (Bauman Moscow State Technical University); Kseniya Evteeva (Bauman Moscow State Technical University); Lyudmila Korostovtseva (Almazov National Medical Research Center); Mikhail Bochkarev (Almazov National Medical Research Center); Yurii Sviryaev (Almazov National Medical Research Center);
- 09:40 Real-time Operating UWB Sensor System for Static Person Localization
Maria Svecova (Technical University); Tamas Porteleky (Technical University of Kosice); Dusan Kocur (Technical University of Kosice);
- 10:00 Low-cost Portable Bioradar System for Fall Detection
Lesya N. Anishchenko (Bauman Moscow State Technical University); Andrey V. Zhuravlev (Bauman Moscow State Technical University); Vladimir V. Razevig (Bauman Moscow State Technical University); Margarita A. Chizh (Bauman Moscow State Technical University);
- 10:20 Evaluation of Radar Doppler for Remote Heart Rate Monitoring
Paola Russo (Universita Politecnica delle Marche); Alfredo De Leo (Universita Politecnica delle Marche); Graziano Cerri (Universita Politecnica delle Marche);
- 11:00 **Coffee Break**
- 11:30 Numerical and Experimental Validation of a Brain Stroke Microwave Imaging Technique
Igor Bisio (University of Genoa); C. Estatico (University of Genoa); Alessandro Fedeli (University of Genoa); Fabio Lavagetto (University of Genoa); G. L. Mancardi (University of Genoa); Matteo Pastorino (University of Genoa); A. Randazzo (University of Genoa); Andrea Sciarrone (University of Genoa);
- 11:50 Ultra-wideband Featuring Enhanced Delay and Sum Algorithm and Oriented for Detecting Early Stage Breast Cancer
Mohammed Sadoon Hathal (University of Baghdad); S. S. Salih (AL-Farabi University College); A. H. Hasan (AL-Farabi University College);

00:00 A Novel Multiband Patch Antenna with Improved Performance
Akshaj Arora (Amity University); Sahitya Singh (Amity University); Vandana Jagdish (Amity University); Malay Ranjan Tripathy (Amity University Uttar Pradesh); Mukul Varshney (Amity University); Manoj Kumar Pandey (Amity University); Sujata Pandey (Amity University);

Session 4A6

Microstrip Antennas, Array Antennas, Theory and Radiation 1

Thursday AM, June 20, 2019

Room Cloister Hall - 1st Floor

09:00 SIW-fed Multilayer High-gain Antenna for Q-band Applications
Arash Masrouri (South Tehran Branch, Azad University); Nasrin Amiri (Tarbiat Modares University);

09:20 Statistical Study of the Matching Properties of a Set of Dipoles
Imad Adjali (Universite Paris-Est, ESYCOM (EA2552), UPEMLV); Aycha Gueye (Universite Paris-Est); Shermila Mostarshedi (Universite Paris-Est, ESYCOM (EA2552), UPEMLV); Benoit Poussot (Universite Paris-Est Marne-la-Vallée); Jean Marc Laheurte (Université Paris-Est Marne-La-Vallée);

09:40 Quasi-isotropic Radiation by Coupling Loop and Dipole Antennas
Jaechun Lee (Samsung Advanced Institute of Technology); Sang Joon Kim (Samsung Advanced Institute of Technology);

10:00 Multi-standard Reader Antenna for Active and Passive RFID Applications
Khodor Jebbawi (Aix-Marseille Université); Matthieu Egels (Aix-Marseille Université); Philippe Pannier (Aix-Marseille Université);

10:20 Dual-band Quasi-Yagi Antenna Gain Enhancement by Using a Reflector Plate
Ferda Cansu Gul (Istanbul Technical University); Kamil Karacuha (Information Institute of Istanbul Technical University); Sebahattin Eker (Istanbul Technical University);

10:40 Mitigation of RF Radiation and Electromagnetic Interference from a Lithium-ion Battery Pack Used in Wearable Safety and Health Devices in the Mining Industry

Jingcheng Li (National Institute for Occupational Safety and Health (NIOSH)); Jacob L. Carr (National Institute for Occupational Safety and Health (NIOSH)); Bruce G. Whisner (National Institute for Occupational Safety and Health); Patrick McElhinney (National Institute for Occupational Safety and Health); Miguel A. Reyes (National Institute for Occupational Safety and Health (NIOSH)); Christopher Jobes (National Institute for Occupational Safety and Health (NIOSH));

11:00 **Coffee Break**

11:30 Efficiency Improvement of Patch Antenna with Metamaterial Technique for Modern Wireless Communication Applications

Paouphattra Kamphikul (Chiang Mai University); Saran Kampeephat (Rajamangala University of Technology Isan); Rangsan Wongsan (Suranaree University of Technology);

11:50 A Low Profile Pentagonal Shape Zeroth Order Resonator Antenna for K_a Band Applications

Chetan Barde (National Institute of Technology); Arvind Choubey (National Institute of Technology); Rashmi Sinha (National Institute of Technology); Santosh Kumar Mahto (National Institute of Technology); Prakash Ranjan (National Institute of Technology);

12:10 Multi-band Miniaturized Fractal Patch Antenna for Wireless Communication

Sohail Imran Saeed (Iqra National University Peshawar); Ahsan Altaf (Istanbul Medipol University); Mehre Munir (Iqra National University Peshawar); Saad Hassan Kiani (Iqra National University Peshawar);

12:30 Integrated Filtering-balun Planar Dipole Antenna

Amira Eltokhy (University of Greenwich); Peter Callaghan (University of Kent); Yi Wang (University of Birmingham);

12:50 Beam-switched ESPAR Antenna with Embedded Matching Network for V2X Communications

Anastasios Paraskevopoulos (University of Piraeus); Dimitris Rongas (National Technical University of Athens); Leonidas Marantis (University of Piraeus); Athanasios G. Kanatas (University of Piraeus);

Session 4A7
**Optical Sensor, Photonics, Nano Optics,
Biophotonics**

Thursday AM, June 20, 2019
Room 17 - 1st Floor

- 09:00 Ultrafast Charge Transfer Dynamics in 2D Heterostructures
Stefano Dal Conte (Politecnico di Milano); Z. Wang (Politecnico di Milano); C. Trovatiello (Politecnico di Milano); G. Piccini (Center for Nanotechnology Innovation @ NEST); S. Forti (Center for Nanotechnology Innovation @ NEST); F. Fabbri (Center for Nanotechnology Innovation @ NEST); W. Li (The University of Texas at Austin); C. Coletti (Center for Nanotechnology Innovation @ NEST); Deji Akinwande (The University of Texas at Austin); Giulio Cerullo (Politecnico di Milano);
- 09:20 Mapping the Evolution of the Coherent Vibrational Wavepacket of Molecules
Bing Zhang (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences);
- 09:40 Computational Design of Nano-optical Tags for Reliable Identification Systems
Sadri Guler (Middle East Technical University); Gokhan Karaova (Middle East Technical University); Ali Samet Ayik (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 10:00 Room-temperature 1 to 7.5 THz Metrological Grade Terahertz Spectrometer
Michele De Regis (INO, Istituto Nazionale di Ottica — CNR); Luigi Consolino (INO, Istituto Nazionale di Ottica — CNR); Saverio Bartalini (CNR — INO, Istituto Nazionale di Ottica); Paolo De Natale (CNR — INO, Istituto Nazionale di Ottica);
- 10:20 Exact Description of Vector Beam Interactions with Planar Photonic Structures
Wojciech Nasalski (Institute of Fundamental Technological Research, Polish Academy of Sciences);
- 10:40 Peculiarities of Photon Emission of Whole Non-diluted Human Blood from Healthy Donors and Patients with Different Diseases
Kirill N. Novikov (M. V. Lomonosov Moscow State University); Vladimir L. Voeikov (Lomonosov Moscow State University); Ekaterina V. Buravleva (M. V. Lomonosov Moscow State University); Nadezhda G. Berdnikova (I. M. Sechenov First Moscow Medical State University);
- 11:00 **Coffee Break**
- 11:30 Current Issues of Chlorophyll Spectroscopy, Free and Encapsulated into Proteins
Margus Ratsep (University of Tartu); Juha Matti Linnanto (University of Tartu); Kristjan Leiger (University of Tartu); Arvi Freiberg (University of Tartu);
- 11:50 Improved Nano-optical Traps for Single-particle Sensing Applications
Goktug Isiklar (Middle East Technical University); Mustafa Algun (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 12:10 Optical Microcavities Resonances: Chemical and Biological Sensing Applications
Dario Laneve (Polytechnic University of Bari); Mario Christian Falconi (Polytechnic University of Bari); Francesco Chiavaioli (“Nello Carrara” Institute of Applied Physics (IFAC-CNR)); Daniele Farnesi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Gualtiero Nunzi Conti (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Silvia Soria (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Francesco Baldini (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Francesco Prudenzano (Politecnico di Bari);
- 12:30 Micro and Nanocavity Perturbation Theory for Biosensing
Philippe Lalanne (Institut d’Optique-LP2N/CNRS);
- 12:50 Pd Stripes on Elastomeric Substrates for Low-cost, Quick-response and High-contrast Optical Hydrogen Sensor
Xiaoyi She (Sun Yat-Sen University); Yang Shen (Sun Yat-Sen University); Chongjun Jin (Sun Yat-sen University);
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- Session 4A8**
**SC1&SC3: Quantum Information Processing
and Devices 2**
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- Thursday AM, June 20, 2019**
Room 6 - Mezzanine
Organized by Hai-Zhi Song, Guangwei Deng
Chaired by Hai-Zhi Song, Guangwei Deng
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- 09:00 Single Rare-earth Ions as Atomic-scale Probes in
Invited Ultra-scaled Transistors
Qi Zhang (University of Science and Technology of China); Guangchong Hu (University of New South Wales); Gabriele G. De Boo (University of New South Wales); Milos Rancic (Australian National University); Brett C. Johnson (University of Melbourne); Jeffrey C. McCallum (University of Melbourne); Jiangfeng Du (University of Science and Technology of China); Matthew J. Sellars (Australian National University); Chunming Yin (University of New South Wales); Sven Rogge (University of New South Wales);
- 09:20 III-nitride Quantum Dots for Single-photon Sources:
Invited Epitaxial Growth and Optical Characteristics
Munetaka Arita (The University of Tokyo); Mark J. Holmes (The University of Tokyo); Yasuhiko Arakawa (The University of Tokyo);
- 09:40 Plasmonic Waveguides Coupled to Single Photon
Invited Sources for Integrated Quantum Optics
Shailesh Kumar (University of Southern Denmark); Sergey I. Bozhevolnyi (University of Southern Denmark);
- 10:00 Ultrafast Optomechanical Rotation and Its Effects on
Invited Electron Spin Qubits
Tongcang Li (Purdue University);
- 10:20 Scalable Interfacing of Quantum Photonic Platforms:
Invited Solid-state Single-photon Sources and Reconfigurable Photonic Circuits
Carlos Anton (Universite Paris Saclay); J. C. Loreda (Universite Paris Saclay); G. Coppola (Universite Paris Saclay); N. Viggianello (Sapienza Universita di Roma); H. Ollivier (Universite Paris Saclay); A. Harouri (Universite Paris Saclay); N. Somaschi (Quandela, SAS); A. Crespi (Istituto di Fotonica e Nanotecnologie, CNR); I. Sagnes (Universite Paris Saclay); Aristide Lemaitre (LPN/CNRS); Loic Lanco (Universit  Paris-Saclay); R. Osellame (Politecn Milan); Fabio Sciarrino (Sapienza University of Rome); Pascale Senellart (LPN/CNRS);
- 10:40 First Order Optical Interference between Distinguish-
Invited able Photon Paths
Manuel Fernandez-Guasti (Universidad Autonoma Metropolitana Iztapalapa);
- 11:00 **Coffee Break**
- 11:30 Non Classical Effects in the Ultrastrong Coupling
Invited Regime of Light-matter Interaction
Luigi Garziano (RIKEN Cluster for Pioneering Research); Salvatore Savasta (University of Messina);
- 11:50 Light-matter Interaction in the Ultra-strong Coupling
Invited Regime
Salvatore Savasta (University of Messina); Omar Di Stefano (RIKEN Cluster for Pioneering Research);
- 12:10 Engineering Single-photon Emission Using Plasmonic
Invited Nanostructures
Klas Lindfors (University of Cologne);
- 12:30 Study of the Dynamics of the Nuclear Spin Bath in
Invited Europium-doped Yttrium Orthosilicate
Manjin Zhong (Southern University of Science and Technology); Rose L. Ahlefeldt (The Australian National University); Matthew J. Sellars (Australian National University);
- 12:50 Phonon-polaritons for Low-loss Confinement of Elec-
Invited tromagnetic Waves in the Mid-infrared
Stefan Maier (LMU Munich);

Session 4A9
SC3: Label-based and Label-free Optical Biosensors 1

Thursday AM, June 20, 2019
Room 4 - Mezzanine

Organized by Ambra Giannetti

 Chaired by Ambra Giannetti, Cosimo Trono

- 09:00 Surface Plasmon Resonance versus Surface Plasmon-
Invited enhanced Fluorescence for Label-free Biosensors
Jakub Dostalek (AIT Austrian Institute of Technology GmbH);
- 09:20 Single Molecule Detection for Efficient Fluorescence-
Invited based Diagnostics
M. Agio (University of Siegen); P. Cecchi (Cecchi Srl); F. Chiavaioli (Cecchi Srl); M. Colautti (National Institute of Optics, CNR-INO); A. Giannetti (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); S. Howitz (Gesellschaft fur Silizium-Mikrosysteme (GeSiM) mbH); P. Lombardi (European Lab Nonlinear Spect LENS); N. Soltani (University of Siegen); F. Sonntag (Fraunhofer IWS); Costanza Toninelli (National Institute of Optics, CNR-INO);
- 09:40 Site-encoded DNA Strategies for Optical Multiplexed
Invited Platforms
Nuria Tort (Biokit S.A.); J.-Pablo Salvador (CIBER-BBN/IQAC-CSIC); M.-Pilar Marco (Nanobiotechnology for Diagnostics Group (Nb4Dg), IQAC-CSIC);

- 10:00 Design of a Paper-based Platform for the Detection of
Invited DNA with Plasmonic Particles
Sonia Centi (Institute of Applied Physics, National Research Council of Italy); Claudia Borri (Institute of Applied Physics, National Research Council of Italy); Patrizia Bogani (Department of Biology); Simona Scarano (Department of Chemistry); Maria Minunni (Department of Chemistry); Roberto Pini (Institute of Applied Physics, National Research Council of Italy); Fulvio Ratto (Institute of Applied Physics, National Research Council of Italy);
- 10:20 Nanoparticle-enhanced SPR Imaging for Molecular
Invited Diagnostics
Giuseppe Spoto (Universita degli Studi di Catania);
- 10:40 Prêt-à-porter Bioluminescent Cell Biosensors for Ul-
Invited trarapid and Sensitive Screening of Chemicals
Elisa Michelini (University of Bologna); Maria Madalena Calabretta (University of Bologna); Antonia Lopreside (University of Bologna); Laura Montali (University of Bologna); Aldo Roda (University of Bologna);
- 11:00 **Coffee Break**
- 11:30 Long Period Gratings and Microbubble Resonators as
Invited Suitable Label-free Optical Platforms for Biosensing
Francesco Baldini (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); S. Berneschi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Francesco Chivaioli (“Nello Carrara” Institute of Applied Physics (IFAC-CNR)); Daniele Farnesi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Ambra Giannetti (CNR, Istituto di Fisica Applicata “Nello Carrara” (IFAC)); Gualtiero Nunzi Conti (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Stefano Pelli (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); S. Tombelli (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Cosimo Trono (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.);
- 11:50 Whispering Gallery Mode Resonators for Label,
Invited Label-free and Nanoparticle Sensing
Gabriele Frigenti (Institute of Applied Physics, National Research Council of Italy); F. Baldini (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); S. Berneschi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Ambra Giannetti (CNR, Istituto di Fisica Applicata “Nello Carrara” (IFAC)); L. Lunelli (FBK-CMM); L. Pasquardini (FBK-CMM); M.-Pilar Marco (Nanobiotechnology for Diagnostics group (Nb4Dg), IQAC-CSIC); C. Pederzoli (FBK-CMM); Giancarlo C. Righini (Piazza del Viminale 1); Gualtiero Nunzi Conti (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Silvia Soria (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.);
- 12:10 Biosensors Based on New Selective Recognition Ele-
Invited ments Produced by Phage Display Technology
Riikka Peltomaa (Complutense University); Bettina Glahn-Martinez (Complutense University); Lidia N. Gomez-Arribas (Complutense University); A. Luque-Uria (Complutense University); Vicente Mas-Lloret (National Institute of Health Carlos III); Rodrigo Barderas (National Institute of Health Carlos III); S. Morais (Universitat de València); Augusto Juste-Dolz (Universitat de València); Angel Maquieira (Universitat de València); Elena Benito-Pena (Complutense University); María Cruz Moreno-Bondi (Complutense University);
- 12:30 Strategies Based on Surface-enhanced Raman Spec-
Invited troscopy for Label-free Detection of Biomarkers in Neurodegenerative Disorders
Paolo Matteini (Institute of Applied Physics, National Research Council of Italy); Martina Banchelli (IFAC-CNR, Institute of Applied Physics “Nello Carrara”, National Research Council); Cristiano D’Andrea (CNR-IPCF, Istituto per i Processi Chimico-Fisici); Chiara Amicucci (IFAC-CNR, Institute of Applied Physics “Nello Carrara”, National Research Council); Marella De Angelis (IFAC-CNR, Institute of Applied Physics “Nello Carrara”, National Research Council); Roberto Pini (Institute of Applied Physics, National Research Council of Italy);
- 12:50 Ultrasensitive Force Measurements with Optically
Invited Trapped Plasmonic Nanoparticles
Theobald Lohmueller (LMU Munich);

Session 4A10
SC3: Glass Photonics: Novel Systems and Ongoing Applications 1

Thursday AM, June 20, 2019
Room 12 - Mezzanine

Organized by Anna Lukowiak, Maurizio Ferrari

 Chaired by Anna Lukowiak, Maurizio Ferrari

- 09:00 Thermal Poling: An Old Idea for a New Perspective on
Invited All-fibre Quadratic Photonic Devices
Francesco De Lucia (University of Southampton); Costantino Corbari (Renishaw Plc); Derek W. Keefer (The Pennsylvania State University); Yun Wang (University of Southampton); Muhammad Imran Mustafa Abdul Khudus (University of Malaya); Gilberto Brambilla (University of Southampton); Pier J. Sazio (University of Southampton);
- 09:20 The Interplay between Radiation-induced Attenuation,
Invited Photodarkening and Photobleaching at Pump Wavelength in Er- and Yb-doped Silica Optical Fibers
Franck Mady (Université Côte d'Azur); Mourad Benabdesselam (Université Côte d'Azur); Wilfried Blanc (Université Côte d'Azur);
- 09:40 All-optical Ultrasound Transducers Based on Microbubble Resonators
Invited
Fulvio Ratto (Institute of Applied Physics, National Research Council of Italy); Gabriele Frigenti (Institute of Applied Physics, National Research Council of Italy); Lucia Cavigli (Institute of Applied Physics, National Research Council of Italy); Alberto Fernandez-Bienes (Universidad Nacional Autonoma de Mexico); Sonia Centi (Institute of Applied Physics, National Research Council of Italy); Andrea Barucci (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Roberto Pini (Institute of Applied Physics, National Research Council of Italy); Tupak Garcia-Fernandez (Universidad Autonoma de la Ciudad de Mexico (UACM)); Gualtiero Nunzi Conti (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Silvia Soria (Istituto di Fisica Applicata "Nello Carrara", C.N.R.);
- 10:00 Er³⁺-doped Ga-Ge-Sb-S Thin Films: A Comparative Study of Sputtering and Pulsed Laser Deposition Techniques
Simone Normani (University of Pardubice); E. Baudet (University of Pardubice); G. Louvet (Université de Rennes 1); F. Starecki (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); P. Camy (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); M. Bouska (University of Pardubice); J. Gutwirth (University of Pardubice); P. Nemeč (University of Pardubice); C. Cardinaud (Université de Nantes); A. Girard (Université de Nantes); L. Bodiou (Université de Rennes 1); J. Charrier (Université de Rennes 1); Jean-Luc Adam (Université de Rennes 1); V. Nazabal (Université de Rennes 1);
- 10:20 Longwave Infrared Sources and Photon Conversion in
Invited Rare-earth Doped Selenide Fibers
Alain Braud (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); F. Starecki (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); J. L. Doualan (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen); C. Boussard-Pledel (UMR 6226, Institut Sciences Chimiques de Rennes); V. Nazabal (UMR 6226, Institut Sciences Chimiques de Rennes); P. Camy (UMR 6252 CEA-CNRS-ENSICAEN, Université de Caen);
- 10:40 Experimental Studies on Modal-coupling in Erbium-doped Whispering Gallery Mode Micro-laser
Invited
Patrice Feron (FOTON CNRS UMR 6082, Université de Rennes); Jean-Baptiste Ceppe (FOTON CNRS UMR 6082, Université de Rennes); Christelle Pareige (FOTON CNRS UMR 6082, Université de Rennes); Yannick Dumeige (Univ Rennes 1);
- 11:00 **Coffee Break**
- 11:30 Amorphous Ga-Sb-Se Thin Films Fabricated by Co-sputtering Technique
Invited
Tomas Halenkovic (University of Pardubice); Virginie Nazabal (Université de Rennes 1); Jan Gutwirth (University of Pardubice); Marek Bouska (University of Pardubice); Laurent Calvez (UMR CNRS 6226, Université de Rennes 1); Petr Nemeč (University of Pardubice);
- 11:50 Glass Integrated Photonics for Quantum Technology
Invited
James C. Gates (ORC, University of Southampton);

- 12:10 Tellurite Glass Devices for Silicon-based Photonic Integrated Circuits
Invited
Jonathan D. B. Bradley (McMaster University); Henry C. Frankis (McMaster University); Khadijeh Mirabbas Kiani (McMaster University); Dawson B. Bonneville (McMaster University); Daniel Su (McMaster University); Richard Mateman (LioniX International BV); Arne Leinse (LioniX International BV); Andrew P. Knights (McMaster University);
- 12:30 Silica-based Scintillating Fibers for Ionizing Radiation Sensing
Invited
Anna Vedda (University of Milano-Bicocca);
- 12:50 Integrated Photonics for Biomedical Spectroscopy
Invited
James S. Wilkinson (University of Southampton);
- 09:40 THz Polarization Control with Chiral Metamaterials
Maria Kafesaki (Institute of Electronic Structure and Laser (IESL)); G. Kenanakis (Institute of Electronic Structure and Laser (IESL)); Eleftherios N. Economou (Institute of Electronic Structure and Laser (IESL)); Costas M. Soukoulis (Iowa State University);
- 10:00 Graphene Tunability for Transmission Type Terahertz Chiral Metamaterial
M. Pavithra (Department of Nuclear Physics, University of Madras (Guindy Campus)); K. Ravichandran (Department of Nuclear Physics, University of Madras (Guindy Campus)); Natesan Yogesh (University of Madras (Guindy Campus));
- 10:20 Time-resolved Nonlinear Ghost Imaging
L. Olivieri (University of Sussex); J. S. Toterogongora (University of Sussex); V. Cecconi (University of Sussex); R. Tucker (University of Sussex); L. Peters (University of Sussex); J. Tunesi (University of Sussex); A. Pasquazi (University of Sussex); Marco Peccianti (University of Sussex);

Session 4A11
SC2: THz Metamaterials, Devices and Systems 1

Thursday AM, June 20, 2019
Room 11 - Mezzanine

Organized by Romeo Beccherelli, Dimitris C. Zografopoulos

 Chaired by Romeo Beccherelli

- 09:00 Wide Band Gap Semiconductors for THz Quantum Cascade Lasers and Detectors
Jean-Michel Chauveau (Universite Cote d'Azur); N. Le Biavan (Universite Cote d'Azur); M. Hugues (Universite Cote d'Azur); D. Lefebvre (Universite Cote d'Azur); E. Frayssinet (Universite Cote d'Azur); P. de Mierry (Universite Cote d'Azur); Y. Cordier (Universite Cote d'Azur); M. Montes Bajo (Universidad Politecnica de Madrid); J. Tamayo-Arriola (Universidad Politecnica de Madrid); A. Hierro (Universidad Politecnica de Madrid); A. Jollivet (Universite Paris-Sud); M. Tchernycheva (Universite Paris-Sud XI); F. H. Julien (Universite Paris-Sud XI); B. Hinkov (Institute of Solid State Electronics); G. Strasser (Institute of Solid State Electronics); B. Meng (Institute for Quantum Electronics); Jerome Faist (ETH Zurich);
- 09:20 A Universally Programmable Terahertz Chip-scale Sensor in Silicon with Direct Digital Reconfiguration of Scattering Interface
Kaushik Sengupta (Princeton University);
- 10:40 Photo-excited Switchable Terahertz Multi-band-pass Filter
Shan Yin (Guilin University of Electronic Technology); X. Shi (Guilin University of Electronic Technology); L. Guo (Guilin University of Electronic Technology); W. Huang (Guilin University of Electronic Technology);
- 11:00 **Coffee Break**
- 11:30 Quasi-2D Terahertz Surface Science
Luke Peters (University of Sussex); Jacob Tunesi (University of Sussex); Juan S. Toterogongora (University of Sussex); Alessia Pasquazi (University of Sussex); Marco Peccianti (University of Sussex);
- 11:50 Frequency Selective Surfaces for Terahertz Filtering
Guillaume Ducournau (Institute of Electronics, Microelectronics and Nanotechnology (IEMN), CNRS/University of Lille); A. Ferraro (CNR, IMM); Dimitris C. Zografopoulos (Istituto per la Microelettronica e Microsistemi (CNR-IMM)); Romeo Beccherelli (Istituto per la Microelettronica e Microsistemi (CNR-IMM));
- 12:10 Design of a Simple Inter-connected U-shaped Circular Polarized Monopole Antenna for THz Communication Applications
Shahid Ullah (Beihang University); Cun-Jun Ruan (Beihang University); Muhammad Shahzad Sadiq (Beihang); Tanveer Ul Haq (Beihang University); Ayesha Kosar Fahad (Beihang University);

- 12:30 Multi-band Terahertz Transmission Using Frequency-selective Surfaces Based on ‘F’ Shapes Arranged in Odd-symmetry
Ayesha Kosar Fahad (Beihang University); Cun-Jun Ruan (Beihang University); Tanveer Ul Haq (Beihang University); Sujie Guo (Beihang University);
- 12:50 Design of Arm Asymmetry Structure Based on Meta-material for THz Sensor
Kanglong Chen (Beihang University); Cun-Jun Ruan (Beihang University); Sujie Guo (Beihang University);

Session 4A12

SC3: Nonlinear, Active, and Quantum Metaphotonics

Thursday AM, June 20, 2019

Room 21 - 2nd Floor

Organized by Xingjie Ni, Wenshan Cai

Chaired by Xingjie Ni, Wenshan Cai

- 09:00 Dielectric Metasurfaces for Holography, Color Printing and Crypto-display
 Invited *Junsuk Rho (Pohang University of Science and Technology (POSTECH)); Jaehyuck Jang (Pohang University of Science and Technology (POSTECH));*
- 09:20 Giant Second Harmonic Generation on a Dynamic Metasurface
 Invited *Xingjie Ni (Pennsylvania State University); Xue-xue Guo (Pennsylvania State University); Yimin Ding (Pennsylvania State University);*
- 09:40 Versatile Nonlinear Optics in Near-zero-index Materials
 Invited *Nathaniel Kinsey (Virginia Commonwealth University);*
- 10:00 Data Storage with Information-multiplexing Metapixels
 Invited *Zharylyk A. Kudyshev (Purdue University); Sajid Choudhury (Purdue University); Di Wang (Purdue University); Alexander V. Kildishev (Purdue University);*
- 10:20 Ultrafast Near-field Spectroscopy and Imaging
 Invited *Haim Suchowski (Tel Aviv University);*
- 10:40 Expanding the Functionalities of Metaphotonics: From Visible to UV, from Static to Dynamic
 Invited *Jie Yao (University of California);*
- 11:00 **Coffee Break**

- 11:30 Hot-electron Plasmonics for All-optical Control of Light
 Invited *Wenshan Cai (Georgia Institute of Technology);*
- 11:50 Exceptional Points in Plasmonics
 Invited *Boubacar Kante (University of California San Diego);*
- 00:00 Epsilon-near-zero Meta-structures with Active Non-linear and Quantum Responses
 Invited *Aleksei Anopchenko (Baylor University); Subhajit Bej (Baylor University); Sudip Gurung (Baylor University); Khant Minn (Baylor University); Jingyi Yang (Baylor University); Ho Wai Howard Lee (Baylor University);*
- 00:00 Gate-tunable Conducting Oxide Epsilon-near-zero Heterostructures
 Invited *Sudip Gurung (Baylor University); Aleksei Anopchenko (Baylor University); Subhajit Bej (Baylor University); Jingyi Yang (Baylor University); Ho Wai Howard Lee (Baylor University);*

Session 4A13

SC3: Group IV Photonics for Sensing and Signal Processing

Thursday AM, June 20, 2019

Room 22 - 2nd Floor

Organized by Vittorio M. N. Passaro, Goran Z. Mashanovich

Chaired by Vittorio M. N. Passaro, Goran Z. Mashanovich

- 09:00 Ge-on-insulator Platform for Communication and Sensing
 Invited *Mitsuru Takenaka (The University of Tokyo); Shinichi Takagi (The University of Tokyo);*
- 09:20 Subwavelength Structured Fully Suspended Waveguide Platform
 Invited *Wen Zhou (The Chinese University of Hong Kong); Hon Ki Tsang (The Chinese University of Hong Kong);*
- 09:40 Rare Earth Doped Integrated Microcavities for Active Sensing Applications
 Invited *Dario Laneve (Polytechnic University of Bari); Mario Christian Falconi (Polytechnic University of Bari); Giuseppe Palma (Polytechnic University of Bari); Virginie Nazabal (Universite de Rennes 1); Florent Starecki (University of Rennes 1); Loic Bodiou (Universite de Rennes 1); Joel Charrier (Universite de Rennes 1); Francesco Prudenzano (Politecnico di Bari);*

10:00 Silicon Nitride Microresonator-based Sensors

Invited

Andrew Wing On Poon (The Hong Kong University of Science and Technology); Ching Chi Kwan (The Hong Kong University of Science and Technology); Kaiyi Wu (The Hong Kong University of Science and Technology); Zhanshi Yao (The Hong Kong University of Science and Technology);

10:20 High-performance Fiber-chip Grating Couplers and Wavelength Filters Based on Subwavelength Engineering in Silicon

Carlos Alonso-Ramos (Universite Paris 11); Pavel Cheben (National Research Council of Canada); Jens H. Schmid (National Research Council); D. Oser (Centre de Nanosciences et de Nanotechnologies, CNRS); Xavier Le Roux (Universite Paris-Sud); F. Mazeas (Universite Cote d'Azur, CNRS, Institut de Physique de Nice); D. Perez-Galacho (Centre de Nanosciences et de Nanotechnologies, CNRS); D. Benedikovic (University of Paris Sud and CNRS); Elena Duran-Valdeiglesias (Universite Paris 11); V. Vakarín (Centre de Nanosciences et de Nanotechnologies, CNRS); O. Alibart (Universite Cote Azur); S. Tanzilli (Universite Cote Azur); L. Labonte (Universite Cote d'Azur, CNRS, Institut de Physique de Nice); Delphine Marris-Morini (Universite Paris 11); Jiri Ctyroky (Institute of Photonics and Electronics AS CR, v.v.i.); J. G. Wanguemert-Perez (Universidad de Malaga); Inigo Molina-Fernandez (Malaga University); Alejandro Ortega-Monux (University Malaga); Robert Halir (Universidad de Malaga); M. Dado (University of Zilina); Eric Cassan (Universite Paris-Sud); F. Boeuf (STMICROELECTRONICS); C. Baudot (STMICROELECTRONICS); Laurent Vivien (Universite Paris-Sud);

10:40 Design of Subwavelength Grating Metamaterial Waveguides for Communications and Sensing Applications

Alejandro Ortega-Monux (University Malaga); J. M. Luque-Gonzalez (University Malaga); D. Pereira-Martin (University Malaga); A. Sanchez-Postigo (University Malaga); A. Hadij-Elhouati (University Malaga); J. Leuermann (University Malaga); Jose de-Oliva-Rubio (Univ Malaga); R. Halir (University Malaga); J. G. Wanguemert-Perez (Univ Malaga); Inigo Molina-Fernandez (Malaga University); Jiri Ctyroky (Institute of Photonics and Electronics AS CR, v.v.i.); Jens H. Schmid (National Research Council); Pavel Cheben (National Research Council of Canada);

11:00 Coffee Break

11:30 Absorption Spectroscopy in the Mid-infrared Using Silicon and Germanium Waveguides

Milos Nedeljkovic (University of Southampton); Y. Qi (University of Southampton); V. Mittal (University of Southampton); D. J. Rowe (University of Southampton); Z. Qu (University of Southampton); Y. Wu (University of Southampton); A. Osman (University of Southampton); Z. Zheng (University of Southampton); C. Wei (University of Southampton); James S. Wilkinson (University of Southampton); Goran Z. Mashanovich (University of Southampton);

11:50 Dispersion-engineered Nanostructured Silicon Membrane Waveguides for Nonlinear Applications

Thi Thuy Duong Dinh (Université Paris-Sud); J. Zhang (Université Paris-Sud); M. Montesinos (Université Paris-Sud); Xavier Le Roux (Universite Paris-Sud); Christian Lafforgue (Université Paris-Saclay); Daniel Benedikovic (Universite Paris-Saclay); D. Pavel Cheben (National Research Council of Canada); Eric Cassan (Universite Paris-Sud); Delphine Marris-Morini (Universite Paris 11); Laurent Vivien (Universite Paris-Sud); Carlos Alonso-Ramos (Universite Paris 11);

12:10 Recent Advances in Microwave Optical Signal Processing by Silicon Integrated Structures

Vittorio M. N. Passaro (Politecnico di Bari); Francesco De Leonardis (Politecnico di Bari); Richard Soref (University of Massachusetts Boston);

00:00 Plasmon Modulated Photothermoelectric Photodetector in Silicon Nanostripes

Zhiqiang Guan (Wuhan University); Weikang Liu (Wuhan University); Wenqiang Wang (Wuhan University); Hongxing Xu (Wuhan University);

Session 4A14

FocusSession.SC2&SC3: Graphene 2D Materials for Photonics, Plasmonics and Metamaterials 1

Thursday AM, June 20, 2019

Room 24 - 2nd Floor

Organized by Aldo Di Carlo, Emmanuel Kymakis

Chaired by Aldo Di Carlo

09:00 Graphene-based Layered Meta-lenses

Nantakan Wongkasem (University of Texas Rio Grande Valley);

- 09:20 Technological Features of Graphene-based RF NEMS Capacitive Switches on a Semi-insulating Substrate
Yana Litun (National Research Nuclear University MEPhI); Vladimir Litun (Bauman Moscow State Technical University); Oleg Kononenko (Institute of Microelectronics Technology and High Purity Materials); Maxim Chichkov (National University of Science and Technology MISIS); Denis Borisenko (National Research Nuclear University MEPhI);
- 09:40 Momentum Alignment of Photoexcited Carriers in Two-dimensional Dirac Materials
Invited Richard R. Hartmann (De La Salle University); Vasil A. Saroka (Belarusian State University); Mikhail E. Portnoi (University of Exeter);
- 10:00 Terahertz Absorption in Graphene Nanoplatelets/Polylactic Acid Composites Suitable for 3D Printing
Dzmitry Bychanok (Research Institute for Nuclear Problems Belarusian State University); P. Angelova (OLEM, Institute of Mechanics Bulgarian Academy of Sciences); A. Paddubskaya (Research Institute for Nuclear Problems Belarusian State University); D. Meisak (Research Institute for Nuclear Problems Belarusian State University); L. Shashkova (Research Institute for Nuclear Problems Belarusian State University); M. Demidenko (Research Institute for Nuclear Problems Belarusian State University); A. Plyushch (Research Institute for Nuclear Problems Belarusian State University); E. Ivanov (OLEM, Institute of Mechanics Bulgarian Academy of Sciences); R. Krastev (OLEM, Institute of Mechanics Bulgarian Academy of Sciences); R. Kotsilkova (OLEM, Institute of Mechanics Bulgarian Academy of Sciences); F. Y. Ogrin (University of Exeter); P. Kuzhir (Research Institute for Nuclear Problems Belarusian State University);
- 10:20 Bosonic Cascade THz Lasers
Keynote Alexey V. Kavokin (Westlake University);
- 11:00 **Coffee Break**
- 11:30 Terahertz Metamaterials in Graphene and Transition Metal Dichalcogenides
Invited Berardi Sensale-Rodriguez (University of Utah);
- 11:50 Synthesis, Characterization and Surface Engineering of Two-dimensional Transition Metal Carbides (MXenes)
Invited Anna Pazniak (National University of Science and Technology "MISiS"); P. Bazhin (National University of Science and Technology "MISiS"); N. Shplis (National University of Science and Technology "MISiS"); E. Kolesnikov (National University of Science and Technology "MISiS"); D. Kuznetsov (National University of Science and Technology "MISiS");
- 12:10 High Sensitivity Quadrupole Fano Resonances Using Terahertz Metamaterials with Its Application as Biosensor
Ruochen Wang (Beihang University); Kanglong Chen (Beihang University); Cun-Jun Ruan (Beihang University);
- 12:30 2D Materials Exploitation for Efficient and Scalable Perovskite Photovoltaics
Invited Sara Pescetelli (University of Rome Tor Vergata); Antonio Agresti (University of Rome Tor Vergata); Francesco Bonaccorso (Istituto Italiano di Tecnologia); Emmanuel Kymakis (TEI of Crete); Aldo Di Carlo (Universita di Roma "Tor Vergata");

Session 4A15**SC3: Silicon Photonics 1****Thursday AM, June 20, 2019****Room 25 - 2nd Floor**

Organized by Lin Yang

Chaired by Lin Yang

- 09:00 Ultra-broadband Dual-polarization Beam Splitter Based on Modal Engineered Slot Waveguides
David Gonzalez-Andrade (Instituto de Óptica Daza de Valdés); Christian Lafforgue (Université Paris-Saclay); Elena Duran-Valdeiglesias (Université Paris 11); Xavier Le Roux (Université Paris-Sud); Mathias Berciano (Université Paris-Saclay); Eric Casan (Université Paris-Sud); Delphine Marris-Morini (Université Paris 11); Aitor V. Velasco (Consejo Superior de Investigaciones Científicas); Pavel Cheben (National Research Council of Canada); Laurent Vivien (Université Paris-Sud); Carlos Alonso-Ramos (Université Paris 11);

- 09:20 Long-range LiDAR and Free-space Data Communication with High-performance Optical Phased Arrays
Invited *Diedrik Vermeulen (Analog Photonics LLC); Christopher V. Poulton (Analog Photonics LLC); Peter Russo (Analog Photonics LLC); Matthew J. Byrd (Analog Photonics LLC); Erman Timurdogan (Analog Photonics LLC); Murshed Khandaker (Analog Photonics LLC); Michael R. Watts (Analog Photonics LLC);*
- 09:40 Recent Progress in Applications Utilizing Germanium Ion Implantation in Silicon Photonics Circuits
Invited *Xia Chen (University of Southampton); Milan M. Milosevic (University of Southampton); Xingshi Yu (University of Southampton); Bigeng Chen (University of Southampton); Ali Z. Khokhar (University of Southampton); Ozan Aktas (University of Southampton); Swe Zin Oo (University of Southampton); David J. Thomson (University of Southampton); Harold M. H. Chong (University of Southampton); Anna C. Peacock (University of Southampton); Shinichi Saito (University of Southampton); Otto L. Muskens (University of Southampton); Graham T. Reed (University of Southampton);*
- 10:00 Design and Optimization of pn Junctions in Silicon Microdisk Modulators
Invited *Dusan Gostimirovic (Carleton University); Winnie N. Ye (Carleton University);*
- 10:20 Generic Platform for Silicon Photonics Based on MEMS Reconfigurable Photonic Integrated Circuits
Invited *Muhammad Umar Khan (Ghent University IMEC); Banafsheh Abasahl (Ghent University IMEC); I. Zand (Ghent University IMEC); N. Quack (Ecole Polytechnique Federale de Lausanne (EPFL)); Kristinn B. Gylfason (KTH Royal Institute of Technology); Moises A. Jezzini (Tyndall National Institute); How Yuan Hwang (Tyndall National Institute); M. A. G. Porcel (VLC Photonics Connectivity); Cristina Lerma-Arce (Ghent University-IMEC); S. Kumar (Ghent University-IMEC); Wim Bogaerts (Ghent University-IMEC);*
- 10:40 Non-volatile Active Silicon Photonic Devices Integrated with GST Phase Change Material
Invited *Linjie Zhou (Shanghai Jiao Tong University); Hanyu Zhang (Shanghai Jiao Tong University); Hao Hu (Shanghai Jiao Tong University); Ningning Wang (Shanghai Jiao Tong University); Liangjun Lu (Shanghai Jiao Tong University); B. M. A. Rahman (University of London); Jianping Chen (Shanghai Jiao Tong University);*
- 11:30 Effect of Germanium Doping on the Performance of a Silicon Optical Modulator
Darpan Mishra (Indian Institute of Technology Guwahati); Manoranjan Minz (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati);
- 11:50 Design of Subwavelength Vertical Grating Couplers Using Machine Learning Pattern Recognition
Invited *Mohsen Kamandar Dezfouli (Advanced Electronics and Photonics Research Centre, National Research Council Canada); Yuri Grinberg (National Research Council of Canada); Daniele Melati (National Research Council of Canada); Pavel Cheben (National Research Council of Canada); Jens H. Schmid (National Research Council); Siegfried Janz (Institute for Microstructural Sciences, National Research Council Canada (NRC)); Dan-Xia Xu (National Research Council Canada (NRC));*
- 12:10 Design of a 3-channel Mode-division Multiplexer Based on Grating Assisted Couplers
Manoranjan Minz (Indian Institute of Technology Guwahati); Darpan Mishra (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati);

Session 4A16
Optomechanics, Microfluidics, and Spectroscopy in Microcavities 1

Thursday AM, June 20, 2019
Room 15 - 2nd Floor

Organized by Gianluca Gagliardi, Sahin Kaya Ozdemir

 Chaired by Sahin Kaya Ozdemir

- 09:00 Applications of Hollow, Thin-walled Microresonators
Invited *Sile Nic Chormaic (Okinawa Institute of Science and Technology Graduate University);*
- 09:20 Detection of Lead, Pb(II), in Water Using Silicon Nanowire Ring-resonators
Invited *Hao Chen (Queen's University); John E. Saunders (Queen's University); Sogol Borjian (Queen's University); Xiaowei Wu (Queen's University); Cathleen M. Crudden (Queen's University); Dan-Xia Xu (National Research Council Canada (NRC)); Hans-Peter Loock (National Research Council of Canada);*

 11:00 **Coffee Break**

- 09:40 Differential Tuning and Coupling of Whispering
Invited Gallery Modes
Matthew R. Foreman (Imperial College London); Florian Sedlmeir (Max Planck Institute for the Science of Light); Harald G. L. Schwefel (University of Otago);
- 10:00 Quantum Nondemolition Measurement of Light Inten-
Invited sity Fluctuations in Cavity Optomechanics
Antonio Pontin (University College London); Michele Bonaldi (Institute of Materials for Electronics and Magnetism, FBK Division, and INFN TIFPA); Antonio Borrielli (Institute of Materials for Electronics and Magnetism, FBK Division, and INFN TIFPA); Lorenzo Marconi (CNR, Istituto Nazionale di Ottica); Francesco Marino (CNR, Istituto Nazionale di Ottica); Gregory Pandraud (Delft University of Technology); Giovanni A. Prodi (Universita di Trento); Pasqualina M. Sarro (Delft University of Technology); Enrico Serra (Italy and Delft University of Technology); Francesco Marin (Universita di Firenze and INFN);
- 10:20 Coupling of Mechanical Motion with Frequency Comb
Invited and Brillouin Lasing in Whispering Gallery Modes
Takasumi Tanabe (Keio University); Ryo Suzuki (Keio University); Yoshihiro Honda (Keio University);
- 10:40 Managing Coupled Wavelengths and Modes in
Invited Waveguide-microresonator Systems
S. Berneschi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Andrea Barucci (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Francesco Chivaioli (“Nello Carrara” Institute of Applied Physics (IFAC-CNR)); Mario Christian Falconi (Polytechnic University of Bari); Daniele Farnesi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Gabriele Frigenti (Institute of Applied Physics, National Research Council of Italy); Immacolata Angelica Grimaldii (Consiglio Nazionale delle Ricerche (IREA-CNR)); Dario Laneve (Polytechnic University of Bari); Stefano Pelli (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Gianluca Persichetti (Consiglio Nazionale delle Ricerche (IREA-CNR)); Silvia Soria (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Genni Testa (Consiglio Nazionale delle Ricerche (IREA-CNR)); C. Trono (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Francesco Prudenzeno (Politecnico di Bari); Romeo Bernini (Consiglio Nazionale delle Ricerche (IREA-CNR)); Gualtiero Nunzi Conti (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.);
- 11:30 Opto-mechanical Effects in High-**Q** Liquid Droplet
Microresonators
Antonio Giorgini (Consiglio Nazionale delle Ricerche, Istituto Nazionale di Ottica); Saverio Avino (Istituto Nazionale di Ottica (INO)); Pietro Malara (Istituto Nazionale di Ottica (INO)); Paolo De Natale (CNR-INO, Istituto Nazionale di Ottica); Gianluca Gagliardi (CNR, Istituto Nazionale di Ottica (INO));
- 11:50 Structural Protein-based Whispering Gallery Mode
Invited Resonators
Melik C. Demirel (Pennsylvania State University);
- 12:10 Single-particle Spectroscopy and Microscopy with Op-
Invited tical Microresonators
Cecilia H. Vollbrecht (University of Wisconsin-Madison); Levi Hogan (University of Wisconsin-Madison); Erik H. Horak (University of Wisconsin-Madison); Cassandra A. Knapper (University of Wisconsin-Madison); Feng Pan (University of Wisconsin-Madison); Morgan T. Rea (University of Wisconsin-Madison); Randall H. Goldsmith (University of Wisconsin-Madison);
- 12:30 Using **d₃₃** in Lithium Niobate Microdisk Resonators
Invited
Fang Bo (Nankai University); Zhenzhong Hao (Nankai University); Li Zhang (Nankai University); Wenbo Mao (Nankai University); Ang Gao (Nankai University); Guoquan Zhang (Nankai University); Jingjun Xu (Nankai University);
- 00:00 Enhanced Sagnac Sensitivity at Exceptional Point
Mercedeh Khajavikhan (University of Central Florida); Mohammad P. Hokmabadi (University of Central Florida); Alex Schumer (University of Central Florida); Demetrios N. Christodoulides (University of Central Florida);

Session 4A17
**FocusSession.SC1: Fluctuational
Electrodynamics and Heat Transfer 1**

Thursday AM, June 20, 2019
Room 33 - Bank Building

Organized by Mauro Antezza, Marco Centini

Chaired by Mauro Antezza

11:00 **Coffee Break**

- 09:00 Super-Planckian Far-field Radiative Heat Transfer
Invited
Juan Carlos Cuevas (Universidad Autonoma de Madrid); Victor Fernandez-Hurtado (Universidad Autonoma de Madrid); Antonio I. Fernandez-Dominguez (Universidad Autonoma de Madrid); Johannes Feist (Universidad Autonoma de Madrid); Francisco J. Garcia-Vidal (Universidad Autonoma de Madrid);
- 09:20 Radiative Heat Transfer in Micro/nano Particle Suspensions: A First Principle Approach
Invited
Junming Zhao (Harbin Institute of Technology); Jian Dong (Shandong University); Linhua Liu (Harbin Institute of Technology);
- 09:40 Near Field Thermal Radiation in Confinement
Invited
Matthias Kruger (Georg-August-Universitat Göttingen); Kiryl Asheichyk (University of Stuttgart);
- 10:00 Heat Transfer in the Extreme Near Field: Insights from Atomistic Calculations
Invited
Samy Merabia (Universite de Lyon); Ali Alkurdi (Universite de Lyon); C. Adessi (Universite de Lyon); Konstantinos Termentzidis (Universie Lyon 1);
- 10:20 Near-field and Far-field Thermal Radiation from Sub-wavelength Resonators
Invited
Claire Li (Institut Langevin); H. Kallel (Universite de Poitiers); J. Doumouro (Institut Langevin); V. Krachmalnicoff (Institut Langevin, ESPCI Paris-Tech, CNRS); Patrick Bouchon (ONERA); J. Jaeck (ONERA); Nathalie Bardou (C2N); Karl Joulain (Universite de Poitiers); Riad Haidar (ONERA); Yannick De Wilde (Institut Langevin);
- 10:40 New Thermomagnetic Effects in Magneto-optical Networks
Invited
Annika Ott (Carl von Ossietzky Universitat); Ivan Latella (Universite Paris-Saclay); R. Messina (Universite Paris-Saclay); Svend-Age Biehs (Carl von Ossietzky Universitat); Philippe Ben-Abdallah (Universite Paris-Sud 11);
- 11:00 **Coffee Break**
- 11:30 Control of Near-field Radiative Heat Transfer Using Coupled Surface Plasmons
Invited
Bong Jae Lee (Korea Advanced Institute of Science and Technology);
- 11:50 Long-range Heat and Energy Transfer through Hyperbolic Materials
Invited
Svend-Age Biehs (Carl von Ossietzky Universitat); R. Messina (Institut d'Optique, CNRS, Universite Paris-Saclay); Brahim Guizal (University of Montpellier); Mauro Antezza (Universite de Montpellier); Philippe Ben-Abdallah (Universite Paris-Sud 11); R. Deshmukh (City College of New York); Emaad Khwaja (The City University of New York); Tal Galfsky (City College of New York); V. Menon (City College of New York); G. S. Agarwal (Texas A&M University);
- 12:10 Heat Transfer between Two Metals through Subnanometric Vacuum Gaps
Invited
Riccardo Messina (Institut d'Optique, CNRS, Universite Paris-Sud 11); Svend-Age Biehs (Carl von Ossietzky Universitat); T. Ziehm (Carl von Ossietzky Universitat); A. Kittel (Carl von Ossietzky Universitat); Philippe Ben-Abdallah (Universite Paris-Sud 11);
- 12:30 Novel Heat Transport Regimes in Quantum Correlated Metamaterials
Invited
Marco Gandolfi (KU Leuven); Giacomo Mazza (Universite Paris-Saclay); Massimo Capone (CNR-IOM Democritos National Simulation Center and Scuola Internazionale Superiore di Studi Avanzati (SISSA)); Claudio Giannetti (Universita Cattolica del Sacro Cuore); Francesco Banfi (Universite de Lyon, Institut Lumiere Matiere (iLM), Universite Lyon 1 and CNRS);
- 12:50 Lifetime of Ultracold Atom Clouds Near 2D Materials
R. Crawford (University of Nottingham); K. Wongcharoenbhorn (University of Nottingham); N. Welch (University of Nottingham); F. Wang (University of Nottingham); G. Sinuco-Leon (University of Nottingham); P. Kruger (University of Sussex); F. Intravaia (Max-Born Institut); C. Koller (University of Applied Sciences Wiener Neustadt); T. Mark Fromhold (University of Nottingham);
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- Session 4A18**
Wireless Communication
-
- Thursday AM, June 20, 2019**
Room 38 - Chemistry Building
-
- 09:00 10.525 GHz Backscattering RFID System Based on Doppler Radar Technology for 5G Applications and Telemedicine
Riccardo Colella (University of Salento); Luca Catarinucci (University of Salento);

- 09:20 A Design and Implementation of Butler Matrix with Phase Slope Compensation
Jiwon Kim (Soonchunhyang University); Youna Jang (Soonchunhyang University); Daeung Lee (Soonchunhyang University); Seo Koo (Soonchunhyang University); Tae Hoon Kang (Soonchunhyang University); Maaz Salman (Soonchunhyang University); Jongsik Lim (Soonchunhyang University); Sang-Min Han (Soonchunhyang University); Dal Ahn (Soonchunhyang University);
- 09:40 A Digitally Tunable PVT Compensated Negative Resistance Circuit for Q -factor Enhancement of Passive Circuits in CMOS
Dongmin Kim (CHONBUK National University); Donggu Im (Chonbuk National University);
- 10:00 New Hardware Components for M-sequence UWB Channel Sounder
Martin Pecovsky (Technical University of Kosice); Martin Kmec (Ilmsens GmbH); Miroslav Sokol (Technical University of Kosice); Pavol Galajda (Technical University of Kosice); Stanislav Slovak (Technical University of Kosice);
- 10:20 Minimization of Four-wave Mixing Effect in WDM Optical Networks Using an Efficient Lightpath Establishment Method
Ozlem Feyza Erkan (Beykoz University); Onur Erkan (Istanbul Technical University);
- 10:40 Data Transfer in Long Distance Space Communication
Andrea Farkasvolgyi (Budapest University of Technology and Economics); Istvan Frigyes (Budapest University of Technology and Economics);
- 11:00 **Coffee Break**
- 11:30 Investigation of Noise Characteristics for SBS-Based Optical Spectrum Analysis
Yibo Zhong (Huazhong University of Science and Technology); Changjian Ke (Huazhong University of Science and Technology); Chen Xing (Huazhong University of Science and Technology); Haoyu Wang (Huazhong University of Science and Technology); Yue Deng (Huazhong University of Science and Technology); Sheng Cui (Huazhong University of Science and Technology); Deming Liu (Huazhong University of Science and Technology);
- 11:50 Specific Rain Attenuation for 5G in Tropical Region
Kesavan Ulaganathen (Polytechnic Sandakan Sabah); Md. Rafiqul Islam (International University Islam Malaysia); Khaizuran Abdullah (International Islamic University Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM));
- 12:10 On Channel Estimation in Universal Filtered Multi-Carrier (UFMC) System
Vijaya Durga (National Institute of Technology); S. Anuradha (National Institute of Technology);
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- Session 4A19**
SC2: Nonreciprocal and Topological Electromagnetics 1
-
- Thursday AM, June 20, 2019**
Room 39 - Electrical Building
- Organized by Mário G. Silveirinha, Tiago Andre Nogueira Morgado
Chaired by Mário G. Silveirinha, Tiago Andre Nogueira Morgado
-
- 09:00 Spatial Magnetless Nonreciprocity
Invited
Christophe Caloz (Ecole Polytechnique de Montreal);
- 09:20 Drift-induced Nonreciprocal Graphene Plasmonics
Tiago Andre Nogueira Morgado (University of Coimbra); Mario G. Silveirinha (University of Lisbon);
- 09:40 Non-reciprocal and Topological Wave Phenomena at the Subwavelength Scale
Invited
Romain Fleury (Ecole Polytechnique Federale de Lausanne (EPFL));
- 10:00 Robust Topological Scattering and Radiating Structures
Invited
Francesco Monticone (Cornell University);
- 10:20 Giant Interatomic Energy-transport Amplification with Nonreciprocal Photonic Topological Insulators
Invited
Pierre Doyeux (UMR 5221 CNRS-Universit de Montpellier); Seyyed Ali Hassani Gangaraj (Cornell University); George W. Hanson (University of Wisconsin-Milwaukee); Mauro Antezza (Universite de Montpelier);
- 10:40 Topological Light-trapping on a Dislocation
Fei-Fei Li (Nanjing University); Hai-Xiao Wang (Soochow University); Zhan Xiong (Soochow University); Qun Lou (Nanjing University); Ping Chen (Nanjing University); Rui-Xin Wu (Nanjing University); Yin Poo (Nanjing University); Jian-Hua Jiang (Soochow University); Sajeev John (University of Toronto);
- 11:00 **Coffee Break**
- 11:30 Floquet Edge States in Coupled Photonic Waveguides
Jiri Petracek (Brno University of Technology); Vladimir Kuzmiak (Institute of Photonics and Electronics, Czech Academy of Sciences);

- 11:50 Brightness Theorems for Waves, without Reciprocity
Invited
Owen D. Miller (Yale University); Hanwen Zhang (Yale University); Chia Wei Hsu (Yale University);
- 12:10 Topological Photonics: Mistaken Paradigms and New
Invited Opportunities
Aitzol Garcia-Etxarri (Donostia International Physics Center (DIPC) and Centro Mixto de Fisica de Materiales); M. Blanco De Paz (Donostia International Physics Center (DIPC)); Maia Garcia-Vergniory (Donostia International Physics Center); D. Bercioux (Donostia International Physics Center); B. Bradlyn (University of Illinois at Urbana-Champaign);
- 12:30 Magnet-free Non-reciprocity and Topological Order in
Invited Electromagnetics
Andrea Alu (City University of New York);
-
- Session 4A20**
Extended/Unconventional Electromagnetic Theory, EHD(Electrohydrodynamics)/EMHD(Electromagnetohydrodynamics), and Electro-biology
-
- Thursday AM, June 20, 2019**
Room 40 - Electrical Building
Organized by Eva Gescheidtova
Chaired by Jan Mikulka, Jiri Misurec
-
- 09:00 Stress Tester and Network Emulator in Apache JMeter
Petr Cika (Brno University of Technology); V. Clupek (Brno University of Technology);
- 09:20 Parallel Processing of Genetic Algorithms in Python Language
Vladislav Skorpil (Brno University of Technology); Vaclav Oujezsky (Brno University of Technology); Petr Cika (Brno University of Technology); Martin Tuleja (Brno University of Technology);
- 09:40 The Smart Home — PLC High Speed Communication
Jiri Misurec (Brno University of Technology); Milos Orgon (Slovak University of Technology);
- 10:00 Speed of Light in Vacuum in the Case of Various Linear and Nonlinear Systems
Namik Yener (Kocaeli University);
- 10:20 Electric Fields/Currents at Wounds: The Biological Significance, their Origin and Nature
Min Zhao (University of California Davis); Brian Reid (University of California Davis); Guillaume Luxardi (University of California Davis); Fernando Ferreira (University of California Davis);
- 10:40 A Non-destructive Impedance Method to Measure Semi-periodic Structures
P. Fiala (SIX Research Center); Zoltan Szabo (Brno University of Technology); P. Londak (Brno University of Technology); Eva Gescheidtova (Brno University of Technology); Premysl Dohnal (Brno University of Technology);
- 11:00 **Coffee Break**
- 11:30 A Fast and Low-cost Measuring System for Electrical Impedance Tomography
Jan Mikulka (Brno University of Technology); Jan Dusek (Brno University of Technology); Jarmila Dedkova (Brno University of Technology); Jana Parilkova (Brno University of Technology); Zuzana Munsterova (Brno University of Technology);
- 11:50 A Numerical Analysis of a Planar Inverse Nano-resonant Structure
Tomas Kriz (Brno University of Technology); Petr Drexler (Brno University of Technology);
- 12:10 Comparison of Different Methods for Determining the Air Ion Mobility Spectrum
Zdenek Roubal (Brno University of Technology); Zoltan Szabo (Brno University of Technology); Miloslav Steinbauer (Brno University of Technology); Karel Bartusek (Institute of Scientific Instruments of the ASCR);
- 12:30 Using an Electromagnetic Flowmeter for Ultra-low Velocity Measurement
Pavel Fiala (Brno University of Technology); Miloslav Steinbauer (Brno University of Technology); Zoltan Szabo (Brno University of Technology);
- 12:50 Simulation of an Instability in Two-fluid Plasma Model
Oleg V. Kravchenko (Bauman Moscow State Technical University); Dobroslav P. Egorov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS); Dmitry V. Churikov (Science Scientific and Technological Center of Unique Instrumentation of the RAS); E. A. Vorob'eva (Bauman Moscow State Technical University);

Session 4A0
Poster Session 5

Thursday AM, June 20, 2019

9:30 AM - 12:30 AM

Room Corridor

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| <p>1 Normalization Reading and Writing for Radio Base-band Data
<i>Shaoguang Guo (Shanghai Astronomical Observatory, Chinese Academy of Science); Jiyun Li (Shanghai Astronomical Observatory, Chinese Academy of Science); Renjie Zhu (Shanghai Astronomical Observatory, Chinese Academy of Science);</i></p> <p>2 Computer Simulation of Magnetolectric Microwave Isolator
<i>V. N. Lobekin (Novgorod State University); Alexander Sergeevich Tatarenko (Novgorod State University); Roman Valerevich Petrov (Novgorod State University); Mirza Imamovich Bichurin (Novgorod State University);</i></p> <p>3 The Fine Structure Constant and Graphene
<i>Sara Liyuba Vesely (I.T.B. — C.N.R.); Alessandro Alberto Vesely (Via L. Anelli 13); S. R. Dolci (VESPA-UNIMI);</i></p> <p>4 Long-path Faraday Rotation Spectrometer for OH Radical Measurement
<i>Tong Nguyen Ba (Université du Littoral Côte d'Opale); Eric Fertein (University of the Littoral Opal Coast); Weixiong Zhao (Hefei Institutes of Physical Science, Chinese Academy Sciences); Xiaoming Gao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Wei Dong Chen (Université du Littoral Cote d'Opale);</i></p> <p>5 The Local Weighting Algorithm Is Used to Model and Predict the Pressure Change of the Train Air Chamber
<i>Lan Chen (Shanghai Institute of Technology); Zhiyuan Jiang (Shanghai Institute of Technology); Jiixin Wan (Fudan University);</i></p> <p>6 Rectenna Modeling Based on Hybrid MoM-GEC and the Auxiliary Sources Method for Wireless Power Transmission
<i>Soulayma Smirani (University of Tunis El Manar); Mourad Aidi (University of Tunis El Manar); Taoufik Aguil (University of Tunis El Manar (UTM));</i></p> | <p>7 An Analog of Optical Rabi Oscillation in Superconducting Josephson Circuits
<i>Zhuoyuan Wang (Zhejiang University); Shi Yao Chong (Zhejiang University); Peng An (Ningbo University of Technology); Peihong Cheng (Ningbo University of Technology); Jian Qi Shen (Zhejiang University);</i></p> <p>8 Input Impedance Design of a Circular Patch Array Absorber Considering Perturbation Elements Position
<i>Hayato Sakamoto (Aoyama Gakuin University); Ryosuke Suga (Aoyama Gakuin University); Kiyomichi Araki (Tokyo Institute of Technology); Osamu Hashimoto (Aoyama Gakuin University);</i></p> <p>9 Computation of Forces Exerted by Plain Magnetic Stray Fields
<i>Eckhard Baum (University of Applied Sciences Fulda);</i></p> <p>10 Investigation of Biophysical Parameters of Forests Using Experimental Data and Results of Forest Environment Simulation
<i>Elena Sergeevna Malevich (National Research University "Moscow Power Engineering Institute"); Mikhail Sergeevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Valery A. Permyakov (Moscow Power Engineering Institute (Technical University));</i></p> <p>11 Thermochemical High-ordered Surface Structure Formation with an Astigmatic Gaussian Beam on Metal Thin Films
<i>Alexandr V. Dostovalov (Novosibirsk National Research State University); V. P. Korolkov (Institute of Automation and Electrometry, Siberian Branch, Russian Academy of Sciences); V. S. Terentyev (Institute of Automation and Electrometry, SB, RAS); K. A. Bronnikov (Novosibirsk National Research State University); S. A. Babin (Institute of Automation and Electroetry, SB, RAS);</i></p> <p>12 Modeling of the Broadband Frequency Electrodynamic Response of Water
<i>A. A. Volkov (A.M. Prokhorov General Physics Institute, Russian Academy of Sciences); Alexander A. Vasin (A.M. Prokhorov General Physics Institute, Russian Academy of Sciences);</i></p> <p>13 Electrodynamic Response of Water as a Basis for Transport Coefficient Modeling
<i>Alexander A. Vasin (A. M. Prokhorov General Physics Institute, Russian Academy of Sciences); A. A. Volkov (A. M. Prokhorov General Physics Institute, Russian Academy of Sciences);</i></p> |
|--|---|

- 14 Delay Time Characteristics of a Three-dimensional Terahertz Chiral Metamaterial for Asymmetric Transmission of Circularly Polarized Electromagnetic Waves
C. K. Amaljith (University of Madras (Guindy Campus)); M. Pavithra (Department of Nuclear Physics, University of Madras (Guindy Campus)); Natesan Yogesh (University of Madras (Guindy Campus));
- 15 The Backflow of Energy in a Optical Vortex Formed by Silver Spiral Zone Plate
Elena Sergeevna Kozlova (Samara National Research University); Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences);
- 16 Coded Metasurface with Optical Activity Based on Broadband Asymmetric Transmission of Linearly Polarized Electromagnetic Waves
Ravishankar Varsha (University of Madras (Guindy Campus)); M. Pavithra (Department of Nuclear Physics, University of Madras (Guindy Campus)); Natesan Yogesh (University of Madras (Guindy Campus));
- 17 Semantic Web-based System for Light Scattering Using the Generalized Lorenz-Mie Theory
Paulo Henrique Vieira Candido (Federal Institute of Education, Science and Technology of Sao Paulo); Carlos Henrique Da Silva Santos (Federal Institute of Education, Science and Technology of Sao Paulo); Luiz Felipe Machado Votto (University of Sao Paulo); Leonardo Andre Ambrosio (University of Sao Paulo);
- 18 Extended Physical Optics Method for Doppler Spectrum of a Nonlinear Rough Sea Surface Covered by Thin Organic Film
Rui Wang (Xidian University); Yao Wang (Xidian University); Li-Xin Guo (Xidian University); Guang Bin Guo (Xidian University);
- 19 Multi-channel Complex for Non-contact Aggressive Movement Detection
Lesya N. Anishchenko (Bauman Moscow State Technical University); Andrey V. Zhuravlev (Bauman Moscow State Technical University); Vladimir V. Razevig (Bauman Moscow State Technical University); Margarita A. Chizh (Bauman Moscow State Technical University); Viktor Alekseev (Russian University of Transport); Alexey Skrebkov (Russian University of Transport);
- 20 Study on Fabrication and Evaluation of Multilayered Composite Electromagnetic Wave Absorber Using Frequency Selective Surface
Fumiya Osame (Doshisha University); Keita Kunda (Doshisha University); Yuuki Sato (Doshisha University); Shinzo Yoshikado (Doshisha University);
- 21 Measurement of Optical Absorption Coefficients of Nonlinear-optical Materials Using Piezoelectric Crystal Oscillator Circuits
Kirill V. Zotov (Moscow Institute of Physics and Technology); Georgii A. Aloian (Moscow Institute of Physics and Technology); A. E. Korolkov (Moscow Institute of Physics and Technology); D. M. Mukhankov (Kotelnikov Institute of Radioengineering and Electronics); A. V. Konyashkin (Moscow Institute of Physics and Technology); O. A. Ryabushkin (Moscow Institute of Physics and Technology);
- 22 Coherent Coupling Type Spot-size Converter Using a Straight Waveguide Termination
J. Yamauchi (Hosei University); Katsuyoshi Kojima (Hosei University); K. Shimada (Hosei University); H. Nakano (Hosei University);
- 23 The UAPO Diffraction Contribution in the IPO Method for RCS Evaluations
Gianluca Gennarelli (National Research Council); Giovanni Riccio (University of Salerno);
- 24 Tight Focusing of a Second-order Cylindrical Vector Beam
Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of Russian Academy of Sciences); Anton G. Nalimov (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of Russian Academy of Sciences); Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences);
- 25 A Design of the Silicon-based Race Track Microcavity Resonator with Defined HPBW and FSR Using FDTD Method
Chariya Wongtaycham (King Mongkut’s Institute of Technology); Suripon Somkuarnpanit (King Mongkut’s Institute of Technology);
- 26 Filter Application of Layered Anisotropic Media
Abdullah Eroglu (North Carolina A&T State University); Brinta Chowdhury (North Carolina A&T State University);
- 27 Generalized Kramers-Kronig Relations
Myroslav I. Kozak (Uzhgorod National University);
- 28 Plasmonic Coupling of Dissimilar Nano-metals
Cheng Ka Ying (Hong Kong Baptist University);

- 29 Plasmonic Characterization of Titanium Nitride Films under Low Temperatures
Larissa Vertchenko (Technical University of Denmark); L. Leandro (Technical University of Denmark); E. Shkondin (Technical University of Denmark); O. Takayama (Technical University of Denmark); N. Akopian (Technical University of Denmark); A. V. Laurinenko (Technical University of Denmark);
- 30 Transmission Properties of TE Surface Wave Mode in Asymmetric Metal Stripe Arrays on Low-index Substrate Coating with High-index Dielectric Layers
Ling Guo (Guilin University of Electronic Technology); Jun Ma (Guilin University of Electronic Technology); Shan Yin (Guilin University of Electronic Technology);
- 31 Peculiarities of the Faraday Effect in Gold Nanoantenna Gratings in Iron-garnet Films
Alexei N. Kuzmichev (Russian Quantum Center); Andrey N. Kalish (Russian Quantum Center); D. M. Krichevsky (Lomonosov Moscow State University); Vladimir I. Belotelov (Russian Quantum Center);
- 32 Kirkendall Assisted SnO₂-Ag Nano-composite for Plasmonic Gas Sensor
Peter I. Gaiduk (Belarusian State University);
- 33 Elliptical Form-invariant Gaussian Beams with a Phase Singularity
Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences); Alexey A. Kovalev (Samara State Aerospace University, Image Processing Systems Institute of the Russian Academy of Science); Alexey P. Porfirev (Image Processing Systems Institute of the Russian Academy of Sciences);
- 34 InP Based Long Wavelength Transistor Lasers
Song Liang (Institute of Semiconductors, Chinese Academy of Sciences); Lijun Qiao (Institute of Semiconductors, Chinese Academy of Sciences);
- 35 The Losses in the Optical Microwaveguides of Rectangular Cross Section
Galina Zaretskaya (Saint Petersburg Electrotechnical University "LETI"); Andrey Drozdovskii (Saint Petersburg Electrotechnical University "LETI"); Boris Kalinikos (Saint Petersburg Electrotechnical University "LETI");
- 36 High Sensitivity Optical Detectors Using SnS₂ Nanoflakes
Hak Dong Cho (Dongguk University); Im Taek Yoon (Dongguk University); G. Mohan Kumar (Dongguk University); Fu Xiao (Dongguk University); P. Ilanchezhian (Dongguk University); Sh. U. Yuldashev (Dongguk University); A. Madhan Kumar (King Fahd University of Petroleum & Minerals); Dong Jin Lee (Dongguk University); Tae Won Kang (Dongguk University); Juwon Lee (Dongguk University); Deuk Young Kim (Dongguk University);
- 37 Diffusive Electron-phonon Interaction for Terahertz Radiation
Sang-Hyuk Park (GIST); Hun Lee (Gwangju Institute of Science and Technology (GIST)); Kunie Ishioka (National Institute for Materials Science); Kerstin Volz (Philipps-University); Christopher J. Stanton (University of Florida); Young-Dahl Jho (Gwangju Institute of Science and Technology);
- 38 Curvature Sensor Based on Novel All-fiber Mach-Zehnder Interferometer
Guan-Jie Chen (National United University); Zheng-Wei Huang (National United University); Huey-Jiuan Lin (National United University); Shug-June Hwang (National United University);
- 39 Kagome Fiber for Optical Probe in Laser Wakefield Electron Acceleration
Masruri Masruri (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); I. Dancus (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); R. Secareanu (Extreme Light Infrastructure Nuclear Physics (ELI-NP)); Daniel Ursescu (Extreme Light Infrastructure Nuclear Physics (ELI-NP));
- 40 Investigation of Stimulated Raman Scattering Impact on Dual-pump FOPA Performance in WDM Transmission Systems
Sergejs Olonkins (Riga Technical University); Julija Putrina (Riga Technical University); Jurgis Porins (Riga Technical University); Rolands Parts (Riga Technical University); Vjaceslavs Bobrov (Riga Technical University);
- 41 Unified Multi-channel Spectrum-sliced WDM-PON Transmission System with Embedded FBG Sensors Network
Janis Braunfelds (Riga Technical University); Ugis Senkans (Riga Technical University); Ilya Lyashuk (Riga Technical University); Jurgis Porins (Riga Technical University); Sandis Spolit (Riga Technical University); Vjaceslavs Bobrov (Riga Technical University);

- 42 Non-iterative Spatially Partially Coherent Diffractive Imaging
Xingyuan Lu (Soochow University); Yangjian Cai (Soochow University); Chengliang Zhao (Soochow University); Jun Zeng (Soochow University); Xinlei Zhu (Soochow University); Leixin Liu (Soochow University);
- 43 Simulation Study of Released Silicon-on-insulator Slot Waveguides in a Photonic Integrated Circuit Technology
Siegfried Bondarenko (Technical University of Applied Sciences Wildau); Patrick Steglich (IHP — Leibniz-Institut für Innovative Mikroelektronik); Sigurd Schrader (Technical University of Applied Sciences Wildau); Andreas Mai (IHP — Leibniz-Institut für Innovative Mikroelektronik);
- 44 Design, Fabrication and Measurement of Multiband Rectangular Slot ACS Fed Uniplanar Antenna for 2.4/2.5/5.5 GHz Wireless Applications
Praveen Vummadisetty Naidu (JNT University Kakina — Velapudi Ramakrishna Siddhartha Engineering College); Arvind Kumar (Kautilya Institute of Technology and Engineering); Vege Priyanka (Velapudi Ramakrishna Siddhartha Engineering College); G. Harika (Velapudi Ramakrishna Siddhartha Engineering College); Rengasamy Rajkumar (VIT University); Khalim Amjad Meerja (Velapudi Ramakrishna Siddhartha Engineering College);
- 45 The Influence of Base Width on Breakdown Voltage in Transistors
Lin Yu (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Hongjin Yang (Southwest Jiaotong University);
- 46 Common-mode Suppression Using Quarter Wavelength Resonant Structures in Broadside-coupled Coplanar Waveguides
Yujie He (Rose-Hulman Institute of Technology); Alex Hobbie (Rose-Hulman Institute of Technology); Anita Hsu (Rose-Hulman Institute of Technology); Charles Lynch (Rose-Hulman Institute of Technology); Michael Rosier (Rose-Hulman Institute of Technology); Edward Wheeler (Rose-Hulman Institute of Technology); Michael Cracraft (IBM Systems and Technology Group);
- 47 Influence of Different Ion Implantation and Diffusion Models on UMOS Threshold Voltage
Yongfeng Liu (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University); Hongjin Yang (Southwest Jiaotong University); Tao Jin (Xipu Campus of Southwest Jiaotong University);
- 48 High Gain 2-stage E-class RF Power Amplifier for Wireless Power Transfer
Azwar Mudzakkir Ridwan (UIN Sunan Gunung Djati Bandung); Eki Ahmad Zaki Hamidi (UIN Sunan Gunung Djati Bandung); Budi Syihabuddin (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);
- 49 A High-speed Transition between a Co-planar Waveguide and a Co-planar Stripline
Moises A. Jezzini (Tyndall National Institute); F. H. Peters (Tyndall National Institute);
- 50 Compact Millimeter-wave Triband Quasi-Yagi Antenna for 5G and WiGig Applications
Meng-Jie Chen (National Chiao Tung University); Nai-Chen Liu (National Chiao Tung University); Wei-Ren Xue (National Chiao Tung University); Jenn-Hwen Tarng (National Chiao Tung University);
- 51 The Performance Analysis of a Spinning Magnet as a Mechanical Antenna
Wei Shi (National University of Defense Technology); Qiang Zhou (National University of Defense Technology); Bin Liu (National University of Defense Technology);
- 52 A Microstrip Antenna with Frequency and Polarization Reconfigurability
Ting-Yi Huang (Feng Chia University); Wei-Hung Hsiao (Feng Chia University); Hong-Wei Chou (Feng Chia University);
- 53 An Indirect S -parameters Measurement Method of Chips in a Multi-chip Module through External Terminals
Toshikazu Sekine (Gifu University); Yasuhiro Takahashi (Gifu University);
- 54 A Frequency Reconfigurable Rat-race Coupler with Filtering Responses Using Varactor-tuned Coupled Resonators
Ting-Yi Huang (Feng Chia University); Cheng-Hsien Wu (Feng Chia University); Szu-Cheng Lin (Feng Chia University);
- 55 Compression and Analysis of Ultrasonic Doppler Blood Flow Meter Data by the Discrete Chebyshev Transform
Mikhail A. Basarab (Bauman Moscow State Technical University); Natalia S. Konnova (Bauman Moscow State Technical University); Dmitrii A. Basarab (St. Ioasaf's Belgorod Regional Hospital);

- 56 Simulation of a Ku-band Oversized Coaxial Relativistic Cerenkov Generator with Periodic Permanent Magnet
Xiaoling Wu (Tsinghua University); Changhua Chen (Northwest Institute of Nuclear Technology); Yan Teng (Northwest Institute of Nuclear Technology); Yanchao Shi (Northwest Institute of Nuclear Technology); Renzhen Xiao (Northwest Institute of Nuclear Technology); Ping Wu (Northwest Institute of Nuclear Technology); Zhimin Song (Northwest Institute of Nuclear Technology); Jun Sun (Northwest Institute of Nuclear Technology);
- 57 Design of Compact Ka-band Microstrip BPF Using Mode Exciting Technology
Amjad Altaf (Beihang University); Xi Chen (Beihang University); Umar Dilshad (Beihang University); Chen Chen (Beihang University); Jungang Miao (Beihang University);
- 58 A Design of Geometry and Antennas Layout of 3D Microwave Imaging System for Brain Stroke Monitoring
Jan Tesarik (Czech Technical University in Prague); Tomas Pokorny (Czech Technical University in Prague); David Vrba (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague);
- 59 Dual Cavity Arletron
Prabhakar Tripathi (Indian Institute of Technology (BHU)); Arjun Kumar (Indian Institute of Technology (BHU)); Soumojit Shee (Indian Institute of Technology (BHU)); Smrity Dwivedi (Indian Institute of Technology (BHU)); P. K. Jain (Indian Institute of Technology (BHU));
- 60 Substrate Integrated Circularly Polarized Horn Antenna Based on LTCC Technology
Yanting Lv (Shanghai Aerospace Electronics Co.,Ltd); Xudong Bai (Shanghai Scientific Instrument Factory); Yuntao Sun (Shanghai Scientific Instrument Factory); Weizhong Yan (Shanghai Scientific Instrument Factory); Fanwei Kong (Shanghai Scientific Instrument Factory); Mengmeng Sun (Shanghai Scientific Instrument Factory);
- 61 Tropospheric Ducts Measurement with Using Weather Sensors
Mikhail Sergeyevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Elena Sergeevna Malevich (National Research University "Moscow Power Engineering Institute"); N. O. Strelkov (National Research University "Moscow Power Engineering Institute");
- 62 Measurement of Yangtze River's Water Level by Tiangong-2 Interferometric Imaging Radar Altimeter
Xueyan Kang (National Space Science Center, Chinese Academy of Sciences); Yunhua Zhang (National Space Science Center, Chinese Academy of Sciences); Xiao Dong (Center for Space Science and Applied Research, Chinese Academy of Sciences); Wenshuai Zhai (Center for Space Science and Applied Research, Chinese Academy of Sciences); Shuangbao Yang (National Space Science Center, Chinese Academy of Sciences); Xiyu Xu (National Space Science Center, Chinese Academy of Sciences);
- 63 Light Propagation in Layered Media: Spectroscopy and Colorimetry Analysis Based on Monte-Carlo Flux Simulations
Rodrigo Alcaraz De La Osa (Universidad de Cantabria); Dolores Ortiz Marquez (University of Cantabria); Jose Maria Saiz Vega (Universidad de Cantabria);
- 64 About Capabilities of GIMS-technology to the Study of the Marine Ecosystems
Ferdinand A. Mkrtchyan (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences); V. F. Krapivin (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences); Sergey M. Shapovalov (Shirshov's Institute of Oceanology, RAS);
- 65 Measuring Information Content on Radar Scattering of Random Rough Surface by Multiscale Entropy
Rui Jiang (Xuchang University); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Gen-Yuan Du (Xuchang University);
- 66 Investigation of the Continuous Wavelet Transform Method for Use with Late Time Response Analysis of Concealed on Body Threat Objects
Ali Saied Atiah (Alzaytuna University); Hussein Abdullatif Dghayes (College of Engineering Technology);
- 67 Encryption Device Leveraging Wave Chaos for Enhanced Physical Security of Wireless Wave Transmission
Hong Soo Park (Soongsil University); Sun K. Hong (Soongsil University);
- 68 About Optimal Algorithms for Making Statistical Decisions for Small Volume Samples and with Apriori Parametric Uncertainty
Ferdinand A. Mkrtchyan (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences);

- 69 Differentially Proximity-coupled Circular Ring-shaped Array Antenna with Improved Radiation Characteristic
Rheyuniarto Sahlendir Asthan (Institut Teknologi Sumatera); Hartuti Mistialustina (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);
- 70 Evaluation on Compressive Sensing-based Image Reconstruction Method for Microwave Imaging
Basari (Universitas Indonesia); Syahrul Ramdani (Universitas Indonesia);
- 71 Beam Splitting Properties of the Two-dimensional Photonic Crystals Based on Directional Band Gap
Honglian Guo (Minzu University of China);
- 72 Multi-frequency Laser Diode Stabilization by Lithium Niobate WGM Microresonator
Alexander S. Gorodnitskiy (Russian Quantum Center); A. S. Voloshin (Russian Quantum Center); G. V. Lihachev (Russian Quantum Center); V. E. Lobanov (Russian Quantum Center);
- 73 Investigation of Tunnel Field Effect Transistor for Biosensing Applications
Manjula Vijn (Amity University Uttar Pradesh); R. S. Gupta (Maharaja Agrasen Institute of Technology); Sujata Pandey (Amity University);
- 74 The Application of LandSAR Model for TomoSAR Verification
Haoyang Yu (Beijing Normal University); Zhongjun Zhang (Beijing Normal University);
- 75 Plasmonic Driven, Non-diffractively Coupled Interference Sensor Array for Nanoscale Refractive Index Contrast Imaging in a Microfluidic 100 nm Channel
Frank Garwe (Leibniz Institute of Photonic Technology); Andre Dathe (Leibniz Institute of Photonic Technology (IPHT)); Thomas Henkel (Leibniz Institute of Photonic Technology); Gunter Mayer (Leibniz Institute of Photonic Technology); Uwe Hubner (Leibniz Institute of Photonics Technology (IPHT)); Andrea Csaki (Leibniz Institute of Photonic Technology (IPHT)); Wolfgang Fritzsche (Leibniz Institute of Photonic Technology (IPHT));
- 76 Resonant Frequency and Bandwidth of Superconducting Microstrip Antenna Fed through a Slot Cut into the Ground Plane
Siham Benkouda (University of Constantine 1); Ahmed Mahamdi (University of Mentouri Brothers — Constantine 1); Tarek Fortaki (Universite de Batna);
- 77 Integrated Localized Surface Plasmon Resonance Sensing with Super-period Fine Structure Nanogratings
Junpeng Guo (University of Alabama in Huntsville); Hong Guo (University of Alabama in Huntsville); Haisheng Leong (University of Alabama in Huntsville);
- 78 Maximal Temperature of Spectral Selective Metamaterial Perfect Light Absorbers under Solar Radiation
Jinnan Chen (University of Alabama in Huntsville); Junpeng Guo (University of Alabama in Huntsville); Liangyao Chen (Fudan University);
- 79 A Volterra-series Based Time-frequency Fusion Strategy for Sea-surface Weak Target Detection
Min Zhang (Xidian University); Zhaohui Cai (Xidian University);
- 00:00 Ramsey-CPT Spectrum with Elliptically Polarized Light
Yuan Tian (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences); Yi Zhang (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences); Jiehua Chen (Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences); Sihong Gu (Huazhong University of Science and Technology);

Session 4P1
FocusSession.SC5: Atmospheric Remote Sensing and Propagation 2

Thursday PM, June 20, 2019
Room 1 - 1st Floor

Organized by Frank Silvio Marzano, Domenico Cimini

- 14:30 Global Observations from a Well-calibrated Passive Microwave Atmospheric Sounding Radiometer on a CubeSat: Temporal Experiment for Storms and Tropical Systems Technology Demonstration (TEMPEST-D) 6U CubeSat Mission
Steven C. Reising (Colorado State University); Todd C. Gaier (California Institute of Technology); Shannon T. Brown (California Institute of Technology); Sharmila Padmanabhan (California Institute of Technology); Boon H. Lim (California Institute of Technology); Cate Heneghan (California Institute of Technology); Christian D. Kummerow (Colorado State University); V. Chandrasekar (Colorado State University); Wesley K. Berg (Colorado State University); Richard Schulte (Colorado State University); Chandrasekar Radhakrishnan (Colorado State University); Matthew Pallas (Blue Canyon Technologies); Doug Laczkowski (Blue Canyon Technologies); Austin Bullard (Blue Canyon Technologies);
- 15:00 The ROHP-PAZ Experiment: Sensing Heavy Rain from Space Using L-band Signals of Opportunity at Limb-looking forward Scattering Geometry
 Invited *Estel Cardellach (Institute of Space Studies (ICE, CSIC)); S. Tomas (Institute of Space Studies (ICE, CSIC)); Santi Oliveras (Institute of Space Studies (ICE, CSIC)); Antonio Rius (Institute of Space Studies (ICE, CSIC)); Chi On Ao (California Institute of Technology (JPL)); F. J. Turk (California Institute of Technology); M. De la Torre-Juarez (California Institute of Technology); R. Padulles (California Institute of Technology); B. A. Iijima (California Institute of Technology (JPL)); G. W. Franklin (California Institute of Technology (JPL)); T. K. Meehan (California Institute of Technology (JPL)); D. Kuang (California Institute of Technology (JPL)); K.-N. Wang (California Institute of Technology (JPL));*
- 15:20 The EUMETSAT Polar System — Second Generation (EPS-SG) Passive Microwave and Sub-mm Wave Missions
 Invited *Vinia Mattioli (European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)); Christophe Accadia (EUMETSAT); Jorg Ackermann (EUMETSAT); Sabatino Di Michele (EUMETSAT); Imke Hans (European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)); Peter Schlüssel (EUMETSAT); Paolo Colucci (EUMETSAT); Alessio Canestri (EUMETSAT);*
- 15:40 Pioneer Research of the FY-4 GIIRS Utilization for Extreme Weather in China
Xin Wang (National Satellite Meteorological Center, China Meteorological Administration); Qiang Guo (National Satellite Meteorological Center);
- 16:00 Enhancement of Temperature-humidity Retrieval Algorithms of Satellite MW Data Processing
Victor Petrovich Savorskiy (Kotel'nikov Institute of Radioengineering and Electronics, RAS); Dmitry Mikhailovich Ermakov (Kotel'nikov Institute of Radioengineering and Electronics of RAS); Boris Georgievich Kutuza (Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences); Andrey Petrovich Chernushich (Fryazino branch of IRE RAS); Mikhail Timofeevich Smirnov (Kotel'nikov Institute of Radioengineering and Electronics, RAS); Olga Yurievna Panova (Fryazino branch of IRE RAS); Mikhail Vasilievich Danilychev (Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences);
- 16:30 **Coffee Break**
- 17:00 High-resolution Satellite Image Based Aerosol Optical Depth Retrieval Method: Validation through EARLINET and NASA MPLNET Lidar Measurements and NASA AERONET Sunphotometer Data
 Invited *Simone Lolli (Institute of Methodologies for Environmental Analysis, CNR); Gemine Vivone (University of Salerno); Luciano Alparone (University of Florence); Andrea Garzelli (University of Siena); Muhammad Bilal (Nanjing University of Information Science and Technology); N. Cimini (CNR, Institute of Methodologies for Environmental Analysis); James R. Campbell (Naval Research Laboratory); Ellsworth J. Welton (NASA GSFC); G. Pappalardo (Institute of Methodologies for Environmental Analysis, CNR);*
- 17:20 Scintillation Effects in the Ionosphere
George Jandieri (VSB — Technical University of Ostrava); Akira Ishimaru (University of Washington); Jaromir Pistora (VSB — Technical University of Ostrava); Michal Lesnak (VSB — Technical University of Ostrava); Natalia Natasha Zhukova (M. Nodia Institute of Geophysics);
- 17:40 Upper Atmosphere Wind Pattern during St. Patrick's Day Geomagnetic Storm: Fabry-Perot Interferometer Measurements and Modeling
Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics, SB RAS); Maxim V. Klimenko (Immanuel Kant Baltic Federal University); Roman V. Vasilyev (Institute of Solar-Terrestrial Physics, Siberian Branch of Russian Academy of Science); Vladimir V. Klimenko (West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation RAS);

- 18:00 Solar Activity Influence on the Mesopause Temperature and F2 Peak Electron Density
Irina Medvedeva (Institute of Solar-Terrestrial Physics); Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics, SB RAS);

Session 4P2

Electromagnetic Methods and Electronic Devices for Security

Thursday PM, June 20, 2019

Room 5 - 1st Floor

Organized by Lorenzo Capineri

Chaired by Pierluigi Falorni, Daniela Deiana

- 14:30 Background Removal for the Processing of Scans Acquired with the "UGO-1st" Landmine Detection Platform
Lorenzo Capineri (Universita di Firenze); Pierluigi Falorni (Universita di Firenze); G. Borgioli (Universita degli Studi di Firenze); Luca Bossi (University of Florence); Gennadiy Pochanin (O. Ya. Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine); V. Ruban (O. Ya. Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine); O. Pochanin (O. Ya. Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine); T. Ogurtsova (O. Ya. Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine); Fronefield Crawford (Franklin & Marshall College); Timothy D. Bechtel (Franklin & Marshall College);
- 14:50 Development of Multifrequency MW Detection Device to Scan Liquids in Security Checkpoints
M. Vafadar Yengejeh (Gebze Technical University); Sultonazar Mamadazizov (Gebze Technical University); B. Colak (Alanya Alaaddin Keykubat University); Bulat Rameev (Gebze Technical University);
- 15:10 Multi-sensor Fusion Applied to the Detection of Person-Borne Improvised Explosive Devices (PB-IEDs)
Daniela Deiana (Electronic Defence, TNO Defence, Safety and Security); Patrick Hanckmann (Intelligent Autonomous Systems, TNO Defence, Safety and Security);
- 15:30 Electromagnetic Induction Imaging with Atomic Magnetometers: Surveillance and Security Applications
Cameron Deans (University College London); Luca Marmugi (University College London); Ferruccio Renzoni (University College London);
- 15:50 Design of Small Sized SFCW Radar for Landmine Detection
D. Sipos (University of Maribor); Dusan Gleich (University of Maribor);
- 16:10 Smart Radar Sensors for Critical Sites Protection
Simone Ledda (University of Florence); Guido Biffi Gentili (University of Florence);
- 16:30 **Coffee Break**
- 17:00 Magnetic Resonance and Microwave Techniques for Security Applications
Bulat Rameev (Gebze Technical University);
- 17:20 Remote Sensing for the Detection of Explosives and Energetic Materials by ¹⁴N NQR and ¹⁴N NMR
Georgy Mozhukhin (Gebze Technical University); A. Marasli (Gebze Technical University); S. Mamadazizov (Gebze Technical University); B. Colak (Alanya Alaaddin Keykubat University); Bulat Rameev (Gebze Technical University);
- 17:40 Compressed Sensing Stepped Frequency Ground Penetrating Radar Using Structure
Venceslav Kafedziski (University Ss Cyril and Methodius);
- 18:00 Some Opinion and Estimation about Possibility to See Stealth by Microwave Radiometer
Hao Liu (Harbin Institute of Technology); Chao Wu (Harbin Institute of Technology); Dajing Wang (Harbin Institute of Technology); Jing-Hui Qiu (Harbin Institute of Technology); Oleksandr Denisov (Harbin Institute of Technology);
- 00:00 Hardware Obfuscation by Using Asymmetrical Characteristics of Tunnel FET
Aditya Japa (DSPM IIIT Naya Raipur); Manoj Kumar Majumder (International Institute of Information Technology); Subhendu Kumar Sahoo (DSPM IIIT Naya Raipur);

Session 4P3a

Transmission Line, Waveguide & Filter

Thursday PM, June 20, 2019

Room 7 - 1st Floor

- 14:30 Development of Inkjet-printed Microwave Filters for 1–6 GHz Band Communications Applications
Hüseyin Sinan Aksimsek (Istanbul Kultur University); E. A. Ozek (Istanbul Kultur University);
- 14:50 A Compact Harmonic Filter Using CRLH Transmission Line Stubs for Class-E Power Amplifiers
H. Asami (Shibaura Institute of Technology); Shinichi Tanaka (Shibaura Institute of Technology);

- 15:10 CMOS Microwave Bandpass Filter Using High Q Active Inductor
Qi Wang (Chonbuk National University); Phirun Kim (Chonbuk National University); Girdhari Chaudhary (Chonbuk National University); Jongsik Lim (Soonchunhyang University); Yongchae Jeong (Chonbuk National University);
- 15:30 Compact Wide-stopband Quarter-mode SIW Bandpass Filter with Triangle Cavity
Phirun Kim (Chonbuk National University); Phanam Pech (Chonbuk National University); Jongsik Lim (Soonchunhyang University); Dal Ahn (Soonchunhyang University); Yongchae Jeong (Chonbuk National University);
- 15:50 Transmission Lines Modeling Approach Based on the Approximation of Pade
Zahra Bouzidi (Cadi Ayyad University); Abdelaziz El Idrissi (Cadi Ayyad University); Hicham Rouijaa (Hassan University 1); Mohamed Saih (University of Sultan Moulay Slimane);
- 16:10 Measurement of Parameters of Objects in Non-standard Guiding Systems and in Free Space
Vladimir Ivanovich Evseev (LLC "Arzamas Instrument-making Design Bureau"); Oleg Veniaminovich Lavrichev (JSC "Arsamassky Priborostroitelny Zavod imeni Plandina"); Elena Alexandrovna Lupanova (Nizhniy Novgorod State Technical University n.a. R. E. Alekseev); Sergey Michailovich Nikulin (Alekseev's Nizhny Novgorod State Technical University);
- 16:30 **Coffee Break**
- 17:00 Comparative Study of Multipactor Effect in Rectangular and Parallel-plate Waveguides Partially Loaded with Dielectric
A. Berenguer (Universidad Miguel Hernandez de Elche); Angela Coves Soler (Universidad Miguel Hernandez de Elche); E. Bronchalo (Universidad Miguel Hernandez de Elche);
- 17:20 A CMOS Single Stage Sub-harmonic Mixer with Two Conversion Modes for Fast Spectrum Sensing Functionality
Seongjin Bae (Chonbuk National University); Donggu Im (Chonbuk National University);
- 17:40 Role of Explosive Electron Emission Threshold and Plasma Formation Rate in the Start Oscillation and Phase Synchronization of Relativistic Backward Wave Oscillators
Renzhen Xiao (Northwest Institute of Nuclear Technology); Yuqun Deng (Northwest Institute of Nuclear Technology); Yanchao Shi (Northwest Institute of Nuclear Technology); Dewen Yang (Northwest Institute of Nuclear Technology);
- 18:00 Wideband Phase Shifter Using 3 Types of LC Resonant Circuits for Phase Slope Alignment
Youna Jang (Soonchunhyang University); Maaz Salman (Soonchunhyang University); Yongchae Jeong (Chonbuk National University); Kwansun Choi (Soonchunhyang University); Sang-Min Han (Soonchunhyang University); Dal Ahn (Soonchunhyang University);
- 18:20 A High-efficiency DC-to-RF/RF-to-DC Conversion Module with Zero-threshold FET for Bidirectional Wireless Power Transfer
Takaharu Kume (The University of Electro-Communications); Ryo Ishikawa (The University of Electro-Communications); Kazuhiko Honjo (The University of Electro-Communications);

Session 4P4
Computational Electromagnetics, Hybrid Methods

Thursday PM, June 20, 2019
Room 8 - 1st Floor

Session 4P3b
Microwave and Millimeter Wave Circuits and Devices 2

Thursday PM, June 20, 2019
Room 7 - 1st Floor

- 14:30 Dispersive Equation of Tellegen Complex Medium-based Waveguides
Samia Aib (University Mentouri Constantine); Chemseddine Zebiri (Université Ferhat Abbas); Djamel Sayad (University of Skikda); Toufik Aib (Université 20 Août 1955-Skikda); Fatiha Benabdelaziz (University of Mentouri);
- 14:50 Acceleration of Method of Moments on Structured and Unstructured Meshes via Tensor Train Decomposition
Z. Chen (University of Manitoba); S. Zheng (University of Manitoba); Vladimir Okhmatovski (University of Manitoba);

- 15:10 A Hybrid Implicit-explicit FDTD Method for Simulation of Ultra-wideband Bandpass Filter
Li Li (Xi'an University of Science and Technology); Hui Zhang (Xi'an University of Science and Technology); Xiaobing Han (Xi'an University of Science and Technology); Noman Hafiz Muhammad (Xi'an University of Science and Technology); Yuan Guo Zhou (Xi'an University of Science and Technology);
- 15:30 Uncertainty Analysis of a Microstripline Based Dielectric Resonator Filter Using Finite Element Method with Polynomial Chaos
B. N. Abhijith (Indian Institute of Science Bangalore); K. J. Vinoy (Indian Institute of Science Bangalore);
- 15:50 Proposal on Propagation Prediction Method Based on Dynamic Channel Properties for High Frequency Bands in Urban NLOS Environment
Minoru Inomata (NTT DOCOMO Inc.); Tetsuro Imai (NTT DOCOMO Inc.); Koshiro Kitao (NTT DOCOMO Inc.); Takahiro Asai (NTT DOCOMO Inc.);
- 16:10 Phased Array Antenna Adaptation in Tropospheric Duct above Sea Surface
Mikhail Sergeevich Mikhailov (National Research University "Moscow Power Engineering Institute"); Valery A. Permyakov (Moscow Power Engineering Institute (Technical University)); A. I. Baskakov (National Research University "Moscow Power Engineering Institute");
- 16:30 **Coffee Break**
- 17:00 Applicability of the Geometrical Optics Approximation in Radio Occultation Experiments: Numerical Simulations
Yaroslav A. Ilyushin (Moscow State University); A. L. Gavrik (Kotelnikov Institute of Radio Electronics and Engineering, Fryazino Branch);
- 17:20 Time-domain Coupled Full Maxwell- and Drift-diffusion-solver for Simulating Scanning Microwave Microscopy of Semiconductors
Arif Can Gungor (Institute of Electromagnetic Fields (IEF), ETH Zurich); Jasmin Smajic (Institute of Electromagnetic Fields (IEF), ETH Zurich); Federico Moro (Universita di Padova); Juerg Leuthold (Institute of Electromagnetic Fields (IEF), ETH Zurich);
- 17:40 Resonance-free Magnetic-field Integral Equation with Double-layer Modeling: Further Improvements
Sadri Guler (Middle East Technical University); Hande Ibili (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 18:00 Fast Characterization and Modeling of Arbitrary Cross Section 2D Photonic Bandgap Structures Using AFGSM Method
Onur Erkan (Istanbul Technical University); Serkan Simsek (Istanbul Technical University);
- 18:20 Open Area Concealed Weapon Detection (CWD) Sensor System and Algorithm Development
Yuxiang Huang (University of Huddersfield); Peter Mather (University of Huddersfield); Martin James Norbury Sibley (University of Huddersfield);
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- Session 4P5a**
SC5: SAR for Agriculture
-
- Thursday PM, June 20, 2019**
Room Hall of Frescoes - 1st Floor
Organized by Anna Balenzano, Leila Guerriero
Chaired by Anna Balenzano, Leila Guerriero
-
- 14:30 An Operational High Resolution Soil Moisture Retrieval Algorithm Using Sentinel-1 Images
Nicolas Baghdadi (University of Montpellier); Mohammad El Hajj (University of Montpellier); Mehrez Zribi (CESBIO (CNRS/IRD/CNES/UPS));
- 14:50 Improvement of Soil Moisture Retrieval through an Integration of SMAP and S-1 Data: A Case Study in Central Italy
Simonetta Paloscia (CNR-IFAC); E. Santi (CNR-IFAC); Simone Pettinato (Consiglio Nazionale delle Ricerche); Luca Brocca (National Research Council of Italy); L. Ciabatta (CNR-IRPI); C. Massari (CNR-IRPI); S. Modanesi (CNR-IRPI);
- 15:10 Agricultural Monitoring in the Netherlands Using SAR Data from Sentinel-1
Susan Steele-Dunne (Delft University of Technology); Saeed Khabbazan (Delft University of Technology); Paul C. Vermunt (Delft University of Technology); Dirk Van der Valk (Delft University of Technology);
- 15:30 Modeling Backscattering of Crops of Pampas Region
Mario Alberto Acuna (University of Rome Tor Vergata); Paolo Ferrazzoli (Universita di Roma Tor Vergata); Leila Guerriero (Universita di Roma Tor Vergata);

- 15:50 A Time Series Change Detection Algorithm for Spaceborne GNSS-R Soil Moisture Retrievals over Complex Terrain
Mohammad Al-Khaldi (The Ohio State University); Shanka N. Wijesundara (The Ohio State University); Joel T. Johnson (The Ohio State University); Anna Balenzano (Istituto per il Rilevamento Elettromagnetico dell'Ambiente(IREA)); Francesco Mattia (Istituto di Studi sui Sistemi Intelligenti per l'Automazione (ISSIA));
- 16:10 Field Scale Soil Moisture Retrieval and Soil Tillage Change Detection from Sentinel-1 for Agricultural Monitoring
Anna Balenzano (Istituto per il Rilevamento Elettromagnetico dell'Ambiente (IREA)); Giuseppe Satalino (Istituto di Studi sui Sistemi Intelligenti per l'Automazione (ISSIA)); Francesco Mattia (Istituto di Studi sui Sistemi Intelligenti per l'Automazione (ISSIA)); F. P. Lovergine (Consiglio Nazionale delle Ricerche, Istituto per il Rilevamento Elettromagnetico dell'Ambiente (CNR-IREA)); A. D'Addabbo (Consiglio Nazionale delle Ricerche, Istituto per il Rilevamento Elettromagnetico dell'Ambiente (CNR-IREA)); D. Palmisano (Consiglio Nazionale delle Ricerche, Istituto per il Rilevamento Elettromagnetico dell'Ambiente (CNR-IREA));
- 16:30 **Coffee Break**
- 00:00 Application of Machine Learning Algorithm to Sentinel SAR Data for Land Use Land Cover Mapping
Ashish Navale (Indian Institute of Remote Sensing (ISRO)); Dipanwita Haldar (Indian Institute of Remote Sensing (ISRO));
- 17:20 Chiba University Small Circularly-polarized-SAR Satellite Remote Sensing
Nobuyoshi Imura (Chiba University); Josephat Tetuko Sri Sumantyo (Chiba University);
- 17:40 Detection and Localization of Breast Tumor in 2D Using Microwave Imaging
Abdelfattah Miraoui (University of Mascara); Lotfi Merad (Centre of Space Techniques); Sidi Mohammed Meriah (University of Tlemcen);
- 18:00 A Novel Parameter Estimation Method for MIMO-SAR Signal
Dongwei Lu (National University of Defense Technology); Shiqi Xing (National University of Defense Technology); Bo Pang (National University of Defense Technology); Dahai Dai (National University of Defense Technology); Xuesong Wang (National University of Defense Technology);
- 18:20 A Singular Value Decomposition Based Approach for Classifying Concealed Objects in Short Range Polarimetric Radar Imaging
Vipin Choudhary (University of Gävle); Daniel Rönnow (University of Gävle); Magnus Jansson (KTH Royal Institute of Technology);

Session 4P6
Microstrip Antennas, Array Antennas, Theory and Radiation 2

Thursday PM, June 20, 2019
Room Cloister Hall - 1st Floor

Session 4P5b
Microwave Remote Sensing, Polarimetry SAR, and Radar Imaging 2

Thursday PM, June 20, 2019
Room Hall of Frescoes - 1st Floor

- 17:00 About the Image Feature of Parabolic Antennas in High-resolution SAR Image
Shaoyan Du (Institute of Electronics, Chinese Academy of Sciences); Jun Hong (Institute of Electronics, Chinese Academy of Science); Yu Wang (Institute of Electronics, Chinese Academy of Sciences); Qiaona Zheng (Institute of Electronics, Chinese Academy of Sciences);
- 14:30 Study of Original Approach to Fabrication of Flexible Planar Antennas with Coplanar Feeding Structure
Andrei Victorovich Starodubov (Saratov State University); Alexey Alexandrovich Serdobintsev (Saratov State University); Victor Vladimirovich Galushka (Saratov State University); Peter V. Ryabukho (Saratov State University); Ilya Olegovich Kozhevnikov (Saratov State University); Galina Alexandrovna Korshunova (Saratov State University); Sergey Yurevich Gorodkov (Saratov State University); Anton Mikhailovich Pavlov (Saratov State University);
- 14:50 Analysis of Parasitic Patch for Axial Ratio Bandwidth Enhancement in Circularly-polarized-slotted Microstrip Antenna
Peberlin Parulian Sitompul (Chiba University); Josephat Tetuko Sri Sumantyo (Chiba University); Timbul Manik (National Institute of Aeronautics and Space); Adi Poerwono (National Institute of Aeronautics and Space); Farohaji Kurniawan (Chiba University); Mohammad Nasucha (Universitas Pembangunan Jaya);

- 15:10 Desing Method for Bi-band Circularly Polarized Antenna. Application to GNSS Antenna
Matthieu Egels (Aix-Marseille University); Philippe Pannier (Aix-Marseille Universite);
- 15:30 Efficient Three-element Binomial Array Antenna
Peter Stoyanov Apostolov (High School "College of Telecommunications and Post"); Borislav Yurukov (South-West University-Blagoevgrad); Alexey Stefanov (South-West University-Blagoevgrad);
- 15:50 Performance Analysis of Power Weighted Linear Array Antennas Based on Blackman Function
Hartuti Mistialustina (Institut Teknologi Bandung); Chairunnisa (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);
- 16:10 Multi-antenna Array Topologies Optimization for Future Wireless Networks by Employing Particle Swarm Optimization
Yingke Huang (University of Glasgow); Petros Karadimas (University of Glasgow); Abed Pour Sohrab (University of Glasgow);
- 16:30 **Coffee Break**
- 17:00 Synthesis of Linear Array Antenna Using Hybrid IWO/WDO Algorithm
Rashmi Sinha (National Institute of Technology); Arvind Choubey (National Institute of Technology); Santosh Kumar Mahto (National Institute of Technology); Prakash Ranjan (National Institute of Technology); Chetan Barde (National Institute of Technology);
- 17:20 Design Microstip Patch Antenna Using Ground Slots
Yahya Salamrh Hassan Khraisat (Taif University); Ahmad A. Alahmadi (Taif University); Mohammed Abdul Rahman Zamil Al-Sharef (Taif University);
- 17:40 Programmable Miniaturized Multiband Antenna System and Applications for Smart Industry
Brahim Fady (INPT); Jaouad Terhzaz (EMI); Abdelwahed Tribak (Institut National de Poste et Telecommunications (INPT)); Fatima Riouch (INPT); Angel Mediavilla Sanchez (University of Cantabria);
- 18:00 A Inverted F with Dual Frequency for Radar and 5th Applications above 85 GHz
Mohamed Fathy Abo Sree (Arab Academy for Science & Technology and Maritime Transport); Wael Swelam (Egyptian Armed Forces); Mohamed Hassan Abd El-Azeem (MTC University); Hadia M. El-Hennawy (Ain Shams University);
- 18:20 A Multi Band Dual Loop Antenna in Millimetric Wave Implementation for 5G Applications
Muhammad Aly Ibrahim (Ain Sham University (ASU)); Hadia M. El-Hennawy (Ain Shams University); Mohamed Hassan Abd El-Azeem (MTC University); Wael Swelam (Egyptian Armed Forces); Mohamed Fathy Abo Sree (Arab Academy for Science & Technology and Maritime Transport);
- 18:40 A Compact 3 Port Integrated Wide Band Sensing Antenna and Narrow Band Antennas for Cognitive Radio Applications
D. Srikar (National Institute of Technology); S. Anuradha (National Institute of Technology);
- 19:00 Exponential Companding Transform to Mitigate PAPR in SC-FDMA Systems
Kondamuri Shri Ramtej (National Institute of Technology); S. Anuradha (National Institute of Technology);

Session 4P7a
Optics and Fiber Laser

Thursday PM, June 20, 2019
Room 17 - 1st Floor

- 14:30 Towards Mode-locking of an Active Whispering-gallery-mode Microresonator
Tomoki Samuel Lidsanel Prugger Suzuki (Keio University); Shun Fujii (Keio University); Rammaru Ishida (Keio University); Riku Imamura (Keio University); Mizuki Ito (Keio University); Hideyuki Maki (Keio University); Lan Yang (Washington University); Sze Yun Set (The University of Tokyo); Takasumi Tanabe (Keio University);
- 14:50 First Estimates of the Most Important Properties of the Electromagnetic Field Produced by a 980-nm Laser with a Flat-top Handpiece in Mitochondria Distributed on the Bottom of a Petri Dish
Andrea Amaroli (University of Genoa); Stefano Benedicenti (University of Genoa); Bruno Bianco (University of Genoa); Mario Rene Clemente Vargas (University of Genoa); Reem Hanna (University of Genoa); Praveen Kalarickel Ramakrishnan (University of Genoa); Mirco Raffetto (University of Genoa);

- 15:10 Optical Diagnostics of Swirling Flame by Simultaneous Planar Laser-induced Fluorescence and High-speed Chemiluminescence Imaging of OH Radical
Hao Yan (Institute of Mechanics, Chinese Academy of Sciences); Shaohua Zhang (Institute of Mechanics, Chinese Academy of Sciences); Fangyi Wang (Institute of Mechanics, Chinese Academy of Sciences); Xilong Yu (Institute of Mechanics, Chinese Academy of Sciences);
- 15:30 High-enthalpy Flow Investigations by UV Laser-induced Fluorescence
Hao Yan (Institute of Mechanics, Chinese Academy of Sciences); Shaohua Zhang (Institute of Mechanics, Chinese Academy of Sciences); Fangyi Wang (Institute of Mechanics, Chinese Academy of Sciences); Xilong Yu (Institute of Mechanics, Chinese Academy of Sciences);
- 15:50 Supercontinuum Generation and Pulse Compression from a Passively Mode-locked Ultrafast Ring Fibre Laser
Francesca Gallazzi (Istituto de Optica “Daza de Valdes”); Pedro Corredera (Istituto de Optica “Daza de Valdes”); Fernando B. Naranjo (Universidad de Alcalá); Miguel Gonzalez-Herraez (Universidad de Alcalá); Juan Diego Ania Castanon (Consejo Superior de Investigaciones Científicas);
- 16:10 Sector Metalens for Sharp Focusing of Laser Light
Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); Anton G. Nalimov (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); L. O’Faolain (Cork Institute of Technology); Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences);
- 16:30 **Coffee Break**
- 17:00 Diagnosis of Flame by Planar Laser Induced Fluorescence in a Swirl Combustor
Hao Yan (Institute of Mechanics, Chinese Academy of Sciences); Shaohua Zhang (Institute of Mechanics, Chinese Academy of Sciences); Xilong Yu (Institute of Mechanics, Chinese Academy of Sciences);

Session 4P7b
Remote Sensing of the Earth and Atmosphere
2

Thursday PM, June 20, 2019

Room 17 - 1st Floor

- 17:20 An Approach for Cloud Removal to the VNIR Bands of Multi-temporal FY-3C Images
Wenhui Du (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Zhihao Qin (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Jinlong Fan (National Satellite Meteorological Center); Fei Wang (East China Sea Fishery Research Institute, Chinese Academy of Fishery Sciences); Bilawal Abbasi (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences);
- 17:40 Simultaneous Inversion of Surface Temperature and Humidity from Passive Microwave Observations
Xiao-Jing Han (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Si-Bo Duan (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Maofang Gao (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Pei Leng (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences);
- 18:00 An Improved Method for Correcting the Instantaneous Energy Imbalance of the EC Measurements
Meng Liu (Institute of Geographic Science and Natural Resources Research, Chinese Academy of Sciences); Ronglin Tang (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Guangjian Yan (Beijing Normal University);
- 18:20 A Method for Obtaining the Equivalent Land Surface Temperature at Pixel Scale over Heterogeneous Land Surfaces
Jing Li (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences); Hua Wu (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences);

- 18:40 An Approach for Pixel Decomposition to Increase Spatial Resolution of Land Surface Temperature Images from FengYun-3C Data
Zhihao Qin (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Fei Wang (East China Sea Fishery Research Institute, Chinese Academy of Fishery Sciences); Wenhui Du (Institute of Agro-Resources and Regional Planning, Chinese Academy of Agricultural Sciences); Jianlong Fan (National Satellite Meteorological Center (NSMC)); Shuhe Zhao (Nanjing University);

Session 4P8a
Quantum Electrodynamics, Computing and Information

Thursday PM, June 20, 2019
Room 6 - Mezzanine

- 14:30 Photon Correlations in PT-symmetric Waveguide Systems
Friederike Klauck (Institut für Physik, Universität Rostock); Lucas Teuber (Universität Rostock); Marco Ornigotti (Institut für Physik, Universität Rostock); Matthias Heinrich (Institut für Physik, Universität Rostock); Stefan Scheel (University of Rostock);
- 14:50 Quantum Simulation of a New Class of Dynamical Phase Transitions
Jiangbin Gong (National University of Singapore (NUS));
- 15:10 Modelling Time Translational Symmetry Breaking of Photons upon Mirror Reflection
Almut Beige (University of Leeds); J. Southall (University of Leeds); R. Purdy (University of Leeds);
- 15:30 Resonant Production of an Ultrarelativistic Electron-positron Pair by a Gamma Quantum in the Field of a Nucleus and a Laser Wave
Sergei P. Roshchupkin (Peter the Great St. Petersburg Polytechnic University); Viktor V. Dubov (Peter the Great St. Petersburg Polytechnic University); Nikita R. Larin (Peter the Great St. Petersburg Polytechnic University);
- 15:50 Resonance of the Annihilation Channel of a Laser-assisted Electron-positron Scattering
Sergei P. Roshchupkin (Peter the Great St. Petersburg Polytechnic University); Viktor V. Dubov (Peter the Great St. Petersburg Polytechnic University); Dmitriy V. Doroshenko (Peter the Great St. Petersburg Polytechnic University);

- 16:10 Resonant Spontaneous Bremsstrahlung of Ultrarelativistic Electrons in the Field of a Nucleus and a Laser Wave
Alexander V. Dubov (Peter the Great St. Petersburg Polytechnic University); Sergei P. Roshchupkin (Peter the Great St. Petersburg Polytechnic University);

16:30 Coffee Break

- 00:00 Experimentally Superposing Two Pure States with Partial Prior Knowledge
Keren Li (Center for Quantum Computing, Pengcheng Laboratory);

Session 4P8b
SC1&SC3: Quantum Information Processing and Devices 3

Thursday PM, June 20, 2019
Room 6 - Mezzanine

Organized by Hai-Zhi Song, Guangwei Deng

 Chaired by Hai-Zhi Song, Guangwei Deng

- 17:00 Nanowire Antennas for Quantum Optics: Recent Developments
 Invited
Julien Claudon (CEA/INAC/SP2M); Romain Fons (CEA/INAC/SP2M); Alberto Artioli (CEA/INAC/SP2M); Saptarshi Kotal (CEA/INAC/SP2M); Petr Stepanov (CEA/INAC/SP2M); Eric Gautier (CEA/INAC/SP2M); Joel Bleuse (CEA/INAC/SP2M); Jean-Michel Gerard (CEA/INAC/SP2M); Pierre Verlot (University of Nottingham); Andreas D. Osterkryger (DTU Fotonik); Niels Gregersen (Technical University of Denmark); Mathieu Munsch (University of Basel); Martino Poggio (University of Basel); Richard W. Warburton (University of Basel);
- 17:20 Quantum State Transfer and Storage with Local Symmetry Induced Compact Localized States
 Invited
Malte Rontgen (University of Hamburg); Christian Morfonios (Hamburg University); Ioannis Brouzos (University of Athens); Fotios K. Diakonou (Athens University); Peter Schmelcher (University of Hamburg);

17:40 Dissipative Phonon Fock State Production in Strong
Invited Nonlinear Optomechanics

Gentil Dias De Moraes Neto (University of Electronic Science and Technology of China (UESTC)); V. Montenegro (University of Electronic Science and Technology of China (UESTC)); V. F. Teizen (Universidade de Sao Paulo); E. Vernek (Universidade Federal de Uberlandia);

18:00 Entanglement Distillation in Optomechanics via Un-
Invited sharp Measurements

Victor Montenegro (University of Electronic Science and Technology of China (UESTC)); Alessandro Ferraro (Queen's University Belfast); Sougato Bose (University College London);

18:20 Continuous Variable Quantum Teleportation through
Invited Six-kilometer Fiber-channel

Xiaojun Jia (Shanxi University);

00:00 Breaking the Quantum Backaction Limit for Ground-
Invited state Cooling

Yong-Chun Liu (Tsinghua University); Jing-Hui Gan (Tsinghua University);

00:00 Single-photon Avalanche Detectors towards Free-
space Optical-quantum Links in Daylight

Fernando Massa Fernandes (Universidade do Estado do Rio de Janeiro); G. P. Temporao (Pontificia Universidade Catolica); Patricia Lustoza Souza (Pontificia Universidade Catolica);

Session 4P9a

SC3: Label-based and Label-free Optical Biosensors 2

Thursday PM, June 20, 2019

Room 4 - Mezzanine

Organized by Ambra Giannetti

Chaired by Ambra Giannetti, Cosimo Trono

14:30 Smartphone-based Approach for Colorimetric Dip-
Invited stick Analysis

Annamaria Cucinotta (Universita di Parma); Francesco Pasquali (DNAPhone S.r.l.); Matteo Barozzi (University of Parma); Alessandro Tonelli (DNAPhone S.r.l.); Alessandro Candiani (DNAPhone S.r.l.); Luca Vicetti (DNAPhone S.r.l.); Stefano Selleri (Universita di Parma);

14:50 Labelling of Bacteria: Strategies for Imaging and Sens-
Invited ing

Lorena Tedeschi (Institute of Clinical Physiology (IFC), National Research Council (CNR)); Laura Polisenio (Institute of Clinical Physiology (IFC), National Research Council (CNR)); Irene Lepori (Institute of Clinical Physiology (IFC), National Research Council (CNR)); Lorenzo Germelli (Institute of Clinical Physiology (IFC), National Research Council (CNR)); Monica Evangelista (Institute of Clinical Physiology (IFC), National Research Council (CNR)); Marianna Vitiello (Institute of Clinical Physiology (IFC), National Research Council (CNR));

15:10 Layer-by-layer Nano-assembly as a Biofunctionaliza-
Invited tion Route for High-sensitivity and High-selectivity Label-free Optical Biosensing

Stefano Mariani (Università di Pisa); Valentina Robbiano (Università di Pisa); Lucanos M. Strambini (Consiglio Nazionale delle Ricerche); Aline Debrassi (Surflay Nanotec GmbH); Gabriela Egri (Surflay Nanotec GmbH); Lars Dahne (Surflay Nanotec GmbH); Giuseppe Barillaro (Università di Pisa);

15:30 Tunable Nanoplasmonic Transducers: Functional Ma-
Invited terials for Optical Biosensing

Adriano Colombelli (Institute for Microelectronic and Microsystems); Daniela Lospinoso (Institute for Microelectronic and Microsystems); M. Cesaria (Institute for Microelectronic and Microsystems); A. Taurino (Institute for Microelectronic and Microsystems); Roberto Rella (Institute for Microelectronic and Microsystems); Maria Grazia Manera (Institute for Microelectronic and Microsystems);

Session 4P9b

SC4: Reconfigurable and Programmable Photonic Integrated Circuits

Thursday PM, June 20, 2019

Room 4 - Mezzanine

Organized by Jian Wang

Chaired by Jian Wang

15:50 Silicon Optical Space and Mode Switches

Invited

Lin Yang (Institute of Semiconductors, Chinese Academy of Sciences); Ting Zhou (Institute of Semiconductors, Chinese Academy of Sciences); Hao Jia (Institute of Semiconductors, Chinese Academy of Sciences); Lei Zhang (Institute of Semiconductors, Chinese Academy of Sciences); Xin Fu (Institute of Semiconductors, Chinese Academy of Sciences);

16:10 Programmable Silicon Photonic Processor Based on a SCOW Resonant Structure

Invited
Liangjun Lu (Shanghai Jiao Tong University); Lin Shen (Shanghai Jiao Tong University); Wei Gao (Shanghai Jiao Tong University); Linjie Zhou (Shanghai Jiao Tong University); Jianping Chen (Shanghai Jiao Tong University);

16:30 **Coffee Break**

17:00 Silicon Mode- and Polarization-selective Switch

Invited
Yong Zhang (Shanghai Jiao Tong University); Yu He (Shanghai Jiao Tong University); Qingming Zhu (Shanghai Jiao Tong University); Ciyuan Qiu (Shanghai Jiao Tong University); Yikai Su (Shanghai Jiao Tong University);

17:20 Towards Reconfigurable Multi-functional Photonic Integrated Signal Processor

Invited
Jian Wang (Huazhong University of Science and Technology);

17:40 SOI-based Photonic Integrated Circuits for Tunable OAM Generation

Invited
Muhammad N. Malik (CNIT); Ning Zhang (University of Glasgow); Charles Caer (Universite Paris-Sud 11); Mirco Scaffardi (CNIT); Veronica Toccafondo (CNIT); Charalambos Klitis (University of Glasgow); Jiangbo Zhu (University of Bristol); Xinlun Cai (Sun Yat-Sen University); Siyuan Yu (University of Bristol); Martin Lavery (University of Glasgow); Gianni Preve (CNIT); Marc Sorel (University of Glasgow); Bert Jan Offrein (IBM Research — Zurich); Antonella Bogoni (Scuola Superiore Sant'Anna);

18:00 Processing of Optical Data Signals Using Integrated Devices

Invited
Michael Galili (Technical University of Denmark); L. K. Ozenlowe (Technical University of Denmark);

18:20 Driving and Control Techniques for Large Scale Programmable Photonics Circuits

Invited
Antonio Ribeiro (Ghent University); Muhammad Umar Khan (Ghent University IMEC); L. Van Iseghem (Ghent University); M. Wang (Ghent University); S. Declercq (Ghent University); Wim Bogaerts (Ghent University-IMEC);

18:40 Manipulating Optical Beams with a Programmable Silicon Photonic Mesh

Invited
Maziyar Milanizadeh (Informazione e Bioingegneria — Politecnico di Milano); Piero Borga (Informazione e Bioingegneria — Politecnico di Milano); David A. B. Miller (Stanford University); Andrea Melloni (Politecnico di Milano); Francesco Morichetti (Informazione e Bioingegneria — Politecnico di Milano);

Session 4P10a

SC3: Glass Photonics: Novel Systems and Ongoing Applications 2

Thursday PM, June 20, 2019

Room 12 - Mezzanine

Organized by Anna Lukowiak, Maurizio Ferrari

Chaired by Anna Lukowiak, Maurizio Ferrari

14:30 Luminescent Hafnia Nanoparticles by Non-aqueous Sol-gel: Toward Particle-based Optical Materials

Invited
Alessandro Lauria (Swiss Federal Institute of Technology (ETH-Zurich));

14:50 Extraction and Separation of Rare Earths from Phosphate Mineral: Development of New Technologies

Invited
Adel Bouajaj (University Abdelmalek Essaadi); Saloua Belmokhtar (University Abdelmalek Essaadi); Mohammed Reda Britel (University Abdelmalek Essaadi); Mohammed Mezroui (OCP Group Morocco); Lidia Zur (Enrico Fermi Historical Museum of Physics and Study & Research Centre); Anna Lukowiak (Institute of Low Temperature and Structure Research, PAS); Roberta Ramponi (Institute of Photonics and Nanotechnology (IFN) — CNR); Giancarlo C. Righini (Piazza del Viminale 1); Maurizio Ferrari (CNR-IFN, Istituto di Fotonica e Nanotecnologie);

15:10 Towards Mid-Infrared Fibre Lasing: Update on Rare Earth Ion Doped Chalcogenide Glass Fibres

Invited
Richard Crane (University of Nottingham); Z. Q. Tang (University of Nottingham); David Furniss (The University of Nottingham); M. Shen (University of Nottingham); M. Farries (University of Nottingham); E. Barney (University of Nottingham); Trevor Mark Benson (The University of Nottingham); L. Sojka (Wroclaw University of Science and Technology); Slawomir Sujecki (Wroclaw University of Science and Technology); Angela Beth Seddon (University of Nottingham);

15:30 Luminescent and Mechanical Properties of Transparent YSZ, MgAl₂O₄ Ceramics Doped with Rare Earth Ions

Invited *Oleg Khasanov (Tomsk Polytechnic University); E. Dvilis (Tomsk Polytechnic University); D. Valiev (Tomsk Polytechnic University); S. Stepanov (Tomsk Polytechnic University); E. Polisadova (Tomsk Polytechnic University); V. Paygin (Tomsk Polytechnic University);*

Session 4P10b

SC3: Photonics for Lab-on-Chip

Thursday PM, June 20, 2019

Room 12 - Mezzanine

Organized by Giampiero De Cesare, Domenico Caputo

Chaired by Giampiero De Cesare, Domenico Caputo

15:50 Monitoring of Immunosuppressive Drugs and Sepsis Biomarkers in POCT Devices: The Photonics Approach

Invited *Francesco Baldini (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); B. Adinolfi (CNR-IFAC "Nello Carrara" Institute of Applied Physics); S. Berneschi (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Romeo Bernini (Consiglio Nazionale delle Ricerche (IREA-CNR)); Francesco Chiavaioli ("Nello Carrara" Institute of Applied Physics (IFAC-CNR)); A. Giannetti (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Immacolata Angelica Grimaldii (Consiglio Nazionale delle Ricerche (IREA-CNR)); Gianluca Persichetti (Consiglio Nazionale delle Ricerche (IREA-CNR)); G. Porro (Datamed S.r.l.); G. Quarto (Datamed S.r.l.); Genni Testa (Consiglio Nazionale delle Ricerche (IREA-CNR)); S. Tombelli (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Cosimo Trono (Istituto di Fisica Applicata "Nello Carrara", C.N.R.);*

16:10 Characterization of Plasmonic Effects in AuNP+rGO Composite as a Sensing Layer for a Low-cost Lab-on-chip Biosensor

Invited *Alessandro Fantoni (ADEETC-ISEL-Instituto Politecnico de Lisboa); Vladan Stojkovic (ADEETC-ISEL-Instituto Politecnico de Lisboa); Miguel Fernandes (ADEETC-ISEL-Instituto Politecnico de Lisboa); Paula Louro (ISEL); Manuela Vieira (ADEETC-ISEL-Instituto Politecnico de Lisboa); Elisabete C. B. A. Alegria (ADEQ-ISEL-Instituto Politecnico de Lisboa); Ana P. C. Ribeiro (Universidade de Lisboa); Ana Carvalho (ADEQ-ISEL-Instituto Politecnico de Lisboa); M. Gabriela Almeida (UCIBIO-REQUIMTE);*

16:30 **Coffee Break**

17:00 Design and Fabrication of Lab-on-chip for Fluorescence Detection of Ruthenium Complex

Francesca Costantini (Sapienza University of Rome); Nicola Lovecchio (Sapienza University of Rome); Augusto Nascetti (Sapienza University of Rome); Giampiero De Cesare (Universita degli Studi di Roma "La Sapienza"); Domenico Caputo (Universita degli Studi di Roma "La Sapienza");

17:20 Optofluidics for Lab-on-chip Applications

Invited *Genni Testa (Consiglio Nazionale delle Ricerche (IREA-CNR)); Gianluca Persichetti (Consiglio Nazionale delle Ricerche (IREA-CNR)); Romeo Bernini (Consiglio Nazionale delle Ricerche (IREA-CNR));*

17:40 Filtering Issues in Fluorescence Detection: An Approach Based on High Numerical Aperture Waveguide Absorption Filters

Invited *Cosimo Trono (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); S. Berneschi (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Romeo Bernini (Consiglio Nazionale delle Ricerche (IREA-CNR)); S. Tombelli (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Ambra Giannetti (CNR, Istituto di Fisica Applicata "Nello Carrara" (IFAC)); Francesco Chiavaioli ("Nello Carrara" Institute of Applied Physics (IFAC-CNR)); Immacolata Angelica Grimaldii (Consiglio Nazionale delle Ricerche (IREA-CNR)); Gianluca Persichetti (Consiglio Nazionale delle Ricerche (IREA-CNR)); Genni Testa (Consiglio Nazionale delle Ricerche (IREA-CNR)); G. Porro (Datamed S.r.l.); Francesco Baldini (Istituto di Fisica Applicata "Nello Carrara", C.N.R.);*

18:00 A Laser Bonding Technique to Instrument Tissue-compatible, Optically Transparent Synthetic Diamond Substrate with CMOS Devices

Leonello Servoli (Istituto Nazionale di Fisica Nucleare); K. Kanxheri (Istituto Nazionale di Fisica Nucleare); S. Lagomarsino (Istituto Nazionale di Fisica Nucleare); A. Morozzi (Universita degli Studi di Perugia); D. Passeri (Universita degli Studi di Perugia); S. Sciortino (Universita di Firenze); Andrea Scorzoni (Universita degli Studi di Perugia);

18:20 A Configurable Microwave Microfluidic Sensor for Medical Diagnosis and Chemical Analysis

Emidio Di Giampaolo (Universita degli Studi dell'Aquila); Antonio Di Natale (Universita degli Studi dell'Aquila);

Session 4P11a

SC2: THz Metamaterials, Devices and Systems 2

Thursday PM, June 20, 2019

Room 11 - Mezzanine

Organized by Romeo Beccherelli, Dimitris C. Zografopoulos

Chaired by Romeo Beccherelli

14:30 Efficient Manipulations of Circularly Polarized Terahertz Waves with Transmissive Metasurfaces

Min Jia (Fudan University); Zhuo Wang (Fudan University); Heting Li (Capital Normal University); Xinke Wang (Capital Normal University); Weijie Luo (Fudan University); Shulin Sun (Fudan University); Yan Zhang (Capital Normal University); Qiong He (Fudan University); Lei Zhou (Fudan University);

14:50 A Switchable Terahertz Reflectarray Based on Graphene Radiating Patches

Jingwei Zhang (Lanzhou University); Tiaoming Niu (Lanzhou University); Zhong-Lei Mei (Lanzhou University);

15:10 Optical Phase Transition in Semiconductor Quantum Metamaterials

Jean-Michel Chauveau (Universite Cote d'Azur); Mario Ferraro (Universite Cote d'Azur); Miguel Montes Bajo (Universidad Politecnica de Madrid); Julen Tamayo-Arriola (Universidad Politecnica de Madrid); Nolwenn Le Biavan (Universite Cote d'Azur); Maxime Hugues (Universite Cote d'Azur); Massimo Giudici (Universite Cote d'Azur); Patrice Genevet (CNRS, CRHEA, Universite Cote d'Azur); Adrian Hierro (Universidad Politecnica de Madrid);

Session 4P11b

Metamaterials and Plasmonics

Thursday PM, June 20, 2019

Room 11 - Mezzanine

15:30 Tunable SRR Metamaterials Using Low Pressure Plasma

Rafael Navarro (Universite de Toulouse); Jerome Sokoloff (Universite de Toulouse — UPS); Laurent Liard (Universite de Toulouse);

15:50 Design of a Printed Launcher for Topologically Protected Metawaveguides

Guido G. Gentili (Politecnico di Milano); N. Guarducci (Universita di Firenze); Giuseppe Pelosi (University of Florence); F. Piccioli (University of Rostock); Stefano Selleri (University of Florence);

16:10 Analysis of Coupler in Topologically Protected Metawaveguide by 2.5D FEM

Guido G. Gentili (Politecnico di Milano); Giuseppe Pelosi (University of Florence); F. Piccioli (University of Rostock); Stefano Selleri (University of Florence);

16:30 **Coffee Break**

17:00 Peculiarities of Protein Biosensing by Utilizing the Fano Interference-modified Surface Plasmon Resonance and the Bloch Surface Wave

Vladimir V. Kornienko (Dukhov All-Russian Research Institute of Automatics (VNIIA)); Alexey N. Shaymanov (Lomonosov Moscow State University); Georgiy M. Yankovskii (All-Russian Research Institute of Automatics); Alexander V. Baryshev (All-Russian Research Institute of Automatics);

17:20 Highly Doped Silicon-based Hyperbolic Metamaterials for Mid-infrared Bio-chemo Sensing Applications

S. Shkondin (Technical University of Denmark); Sarah Elisabeth Hussein El Dib (Technical University of Denmark); Larissa Vertchenko (Technical University of Denmark); Andrei V. Lavrinenko (Technical University of Denmark); Osamu Takayama (Technical University of Denmark);

17:40 Investigation of Magnetically Near-field Metamaterials in Wireless Power Transfer System

Xiutao Huang (Huazhong University of Science and Technology); Conghui Lu (Huazhong University of Science and Technology); Xiong Tao (Huazhong University of Science and Technology); Cancan Rong (Huazhong University of Science and Technology); Minghai Liu (Huazhong University of Science and Technology);

- 18:00 Gauge-field Description of Sagnac Frequency Shift in Rotating Cavity
Hongkang Shi (Huazhong University of Science and Technology); Zhongfei Xiong (Huazhong University of Science and Technology); Weijin Chen (Huazhong University of Science and Technology); Jing Xu (Huazhong University of Science and Technology); Shubo Wang (City University of Hong Kong); Yuntian Chen (Huazhong University of Science and Technology);
- 18:20 Boosting Nonlinear Optical Phenomena in 2D Systems with Mie and Plasmon Resonances
Alvaro Rodriguez Echarrri (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Joel Douglas Cox (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Renwen Yu (The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);
- 15:30 Angular Momentum-dependent Topological Transport
Meng Xiao (Wuhan University); Tianshu Jiang (The Hong Kong University of Science and Technology); Che Ting Chan (The Hong Kong University of Science and Technology);
- 15:50 Direct Observation of Electromagnetic Modes with Orbital Angular Momentum in Topological Photonic Metamaterials
Yuan Li (Tongji University); Yong Sun (Tongji University); Hong Chen (Tongji University); Xiao Hu (National Institute for Materials Science);
- 16:10 Band Touching and Real Space Topology in Flat-band Photonic Lattices
Daohong Song (Nankai University); Jingjun Xu (Nankai University); Zhigang Chen (Nankai University);
- 16:30 **Coffee Break**

Session 4P12

SC2: Topological Features of Metamaterials and Non-Hermitian Systems: From Microwave to NIR

Thursday PM, June 20, 2019

Room 21 - 2nd Floor

Organized by Jian-Wen Dong, Wenjie Chen

Chaired by Wenjie Chen

- 14:30 Topological LC Circuit
Xiao Hu (National Institute for Materials Science);
- 14:50 Realization of Second-order Photonic Topological Insulator
Biye Xie (Nanjing University); Hong-Fei Wang (Nanjing University); Guang-Xu Su (Nanjing University); Hai-Xiao Wang (Soochow University); Hai Su (Nanjing University); Xue-Yi Zhu (Nanjing University); Xiaopeng Shen (China University of Mining and Technology); Peng Zhan (Nanjing University); Jian-Hua Jiang (Soochow University); Ming-Hui Lu (Nanjing University); Zhenlin Wang (Nanjing University); Yan-Feng Chen (Nanjing University);
- 15:10 Topological Transition in Graphene-like Photonic Crystals
Fei Gao (Zhejiang University); Haoran Xue (Nanyang Technological University); Gennady Shvets (Cornell University); Yidong Chong (Nanyang Technological University); Baile Zhang (Nanyang Technological University);
- 00:00 Observation of Corner States in Photonic Crystals Slabs
Xiao-Dong Chen (Sun Yat-Sen University); Wei-Min Deng (Sun Yat-Sen University); Fu-Long Shi (Sun Yat-Sen University); Jian-Wen Dong (Sun Yat-Sen University);
- 17:00 Topologically Protected Edge States for Robust Integrated Photonic Devices
Wange Song (Nanjing University); Wenzhao Sun (Harbin Institute of Technology); Shumin Xiao (Harbin Institute of Technology); Shi-Ning Zhu (Nanjing University); Tao Li (Nanjing University);
- 17:20 Topological Negative Refraction of Sound
Chunyin Qiu (Wuhan University); Hailong He (Wuhan University); Zhengyou Liu (Wuhan University);
- 17:40 Exciton-polariton Based Topological Photonics and Topological Lasers
Guillaume Malpuech (Universite Clermont-Auvergne, CNRS); Olivier Bleu (Universite Clermont-Auvergne, CNRS); Dmitry Solnyshkov (Universite Clermont-Auvergne, CNRS);
- 18:00 Valley Topology in Phononic Crystals
Jiuyang Lu (South China University of Technology); Chunyin Qiu (Wuhan University); Weiyin Deng (South China University of Technology); Xueqin Huang (South China University of Technology); Feng Li (South China University of Technology); Zhengyou Liu (Wuhan University);

- 18:20 Studies of Topological Photonics in a Synthetic Space Including the Frequency Axis of Light
Luqi Yuan (Shanghai Jiao Tong University); Meng Xiao (Wuhan University); Shanhui Fan (Stanford University);
- 18:40 Analysis of the Topological Photonic Crystals Using Finite-difference Supercell Approach
Menglin L. N. Chen (The University of Hong Kong); Li Jun Jiang (University of Hong Kong); Zhihao Lan (University College London); Wei E. I. Sha (The University of Hong Kong);
- 15:30 Low-cost Medical Diagnostics Exploiting Different Kinds of Receptors on Plasmonic Plastic Optical Fiber Sensors
Nunzio Cennamo (University of Campania Luigi Vanvitelli); Luigi Zeni (University of Campania "Luigi Vanvitelli"); Sabato D'Auria (Institute of Food Science, ISA-CNR); Antonio Varriale (Institute of Food Science, ISA-CNR); Maria Pesavento (University of Pavia); Giancarla Alberta (University of Pavia); Antonella Profumo (University of Pavia); Laura Pasquardini (FBK-CMM);

Session 4P13

SC3: Photonic Sensing in Health Science and Environmental Monitoring

Thursday PM, June 20, 2019

Room 22 - 2nd Floor

Organized by Luigi Zeni, Andrea Cusano

Chaired by Luigi Zeni

- 14:20 Optical Fiber Bragg Grating Sensors for Medical Applications
Invited Maria Konstantaki (Institute of Electronic Structure and Laser, Foundation for Research and Technology); D. Pugliese (Politecnico di Torino); D. Milanese (Politecnico di Torino); A. Candiani (DNAPhonesrl); Stavros Pissadakis (Institute of Electronic Structure and Laser (IESL));
- 14:40 Porous Silicon-based Hybrid Devices for Multiparametric Photonic Biosensors
Invited C. Schiattarella (CNR-IMM); Ilaria Rea (Inst Microelect & Microsyst); Principia Dardano (Institute for Microelectronics and Microsystems, Italian National Research Council); R. Moretta (CNR-IMM); M. Terracciano (CNR-IMM); Luca De Stefano (Univ. Naples);
- 15:00 Glass-based Optical Metasurfaces and Multi-material Fibers for Sensing and Monitoring
Keynote Bastien Schyrr (Ecole Polytechnique Federale de Lausanne); Tapajyoti Das Gupta (Ecole Polytechnique Federale de Lausanne); Louis Martin-Monier (Ecole Polytechnique Federale de Lausanne); Wei Yan (Ecole Polytechnique Federale de Lausanne); Dang Tung Nguyen (Ecole Polytechnique Federale de Lausanne); Alexis Gerald Page (Ecole Polytechnique Federale de Lausanne); Yunpeng Qu (Ecole Polytechnique Federale de Lausanne); Fabien Sorin (Ecole Polytechnique Federale de Lausanne);
- 15:50 Polymer Resonators for Thermodynamics Fatty Acids Phase Transition Detection
L. Garnier (Universite de Rennes 1); R. Castro-Beltran (Universite de Rennes 1); A. St-Jalmes (Universite de Rennes 1); H. Lhermite (Universite de Rennes 1); E. Gicquel (Universite de Rennes 1); H. Cormerais (Universite de Rennes 1); A.-L. Fameau (Biopolymeres Interactions Assemblages); A. Ghoufi (Universite de Rennes 1); Bruno Beche (Universite de Rennes 1);
- 16:10 Coherent Phase-OTDR Operating at 850 nm Wavelength for Enhancing SNR
Aldo Minardo (Universita della Campania "Luigi Vanvitelli"); Ester Catalano (Università della Campania "Luigi Vanvitelli"); Agnese Coscetta (University of Sannio); Enis Cerri (Università della Campania "Luigi Vanvitelli"); Luigi Zeni (University of Campania "Luigi Vanvitelli");
- 16:30 **Coffee Break**
- 17:00 Stimuli-responsive Microgels for Advanced Lab-On-Fiber Optrodes
Martino Giaquinto (University of Sannio); Armando Ricciardi (University of Sannio); Anna Aliberti (University of Sannio); Alberto Micco (University of Sannio); Eugenia Bobeico (University of Sannio); Menotti Ruvo (Institute of Biostructure and Bioimaging, National Research Council); Andrea Cusano (University of Sannio);

- 17:20 Bloch Surface Wave Biosensors for Real-time Study of
Invited Fibronectin-phosphorylcholine Coatings for Biomedical Applications
Alberto Sinibaldi (Sapienza University of Rome); Vanessa Montano-Machado (Laval University); Norbert Danz (Fraunhofer Institute for Applied Optics and Precision Engineering); Peter Munzert (Fraunhofer Institute for Applied Optics and Precision Engineering IOF); Francesco Chiavaioli (“Nello Carrara” Institute of Applied Physics (IFAC-CNR)); Diego Mantovani (Laval University); Francesco Michelotti (Sapienza Università di Roma);
- 17:40 Fiber Optic Pressure Sensor for Underground Water
Invited Level Monitoring
Luca Palmieri (University of Padua); Luca Schenato (National Research Council, Research Institute for Hydrogeological Protection); Alessandro Pasuto (National Research Council, Research Institute for Hydrogeological Protection); Andrea Galtarossa (Università di Padova);
- 18:00 Fiber Bragg Grating Sensors for Temperature Measurements during Radiofrequency Ablation of Solid
Invited Tumors
Elena De Vita (University of Naples “Parthenope”); Giovanna Palumbo (University of Naples “Parthenope”); Emiliano Schena (Università Campus Bio-Medico di Roma); Carlo Massaroni (Università Campus Bio-Medico di Roma); Paolo Verze (University of Naples “Federico II”); Nicola Carlomagno (University of Naples “Federico II”); Vincenzo Tammaro (University of Naples “Federico II”); Roberto La Rocca (University of Naples “Federico II”); Juliet Ippolito (University of Naples “Federico II”); Daniele Tosi (Nazarbayev University); Paola Saccomandi (Politecnico di Milano); Michele Arturo Caponero (Research Center of Frascati — ENEA); Agostino Iadicicco (University of Naples “Parthenope”); Stefania Campopiano (Univ Sannio);
- 18:20 Fiber Optic Sensors for Radiation Hard Environments
Patrizio Vaiano (University of Sannio); Giuseppe Quero (University of Sannio); Marco Consales (University of Sannio); Salvatore Buontempo (Istituto Nazionale di Fisica Nucleare (INFN) — Sezione di Napoli); Federico Ravotti (University of Sannio); Paolo Petagna (European Organization for Nuclear Research (CERN)); Antonello Cutolo (University of Sannio); Andrea Cusano (University of Sannio);
- 18:40 Spectral and Angular Responses of High Sensitivity Refractive Index Sensors Based on Titanium Nitride
Junior Asencios (Universidad Nacional de Ingeniería); Arturo Talledo (Universidad Nacional de Ingeniería); Brayan Atocsa (Universidad Nacional de Ingeniería); Ruben Puga (Universidad Nacional de Ingeniería); Hector Loro (Universidad Nacional de Ingeniería); Ramiro Moro (Tianjin University);
- 19:00 A Fluorescence-based POCT Device for
Invited Immunosuppressant-drug Monitoring in Transplanted Patients
Ambra Giannetti (CNR, Istituto di Fisica Applicata “Nello Carrara” (IFAC)); S. Berneschi (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Romeo Bernini (Consiglio Nazionale delle Ricerche (IREA-CNR)); C. Berrettoni (CNR-IFAC “Nello Carrara” Institute of Applied Physics); Immacolata Angelica Grimaldi (Consiglio Nazionale delle Ricerche (IREA-CNR)); Gianluca Persichetti (Consiglio Nazionale delle Ricerche (IREA-CNR)); G. Porro (Datamed S.r.l.); G. Quarto (Datamed S.r.l.); Genni Testa (Consiglio Nazionale delle Ricerche (IREA-CNR)); S. Tombelli (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Cosimo Trono (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.); Francesco Baldini (Istituto di Fisica Applicata “Nello Carrara”, C.N.R.);
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- Session 4P14**
FocusSession.SC2&SC3: Graphene 2D
Materials for Photonics, Plasmonics and
Metamaterials 2
-
- Thursday PM, June 20, 2019**
Room 24 - 2nd Floor
Organized by Aldo Di Carlo, Emmanuel Kymakis
Chaired by Aldo Di Carlo
-
- 14:30 Nonlocal and Quantum Finite-size Effects in the Acoustic Plasmons of 2D Heterostructures
Alvaro Rodriguez Echarri (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Joel Douglas Cox (ICFO-Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);
- 14:50 Self-consistent Modeling of a Plasmonic Graphene-
Invited based pn-junction midIR Photodetector
Elefterios Lidorikis (University of Ioannina);

- 15:10 The Advantage of Using Graphene for Printable Organic Photovoltaic and Thermoelectric Devices
Invited
Andrea Reale (University of Rome Tor Vergata); Luca La Notte (University of Rome Tor Vergata); Alessandro Lorenzo Palma (University of Rome Tor Vergata); Aldo Di Carlo (Universita di Roma "Tor Vergata"); Saeed Mardi (University of Rome Tor Vergata); Giovanni Bruno (University of Bari); Giuseppe Valerio Bianco (Istituto di Nanotecnologia, CNR-NANOTEC);
- 15:30 Graphene Hybrid Metamaterial Mid-IR and THz Devices
Invited
Isaac J. Luxmoore (University of Exeter); P. Q. Liu (ETH Zurich); Sergey A. Mikhailov (University of Augsburg); N. A. Savostiyanova (University of Augsburg); F. Valmorra (ETH Zurich); P. Li (University of Exeter); J. Faist (ETH Zurich); Geoffrey Richard Nash (University of Exeter);
- 15:50 Graphene Likes Metasurface for Transports of Electromagnetic Waves
Pengfei Qin (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute); Yi Hao Yang (Zhejiang University); Ran Hao (Zhejiang University); Hongsheng Chen (Zhejiang University); Yee Sin Ang (Singapore University of Technology and Design (SUTD)); Lay Kee Ang (Singapore University of Technology and Design (SUTD)); A. Cangellaris (University of Illinois at Urbana-Champaign);
- 16:10 Inkjet Printed Passive Wireless Sensors
Filippo Costa (University of Pisa — CNIT); Simone Genovesi (University of Pisa — CNIT); Sergio Terranova (University of Pisa — CNIT); Giuliano Manara (University of Pisa);
- 16:30 **Coffee Break**
- 17:00 Nano-antennas Using Single and Double Isolated Graphene for Mid-infrared Applications
Jyotirmaya Mohanta (International Institute of Information Technology Bhubaneswar); Priya Ranjan Meher (International Institute of Information Technology Bhubaneswar); Sanjeev Kumar Mishra (International Institute of Information Technology Bhubaneswar);
- 17:20 Thermal Generation and Manipulation of Graphene Plasmons
Eduardo J. C. Dias (ICFO — Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); Renwen Yu (The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);
- 17:40 Analytical Modeling of Graphene Plasmons
Renwen Yu (The Barcelona Institute of Science and Technology); Joel D. Cox (The Barcelona Institute of Science and Technology); Jose Ramon Martinez Saavedra (ICFO Institut de Ciències Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciències Fotoniques, Mediterranean Technology Park);
- 18:00 Microscopic Piezoelectric Theory and Electromechanical Coupling Correlations in 2D Piezoelectric Crystals
Biao Wang (Sun Yat-Sen University);
- 00:00 Recent Progress in Far and Mid IR Stimulated Emission from HgTe/CdTe Quantum Well Heterostructures
Morozov Sergey (Institute for Physics of Microstructures Russian Academy of Sciences); V. Rumyantsev (Institute for Physics of Microstructures Russian Academy of Sciences); M. Fadeev (Institute for Physics of Microstructures Russian Academy of Sciences); A. Dubinov (Institute for Physics of Microstructures Russian Academy of Sciences); V. Utochkin (Institute for Physics of Microstructures Russian Academy of Sciences); N. Kulikov (Institute for Physics of Microstructures Russian Academy of Sciences); Nikolay Mikhailov (A. V. Rzhanov Institute of Semiconductor Physics of SB RAS); S. Dvoretzkiy (A. V. Rzhanov Institute of Semiconductor Physics of SB RAS); Frederic Teppe (University Montpellier II); V. Gavrilenko (Institute for Physics of Microstructures Russian Academy of Sciences);
- 00:00 Analysis of Crosstalk Noise and Power Dissipation Using Multi-layered GNR Based On-chip Interconnect Shielding
Manoj Kumar Majumder (International Institute of Information Technology); Vijay Rao Kumbhare (Dr. S. P. Mukherjee International Institute of Information Technology);
- 00:00 Scattering Characteristics of Perfect Electromagnetic Conductor (PEMC) Plate Placed in Free Space
Saeed Ahmed (Quaid-i-Azam University); M. Akbar (Quaid-i-Azam University);
- 00:00 Models of Thermionic Emission from Graphene
Dilip K. De (Covenant University); Olawole C. Olukunle (Covenant University); Uduakobong Ikono (Covenant University);

- 00:00 Reflection Phase Tuning of Graphene Plasmons by Substrate Design
Xiaojie Jiang (Nankai University); Wei Cai (Nankai University); Yinxiao Xiang (Nankai University); Ni Zhang (Nankai University); Mengxin Ren (Nankai University); Xinzhen Zhang (Nankai University); Jingjun Xu (Nankai University);
- 00:00 Tunable Graphene Based Plasmonic Interferometer as a Terahertz Radiation Detector
Georgy E. Fedorov (Moscow Institute of Physics and Technology (State University)); Dmitry Svitsov (Moscow Institute of Physics and Technology); D. Bandurin (University of Manchester); I. Gayduchenko (Moscow State University of Education (MSPU)); G. Goltsman (Moscow State University of Education (MSPU));
- 00:00 Improved Signal Integrity for Multi-layered GNR Based On-chip Interconnects
Vijay Rao Kumbhare (Dr. S. P. Mukherjee International Institute of Information Technology); Punya Prasanna Paltani (Dr. S. P. Mukherjee International Institute of Information Technology); Manoj Kumar Majumder (International Institute of Information Technology);
- 14:50 Efficient Octave Spanning Supercontinuum Generation from Tantalum Pentoxide Based Nonlinear Waveguide
Chao-Kuei Lee (National Sun-Yat-Sen University); Te-Keng Wang (National Sun-Yat-Sen University); Chao-Hong Lin (National Sun-Yat-Sen University); Ranran Fan (National Sun-Yat-Sen University);
- 15:10 Shape Optimization for Nanophotonic Polarization Rotator
Lebbe Nicolas (Universite Grenoble Alpes, CEA, LETI); C. Dapogny (Universite Grenoble Alpes, CNRS, Inria, Grenoble INP); K. Hassan (Universite Grenoble Alpes, CEA, LETI); E. Oudet (Universite Grenoble Alpes, CNRS, Inria, Grenoble INP); Alain Gliere (Universite Grenoble Alpes);
- 15:30 Experimental Demonstration of a Horseshoe-shaped 16-channel Arrayed Waveguide Grating (De)multiplexer
Xin Fu (Institute of Semiconductors, Chinese Academy of Sciences); Lei Zhang (Institute of Semiconductors, Chinese Academy of Sciences); Lin Yang (Institute of Semiconductors, Chinese Academy of Sciences);
- 15:50 Remote Optical Testing and Reconfiguration of Silicon Photonic Circuits with Ultrafast Photomodulation Spectroscopy
Kevin Vynck (CNRS-I0GS-University Bordeaux); Nicholas J. Dinsdale (University of Southampton); Roman Bruck (University of Southampton); Bigeng Chen (University of Southampton); Graham T. Reed (University of Southampton); Philippe Lalanne (Institut d'Optique-LP2N/CNRS); Otto L. Muskens (University of Southampton);

Session 4P15a
SC3: Silicon Photonics 2

Thursday PM, June 20, 2019
Room 25 - 2nd Floor

Organized by Lin Yang

 Chaired by Lin Yang

14:30 Recent Advances in Strained Silicon Photonics

Invited

Mathias Berciano (Université Paris-Saclay); Guillaume Marcaud (Université Paris-Saclay); Christian Lafforgue (Université Paris-Saclay); Alicia Ruiz-Caridad (Université Paris-Saclay); Xavier Le Roux (Universite Paris-Sud); Carlos Alonso-Ramos (Universite Paris 11); Pedro Damas (Univ. Paris-Sud, Universite Paris Saclay CNRS UMR 9001); Diego Perez-Galacho (Université Paris-Saclay); Daniel Benedikovic (Université Paris-Saclay); Vladyslav Vakarin (Univ. Paris-Sud, Universite Paris Saclay); Paul Crozat (Université Paris-Saclay); Delphine Marris-Morini (Universite Paris 11); Eric Cassan (Universite Paris-Sud); Laurent Vivien (Universite Paris-Sud);

 16:30 **Coffee Break**

Session 4P15b
SC2: Nonreciprocal and Topological Electromagnetics 2

Thursday PM, June 20, 2019
Room 25 - 2nd Floor

Organized by Mário G. Silveirinha, Tiago Andre Nogueira Morgado

 Chaired by Mário G. Silveirinha, Tiago Andre Nogueira Morgado

- 17:00 Backscattering-protected Edge Modes in PTD-symmetric Parallel-plate Waveguides
Invited
Enrica Martini (University of Siena); Mario G. Silveirinha (University of Lisbon); Stefano Maci (University of Siena);
- 17:20 Huygens'shells for Non-reciprocal Communication
Invited
Choonlae Cho (Seoul National University); Namkyoo Park (Seoul National University); Jensen Li (Hong Kong University of Science and Technology);
- 17:40 Non-reciprocity and Doppler Effect Control by Using Time-varying Metamaterials and Metasurfaces
Invited
Davide Ramaccia ("Roma Tre" University); Alessandro Toscano ("Roma Tre" University); Filiberto Bilotti (University "Roma Tre");
- 18:00 Topological Edge and Higher Order States in Photonic Metasurfaces
Invited
M. Li (City College of New York); X. Ni (City College of New York); Alexander B. Khanikaev (Graduate Center of City University of New York);
- 18:20 Three-dimensional Photonic Dirac Points and Spin-polarized Surface Arcs
Invited
Qing-Hua Guo (University of Birmingham); Oubo You (University of Birmingham); Biao Yang (University of Birmingham); James B. Sellman (University of Birmingham); Edward Blythe (University of Birmingham); Hongchao Liu (University of Birmingham); Yuanjiang Xiang (Shenzhen University); Jensen Li (University of Birmingham); Dianyuan Fan (Shenzhen University); Jing Chen (Nankai University); Che Ting Chan (The Hong Kong University of Science and Technology); Shuang Zhang (University of Birmingham);
- 00:00 Photonic Topological Metamaterials
Invited
Biao Yang (University of Birmingham); Wei-Min Ye (National University of Defense Technology); Xiaodong Yuan (National University of Defense Technology); Shuang Zhang (University of Birmingham);
- 14:30 High-Q Integrated Nanophotonic Resonators for Lab-on-chip Sensing and Spectroscopy
Invited
Ali A. Eftekhar (Georgia Institute of Technology); Zhixuan Xia (Georgia Institute of Technology); Tianren Fan (Georgia Institute of Technology); Amir H. Hosseinnia (Georgia Institute of Technology); Ali Adibi (Georgia Institute of Technology);
- 14:50 Fluorescent Microresonator Biochemical Sensors: Applications, Limitations and Perspectives
Invited
Alexandre Francois (University of South Australia); Nicolas Riesen (University of South Australia); Tanya M. Monro (University of South Australia);
- 15:10 Water-wave Laser
Invited
Tal Carmon (Technion — Israel Institute of Technology);
- 15:30 Scully-lamb Quantum Laser Model for Parity-time-symmetric Whispering-gallery Microcavities: Gain Saturation Effects and Non-reciprocity
Invited
Omar Di Stefano (RIKEN Cluster for Pioneering Research); Salvatore Savasta (University of Messina);
- 15:50 Using of Optical Microresonators Based on Micro-particle-coating as an Active Material for Hydrogen Gas Concentration Detection
N. Bavili (Koc University); Mustafa Eryurek (Koc University); B. Morova (Koc University); Alper Kiraz (Koc University); Ateeq Ur Rehman (Koc University);
- 16:10 PhoXonic Microbubbles as Efficient Optomechanical Oscillators
Xavier Rosello-Mecho (University of Valencia); Daniele Farnesi (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Gabriele Frigenti (Institute of Applied Physics, National Research Council of Italy); Martina Delgado-Pinar (University of Valencia); Miguel Vicente Andres (Universidad de Valencia); Giancarlo C. Righini (Piazza del Viminale 1); Gualtiero Nunzi Conti (Istituto di Fisica Applicata "Nello Carrara", C.N.R.); Silvia Soria (Istituto di Fisica Applicata "Nello Carrara", C.N.R.);

Session 4P16

Optomechanics, Microfluidics, and Spectroscopy in Microcavities 2

Thursday PM, June 20, 2019

Room 15 - 2nd Floor

Organized by Gianluca Gagliardi, Sahin Kaya Ozdemir

Chaired by Gianluca Gagliardi

16:30 **Coffee Break**

- 17:00 Optomechanical Properties in a Microbottle Resonator
Invited
Takashi Yamamoto (Osaka University);
- 17:20 Single-molecule Optoplasmonic Sensing of Enzyme Dynamics and Amino-acids
Invited
Sivaraman Subramanian (University of Exeter); Serge Vincent (University of Exeter); Frank Vollmer (University of Exeter);

17:40 Sensing by Radiation Pattern Engineering with ZnO
Invited Nanowires

C. Baratto (CNR-INO); D. Rocco (University of Brescia); M. A. Vincenti (University of Brescia); M. Ferroni (DII-University of Brescia); G. Faglia (DII-University of Brescia); Costantino De Angelis (Università degli Studi di Brescia);

18:00 Nonreciprocal Photon Blockade via Rotating Devices
Ran Huang (Hunan Normal University); Adam Miranowicz (RIKEN Cluster for Pioneering Research); Jie-Qiao Liao (Hunan Normal University); Franco Nori (RIKEN and University of Michigan); Hui Jing (Hunan Normal University);

18:20 High-throughput Electro-opto-mechano-fluidic Sensors
Invited

Jeewon Suh (University of Illinois); Kewen Han (University of Illinois); Gaurav Bahl (University of Illinois);

Session 4P17

**FocusSession.SC1: Fluctuational
Electrodynamics and Heat Transfer 2**

Thursday PM, June 20, 2019

Room 33 - Bank Building

Organized by Mauro Antezza, Marco Centini

Chaired by Mauro Antezza

14:30 Near and Far Field Radiative Heat Transfer: Effect of
Invited Superconductivity

Vera Ludmila Musilova (Institute of Scientific Instruments of the CAS); Tomas Kralik (Institute of Scientific Instruments of the CAS); Michal Macek (Institute of Scientific Instruments of the CAS); Tomas Fort (Institute of Scientific Instruments of the CAS);

14:50 Proof of the Bulk-edge Correspondence through a
Invited Link between Topological Photonics and Fluctuation
Electrodynamics

Mario G. Silveirinha (University of Lisbon);

15:10 The Influence of Retardation, Dielectric Environ-
Invited ments and Mediating Atoms on Interatomic Coulombic
Decay

Stefan Yoshi Buhmann (University of Freiburg); S. Bang (University of Freiburg); Robert Bennett (Freiburg University);

15:30 Radiative Heat Shuttling

Invited

Ivan Latella (Universite Paris-Saclay); Riccardo Messina (Institut d'Optique, CNRS, Universite Paris-Sud 11); J. Miguel Rubi (University of Barcelona); Philippe Ben-Abdallah (Universite Paris-Sud 11);

15:50 Low-temperature Near-field Thermal Radiation in
Multilayer Concentric Cylindrical Geometry

Ahmed D. Alwakil (Universite de Lyon, CNRS, INSA-Lyon); Olivier Merchiers (Universite de Lyon, CNRS, INSA-Lyon, Universite Claude Bernard Lyon 1); M. Prunnila (VTT Technical Research of Finland); Pierre-Olivier Chapuis (CNRS, National Institute of Applied Physics (INSA) Lyon);

16:10 Plasmonic-cavity-modified Molecular Vibrations and
Invited Optomechanical Heat Transfer

Johannes Feist (Universidad Autonoma de Madrid);

16:30 **Coffee Break**

17:00 Near-field Radiative Heat Transfer Experiments and
Invited Thermophotovoltaic Conversion

Christophe Lucchesi (INSA Lyon); D. Cakiroglu (IES, Univ. Montpellier, CNRS); J.-P. Perez (IES, Univ. Montpellier, CNRS); Thierry Taliercio (IES, Univ. Montpellier, CNRS); E. Tournie (IES, Univ. Montpellier, CNRS); R. Vaillon (IES, Univ. Montpellier, CNRS); P.-O. Chapuis (INSA Lyon);

17:20 Morphology, Electrical Conduction, and Thermal
Invited Conduction of Single Layered Molecular Films Investigated
by Near Field Scanning Thermal Microscopy

Achim Kittel (University of Oldenburg);

17:40 Thin Film Surface Phonon-polaritons More Efficient
Invited in Carrying Heat than Phonons

Sebastian Volz (The University of Tokyo);

18:00 Taming and Tuning Infrared Radiation Using Meta-
Invited materials Approach in Ellipsoidal Inclusions Systems

Maria Cristina Larciprete (Sapienza Università di Roma); Marco Centini (SAPIENZA Università di Roma); Roberto Li Voti (Sapienza University of Rome); Concita Sibilìa (Sapienza University of Rome);

18:20 Spectral Thermal Band Gaps in the Near Field

Invited

Raul Esquivel-Sirvent (Universidad Nacional Autonoma de Mexico); Jaime Everardo Perez-Rodriguez (Benemerita Universidad Autonoma de Puebla); G. Pirruccio (Universidad Nacional Autonoma de Mexico);

- 18:40 Near-field Radiative Heat Transfer between Slabs of Asymmetric Hyperbolic Materials
Invited Igor S. Nefedov (*Helsinki University of Technology*); J. Miguel Rubi (*University of Barcelona*);
- 19:00 Heat Transfer and Urban Climate: What Is the Temperature of New York City?
Invited Thorsten Emig (*Universite Paris-Sud, Universite Paris-Saclay*); Masoud Ghandehari (*New York University*); Milad Aghamohamadnia (*New York University*);
- 15:50 Signal Processing and Sensing Based on Integrated Microwave Photonics
Liwei Li (*University of Sydney*); Xiaoke Yi (*University of Sydney*); Shijie Song (*University of Sydney*); Wenjian Yang (*University of Sydney*); Linh Nguyen (*University of Sydney*); Robert A. Minasian (*University of Sydney*);
- 16:10 A Continuous Equalization Scheme for Photonic Assisted Analog-to-digital Converters Based on Frequency Comb Sources
Kentaro Furusawa (*National Institute of Information and Communications Technology*); Isao Morohashi (*National Institute of Information and Communications Technology*); N. Sekine (*National Institute of Information and Communications Technology*); Iwao Hosako (*National Institute of Information and Communications Technology*);

Session 4P18
SC3&4: Microwave Photonic Signal Processing

Thursday PM, June 20, 2019
Room 38 - Chemistry Building

Organized by Dan Zhu, Xiuyou Han

Chaired by Dan Zhu, Xiuyou Han

- 14:30 Frequency Conversion Filtering in OEO
Yitang Dai (*Beijing University of Posts and Telecommunications*); Shanhong Guan (*Beijing University of Posts and Telecommunications*); Feifei Yin (*Beijing University of Posts and Telecommunications*); Kun Xu (*Beijing University of Posts and Telecommunications*);
- 14:50 Silicon Photonic Radio-over-fiber Transceivers and Microwave Photonic Up-converters
Kasper Van Gasse (*Ghent University, IMEC*); A. Abassi (*Ghent University, IMEC*); M. Mahmoud (*Ghent University, IMEC*); J. Verbist (*Ghent University, IMEC*); J. Kerrebrouck (*Ghent University, IMEC*); G. Torfs (*Ghent University, IMEC*); B. Moeneclaey (*Ghent University, IMEC*); J. Bauwelinck (*Ghent University, IMEC*); X. Yin (*Ghent University, IMEC*); G. Roelkens (*Ghent University, IMEC*); G. Morthier (*Ghent University, IMEC*);
- 15:10 High Speed Optical Sensing Demodulation Systems Based on Frequency Swept Source
Xinhuan Feng (*Jinan University*); Yuan Cao (*Jinan University*); Lin Wang (*Jinan University*); Guangying Wang (*Jinan University*); Zhong Lu (*Jinan University*); Xudong Wang (*Jinan University*); Bai-Ou Guan (*Jinan University*);
- 15:30 Microwave Photonic Systems with Parity-time Symmetry: Theory and Applications
Jiejun Zhang (*Jinan University*); Jianping Yao (*University of Ottawa*);
- 16:30 **Coffee Break**
- 17:00 Multifunction LADAR System Incorporating Optical Multiplexing Technique
Zhongyang Xu (*Nanjing University of Aeronautics and Astronautics*); Shilong Pan (*Nanjing University of Aeronautics and Astronautics*);
- 17:20 Dynamic Range Improvement of a Microwave Photonic Link Using Two Intensity Modulators with Balanced Detection
Jingjing Hu (*Dalian University of Technology*); Jiayi Zhao (*Dalian University of Technology*); Wenwu Zhu (*Dalian University of Technology*); Yiyi Gu (*Dalian University of Technology*); Xiuyou Han (*Dalian University of Technology*); Mingshan Zhao (*Dalian University of Technology*);
- 17:40 Integrated Photonics-based Radar
Simin Li (*Nanjing University of Aeronautics and Astronautics*); Zhengze Cui (*Nanjing University of Aeronautics and Astronautics*); Jing Feng (*Nanjing University of Aeronautics and Astronautics*); Xingwei Ye (*Nanjing University of Aeronautics and Astronautics*); Shilong Pan (*Nanjing University of Aeronautics and Astronautics*);
- 18:00 RF Phase Noise Analyzer Based on Microwave Photonic I/Q Mixing
Fangzheng Zhang (*Nanjing University of Aeronautics and Astronautics*); Jingzhan Shi (*Nanjing University of Aeronautics and Astronautics*); Shilong Pan (*Nanjing University of Aeronautics and Astronautics*);

- 18:20 RF Characterization of Self-interference Cancellation Using Phase Modulation and Optical Sideband Filtering
Xinxin Su (Dalian University of Technology); Shuo Wang (Dalian University of Technology); Hanqiao Wang (Dalian University of Technology); Yuchen Shao (Dalian University of Technology); Chao Wang (University of Kent); Pengyi Wang (CETC Key Laboratory of Aerospace Information Applications); Zhenlin Wu (Dalian University of Technology); Yiyi Gu (Dalian University of Technology); Mingshan Zhao (Dalian University of Technology); Xiuyou Han (Dalian University of Technology);
- 18:40 Time Lens with Improved Aperture to Resolution Ratio Based on a Phase Modulator
Bowen Zhang (Nanjing University of Aeronautics and Astronautics); Dan Zhu (Nanjing University of Aeronautics and Astronautics); Yamei Zhang (Nanjing University of Aeronautics and Astronautics); Shilong Pan (Nanjing University of Aeronautics and Astronautics);
- 00:00 Coherent-free Single-wavelength Microwave Photonics Filter Based on Modal Dispersion
Xiaojuan Liu (University of Kent); Chaitanya K. Mididoddi (University of Kent); Guoqing Wang (University of Kent); Chao Wang (University of Kent);
- 14:50 Topology Communication Photoconverters Matrix of High-power Coherent Monochromatic Radiation
Arkadiy Viktorovich Blank (Lomonosov Moscow State University (MSU)); Stanislav Dmitrievich Bogdanov (Moscow State M.V. Lomonosov University); Natalia Aleksandrovna Suhareva (Moscow State M.V. Lomonosov University); Gennady Grigorievich Untila (Moscow State M.V. Lomonosov University); Boris L. Eydelman (Telecom-STV Co., Ltd.);
- 15:10 Laser Speckle Noise Reduction by Using Liquid Crystal Films without Alignment Layers
Yi Chen (National Chiao Tung University); Jui-Wen Pan (National Chiao Tung University); Shie-Chang Jeng (National Chiao Tung University);
- 15:30 Realization of Opto-electronic Logic Gates Using Three-port Light-emitting Transistors
Chao-Hsin Wu (National Taiwan University); Hsuan-Han Chen (National Taiwan University); Chi-Wei Wang (National Taiwan University);
- 15:50 Chip-based Optical Isolators and Nonreciprocal Parity-time Symmetry in High-Q Microresonator Systems
Min Xiao (Nanjing University); Xiaoshun Jiang (Nanjing University);
- 16:10 Quantum Coherent Effect in Room Temperature QD Amplifiers
Igor Khanonkin (Technion — Israel Institute of Technology); Gadi Eisenstein (Technion — Israel Institute of Technology);

Session 4P19a

Photovoltaics, Optoelectronic Devices and Integration

Thursday PM, June 20, 2019

Room 39 - Electrical Building

- 14:30 Modeling Plasmonic Organic Photovoltaics: Optical Considerations
I. Vangelidis (University of Ioannina); A. Theodosi (University of Ioannina); M. J. Beliatis (University of Surrey); K. K. Gandhi (University of Surrey); A. Laskarakis (Aristotle University of Thessaloniki); P. Patsalas (Aristotle University of Thessaloniki); S. Logothetidis (Aristotle University of Thessaloniki); S. R. P. Silva (University of Surrey); Eleftherios Lidorikis (University of Ioannina);

16:30 **Coffee Break**

Session 4P19b

Advanced Photonic Materials and Nanophotonics

Thursday PM, June 20, 2019

Room 39 - Electrical Building

- 17:00 Fresnel Zone Plate in Thin Aluminum Film
Elena Sergeevna Kozlova (Samara National Research University); Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences); Sergey S. Stafeev (Image Processing Systems Institute — Branch of the Federal Scientific Research Centre “Crystallography and Photonics” of RAS); Sergey A. Fomchenkov (Samara National Research University);

- 17:20 Luminescence Property of Ce³⁺/Yb³⁺ Co-doped Silica Material Prepared by Sol-gel Method
Pan Ke (Shanghai University); Zhou You (Shanghai University); Kun Yue (Joint International Research Laboratory of Specialty Fiber Optics and Advanced Communication, Shanghai Institute for Advanced Communication and Data); Wenyun Luo (Shanghai University); Qiang Guo (Joint International Research Laboratory of Specialty Fiber Optics and Advanced Communication, Shanghai Institute for Advanced Communication and Data);
- 17:40 PT-symmetric Programmable Materials
Melik C. Demirel (Pennsylvania State University); Sahin Ozdemir (Pennsylvania State University);
- 00:00 IR-excitation of Individual Up-conversion Particles for UV-induced Nanoscale Polymerization with Simultaneous Single-particle Reaction Temperature Measurement
Frank Garwe (Leibniz Institute of Photonic Technology); R. Muller (Leibniz Institute of Photonic Technology); R. Wyrwa (INNOVENT e.V.); J. Dellith (Leibniz Institute of Photonic Technology); A. Kalide (Leibniz Institute of Photonic Technology); T. Walter (INNOVENT e.V.); S. Thamm (Leibniz Institute of Photonic Technology); Wolfgang Fritzsche (Leibniz Institute of Photonic Technology (IPHT));
- 00:00 Investigation of Dielectric and Microwave Heating Properties of Bricks
Merve Sunel (Akdeniz University); Atalay Kocakusak (Akdeniz University); Selcuk Helhel (Akdeniz University);
- 00:00 Stroke Hemiplegia Pod — A Real Time Assistive Walking Aid
Kala Bharathan (PESIT — Bangalore South Campus); Tripti Jain (PESIT — Bangalore South Campus); Komal Singh (PESIT — Bangalore South Campus); Harsha Chelva (PESIT — Bangalore South Campus);
- 00:00 Understanding the Effect of the Core Position in Encapsulated Particles by Multiple Scattering of a Focused Laser Beam
Hany Louka Seffen Ibrahim (Telecom Egypt Company);

Session 4P20
Systems and Components, Electromagnetic Compatibility

Thursday PM, June 20, 2019

Room 40 - Electrical Building

- 14:30 Reduction of IC Heatsink Radiation by Optimization of Absorbing Material Geometry
Francesco De Paulis (University of L'Aquila); Stefano Piersanti (Leonardo s.p.a.); Antonio Orlandi (University of L'Aquila); Samuel Connor (IBM Systems Group); Paul Dixon (LAIRD Technologies);
- 14:50 Conducting EMI Vulnerability Testing in a Multipath Environment
Cynthia Ropiak (SAQ Consulting, Ltd.);
- 15:10 Graphene-paint for Electromagnetic Wave Absorption
Fabrizio Marra (Sapienza University of Rome); Alessio Tamburrano (University of Roma La Sapienza); Alessandro Giuseppe D'Aloia (Sapienza University of Rome); Giovanni De Bellis (Sapienza University of Rome); Maria Sabrina Sarto (Sapienza University of Rome);
- 15:30 Study on Shielding Effectiveness of Multilayer Electromagnetic Shielding Fabrics Containing Multiple Wave-absorbing Fibers
Yayun Li (Zhongyuan University of Technology); Zhe Liu (Zhongyuan University of Technology); Jia-jia Duan (Zhongyuan University of Technology); Xi-uchen Wang (Zhongyuan University of Technology);
- 15:50 Analysis and Measurement of the Electromagnetic Shielding Efficiency of the Multi-layered Carbon Fiber Composite Fabrics
Halil Ibrahim Keskin (Akdeniz University); Sukru Ozen (Akdeniz University); Kayhan Ates (Akdeniz University); Lutfiye Nurel Ozdinc Polat (Akdeniz University);
- 16:10 Multilayer X-band Wave Absorber with Enhanced Absorption Bandwidth
Budi Syihabuddin (Institut Teknologi Bandung); Mohammad Ridwan Effendi (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);
- 16:30 **Coffee Break**

- 17:00 Electromagnetic Band-gap Structures for Frequency Tunable Filtering and Sensing Applications
Alina Cismaru (IMT Bucharest); Martino Aldrigo (IMT Bucharest); Cosmin Obreja (IMT Bucharest); Mircea Dragoman (IMT Bucharest); Romolo Marcelli (Institute of Microelectronics and Microsystems); Giovanni Maria Sardi (Institute of Microelectronics and Microsystems); Emanuela Proietti (Institute for Microelectronics and Microsystems); Giovanni Capocchia (CNR-IMM Roma);
- 17:20 Effect of Different Infiltration Methods of Micro-media on Shielding Effectiveness of Electromagnetic Shielding Fabrics
Jiajia Duan (Zhongyuan University of Technology); Xiuchen Wang (Zhongyuan University of Technology); Yayun Li (Zhongyuan University of Technology); Zhe Liu (Zhongyuan University of Technology);
- 17:40 A Miniaturized Low-profile Dual-polarization Frequency-selective Resorber with Swastika Structure and Interdigital Resonator
Qiming Yu (Nanjing University of Aeronautics and Astronautics); Shaobin Liu (Nanjing University of Aeronautics and Astronautics); Xiang-Kun Kong (Nanjing University of Aeronautics and Astronautics); Zheng-Yu Huang (Nanjing University of Aeronautics and Astronautics); Xing Zhao (Nanjing University of Aeronautics and Astronautics); Yong-diao Wen (Nanjing University of Aeronautics and Astronautics);
- 18:00 Effect of Double-layer Coating on Microwave Absorbing Properties of Electromagnetic Shielding Fabric
Jiajia Duan (Zhongyuan University of Technology); Xiuchen Wang (Zhongyuan University of Technology); Yayun Li (Zhongyuan University of Technology); Zhe Liu (Zhongyuan University of Technology);
- 00:00 Improved PMC Packaging Design by Using Novel Pin Geometries
Ahmet Yahya Tesneli (Sakarya University); N. B. Tesneli (Sakarya University); M. H. Nisançi (Sakarya University); T. Gozluğ (Sakarya University);
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- Session 4P0**
Poster Session 6
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- Thursday PM, June 20, 2019**
15:00 PM - 18:00 PM
Room Corridor
-
- 1 An Anti-fake Bitmap Graphic Encoding and Decoding Method for Commodity Packaging
J. X. Wan (Fudan University); Lan Chen (Shanghai Institute of Technology);
- 2 Imaging Polarimetry of Adherent Particles: Experimental Model Based on Fused Latex Spheres
Andrea Fernandez Perez (Universidad de Cantabria); Thomas Sang Hyuk Yoo (Institut Polytechnique de Paris); Jose Luis Fernandez-Luna (Unidad de Genetica HUMV); Fernando Moreno (Universidad de Cantabria); Enric Garcia-Caurel (Institut Polytechnique de Paris); Jose Maria Saiz Vega (Universidad de Cantabria);
- 3 Interaction between Microwave and Mesoscopic Circuits in Cavity-circuit Quantum Electrodynamics
Shi Yao Chong (Zhejiang University); Zhuoyuan Wang (Zhejiang University); Peng An (Ningbo University of Technology); Peihong Cheng (Ningbo University of Technology); Jian Qi Shen (Zhejiang University);
- 4 The Research on PCB Circuit Test Methods for Vehicle Atmosphere Lamp
W. H. Kang (Tongji University); C. C. Chen (Tongji University); Guo Chun Wan (Tongji University); M. M. Li (Tongji University);
- 5 Far Field Bio-evanescence, Causal Evidence of Extra Systemic Genomics
Karl F. Kaspereck (Energy & Engineering Consultant (CTE));
- 6 Wavelength-tunable Passively Mode-locked Fiber Laser at 1.5 μm
Peng Wu (University of Electronic Science and Technology of China); Qiang Zhou (University of Electronic Science and Technology of China); Guangwei Deng (University of Electronic Science and Technology of China); Yueqi Wang (University of Electronic Science and Technology of China); Hai-Zhi Song (Southwest Institute of Technical Physics); You Wang (Southwest Institute of Technical Physics);
- 7 Variational Method to Shape Analytical Expressions of Time Dependent Eigenvalue Equations: Slab Waveguides Families
L. Garnier (Universite de Rennes 1); E. Gaviot (Universite Le Mans); Bruno Beche (Universite de Rennes 1);
- 8 Hybrid TDPO and TDPTD for Near-field Scattering from PEC Target Illuminated by Far-field Sources
Guang Bin Guo (Xidian University); Li-Xin Guo (Xidian University); Rui Wang (Xidian University);

- 9 Realistic Ports in Integrating Spheres: Reflectance, Transmittance, and Angular Redirection
Chhayly Tang (Victoria University of Wellington); Matthias Meyer (MaramaLabs Ltd.); Brendan L. Darby (MaramaLabs Ltd.); Baptiste Auguie (Victoria University of Wellington); Eric C. Le Ru (Victoria University of Wellington);
- 10 Analysis of a 8-strap Plasma-facing Launcher with Load-tolerant External Matching Units for the ICRH System of DTT
Gian Luca Ravera (ENEA); Silvio Ceccuzzi ("Roma Tre" University); G. Granucci (Istituto di Fisica del Plasma); Alessandro Cardinali (Associazione Euratom-ENEA sulla Fusione); C. Castaldo (ENEA); V. P. Loschiavo (Consorzio CREATE); F. Mirizzi (Consorzio Create); Giuseppe Schettini ("Roma Tre" University); A. A. Tuccillo (ENEA); The ENEA DTT Task Force ();
- 11 A New Class of Solutions to Laplace's Equation
Matt R. A. Majic (Victoria University of Wellington); Eric C. Le Ru (Victoria Univ Wellington);
- 12 Novel SIE Implementations for Efficient and Accurate Electromagnetic Simulations of Zero-index Materials
Hande Ibili (Middle East Technical University); Yesim Koyaz (Middle East Technical University); Utku Ozmu (Middle East Technical University); Bariscan Karaosmanoglu (Middle East Technical University); Ozgur Ergul (Middle East Technical University);
- 13 Mirco-particle Measurement Based on Light-blockage Method
Yongjie Qi (University of Shanghai for Science and Technology); Mingru Su (University of Shanghai for Science and Technology); Jun Chen (University of Shanghai for Science and Technology); Huinan Yang (University of Shanghai for Science and Technology);
- 14 The Fourier Modal Method for Plasmonics
Fangcheng Huang (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science); Tian-Long Guo (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Science); Joao Cunha (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Remo Proietti Zaccaria (Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials and Technology Engineering, Chinese Academy of Sciences);
- 15 Optimization of Conducted Emission for Synchronous Buck Converter Module
Songlin Cheng (Southwest Jiaotong University); Qianyin Xiang (Southwest Jiaotong University); Quanyuan Feng (Southwest Jiaotong University);
- 16 A Real-time Lossless Data Compression Method for Intelligent Train Monitoring System
Jian Zhou (Tongji University); Guo Chun Wan (Tongji University); M. M. Li (Tongji University);
- 17 Wingbeat Corner Reflector Effect Modulating Radar Echoes from Flying Birds
Jiangkun Gong (Wuhan University); Jun Yan (Wuhan University); Deren Li (Wuhan University);
- 18 Probing Out-of-equilibrium Optical Excitations with Fast Electrons
Valerio Di Giulio (ICFO-Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia De Abajo (ICFO Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology);
- 19 Coherent Perfect Absorption of Quadrupolar Cylindrical Electromagnetic Waves by a Subwavelength Cylinder or Structure
Xiaoxi Zhou (Soochow University); Bo Hou (Soochow University); Jie Luo (Soochow University); Yun Lai (Nanjing University);
- 20 A Gravity Tailored Metamaterial Absorber — Frequency Selective Surface
Xing-Liang Tian (Nanjing University of Posts and Telecommunications); Hai Feng Zhang (Nanjing University of Posts and Telecommunications); Xin-Ru Kong (Nanjing University of Posts and Telecommunications); Ri-Na Dao (Nanjing University of Posts and Telecommunications);
- 21 On-chip Valley Topological Materials for Elastic Wave Manipulation
Feng Li (South China University of Technology); Mou Yan (South China University of Technology); Jiuyang Lu (South China University of Technology); Weiyin Deng (South China University of Technology); Xueqin Huang (South China University of Technology); Jiahong Ma (South China University of Technology); Zhengyou Liu (Wuhan University);
- 22 Bimodal Operation of High-contrast Gratings: The Generalized Fabry-Pérot Perspective
Alberto Tibaldi (Politecnico di Torino); P. Debernardi (Nazionale delle Ricerche (CNR)); Renato Orta (Politecnico di Torino);

- 23 Concepts for Nanoscale form Evaluation by Off-diagonal Mueller Matrix Element Interpretation
Tim Kaseberg (Physikalisch-Technische Bundesanstalt); Thomas Siefke (Friedrich-Schiller-Universität Jena); Bernd Bodermann (Physikalisch-Technische Bundesanstalt); Stefanie Kroker (Technische Universität Braunschweig);
- 24 Nondestructive Evaluation in Current-mismatched Ratios of Multijunction Photovoltaic Cells
Hao Lo (National Taiwan University); Chieh Lo (National Taiwan University); Chia Chieh Hsu (National Taiwan Ocean University); Wen-Shiung Lour (National Taiwan Ocean University);
- 25 A Simple Method for Measuring Charge Carrier Mobilities Using Photocurrent Transient Response
Il-Ho Ahn (Dongguk University); Jihoon Kyhm (Dongguk University); Juwon Lee (Dongguk University); Sangeun Cho (Dongguk University); Yongcheol Jo (Dongguk University); Deuk Young Kim (Dongguk University); Soo Ho Choi (Dongguk University); Woochul Yang (Dongguk University);
- 26 Electrical Switching of Polarized Terahertz Waves in Nanowire-based Schottky Diode
J. H. Yim (GIST); S. H. Park (GIST); J. W. Hwang (Kyung Hee University); J. C. Shin (Yeungnam University); Young-Dahl Jho (Gwangju Institute of Science and Technology);
- 27 Enhanced Anti-stokes Luminescence via Acoustic to Optical Phonon Conversion in Pyramid Arrays
Raqibul Hossen (Gwangju Institute of Science and Technology (GIST)); Hyeongyoung Hwang (Gwangju Institute of Science and Technology (GIST)); In-hong Kim (Gwangju Institute of Science and Technology (GIST)); Seung-Hyuk Lim (Korea Advanced Institute of Science and Technology (KAIST)); Hyun Gyu Song (Korea Advanced Institute of Science and Technology (KAIST)); Kie Young Woo (Korea Advanced Institute of Science and Technology (KAIST)); Yong-Hoon Cho (Korea Advanced Institute of Science and Technology (KAIST)); Young-Dahl Jho (Gwangju Institute of Science and Technology);
- 28 Multi-parameter Sensor Based on Long Period Grating in Polarization-maintaining Panda Fiber
Flavio Esposito (University of Naples "Parthenope"); Anubhav Srivastava (University of Naples "Parthenope"); Stefania Campopiano (Università degli Studi di Napoli Parthenope); Agostino Iadicicco (University of Naples "Parthenope");
- 29 Photon Counting OTDR Based on Infinite Backscatter
Bin Li (University of Electronic Science and Technology of China); Ruiming Zhang (University of Electronic Science and Technology of China); Guangwei Deng (University of Electronic Science and Technology of China); Heng Zhou (University of Electronic Science and Technology of China); Yun Ling (University of Electronic Science and Technology of China); You Wang (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics); Kun Qiu (University of Electronic Science and Technology of China); Qiang Zhou (University of Electronic Science and Technology of China);
- 30 Differentiation of Fungal Diseases on the Example of Sugar Beet with Infrared Spectroscopy
Janine Zahlbach (Clausthal University of Technology); Ulrike Willer (Clausthal University of Technology);
- 31 Polymer Cholesteric Liquid Crystal Based Optical Sensor for Detection of Organic Vapors
Tsun-Han Wang (National United University); Huey-Jiuan Lin (National United University); Shug-June Hwang (National United University);
- 32 Enhancing Infrared Gas Detection by Narrow-band Filtering
Yu-Chun Lin (National Chiao Tung University); Cheng-Chih Hung (National Chiao Tung University); Pei-Kang Chung (National Chiao Tung University); Shun-Tung Yen (National Chiao Tung University);
- 33 Nematic Liquid Crystal Waveguides for Spatial Control of Linearly Polarized Light Waves
Volha S. Kabanava (Belarusian State University); Irina I. Rushnova (Belarusian State University); E. A. Melnikova (Belarusian State University); A. L. Tolstik (Belarusian State University);
- 34 Usefulness of New Lanthanide Source from e-waste to Fabricate Active Photonic Structures
Robert Tomala (Institute of Low Temperature and Structure Research, PAS); Agnieszka Hojenska (Institute of Low Temperature and Structure Research, PAS); Wieslaw Strek (Institute of Low Temperature and Structure Research, PAS); Sara Aldabe Bilmes (Universidad de Buenos Aires); Sidney J. L. Ribeiro (Sao Paulo State University); Juan Rodriguez (Universidad Nacional de Ingenieria); Adel Bouajaj (University Abdelmalek Essaadi); Lidia Zur (Centro di Studi e Ricerche "Enrico Fermi"); Alessandro Chiasera (IFN-CNR CSMFO Lab. and FBK CMM); Maurizio Ferrari (IFN-CNR CSMFO Lab.); Anna Lukowiak (Institute of Low Temperature and Structure Research, PAS);

- 35 Filter-free Direct Measurement of Aerosol Particle Light Absorption by Photoacoustic Spectroscopy (PAS)
Gaoxuan Wang (Universite du Littoral Cote d'Opale); Hongming Yi (Universite du Littoral Cote d'Opale); Patrice Hubert (Universite de Lille1); Alexandre Deguine (Universite de Lille1); Denis Petitprez (Universite de Lille1); Eric Fertein (University of the Littoral Opal Coast); Julien M. Rey (IQE-ETH Zurich); Markus W. Sigrist (ETH Zurich); Dean S. Venables (University College Cork); Wei Dong Chen (Universite du Littoral Cote d'Opale);
- 36 A Fully Integrated Tapered Fiber Optrode for Simultaneous Multipoint Optical Control and Electrical Readout of Neural Activity
Antonio Balena (Center for Biomolecular Nanotechnologies); A. Rizzo (Center for Biomolecular Nanotechnologies); L. Sileo (Center for Biomolecular Nanotechnologies); B. Spagnolo (Center for Biomolecular Nanotechnologies); F. Pisano (Center for Biomolecular Nanotechnologies); M. Pisanello (Center for Biomolecular Nanotechnologies); F. De Nuccio (Universita del Salento); D. Lofrumento (Universita del Salento); E. D. Lemma (Center for Biomolecular Nanotechnologies); Massimo De Vittorio (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia); Ferruccio Pisanello (Center for Biomolecular Nanotechnologies, Istituto Italiano di Tecnologia);
- 37 4×4 MIMO Dielectric Resonator Antenna with Microstrip Rotman Lens
Chin-Chan Su (National Taipei University of Technology); Guan-Yu Chen (National Taipei University of Technology); Jwo-Shiun Sun (National Taipei University of Technology); Kwong-Kau Tiong (National Taiwan Ocean University);
- 38 Compact Triband Microstrip BPF Utilizing Interdigital-coupled Lines Feeding Structure
Mahmoud Abdelaziz Hawazil (Banha University); Anwer S. Abd El-Hameed (Electronics Research Institute); Ashraf Shawky Mohra (Benha University); Amr Abd El-Hameed (Banha University);
- 39 Comparison Design of the Feeding Method of a 4×4 Microstrip Array Antenna
Farohaji Kurniawan (Chiba University); Josaphat Tetuko Sri Sumantyo (Chiba University); Cahya Edi Santosa (Chiba University); Peberlin Parulian Sitompul (Chiba University); Pachrur Razi (Chiba University); Gunawan Setyo Prabowo (National Institute of Aeronautics and Space); Agus Bayu Utama (National Institute of Aeronautics and Space);
- 40 Design of a 26 GHz FMCW Antenna
Hung-Jui Hsu (National Taipei University of Technology); Liang-Chi Chang (FineTek Co. Ltd.); Chi-Fan Liao (FineTek Co. Ltd.); Guan-Yu Chen (National Taipei University of Technology); Jwo-Shiun Sun (National Taipei University of Technology); Kwong-Kau Tiong (National Taiwan Ocean University);
- 41 Multi-stage Ku-band Waveguide BPF Using CSRR-based Dielectric Frequency Selective Structure
Hardi Nusantara (Institut Teknologi Bandung); R. A. Rizka Qori Yuliani Putri (Institut Teknologi Bandung); Joko Widodo (Chiba University); Achmad Munir (Institut Teknologi Bandung);
- 42 Estimation of the Maximum Transmission Rate for the Silicon-based Racetrack MicroResonator
Suripon Somkuarnpanit (King Mongkut's Institute of Technology); Chariya Wongtaycham (King Mongkut's Institute of Technology);
- 43 Omnidirectional Ultra-wideband Superellipse Patch Antenna for mm-Waves Applications
Renan Alves Dos Santos (Universidade Federal de Itajuba); Rafael Abrantes Penchel (Sao Paulo State University (UNESP), Campus of Sao Joao da Boa Vista); Gustavo Pamplona Rehder (University of Sao Paulo); Danilo H. Spadoti (Universidade Federal de Itajuba);
- 44 Holographic Artificial Impedance Surface Antenna Based on Circular Ring Patch
Shan Shan Gao (Chengdu University); Ling Long Gou (Chengdu University); Sheng Sun (University of Electronic Science and Technology of China); Hui Min Qiao (Chengdu University);
- 45 Design of a Microwave Cavity Resonator for Catalyzing Chemical Reactions Using Artificial Magnetic Conductors
Giovanni Andrea Casula (University di Cagliari); Giacomo Muntoni (University of Cagliari); Giorgio Montisci (University di Cagliari); Giuseppe Mazzearella (University of Cagliari);
- 46 A Study on the Characteristics of High Frequency Cable Connector
Ho-Jun Lee (Korea Electronics Technology Institute); Wan-Yon Cho (AplusRF Co., Ltd.);

- 47 Determination of IGRT Dose from Tomotherapy MVCT, and Elekta and Varian Pelvic CBCT
Dora Gibellieri (Sapienza University of Rome); R. Faccini (Sapienza University of Rome); J.-F. Germond (Lausanne University Hospital); G. Bolard (La Tour Hospital); M. Zeverino (Lausanne University Hospital); R. Jumeau (Lausanne University Hospital); J. Bourhis (Lausanne University Hospital); F. Bochud (Lausanne University Hospital); R. Moeckli (Lausanne University Hospital);
- 48 Low Phase Imbalance D-band Balun Using 130-nm SiGe BiCMOS Process Suitable for Broadband Differential Circuits
Abdul Ali (University of Rome Tor Vergata); Jongwon Yun (IHP-Leibniz-Institut für innovative Mikroelektronik); H. J. Ng (IHP Leibniz — Institut für Innovative Mikroelektronik); Dietmar Kissinger (Ulm University); Franco Giannini (University of Rome Tor Vergata); Paolo Colantonio (University of Rome Tor Vergata);
- 49 Quality of Service and Signal Evaluation Parameter Comparison between Different Mobile Network Operators in Urban Area
Alina Stafeca (Riga Technical University); Andrejs Lizunovs (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University); Peteris Gavars (Riga Technical University); Zigmars Zarins (Riga Technical University);
- 50 Spatial CT/MRI of Children's Spine Processing and Modeling of Mechanical Forces
Jan Mikulka (Brno University of Technology); Daniel Chalupa (Brno University of Technology); Kamil Riha (Brno University of Technology); Milan Filipovic (The University Hospital in Brno); Marek Dostal (The University Hospital in Brno);
- 51 An Ultra-broadband K/Ka-band LNA MMIC on 0.15 μm GaAs pHEMT
Umar Dilshad (Beihang University); Chen Chen (Beihang University); Amjad Altaf (Beihang University); Jungang Miao (Beihang University);
- 52 Efficient Algorithm for Reliable Routing of Wireless Sensor Networks Considering Propagation Losses
Romualds Belinskis (Riga Technical University); Nikolajs Bogdanovs (Riga Technical University); Ernests Petersons (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University); Toms Salgals (Riga Technical University);
- 53 Calculation of Electric Potentials Generated by a Dipole Source in an Elliptical Conducting Cylinder of a Finite Length
Nikolay Olegovich Strelkov (National Research University "Moscow Power Engineering Institute"); M. N. Kramm (National Research University "Moscow Power Engineering Institute"); Roberto Coisson (Università di Parma);
- 54 Near-field Radiative Heat Transfer between Parallel Silicon Microstructures
Saeko Tachikawa (Institute of Industrial Science, The University of Tokyo); Sergei Gluchko (Institute of Industrial Science, The University of Tokyo); Laurent Jalabert (Institute of Industrial Science, The University of Tokyo); Hiroyuki Fujita (Tokyo City University); Sebastian Volz (Institute of Industrial Science, The University of Tokyo); Masahiro Nomura (Institute of Industrial Science, The University of Tokyo);
- 55 Ray Tracing Simulation of Abnormal Propagation in Atmospheric Duct
Ryoichi Higashi (National Institute of Technology); Tetsuo Fukami (National Institute of Technology);
- 56 Circular Polarized Refractive Array for Low Cross Polarization Constructed by Arbitrarily Elements
Kotaro Sakagawa (Doshisha University); Hiroyuki Deguchi (Doshisha University); Mikio Tsuji (Doshisha University);
- 57 Error Analysis of Effective Illuminated Area for Bistatic Scattering Coefficient of Rough Surface
Tingting Li (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences);
- 58 Statistical Properties of Dynamic Speckle from a Rotating, Rough Cylinder
Geng Zhang (Xidian University); Zhen-Sen Wu (Xidian University); Yan-Hui Li (Xidian University);
- 59 The Effects of Source Impedance on the Time-domain Performance of UWB Bowtie Antennas
Xianyang Gao (The University of Manchester); Wouter Van Verre (The University of Manchester); Frank J. W. Podd (The University of Manchester); David J. Daniels (The University of Manchester); Anthony J. Peyton (University of Manchester);
- 60 Absorption Dependence on Scattering Media
Federico Tommasi (Università di Firenze); Lorenzo Fini (Università di Firenze); Fabrizio Martelli (Università di Firenze); Stefano Cavalieri (Università di Firenze);

- 61 Specular Reflection Point Estimation for GNSS-R Remote
Yuan Hu (Shanghai Ocean University); Wei Liu (Shanghai Maritime University); Xingyang Chen (Shanghai Ocean University); Zhengling Lei (Shanghai Ocean University); Yue Zhou (Shanghai Ocean University);
- 62 Performance of Operational AMSR2 Based Sea Ice Concentration Retrieval Algorithms under Extreme Weather Conditions
Margarita Andreevna Zivotovskaya (Russian State Hydrometeorological University (RSHU)); Elizaveta V. Zabolotskikh (Russian State Hydrometeorological University); Bertrand Chapron (Institut Francais de Recherche pour l'Exploitation de la Mer);
- 63 Efficient Identification of Orbital Angular Momentum Modes of Bessel-Gauss Beams Based on Support Vector Machine
Mingjian Cheng (Xidian University); Ridong Sun (Xidian University); Li-Xin Guo (Xidian University); Huimin Li (Xidian University); Jiangting Li (Xidian University);
- 64 Irradiance Scintillation of Hermite-Gaussian Beams in Anisotropic Atmospheric Turbulence
Jiangting Li (Xidian University); Ridong Sun (Xidian University); Li-Xin Guo (Xidian University); Mingjian Cheng (Xidian University); Huimin Li (Xidian University);
- 65 A Reconfigurable RF Front-end System for GPS Anti-jamming
Ghoo Kim (Korea Advanced Institute of Science and Technology); Jin-Woo Kim (Korea Advanced Institute of Science and Technology); Sol Kim (Korea Advanced Institute of Science and Technology); Jeong-Wook Kim (Korea Advanced Institute of Science and Technology); Jong-Won Yu (Korea Advanced Institute of Science and Technology (KAIST));
- 66 Measurement of Nitrogen Oxides by Path Integrated Spectroscopy
Danna Wang (University of Shanghai for Science and Technology); Jun Chen (University of Shanghai for Science and Technology); M. K. Ravi Varma (National Institute of Technology Calicut); Dean S. Venables (University College Cork);
- 67 Highly Sensitive THz-wave Transillumination Imaging with Heterodyne Detection Technique
Dai Aoki (Yamagata University); Yoshiaki Sasaki (RIKEN); Tetsuya Yuasa (Yamagata University); Chiko Otani (RIKEN);
- 68 An Automatic Subaperture Partition Method in Wide-angle SAR Imaging
Dou Sun (National University of Defense Technology); Shiqi Xing (National University of Defense Technology); Bo Pang (National University of Defense Technology); Yongzhen Li (National University of Defense Technology); Xuesong Wang (National University of Defense Technology);
- 69 Error Modeling Radar Rainfall Estimation through Incorporating Rain Gauge Data over Upper Blue Nile Basin, Ethiopia
Megbar Wondie Birhan (Bahir Dar University); U. Jaya Prakasha Raju (Bahir Dar University); Samuel T. Kenea (National Institute of Meteorological Sciences (NIMS));
- 70 Theoretical Approach to Study the Solid State and Optical Characteristics of Calcium Sulfide[CaS] Thin Film
Emmanuel Ifeanyi Ugwu (Ebonyi State University);
- 71 Wavelet Codes and Their Implementation for Protection of NAND Flash Memory
A. B. Levina (University of Information Technologies, Mechanics and Optics (ITMO University)); S. V. Taranov (ITMO); Dmitrii I. Kaplun (SPbETU "LETI"); P. Boyvalenkov (Institute of Mathematics and Informatics, Bulgarian Academy of Sciences);
- 72 Biophysical Aspects of Biological Organization in Health and Disease
Alberto Foletti (Clinical Biophysics International Research Group);
- 73 The Meaning of Information
Alessandro Alberto Vesely (Via L. Anelli 13); Sara Liyuba Vesely (I.T.B. — C.N.R.);
- 74 In-Chirped Microwave Waveform Generation with High Spectral Purity
Caterina Ciminelli (Politecnico di Bari); F. Dell'Olio (Politecnico di Bari); G. Brunetti (Politecnico di Bari); N. Sasanelli (Politecnico di Bari); Mario Nicola Armenise (Politecnico di Bari);
- 75 Influence of the Ground Plane Dimensions on the Performance of Slot Antennas
K. Akinwale Amusa (Federal University of Agriculture); Sulaiman Adeniyi Adekola (University of Lagos);
- 76 Comparative Analysis of Linear- and Planar-arrays of Rectangular Slot Antennas
K. Akinwale Amusa (Federal University of Agriculture); Sulaiman Adeniyi Adekola (University of Lagos);

- 77 Significance of the Ground Plane Width on the Fields Radiated by Rectangular Slot Antennas
K. Akinwale Amusa (Federal University of Agriculture); Sulaiman Adeniyi Adekola (University of Lagos);
- 78 The Range-gate Vision System in the Middle Infrared Range Based on a CO₂ Laser
Yhor V. Lebiadok (SSPA “Optics, optoelectronics and Laser Technology”); V. A. Gorobets (SSPA “Optics, Optoelectronics and Laser Technology”); R. Y. Mikulich (SSPA “Optics, Optoelectronics and Laser Technology”); D. M. Kabanau (SSPA “Optics, Optoelectronics and Laser Technology”);

	MONDAY AM 9:00 June 17		MONDAY PM 14:30 June 17		TUESDAY AM 9:00 June 18		TUESDAY PM 14:30 June 18	
ROOM 1 - 1st Floor	1A1 - Modeling in Remote Sensing 1		1P1a - Modeling in Remote Sensing 2	1P1b - Oral Presentations for Best Student Paper Awards -- Remote Sensing, etc.	2A1 - Applications of Microwave Remote Sensing in Terrestrial Hydrology		2P1 - Microwave Remote Sensing of Ocean	
ROOM 5 - 1st Floor	1A2 - Characterization Techniques: Novelty and Short-term Requirements 1		1P2a - Characterization Techniques: Novelty and Short-term Requirements 2	1P2b - Real Life Scene Modeling and Big Data Applications for Radar and Microwave Technology	2A2a - Radar Sounding Investigations of Terrestrial and Planetary Ices	2A2b - Microwave Remote Sensing, Polarimetry SAR, and Radar Imaging 1	2P2 - Light Scattering, Radiative Transfer, and Remote Sensing	
ROOM 7 - 1st Floor	1A3 - Microwave Electronics for Space and Ground Segment Applications 1		1P3a - Microwave Electronics for Space and Ground Segment Applications 2	1P3b - RF MEMS for Antenna and Radar Application	2A3a - RF Energy Harvesting and Rectennas	2A3b - Microstrip Antenna, Theory and Radiation	2P3a - Oral Presentations for Best Student Paper Awards -- Optics and Photonics	2P3b - UWB Components for Defence Applications
ROOM 8 - 1st Floor	1A4a - Oral Presentations for Best Student Paper Awards -- CEM, EMC, Scattering & EM Theory	1A4b - Advanced Mathematical and Computational Methods in EM Theory and Their Applications 1	1P4 - Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 2		2A4 - Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 3		2P4 - Novel Mathematical Methods in Electromagnetics: Part 1	
Hall of Frescoes - 1st Floor	1A5 - Inverse Problems in Antennas, Scattering and Optics: Theory & Applications 1		1P5 - Inverse Problems in Antennas, Scattering and Optics: Theory & Applications 2		2A5 - Microwave Inverse Scattering Problems and Applications 1		2P5 - Microwave Inverse Scattering Problems and Applications 2	
Cloister Hall - 1st Floor	1A6 - Progress in Broadband and UWB Printed and Dielectric Antennas for Wireless Applications 1		1P6 - Progress in Broadband and UWB Printed and Dielectric Antennas for Wireless Applications 2		2A6 - Leaky Waves in Electromagnetics 1		2P6a - Leaky Waves in Electromagnetics 2	2P6b - Optical Management in Solar Cells 2
ROOM 17 - 1st Floor	1A7 - Optical Sensors, Fundamentals and Applications		1P7 - Light Robotics: Harnessing the Forces of Light for Micro-robotic Actuation and Control		2A7 - Optical Management in Solar Cells 1		2P7 - Liquid Crystal Devices and Applications 1	
ROOM 6 - Mezzanine	1A8 - Photonics Packaging & Integration 1		1P8a - Photonics Packaging & Integration 2	1P8b - Mid-infrared Integrated Photonics and Applications	2A8 - Infrared Detectors		2P8 - Soft Matter Photonics: Photo-responsive Materials and Devices	
ROOM 4 - Mezzanine	1A9 - Integrated Nanophotonics, Plasmonics and Graphene-based Devices 1		1P9a - Integrated Nanophotonics, Plasmonics and Graphene-based Devices 2	1P9b - Nanophotonic Materials for Biomedical Imaging and Sensing	2A9 - Resonant Optics: Fundamentals and Applications 1		2P9 - Resonant Optics: Fundamentals and Applications 2	
ROOM 12 - Mezzanine	1A10 - Applications of Luminescence in Resonant Photonic Structures		1P10a - Photonic Quantum Metrology	1P10b - Wide Bandgap Semiconductors Photonics	2A10 - Nonlinear Optics at the Nanoscale 1		2P10 - Nonlinear Optics at the Nanoscale 2	

	MONDAY AM 9:00 June 17	MONDAY PM 14:30 June 17		TUESDAY AM 9:00 June 18	TUESDAY PM 14:30 June 18	
ROOM 11 - Mezzanine	1A11 - Modeling of Metamaterials and Metasurfaces 1	1P11a - Modeling of Metamaterials and Metasurfaces 2	1P11b - Optical Metamaterials: Applications, Materials and Fabrication Methods	2A11 - Recent Advances of Metamaterials for Novel Electromagnetic and Photonic Devices 1	2P11a - Quantum Sensing and Information Processing	2P11b - Recent Advances of Metamaterials for EM and Photonic Devices 2
ROOM 21 - 2nd Floor	1A12 - Hybrid and Plasmonic Metastructures 1	1P12 - Linear and Nonlinear Optics of Chiral Metasurfaces		2A12a - Hybrid and Plasmonic Metastructures 2	2A12b - Trends in Metasurfaces: New Materials and Applications	
ROOM 22 - 2nd Floor	1A13 - Advances in Optical Sources: Materials, Devices, Applications 1	1P13a - Advances in Optical Sources: Materials, Devices, Applications 2	1P13b - Fiber Gratings and Optical Sensors	2A13 - Advanced Optofluidics: Where Photonics Meets Microfluidics and Life Science 1		2P13 - Optical Fibers for High Power Applications
ROOM 24 - 2nd Floor	1A14 - Nanophotonics 1	1P14 - Nanophotonics 2		2A14 - Advanced Photonic Technologies for Spectroscopic Applications 1		2P14 - Nanophotonics 3
ROOM 25 - 2nd Floor	1A15 - Photosensitive Materials and Devices for Opto-mechanical Applications 1	1P15 - Photosensitive Materials and Devices for Opto-mechanical Applications 2		2A15 - Disordered Photonics 1		2P15a - Photonics for Microwave Systems
ROOM 15 - 2nd Floor	1A16 - 3_PIER_Special_Issue_Session: Organic and Perovskite Optoelectronics 1	1P16 - Thermoplasmonics and Photo-thermal Applications 1		2A16 - Organic and Perovskite Optoelectronics 2		2P16 - Organic Photonics for Optical Interconnections and Switching
ROOM 33 - Bank Building	1A17 - Localized Waves: Science and Applications 1	1P17a - EM Radiation Applications for Materials Diagnostics and Modification	1P17b - Localized Waves: Science and Applications 2	2A17 - Electromagnetic Wave Propagation in Ionized and Complex Media 1		2P17 - Electromagnetic Wave Propagation in Ionized and Complex Media 2
ROOM 38 - Chemistry Building	1A18 - Satellite Quantum and Optical Communication	1P18 - Integrated and Fiber-based Photonic Circuits and Devices		2A18 - Antenna and RCS Measurements 1		2P18 - Antenna and RCS Measurements 2
ROOM 39 - Electrical Building	1A19 - Electromagnetic Theory	1P19a - Oral Presentations for Best Student Paper Awards - -- Metamaterials, Plasmonics, etc.	1P19b - Oral Presentations for Best Student Paper Awards - -- Antennas and Microwave	2A19 - Education in Electromagnetics		2P19 - Stochastic Methods in Electromagnetic Compatibility
ROOM 40 - Electrical Building	1A20 - Topological Acoustics 1	1P20a - Novel Symmetry of Electromagnetic and Acoustic Metamaterials	1P20b - Topological Acoustics 2	2A20 - Biological Effects of EM Fields		2P20 - Recent Diagnostic and Therapeutic Applications of Microwaves
Corridor				2A0 - Poster Session 1		2P0 - Poster Session 2

	WEDNESDAY AM 9:00 June 19		WEDNESDAY PM 14:30 June 19		THURSDAY AM 9:00 June 20		THURSDAY PM 14:30 June 20	
ROOM 1 - 1st Floor	3A1 - Remote Sensing of the Earth, Ocean, and Atmosphere 1		3P1 - Remote Sensing of the Earth, Ocean, and Atmosphere 2		4A1 - Atmospheric Remote Sensing and Propagation 1		4P1 - Atmospheric Remote Sensing and Propagation 2	
ROOM 5 - 1st Floor	3A2 - Direct and Inverse Scattering Methods in Complex Environments 1		3P2a - Direct and Inverse Scattering Methods in Complex Environments 2	3P2b - Holographic Technologies in Sensing and Light Redirection and Shaping	4A2 - Remote Sensing of the Earth and Atmosphere 1		4P2 - Electromagnetic Methods and Electronic Devices for Security	
ROOM 7 - 1st Floor	3A3 - Millimetre-wave Components for Next-generation Communications		3P3 - Computational Bioelectromagnetics: from Single Molecule to Human Body		4A3a - Mobile and Satellite Parameters Estimations with EM/Optical Technologies	4A3b - Microwave and Millimeter Wave Circuits and Devices 1	4P3a - Transmission Line, Waveguide & Filter	4P3b - Microwave and Millimeter Wave Circuits and Devices 2
ROOM 8 - 1st Floor	3A4 - Computational Techniques in Electromagnetics and Applications 1		3P4 - Novel Mathematical Methods in Electromagnetics: Part 2		4A4 - Computational Techniques in Electromagnetics and Applications 2		4P4 - Computational Electromagnetics, Hybrid Methods	
Hall of Frescoes - 1st Floor	3A5 - Machine Learning Techniques for Remote Sensing and Electromagnetic Applications 1		3P5 - Machine Learning Techniques for Remote Sensing and Electromagnetic Applications 2		4A5 - Medical Applications of Radars		4P5a - SAR for Agriculture	4P5b - Microwave Remote Sensing, Polarimetry SAR, and Radar Imaging 2
Cloister Hall - 1st Floor	3A6a - Special Antennas for Direction of Arrival Estimation/Positioning	3A6b - Massive MIMO	3P6 - Recent Advances in 2-D Leaky-wave Antennas		4A6 - Microstrip Antennas, Array Antennas, Theory and Radiation 1		4P6 - Microstrip Antennas, Array Antennas, Theory and Radiation 2	
ROOM 17 - 1st Floor	3A7 - Ultrafast Nonlinear Optics: Ultrafast Fiber Lasers and Nonlinear Applications 1		3P7a - Ultrafast Nonlinear Optics: Ultrafast Fiber Lasers and Nonlinear Applications 2	3P7b - Liquid Crystal Devices and Applications 2	4A7 - Optical Sensor, Photonics, Nano Optics, Biophotonics		4P7a - Optics and Fiber Laser	4P7b - Remote Sensing of the Earth and Atmosphere 2
ROOM 6 - Mezzanine	3A8 - 2D Materials and Optoelectronic Devices		3P8 - Quantum Information Processing and Devices 1		4A8 - Quantum Information Processing and Devices 2		4P8a - Quantum Electrodynamics, Computing and Information	4P8b - Quantum Information Processing and Devices 3
ROOM 4 - Mezzanine	3A9 - Multimode Nonlinear Optical Fibers 1		3P9a - Multimode Nonlinear Optical Fibers 2	3P9b - Optical Fibers and Sensors for Biochemistry, Medical Diagnostics and Imaging	4A9 - Label-based and Label-free Optical Biosensors 1		4P9a - Label-based and Label-free Optical Biosensors 2	4P9b - Reconfigurable and Programmable Photonic Integrated Circuits
ROOM 12 - Mezzanine	3A10 - Luminescence and Lasing of Nanomaterials		3P10 - Label-free Optical Nanobiosensors for Bio-diagnostics, Environmental Monitoring and Food Safety		4A10 - Glass Photonics: Novel Systems and Ongoing Applications 1		4P10a - Glass Photonics: Novel Systems and Ongoing Applications 2	4P10b - Photonics for Lab-on-Chip

	WEDNESDAY AM 9:00 June 19	WEDNESDAY PM 14:30 June 19		THURSDAY AM 9:00 June 20	THURSDAY PM 14:30 June 20	
ROOM 11 - Mezzanine	3A11 - Analytical Methods for Metamaterials, Metasurfaces, and 2D Materials from Microwaves to Optics 1	3P11a - Analytical Methods for Metamaterials, Metasurfaces, and 2D Materials 2	3P11b - Short and Ultrashort Pulsed Electric Fields for Biomedical and Industrial Applications	4A11 - THz Metamaterials, Devices and Systems 1	4P11a - THz Metamaterials, Devices and Systems 2	4P11b - Metamaterials and Plasmonics
ROOM 21 - 2nd Floor	3A12 - Advanced Metasurface Designs and Devices 1	3P12 - Advanced Metasurface Designs and Devices 2		4A12 - Nonlinear, Active, and Quantum Metaphotonics	4P12 - Topological Features of Metamaterials and Non-Hermitian Systems: From Microwave to NIR	
ROOM 22 - 2nd Floor	3A13 - Resonant Optics: Fundamentals and Applications 3	3P13 - Advanced Optofluidics: Where Photonics Meets Microfluidics and Life Science 2		4A13 - Group IV Photonics for Sensing and Signal Processing	4P13 - Photonic Sensing in Health Science and Environmental Monitoring	
ROOM 24 - 2nd Floor	3A14 - Advanced Photonic Technologies for Spectroscopic Applications 2	3P14a - Advanced Photonic Technologies for Spectroscopic Applications 3	3P14b - Radio Astronomy Instrumentation	4A14 - Graphene 2D Materials for Photonics, Plasmonics and Metamaterials 1	4P14 - Graphene 2D Materials for Photonics, Plasmonics and Metamaterials 2	
ROOM 25 - 2nd Floor	3A15 - Optical Coatings for Extreme Metrology	3P15 - Laser, Spectroscopy and Imaging for Functionalised Photonic Devices		4A15 - Silicon Photonics 1	4P15a - Silicon Photonics 2	4P15b - Nonreciprocal and Topological Electromagnetics 2
ROOM 15 - 2nd Floor	3A16 - Visible, Near-infrared and Beyond: Materials and Devices 1	3P16 - Visible, Near-infrared and Beyond: Materials and Devices 2		4A16 - Optomechanics, Microfluidics, and Spectroscopy in Microcavities 1	4P16 - Optomechanics, Microfluidics, and Spectroscopy in Microcavities 2	
ROOM 33 - Bank Building	3A17 - Casimir Effect and Forces at the Nanoscale 1	3P17 - Casimir Effect and Forces at the Nanoscale 2		4A17 - Fluctuational Electrodynamics and Heat Transfer 1	4P17 - Fluctuational Electrodynamics and Heat Transfer 2	
ROOM 38 - Chemistry Building	3A18 - Terahertz Radiation: From Generation to Applications in Condensed Matter, Biomedicine and Particle Physics 1	3P18a - THz Radiation: From Generation to Applications in Condensed Matter, Biomedicine and Particle Physics 2	3P18b - Millimeter Wave and Terahertz Source Devices	4A18 - Wireless Communication	4P18 - Microwave Photonic Signal Processing	
ROOM 39 - Electrical Building	3A19 - Computational Fractional Dynamic Systems and Its Applications	3P19a - Health Monitoring of Structures and Electrical Wire Interconnect Systems	3P19b - Wireless Power Transfer for Biomedicine and IoTs	4A19 - Nonreciprocal and Topological Electromagnetics 1	4P19a - Photovoltaics, Optoelectronic Devices and Integration	4P19b - Advanced Photonic Materials and Nanophotonics
ROOM 40 - Electrical Building	3A20 - Applications of EM Field in Medical Diagnostics and Therapy	3P20 - EMC Problems with Antennas & Wave Propagation		4A20 - Extended/Unconventional Electromagnetic Theory, EHD/EMHD, and Electro-biology	4P20 - Systems and Components, Electromagnetic Compatibility	
Corridor	3A0 - Poster Session 3	3P0 - Poster Session 4		4A0 - Poster Session 5	4P0 - Poster Session 6	