PIERS 2013 Stockholm

Progress In Electromagnetics Research Symposium

Program

August 12–15, 2013
Stockholm, SWEDEN

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Progress In Electromagnetics Research Symposium
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Stockholm, SWEDEN

PIERS 2013 STOCKHOLM ORGANIZATION

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- The Electromagnetics Academy

PIERS 2013 STOCKHOLM EXHIBITORS

- CST — Computer Simulation Technology
- Simpleware Ltd.

THE ELECTROMAGNETICS ACADEMY

The Progress in Electromagnetics Research Symposium (PIERS) is sponsored by The Electromagnetics Academy.

The Electromagnetics Academy is devoted to academic excellence and the advancement of research and relevant applications of the electromagnetic theory and to promoting educational objectives of the electromagnetics profession. PIERS provides an international forum for reporting progress and advances in the modern development of electromagnetic theory and its new and exciting applications.

Founded by the late Professor Jin Au Kong (1942–2008) of MIT in 1989, The Electromagnetics Academy is a non-profit organization registered in USA.

PIERS Founding Chair:

Jin Au Kong, MIT, USA

President of The Electromagnetics Academy:

Professor Leung Tsang, University of Washington, Seattle, WA, USA

SYMPOSIUM VENUE

The 2013 Progress in Electromagnetics Research Symposium will be held in Stockholm during August 12–15, 2013, in the Kistamässan exhibition centre and Scandic Victoria Tower Hotel, which are physically connected (with an internal path way opened) to each other.

REGISTRATION

The PIERS technical sessions will begin at 8:00 on Monday, August 12, 2013. You're encouraged to register during 13:00-18:00, Sunday, August 11, 2013, at the registration desk/room located in the Scandic Victoria Tower Hotel. However, you may register earlier (starting from 10:00 am) at the registration desk (if not many people there) near the lobby of the Scandic Victoria Tower Hotel. Registration is also possible in the Kistamässan exhibition centre from 08:00 to 18:00 during the Symposium, August 12–15, 2013.

The on-site registration fee is USD 680, and the reduced registration fee for a student is USD 400 (a valid student ID is required). If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration desk 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 the first day of the conference, August 12, there is a welcome reception hosted by the City of Stockholm in the Stockholm City Hall, the same venue that every year host the Nobel Banquet that follows the Nobel Prize awards ceremony. The reception starts at 7pm and will last for approximately 2 hours. Please note that the total number of tickets to this event is limited (about 650). The tickets are free and have been given mainly on a first-reserve-first-served basis.

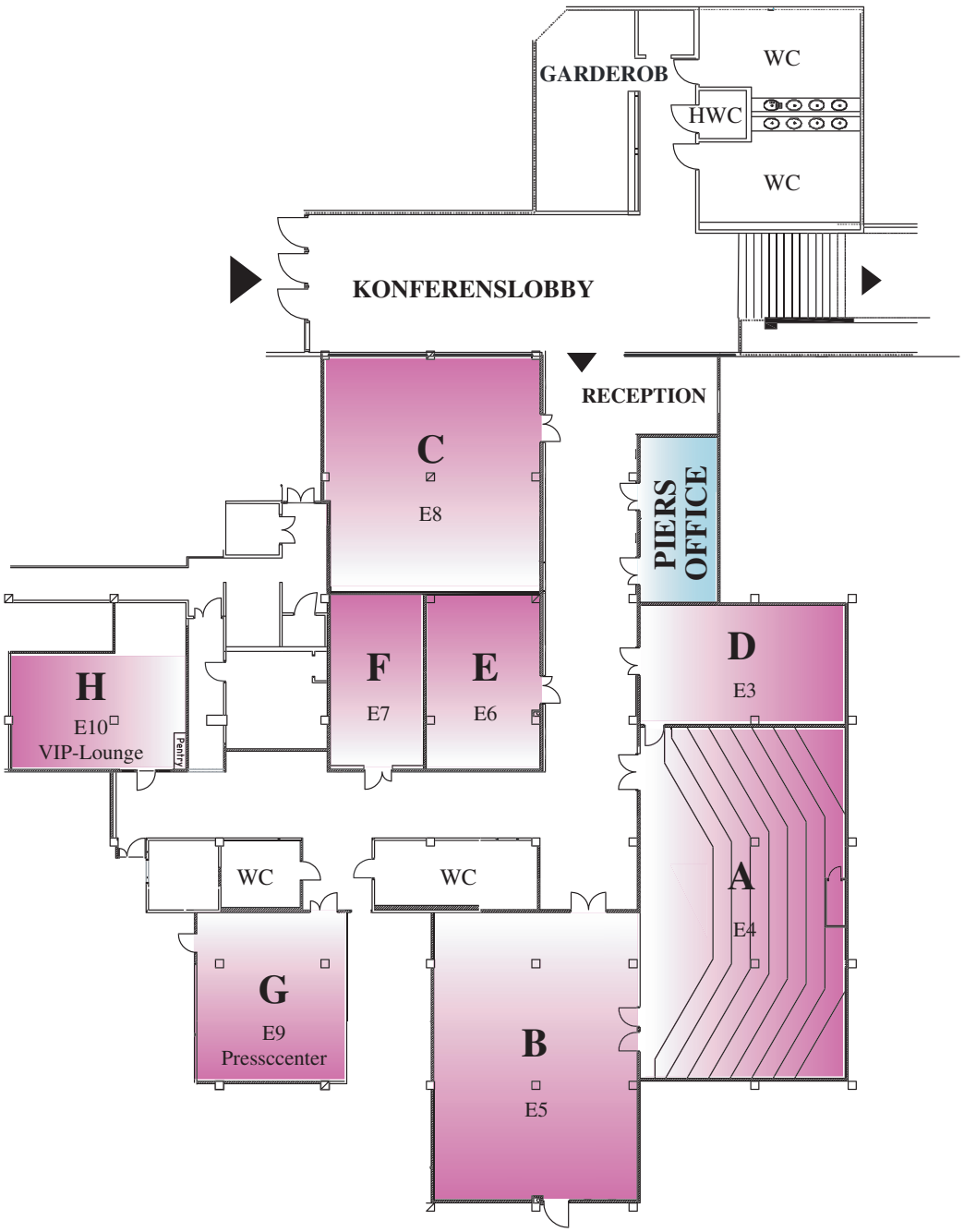
Symposium Banquet

On Wednesday evening, August 14, 2013, symposium banquet is planned for PIERS participants and their guests. A limited number of banquet tickets will be available. For all participants, the price is USD 95 per person. The conference banquet will take place on board the classical steam ships M/S Gustavsberg VII and M/S Waxholm III.

PIERS ONLINE

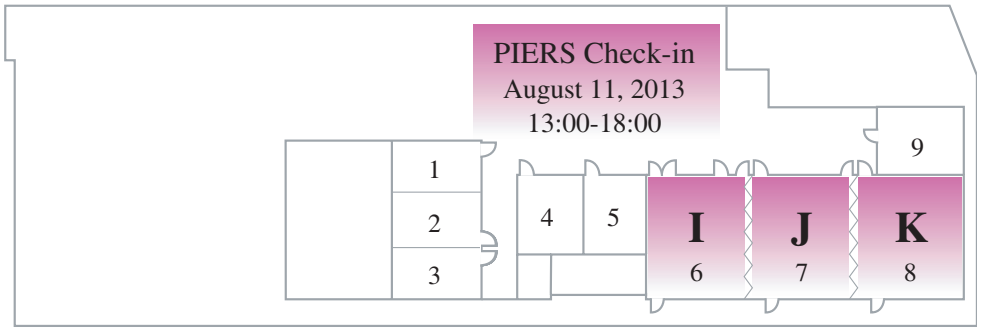
Information on PIERS 2013 Stockholm and future PIERS is posted at www.piers.org.

MAP OF CONFERENCE SITE



KISTA MASSAN CONFERENCE LOBBY

ENTRY-LEVEL



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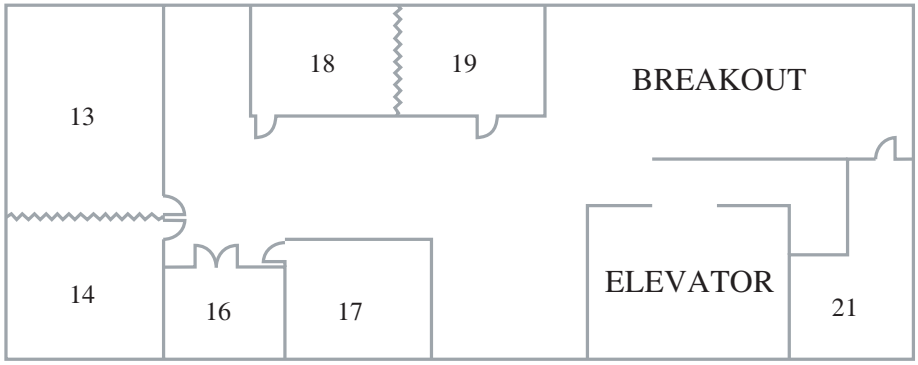
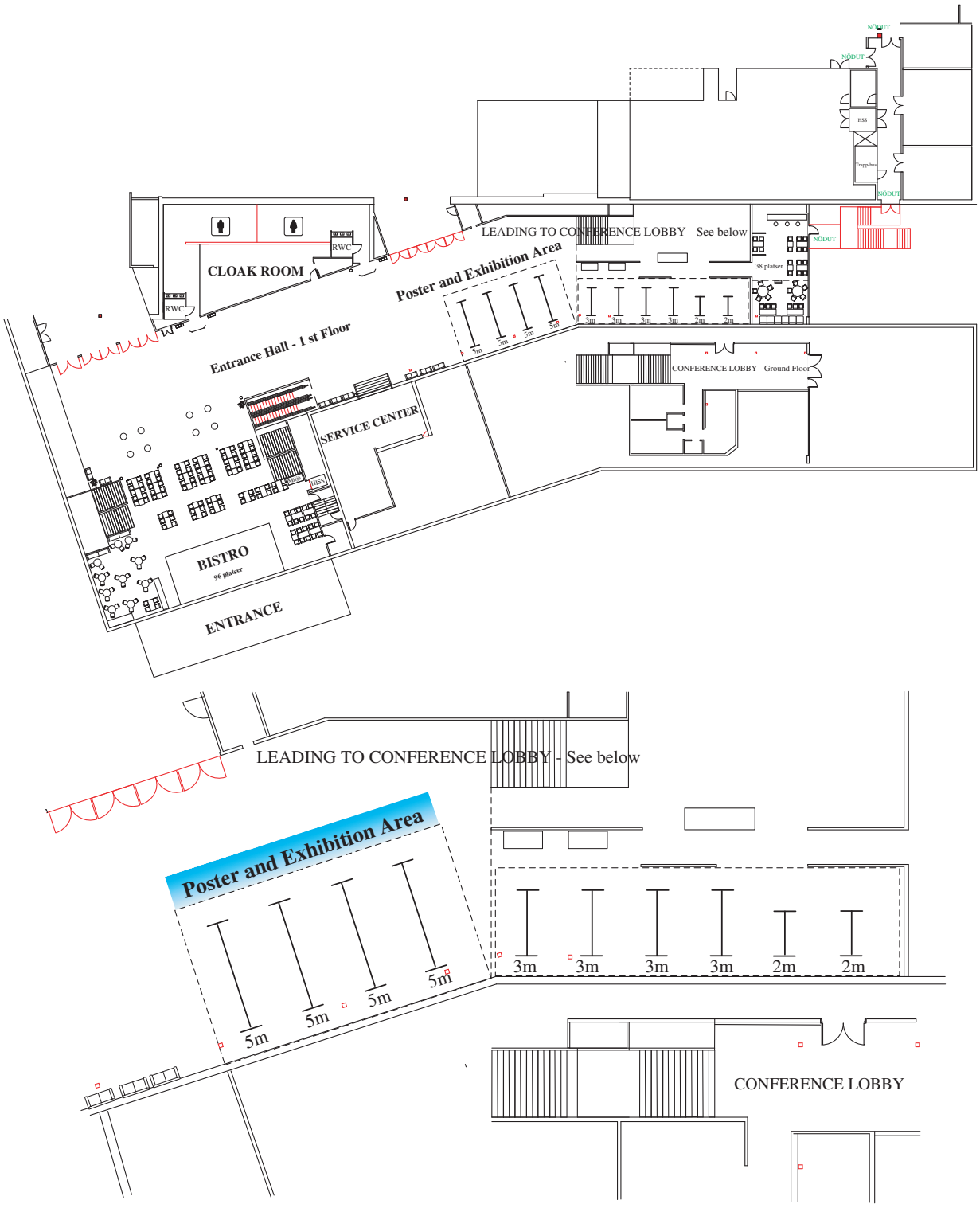


SCANDIC VICTORIA TOWER HOTEL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CLOAK ROOM
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Poster and Exhibition Area
Entrance Hall - 1 st Floor
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38 platser
BISTRO
96 platser
ENTRANCE
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HSS
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3m
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CONFERENCE LOBBY

GUIDELINE FOR PRESENTER

Oral Presentations

- **Load and TEST presentation files in advance:**
  Presenting authors should upload and test presentation files in the PIERS OFFICE 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 rooms.
- **Presentation files format:**
  PDFs and Powerpoint files are recommended. Movies or animations in MPEG, Windows Media, etc, should be tested in PIERS computer in PIERS OFFICE no later than half day before the session. Presentation files in USB disk, CD-ROM, DVD 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:**
  A session Chair should 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 talk and refrain from changing paper presentation sequence.

Poster Presentations

Presenters should indicate time slots of their presence on the panel and be present for interactive questions within the posted time slots. Each poster can be posted at 9:00–12:00 and 14:00–17:00, and all presenters are suggested to be present at least during 10:00–10:20 and 15:20–15:40.

One panel (about 1(W) x 2(H) m) will be available for each poster.

All presenters are required to put their papers on the poster panels one hour before their sessions start and remove them at the end of their sessions.

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English. English is widely spoken in Sweden making a visit for non-Swedish speakers easy.

CURRENCY AND CREDIT CARDS

The local currency is the Swedish Kroner and the exchange rate is 1 USD for about 6.6 SEK. Credit cards and cash are acceptable for payments. International credit cards are acceptable in almost all shops, restaurants, taxis etc..

TAX AND TIP

In Sweden tips are not necessary but it is possible to tip hotel porters and for restaurant service. Bargaining is very uncommon in Sweden and generally not necessary/possible.
For non-residents, tax-free shopping is possible. To be eligible for tax-free shopping, ask for a VAT reimbursement receipt at the time of purchase and present this at the tax-free counter at the airport at the time of departure. At Arlanda Airport this counter is located in the check-in area and be sure to do the VAT reimbursement before checking in and passing the security check.

TAXI

Hailing a taxi at the roadside is possible, however calling ahead to reserve a taxi is the most common method in Stockholm. The numbers for the major taxi companies are

- Taxi Stockholm: +46 8 15 00 00
- Taxi Kurir: +46 8 30 00 00
- Taxi 020: +46 20 20 20 20

The operators at the taxi companies will typically speak English.
Be aware that taxi fares in Stockholm are not regulated and prices can vary quite substantially. When taking a taxi from the airport it is recommended to use one of the taxi companies listed above who have fixed prices from the airport to the city center.

BUSINESS OPENING HOURS

- **Bank**
  Opening hours: 10:00 – 15:00, from Monday to Friday.

ELECTRICITY

In Sweden, the standard outlets provide AC of 230 V/50 Hz.

MORE INFORMATION

www.visitstockholm.com

PIERS 2013 STOCKHOLM TECHNICAL PROGRAM

Session 1A1
2_FocusSession.SC2: Metamaterials and Plasmonics Based on Graphene

Monday AM, August 12, 2013

Room A

Organized by Yongmin Liu, Costas M. Soukoulis

Chaired by Yongmin Liu, Costas M. Soukoulis

08:00 Nano-plasmonic Phenomena in Graphene: Toward Tunable Metamaterials (keynote)
Dmitri N. Basov (*University of California, USA*);

08:30 Charge Transport in Graphene and Light Propagation in Periodic Dielectric Structures with Metamaterials: A Comparative Study
Yury P. Bliokh (*Technion Israel Institute of Technology, Israel*); *Valentin D. Freilikher* (*Bar-Ilan University, Israel*); *Franco Nori* (*Advanced Science Institute, RIKEN, Japan*);

08:45 Uncovering Damping Mechanisms of Plasmons in Graphene (invited)
Hrvoje Buljan (*University of Zagreb, Croatia*); *Marinko Jablan* (*University of Zagreb, Croatia*); *Marin Soljacic* (*Massachusetts Institute of Technology, USA*);

09:05 Graphene: Hybrid Optoelectronic and Voltage-gated Plasmonics (invited)
Naomi J. Halas (*Rice University, USA*);

09:25 Plasmonic Effects in Terahertz Photomixing in Double-graphene-layer Heterostructures
Maxim Ryzhii (*The University of Aizu, Japan*); *Taiichi Otsuji* (*Tohoku University, Japan*); *Akira Satou* (*Tohoku University, Japan*); *Victor Ryzhii* (*The University of Aizu, Tohoku University, Japan*); *Vladimir Mitin* (*University at Buffalo, The State University of New York, USA*); *Michael S. Shur* (*Rensselaer Polytechnic Institute, USA*);

09:40 Graphene Plasmonics: Guiding, Excitation and Strong SERS Enhancement (invited)
Sanshui Xiao (*Technical University of Denmark, Denmark*);

10:00 **Coffee Break**

10:20 A Comparison of Graphene and Metals as Conductors for Metamaterials and Plasmonics (keynote)
Costas M. Soukoulis (*Iowa State University, USA*);

10:50 Active Graphene Metadevices at Terahertz Frequencies (invited)
Bumki Min (*KAIST, South Korea*);

11:10 Graphene-based Metamaterials and Plasmonics at Mid-infrared and Optical Frequencies (invited)
Philippe Tassin (*Iowa State University, USA*);

11:30 Inductive Tuning of Fano-resonant Metasurfaces Using Plasmonic Response of Graphene in the Mid-infrared (invited)
S. Hossein Mousavi (*The University of Texas at Austin, USA*); *Kamil B. Alici* (*The University of Texas at Austin, USA*); *David Purtseladze* (*The University of Texas at Austin, USA*); *Nihal Arju* (*The University of Texas at Austin, USA*); *Kaya Tatar* (*The University of Texas at Austin, USA*); *David Y. Fozdar* (*The University of Texas at Austin, USA*); *Alexander B. Khanikaev* (*The University of Texas at Austin, USA*); *Gennady Shvets* (*The University of Texas at Austin, USA*); *Iskandar Kholmanov* (*The University of Texas at Austin, USA*); *Ji Won Suk* (*The University of Texas at Austin, USA*); *Yufeng Hao* (*The University of Texas at Austin, USA*); *Rodney S. Ruoff* (*The University of Texas at Austin, USA*);

11:50 Studying the Optical Response of Graphene Using Electron Energy-loss Spectroscopy (invited)
Juan Carlos Idrobo (*Oak Ridge National Laboratory, USA*); *Wu Zhou* (*Oak Ridge National Laboratory, USA*); *Florence J. Nelson* (*University at Albany, USA*); *Zoran L. Miskovic* (*University of Waterloo, Canada*); *Alain C. Diebold* (*University of Waterloo, Canada*); *Stephen J. Pennycook* (*Oak Ridge National Laboratory, USA*); *Sokrates T. Pantelides* (*Vanderbilt University, USA*);

12:10 Graphene-based Hyperbolic Metamaterial and Its Applications
Tuo Chen (*Zhejiang University, China*); *Sailing He* (*Zhejiang University, China*);

Session 1A2
2_FocusSession.SC3&2: New Developments in Non-reciprocal Electromagnetics and Optics

Monday AM, August 12, 2013

Room B

Organized by Shanhui Fan, Zheng Wang

Chaired by Zheng Wang, Richard M. Osgood, Jr.

08:00 keynote An Overview of Optical Isolation on Integrated Platforms
Richard M. Osgood, Jr. (*Columbia University, USA*);

08:30 invited Silicon-based Magneto-optical Isolator and Circulator Fabricated by Direct Bonding Technology
Yuya Shoji (*Tokyo Institute of Technology, Japan*); *K. Mitsuya* (*Tokyo Institute of Technology, Japan*); *Tetsuya Mizumoto* (*Tokyo Institute of Technology, Japan*);

08:50 invited Optical Isolation and Mode Conversion Using Stimulated Brillouin Scattering in Multi-mode Waveguides
Christopher G. Poulton (*University of Technology, Australia*); *Ravi Pant* (*University of Sydney, Australia*); *I. Aryanfar* (*University of Sydney, Australia*); *M. J. Steel* (*Macquarie University, Australia*); *S. Fan* (*Centre for Ultrahigh Bandwidth Devices for Optical Systems (CUDOS), Australia*); *Benjamin J. Eggleton* (*University of Sydney, Australia*);

09:10 Magnetic Field Controlled Nonreciprocal Band-stop Filters for the W-band Using Magnetic Polariton Modes in Yttrium-iron Garnet
Maksym A. Popov (*Oakland University, USA*); *Igor V. Zavislyak* (*Taras Shevchenko National University of Kyiv, Ukraine*); *Gopalan Srinivasan* (*Oakland University, USA*);

09:25 Unidirectional Electromagnetic Edge Mode in Gyromagnetic Photonic Crystal Slab
Kexin Liu (*Zhejiang University, China*); *Sailing He* (*Zhejiang University, China*);

09:40 invited Synthetic Faraday Rotation in Active Metamaterials
Zheng Wang (*The University of Texas at Austin, USA*); *Zhiyu Wang* (*Zhejiang University, China*); *Jingyu Wang* (*Zhejiang University, China*); *Bin Zhang* (*Zhejiang University, China*); *Jiangtao Huangfu* (*Zhejiang University, China*); *John D. Joannopoulos* (*Massachusetts Institute of Technology, USA*); *Marin Soljacic* (*Massachusetts Institute of Technology, USA*); *Lixin Ran* (*Zhejiang University, China*);

10:00 **Coffee Break**

10:20 invited Magnet-less Non-reciprocal Metamaterials
Toshiro Kodera (*Yamaguchi University, Japan*); *Dimitrios L. Sounas* (*The University of Texas at Austin, USA*); *Christophe Caloz* (*Ecole Polytechnique de Montreal, Canada*);

10:40 invited Faraday Rotation and Magneto-plasmonic Effects in Graphene
Alexey B. Kuzmenko (*University of Geneva, Switzerland*);

11:00 keynote Photonic Transitions for Enabling Non Reciprocity in Silicon
Michal Lipson (*Cornell University, USA*);

11:30 A Unidirectional Sub-wavelength Bend Waveguide with Arbitrary Angle Based on Magnetic Photonic Crystals
Yin Poo (*Nanjing University, China*); *Rui-Xin Wu* (*Nanjing University, China*); *Renkai Li* (*Nanjing University, China*); *Yan Yang* (*Nanjing University, China*); *Chao Meng* (*Nanjing University, China*);

Session 1A3
3_FocusSession.SC3: Frontiers of Ultrafast Optics

Monday AM, August 12, 2013

Room C

Organized by Giulio Cerullo, Oliver D. Muecke

Chaired by Oliver D. Muecke

08:00 keynote Attosecond Optical Synthesis: New Routes in Attosecond Science
Eleftherios Goulielmakis (*Max-Planck-Institut fur Quantenoptik, Germany*);

08:30 invited Multi-mJ Parametric Synthesizer Generating Two-octave-wide Optical Waveforms for Strong-field Experiments
Oliver D. Muecke (*Center for Free-Electron Laser Science, Germany*); *Shaobo Fang* (*Deutsches Elektronen-Synchrotron DESY, Germany*); *Giovanni Cirmi* (*Deutsches Elektronen-Synchrotron DESY, Germany*); *Shih-Hsuan Chia* (*Deutsches Elektronen-Synchrotron DESY, Germany*); *Franz X. Kartner* (*Deutsches Elektronen-Synchrotron DESY, Germany*); *Cristian Manzoni* (*University of Hamburg, Germany*); *Paolo Farinello* (*Politecnico di Milano, Italy*); *Giulio Cerullo* (*Politecnico di Milano, Italy*);

08:50 Microjoule Isolated Attosecond Pulses by High-order
invited Harmonic Generation
Eiji J. Takahashi (*RIKEN Center for Advanced Photonics (RAP), Japan*);

09:10 Attosecond Dynamics of Electronic Wave Packets in
invited Nitrogen
M. Reduzzi (*Politecnico Piazza Leonardo da Vinci, Italy*); *C. Feng* (*Politecnico Piazza Leonardo da Vinci, Italy*); *W.-C. Chu* (*National Research Council, Italy*); *A. Dubrouil* (*Politecnico Piazza Leonardo da Vinci, Italy*); *F. Calegari* (*Politecnico Piazza Leonardo da Vinci, Italy*); *M. Nisoli* (*Politecnico Piazza Leonardo da Vinci, Italy*); *F. Frassetto* (*Kansas State University, USA*); *L. Poletto* (*Kansas State University, USA*); *C.-D. Lin* (*National Research Council, Italy*); *Giuseppe Sansone* (*Politecnico Piazza Leonardo da Vinci, Italy*);

09:30 Attosecond Dynamics of Nano-localized Fields Probed
invited by Photoelectron Spectroscopy
Frederik Süßmann (*Max Planck Institute of Quantum Optics, Germany*); *S. Zherebtsov* (*Max Planck Institute of Quantum Optics, Germany*); *B. Förg* (*Max Planck Institute of Quantum Optics, Germany*); *L. Seiffert* (*University of Rostock, Germany*); *J. Schötz* (*Max Planck Institute of Quantum Optics, Germany*); *V. Mondes* (*Freie Universität Berlin, Germany*); *M. Förster* (*Max Planck Institute of Quantum Optics, Germany*); *M. Krüger* (*Max Planck Institute of Quantum Optics, Germany*); *J. Stierle* (*Max Planck Institute of Quantum Optics, Germany*); *C. Peltz* (*University of Rostock, Germany*); *J. Plenge* (*Freie Universität Berlin, Germany*); *B. Ahn* (*POSTECH, Korea*); *D. Kim* (*POSTECH, Korea*); *S. Trushin* (*Max Planck Institute of Quantum Optics, Germany*); *C. Graf* (*Freie Universität Berlin, Germany*); *Peter Hommelhoff* (*Max Planck Institute of Quantum Optics, Germany*); *E. Rühl* (*Freie Universität Berlin, Germany*); *Ferenc Krausz* (*Ludwig-Maximilians-Universität München, Germany*); *Thomas Fennel* (*University of Rostock, Germany*); *Matthias F. Kling* (*Max Planck Institute of Quantum Optics, Germany*);

10:00 **Coffee Break**

10:20 Applications of Ultrashort Pulses to Biomedical Imag-
invited ing
Chris Xu (*Cornell University, USA*);

10:40 Optical Parametric Oscillator Frequency Combs for
invited High-resolution Metrology and Spectroscopy
Zhaowei Zhang (*Heriot-Watt University, UK*); *Teresa I. Ferreiro* (*Heriot-Watt University, UK*); *Tom Gardiner* (*National Physical Laboratory, UK*); *Derryck T. Reid* (*Hariot Watt University, UK*);

11:00 High-field Multi-THz Technology and Its Applications
invited for Nonlinear Spectroscopy
Alexej Pashkin (*University of Konstanz, Germany*); *Bernhard Mayer* (*University of Konstanz, Germany*); *Christian Schmidt* (*University of Konstanz, Germany*); *Olaf Schubert* (*University of Regensburg, Germany*); *Marc Rebholz* (*University of Konstanz, Germany*); *Friederike Junginger* (*University of Konstanz, Germany*); *Sebastian Mährlein* (*Fritz-Haber-Institut der Max-Planck-Gesellschaft, Germany*); *Rupert Huber* (*University of Regensburg, Germany*); *Alfred Leitenstorfer* (*University of Konstanz, Germany*);

11:20 Generation and Acceleration of Few-cycle Electron
invited Pulses from Sharp Metal Tips
Christoph Lienau (*Carl von Ossietzky Universitat Oldenburg, Germany*);

11:40 Ultrabright Femtosecond Electron Diffraction Breaks
invited the Barrier to the Exploration of Coherent Molecular Motions in a Labile Organic Material
German Sciaini (*University of Hamburg, Center for Free Electron Laser Science, Germany*); *R. J. Dwayne Miller* (*University of Toronto, Canada*);

12:00 Ultrafast Coherent X-ray Pulses from a Nanostruc-
keynote tured Electron Beam
William S. Graves (*Massachusetts Institute of Technology, USA*);

Session 1A4
1_FocusSession.SC1: Foundations of Casimir Physics (with tutorials)

Monday AM, August 12, 2013

Room D

Organized by Ulf Leonhardt, William M. R. Simpson

Chaired by William M. R. Simpson

08:00 Casimir Forces — Forces from Nothing
tutorial
Stefan Scheel (*University of Rostock, Germany*);

08:40 Measurements of the Casimir Effect
invited
Ricardo S. Decca (*Indiana University-Purdue University Indianapolis, USA*);

09:00 tutorial Casimir Effect, Macroscopic QED, and the Nature of Thermal and Zero-point Self-forces
Thomas G. Philbin (*University of Exeter, UK*);

09:50 invited Quantum Electrodynamics in the Presence of Moving Bodies
Simon A. R. Horsley (*University of Exeter, United Kingdom*);

10:10 Transmitting Signals from the Vacuum: Giant van der Waals and Casimir Interactions via Transmission Lines
Ephraim Shahmoon (*Weizmann Institute of Science, Israel*); *Igor E. Mazets* (*Vienna Center for Quantum Science and Technology, Austria*); *Gershon Kurizki* (*Weizmann Institute of Science, Israel*);

10:45 tutorial Computing Fluctuation-induced Interactions in Arbitrary Geometries
Alejandro W. Rodriguez (*Massachusetts Institute of Technology, USA*); *M. T. Homer Reid* (*Massachusetts Institute of Technology, USA*); *Steven G. Johnson* (*Massachusetts Institute of Technology, USA*);

11:25 Casimir Force Calculations Using Domain Decomposition Methods
Phillip R. Atkins (*University of Illinois, USA*); *Weng Cho Chew* (*University of Illinois, USA*); *M.-K. Li* (*University of Illinois, USA*);

11:40 tutorial A Tutorial on Casimir Interactions between Nanostructured Materials
Diego A. R. Dalvit (*Los Alamos National Laboratory, USA*);

12:20 Casimir Torque: From Magnetoplasmons to Self-assembly of Nano Particles Arrays
Raul Esquivel-Sirvent (*Universidad Nacional Autonoma de Mexico, Mexico*);

Session 1A5
SC3: Silicon Photonics

Monday AM, August 12, 2013

Room E

Organized by Liu Liu, Andrew Wing On Poon

Chaired by Liu Liu, Andrew Wing On Poon

08:20 Using Silicon Nanophotonics for Digital and Analog Signal Processing with Reservoir Computing
Peter Bienstman (*Ghent University, Belgium*); *Kristof Vandoorne* (*Ghent University, Belgium*); *Thomas Van Vaerenbergh* (*Ghent University, Belgium*); *Martin Fiers* (*Ghent University, Belgium*); *Bendix Schneider* (*Ghent University, Belgium*); *Benjamin Schrauwen* (*Ghent University, Belgium*); *Joni Dambre* (*Ghent University, Belgium*);

08:40 Maturing the CMOS-photonics-devices-library for the Development of Highly Integrated Circuits Dedicated to Optical Transmissions
Sylvie Menezo (*CEA LETI, France*); *B. Charbonnier* (*Orange Labs, France*); *G.-H. Duan* (*Campus Polytechnique, France*); *L. Virot* (*CEA LETI, France*); *J.-M. Fedeli* (*CEA LETI, France*); *P. Grosse* (*CEA LETI, France*); *B. Ben Bakir* (*CEA LETI, France*);

09:00 Tunable Self-coupled Optical Waveguide (SCOW) Resonator and Its Application in Optical Signal Processing
Linjie Zhou (*Shanghai Jiao Tong University, China*); *Zhi Zou* (*Shanghai Jiao Tong University, China*); *Xiaomeng Sun* (*Shanghai Jiao Tong University, China*); *Jingya Xie* (*Shanghai Jiao Tong University, China*); *Liangjun Lu* (*Shanghai Jiao Tong University, China*); *Haike Zhu* (*Shanghai Jiao Tong University, China*); *Jianping Chen* (*Shanghai Jiao Tong University, China*);

09:20 High Quality InP Localized Growth on (001) Silicon Substrate for Photonics Applications
Zhechao Wang (*Ghent University-IMEC, Belgium*); *Marianna Pantouvaki* (*IMEC, Belgium*); *Mohan Paladugu* (*IMEC, Belgium*); *Bin Tian* (*Ghent University-IMEC, Belgium*); *Richard Olivier* (*IMEC, Belgium*); *Bender Hugo* (*IMEC, Belgium*); *Clement Merckling* (*IMEC, Belgium*); *Weiming Guo* (*IMEC, Belgium*); *Johan Dekoster* (*IMEC, Belgium*); *Matty Caymax* (*IMEC, Belgium*); *Joris Van Campenhout* (*IMEC, Belgium*); *Dries Van Thourhout* (*Ghent University-IMEC, Belgium*);

09:40 40 Gbit/s Silicon Modulators and Detectors
Laurent Vivien (*Univ Paris 11, France*); *Delphine Marris-Morini* (*Univ Paris 11, France*); *M. Ziebell* (*Univ Paris 11, France*); *G. Rasigade* (*Univ Paris 11, France*); *L. Virot* (*CEA LETI, France*); *J. M. Hartmann* (*CEA, France*); *Eric Cassan* (*Univ Paris 11, France*); *P. Crozat* (*Institut d' Electronique Fondamentale, France*); *D. Bouville* (*Univ Paris 11, France*); *C. Baudot* (*STMicroelectronics, France*); *F. Boeuf* (*STMicroelectronics, France*); *J.-M. Fedeli* (*CEA LETI, France*);

10:00 **Coffee Break**

10:20 Configurable Silicon Photonic Crystals
Stefan Prorok (*Hamburg University of Technology, Germany*); *Alexander Yu. Petrov* (*Hamburg University of Technology, Germany*); *Manfred Eich* (*Hamburg University of Technology, Germany*); *Jingdong Luo* (*University of Washington, USA*); *Alex K. Y. Jen* (*University of Washington, USA*);

10:40 Direct Growth of Multi-quantum Wells on Micro and Nanostructures of Indium Phosphide on Silicon for Silicon Photonics
Sebastian Lourdudoss (*KTH, Sweden*); *Carl Junesand* (*KTH, Sweden*); *Wondwosen Metaferia* (*KTH, Sweden*); *Himanshu Kataria* (*KTH, Sweden*); *Yanting Sun* (*KTH, Sweden*);

11:00 HONN Type and L-HONN Type Systems: Towards Digital Optical Cognitive Architectures of Robust Object Recognition
Ioannis Kypraios (*University of Oxford, UK*);

11:20 Optical Modulators and Routers for Photonic Networks-on-chip
Lin Yang (*Institute of Semiconductors, Chinese Academy of Sciences, China*); *Jianfeng Ding* (*Institute of Semiconductors, Chinese Academy of Sciences, China*); *Ruiqiang Ji* (*Institute of Semiconductors, Chinese Academy of Sciences, China*); *Rui Min* (*Institute of Semiconductors, Chinese Academy of Sciences, China*);

11:40 Silicon Based Optofluidics
Claude Renaut (*Universite de Bourgogne, France*); *Benoit Cluzel* (*Institut Carnot de Bourgogne (ICB — UMR CNRS 5209), France*); *Emmanuel Picard* (*CEA, France*); *Jean Dellinger* (*Universite de Bourgogne, France*); *David Peyrade* (*CNRS, France*); *Frederique de Fornel* (*CNRS, France*); *Emmanuel Hadji* (*CEA, France*);

Session 1A6
SC1&4: Antenna Modeling and Simulation

Monday AM, August 12, 2013

Room F

Organized by Jiang Zhu, C. J. Reddy

Chaired by C. J. Reddy

08:20 Curve-fitting Formulas for Fast Determination of Frequency Band-notched Response of UWB Antennas
Ayman Ayd Ramadan Saad (*South Valley University, Egypt*); *Mohamed Mamdouh Mahmoud Ali* (*Assiut University, Egypt*); *Elsayed Esam M. Khaled* (*Assiut University, Egypt*);

08:40 State of the Art Antenna Simulation Using the "System Assembly and Modeling" Approach
Wittig Tilmann (*CST AG, Germany*);

09:00 MIMO Antenna Integration for LTE Operation
Peter Futter (*EM Software & Systems — S.A. (Pty) Ltd., South Africa*); *Gopinath Gampala* (*EM Software & Systems (USA) Inc., USA*); *C. J. Reddy* (*EM Software & Systems (USA) Inc., USA*);

09:20 A Novel Frequency-tunable Antenna with a Wide Tuning Range
Ningli Zhu (*Peking University, China*); *Wei Zhang* (*Peking University, China*);

09:40 Advanced Computational Tools for Antenna Design and Placement
C. J. Reddy (*EM Software & Systems (USA) Inc., USA*);

10:00 **Coffee Break**

10:20 An Improved Model for Estimating Radiated Emissions from a Printed Circuit Boards with Attached Cables
Boon Kuan Chung (*Universiti Tunku Abdul Rahman, Malaysia*); *Goh Jia Haw* (*Universiti Tunku Abdul Rahman, Malaysia*);

10:40 Design of Linear Biconical Antenna Array for the Generation of Trapezoidal Pattern
Alapati Sudhakar (*RVR & JC College of Engineering, India*); *C. Subba Rao* (*Prasad V. Potluri Siddhartha Institute of Technology, India*); *A. V. Yashwanth* (*RVR & JC College of Engineering, India*);

11:00 HFSS: Hybrid IE Solvers for Efficient Simulation of Complex Systems
Anders Edquist (*ANSYS, Sweden*); *Alain Michel* (*ANSYS, Sweden*);

11:20 HFSS with HPC for Large Finite Antenna Array Design Session
Anders Edquist (*ANSYS, Sweden*); *Alain Michel* (*ANSYS, Sweden*);

11:40 Patch and Ground Plane Design of Microstrip Antennas by Material Distribution Optimization
Emadeldeen Hassan (*Umea University, Sweden*); *Eddie Wadbro* (*Umea University, Sweden*); *Martin Berggren* (*Umea University, Sweden*);

Session 1A7
Advanced Photonic Materials and Nanophtonics

Monday AM, August 12, 2013

Room G

Organized by Yalin Lu

Chaired by Yalin Lu

08:00 X-ray Single-mode Diffraction from Si-nanowires on Silicon
Hsin-Yi Chen (*National Tsing Hua University, Taiwan*); *Pei-Tze Chu* (*National Tsing Hua University, Taiwan*); *Shih-Lin Chang* (*National Tsing Hua University, Taiwan, R.O.C.*);

08:20 Exciton-polaritons in Organic-dye Nanofibers with Optical Anisotropies
Hiroyuki Takeda (*National Institute for Materials Science (NIMS), Japan*); *Kazuaki Sakoda* (*National Institute for Materials Science, Japan*);

08:40 Large-area Metallic Photonic Crystals by Stacking and Rolling
Lindsey Anne Ibbotson (*University of Cambridge, UK*); *Jeremy J. Baumberg* (*University of Cambridge, UK*);

09:00 Optical Perception for Detection of Few-layer Graphenes
Yi-Sheng Wang (*National Chung Cheng University, Taiwan*); *Jhe-Ming Yang* (*National Chung Cheng University, Taiwan*); *Ya-Ping Hsieh* (*National Chung-Cheng University, Taiwan*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *Raymond Chien-Chao Tsiang* (*National Chung Cheng University, Taiwan*);

09:20 Layer Homogenization Method for Modeling Additive Color Effect in Natural Photonic Polycrystals — The Case of ***Entimus imperialis*** Weevil
Sébastien Mouchet (*University of Namur, Belgium*); *Jean-Pol Vigneron* (*University of Namur, Belgium*); *Jean-François Colomer* (*University of Namur, Belgium*); *Olivier Deparis* (*University of Namur, Belgium*);

09:40 Efficiency of Light Emission in Light Emitters Coupled to Surface Plasmons
Toufik Sadi (*Aalto University, Finland*); *Jani Oksanen* (*Aalto University, Finland*); *J. Tulkki* (*Aalto University, Finland*);

10:00 **Coffee Break**

10:20 Optical and Plasmonic Properties of Metallic Nanostructure Arrays Grown on Optically Patterned Photochromic Thin Films
Duc Vu Anh (*Ecole Polytechnique, CNRS, France*); *F. Fabbri* (*Ecole Polytechnique, CNRS, France*); *L. Martinelli* (*Ecole Polytechnique, CNRS, France*); *Y. Lassailly* (*Ecole Polytechnique, CNRS, France*); *K. Lahlil* (*Ecole Polytechnique, CNRS, France*); *J.-B. Boilot* (*Ecole Polytechnique, CNRS, France*); *T. Gacoin* (*Ecole Polytechnique, CNRS, France*); *J. Peretti* (*Ecole Polytechnique, CNRS, France*);

10:40 Super-chiral Effects in Silicon Nano-sphere Clusters
Claudiu G. Biris (*University College London, UK*); *A. Al-Jarro* (*University College London, United Kingdom*); *Nicolae C. Panoiu* (*University College London, United Kingdom*);

11:00 Monodisperse Silicon Colloids with Magnetic Response in the Optical Region: From Colloidal Suspensions to Photonic Crystals
Lei Shi (*Universidad Politecnica de Valencia, Spain*); *Justin T. Harris* (*The University of Texas at Austin, United States*); *Roberto Fenollosa* (*Universidad Politecnica de Valencia, Spain*); *Isabelle Rodriguez* (*Universidad Politecnica de Valencia, Spain*); *Xiaotang Lu* (*The University of Texas at Austin, United States*); *Brian A. Korgel* (*The University of Texas at Austin, United States*); *Francisco Meseguer* (*Universidad Politecnica de Valencia, Spain*);

11:20 Numerical Analysis of Grating and Prism Coupled Surface Plasmon Resonance
Sorin Miclos (*National Institute of R&D for Optoelectronics INOE-2000, Romania*); *Dan Savastru* (*National Institute of R&D for Optoelectronics INOE-2000, Romania*); *Ion Lancranjan* (*National Institute of R&D for Optoelectronics INOE 2000, Romania*); *Roxana Savastru* (*National Institute of R&D for Optoelectronics INOE 2000, Romania*); *Constantin Opran* (*Politehnica University of Bucharest, Romania*);

11:40 VO_2-based Smart Window Performance Improved by a Three-layered Structure
Yuan Zhao (*University of Scienceand Technology of China, China*); *Xuanru Zhang* (*University of Science and Technology of China, China*); *X. Hu* (*University of Science and Technology of China, China*); *B. Xiang* (*University of Science and Technology of China, China*); *R. J. Knize* (*United States Air Force Academy, USA*); *Yalin Lu* (*University of Science and Technology of China, China*);

Session 1A8
SC5: Inverse Scattering Problems: Theory and Applications

Monday AM, August 12, 2013

Room H

Organized by Takashi Takenaka, Andrea Massa

Chaired by Martin Karl Norgren, Toshifumi Moriyama

08:00 Determination of the Optimal Value of the Radius of a Circular Cylindrical Post in a Rectangular Waveguide for Measurement of the Dielectric Permittivity
Roman Kushnin (*Riga Technical University, Latvia*); *Janis Semenjako* (*Riga Technical University, Latvia*);

08:20 Perturbation Approach to Boundary Reconstruction in a Multiple Waveguide Model
Martin Karl Norgren (*KTH Royal Institute of Technology, Sweden*);

08:40 Successive Estimation Method for Microwave Tomography
Zhi Qi Meng (*Fukuoka University, Japan*);

09:00 Reconstruction of a Stratified Slab Using Time Reversal and Equivalent Fields
Takashi Takenaka (*Nagasaki University, Japan*); *Toshifumi Moriyama* (*Nagasaki University, Japan*); *Toshiyuki Tanaka* (*Nagasaki University, Japan*);

09:20 Explicit Regularization Method for Reconstructing Permittivity Distributions
Melike Erdogan (*Istanbul Technical University, Turkey*); *Mehmet Cayoren* (*Istanbul Technical University, Turkey*); *Mehmet Abbak* (*Istanbul Technical University, Turkey*); *Ibrahim Akduman* (*Istanbul Technical University, Turkey*);

09:40 Efficient Imaging of 3D Objects Located in a Layered Media with Rough Interfaces
Tolga Ulas Gurbuz (*Istanbul Technical University, Turkey*); *Birol Aslanyurek* (*Yildiz Technical University, Turkey*); *Ibrahim Akduman* (*Istanbul Technical University, Turkey*);

10:00 **Coffee Break**

10:20 Image Appraisal of Full Waveform Inverted GPR Data
Giovanni Meles (*University of Edinburgh, UK*); *Stewart Greenhalgh* (*Institute of Geophysics, Switzerland*); *Hansruedi Maurer* (*Institute of Geophysics, Switzerland*); *Alan Green* (*ETH, Institute of Geophysic, Switzerland*);

10:40 Microwave Detection of Specific Dielectric Targets behind Concrete Walls
Sinem Avci (*Istanbul Technical University, Turkey*); *O. Guren* (*Istanbul Technical University, Turkey*); *Mehmet Cayoren* (*Istanbul Technical University, Turkey*); *Ibrahim Akduman* (*Istanbul Technical University, Turkey*);

11:00 Permittivity Imaging by Addressable Defect of Surface-wave Structure on Two-dimensional Metamaterial in Millimeter-wave Range
Osamu Sakai (*Kyoto University, Japan*); *Go Itami* (*Kyoto University, Japan*); *Tomohide Akiyama* (*Kyoto University, Japan*); *Yoshinori Harada* (*Kyoto Prefectural University of Medicine, Japan*);

11:20 Guaranteed Estimates of Linear Continuous Functionals of Solutions and Right-hand Sides of the Helmholtz Equation in the Domains with Infinite Boundaries under Uncertainties
Yury Podlipenko (*Kiev National University, Ukraine*); *Yury V. Shestopalov* (*Karlstad University, Sweden*);

11:40 Feasibility Study of Passive Bistatic Synthetic Aperture Radar for Imaging Small Objects
Motoyuki Sato (*Tohoku University, Japan*); *Takafumi Kitajyo* (*Tohoku University, Japan*); *Kazunori Takahashi* (*Tohoku University, Japan*);

Session 1A9
SC1: Novel Mathematical Methods in Electromagnetics

Monday AM, August 12, 2013

Room I

Organized by Yury V. Shestopalov, Kazuya Kobayashi

Chaired by Yury V. Shestopalov, Kazuya Kobayashi

08:00 Mathematical Methods for the Doubly-fed Induction Generator
Giovanni Franco Crosta (*University of Milan-Bicocca, Italy*); *Federica Bertini* (*University of Milan-Bicocca, Italy*); *Goong Chen* (*Texas A and M University, USA*); *Nicholas Mai* (*Texas A and M University, USA*);

08:20 Wiener-Hopf Analysis of the High-frequency Diffraction by a Sinusoidal Strip
Toru Eizawa (*Chuo University, Japan*); *Kazuya Kobayashi* (*Chuo University, Japan*);

08:40 A Complete Set of Relativistic Time-domain Waveguide Modes in Hollow Waveguides
Ozlem Akgun (*Aksaray University, Turkey*);

09:00 Polyfunctional Properties of Resonant Scattering and Generation of Oscillations by Nonlinear Layered Media
Lutz Angermann (*University of Technology at Clausthal, Germany*); *Vasyl V. Yatsyk* (*O. Ya. Usikov Institute of Radiophysics and Electronics, National Academy of Sciences of Ukraine (IRE NASU), Ukraine*);

09:20 Calculating the Scattering from Periodic Conducting Surfaces without Using Evanescent Modes, Part I: Existence of a Solution
Dayalan Prajith Kasilingam (*University of Massachusetts Dartmouth, USA*); *Christopher Goonan* (*University of Massachusetts Dartmouth, USA*);

09:40 Media Not Restricted by a Dispersion Equation
Ismo Veikko Lindell (*Aalto University, Finland*); *Alberto Favaro* (*University of Cologne, Germany*);

10:00 **Coffee Break**

10:20 Singular Modes in an Anisotropic Medium
Alexander B. Samokhin (*Moscow State Institute of Radio Engineering, Electronics and Automatics, Russia*); *Y. Fukumoto* (*Moscow State Institute of Radio Engineering, Electronics and Automatics, Russia*);

10:40 FDTD Simulation of Waveguide with Non-uniform Dielectric Slab
Aleksander P. Smirnov (*Lomonosov Moscow State University, Russia*); *A. N. Semenov* (*Lomonosov Moscow State University, Russia*); *Yury V. Shestopalov* (*Karlstad University, Sweden*);

11:00 Remarks on the Mathematical Solution of the Hollow Cavity Eigenvalue Problem
Gabriele Costanza (*Lund University, Sweden*); *Andreas D. Ioannidis* (*Linnaeus University, Sweden*);

11:20 The Resolution of Identity: A Unifying Concept in Field Theory
Alireza R. Baghai-Wadji (*University of Cape Town, South Africa*);

11:40 Asymptotic Analysis of the Whistler Waves Propagation in Space Plasma Thrusters
Davide Melazzi (*University of Padova, Italy*); *Alessandro Cardinali* (*Associazione Euratom-ENEA sulla Fusione, Italy*); *Marco Manente* (*University of Padova, Italy*); *Daniele Pavarin* (*University of Padova, Italy*);

Session 1A_10
SC1: Electromagnetics of Gradient Nanostructures and Heterogeneous Media

Monday AM, August 12, 2013

Room J

Organized by Alexander Borisovich Shvartsburg

Chaired by Alexander Borisovich Shvartsburg

08:20 Novel Technological Equipment for Gradient Optical Coatings Production
Nikolay F. Abramov (*JSC "M. F. Stelmakh R&D Institute-Polyus", Russian Federation*); *Oleg D. Volpian* (*Federal State Unitary Enterprise "M. F. Stelmakh Research Institute-Polus", Russian Federation*); *Yuri A. Obod* (*Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation*);

08:40 Reflectionless Tunneling of Light in Gradient Dielectric Nanostructures: Physical Fundamentals, Theoretical Basis and the First Experiments
Alexander Borisovich Shvartsburg (*Joint Institute for High Temperatures Russian Academy of Sciences, Russia*);

09:00 Synthesis and Properties of the $LiNbO_3$ Thin Films Intended for Nanogradient Structures
Roman N. Zhukov (*National University of Science and Technology "MISiS", Russia*); *S. V. Ksenich* (*National University of Science and Technology "MISiS", Russian Federation*); *Alexandr S. Bykov* (*National University of Science and Technology "MISiS", Russia*); *Dmitry A. Kiselev* (*National University of Science and Technology "MISiS", Russia*); *Mikhail D. Malinkovich* (*National University of Science and Technology "MISiS", Russia*); *Yuriy N. Parkomenko* (*National University of Science and Technology "MISiS", Russia*);

09:20 Magnetron Sputtering Deposition of Gradient Coatings for Photovoltaic Devices
Oleg D. Volpian (*Federal State Unitary Enterprise "M. F. Stelmakh Research Institute-Polus", Russian Federation*); *Anatoly I. Kuzmichev* (*National Technical University of Ukraine "Kiev Polytechnical Institute", Ukraine*); *Yuri A. Obod* (*Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation*);

09:40 About Some Unusual Electrodynamic Properties of Negative Refraction Materials
Victor G. Veselago (*A. M. Prokhorov General Physics Institute, Russian Academy of Sciences, Russia*);

10:00 **Coffee Break**

10:20 Multivariable Development of Gradient Optical Films Structures and Its Technological Applications
Oleg D. Volpian (*Federal State Unitary Enterprise "M. F. Stelmakh Research Institute-Polus", Russian Federation*); *Yuri A. Obod* (*Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation*); *Sergey V. Shkatula* (*Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation*);

10:40 Application of X-ray Reflectometry for a Characterization of Graded Layers
Kirill D. Shcherbachev (*National University of Science and Technology "MISiS", Russian Federation*); *Mikhail D. Malinkovich* (*National University of Science and Technology "MISiS", Russia*); *Yuriy N. Parkhomenko* (*National University of Science and Technology "MISiS", Russian Federation*);

11:00 Quantum Blooming: The Influence of the Detuning of the Antireflective Wells and the Phenomenon of Non-symmetric Transmission
Alexander S. Kaklyugin (*Atmospheric Plasma Instant Technology Corp., France*);

11:20 Intermodal Coupling Induced Reflection in Tapered Slow Light Metamaterial Waveguide
Yingran He (*Zhejiang University, China*); *Borui Li* (*Zhejiang University, China*); *Sailing He* (*Zhejiang University, Sweden*);

Session 1A_11a
Application of EM Field in Medicine and in Ecological Industrial Technologies

Monday AM, August 12, 2013

Room K

Organized by Jan Vrba

Chaired by Jan Vrba

08:00 Magnetoelectric Current Sensor
Roman Valer'evich Petrov (*Novgorod State University, Russia*); *Ivan N. Solovjev* (*Novgorod State University, Russia*); *Alexander Nikolaevich Soloviev* (*Novgorod State University, Russia*); *Mirza Imamovich Bichurin* (*Novgorod State University, Russia*);

08:20 Microwave Power Absorption in Human Body for Non-invasive Glucose Monitoring
A. Elkady (*American University in Cairo, Egypt*); *Mohamed El-Hadidy* (*The University of Duisburg-Essen, Germany*); *A. Medhat* (*CST-Middle East, Egypt*); *A. Khorshid* (*American University in Cairo, Egypt*); *A. Darwish* (*American University in Cairo, Egypt*);

08:40 Electrodynamic Model of Mitotic Spindle
Daniel Havelka (*Czech Technical University, Czech Republic*); *Michal Cifra* (*Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

09:00 Ultra Weak Photon Emission from Saccharomyces Cerevisiae
Katerina Cervinkova (*Czech Technical University in Prague, Czech Republic*); *Michaela Nerudova* (*Czech Technical University in Prague, Czech Republic*); *Michal Cifra* (*Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

09:20 Changes in DNA Methylation Wheat Seedlings in First and Second Generations under Influence of EHF EMI
M. S. Abovyan (*Yerevan State University, Armenia*); *Liya A. Minasbekyan* (*Yerevan State University, Armenia*);

09:40 Two Layers of Microwave Applicators: Comparing of SAR Distribution
Barbora Vrbova (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

10:00 **Coffee Break**

Session 1A_11b
SC1: Physics and Application of Nonlinear Materials and Devices

Monday AM, August 12, 2013

Room K

Organized by Alexander S. Sigov

Chaired by Alexander S. Sigov

10:20 A Possibility of Negative Differential Resistivity in Thin Ferroelectric Films
Alexander S. Sigov (*Moscow Institute for Radioengineering, Electronics and Automation, Russia*);

10:40 Leakage Currents in Sol-gel PZT Thin Films Doped by Lanthanum
Yu Podgorny (*Moscow State Technical University of Radioengineering, Electronics and Automation (MIREA), Russia*); *Alexander S. Sigov* (*Moscow State Technical University of Radioengineering, Electronics and Automation (MIREA), Russia*); *A. Vishnevskiy* (*Moscow State Technical University of Radioengineering, Electronics and Automation (MIREA), Russia*); *Konstantin Vorotilov* (*Moscow State Technical University of Radioengineering, Electronics and Automation (MIREA), Russia*);

11:00 Transformation of the Nanodomain State in the Frustrated Ferromagnet-antiferromagnet System
A. A. Berzin (*Moscow State Technical University of Radioengineering, Electronics and Automation, Russia*); *Alexander I. Morosov* (*Moscow State Technical University of Radioengineering, Electronics and Automation, Russia*); *Alexander S. Sigov* (*Moscow Institute for Radioengineering, Electronics and Automation, Russia*);

11:20 New Interpretation of Dielectric Spectrum of Water
Alexander A. Volkov (*A. M. Prokhorov General Physics Institute, RAS, Russia*); *V. G. Artemov* (*A. M. Prokhorov General Physics Institute, RAS, Russia*); *A. V. Pronin* (*A. M. Prokhorov General Physics Institute, RAS, Russia*);

11:40 Effect of Photodetector's Nonlinear Optical-to-electronic Conversion on the Specific Transmitting Characteristics of an Analog Fiber-wireless Link
Mikhail E. Belkin (*Moscow State Technical University of Radio-Engineering, Electronics and Automation, Russian Federation*);

Session 1A_K
Poster Session 1

Monday AM, August 12, 2013
9:00 AM - 12:00 AM
Room P

1 A Novel Single Prism-based Setup for Simultaneous Shaping of Measuring Beams and Common-path Interferometry
Christoph Gerhard (*University of Applied Sciences and Arts, Germany*); *Wolfgang Viöl* (*University of Applied Sciences and Arts, Germany*);

2 Fractal Labyrinths and Planar Nanostructures
Vladimir I. Grachev (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia*); *Alexander A. Potapov* (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia*); *Vitaly A. German* (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia*);

3 Innovative Circuits to Detect Faults in Accelerator Pedal Sensor Wires to Reduce Unintended Acceleration in Modern Vehicles
Mohamad Rahal (*University of Hail, Saudi Arabia*); *Muhammad Usman* (*University of Hail, Kingdom of Saudi Arabia*); *Ibrahim Rida* (*University of Hail, Saudi Arabia*);

4 Passive Super-Low Frequency Remote Sensing System
Nan Wang (*Peking University, China*); *Qiming Qin* (*Peking University, China*);

5 Multi-resolution Composite Linear DBF Array
Yue Tang (*Nanyang Technological University, Singapore*); *Yi-Long Lu* (*Nanyang Technological University, Singapore*);

6 Microstrip Antennas on a Cylindrical Surfaces
Rafal Lech (*Gdansk University of Technology, Poland*); *Wojciech Marynowski* (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*);

7 UWB Coplanar Line Fed Antennas on the Conducting Planar and Cylindrical Surfaces
Rafal Lech (*Gdansk University of Technology, Poland*); *Wojciech Marynowski* (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*);

8 Cheap UWB Coplanar Line Fed Antennas on Electrically Conductive Adhesive Tape
Wojciech Marynowski (*Gdansk University of Technology, Poland*); *Rafal Lech* (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*);

9 Multi-band Circular Patch Antenna for Wideband Application
Ebrahim Sailan Alabidi (*Universiti Teknologi Malaysia, Malaysia*); *Muhammad Ramlee Kamarudin* (*Universiti Teknologi Malaysia, Malaysia*); *Tharek Bin Abdul Rahman* (*University Technology Malaysia (UTM), Malaysia*); *Hashimu Uledi Iddi* (*Universiti Teknologi Malaysia, Malaysia*);

10 A Novel Compact Multiband H-shaped Patch Antenna Using CRLH Zeroth Order Resonator
Mohit Kumar Joshi (*The LNM Institute of Information Technology, India*); *Ankit Kumar Ghosh* (*The LNM Institute of Information Technology, India*); *Akhilesh Mohan* (*Indian Institute of Technology Rajasthan, India*);

11 The Comparative Analysis of UWB Antennas with Complementary Characteristics: A Functionality in FS and Applicability for the Usage Close to Tissues
Tommi Tuovinen (*University of Oulu, Finland*); *Markus Berg* (*University of Oulu, Finland*); *Erkki T. Salonen* (*University of Oulu, Finland*);

12 Optimized Reflector Position for Vlasov Antennas
Hilal El Misilmani (*American University of Beirut, Lebanon*); *Mohammed Al-Husseini* (*Lebanese Center for Studies and Research, Lebanon*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*); *Ali El-Hajj* (*American University of Beirut, Lebanon*);

13 The Imbedding Method in the Internal Electrodynamics Problem of Parabolic Reflector Antennas
S. V. Boyarkin (*Moscow State Technical University of Civil Aviation, Russia*); *Valery L. Kuznetsov* (*Moscow State Technical University of Civil Aviation (MSTUCA), Russia*);

14 Feasibility of Using an Absorptive Cover for Ice, Snow or Water Removal from Radome Surface
Aleksey Solovey (*L-3 Communications ESSCO, USA*);

15 Windowing of the Discrete Green's Function for Accurate FDTD Computations
Tomasz P. Stefanski (*Gdansk University of Technology, Poland*);

16 Combined E and H Field Formulation of IPO (Iterative Physical Optics) for Metallic, Coated or Uncoated with Lossy or Non Lossy Dielectric Materials Cavities
A. Pajot (*OKTAL Synthetic Environment, France*); *Nicolas Douchin* (*OKTAL Synthetic Environment, France*); *Henri-Jose Mametsa* (*ONERA DEMR, France*);

17 Global Base Approach to $\boldsymbol{H}$-polarized Wave Scattering by Conducting Circular Cylinders
Kenίchiro Yashiro (*Chiba University, Japan*);

18 Simulations of Electromagnetic Pulses from Hypervelocity Impact Plasmas
Alexander Fletcher (*Stanford University, USA*); *Sigrid Close* (*Stanford University, USA*);

19 Advances in Surface Integral Equation for Nano-scale Optical Wireless Nanolink
Yang Shao (*The Ohio State University, USA*); *Zhen Peng* (*The Ohio State University, USA*); *Jin-Fa Lee* (*The Ohio State University, USA*); *Diego M. Solis* (*University of Vigo, Spain*); *Jose Manuel Taboada* (*University of Extremadura, Spain*);

20 Surface Integral Equation Methods for Multi-scale Composite Problems
Zhen Peng (*The Ohio State University, USA*); *Jin-Fa Lee* (*The Ohio State University, USA*);

21 The Coulomb Gauge Based Integral Equation
Xiaoyan Y. Z. Xiong (*The University of Hong Kong, China*); *Y. H. Lo* (*The University of Hong Kong, China*); *Lijun Jiang* (*The University of Hong Kong, China*); *Wei E. I. Sha* (*The University of Hong Kong, China*);

22 Radiative Transfer with Coherent Backscattering Compared to Exact Scattering Methods
Antti Penttila (*University of Helsinki, Finland*); *K. Muinonen* (*Finnish Meteorol. Inst., Finland*); *E. Zubko* (*University of Helsinki, Finland*); *Michael I. Mishchenko* (*NASA Goddard Institute for Space Studies, USA*); *Janna M. Dlugach* (*Main Astronomical Observatory of the National Academy of Sciences of Ukraine, Ukraine*); *D. W. Mackowski* (*Auburn University, Finland*); *G. Videen* (*Army Research Laboratory, USA*);

23 Optical Interaction of Two Closely Spaced Nanoholes in Au Film
M. Janipour (*Iran University of Science Technology, Iran*); *Tavakol Pakizeh* (*K. N. Toosi University of Technology, Iran*); *F. Hodjat-Kashani* (*Iran University of Science and Technology, Iran*);

24 Novel All-optical Logic Gates Based on Microring Metal-insulator-metal Plasmonic Waveguides
Yaw-Dong Wu (*National Kaohsiung University of Applied Sciences, Taiwan*); *Yung-Ta Hsueh* (*National Kaohsiung University of Applied Sciences, Taiwan*); *Tien-Tsorng Shih* (*National Kaohsiung University of Applied Sciences, Taiwan*);

25 CRLH-TL Based Zeroth Order Resonance Antenna
Ankit Kumar Ghosh (*The LNM Institute of Information Technology, India*); *Mohit Kumar Joshi* (*The LNM Institute of Information Technology, India*); *Akhilesh Mohan* (*Indian Institute of Technology Rajasthan, India*);

26 New Weakly-coupled Nearly Adapted Resonant Sensors for Microwave Range Measurements
Filippo Micheletti (*Institute for Applied Physics — National Research Council IFAC-CNR, Italy*); *Roberto Olmi* (*Institute of Applied Physics N. Carrara-CNR, Italy*);

27 Multi-layered Frequency Selective Surfaces for High Frequency Applications
Agâh Oktay Ertay (*Istanbul Technical University, Turkey*); *Can Suer* (*Istanbul Technical University, Turkey*);

28 A Novel Neural Network Model of a Microwave Transistor Using Particle Swarm Optimization
Ufuk Özkaya (*Suleyman Demirel University, Turkey*); *Filiz Gunes* (*Yildiz Technical University, Turkey*);

29 Characteristic Planes of Microstrip and Unilateral Finline Tee-junctions
Alicia Casanueva Lopez (*Universidad de Cantabria, Spain*); *A. Leon* (*Universidad de Cantabria, Spain*); *Angel Mediavilla Sanchez* (*University of Cantabria, Spain*); *Joe Helszajn* (*Heriot-Watt University, UK*);

30 Study of Longitudinally Magnetized Left-handed Cylindrical Ferrite Coupled Line Junction
Adam Kusiek (*Gdansk University of Technology, Poland*); *Wojciech Marynowski* (*Gdansk University of Technology, Poland*); *Jerzy Mazur* (*Gdansk University of Technology, Poland*);

31 Nonreciprocal Devices Using Longitudinally Magnetized Left Handed Ferrite Coupled Line Junction
Wojciech Marynowski (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*); *J. Mazur* (*Gdansk University of Technology, Poland*);

32 A K-band Direct Injection-locked Frequency Divider Using Harmonic LC Tanks
Chien-Pai Wu (*National Chung Hsing University, Taiwan*); *Yen-Chung Chiang* (*National Chung-Hsing University, Taiwan*);

33 The Phase Noise Reduction of GaAs V-band Push-push VCO Using Slow-wave CPW Resonator Structures
Hsien-Chin Chiu (*Chang Gung University, Taiwan, R.O.C.*); *Min-Li Chou* (*Chang Gung University, Taiwan, R.O.C.*); *Po-Yu Ke* (*Chang Gung University, Taiwan*); *Fan-Hsiu Huang* (*Chang Gung University, Taiwan*); *Hsuan-Ling Kao* (*Chang Gung University, Taiwan*);

34 Novel Atmospheric Pressure Plasma-based Methods for Surface Modification and Hybrid Laser Ablation of Optical Glasses
Christoph Gerhard (*University of Applied Sciences and Arts, Germany*); *Wolfgang Viöl* (*University of Applied Sciences and Arts, Germany*);

35 A Versatile Atmospheric Pressure Plasma Source for Simultaneous Surface Treatment and Analysis
Christoph Gerhard (*University of Applied Sciences and Arts, Germany*); *Stephan Bruckner* (*Clausthal University of Technology, Germany*); *Wolfgang Viöl* (*University of Applied Sciences and Arts, Germany*);

36 Electromagnetic and Gravitational Origin of Dark Energy in Kaluza-Klein $D = 5$ Spacetime
Mohamed S. El Naschie (*Alexandria University, Egypt*);

37 Shape Dependent Broadband Plasmonic Absorption in Metallic Nanoparticles for Efficient Organic Solar Cells
Xuanhua Li (*The University of Hong Kong, China*); *Wallace C. H. Choy* (*The University of Hong Kong, China*); *Haifei Lu* (*The Chinese University of Hong Kong, China*); *Wei E. I. Sha* (*The University of Hong Kong, China*); *Ho-Pui Ho* (*The Chinese University of Hong Kong, China*);

38 An Accurate and Robust Timing and Frequency Synchronization for Coherent Optical Systems
Lingchen Huang (*Zhejiang University, China*); *Changjian Guo* (*South China Normal University, China*); *Dawei Wangle* (*Zhejiang University, China*);

39 Compressed Sensing for Velocity Estimation of CW Radar Using a Constrained Least Square Method
Jiwoong Yu (*Yonsei University, South Korea*); *Tae Yun Lee* (*Yonsei University, Korea*); *Seok Kim* (*Yonsei University, Korea*); *Seeon Jeon* (*Yonsei University, Korea*); *Min-Ho Ka* (*Yonsei University, Korea Republic*);

40 Electromagnetic Signal Processing for Feature Extraction and Classification of Lossy Dielectric Targets
Gonul Turhan-Sayan (*Middle East Technical University (METU), Turkey*); *Basak Isik Barut* (*Middle East Technical University (METU), Turkey*);

41 Bivariate Statistical Analysis for Electromagnetic Reverberation Chamber
Suna Choi (*Electronics and Telecommunications Research Institute (ETRI), Korea*); *Seungkeun Park* (*Electronics and Telecommunications Research Institute (ETRI), Korea*);

42 Design of the Electric-fields Probe in the Personal Exposure Meter
Sang Il Kwak (*Electronics and Telecommunications Research Institute (ETRI), South Korea*); *Byung Chan Kim* (*Electronics and Telecommunications Research Institute (ETRI), South Korea*); *Hyung-Do Choi* (*Electronics and Telecommunications Research Institute, Korea*); *Young Joong Yoon* (*Yonsei University, Korea*);

43 GNSS-based Bistatic Synthetic Aperture Radar Image Formation via Compressive Sensing
Chunyang Dai (*University of Electronic Science and Technology of China, China*); *Liangjiang Zhou* (*Chinese Academy of Sciences, China*); *Xingdong Liang* (*Chinese Academy of Sciences, China*); *Yirong Wu* (*National Key Laboratory of Microwave Imaging Technology, China*);

44 Analysis and Design of Directional Couplers Based on Metal-insulator-metal (MIM) Plasmonic Waveguide
Fabrizio Frezza (*"La Sapienza" University of Rome, Italy*); *Endri Stoja* (*"La Sapienza" University of Rome, Italy*);

45 Recent Advances in 3D-IC EMC Measurement Methods
Jianfei Wu (*National University of Defense Technology, China*); *Etienne Sicard* (*National Institute of Applied Sciences, France*); *J. Li* (*National University of Defense Technology, China*);

46 Capacitively-loaded Inductively-coupled Fed Loop Antenna with an Omnidirectional Radiation Pattern for UHF RFID Tags
Qi Liu (*Zhejiang University, China*); *Yufeng Yu* (*Zhejiang University, China*); *Qiangsheng Huang* (*Zhejiang University, China*);

47 Slot Embedded Microstrip Paper Based Substrate Antenna for Automotive Systems
Muhammad Yusof Ismail (*University of Tun Hussein Onn Malaysia, Malaysia*); *W. N. Zaihasra* (*University of Tun Hussein Onn Malaysia, Malaysia*); *Norbahiah Misran* (*Universiti Kebangsaan Malaysia, Malaysia*);

48 Dual-band Circularly Polarized Horn Antenna Based on Chiral Metamaterial
Xiaoliang Ma (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Cheng Huang* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Bo Zhao* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Jianhua Cui* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Xiangang Luo* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*);

49 A Low-RCS and High-gain Partially Reflecting Surface Antenna
Wenbo Pan (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Cheng Huang* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Mingbo Pu* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*); *Xiangang Luo* (*Institute of Optics and Electronics, Chinese Academy of Sciences, China*);

50 Investigation of the Transmission of Power Line Communication (PLC) Signal trough a Power Network Containing a Power Transformer
Mohammed Melit (*University of Jijel, Algeria*); *Daoud Sekki* (*University of Jijel, Algeria*);

51 Ultra-broadband Transparent Chiral Metamaterial Linear Polarization Transformer
Yongzhi Cheng (*Huazhong University of Science and Technology, China*); *Yan Nie* (*Huazhong University of Science & Technology, China*); *Xian Wang* (*Huazhong University of Science and Technology, China*); *Rong Zhou Gong* (*Huazhong University of Science and Technology, China*);

52 Modified the Ten-port Reflectometer
Amirhossein Askarian (*Amirkabir University of Technology, Iran*); *Gholamreza R. Moradi* (*Amirkabir University of Technology, Iran*);

53 Application of MoM to the Calculation of Polarimetric Variables for Ensembles of Rough Hydrometeors
Djordje Mirkovic (*University of Oklahoma CIMMS, USA*); *Dusan Zrnic* (*NOAA National Severe Storms Laboratory, USA*); *Alexander Ryzhkov* (*University of Oklahoma CIMMS, USA*);

54 Implementation of Hybrid TLM and MoM Method to Analysis the High Frequency Electromagnetic Interferences in Microstrip Circuits
Mehdi Bahadorzadeh Ghandehari (*Islamic Azad University, Mashhad Branch, Iran*); *H. Bolandpour* (*Sharif University of Technology, Iran*);

55 Enhanced Fullwave-mode Technique for Multilayered Passive Circuits Including Ferrites with Arbitrary dc Magnetic Field Polarization
Mohamed Lamine Tounsi (*USTHB University, Algeria*); *Youcef Gaceb* (*USTHB University, Algeria*); *Mustapha C. E. Yagoub* (*University of Ottawa, Canada*);

56 Four-port Miniaturized and Highly Isolated Antenna for Multiple-input Multiple-output Communication Systems
Mehari L. Ayele (*Wichita State University, USA*); *Hyuck M. Kwon* (*Wichita State University, USA*); *Wenhao Xiong* (*Wichita State University, USA*); *Yang-Ki Hong* (*The University of Alabama, USA*);

57 The Harmonic Suppressed EMI Filter for OLEV (Online Electric Vehicle) System
Ja Hyeon Lee (*KAIST, Korea*); *Dang-Oh Kim* (*KAIST, Korea*); *Sang Hoon Chung* (*KAIST, Korea*); *Uooyeol Yoon* (*KAIST, Korea*);

Session 1P1
2_FocusSession.SC2: Plasmonics in the Quantum Regime 1

Monday PM, August 12, 2013

Room A

Organized by Yongmin Liu, Stefan A. Maier

Chaired by Yongmin Liu, Stefan A. Maier

13:00 keynote Quantum Plasmonics: Plasmon Induced Electron Transfer Processes
Peter Nordlander (*Rice University, USA*);

13:30 invited Diamond Nanophotonics and Quantum Optics
Marko Loncar (*Harvard University, USA*);

13:50 invited Atoms Coupled to Nanophotonic Waveguides: A Novel Platform for Quantum Optics
Darrick Chang (*ICFO — The Institute of Photonic Sciences Mediterranean Technology Park, Spain*);

14:10 Mediating between Light and Charge in Plasmonic Metamaterials
keynote
Naomi J. Halas (*Rice University, USA*);

14:40 Quantum Tunneling Seen Directly in the Plasmonic Resonance
invited
Ventsislav K. Valev (*University of Cambridge, UK*); *Alan Sanders* (*University of Cambridge, UK*); *Kevin J. Savage* (*University of Cambridge, UK*); *Matthew M. Hawkeye* (*University of Alberta, Canada*); *Ruben Esteban* (*Material Physics Center CSIC-UPV/EHU and Donostia International Physics Center, Spain*); *Andrei G. Borisov* (*Donostia International Physics Center, Spain*); *Javier Aizpurua* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*); *Jeremy J. Baumberg* (*University of Cambridge, UK*);

15:00 Quantum Effects in Tunneling Plasmonics
invited
R. Esteban (*Material Physics Center CSIC-UPV/EHU and Donostia International Physics Center, Spain*); *A. G. Borisov* (*Univ Paris 11, France*); *Peter Nordlander* (*Rice University, USA*); *Kevin J. Savage* (*University of Cambridge, UK*); *Matthew M. Hawkeye* (*Univ Alberta, Canada*); *Jeremy J. Baumberg* (*University of Cambridge, UK*); *Javier Aizpurua* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*);

15:20 **Coffee Break**

15:40 Signatures of Quantum Condensation in a Plasmonic Nanoparticle Array
invited
S. R. K. Rodriguez (*FOM Institute AMOLF, The Netherlands*); *Johannes Feist* (*Universidad Autonoma de Madrid, Spain*); *M. A. Verschuuren* (*Philips Research Laboratories, The Netherlands*); *F. J. Garcia Vidal* (*FOM Institute AMOLF, The Netherlands*); *Jaime Gomez-Rivas* (*Universidad Autonoma de Madrid, Spain*);

16:00 Quantum Statistics and Loss Compensation in Confined Surface Plasmon Polariton Waveguides
keynote
Stefan A. Maier (*Imperial College London, UK*); *Yannick Sonnefraud* (*Imperial College London, UK*);

16:30 Transformation-optics Insight into the Emergence of Quantum Effects in Plasmonic Dimers
invited
Antonio I. Fernandez-Dominguez (*Imperial College, UK*);

16:50 Room Temperature Plasmonic Nanowire Laser near the Surface Plasmon Frequency
invited
Themistoklis P. H. Sidiropoulos (*Imperial College London, United Kingdom*); *Sebastian Geburt* (*University of Jena, Germany*); *Robert Röder* (*University of Jena, Germany*); *Matthias Ogrisek* (*University of Jena, Germany*); *Stefan A. Maier* (*Imperial College London, UK*); *Carsten Ronning* (*University of Jena, Germany*); *Rupert F. Oulton* (*Imperial College London, United Kingdom*);

17:10 Continuous Operation SPASER Based on Epitaxial Silver Films
invited
Yu-Jung Lu (*National Tsing-Hua University, Taiwan*); *Jisun Kim* (*National Tsing-Hua University, Taiwan*); *Hung-Ying Chen* (*National Tsing-Hua University, Taiwan*); *Chun-Yuan Wang* (*National Tsing-Hua University, Taiwan*); *Ming-Yen Lu* (*National Tsing-Hua University, Taiwan*); *Bo-Hong Li* (*National Tsing-Hua University, Taiwan*); *Xianggang Qiu* (*National Tsing-Hua University, Taiwan*); *Wen-Hao Chang* (*National Tsing-Hua University, Taiwan*); *Lih-Juann Chen* (*National Tsing-Hua University, Taiwan*); *Shangjr Gwo* (*National Tsing-Hua University, Taiwan*); *Chihhui Wu* (*The University of Texas at Austin, USA*); *Nima Dabidian* (*The University of Texas at Austin, USA*); *Charlotte E. Sanders* (*The University of Texas at Austin, USA*); *Chih-Kang Shih* (*The University of Texas at Austin, USA*); *Gennady Shvets* (*The University of Texas at Austin, USA*);

17:30 A New Way to Excite Surface Plasmon Polaritons at Smooth Surfaces without Using Any Coupler — Quantum-interference-based Surface Plasmon Resonance Technique
Chunguang Du (*Tsinghua University, China*);

17:45 Emerging Plasmons Enhanced Ultrafast Light-matter Interactions
invited
Min Ouyang (*University of Maryland, USA*);

Session 1P2
2_FocusSession.SC2: Metasurfaces for Wavefront Control

Monday PM, August 12, 2013

Room B

Organized by Lei Zhou, Federico Capasso

Chaired by Lei Zhou, Federico Capasso

13:00 Holographic Metasurfaces
keynote
Federico Capasso (*Harvard University, USA*);

13:30 Flat Optics: Controlling Wavefronts with Optical Antenna Metasurfaces (invited)
Nanfang Yu (*Columbia University, USA*); *Federico Capasso* (*Harvard University, USA*);

13:50 Ultrathin Optical Plasmonic Metadevices Based on Phase Discontinuity (invited)
Xianzhong Chen (*University of Birmingham, UK*); *Lingling Huang* (*University of Birmingham, UK*); *Holger Muhlenbernd* (*University of Paderborn, Germany*); *Guixin Li* (*Hong Kong Baptist University, China*); *Benfeng Bai* (*Tsinghua University, China*); *Qiaofeng Tan* (*Tsinghua University, China*); *Guofan Jin* (*Tsinghua University, China*); *Cheng-Wei Qiu* (*National University of Singapore, Singapore*); *Thomas Zentgraf* (*University of Paderborn, Germany*); *Shuang Zhang* (*University of Birmingham, UK*);

14:10 Beam Transformation Using Spin-optical Metasurfaces with Pancharatnam-Berry Phase Elements
Jensen Li (*City University of Hong Kong, China*); *Ming Kang* (*City University of Hong Kong, China*); *Guixin Li* (*Hong Kong Baptist University, China*); *Shumei Chen* (*City University of Hong Kong, China*); *Edwin Yue-Bun Pun* (*City University of Hong Kong, China*); *Kok Wai Cheah* (*Hong Kong Baptist University, China*);

14:25 Spectrally Selective Flat Reflective Lenses for Photovoltaic Applications
Sergiy Valyukh (*Linköping University, Sweden*);

14:40 Fixed and Reconfigurable THz Reflectarrays Using Graphene (invited)
Eduardo Carrasco (*Ecole Polytechnique Fédérale de Lausanne, Switzerland*); *Julien Perruisseau-Carrier* (*CTTC, Spain*);

15:00 Controlled Reflection from a Reflectarray of Optical Dielectric Resonator Nano-antennas (invited)
Longfang Zou (*The University of Adelaide, Australia*); *Withawat Withayachumnankul* (*The University of Adelaide, Australia*); *Charan Manish Shah* (*RMIT University, Australia*); *Arnan Mitchell* (*RMIT University, Australia*); *Madhu Bhaskaran* (*RMIT University, Australia*); *Sharath Sriram* (*RMIT University, Australia*); *Christophe Fumeaux* (*The University of Adelaide, Australia*);

15:20 **Coffee Break**

15:40 Gradient-index Meta-surfaces as a Bridge Linking Propagating Waves and Surface Waves (invited)
Qiong He (*Fudan University, China*); *Shulin Sun* (*Fudan University, China*); *Shiyi Xiao* (*Fudan University, China*); *Xin Li* (*Fudan University, China*); *Che Qu* (*Fudan University, China*); *Lei Zhou* (*Fudan University, China*);

16:00 High-efficiency Anomalous Light Reflections by Gradient Meta-surfaces (invited)
Shulin Sun (*Fudan University, China*); *Kuang Yu Yang* (*National Taiwan University, Taiwan*); *Chih-Ming Wang* (*National Dong Hwa University, Taiwan*); *Ta-Ko Juan* (*National Dong Hwa University, Taiwan*); *Wei Ting Chen* (*National Taiwan University, Taiwan*); *Chun Yen Liao* (*National Taiwan University, Taiwan*); *Qiong He* (*Fudan University, China*); *Shiyi Xiao* (*Fudan University, China*); *Wen-Ting Kung* (*National Dong Hwa University, Taiwan*); *Guang-Yu Guo* (*National Taiwan University, Taiwan*); *Lei Zhou* (*Fudan University, China*); *Din Ping Tsai* (*National Taiwan University, Taiwan, R.O.C.*);

16:20 Gap Plasmon Based Gradient Metasurfaces for Control of Reflected Light (invited)
Sergey I. Bozhevolnyi (*University of Southern Denmark, Denmark*);

16:40 Spoof Surface Plasmons on Ultrathin Corrugated Metal Structures (invited)
Tie Jun Cui (*Southeast University, China*); *Xiaopeng Shen* (*Southeast University, China*);

17:00 Metasurfing Substrate Integrated Waveguides to Mold the Radiation from Leaky Waves
Jose Luis Gomez Tornero (*Technical University of Cartagena, Spain*); *George Goussetis* (*Heriot-Watt University, United Kingdom*); *Yingjie Jay Guo* (*CSIRO (Commonwealth Scientific and Industrial Research Organisation) ICT Centre, Australia*);

Session 1P3
1_FocusSession.SC1: Casimir Effect and Heat Transfer 1

Monday PM, August 12, 2013

Room C

Organized by Brahim Guizal, Mauro Antezza

Chaired by Mauro Antezza, Brahim Guizal

13:00 Anomalous Heat Transport Regimes in Complex Plasmonic Networks (invited)
Philippe Ben-Abdallah (*Institut d'Optique, CNRS, Universite Paris-Sud 11, France*);

13:20 Evanescent-wave Heat Transfer at Cryogenic Temperatures in a Parallel Plane Geometry (invited)
Richard S. Ottens (*University of Florida, USA*); *V. Quetschke* (*University of Texas at Brownsville, USA*); *G. Mueller* (*University of Florida, USA*); *D. H. Reitze* (*California Institute of Technology, USA*); *David B. Tanner* (*University of Florida, USA*);

13:40 Near-field Thermal Emission near Non-local Dielectrics (invited)
Karl Joulain (*Universite de Poitiers, France*); *Y. Ezzahri* (*CNRS, Universite de Poitiers, France*); *F. Singer* (*Universite de Poitiers, France*);

14:00 Revisiting Thermal Emission in the Near-field with a Thermal Radiation Scanning Tunnelling Microscope (invited)
Arthur Babuty (*Institut Langevin, ESPCI ParisTech, CNRS, France*); *Karl Joulain* (*Universite de Poitiers, France*); *Pierre-Olivier Chapuis* (*Catalan Institute of Nanotechnology (ICN), Spain*); *Jean-Jacques Greffet* (*Ecole Centrale Paris, France*); *Yannick De Wilde* (*Institut Langevin, ESPCI ParisTech, CNRS, France*);

14:20 Measuring Radiative Heat Transfer Enhancement at the Nanoscale (invited)
Emmanuel Rousseau (*CNRS UMR, France*); *Alessandro Siria* (*Universite Joseph Fourier, France*); *Guillaume Jourdan* (*CEA LETI, France*); *Sebastian Volz* (*Ecole Centrale Paris, France*); *Fabio Comin* (*ESRF, France*); *Joel Chevrier* (*Universite Joseph Fourier, France*); *Jean-Jacques Greffet* (*Ecole Centrale Paris, France*);

14:40 Control of Near-field Heat Transfer in Nanostructures (invited)
Michal Lipson (*Cornell University, USA*);

15:00 On Experiments of Near-field Heat Flow between a SPM-tip and a Monolayer Dielectric Island (invited)
Achim Kittel (*University of Oldenburg, Germany*); *D. Hellmann* (*University of Oldenburg, Germany*); *L. Worbes* (*University of Oldenburg, Germany*);

15:20 **Coffee Break**

15:40 Measurements of the Heat Transfer in Near Field Regime and the Influence of Graphene Layer (invited)
Joel Chevrier (*Universite Joseph Fourier, France*); *P. J. Van Zwol* (*Universite Joseph Fourier, France*);

16:00 Continuous Transition of Heat Transport across a Closing Vacuum Gap from Thermal Radiation to Thermal Conduction (invited)
Bair V. Budaev (*University of California Berkeley, USA*); *David D. Bogy* (*University of California, USA*);

16:20 Theory of the Dynamical Casimir Effect in Superconducting Circuits (invited)
Goran Johansson (*Chalmers University of Technology, Sweden*);

16:40 Experiments on the Dynamical Casimir Effect in Superconducting Circuits (invited)
Per Delsing (*Chalmers University of Technology, Sweden*);

17:00 On the Foundations of Electromagnetic Fluctuation Forces (invited)
Carsten Henkel (*Universitat Potsdam, Germany*); *V. E. Mkrtchian* (*Institute for Physical Research, Armenian Academy of Sciences, Republic of Armenia*);

Session 1P4a
SC4: Novel Frequency Selective Structures

Monday PM, August 12, 2013
Room D
Organized by Zhongxiang Shen
Chaired by Zhongxiang Shen, Amir Khurrum Rashid

13:00 Three-dimensional Dual-band Frequency Selective Structure Using Microstrip Lines
Bo Li (*Nanyang Technological University, Singapore*); *Zhongxiang Shen* (*Nanyang Technological University, Singapore*);

13:20 A Triple-mode Passband Filter with Improved Upper-stopband Performance
Huan Yang (*Nanjing University of Aeronautics and Astronautics, China*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics, China*); *Xiang-Kun Kong* (*Nanjing University of Aeronautics and Astronautics, China*); *Hui-Chao Zhao* (*Nanjing University of Aeronautics and Astronautics, China*); *Bo-Rui Bian* (*Nanjing University of Aeronautics and Astronautics, China*);

13:40 Embedding Grating Mirror in Resonant Cavity-enhanced Absorber Structures for Mid-infrared Detectors Applications
Moshe Zohar (*Ben-Gurion University of the Negev, Israel*); *Mark Auslender* (*Ben-Gurion University of the Negev, Israel*); *Shlomo Hava* (*Ben-Gurion University of the Negev, Israel*);

14:00 Three-dimensional Loaded Dipoles for Applications in Frequency Selective Structures
Amir Khurrum Rashid (*National University of Computer and Emerging Sciences (NUCES-FAST), Pakistan*); *Shan Ullah* (*National University of Sciences and Technology (NUST), Pakistan*); *S. A. Nauroze* (*National University of Computer and Emerging Sciences, Pakistan*);

14:20 Automated Design of Frequency Selective Surfaces with the Application to Wi-Fi Band-stop Filter
Pavel Tomasek (*Tomas Bata University in Zlin, Czech Republic*); *Stanislav Gona* (*Tomas Bata University in Zlin, Czech Republic*);

14:40 Ultra-low Density Microwave Absorber Based on Frequency Selective Surface of Ferromagnetic Nano-films
Meng Zhang (*Nanjing University, China*); *Tian Jiang* (*Nanjing University, China*); *Jinglong Fan* (*Nanjing University, China*); *Yijun Feng* (*Nanjing University, China*);

15:00 Angular Stable Three-dimensional Convoluted-dipole for the Applications in Band-stop Frequency Selective Surfaces
Shan Ullah (*National University of Sciences and Technology (NUST), Pakistan*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST), Pakistan*); *M. A. Tarar* (*National University of Sciences and Technology (NUST), Pakistan*); *Amir Khurrum Rashid* (*National University of Computer and Emerging Sciences (NUCES-FAST), Pakistan*);

15:20 **Coffee Break**

Session 1P4b
SC4: Innovative Materials/Metamaterials for Wireless Circuits and Miniaturized Antennas

Monday PM, August 12, 2013

Room D

Organized by Khalid Z. Rajab, Raj Mittra

Chaired by Khalid Z. Rajab, Raj Mittra

15:40 Miniaturised Antennas over High Impedance Surfaces
Kenneth Lee Ford (*The University of Sheffield, UK*); *Daniel Graham Holtby* (*The University of Sheffield, UK*); *Alan Tennant* (*The University of Sheffield, UK*); *Richard J. Langley* (*University of Sheffield, UK*);

16:00 Steering Electromagnetic and Acoustic Waves at Scales Independent of the Wavelength with Metamaterials
Nadege Kaina (*ESPCI ParisTech, France*); *Mathias Fink* (*ESPCI ParisTech & CNRS, France*); *Geoffroy Lerosey* (*Universite Paris 7, France*);

16:20 On-chip Integrated Millimeter-wave Antennas on a Local Porous Si Substrate
Panagiotis Sarafis (*NCSR Demokritos, IMEL, Terma Patriarchou Grigoriou, Greece*); *Chuan-Lun Hsu* (*IMEP-LAHC, Grenoble Universite, France*); *Gustavo Ardila* (*IMEP-LAHC, Grenoble Universite, France*); *Philippe Benech* (*IMEP-LAHC, Grenoble Universite, France*); *Androula G. Nassiopoulou* (*NCSR Demokritos, IMEL, Terma Patriarchou Grigoriou, Greece*);

16:40 Reflectance Spectroscopy of $Ba_{3+x}Zn_{1+y}Nb_2O_9$ Perovskites
W. De La Cruz (*Brock University, Canada*); *S. Moodie* (*Brock University, Canada*); *J. Manson* (*Brock University, Canada*); *David A. Crandles* (*Brock University, Canada*); *Dymitro Grebennikov* (*McMaster University, Canada*); *P. Mascher* (*McMaster University, Canada*);

17:00 Stability and Noise in Active Metamaterials
Khalid Z. Rajab (*Queen Mary University of London, United Kingdom*); *Yifeng Fan* (*Queen Mary University of London, UK*); *Deepak Singh Nagarkoti* (*Queen Mary University of London, UK*); *Yang Hao* (*Queen Mary University of London, England*);

17:20 Design of Advanced Microwave Filters Using the Metamaterial Approach
Dmitry V. Kholodnyak (*Saint-Petersburg Electrotechnical University, Russia*); *V. M. Turgaliev* (*St. Petersburg Electrotechnical University "LETI", Russia*); *J. Ni* (*Heriot-Watt University, UK*); *S. Qian* (*Heriot-Watt University, UK*); *A. S. Rusakov* (*St. Petersburg Electrotechnical University "LETI", Russia*); *Irina B. Vendik* (*St. Petersburg Electrotechnical University, Russia*); *J.-S. Hong* (*Heriot-Watt University, UK*);

Session 1P5
4_FocusSession.SC4: Advances in Millimeter-Wave and THz Circuit, Techniques and Applications

Monday PM, August 12, 2013

Room E

Organized by Kamal K. Samanta

Chaired by Kamal K. Samanta, Maurizio Bozzi

12:50 keynote InP and GaN mm-wave Transistor Electronics at ETH-Zurich
Colombo R. Bolognesi (*ETH Zurich, Switzerland*);

13:20 invited Millimeter-wave Signal Generation by Nonlinear Optical Effect in Rectangular Waveguides
Hiroshi Murata (*Osaka University, Japan*);

13:40 invited Millimeter Wave Biomedical Applications for Microfluidic Platforms
Bart K. J. C. Nauwelaers (*Katholieke Universiteit Leuven, Belgium*); *Ilja Ocket* (*Katholieke Universiteit Leuven, Belgium*);

14:00 invited Photoimageable Substrate Integrated Waveguide (SIW) and Components for Advanced Millimetre-wave and Sub-mmW Systems (SoP)
Kamal K. Samanta (*Milmega/Teseq Ltd., UK*);

14:20 invited Modular Antenna Array Concept for Millimeter-wave Beam-steering Applications
U. Johannsen (*Eindhoven University of Technology, Netherlands*); *M. Imran Kazim* (*Eindhoven University of Technology, Netherlands*); *A. Bart Smolders* (*Technical University of Eindhoven, The Netherlands*); *Matti H. A. J. Herben* (*Eindhoven University of Technology, The Netherlands*);

14:40 invited LTCC-based Millimeter-wave System-on-package
Langis Roy (*Carleton University, Canada*);

15:00 invited Substrate Integrated Waveguide (SIW) Technology for the Next Generation of Microwave and mm-Wave Systems
Maurizio Bozzi (*University of Pavia, Italy*);

15:20 **Coffee Break**

15:40 invited Integrated Terahertz Electronics for Imaging and Sensing Applications
Jan Stake (*Chalmers University of Technology, Sweden*); *Huan Zhao* (*Chalmers University of Technology, Sweden*); *Vladimir Drakinskiy* (*Chalmers University of Technology, Sweden*); *Aleksandra Malko* (*Chalmers University of Technology, Sweden*); *Johanna Hanning* (*Chalmers University of Technology, Sweden*); *Robin Dahlback* (*Chalmers University of Technology, Sweden*); *Aik-Yean Tang* (*Chalmers University of Technology, Sweden*); *Peter J. Sobis* (*GigaHertz Centre, Sweden*); *Tomas Bryllert* (*Chalmers University of Technology, Sweden*);

16:00 invited Monocrystalline Silicon Microwave MEMS
Joachim Oberhammer (*KTH Royal Institute of Technology, Sweden*); *Umer Shah* (*KTH Royal Institute of Technology, Sweden*); *Zargham Baghchehsaraei* (*KTH Royal Institute of Technology, Sweden*); *Fritzi Topfer* (*KTH Royal Institute of Technology, Sweden*); *Nikolai Chekurov* (*KTH Royal Institute of Technology, Sweden*); *Mikael Sterner* (*KTH Royal Institute of Technology, Sweden*); *Nutapong Somjit* (*KTH-Royal Institute of Technology, Sweden*);

16:20 invited Novel Passive Devices for Sub-millimeter Wave Applications
Khaled Elgaid (*University of Glasgow, UK*);

16:40 invited Low-cost Miniaturized 122 GHz SiP Radar Sensor
Yaoming Sun (*IHP, Germany*);

17:00 invited High-peak-power and Tunable Terahertz-wave Generation by Using Nonlinear Parametric Conversion
Shinichiro Hayashi (*RIKEN, Japan*); *Kouji Nawata* (*RIKEN, Japan*); *Kodo Kawase* (*RIKEN, Japan*); *Hiroaki Minamide* (*RIKEN, Japan*);

17:20 invited Terahertz Optical Technology for Sensing and Spectroscopy
Peter Uhd Jepsen (*Technical University of Denmark, Denmark*);

17:40 Analysis and Design of Multi-mode Dielectric Waveguide Interconnect with Planar Excitation
Nemat Dolatsha (*ETHZ University, Switzerland*); *Amin Arbabian* (*Stanford University, USA*);

Session 1P6
SC4: Multiband and Wideband Antenna and Array Techniques

Monday PM, August 12, 2013

Room F

Organized by Oscar Quevedo-Teruel, Eloy De Lera Acedo

Chaired by Oscar Quevedo-Teruel, Eloy De Lera Acedo

13:00 A Review of Broadband Array Antenna Technologies
Anthony Keith Brown (*The University of Manchester, United Kingdom*); *Yongwei Zhang* (*The University of Manchester, UK*);

13:20 Design Considerations for a Low-frequency Vivaldi Array Element
Alberto Tibaldi (*Politecnico di Torino, Italy*); *Giuseppe Virone* (*Politecnico di Torino, Italy*); *Federico Perini* (*Istituto Nazionale di Astrofisica (INAF), Italy*); *Jader Monari* (*Istituto Nazionale di Astrofisica (INAF), Italy*); *Muhammad Zunnoorain Farooqui* (*Politecnico di Torino, Italy*); *Mauro Lumia* (*Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni (IEIIT), Italy*); *Oscar Antonio Peverini* (*Politecnico di Torino, Italy*); *Giuseppe Addamo* (*Politecnico di Torino, Italy*); *Riccardo Tascone* (*Politecn Turin, Italy*); *Renato Orta* (*Politecnico di Torino, Italy*);

13:40 Optimization and Performance Tradeoffs of Phased Array Antenna Configurations for Radio Astronomy
Nima Razavi-Ghods (*University of Cambridge, UK*); *T. Clavier* (*Universite Catholique de Louvain, Belgium*); *F. Glineur* (*Universite Catholique de Louvain, Belgium*); *David Gonzalez-Ovejero* (*University of Siena, Italy*); *Eloy De Lera Acedo* (*University of Cambridge, UK*); *Christophe Craeye* (*Universite Catholique de Louvain, Belgium*);

14:00 Ultra-Wideband Tightly Coupled Phased Array Antenna for Low-Frequency Radio Telescope
Eman O. Farhat (*University of Malta, Malta*); *Kristian Z. Adami* (*University of Oxford, United Kingdom*); *Yongwei Zhang* (*The University of Manchester, United Kingdom*); *Anthony Keith Brown* (*The University of Manchester, United Kingdom*); *Charles V. Sammut* (*University of Malta, Malta*);

14:20 EM Simulations, Beam Modeling and Calibration of Ultra-wideband Array Antennas for Radio Astronomy
Eloy de Lera Acedo (*University of Cambridge, UK*); *David Gonzalez-Ovejero* (*University of Siena, Italy*); *C. Raucy* (*Universite Catholique de Louvain, Belgium*); *J. Harris* (*University of Cambridge, UK*); *Nima Razavi-Ghods* (*University of Cambridge, UK*); *Christophe Craeye* (*Universite Catholique de Louvain, Belgium*);

14:40 A Wideband Circularly-polarized Antenna — Self-grounded Monopole Array with Low Axial Ratio over Large Coverage
Jian Yang (*Chalmers University of Technology, Sweden*);

15:00 Recent Developments of Multiband and Wideband Reflectarrays
José Antonio Encinar Garcinuño (*Ciudad Universitaria, Spain*); *Manuel Arrebola* (*Universidad de Oviedo, Spain*); *Carolina Tienda* (*ESA ESTEC, Netherlands*); *Mariano Barba* (*Universidad Politécnica de Madrid, Spain*); *Eduardo Carrasco* (*Universidad Politécnica de Madrid, Spain*);

15:20 **Coffee Break**

15:40 Quasi Conformal Transformation Optics for the Design of Ultra Wide Band Lenses
Oscar Quevedo-Teruel (*Queen Mary University of London, UK*); *R. C. Mitchell-Thomas* (*Queen Mary University of London, UK*); *Y. Hao* (*Queen Mary, University of London, UK*);

16:00 A Compact Triple-band Filtering Microstrip Patch Antenna with the Same Polarization Planes
Yun-Jui Lee (*National Chaio Tung University, Taiwan*); *Shyh-Jong Chung* (*National Chaio Tung University, Taiwan, R.O.C.*);

16:20 A Study of Partial Resonance Control for Edge Elements in a Finite Array
Christos I. Kolitsidas (*KTH — Royal Institute of Technology, Sweden*); *B. Lars G. Jonsson* (*KTH — Royal Institute of Technology, Sweden*);

16:40 Broadband, High Gain, See-through Antenna for WiFi, WiMax and LTE 2600 Radio Networks
Pierre-Antoine Garcia (*LUNAM, IETR UMR 6164, France*); *Tchanguiz Razban-Haghighi* (*LUNAM, IETR UMR 6164, France*); *Anne Chousseaud* (*LUNAM, IETR UMR 6164, France*); *E. Motta Cruz* (*Bouygues Telecom, France*);

17:00 A Fractal Microstrip Array Antenna with Slots Feeding Network for DTV Reception
Jianhua Zhou (*Xiamen University, China*); *Bingyang Liang* (*Xiamen University, China*); *Baiqiang You* (*Xiamen University, China*); *Qing Liu* (*Xiamen University, China*); *Xingjing Yan* (*Xiamen University, China*);

17:20 Recent Developments in Analysis and Design of a Low Noise Connected Array Feed for the Australian SKA Pathfinder
Stuart G. Hay (*CSIRO ICT Centre, Australia*);

Session 1P7a
SC3: Optical Fiber Communications

Monday PM, August 12, 2013

Room G

Organized by Chien-Hung Yeh

Chaired by Anhui Liang

13:40 Performance Analysis of the Injection of a Transparent Assist Light in a SOA Amplifying a CO-OFDM Transmission System
Hamidreza Khaleghi (*UEB École Nationale d'Ingénieurs de Brest (ENIB), France*); *Ammar Sharaiha* (*Ecole Nationale d'Ingénieurs de Brest, France*); *Pascal Morel* (*UEB École Nationale d'Ingénieurs de Brest (ENIB), France*); *Thierry Rampone* (*UEB École Nationale d'Ingénieurs de Brest (ENIB), France*);

14:00 Wavelength-dependent Switching of a Nonlinear Optical Loop Mirror
Olivier Pottiez (*Centro de Investigaciones en Optica, Mexico*); *Baldemar Ibarra-Escamilla* (*Instituto Nacional de Astrofisica, Optica y Electronica, Mexico*); *E. A. Kuzin* (*Instituto Nacional de Astrofísica Optica y Electronica, Mexico*);

14:20 XGM Wavelength Conversion of an Optical OFDM Signal in a RSOA over a 90 nm Range
Mohamad Hamze (*Arts, Sciences, and Technology University of Lebanon (AUL), Lebanon*); *Ammar Sharaiha* (*Ecole Nationale d'Ingénieurs de Brest, France*); *Ali Hamié* (*Arts, Sciences, and Technology University of Lebanon (AUL), Lebanon*); *Mikael Guegan* (*UEB, École Nationale d'Ingénieurs de Brest (ENIB), France*);

14:40 Channel Estimation Using Superimposed Training for Coherent Optical OFDM Systems
Changjian Guo (*South China Normal University, China*); *Han Zhang* (*South China Normal University, China*); *Lingchen Huang* (*Zhejiang University, China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

15:00 Sub-frame Carrier Phase Estimation for Coherent Optical Orthogonal Frequency Division Multiplexing System
Xuezhi Hong (*South China Normal University, China*); *Sailing He* (*KTH — Royal Institute of Technology, Sweden*);

15:20 **Coffee Break**

Session 1P7b
Industrial Forum on CEM (Computational Electromagnetics) Software

Monday PM, August 12, 2013

Room G

Organized by Thomas Rylander, Erik Forsberg

Chaired by Erik Forsberg

15:40 Advances in Commercial Field Solver FEKO
Ulrich Jakobus (*EM Software & Systems — S.A. (Pty) Ltd, South Africa*); *Peter Futter* (*EM Software & Systems — S.A. (Pty) Ltd., South Africa*); *C. J. Reddy* (*EM Software & Systems (USA) Inc., USA*);

16:00 Workflow to Create 3D Image-based, Simulation Ready Electromagnetic Models
Kerim Genc (*Simpleware Ltd., UK*); *Paul Segars* (*Duke University Medical Center, USA*); *Dane Thompson* (*ANSYS, Inc., USA*); *Marc Horner* (*ANSYS, Inc., USA*); *Rebecca Bryan* (*Simpleware Ltd., UK*); *Simon Richards* (*Simpleware Ltd., UK*); *Philippe Young* (*Simpleware Ltd., UK*);

16:20 New Fast Modeling Algorithms in Commercial Software Tools for High-gain Antennas
Erik Jorgensen (*TICRA, Denmark*); *O. Borries* (*TICRA, Denmark*); *M. Zhou* (*TICRA, Denmark*); *P. Meincke* (*TICRA, Denmark*); *N. Vesterdal* (*TICRA, Denmark*);

16:40 CEM in the Multiphysics Context
Magnus Olsson (*COMSOL AB, Sweden*);

17:00 Recent Advances in the Computational Electromagnetics Code Efield
Bo Strand (*Efield AB/ESI, Sweden*); *E. Abenius* (*Efield AB/ESI, Sweden*);

Session 1P8
SC3&4: Fano Resonances in Microwaves and Optics: Physics and Application

Monday PM, August 12, 2013

Room H

Organized by Eugene O. Kamenetskii

Chaired by Eugene O. Kamenetskii, Gennady Shvets

12:40 A Tunable Fano Resonance between LSPR and SPP
invited Modes for Improved Refractive Index Sensing
Kristof Lodewijks (*IMEC, Belgium*); *Jef Ryken* (*IMEC, Belgium*); *Wim Van Roy* (*IMEC, Belgium*); *Gustaaf Borghs* (*IMEC, Belgium*); *Liesbet Lagae* (*IMEC, Belgium*); *Pol Van Dorpe* (*IMEC, Belgium*);

13:00 Interference of Whispering Gallery Modes in Photonic
invited and Plasmonic Microcavities
Keiji Sasaki (*Hokkaido University, Japan*);

13:20 Field Enhancement and Spectrum Shaping in Self-
invited assembled (Opto) Plasmonic Molecules: From Fano Resonances to Optical Vortices
Bjorn M. Reinhard (*Boston University, USA*);

13:40 Asymptotic Fano-type Formula for Anomalous Trans-
invited mission in Photonic Crystal Films
Aaron D. Jackson (*Bloomberg, USA*); *Stephen P. Shipman* (*Louisiana State University, USA*); *Stephanos Venakides* (*Duke University, USA*);

14:00 Fano Resonances in Disordered Systems
invited
Alexander N. Poddubny (*National Research University for Information Technology, Mechanics and Optics, Russia*); *Mikhail V. Rybin* (*National Research University for Information Technology, Mechanics and Optics, Russia*); *Mikhail F. Limonov* (*National Research University for Information Technology, Mechanics and Optics, Russia*); *Yuri S. Kivshar* (*Australian National University, Australia*);

14:20 Probing Decoherence through Fano Resonances
invited
Stefan Gehler (*Philipps-Universitat Marburg, Germany*); *U. Kuhl* (*University of Nice Sophia Antipolis, France*); *Hans-Jurgen Stockmann* (*Fachbereich Physik der Philipps-Universitaet Marburg, Germany*); *A. Barnthaler* (*Vienna University of Technology, Austria*); *Stefan Rotter* (*Vienna University of Technology, Austria*); *Florian Libisch* (*Vienna University of Technology, Austria*); *J. Burgdorfer* (*Vienna University of Technology, Austria*);

14:40 Fano-resonance Spectra in Microwave Structures with Magnetostatic-magnon Particles
Eugene O. Kamenetskii (*Ben-Gurion University of the Negev, Israel*); *G. Vaisman* (*Ben-Gurion University of the Negev, Israel*); *Reuven Shavit* (*Ben-Gurion University of the Negev, Israel*);

15:00 Time-domain Differentiation of Optical Pulses in Reflection and in Transmission Using the Same Resonant Grating
Dmitry Alexandrovich Bykov (*Image Processing Systems Institute of the Russian Academy of Sciences, Russia*); *L. L. Doskolovich* (*Image Processing Systems Institute of the Russian Academy of Sciences, Russia*); *N. V. Golovastikov* (*Image Processing Systems Institute of the Russian Academy of Sciences, Russia*);

15:20 **Coffee Break**

15:40 Fano Resonances via the Characterisation of Individ-
invited ual Hybridized Plasmonic Nanocavities
Yannick Sonnefraud (*Imperial College London, UK*);

16:00 Nanosensors with Dark Plasmonic Modes
invited
Benjamin Gallinet (*Ecole Polytech Fed Lausanne, Switzerland*);

16:20 Plasmonic Fano Resonances: Light Harvesting Appli-
invited cations
Peter Nordlander (*Rice University, USA*);

16:40 invited Plasmonic Fano Resonances in 3D: Applications to Biosensing, Graphene Spectroscopy, and Super-resolution Imaging
Chihhui Wu (*The University of Texas at Austin, USA*); *Alexander Khanikaev* (*The University of Texas at Austin, USA*); *Hossein Mousavi* (*The University of Texas at Austin, USA*); *Nihal Arju* (*The University of Texas at Austin, USA*); *Nima Dabidian* (*The University of Texas at Austin, USA*); *Farbod Shafiei* (*The University of Texas at Austin, USA*); *Elaine Li* (*The University of Texas at Austin, USA*); *Gennady Shvets* (*The University of Texas at Austin, USA*); *Ronen Adato* (*Boston University, USA*); *Ahmet Ali Yanik* (*Boston University, USA*); *Hatice Altug* (*Boston University, USA*);

17:00 invited Engineered Absorption Enhancement and Induced Transparency in Fano-resonant Plasmonic and Molecular Systems
Hatice Altug (*Boston University, USA*); *Ronen Adato* (*Ecole Polytechnique Federale de Lausanne, Switzerland*); *Alp Artar* (*Boston University, USA*); *Shyamsunder Erramilli* (*Boston University, USA*);

17:20 invited Classical Analogues of Electromagnetically Induced Transparency and Absorption in Effective Metamaterials
Philippe Tassin (*Iowa State University, USA*);

17:40 invited Fano Effect in the Optical Micro-cavity Coupling
Fang-Wen Sun (*University of Science and Technology of China, China*); *Fang-Jie Shu* (*Shangqiu Normal University, China*); *Chang-Ling Zou* (*University of Science and Technology of China, China*); *Chun-Hua Dong* (*University of Science and Technology of China, China*); *Guangcan Guo* (*University of Science and Technology of China, China*);

18:00 Studies of Fano Resonances in Microwave Structures with Magnetostatic-magnon Particles and Dielectric Loadings
M. Berezin (*Ben Gurion University of the Negev, Israel*); *Eugene O. Kamenetskii* (*Ben-Gurion University of the Negev, Israel*); *Reuven Shavit* (*Ben-Gurion University of the Negev, Israel*);

Session 1P9
SC1: Ultrawideband Nondiffracting and Accelerating Waves

Monday PM, August 12, 2013
Room I
Organized by Peeter Saari
Chaired by Ioannis M. Besieris, Kishan Dholakia

13:00 New Applications for Non-diffracting Light Fields
Kishan Dholakia (*University of St Andrews, UK*);

13:20 Focus Wave Modes Based on Moving Sources and Angular Spectrum Representation
Colin J. R. Sheppard (*Istituto Italiano di Tecnologia, Italy*);

13:40 Complexified Spherical Waves and Their Sources in the Physical Space
Azat M. Tagirdzhanov (*St. Petersburg State University, Russia*); *Aleksei P. Kiselev* (*Steklov Mathematical Institute, Russia*);

14:00 High-field Bessel Pulses and Shock-front Assisted Resonant Radiation
Thomas W. Roger (*Heriot-Watt University, UK*); *Chunyong Li* (*Heriot-Watt University, UK*); *Mohammed F. Saleh* (*Max Planck Institute for the Science of Light, Germany*); *Samudra Roy* (*Max Planck Institute for the Science of Light, Germany*); *Fabio Biancalana* (*Max Planck Institute for the Science of Light, Germany*); *Daniele Faccio* (*Heriot-Watt University, UK*);

14:20 Localized Pulsed Waves in Hyperbolic Media
Ioannis M. Besieris (*Virginia Polytechnic Institute and State University, USA*); *Amr M. Shaarawi* (*The American University in Cairo, Egypt*);

14:40 Spatiotemporal Properties of Broadband Axicon Fields
Rahul Dutta (*University of Eastern Finland, Finland*); *Kimmo Saastamoinen* (*University of Eastern Finland, Finland*); *Jari Turunen* (*University of Eastern Finland, Finland*); *Ari T. Friberg* (*University of Eastern Finland, Finland*);

15:00 Energy Transport Velocity for Various Localized and Accelerating Pulsed Waves
Peter Saari (*University of Tartu, Estonia*); *O. Rebane* (*Laser Diagnostic Instruments AS, Estonia*); *Ioannis M. Besieris* (*Virginia Polytechnic Institute and State University, USA*);

15:20 **Coffee Break**

15:40 Non-diffractive Light Beams and Bullets in Nonlinear Media with Dissipation
Miguel A. Porras (*Universidad Politecnica de Madrid, Spain*);

16:00 Spherical Light, Arbitrary Nonparaxial Accelerating Beams and Femtosecond Laser Micromachining of Curved Profiles
Francois Courvoisier (*Université de Franche-Comté, France*); *A. Mathis* (*Université de Franche-Comté, France*); *L. Froehly* (*Université de Franche-Comté, France*); *M. Jacquot* (*Université de Franche-Comté, France*); *R. Giust* (*Université de Franche-Comté, France*); *L. Furfaro* (*Université de Franche-Comté, France*); *John M. Dudley* (*Université de Franche-Comté, France*);

16:20 Generation and Characterization of Ultrawideband Airy Pulses
Peeter Piksarv (*University of Tartu, Estonia*); *A. Valdmann* (*University of Tartu, Estonia*); *Heli Valtna-Lukner* (*University of Tartu, Estonia*); *R. Matt* (*University of Tartu, Estonia*); *Peter Saari* (*University of Tartu, Estonia*);

16:40 Three-dimensional Nonparaxial Accelerated Waves and Pulses That Follow Circular Paths
Miguel A. Alonso (*University of Rochester, USA*); *Miguel A. Bandres* (*Instituto Nacional de Astronomia, Mexico*); *Ido Kaminer* (*Solid State Institute, Israel*); *Mordechai Segev* (*Technion — Israel Institute of Technology, Israel*);

17:00 Sub-3-cycle Linear Light Bullets
Martin Bock (*Max-Born-Institute, Germany*); *Ruediger Grunwald* (*Max-Born-Institute, Germany*);

17:20 Temporal Focusing and Focus Wave Modes
Colin J. R. Sheppard (*Istituto Italiano di Tecnologia, Italy*); *Elijah Y. S. Yew* (*Singapore-MIT Alliance for Research and Technology (SMART), Singapore*); *Peter T. C. So* (*Massachusetts Institute of Technology, USA*);

Session 1P_10a
Remote Sensing of the Atmosphere, Ocean, Hydrology and Cryosphere

Monday PM, August 12, 2013

Room J

Organized by Shuanggen Jin

Chaired by Kenneth Morgan Golden, Shuanggen Jin

13:00 Towards a Comprehensive Model of Ice Sheet Scattering Properties at VHF and P-band for Design and Optimization of Multichannel Ice Sounding Techniques
Ulrik Dam Nielsen (*Tehcnical University of Denmark, Denmark*); *Theresa M. Stumpf* (*University of Kansas, USA*); *Peng Seng Tan* (*University of Kansas, USA*); *Prasad Gogineni* (*University of Kansas, USA*); *Jorgen Dall* (*Technical University of Denmark, Denmark*);

13:20 Electromagnetic Monitoring of Sea Ice Processes
Kenneth Morgan Golden (*University of Utah, USA*);

13:40 Analysis of GRACE-derived Terrestrial Water Storage in Boreal and Subarctic Environments in Canada
Kalifa Goita (*Université de Sherbrooke, Canada*);

14:00 Applying Particle Swarm Optimization to Polarimetric Decomposition Technique with Phase Rotation of Covariance Matrix
Toshifumi Moriyama (*Nagasaki University, Japan*);

14:20 Using DInSAR Phase to Carry out Sub-surface SAR Imaging from Space
Keith Morrison (*Cranfield University, UK*); *John Bennett* (*University of Sheffield, UK*);

14:40 Semi-automatic Polarimetric SAR Image Classification by MD PSO Based Dynamic Clustering
Turker Ince (*Izmir University of Economics, Turkey*); *Serkan Kiranyaz* (*Tampere University of Technology, Finland*); *Moncef Gabbouj* (*Tampere University of Technology, Finland*);

15:00 Recent Melting of Greenland's Glaciers Observed by InSAR and Satellite Gravimetry
Shuanggen Jin (*Shanghai Astronomical Observatory, Chinese Academy of Sciences, China*); *Fang Zou* (*Shanghai Astronomical Observatory, Chinese Academy of Sciences, China*);

15:20 **Coffee Break**

Session 1P_10b
SC1: Nonlinear and Inverse Problems in Electromagnetics

Monday PM, August 12, 2013

Room J

Organized by Yury G. Smirnov, Dmitry V. Valovik

Chaired by Yury G. Smirnov, Dmitry V. Valovik

15:40 New Propagation Regime for Nonlinear Guided Waves: Coupled Electromagnetic TE-TM Wave Propagation
Dmitry V. Valovik (*Penza State University, Russia*);

16:00 Reconstruction of Permittivity and Permeability Tensors of Anisotropic Materials in a Rectangular Waveguide from the Reflection and Transmission Coefficients at Different Frequencies
Yury G. Smirnov (*Penza State University, Russia*); *Yury V. Shestopalov* (*Karlstad University, Sweden*); *Ekaterina D. Derevyanchuk* (*Penza State University, Russia*);

16:20 Parameter Optimization of Waveguide Filters Employing Analysis of Closed-form Solution
Pavel Tomasek (*Tomas Bata University in Zlin, Czech Republic*); *Yury V. Shestopalov* (*Karlstad University, Sweden*);

16:40 Modelling of Resonant Scattering and Generation of Oscillations for Nonlinear Media
Lutz Angermann (*University of Technology at Clausthal, Germany*); *Vasyl V. Yatsyk* (*O. Ya. Usikov Institute of Radiophysics and Electronics, National Academy of Sciences of Ukraine (IRE NASU), Ukraine*);

17:00 The Formation Process of Nanoclusters in the Metal Surface Layer, Initiated by Nonlinear Tunneling Dynamics in the Electrostatic Field
Igor I. Artemov (*Penza State University, Russia*); *Vladimir D. Krevchik* (*Penza State University, Russia*); *Mikhail B. Semenov* (*Penza State University, Russia*); *Alexey V. Sokolov* (*Penza State University, Russia*); *Sverlana B. Menshova* (*Penza State University, Russia*);

Session 1P_11
SC1: Computational Electromagnetics

Monday PM, August 12, 2013
Room K
Organized by Alexander B. Samokhin
Chaired by Alexander B. Samokhin

13:00 Computing Ground-Wave Electric Field at MF Band via FDTD Method
Fernando Tomas Pachon Garcia (*University of Extremadura, Spain*); *Jesus Manuel Paniagua-Sanchez* (*University of Extremadura, Spain*); *Maria Montana Rufo-Perez* (*University of Extremadura, Spain*); *Antonio Jimenez-Barco* (*University of Extremadura, Spain*);

13:20 Longitudinal Voltages, Induced by Parallel Overhead Transmission Lines Magnetic Field
Nina B. Rubtsova (*RAMS Institute of Occupational Health, Russia*); *M. Sh. Misrikhanov* (*JSC Federal Network Company Branch "Main Power Networks of the Center", Russian Federation*); *S. G. Murzin* (*JSC Federal Network Company, Russia*); *A. Yu. Tokarskij* (*JSC Federal Network Company Branch "Main Power Networks of the Center", Russian Federation*);

13:40 Finite Volume Frequency Domain Method for Nonlinear Media
Harish Bhat (*University of California, USA*); *Garnet J. Vaz* (*University of California, USA*);

14:00 Effective HF Modeling of Passive Devices Based on Frequency Dependent Hodge Operators and Model Order Reduction
Gabriela Ciuprina (*Polytechnic University of Bucharest, Romania*); *Daniel Ioan* (*Polytechnic University of Bucharest, Romania*); *Mihail-Iulian Andrei* (*Politehnica University of Bucharest, Romania*);

14:20 Two-dimensional Problems of the Restored Image Sources with Superresolution
Boris A. Lagovsky (*Moscow State Institute of Radio Engineering, Electronics and Automatics, Russia*); *Alexander B. Samokhin* (*Moscow State Institute of Radio Engineering, Electronics and Automatics, Russia*);

14:40 Femtosecond Laser Pulse Breakdown of a Single Water Microdroplet
E. S. Efimenko (*Institute of Applied Physics, Russian Academy of Sciences, Russia*); *A. A. Murzanev* (*Institute of Applied Physics, Russian Academy of Sciences, Russia*); *Yu. A. Malkov* (*Institute of Applied Physics, Russian Academy of Sciences, Russia*); *A. N. Stepanov* (*Institute of Applied Physics, Russian Academy of Sciences, Russia*);

15:00 Stability Analysis of Predictor-corrector Based Quasi-explicit MOT-TDIE Solvers
Huseyin Arda Ulku (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*);

15:20 **Coffee Break**

15:40 A PMCHWT Surface Integral Equation Solver for Analyzing Transient Plasmonic Interactions
Ismail Enes Uysal (*King Abdullah University of Science and Technology, Saudi Arabia*); *Huseyin Arda Ulku* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*);

16:00 A Stable and Explicit MOT Solver for the Time Domain Volume Electric Field Integral Equation
Sadeed Bin Sayed (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Huseyin Arda Ulku* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*);

16:20 A Direct Spectral Domain Method for Near-ground Microwave Radiation by a Vertical Dipole above Earth in the Presence of Atmospheric Refractivity
Rajib Bhattacharjea (*Georgia Institute of Technology, USA*); *Christopher R. Anderson* (*United States Naval Academy, USA*); *Gregory David Durgin* (*Georgia Institute of Technology, USA*);

16:40 A Variational Approach to Compute Singular Axisymmetric Electromagnetic Fields
Franck Assous (*40700 Ariel and Bar-Ilan University, Israel*); *I. Raichik* (*Bar-Ilan University, Israel*);

17:00 Electromagnetic Sources and Observers in Motion X — Unification of Electromagnetism and Gravity
Selwyn Edgar Wright (*ECASS Technologies Ltd., UK*);

Session 1P_K
Poster Session 2

Monday PM, August 12, 2013
14:00 PM - 17:00 PM
Room P

1 Numerical Modeling of Perfect Lens Using FDTD Method
Aleksander P. Smirnov (*Lomonosov Moscow State University, Russia*); *A. N. Semenov* (*Lomonosov Moscow State University, Russia*); *V. V. Shevchenko* (*Kotel'nikov Institute of Radio-engineering and Electronics of RAS, Russia*);

2 Power Network Vulnerability Analysis via Compressed Sensing
Harish S. Bhat (*University of California, USA*); *Garnet J. Vaz* (*University of California, USA*); *Juan C. Meza* (*University of California, USA*);

3 CFmaxwell — The Program Code for FDTD Modelling of Very Large Size Problems
Andrey V. Zakirov (*Moscow Institute of Physics and Technology (SU), Russia*); *Vadim D. Levchenko* (*Keldysh Institute of Applied Mathematics, Russia*);

4 Performance Analysis of Blind Calibration in Five-port Receivers Based on Blind Source Separation
Francisco Vidal (*UFERSA, Brazil*); *Adriao Duarte Doria Neto* (*Universidade Federal do Rio Grande do Norte — UFRN, Brazil*); *Allan Medeiros* (*UFRN, Brazil*); *Bernard Huyart* (*Telecom ParisTech, France*);

5 Propagation Measurement of a Partially Open Drain: An Examination of the LOS and NLOS Sections
Anwuna Kingsley Awelemdy (*Sunway University, Malaysia*); *Soo Yong Lim* (*Sunway University, Malaysia*); *Kah Phooi Seng* (*Sunway University, Malaysia*);

6 A Comparison between 2-D and 3-D Models for Outdoor Radiowave Propagation
Zeina El Ahdab (*Istanbul Technical University, Turkey*); *Funda Akleman* (*Istanbul Technical University, Turkey*);

7 Analysis of the Benefits of Diversity Polarization in Wireless Networks
Inigo Cuinas (*University of Vigo, Spain*); *Manuel Garcia Sanchez* (*University of Vigo, Spain*);

8 Conception of Radio Frequency Link in the Radio of 3.5 GHz in Consonance with the National Brazilian Rules and International Legislation
Theoma M. Sanchez Otobo (*Federal University of Paraná, Brazil*); *Horacio Tertuliano Filho* (*Federal University of Parana, Brazil*); *C. A. Dartora* (*Universidade Federal do Paraná, Brazil*); *Eduil Nascimento Junior* (*Federal University of Parana, Brazil*); *E. Cherubini Rolin* (*Federal Institute of Parana, Brazil*);

9 Some Insights on the Amount of Fading in Radio Channels
Hassan El-Sallabi (*Texas A&M University at Qatar, Qatar*); *Khalid A. Qaraqe* (*Texas A&M University at Qatar, Qatar*); *Erchin Serpedin* (*Texas A&M University, USA*);

10 RF Identification (RFID) Reader with Long Read Range in the UHF Band
Jae-Young Jung (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*); *Kyu-Won Han* (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*); *Chan-Won Park* (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*);

11 Simulation and Implementation of TDOA Monitoring System for Broadcasting Interferences
Yao-Tang Chang (*Kao Yuan University, Taiwan*);

12 Design Guidelines of a Microwave Active Front-end Receptor: A LNA Approach
J. C. Bonoto (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*); *C. E. Capovilla* (*Universidade Federal do ABC — UFABC, Brazil*); *Humberto Xavier De Araújo* (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*);

13 Statistical Analysis of On-body Radio Propagation Channel for Body-centric Wireless Communications
Hasliza A. Rahim (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Fareq Malek* (*Universiti Malaysia Perlis, Malaysia*); *Nurbaizatul Badrul Hisham* (*Universiti Malaysia Perlis, Malaysia*); *Mohd Fariz Abd Malek* (*MISC LNG Japan MISC Berhad, Japan*);

14 Path Loss Characterization of Body-to-body Radio Propagation Channel on the Angular Variations
Hasliza A. Rahim (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Fareq Malek* (*Universiti Malaysia Perlis, Malaysia*); *A. Izwan Ahmad* (*Universiti Malaysia Perlis, Malaysia*); *Mohd Fariz bin Haji Abd Malek* (*MISC LNG Japan MISC Berhad, Japan*);

15 The Influence of Textile Dielectric Properties in On-body Radio Communication Channel Performance at 2.45 GHz
Hasliza A. Rahim (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Fareq Malek* (*Universiti Malaysia Perlis, Malaysia*); *Mohd Fariz Abd Malek* (*MISC LNG Japan MISC Berhad, Japan*);

16 Mathematical and Numerical Analysis of Dielectric Waveguides by the Integral Equation Method
Evgeny M. Karchevskiy (*Kazan Federal University, Russia*); *Yury V. Shestopalov* (*Karlstad University, Sweden*);

17 Linear-operator Theory for Inhomogeneous Omega Planar Waveguides
Antonio L. Topa (*Technical Universtity of Lisbon, Portugal*);

18 Coupled Electromagnetic Wave Propagation in Space and around Surfaces and Interfaces
Michael James Underhill (*Underhill Research Ltd., UK*);

19 Two Types of Electromagnetic Induction Existing in Nature
Vladimir A. Leus (*Sobolev Institute of Mathematics, Russia*); *Ray T. Smith* (*Wirral Metropolitan College, UK*); *Simon Maher* (*University of Liverpool, UK*);

20 The Stability of EM Particles and Predicted Mass Ratios
Michael James Underhill (*Underhill Research Ltd., UK*);

21 A Novel Approach for the Construction of Dirac's Delta Functions
Alireza R. Baghai-Wadji (*University of Cape Town, South Africa*);

22 Electromagnetic Sources and Observers in Motion IX — Nature of Gravity
Selwyn Edgar Wright (*ECASS Technologies Ltd., UK*);

23 Energy Continuity Equation for Electromagnetic Waves in Dispersive Lossy Medium
Oleg B. Vorobyev (*Stavropol Institute of Radio Communications, Russia*);

24 Electromagnetic Force on Neutral Particles
Boon Kuan Chung (*Universiti Tunku Abdul Rahman, Malaysia*);

25 The Uniqueness Theorems in the Electromagnetic Wave Theory and Quasi-periodical Solutions of the Periodical Diffraction Problems
Nikolai B. Pleshchinskii (*Kazan State University, Russia*);

26 The Over-determined Boundary Value Problems for the Maxwell Equations Set in the Orthogonal Coordinates and Some Applications for the Electromagnetic Wave Diffraction Problems
Nikolai B. Pleshchinskii (*Kazan State University, Russia*);

27 Plasma Treatment as a Versatile Technique for Preparation of Plasmonic Nanoantenna Arrays
Lucie Štolcová (*Czech Technical University in Prague, Czech Republic*); *Mária Domonkos* (*Czech Technical University in Prague, Czech Republic*); *Tibor Ižák* (*Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic*); *Jan Proška* (*Czech Technical University in Prague, Czech Republic*); *Marek Procházka* (*Charles University, Czech Republic*); *Alexander Kromka* (*Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic*);

28 The Dispersive Properties of the Three-dimensional Photonic Crystals with Diamond Lattices Containing the Epsilon-negative Materials
Hai Feng Zhang (*Nanjing University of Aeronautics and Astronautics, China*); *Wenping He* (*Nanjing Artillery Academy, P. R. China*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics, China*); *Yu-Qing Chen* (*Nanjing University of Aeronautics and Astronautics, China*);

29 A New Triple-band Polarization-insensitive Wide-angle Microwave Metamaterial Absorber
Bo-Rui Bian (*Nanjing University of Aeronautics and Astronautics, China*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics, China*); *Hai Feng Zhang* (*Nanjing University of Aeronautics and Astronautics, China*); *Bin-Xiang Li* (*Nanjing University of Aeronautics and Astronautics, China*); *Ben Ma* (*Nanjing University of Aeronautics and Astronautics, China*);

30 Studies on Fano Resonances in Subwavelength Plasmonic Nanostructures
J. Fiala (*Czech Technical University in Prague, Czech Republic*); *P. Kwiecien* (*Czech Technical University in Prague, Czech Republic*); *Ivan Richter* (*Czech Technical University in Prague, Czech Republic*);

31 Spectral Density Analysis of Thin Gold Films: Thickness and Structure Dependence of the Optical Properties
Pia C. Lansaker (*Uppsala University, Sweden*); *E. Tuncer* (*GE Global Research Center, USA*); *I. Valyukh* (*Linkoping University, Sweden*); *H. Arwin* (*Linkoping University, Sweden*); *C. G. Granqvist* (*Uppsala University, Sweden*); *Gunnar A. Niklasson* (*Uppsala University, Sweden*);

32 Variable Forbidden Regions in Metamaterial Planar Waveguide with Nonlinear Cladding
Yaw-Dong Wu (*National Kaohsiung University of Applied Sciences, Taiwan*); *Ming-Hsiung Cheng* (*National Kaohsiung University of Applied Sciences, Taiwan*); *Tien-Tsorng Shih* (*National Kaohsiung University of Applied Sciences, Taiwan*);

33 New All-optical Switch Based on the Local Nonlinear Plasmonic Mach-Zehnder Interferometer Waveguides
Yaw-Dong Wu (*National Kaohsiung University of Applied Sciences, Taiwan*); *Sheng-Rong Hong* (*National Kaohsiung University of Applied Sciences, Taiwan*); *Tien-Tsorng Shih* (*National Kaohsiung University of Applied Sciences, Taiwan*);

34 Broadband High Efficiency Amplifier for a Cognitive Radio System
Ahmed Eissa Fathy Khorshid (*Cairo University, Egypt*); *Ali M. Darwish* (*American University in Cairo, Egypt*); *Islam A. Eshrah* (*Cairo University, Egypt*); *Hossam A. H. Fahmy* (*Cairo University, Egypt*); *Mohamed El-Hadidy* (*The University of Duisburg-Essen, Germany*);

35 Magnetoelectric Microwave Module for Phased Array
Roman Valer'evich Petrov (*Novgorod State University, Russia*); *Mirza Imamovich Bichurin* (*Novgorod State University, Russia*); *Alexander Sergeevich Tatarenko* (*Novgorod State University, Russia*);

36 Failure Analysis of Ferrite Sheet Used in NFC Antenna
Soon-Mi Hwang (*Korea Electronics Technology Institute (KETI), Korea*); *Kwan-Hun Lee* (*Korea Electronics Technology Institute (KETI), Korea*);

37 High Tunable and Low Loss Capacitor Using a BZN/BST/BZN Multi-layer Thin Film Dielectric for Reconfigurable RF Circuit Applications
Young Chul Lee (*Mokpo National Maritime University (MMU), Korea*);

38 Large-signal Properties of 3C-SiC/Si Heterojunction DDR IMPATT Devices at Terahertz Frequencies
Suranjana Banerjee (*West Bengal University of Technology, India*); *Aritra Acharyya* (*University of Calcutta, India*); *Monojit Mitra* (*Bengal Engineering and Science University, India*); *Joyoti Prasad Banerjee* (*University of Calcutta, India*);

39 A High Efficiency Broadband Supply Modulator Based on Switch-mode Operations for Polar Transmitters
Fei You (*University of Electronic Science and Technology, China*); *Bohai Zhang* (*University of Electronic Science and Technology, China*); *Zhebin Hu* (*University of Electronic Science and Technology, China*); *Songbai He* (*University of Electronic Science and Technology, China*);

40 Separation of Overlapped Compressed Cyclostationary Signals Using Adaptive FRESH Filtering
Said Esmail El-Khamy (*Alexandria University, Egypt*); *Amr El Helw* (*Arab Academy for Science and Technology and Maritime Transport, Egypt*); *Azza Mahdy* (*Arab Academy for Science and Technology and Maritime Transport, Egypt*);

41 Development of Non-contacting System for Detection of Driver's Sleepiness Using UWB Radar
Tae Yun Lee (*Yonsei University, Korea*); *Se-Yeoun Jeon* (*Yonsei University, Korea*); *Jiwoong Yu* (*Yonsei University, South Korea*); *Seok Kim* (*Yonsei University, Korea*); *Min-Ho Ka* (*Yonsei University, Korea Republic*);

42 Depth-image Coding Using Neural Networks for 3D Video Transmission
Yih-Chuan Lin (*National Formosa University, Taiwan, R.O.C.*); *Pu-Jian Hsu* (*National Formosa University, Taiwan*);

43 Research on Possibilities of Abnormal Tissues Diagnostic by THz Reflection Spectra
Anna A. Ezerskaya (*National Research University of Information Technologies, Mechanics and Optics, Russia*); *E. A. Strepitov* (*National Research University of Information Technologies, Mechanics and Optics, Russia*); *I. V. Prozheev* (*National Research University of Information Technologies, Mechanics and Optics, Russia*); *O. A. Smolyanskaya* (*National Research University of Information Technologies, Mechanics and Optics, Russia*);

44 Characterization of Dissipation Due to Quasiparticles and Dielectric Loss in a Josephson Metamaterial
J. Hassel (*VTT Technical Research Centre of Finland, Finland*); *Pasi Lahteenmaki* (*Aalto University, Finland*); *A. Timofeev* (*VTT Technical Research Centre of Finland, Finland*); *Gheorghe Sorin Paraoanu* (*Aalto University, Finland*); *Pertti J. Hakonen* (*Aalto University, Finland*);

45 Ultrafast Rotational Dynamics of Illuminated Particles and Stimulated Emission
Ana Asenjo-Garcia (*ICFO, Spain*); *Alejandro Manjavacas* (*CSIC, Spain*); *F. Javier Garcia De Abajo* (*ICFO, Spain*);

46 A Dual-band Antenna with a Choke-circuit on the Ground Plane
The-Nan Chang (*Tatung University, Taiwan*); *Jyun-Ming Lin* (*Tatung University, Taiwan*);

47 RFID Tag on PCB in UHF Band
Won-Kyu Choi (*Electronics and Telecommunications Research Institute (ETRI), South Korea*); *Seung-Hwan Jeong* (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*); *Chan-Won Park* (*Electronics and Telecommunications Research Institute (ETRI), Republic of Korea*); *Haewon Son* (*Chonbuk National University, South Korea*);

48 Deep Defect Detection Using Eddy Current Testing with AMR Sensor
Dong Feng He (*National Institute for Materials Science, Japan*); *Mitsuharu Shiwa* (*National Institute for Materials Science, Japan*);

49 Comparative Study on Graphene-based Artificial Magnetic Conductor (AMC)
Xuchen Wang (*Zhejiang University, China*); *Wen-Yuan Li* (*Zhejiang University, China*); *Wen-Sheng Zhao* (*Zhejiang University, China*); *Jun Hu* (*Zhejiang University, China*); *Ying-Ying Xu* (*Zhejiang University, China*); *Qiangsheng Huang* (*Zhejiang University, China*);

50 Risk Assessment for University Students Occupationally Exposed to Electromagnetic Fields in Turkey
Fulya Callialp Kunter (*Marmara University, Turkey*); *Yagmur Kirkagac* (*Marmara University, Turkey*);

51 Single Layer Meta-material Lens with Graded Refractive Index
Mohamad-Ali Bitar (*American University of Beirut, Lebanon*); *Y. Nasser* (*American University of Beirut, Lebanon*); *Mohammed Al-Husseini* (*American University of Beirut, Lebanon*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*);

52 Problem of Coupled Electromagnetic TE-TE Wave Propagation in Nonlinear Anisotropic Layer
Yury G. Smirnov (*Penza State University, Russia*);

53 Stability of Nonlinear 2D-tunnel Bifurcations in Systems of Interacting Quantum Molecules in the Metamaterial Matrix
Vladimir D. Krevchik (*Penza State University, Russia*); *Vladimir I. Volchikhin* (*Penza State University, Russia*); *Igor I. Artemov* (*Penza State University, Russia*); *Mikhail B. Semenov* (*Penza State University, Russia*); *Roman V. Zaitsev* (*Penza State University, Russia*); *Alexey V. Razumov* (*Penza State University, Russia*); *Ascar K. Aringazin* (*Eurasian National University, Kazakhstan*); *Kenji Yamamoto* (*International Medical Center, Japan*); *Tikhon A. Gubin* (*Penza State University, Russia*);

54 Slotted Patch Antenna Loaded with Metamaterial
Surabhi Dwivedi (*SVNIT, Sardar Vallabhbhai National Institute of Technology, India*); *Vivekanand Mishra* (*Sardar Vallabhbhai National Institute of Technology, India*); *Yogesh P. Kosta* (*Charotar University of Science & Technology (CHARUSAT), India*);

55 Metamaterial Included Slotted Patch Antenna versus Metamaterial Cover over Patch
Surabhi Dwivedi (*SVNIT, Sardar Vallabhbhai National Institute of Technology, India*); *Vivekanand Mishra* (*Sardar Vallabhbhai National Institute of Technology, India*); *Yogesh P. Kosta* (*Marwadi Education Foundation's Group of Institutions, India*);

56 Effect of the Simultaneous Impact of Opioid Drug (Tramadol) and Electromagnetic Field (EMF) on Lipid Peroxidation
Pawel Bodera (*Warszawski Uniwersytet Med, Poland*); *Wanda Stankiewicz* (*Zaklad Ochrony Mikrofalowej, Poland*); *Malgorzata Paluch* (*Military Institute of Hygiene and Epidemiology, Poland*); *Malgorzata Krzyzowska* (*Military Institute of Hygiene and Epidemiology, Poland*); *Bozena Antkowiak* (*Military Institute of Hygiene and Epidemiology, Poland*);

57 Snow Cover Effect on Brightness Temperature of Arctic Ice Fields Based on SSM/I Data
Vasiliy V. Tikhonov (*Space Research Institute, Russian Academy of Sciences, Russia*); *D. A. Boyarskii* (*Space Research Institute, Russian Academy of Sciences, Russia*); *I. A. Repina* (*Space Research Institute, Russian Academy of Sciences, Russia*); *M. D. Raev* (*Space Research Institute, Russian Academy of Sciences, Russia*); *E. A. Sharkov* (*Space Research Institute, Russian Academy of Sciences, Russia*); *T. A. Alexeeva* (*Arctic and Antarctic Research Institute, Russia*);

58 Substrate Integrated Waveguide Fed Cylindrical Dielectric Resonator Antenna Array
Susanta Kumar Parui (*Bengal Engineering and Science University, India*);

59 Optimal Gain Parasitic Array Antenna for C-X-Ku-band Application
Anubhuti Khare (*University Institute of Technology, India*); *Rajesh Kumar Nema* (*University Institute of Technology, India*);

Session 2A1
2_FocusSession.SC2: Transformation Optics 1

Tuesday AM, August 13, 2013
Room A
Organized by Hongsheng Chen, Yaroslav Kurylev
Chaired by Hongsheng Chen

08:00 keynote Transformation Optics Shapes Metamaterials
John B. Pendry (*Imperial College, UK*);

08:30 keynote Transformation Optics Based Cloaking
Gunther Uhlmann (*University of Washington, USA*); *Allan Greenleaf* (*University of Rochester, USA*); *Yaroslav Kurylev* (*University College London, UK*); *Matti Lassas* (*University of Helsinki, Finland*);

09:00 invited Manipulating Surface Plasmon Waves: Several Design Examples through Transformation Plasmon Optics
Yijun Feng (*Nanjing University, China*); *Zhengzhong Yu* (*Nanjing University, China*); *Bo Zhu* (*Nanjing University, China*); *Junming Zhao* (*Nanjing University, China*); *Tian Jiang* (*Nanjing University, China*);

09:20 invited Trapping Light by Mimicking Gravitational Lensing
C. Sheng (*Nanjing University, China*); *Hui Liu* (*Nanjing University, China*); *Y. Wang* (*Nanjing University, China*); *S. N. Zhu* (*Nanjing University, China*); *Dentcho A. Genov* (*Louisiana Tech University, USA*);

09:40 invited Phase Preservation in Transformation Optics
Baile Zhang (*Nanyang Technological University, Singapore*); *George Barbastathis* (*Massachusetts Institute of Technology, USA*); *Cheng-Wei Qiu* (*National University of Singapore, Singapore*); *Yuan Luo* (*National Taiwan University, Taiwan, R.O.C.*);

10:00 **Coffee Break**

10:20 invited Cloaked Sensors via Transformation Optics
Allan Greenleaf (*University of Rochester, USA*); *Yaroslav Kurylev* (*University College London, UK*); *Matti Lassas* (*University of Helsinki, Finland*); *Gunther Uhlmann* (*University of Washington, USA*);

10:40 invited Schrödinger's Hat: A Cloaked Electromagnetic, Acoustic and Quantum Amplifier
Matti Lassas (*University of Helsinki, Finland*); *Allan Greenleaf* (*University of Rochester, USA*); *Yaroslav Kurylev* (*University College London, UK*); *Ulf Leonhardt* (*Weizmann Institute of Science, Israel*); *Gunther Uhlmann* (*University of Washington, USA*);

11:00 invited Bianisotropic Transformation Media with Additional Polarization and Impedance Control
Jensen Li (*City University of Hong Kong, China*); *Fu Liu* (*City University of Hong Kong, China*);

11:20 invited Anomalous Propagation, Flux Control and Percolation of EM Waves in Inhomogeneous Zero-index Materials
J. Luo (*Soochow University, China*); *Yun Lai* (*Soochow University, China*);

11:40 invited Broadband Isotropic Cloak Designed by Conformal Mapping
Yungui Ma (*Zhejiang University, China*);

12:00 Visualization of Pulse Propagation and Optical Forces
invited in Graded-index Optical Devices
Alireza Akbarzadeh (*National University of Singapore, Singapore*); *Cheng-Wei Qiu* (*National University of Singapore, Singapore*); *Tomas Tyc* (*Masaryk University, Czech Republic*); *Aaron J. Danner* (*National University of Singapore, Singapore*);

Session 2A2
3_FocusSession.SC3: Recent Progress in Photonic Crystals 1

Tuesday AM, August 13, 2013

Room B

Organized by Sajeev John, Srinivasan Anand

Chaired by Sajeev John, Srinivasan Anand

08:00 Materials, Morphologies and Fabrication Approaches
invited for Photonic Applications
Cefe Lopez (*Instituto de Ciencia de Materiales de Madrid (CSIC), Spain*);

08:20 Observation and Use of Internal Water in Silica Pho-
invited tonic Structures
Alvaro Blanco (*Instituto de Ciencia de Ciencia de Materiales de Madrid ICMM-CSIC, Spain*);

08:40 Opto-mechanical Interaction in Flexible Photonic
invited Crystals
Marko Loncar (*Harvard University, USA*);

09:00 Optical Trapping and Back-actions Effects in Hollow
invited Photonic Crystal Cavities
Nicolas Descharmes (*École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*); *Ulagalandha Perumal Dharanipathy* (*École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*); *Zhaolu Diao* (*École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*); *Mario Tonin* (*École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*); *Romuald Houdre* (*École Polytechnique Fédérale de Lausanne (EPFL), Switzerland*);

09:20 Towards PhoXonic Crystals: Optomechanics in Cor-
invited rugated Beams
D. Navarro-Urrios (*Catalan Institute of Nanotechnology, Spain*); *J. Gomis-Bresco* (*Catalan Institute of Nanotechnology, Spain*); *M. Oudich* (*Université Lille 1, France*); *F. Alzina* (*Catalan Institute of Nanotechnology, Spain*); *Alejandro Martinez* (*Universidad Politécnica de Valencia, Spain*); *A. Griol* (*Universidad Politécnica de Valencia, Spain*); *D. Puerto* (*Universidad Politécnica de Valencia, Spain*); *Y. Pennec* (*Université Lille 1, France*); *S. El-Jallal* (*Université Lille 1, France*); *Bahram Djafari-Rouhani* (*IEMN-DHS, Institut d'Electronique, France*); *C. M. Sotomayor-Torres* (*Catalan Institute of Nanotechnology, Spain*);

09:40 Mode-symmetry Requirement for Creating Photonic
invited Dirac Cones in the Brillouin-zone Center
Kazuaki Sakoda (*National Institute for Materials Science, Japan*);

10:00 **Coffee Break**

10:20 Photonic Crystals-based Functional Devices for Sili-
invited con Photonics
Lech Wosinski (*Royal Inst Technol KTH, Sweden*);

10:40 InP-based Photonic Crystal Waveguide Technology:
invited Material Properties and Applications
Srinivasan Anand (*KTH Royal Institute of Technology, Sweden*);

11:00 Purely Nonlinear Photonic Crystals in Quadratic Me-
invited dia
Katia Gallo (*KTH — Royal Institute of Technology, Sweden*);

11:20 Photonic Crystal L3 Cavities in Lithium Niobate Self-
suspended Membranes
Severine Diziain (*Friedrich-Schiller-Universität Jena, Germany*); *Reinhard Geiss* (*Friedrich-Schiller-Universität, Germany*); *Matthias Zilk* (*Friedrich-Schiller-Universität Jena, Germany*); *Frank Schrempel* (*Friedrich-Schiller-Universität, Germany*); *Ernst-Bernhard Kley* (*Friedrich-Schiller-Universität, Germany*); *Andreas Tünnermann* (*Fraunhofer Institute for Applied Optics and Precision Engineering, Germany*); *Thomas Pertsch* (*Friedrich-Schiller-Universität, Germany*);

11:35 Combining Ag Nanostructure Plamonics with SiO_2 Nanosphere Opal Photonic Crystal for Biosensing
Yue-Heng Li (*National Chung Cheng University, Taiwan, R.O.C.*); *Ti Yi Kao* (*National Chung Cheng University, Taiwan, R.O.C.*); *Pei-Chang Tsai* (*National Chung Cheng University, Taiwan*); *Jian-Hung Lin* (*National Chung Cheng University, Taiwan*); *Chia Chen Hsu* (*National Chung Cheng University, Taiwan, R.O.C.*); *Hung-Chih Kan* (*National Chung Cheng University, Taiwan*);

Session 2A3
0_Focus Session: Education for Electromagnetics

Tuesday AM, August 13, 2013

Room C

Organized by Ari Henrik Sihvola

Chaired by Ari Henrik Sihvola

08:30 keynote Comparing Electromagnetics Education in China, Hong Kong, and USA
Weng Cho Chew (*University of Illinois, USA*); *Lijun Jiang* (*University of Hong Kong, China*); *Wen Xun Zhang* (*Southeast University, China*); *Xin-Qing Sheng* (*Beijing Institute of Technology, China*); *Jin Pan* (*University of Electronic Science and Technology of China, China*);

09:00 invited Just in Time: Teaching Electromagnetics in the 21st Century
Rajeev Bansal (*University of Connecticut, USA*);

09:20 invited Electromagnetics Basic Courses: A Student-activating Approach
Jari J. Hanninen (*Aalto University School of Electrical Engineering, Finland*);

09:40 invited Computer-aided Teaching of Electromagnetics: Is It for Real?
Raj Mittra (*The Pennsylvania State University, USA*);

10:00 **Coffee Break**

10:20 invited Using Web Quizzes to Assess Concept Understanding and Pacing the Students
Daniel Sjoberg (*Lund University, Sweden*);

10:40 Impact of Counselling Programs on the Academic Results at Telecommunication Engineering Degree
M. Edita De Lorenzo Rodriguez (*Universidad de Vigo, Spain*); *Artemio Mojón* (*Universidade de Vigo, Spain*); *Generosa F. Manín* (*Universidade de Vigo, Spain*); *Cristina L. Bravo* (*Universidade de Vigo, Spain*); *Inigo Cuinas* (*University of Vigo, Spain*);

10:55 invited Challenges in Electromagnetics Education Design as a Part of Curriculum Reform Process
Kirsti Keltikangas (*Aalto University, Finland*); *Keijo Nikoskinen* (*Aalto University, Finland*);

11:15 Understanding Matching Circuits; Plastic Made Quasioptical Multilayer Matching Unit Design at X-band
Tugrul Aydogmus (*Akdeniz University, Turkey*); *".Inan Kopcal* (*Akdeniz University, Turkey*); *Gizem Kahya* (*Akdeniz University, Turkey*); *Yalçin Albayrak* (*Akdeniz University, Turkey*); *Selcuk Helhel* (*Akdeniz University, Turkey*); *Sukru Ozen* (*Akdeniz University, Turkey*);

11:30 Virtual Laboratory for Microwave Devices
D. S. Gubsky (*Southern Federal University, Russia*); *I. V. Mamay* (*Southern Federal University, Russia*); *Viacheslav V. Zemlyakov* (*Southern Federal University, Russia*);

Session 2A4
5_FocusSession.SC5: Microwave Remote Sensing of Snow Cover

Tuesday AM, August 13, 2013

Room D

Organized by Paolo Pampaloni, Martti Tapani Hallikainen

Chaired by Paolo Pampaloni, Martti Tapani Hallikainen

08:20 keynote Electromagnetic Models in Active and Passive Microwave Remote Sensing of Terrestrial Snow
Leung Tsang (*University of Washington, USA*); *Kung-Hau Ding* (*Air Force Research Laboratory, Wright-Patterson AFB, USA*); *Xiaolan Xu* (*California Institute of Technology, USA*); *Simon H. Yueh* (*California Institute of Technology, USA*);

08:50 keynote Development of the Snowcover and Its Observable Parameters
Christian Matzler (*University of Bern, Switzerland*); *Marin Schneebeli* (*WSL Institute for Snow and Avalanche Research, Switzerland*);

09:20 invited Passive Microwave Observations of Snow Using AMSR2 Measurements: Progress in Satellite-based Observation Retrievals and Uncertainty Estimation
Richard Kelly (*University of Waterloo, Canada*); *Nastaran Saberi* (*University of Waterloo, Canada*);

09:40 Airborne Microwave Radiometer Measurements of
invited Snow on Lake Ice in Winter 2013
Martti Tapani Hallikainen (*Aalto University, Finland*); *Matti Vaaja* (*Aalto University, Finland*); *Jaakko Seppänen* (*Aalto University, Finland*); *Anssi Hakkarainen* (*Aalto University, Finland*);

10:00 **Coffee Break**

10:20 Advancing the Characterisation of Snow Parameters
invited Sharpens Our Understanding of Active and Passive Microwave Signatures — And Vice Versa
Christian Matzler (*University of Bern, Switzerland*); *Mike Schwank* (*Swiss Federal Institute of Forest, Snow and Landscape, WSL, Mountain Hydrology and Torrents, Switzerland*); *A. Wiesmann* (*Gamma Remote Sensing, Switzerland*); *M. Proksch* (*WSL Institute for Snow and Avalanche Research, Switzerland*); *Martin Schneebeli* (*WSL Institute for Snow and Avalanche Research, Switzerland*); *Juha Lemmetyinen* (*Finnish Meteorological Institute (FMI), Finland*); *J. Pulliainen* (*Finnish Meteorological Institute (FMI), Finland*); *K. Rautiainen* (*Finnish Meteorological Institute (FMI), Finland*); *Anna Kontu* (*Finnish Meteorological Institute (FMI), Finland*);

10:40 Multilayer Dense Medium Radiative Transfer Com-
invited bined with NMM3D Boundary Conditions with Application to Terrestrial Snow Scattering at X Band and Ku Band
Shurun Tan (*University of Washington, USA*); *Wenmo Chang* (*University of Washington, USA*); *Xiaolan Xu* (*California Institute of Technology, USA*); *Leung Tsang* (*University of Washington, USA*); *Juha Lemmetyinen* (*Finnish Meteorological Institute (FMI), Finland*); *Simon H. Yueh* (*California Institute of Technology, USA*);

11:00 Monitoring of Dynamic Changes in Alpine Snow with
invited Terrestrial Radar Imagery
Andreas Wiesmann (*GAMMA Remote Sensing AG, Switzerland*); *Tazio Strozzi* (*GAMMA Remote Sensing AG, Switzerland*); *Rafael Caduff* (*GAMMA Remote Sensing AG, Switzerland*); *Jessica Papke* (*GAMMA Remote Sensing AG, Switzerland*); *Christian Matzler* (*University of Bern, Switzerland*);

11:20 The Sensitivity of Radar Backscattering to Snow
invited Characteristics
X. Xiong (*Institute of Remote Sensing Applications, Chinese Academy of Sciences, China*); *Marco Brogioni* (*Consiglio Nazionale delle Ricerche, Italy*); *A. Crepaz* (*Avalanche Center, Italy*); *Simonetta Paloscia* (*CNR-IFAC, Italy*); *Paolo Pampaloni* (*CNR-IFAC, Italy*); *Emanuele Santi* (*Consiglio Nazionale delle Ricerche, Italy*); *J. C. Shi* (*Institute of Remote Sensing Applications, Chinese Academy of Sciences, China*);

11:40 Characterization of Snow Cover Areas by Change De-
invited tection Applied to COSMO-SkyMed Images
Simone Pettinato (*Consiglio Nazionale delle Ricerche, Italy*); *E. Santi* (*National Research Council, Italy*); *S. Paloscia* (*National Research Council, Italy*); *Bruno Aiazzi* (*National Research Council, Italy*); *Andrea Garzelli* (*Universita' di Siena, Italy*);

Session 2A5
SC3: Lightwaves and Resonances in Confined Structures

Tuesday AM, August 13, 2013

Room E

Organized by Andrew Wing On Poon, Ali Serpenguzel

Chaired by Andrew Wing On Poon

08:20 Microring Resonators: The Road toward Practical Implementations
Joyce K. S. Poon (*University of Toronto, Canada*);

08:40 Planar WGM Resonators: Vertical Evanescent Coupling for Complete On-chip Integration
Mher Ghulinyan (*Fondazione Bruno Kessler, Italy*);

09:00 Mode Selection for Subwavelength Aluminum/Silica Coated Semiconductor Circular Nanoresonators
Yong-Zhen Huang (*Institute of Semiconductors, Chinese Academy of Sciences, China*); *Chu-Cai Guo* (*Institute of Semiconductors, Chinese Academy of Sciences, China*); *Jin-Long Xiao* (*Institute of Semiconductors, Chinese Academy of Sciences, China*); *Yue-De Yang* (*Institute of Semiconductors, Chinese Academy of Sciences, China*);

09:20 Broad Band Second Harmonic Generation in Crystalline Whispering Gallery Mode Resonators
Florian Sedlmeir (*Max Planck Institute for the Science of Light, Germany*); *Martin Hauer* (*Max Planck Institute for the Science of Light, Germany*); *Josef U. Furst* (*Max Planck Institute for the Science of Light, Germany*); *Harald G. L. Schwefel* (*University Erlangen-Nürnberg, Germany*);

09:40 Modelling Kerr Comb Generation in Whispering Gallery Mode Resonators with a Periodic 1D Lugiato-Lefever Equation
Yanne Kouomou Chembo (*Université de Franche-Comté, France*); *Curtis R. Menyuk* (*University of Maryland Baltimore County, USA*);

10:00 **Coffee Break**

10:20 Multilayer Slab Waveguide Distributed Feedback Dye Laser Sensors
Christoph Vannahme (*Technical University of Denmark, Denmark*); *Cameron L. C. Smith* (*Technical University of Denmark, Denmark*); *Michael Leung* (*Technical University of Denmark, Denmark*); *Frank Richter* (*Technical University of Denmark, Denmark*); *Mads B. Christiansen* (*Technical University of Denmark, Denmark*); *Petur G. Hermannsson* (*Technical University of Denmark, Denmark*); *Anders Kristensen* (*Technical University of Denmark, Denmark*);

10:40 Ab Initio Model of Lasing in Nanowires
Vladimir G. Bordo (*University of Southern Denmark, Denmark*);

11:00 Characterization of Fringing Far-infrared Reflectance Spectra of Indium Phosphide
Jheng-Hong Yang (*National Chiao Tung University, Taiwan*); *Pei-Kang Chung* (*National Chiao Tung University, Taiwan*); *Hong-Wen Hsieh* (*National Chiao Tung University, Taiwan*); *Shun-Tung Yen* (*National Chiao Tung University, Taiwan*);

11:20 Improvement of Infrared Single-photon Detectors Absorptance via Grating-anomalies on Integrated Plasmonic Structures
Gábor Szekeres (*University of Szeged, Hungary*); *"'Aron Sipos* (*University of Szeged, Hungary*); *András Szenes* (*University of Szeged, Hungary*); *Mária Csete* (*University of Szeged, Hungary*);

Session 2A6
SC4: Small and Miniaturized Antenna Techniques

Tuesday AM, August 13, 2013

Room F

Organized by William Whittow, Raj Mittra

Chaired by William Whittow, Raj Mittra

08:00 Small Antenna Analysis Using Convex Optimization
Mats Gustafsson (*Lund University, Sweden*);

08:20 An Alternative Derivation of the Equivalent Networks for Spherical Modes Using the Extended Kuroda Transform
James S. McLean (*TDK Corporation, USA*); *Robert Sutton* (*TDK Corporation, USA*); *Heinrich D. Foltz* (*University of Texas — Pan American, USA*);

08:40 Ultra Thin and Transfer Tattoo UHF RFID Tags
J. C. Batchelor (*University of Kent, UK*); *D. O. Oyeka* (*University of Kent, UK*); *B. M. Turki* (*University of Kent, UK*); *Edward A. Parker* (*University of Kent at Canterbury, United Kingdom*); *S. G. Yeates* (*University of Manchester, UK*); *V. Sanchez-Romaguera* (*University of Manchester, UK*);

09:00 Radiation Efficiency of Low-profile and Electrically Small Printed Antennas with Capacitive Feeding Structure
Takeshi Fukusako (*Kumamoto University, Japan*); *Hiroyuki Maema* (*Kumamoto University, Japan*);

09:20 Analysis, Design and Experimental Verification of a Miniature Printed, Coupled-loops Antenna
Hubregt J. Visser (*Eindhoven University of Technology, The Netherlands*); *Stefan Lem* (*Eindhoven University of Technology, The Netherlands*);

09:40 A Miniaturized Archimedean Spiral Antenna with Polarization Diversity
Jonathan M. Rigelsford (*The University of Sheffield, UK*);

10:00 **Coffee Break**

10:20 Multi-Mode Reconfiguration of a Compact Ultra-wideband Antenna
Akram Alomainy (*Queen Mary University London, United Kingdom*); *Tamer Aboufoul* (*Queen Mary University of London, United Kingdom*); *Clive Parini* (*Queen Mary University of London, UK*);

10:40 Design of Compact Antenna Deigns for WLAN/WiMAX Bands and for Dual Band-notched UWB Applications
Yingsong Li (*Harbin Engineering University, China*); *Wenxing Li* (*Harbin Engineering University, China*); *Raj Mittra* (*The Pennsylvania State University, USA*); *William Whittow* (*Loughborough University, UK*);

11:00 Design of Miniature Multiband Fractal CPW-fed Antenna for Telecommunication Applications
Ines Rouissi (*University of Tunis El Manar, Tunisia*); *Imen Ben Trad* (*INNOV'COM, Sup'Com, City of Communication Technologies, Tunisia*); *Jean-Marie Floc'h* (*IETR, France*); *Muntasir Sheikh* (*King Abdulaziz University, Saudi Arabia*); *Hatem Rmili* (*King Abdulaziz University, Saudi Arabia*);

11:20 A Stacked Microstrip Antenna with CSRR Arrays for Beidou Navigation System
Baiqiang You (*Xiamen University, China*); *Lizhi Li* (*Xiamen University, China*); *Yang Zhao* (*Xiamen University, China*); *Jianhua Zhou* (*Xiamen University, China*); *Jie Li* (*Xiamen University, China*);

Session 2A7
3_FocusSession.SC3: Nonlinear Optics: Structured Materials, Functional Devices and Applications 1

Tuesday AM, August 13, 2013

Room G

Organized by Chia Chen Hsu, Iam-Choon Khoo

Chaired by Andy Kung, Jeff F. Young

08:30 Nonlinear Processes in Planar Photonic Crystal Structures and Circuits (invited)
Jeff F. Young (*University of British Columbia, Canada*);

08:50 Second Harmonic Nanoparticles in Biological Imaging (invited)
Ye Pu (*Ecole Polytech Fed Lausanne, Switzerland*); *Demetri Psaltis* (*Ecole Polytech Fed Lausanne, Switzerland*);

09:10 Liquid Crystals for Broadband (Optical-terahertz-microwave) Tunable Nano-photonic Structures and All-optical Switching (keynote)
Iam-Choon Khoo (*The Pennsylvania State University, USA*);

09:40 Nanodomain Engineered Ferroelectrics for Nonlinear Optical Applications (invited)
Fredrik Laurell (*KTH, Sweden*); *C. Canalias* (*KTH, Sweden*); *A. Zukauskas* (*KTH, Sweden*); *C. Liljestrand* (*KTH, Sweden*); *Valdas Pasiskevicius* (*KTH, Sweden*);

10:00 **Coffee Break**

10:20 Generation of a Harmonic Frequency Comb for the Synthesis of Arbitrary Optical Waveforms (invited)
Andy Kung (*Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan*);

10:40 Two-photon Absorption in Graphene (invited)
Wei Ji (*National University of Singapore, Singapore*);

11:00 Ultrafast Nonlinearities of Metallic 3D Metamaterials
Ventsislav K. Valev (*University of Cambridge, UK*); *Petros Farah* (*University of Cambridge, UK*); *Stefano Salvatore* (*University of Cambridge,, UK*); *Silvia Vignolini* (*University of Cambridge, UK*); *Ullrich Steiner* (*University of Cambridge, UK*); *Jeremy J. Baumberg* (*University of Cambridge, UK*);

11:15 Large Area Enhancement of Optical Nonlinearities of Ultrathin Gold Films
Stefano De Zuani (*Universtät Stuttgart, Germany*); *Tobias Knoblauch* (*Universtät Stuttgart, Germany*); *Audrey Berrier* (*Universtät Stuttgart, Germany*); *Bruno Gompf* (*Universtät Stuttgar, Germany*); *Martin Dressel* (*Universtät Stuttgart, Germany*);

Session 2A8
SC1: Analytical and Numerical Techniques for Periodic Structures

Tuesday AM, August 13, 2013

Room H

Organized by Kiyotoshi Yasumoto, Koki Watanabe

Chaired by Kiyotoshi Yasumoto, Koki Watanabe

08:20 Two-dimensional Band Solitons in Defected Optical Lattices
Jianhua Zeng (*Tsinghua University, China*); *Boris A. Malomed* (*Tel Aviv University, Israel*);

08:40 Modal Analysis of Lamellar Gratings: A New Formulation Based on B-splines Expansion
Gérard Granet (*Clermont Uniniversités, France*);

09:00 Differential Method for Imperfectly Periodic Gratings
Koki Watanabe (*Fukuoka Institute of Technology, Japan*);

09:20 Coupled Mode Formulation of Two Contra-directional Photonic Crystal Waveguide Couplers
Vakhtang Jandieri (*Kyungpook National University, Republic of Korea*); *Kiyotoshi Yasumoto* (*Kyushu University, Japan*);

09:40 Single Layer Cylindrical Frequency Selective Structures for Radome Applications
Elia Di Salvo (*"La Sapienza" University of Rome, Italy*); *Fabrizio Frezza* (*"La Sapienza" University of Rome, Italy*); *Endri Stoja* (*"La Sapienza" University of Rome, Italy*); *Nicola Tedeschi* (*"La Sapienza" University of Rome, Italy*);

10:00 **Coffee Break**

10:20 Analysis of Scattering from Doubly Periodic Layers with Non Parallel Interfaces by Means of the Curvilinear Coordinate Method
Gérard Granet (*Clermont Uniniversités, France*);

10:40 Analytic Dispersion Relation of Periodic Array of Magnetodielectric Circular Cylinders
Woo-Jin Byun (*Electronics and Telecommunications Research Institute, South Korea*); *Yong Heui Cho* (*Mokwon University, South Korea*); *Do-Hoon Kwon* (*University of Massachusetts Amherst, USA*);

11:00 Surface Plasmon Resonance Structure with Ferromagnetic Grating
Jaromir Pistora (*Technical University Ostrava, Czech Republic*); *Jaroslav Vlcek* (*VSB — Technical University of Ostrava, Czech Republic*); *Michal Lesnak* (*VSB — Technical University of Ostrava, Czech Republic*);

11:20 Comparison between Two Methods for Directivity Enhancement of Antennas through 2-D EBGs
Silvio Ceccuzzi (*"Roma Tre" University, Italy*); *Lara Pajewski* (*"Roma Tre" University, Italy*); *Cristina Ponti* (*"Roma Tre" University, Italy*); *Giuseppe Schettini* (*Univ. Roma La Sapienza, Italy*);

11:40 Leakage Loss of Post-wall Waveguides Based on a Model of Two-dimensional Photonic Crystal Waveguides
Kiyotoshi Yasumoto (*Kyushu University, Japan*); *Hiroshi Maeda* (*Fukuoka Institute of Technology, Japan*); *Vakhtang Jandieri* (*Kyungpook National University, South Korea*);

Session 2A9
SC1: Spectral Theory of Open Structures: Critical and Interaction Phenomena

Tuesday AM, August 13, 2013

Room I

Organized by Yury V. Shestopalov, Evgeny M. Karchevskiy

Chaired by Yury V. Shestopalov

08:20 Reduced Volume Integral Formulations for an Open Waveguide Based on the Cylindrical Vector Wave Expansion
Sven Nordebo (*Linnaeus University, Sweden*); *Andreas Ioannidis* (*Linnaeus University, Sweden*); *Borje Nilsson* (*Linnaeus University, Sweden*);

08:40 Eigenmodes in Problems of Scattering and Generation of Oscillations on a Nonlinear Layer
Lutz Angermann (*University of Technology at Clausthal, Germany*); *Vasyl V. Yatsyk* (*O. Ya. Usikov Institute of Radiophysics and Electronics, National Academy of Sciences of Ukraine (IRE NASU), Ukraine*);

09:00 Spectral Theory of Wave Propagation: Survey of Recent Results
Yury V. Shestopalov (*Karlstad University, Sweden*);

09:20 Plasmonic Cavity Modes: Black-hole Phenomena Captured by Perfectly Matched Layers
Anne-Sophie Bonnet-Ben Dhia (*POEMS UMR 7231 CNRS-INRIA-ENSTA, France*); *Camille Carvalho* (*POEMS UMR 7231 CNRS-INRIA-ENSTA, France*); *Lucas Chesnel* (*Aalto University, Finland*); *Patrick Ciarlet, Jr.* (*Ecole Natl. Super. Tech. Avancees, France*);

09:40 Resonant Frequency Doubling of Electromagnetic Waves in a Magnetoplasma: Analogy of the Non-linear Laser Crystal
Nikolay Sergeevich Erokhin (*Space Research Institute of RAS, Russia*); *Alexander Borisovich Shvartsburg* (*Joint Institute for High Temperatures, Russian Academy of Sciences, Russia*);

10:00 **Coffee Break**

10:20 The Reconstruction of Dielectric Profile of a Layer for the Harmonic Wave Case
Nikolai B. Pleshchinskii (*Kazan State University, Russia*); *D. N. Tumakov* (*Kazan Federal University, Russian Federation*);

10:40 Cylindrically Shaped Apertures and Guidance of Waves by Using Hankel Transformation and the Exact Approach Technique
Taner Sengor (*Yildiz Technical University, Turkey*);

11:00 Adaptive Artificial Boundary Conditions for Schrödinger Equation with Un-instantaneous Nonlinearity
Vyacheslav A. Trofimov (*Lomonosov Moscow State University, Russia*); *Anton D. Denisov* (*Lomonosov Moscow State University, Russia*); *Mikhail V. Fedotov* (*Lomonosov Moscow State University, Russia*); *Alexander S. Prokopenko* (*Lomonosov Moscow State University, Russia*);

Session 2A_10
SC4: Antenna-channel Interactions and Multipath Wireless Channels

Tuesday AM, August 13, 2013

Room J

Organized by Andres Alayon Glazunov

Chaired by Andres Alayon Glazunov

08:20 Cooperative Communications Based on Smart Antenna Systems Using PSO Algorithm
Ahmed Magdy Mohamed (*Helwan University, Egypt*); *Korany Ragab Mahmoud* (*Helwan University, Egypt*); *Samir Sayed* (*Helwan University, Egypt*);

08:40 Reader Antenna Beam Width Optimization under Multiple Channel Effects in a UWB-RFID System
Alain Sibille (*Telecom ParisTech/LTCI, France*);

09:00 Evaluation of UWB Chipless RFID System Performance Considering Indoor Multipath Propagation Channel and Real World Aspects
Mohamed El-Hadidy (*The University of Duisburg-Essen, Germany*); *A. Fawky* (*Duisburg-Essen University, Germany*); *B. Nagy* (*Duisburg-Essen University, Germany*); *Maher Mohamed Ahmed Khaliel* (*Benha Faculty of Engineering, Egypt*); *Esmat Abdel-Fattah Abdallah* (*Electronics Research Institute, Egypt*); *H. Elhennawy* (*Electronic Research Institute, Egypt*); *Thomas Kaiser* (*The University of Duisburg-Essen, Germany*);

09:20 Lognormal Shadow Fading Arising from Inhomogeneous Radio Wave Diffusion
Dmitry Chizhik (*Alcatel-Lucent, USA*); *Jonathan Ling* (*Alcatel Lucent, USA*); *Reinaldo A. Valenzuela* (*Alcatel Lucent, USA*);

09:40 On the Use of Huygens' Sources for Synthetic Propagation Environments with the Application in MIMO Over-the-air Testing
Afroza Khatun (*Aalto University, Finland*); *Keijo Nikoskinen* (*Aalto University, Finland*);

10:00 **Coffee Break**

10:20 Characterization of the Field Distribution in a Reverberation Chamber for MIMO Channel Emulation
Andres Alayon Glazunov (*KTH, Royal Institute of Technology, Sweden*);

10:40 Variability of Radio Channel Characteristics in Different Indoor Environments
Hassan El-Sallabi (*Texas A&M University at Qatar, Qatar*); *Khalid A. Qaraqe* (*Texas A&M University at Qatar, Qatar*); *Erchin Serpedin* (*Texas A&M University, USA*);

11:00 Novel Methodology for Increasing the Reading Range of the UWB Passive RFID Chipless Tags Considering Power Regulations
Mohamed El-Hadidy (*The University of Duisburg-Essen, Germany*); *B. Nagy* (*Duisburg-Essen University, Germany*); *Maher Mohamed Ahmed Khaliel* (*Benha Faculty of Engineering, Egypt*); *A. Fawky* (*Duisburg-Essen University, Germany*); *E. Abdallah* (*Ain-Shams University, Egypt*); *H. Elhennawy* (*Electronic Research Institute, Egypt*); *Thomas Kaiser* (*Duisburg-Essen University, Germany*);

11:20 Stochastic Modeling of Ultra Wideband Propagation Channels within a Small Spacecraft
Miyuki Hirose (*Tokyo Denki University, Japan*); *T. Kobayashi* (*Tokyo Denki University, Japan*);

Session 2A_11a
SC4: Paper-based Microwave Circuits and Antennas

Tuesday AM, August 13, 2013

Room K

Organized by Leena Ukkonen, Maurizio Bozzi

Chaired by Maurizio Bozzi, Toni Bjorninen

08:00 Manufacturing and Applications of Screen-printed RFID Tags on Paper Substrate
Johanna Virkki (*Tampere University of Technology, Finland*); *Toni Björninen* (*Tampere University of Technology, Finland*); *Sari Merilampi* (*Satakunta University of Applied Sciences, Finland*); *Lauri Sydanheimo* (*Tampere University of Technology, Finland*); *Leena Ukkonen* (*Tampere University of Technology, Finland*);

08:20 Printable RFID Antenna with Embedded Sensor and Calibration Functions
Yasar Amin (*Royal Institute of Technology (KTH), Sweden*); *Rajeev Kumar Kanth* (*University of Turku, Finland*); *Pasi Liljeberg* (*University of Turku, Finland*); *Adeel Akram* (*University of Engineering and Technology, Pakistan*); *Qiang Chen* (*Royal Institute of Technology (KTH), Sweden*); *Li-Rong Zheng* (*Royal Institute of Technology (KTH), Sweden*); *Hannu Tenhunen* (*Royal Institute of Technology (KTH), Sweden*);

08:40 Implementation of Substrate Integrated Waveguide (SIW) by Inkjet-printing on Paper Substrate
Riccardo Moro (*University of Pavia, Italy*); *Sangkil Kim* (*Georgia Institute of Technology, USA*); *Maurizio Bozzi* (*University of Pavia, Italy*); *Manos M. Tentzeris* (*Georgia Institute of Technology, USA*);

09:00 On the Influence of Edge Roughness in High-speed RFID Antenna Manufacturing Processes
Jinlan Gao (*Mid-Sweden University, Sweden*); *Johan Siden* (*Mid-Sweden University, Sweden*); *Hans-Erik Nilsson* (*Mid-Sweden University, Sweden*);

09:20 Design of Sierpinski Grid Patch Antenna for Multi-band Application
Rajeev Kumar Kanth (*University of Turku, Finland*); *Pasi Liljeberg* (*University of Turku, Finland*); *Hannu Tenhunen* (*Royal Institute of Technology (KTH), Sweden*); *Yasar Amin* (*Royal Institute of Technology (KTH), Sweden*); *Qiang Chen* (*Royal Institute of Technology (KTH), Sweden*); *Axel Janstch* (*Royal Institute of Technology (KTH), Sweden*); *Li-Rong Zheng* (*Royal Institute of Technology (KTH), Sweden*); *Harish Kumar* (*SLIET, India*);

09:40 A Battery Free RFID Sensor for Quality Detection of Food Products
Dat-Son Nguyen (*Vietnam National University, Vietnam*); *Gia-Tam Phan* (*Vietnam National University, Vietnam*); *Tien-Thong Pham* (*Vietnam National University, Vietnam*); *Nguyen-Ngan Le* (*Vietnam National University, Vietnam*); *Mau-Chien Dang* (*Vietnam National University, Vietnam*); *Smail Tedjni* (*Grenoble Institute of Technology (Grenoble-INP), France*);

10:00 **Coffee Break**

Session 2A_11b
SC4: Circuit Modelling in Microwave Devices

Tuesday AM, August 13, 2013

Room K

Organized by Reuven Shavit

Chaired by Enrique Bronchalo

10:20 A Microstrip-fed Printed Slot Antenna for 3G/Bluetooth/WiMAX and UWB Applications with 3.6 GHz Band Rejection
Mohamed Mamdouh Mahmoud Ali (*Assiut University, Egypt*); *Ayman Ayd Ramadan Saad* (*South Valley University, Egypt*); *Elsayed Esam M. Khaled* (*Assiut University, Egypt*);

10:40 Symmetrical T-stubs Coupled Miniature Square Open-loop Dual-band Bandpass Filter for C- and X-band Applications
Ram Krishna Maharjan (*Kwangwoon University, South Korea*); *Nam-Young Kim* (*Kwangwoon University, Republic of Korea*);

11:00 2.4-GHz CMOS Direct Conversion Receiver Using Standard-cell Deep N-well BJT
Wei-Ling Chang (*National Chiao Tung University, Taiwan*); *Chinchun Meng* (*National Chiao Tung University, Taiwan, R.O.C.*); *Jin-Siang Syu* (*National Chiao Tung University, Taiwan, R.O.C.*); *Chia-Ling Wang* (*National Chiao Tung University, Taiwan*); *Guo-Wei Huang* (*National Nano Device Laboratories, Taiwan*);

11:20 Theoretical Study of the Coupling Factor of Open-ended Coupled Transmission Lines at First Resonant Frequencies under Quasi-TEM Propagation
Enrique Bronchalo (*Universidad Miguel Hernández de Elche, Spain*); *Miguel Ángel Sanchez-Soriano* (*Universite Bretagne Occidentale, France*); *German Torregrosa-Penalva* (*Universidad Miguel Hernández de Elche, Spain*); *Angela Coves Soler* (*Universidad Miguel Hernandez, Spain*);

11:40 A V-band Low Noise Amplifier with 18.1 dB Gain and 6.3 dB NF in 90-nm CMOS Process Technology
Chiu-Hsiang Hsu (*National Chung Hsing University, Taiwan*); *Yen-Chung Chiang* (*National Chung-Hsing University, Taiwan*);

12:00 The Band-pass SIW-filter Based on L-ridged Rectangular Waveguide
Viacheslav V. Zemlyakov (*Southern Federal University, Russia*);

Session 2A_K
Poster Session 3

Tuesday AM, August 13, 2013

9:00 AM - 12:00 AM

Room P

1 Benefits of Using Wireless Sensor Networks to Predict Plagues in Vineyards
Inigo Cuinas (*University of Vigo, Spain*); *Sergio Cervera* (*University of Vigo, Spain*); *Jose Antonio Gay-Fernandez* (*University of Vigo, Spain*);

2 Electro-responsive and Dielectric Characteristics of Graphene Oxide Based Composites
Wen Ling Zhang (*Inha University, Korea*); *Hyoung Jin Choi* (*Inha University, Korea*);

3 Heterogeneous Oscillator Model of Cardiac Conduction System
Elena Ryzhii (*University of Aizu, Japan*); *Maxim Ryzhii* (*The University of Aizu, Japan*);

4 GP GPU Acceleration of a PO Based RF Simulation Software Dedicated to Radar Simulation in Large Scale and Complex Environments
A. Boudet (*OKTAL Synthetic Environment, France*); *Nicolas Douchin* (*OKTAL Synthetic Environment, France*); *P. Pitot* (*OKTAL Synthetic Environment, France*);

5 Phase Delay of Alternating Multi-layers of Metamaterials and Dielectrics
Jonghun Lee (*Daegu Gyeonbuk Institute of Science & Technology, Korea*); *Cherl-Hee Lee* (*Daegu Gyeonbuk Institute of Science & Technology, Korea*);

6 Hybrid Metal-dielectric Ring Resonators for Optical Magnetism and Magnetic Metamaterials Down to Ultraviolet Wavelengths
Jianwei Tang (*Zhejiang University, China*); *Sailing He* (*KTH-Royal Institute of Technology, Sweden*);

7 Atomistic Approach for the Field Enhancement in Quantum Plasmonic Nanostructures
Tuomas Rossi (*Aalto University, Finland*); *Arto Sakko* (*Aalto University, Finland*); *R. M. Nieminen* (*Aalto University, Finland*);

8 Graphene Waveguides of Ultra-small Mode Areas and Ultra-large Effective Refractive Indices
Sailing He (*Zhejiang University, China*); *Xizhou Zhang* (*Zhejiang University, China*); *Yingran He* (*Zhejiang University, China*);

9 Fe:BN Nanoceramic — Negative Refraction Material in the Wide Frequency Range
Karen Oganisian (*Institute of Low Temperature and Structure Research, PAS, Poland*); *A. Vogt* (*Wroclaw University, Poland*); *P. Gluchowski* (*Institute of Low Temperature and Structure Research, PAS, Poland*); *K. Orzechowski* (*Wroclaw University, Poland*); *W. Strek* (*Institute of Low Temperature and Structure Research, PAS, Poland*);

10 Fano Resonance in Simple and Single Plasmonic Particle
Yuan Zhang (*South China Normal University, China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

11 Design and Application of Multi-slots AMC Structure Having Metamaterial Characteristic for 2.45 GHz Band
Seung Woo Lee (*Chungbuk National University, South Korea*); *Nam Kim* (*Chungbuk National University, South Korea*); *Seung-Yeup Rhee* (*Chonnam National University, South Korea*);

12 Bundle Block Adjustment with Optical and SAR Images
Shuai Xing (*Zhengzhou Institute of Surveying and Mapping, China*); *Qing Xu* (*Zhengzhou Institute of Surveying and Mapping, China*); *Wei Sun* (*Zhengzhou Institute of Surveying and Mapping, China*); *Jiansheng Li* (*Zhengzhou Institute of Surveying and Mapping, China*); *Yu He* (*Zhengzhou Institute of Surveying and Mapping, China*);

13 Airborne Interferometric SAR Experiment with Multi-carrier Frequencies Using both Chirp and Noise Signals
Yunhua Zhang (*Center for Space Science and Applied Research, CAS, China*); *Wenshuai Zhai* (*Graduate University of the Chinese Academy of Sciences, China*); *Xueyan Kang* (*Center for Space Science and Applied Research, CAS, China*); *Xiaojin Shi* (*Center for Space Science and Applied Research, CAS, China*); *Xiang Gu* (*Center for Space Science and Applied Research, CAS, China*); *Yueying Tang* (*Center for Space Science and Applied Research, CAS, China*);

14 Micro-doppler Analysis of Rotating Targets in Dual-channel Bistatic SAR
Meng Lv (*Zhejiang University, China*);

15 Snow Wetness Estimation from Polarimetric SAR Image
Manickam Surendar (*Indian Institute of Technology, India*); *G. Singh* (*Niigata University, Japan*); *Avik Bhattacharya* (*Indian Institute of Technology, India*); *G. Venkataraman* (*Indian Institute of Technology, India*); *P. A. Bharathi* (*Indian Institute of Technology, India*);

16 Optical Data Storage Using Diffractive Optical Elements
Shuhei Yoshida (*Tokyo University of Science, Japan*); *Kai Yamada* (*Tokyo University of Science, Japan*); *Noriyuki Unno* (*Tokyo University of Science, Japan*); *Jun Taniguchi* (*Tokyo University of Science, Japan*); *Manabu Yamamoto* (*Tokyo University of Science, Japan*);

17 Multi-dimensional Shift Multiplexing for Holographic Data Storages
Shuhei Yoshida (*Tokyo University of Science, Japan*); *Keiko Yamamoto* (*Tokyo University of Science, Japan*); *Hiroyuki Kurata* (*Tokyo University of Science, Japan*); *Manabu Yamamoto* (*Tokyo University of Science, Japan*);

18 Characterization of Zinc-tin-oxide Films Deposited by Radio Frequency Magnetron Sputtering at Various Substrate Temperatures
Ik-Jae Lee (*Pohang Accelerator Laboratory (PAL), South Korea*); *Nark-Eon Sung* (*Pohang Accelerator Laboratory (PAL), South Korea*); *Keun Hwa Chae* (*Korea Institute of Science and Technology (KIST), South Korea*); *Ray Conley* (*Brookhaven National Laboratory (BNL), USA*);

19 Design of New ITO Electrodes for High Sensitive Capacitive Touch Panel
Huai-Yi Chen (*Huafan University, Taiwan, R.O.C*); *Hsi-Ting Huang* (*Huafan University, Taiwan R.O.C*);

20 On the Modeling of an External Cavity Tunable Laser ECTL Source with Finite Mirror Dimensions
Ahmed Mohamed Fawzy (*Helwan University, Egypt*); *Salwa El-Sabban* (*Helwan University, Egypt*); *Ibrahim I. Ibrahim* (*Helwan University, Egypt*); *Diaa Khalil* (*Ain-Shams University, Egypt*);

21 Polarization-insensitive and Broadband Plasmonic Silicon Schottky Diode for Detection of Sub-bandgap Photons
Liu Yang (*Zhejiang University, China*); *Pengfei Kou* (*Zhejiang University, China*); *El Hang Lee* (*Zhejiang University, China*); *Sailing He* (*Zhejiang University, China*);

22 The Fabrication of AlGaN Ultraviolet-B Metal-semiconductor-metal Photodetectors with a MgZnO Thin Film Filter
Ming-Jer Jeng (*Chang Gung University, Taiwan, R.O.C.*); *Jun-Yan Chang* (*Chung-Cheng Institute of Technology, Taiwan*); *Liann-Be Chang* (*Chang Gung University, Taiwan, R.O.C.*); *Ray-Ming Lin* (*Chang Gung University, Taiwan, R.O.C.*); *Li-Zen Hsieh* (*Hwa Hsia Institute of Technology, Taiwan*);

23 Omnidirectional Absorber Based on Collision Plasma Heterostructures
Xiang-Kun Kong (*Nanjing University of Aeronautics and Astronautics, China*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics, China*); *Hai Feng Zhang* (*Nanjing University of Aeronautics and Astronautics, China*); *Bo-Rui Bian* (*Nanjing University of Aeronautics and Astronautics, China*); *Hui-Chao Zhao* (*Nanjing University of Aeronautics and Astronautics, China*); *Huan Yang* (*Nanjing University of Aeronautics and Astronautics, China*);

24 Size Reduction of Narrowband Hairpin Bandpass Filter Using Fractal Koch Geometry
Achmad Munir (*Institut Teknologi Bandung, Indonesia*); *Teguh Praludi* (*Indonesian Institute of Sciences, Indonesia*); *Mohammad Ridwan Effendi* (*Institut Teknologi Bandung, Indonesia*);

25 Design of a Compact Dual-mode Dual-band Microstrip Bandpass Filter Based on Semi-fractal CSRR
Mushtaq A. Alqaisy (*Universiti Tenaga Nasional, Malaysia*); *Jawad K. Ali* (*University of Technology, Iraq*); *Chandan Kumar Chakrabarty* (*Universiti Tenaga Nasional, Malaysia*); *Goh Chin Hock* (*Universiti Tenaga Nasional, Malaysia*);

26 Odd-order Bandstop Filter (BSF) Topology with Inter-resonator Coupling Structures
Tae-Hak Lee (*Korea University, South Korea*); *Kangho Lee* (*Korea University, Korea*); *Chang-Soo Ahn* (*Agency for Defense Development, Korea*); *Young Sik Kim* (*Korea University, Korea*); *Juseop Lee* (*Korea University, Korea*);

27 Dual-band Impedance Matching Network with Transmission Zeros Using Resonators
Phirun Kim (*Chonbuk National University, Republic of Korea*); *Girdhari Chaudhary* (*Chonbuk National University, Republic of Korea*); *Yongchae Jeong* (*Chonbuk National University, South Korea*); *Jongsik Lim* (*Soonchunhyang University, Republic of Korea*);

28 Highly Miniaturized Forced-mode Ring Resonator
Jose Roberto Reyes Ayona (*Instituto Nacional de Astrofisica Optica y Electronica, Mexico*);

29 A Novel Approach to Increase the Multipactor Level in Microwave Transformer
Tiancun Hu (*Xi'an Institute of Space Radio Technology, China*); *Wanzhao Cui* (*Xi'an Institute of Space Radio Technology, China*);

30 Design and Realization of a C-band Impedance Transformer
Tiancun Hu (*Xi'an Institute of Space Radio Technology, China*); *Wanzhao Cui* (*National Xi'an Institute of Space Radio Technology, China*);

31 Synthesis of Non-uniform Planar Lines and Coupled Line Filters Using Inverse Scattering Approach
Harishankar Prasad (*Indian Institute of Technology, India*); *Mohammad Jaleel Akhtar* (*Indian Institute of Technology Kanpur, India*);

32 Calculating the Scattering from Periodic Conducting Surfaces without Using Evanescent Modes, Part II: Formulation of the Solution
Dayalan Prajith Kasilingam (*University of Massachusetts Dartmouth, USA*); *Christopher Goonan* (*University of Massachusetts Dartmouth, USA*);

33 Changes in the Degree of Polarization of a Stochastic Electromagnetic Plane-wave Pulse Scattered by a Spherical Medium
Liuzhan Pan (*Luoyang Normal University, China*); *Chaoliang Ding* (*Luoyang Normal University, China*);

34 Some Ideas Yet Unattempted in Georadar Full Waveform Inversion
Giovanni Meles (*University of Edinburgh, United Kingdom*); *Stewart Greenhalgh* (*Institute of Geophysics, Switzerland*); *Hansruedi Maurer* (*Institute of Geophysics, Switzerland*); *Alan Green* (*ETH, Institute of Geophysic, Switzerland*);

35 Compton Effect in the Medium with Non-unity Refractive Index
S. G. Chefanov (*A.M. Obukhov Institute of Atmospheric Physics of RAS, Russia*); *A. G. Chefranov* (*Eastern Mediterranean University, North Cyprus*); *Vinay Venugopal* (*VIT University, India*);

36 An Acoustic Inverse Scattering Problem for Spherical Coating Materials with Radially Inhomogeneous Profile
Egemen Bilgin (*Istanbul Technical University, Turkey*); *Ali Yapar* (*Istanbul Technical University, Turkey*);

37 Reflection of TEM Waves from a Finite Gap on the Inner Wall of a Coaxial Waveguide
Ozge Yanaz Cinar (*Gebze Institute of Technology, Turkey*); *Sinan Aksimsek* (*Istanbul Kultur University, Turkey*);

38 Properties of One-way Magnetooptic Nanostructures in THz Range
P. Kwiecien (*Czech Technical University in Prague, Czech Republic*); *Vladimir Kuzmiak* (*Institute of Photonics and Electronics, Czech Academy of Sciences, Czech Republic*); *Ivan Richter* (*Czech Technical University in Prague, Czech Republic*); *Jiri Ctyroky* (*Institute of Photonics and Electronics AS CR, v.v.i., Czech Republic*);

39 Broadband Characterization Using Stripline Structure
Ellen Yoshie Sudo Lutif (*CTA, Brazil*); *Alberto Jose de Faro Orlando* (*CTA, Brazil*); *Antonio Carlos da Cunha Migliano* (*CTA, Brazil*);

40 Few-quantum-dot Lasing in Photonic Crystal Nanocavities
Jin Liu (*South China Normal University, China*); *S. Ates* (*Technical University of Denmark, Denmark*); *S. Stobbe* (*Technical University of Denmark, Denmark*); *M. Lorke* (*Technical University of Denmark, Denmark*); *Peter Lodahl* (*Technical University of Denmark, Denmark*);

41 Investigations on Two-wavelength Holographic Recording in Thick Phenanthrenequinone-doped Poly(Methyl Methacrylate) Photopolymer
June Hua Lin (*National Chiao Tung University, Taiwan, R.O.C.*); *Shiuan Huei Lin* (*National Chiao Tung University, Taiwan, R.O.C.*); *Ken-Yuh Hsu* (*National Chiao Tung University, Taiwan, R.O.C.*);

42 Optical Control of Guided-mode-resonance in the Waveguide Grating Structures with Azo-dye Polymers
Jian-Hung Lin (*National Chung Cheng University, Taiwan*); *Yu Chung Huang* (*National Chung Cheng University, Taiwan*); *Jian Hao Huang* (*National Chung Cheng University, Taiwan*); *Hung-Chih Kan* (*National Chung Cheng University, Taiwan*); *Chia Chen Hsu* (*National Chung Cheng University, Taiwan, R.O.C.*);

43 Design and Simulation of Optimized Ultra-wideband Saddle Antenna
Alapati Sudhakar (*RVR & JC College of Engineering, India*); *Devabhaktuni Madhavi* (*RVR & JC College of Engineering, India*);

44 Printed Yagi-Uda Antenna for WLAN Applications
Amira El-Tokhy Ali (*Modern Science and Arts University (MSA), Egypt*); *Deena A. Salem* (*Electronics Research Institute, Egypt*);

45 Digital Public Safety Radio Communication
Eduil Nascimento Junior (*Federal University of Parana, Brazil*); *Horacio Tertuliano Filho* (*Federal University of Parana, Brazil*); *Jose-Ricardo Descardeci* (*Federal University of Tocantins, Brazil*); *C. A. Dartora* (*Universidade Federal do Paraná, Brazil*); *Theoma M. Sanchez Otobo* (*Federal University of Paraná, Brazil*); *E. Cherubini Rolin* (*Federal Institute of Parana, Brazil*);

46 A Compact UWB Antenna with Wide Band-notch at 5 GHz for WLAN Band
Qurratulain (*Birla Institute of Technology, India*); *Neela Chattoraj* (*Birla Institute of Technology (Deemed University), India*);

47 Effect of Stationary Magnetic Fields on Different Bacterial Strains
Pavel Krepelka (*Brno University of Technology, Czech Republic*); *Eliska Hutová* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*);

48 Enhanced Spectrum Planning in Cognitive System Based on Reinforcement Learning
Robert Urban (*Brno University of Technology, Czech Republic*); *Eliska Hutová* (*Brno University of Technology, Czech Republic*); *Dusan Nespor* (*Brno University of Technology, Czech Republic*);

49 2D Simulations of Bioelectrical Properties of Thorax by EIT
Ksenia Ostanina (*Brno University of Technology, Czech Republic*); *Jarmila Dedkova* (*Brno University of Technology, Czech Republic*); *Tomas Kriz* (*Brno University of Technology, Czech Republic*);

50 Estimation of the Air Ion Mobility Spectrum by Means of a Gerdien Tube with a Segmented Inner Electrod
Zdeněk Roubal (*Brno University of Technology, Czech Republic*); *Pavel Krepelka* (*Brno University of Technology, Czech Republic*);

51 Study about Effects Induced by Temporal-variability of Ionosphere on Medium-Earth-Orbit SAR Azimuth Imaging
Liang Li (*Institute of Electronics, Chinese Academy of Science, China*); *Jun Hong* (*Institute of Electronics, Chinese Academy of Science, China*); *Feng Ming* (*Institute of Electronics, University of Chinese Academy of Sciences, China*);

52 Design and Analysis of Microstrip Antenna for CDMA
Hassan Elkotbe Elesawy (*Egyptian Armed Forces, Egypt*); *W. Swelam* (*Egyptian Armed Forces, Egypt*); *Ismail Hafez* (*Ain Shams University, Egypt*);

53 Collapse of Hawking-Hartle Wave of the Universe and the Missing Dark Energy
Mohamed A. El-Borie (*University of Alexandria, Egypt*);

54 Study of Electromagnetic Waves Propagation through Periodic Dielectric Structure
Emmanuel Ifeanyi Ugwu (*Ebonyi State University, Nigeria*); *C. E. Ikeogu* (*Ebonyi State University, Nigeria*);

55 Magnetic Photonic Crystals with High Magneto-optical Quality: Technological Aspects
Viacheslav A. Kotov (*V.A. Kotelnikov Institute of Radio Engineering and Electronics RAS, Russia*); *Mikhail Vasiliev* (*Edith Cowan University, Australia*); *Kamal E. Alameh* (*Edith Cowan University, Australia*); *Nur-E Alam* (*Edith Cowan University, Australia*); *Dmitry E. Balabanov* (*Moscow Institute of Physics and Technology, Russia*); *Vladimir I. Burkov* (*Moscow Institute of Physics and Technology, Russia*);

56 Wavelet Characterization of Skip Distance Fluctuations for Radio Wave Communication in Pakistan
Muhammad Ayub Khan Yousuf Zai (*University of Karachi, Pakistan*); *Akbar Ali Jilani* (*University of Karachi, Pakistan*);

57 Study of Fraunhofer Diffraction Pattern Using Frequency Image Processing in Two Dimensions
Jimmy Alexander Cortes Osorio (*Technological University of Pereira, Colombia*); *Jairo Alberto Mendoza Vargas* (*Universidad Tecnológica de Pereira, Colombia*); *Jose Andres Chaves Osorio* (*Universidad Tecnológica de Pereira, Colombia*);

58 Technique Problems in Designing the on-chip EMI Sensor Array
Tao Su (*Sun Yat-sen University, China*); *Yehua Yang* (*Sun Yat-sen University, China*); *Zixin Wang* (*Sun Yat-sen University, Guangzhou, China*);

59 Design and Synthesis of Multi Resonant Planar Antenna Using Particle Swarm Optimization Method
B. Rama Sanjeeva Reddy (*National Institute of Technology, India*); *Damera Vakula* (*National Institute of Technology, India*); *N. V. S. N. Sarma* (*National Institute of Technology, India*);

Session 2P1
3_FocusSession.SC3: Recent Progress in Photonic Crystals 2

Tuesday PM, August 13, 2013

Room A

Organized by Sajeev John, Srinivasan Anand

Chaired by Sajeev John, Srinivasan Anand

13:00 keynote Recent Progress in Photonic Crystals and Their Applications
Susumu Noda (*Kyoto University, Japan*);

13:30 keynote Light Trapping and Solar Energy Harvesting in Thin Film Photonic Crystals
Sajeev John (*University of Toronto, Canada*);

14:00 3D Photonic Crystals for Photon Management in Solar Cells
invited
Ralf B. Wehrspohn (*Univ. Gesamthsch Paderborn, Germany*); *Alexander Sprafke* (*Martin-Luther-University Halle-Wittenberg, Germany*);

14:20 3D Photonic Crystals with Controlled Deterministic Aperiodic Disorder
invited
Michael Renner (*University of Kaiserslautern, Germany*); *Erik Waller* (*University of Kaiserslautern, Germany*); *Georg Von Freymann* (*University of Kaiserslautern, Germany*);

14:40 Quantum Optical Devices Based on Photonic Crystal Nanocavities
invited
Hisashi Sumikura (*Nippon Telegraph and Telephone Corp., Japan*); *Muhammad Danang Birowosuto* (*Nippon Telegraph and Telephone Corp., Japan*); *Masaya Notomi* (*NTT Corporation, Japan*);

15:00 Solid-state Cavity-QED in Quantum Dot-photonic Crystal Nanocavity Coupled Systems
invited
Yasuhiko Arakawa (*University of Tokyo, Japan*); *S. Iwamoto* (*The University of Tokyo, Japan*); *Yasutomo Ota* (*The University of Tokyo, Japan*); *Aniwat Tandaechanurat* (*The University of Tokyo, Japan*);

15:20 **Coffee Break**

15:40 Photonic Crystals for Integrated Quantum Circuits
invited
Thang Ba Hoang (*Eindhoven University of Technology, The Netherlands*); *Sartoon Fattahpoor* (*Eindhoven University of Technology, The Netherlands*); *Leonardo Midolo* (*Eindhoven University of Technology, The Netherlands*); *Dondu Sahin* (*Eindhoven University of Technology, The Netherlands*); *Andrea Fiore* (*Eindhoven University of Technology, The Netherlands*); *Alessandro Gaggero* (*Istituto di Fotonica e Nanotecnologie (IFN), Italy*); *Francesco Mattioli* (*Istituto di Fotonica e Nanotecnologie (IFN), Italy*); *Roberto Leoni* (*Istituto di Fotonica e Nanotecnologie (IFN), Italy*); *Johannes Beetz* (*Universität Würzburg, Germany*); *Matthias Lermer* (*Universitat Wurzburg, Germany*); *Sven Hoefling* (*Universität Würzburg, Germany*); *Martin Kamp* (*Universität Würzburg, Germany*);

16:00 Hybrid III-V Semiconductors/Silicon on Insulator Photonics Crystals Cavities for Ultrafast Switching and Memories
invited
Fabrice Raineri (*Laboratoire de Photonique et de Nanostructures, CNRS, France*); *Alexandre Bazin* (*Laboratoire de Photonique et de Nanostructures, CNRS, France*); *Paul Monnier* (*Laboratoire de Photonique et de Nanostructures, CNRS UPR20, France*); *Isabelle Sagnes* (*Laboratoire de Photonique et de Nanostructures, CNRS-UPR20, France*); *Rama Raj* (*Laboratoire de Photonique et de Nanostructres, CNRS, France*);

16:20 Photonic Crystal Cavities for Optical Switching
invited
Jesper Mork (*Technical University of Denmark, Denmark*); *Y. Yu* (*Technical University of Denmark, Denmark*); *Mikkel Heuck* (*Technical University of Denmark, Denmark*); *Philip T. Kristensen* (*Technical University of Denmark, Denmark*); *K. Yvind* (*Technical University of Denmark, Denmark*);

16:40 Optical Delay in Silicon Photonic Crystals: Accelerating Slow Light
invited
Daryl M. Beggs (*University of St. Andrews, UK*); *Isabella H. Rey* (*University of St. Andrews, UK*); *Tobias Kampfrath* (*FOM Institute AMOLF, The Netherlands*); *Nir Rotenberg* (*FOM Institute AMOLF, The Netherlands*); *Laurens Kuipers* (*Stichting FOM, The Netherlands*); *Thomas F. Krauss* (*University of St. Andrews, UK*);

17:00 Optical Amplification Resulting from Two-level Population Inversion Using Photonic Crystals
Hiroyuki Takeda (*National Institute for Materials Science (NIMS), Japan*);

17:15 Tunnelling of Vacuum Fluctuations in a 3D Photonic Band Gap; Strongly Inhibited Spontaneous Emission
Elahe Yeganegi (*University of Twente, The Netherlands*); *Ad Lagendijk* (*University of Twente, The Netherlands*); *Allard P. Mosk* (*University of Twente, The Netherlands*); *Willem L. Vos* (*University of Twente, The Netherlands*);

17:30 Advanced Photonic Crystal Structures for Nano-scale Photonic Integrated Circuity
Imanol Andonegui (*Universidad del Pais Vasco (UPV/EHU), Spain*); *Isidro Calvo* (*Universidad del Pais Vasco (UPV/EHU), Spain*); *Angel J. Garcia-Adeva* (*Universidad del Pais Vasco (UPV/EHU), Spain*);

17:45 Investigation of High- and Low-refractive-index-based Defect Cavities Formed in Three-dimensional Photonic Crystals
Mike P. C. Taverne (*University of Bristol, UK*); *Ying-Lung Daniel Ho* (*University of Bristol, UK*); *X. Zheng* (*University of Bristol, UK*); *L. Chen* (*University of Bristol, UK*); *Martin Lopez Garcia* (*University of Bristol, UK*); *John G. Rarity* (*University of Bristol, UK*);

Session 2P2
4_FocusSession.SC4&3: Quantum Bits and Entanglement at Microwave Frequencies

Tuesday PM, August 13, 2013

Room B

Organized by Alexander Stolin, Vitaly Shumeiko

Chaired by Alexander Stolin, Vitaly Shumeiko

13:00 keynote Exploring Quantum Properties of Propagating Microwave Photons
Andreas Wallraff (*ETH Zurich, Switzerland*);

13:30 invited The Josephson Mixer, a Swiss Army Knife for Microwave Quantum Optics
E. Flurin (*Ecole Normale Superieure, CNRS (UMR 8551), Universite P. et M. Curie, Universite D. Diderot, France*); *N. Roch* (*Ecole Normale Superieure, CNRS (UMR 8551), Universite P. et M. Curie, Universite D. Diderot, France*); *Francois Mallet* (*Ecole Normale Superieure, CNRS (UMR 8551), Universite P. et M. Curie, Universite D. Diderot, France*); *Michel H. Devoret* (*Yale University, USA*); *Benjamin Huard* (*Ecole Normale Superieure, CNRS (UMR 8551), Universite P. et M. Curie, Universite D. Diderot, France*);

13:50 invited Controlling the Trajectory of a Superconducting Qubit by Measurement Based Feedback
P. Campagne-Ibarcq (*Ecole Normale Superieure, France*); *E. Flurin* (*Ecole Normale Superieure, France*); *N. Roch* (*Ecole Normale Superieure, France*); *D. Darson* (*Ecole Normale Superieure, France*); *P. Morfin* (*Ecole Normale Superieure, France*); *M. Mirrahimi* (*INRIA Rocquencourt, France*); *Michel H. Devoret* (*Yale University, USA*); *Francois Mallet* (*Ecole Normale Superieure, France*); *Benjamin Huard* (*Ecole Normale Superieure, France*);

14:10 invited Scattering of Photons and Limits of Ultrastrong Light-matter Coupling in Open Transmission Lines
B. Peropadre (*Instituto de Fisica Fundamental, Spain*); *D. Zueco* (*ICMA-Unizar, Spain*); *Juan Jose Garcia-Ripoll* (*CSIC (Spanish Research Council), Spain*);

14:30 keynote Quantum Optics with Microwave Photons in Superconducting Circuits
Per Delsing (*Chalmers University of Technology, Sweden*);

15:00 invited Nonclassical Photon Pair Production in a Voltage-biased Josephson Junction
Olivier Parlavecchio (*CEA Saclay, France*); *Max Hofheinz* (*SPSMS-INAC-DSM-CEA, France*); *Carles Altimiras* (*CEA Saclay, France*); *Patrice Roche* (*CEA Saclay, France*); *Patrice Bertet* (*CEA Saclay, France*); *Denis Vion* (*CEA Saclay, France*); *Philippe Joyez* (*CEA Saclay, France*); *Daniel Esteve* (*CEA Saclay, France*); *Fabien Portier* (*CEA Saclay, France*);

15:20 **Coffee Break**

15:40 invited Simulation of Motional Averaging with a Superconducting Circuit
Jian Li (*Aalto University, Finland*); *Matti P. Silveri* (*University of Oulu, Finland*); *K. S. Kumar* (*Aalto University, Finland*); *J.-M. Pirkkalainen* (*Aalto University, Finland*); *Antti Vepsalainen* (*Aalto University, Finland*); *W. C. Chien* (*National Chung Hsing University, Taiwan*); *Jani Tuorila* (*University of Oulu, Finland*); *Mika A. Sillanpaa* (*Aalto University, Finland*); *Pertti J. Hakonen* (*Aalto University, Finland*); *Erkki V. Thuneberg* (*University of Oulu, Finland*); *Gheorghe Sorin Paraoanu* (*Aalto University, Finland*);

16:00 invited Microwave Photon Detection Based on the Cross-Kerr Effect
Goran Johansson (*Chalmers University of Technology, Sweden*);

16:20 Giant Cross-Kerr Effect for Propagating Microwaves
invited Induced by an Artificial Atom
Io-Chun Hoi (*Chalmers University of Technology, Sweden*); *Anton F. Kockum* (*Chalmers University of Technology, Sweden*); *Tauno Palomaki* (*Chalmers University of Technology, Sweden*); *Thomas M. Stace* (*University of Queensland, Australia*); *Bixuan Fan* (*University of Queensland, Australia*); *Lars Tornberg* (*Chalmers University of Technology, Sweden*); *Sankar R. Sathyamoorthy* (*Chalmers University of Technology, Sweden*); *Goran Johansson* (*Chalmers University of Technology, Sweden*); *Per Delsing* (*Chalmers University of Technology, Sweden*); *C. M. Wilson* (*Chalmers University of Technology, Sweden*);

16:40 Quantum Deformed Richardson-Gaudin Model
invited
Petr Kulish (*Steklov Mathematical Institute, Russia*); *Alexander Stolin* (*University of Gothenburg, Sweden*); *H. Johanesson* (*Steklov Mathematical Institute, Russia*);

17:00 Entanglement Sudden Death for a Two-particle Gaus-
invited sian State
Tony C. Dorlas (*Dublin Institute for Advanced Studies, Ireland*); *A. Guesquiere* (*NUI Maynooth, Ireland*);

17:20 Ultrafast Quantum Nondemolition Measurement
invited Based on two Inductively Coupled Transmons
Etienne Dumur (*Institut Neel, CNRS, Universie Joseph Fourier, France*); *Igor Diniz* (*Institut Neel, CNRS, Universie Joseph Fourier, France*); *Alexey Feofanov* (*Institut Neel, CNRS, Universie Joseph Fourier, France*); *Thomas Weissl* (*Universite Joseph Fourier, France*); *Bruno Kung* (*Universite Joseph Fourier, France*); *Cecile Naud* (*Institut Neel, CNRS, Universie Joseph Fourier, France*); *Olivier Buisson* (*Universite Joseph Fourier, France*); *Wiebke Guichard* (*Universite Joseph Fourier, France*); *Alexia Auffeves* (*Institut Neel, CNRS, Universie Joseph Fourier, France*);

17:40 Generation of Non-classical Electromagnetic Fields by
invited Magnetic-dipolar-mode Ferrite Particles
Eugene O. Kamenetskii (*Ben-Gurion University of the Negev, Israel*);

18:00 Proton Beam Induction of Quantum Correlations in Silicon Nanocrystal
Vesna I. Berec (*University of Belgrade, Serbia*);

18:15 Parametric Resonance in Tunable Superconducting Cavities
Waltraut Wustmann (*Chalmers University of Technology, Sweden*); *Vitaly Shumeiko* (*Chalmers University of Technology, Sweden*);

Session 2P3
3_FocusSession.SC3: Optics for Bio-medical Diagnostics and Therapy Applications

Tuesday PM, August 13, 2013

Room C

Organized by Katarina Svanberg

Chaired by Katarina Svanberg

13:00 Nanoscopy with Focused Light and Its Relevance to
keynote the Biomedical Sciences
Stefan W. Hell (*Max Planck Institute for Biophysical Chemistry, Germany*);

13:30 Laser-activated Nanocomposite Biomaterials for Pho-
invited tothermal Therapies and Drug Release
Roberto Pini (*Institute of Applied Physics, National Research Council of Italy, Italy*); *Paolo Matteini* (*Institute of Applied Physics, National Research Council of Italy, Italy*); *Fulvio Ratto* (*Institute of Applied Physics, National Research Council of Italy, Italy*); *Francesca Rossi* (*Institute of Applied Physics, National Research Council of Italy, Italy*); *Sonia Centi* (*University of Florence, Italy*); *Francesca Tatini* (*Institute of Applied Physics, National Research Council of Italy, Italy*);

13:50 Optimization of Optical Excitation of Upconversion Nanoparticles for Quicker Microscopy and Deeper Tissue Imaging with Higher Quantum Yield
Qiu Qiang Zhan (*Zhejiang University, China*); *Sailing He* (*Zhejiang University, China*);

14:05 Shaping Light for Biophotonics
invited
Kishan Dholakia (*University of St Andrews, UK*);

14:25 Active Rotational Microrheology Using an Optically
invited Trapped Sphere and Its Applications to Biology and Medicine
Lachlan J. Gibson (*The University of Queensland, Australia*); *Daryl Preece* (*The University of Queensland, Australia*); *Timo A. Nieminen* (*The University of Queensland, Australia*); *Halina Rubinsztein-Dunlop* (*The University of Queensland, Australia*);

14:45 Laser-made 3D Scaffolds for Tissue Engineering Ap-
invited plications
Maria Farsari (*IESL-FORTH, Greece*);

15:05 Optical Sensor Based on LSPR Phenomenon to Reveal Cholesterol Concentrations for Biomedical Applications
Richard Tarparelli (*University of Roma Tre, Italy*); *Renato Iovine* (*University of Roma Tre, Italy*); *Lucio Vegni* (*University of Roma Tre, Italy*);

15:20 **Coffee Break**

15:40 Non-intrusive Gas Sensing of Human Body Cavities
invited Using Diode Laser Absorption Spectroscopy
Märta Lewander (*GASPOROX AB, Sweden*); *Patrik Lundin* (*Lund University, Sweden*); *Emilie Krite Svanberg* (*Lund University, Sweden*); *Sven Lindberg* (*Lund University, Sweden*); *Vineta Fellman* (*Lund University, Sweden*); *Gabriel Somesfalean* (*Lund University, Sweden*); *Stefan Andersson-Engels* (*Lund University, Sweden*); *Sune Svanberg* (*Lund University, Sweden*); *Katarina Svanberg* (*Lunds University, Sweden*);

16:00 Multiphoton Multispectral Fluorescence Lifetime To-
invited mography for the Evaluation of Basal Cell Carcinomas
Rakesh Patalay (*Imperial College London, UK*); *Clifford B. Talbot* (*Imperial College London, UK*); *Yuriy Alexandrov* (*Imperial College London, UK*); *Martin O. Lenz* (*Imperial College London, UK*); *Sunil Kumar* (*Imperial College London, UK*); *Sean Warren* (*Imperial College London, UK*); *Ian Munro* (*Imperial College London, UK*); *Mark A. A. Neil* (*Imperial College London, UK*); *Karsten Konig* (*JenLab GmbH, Germany*); *Paul M. W. French* (*Imperial College Photonics, UK*); *Anthony Chu* (*Imperial College Healthcare NHS Trust, UK*); *Gordon W. H. Stamp* (*CRUK London Research Institute, UK*); *Chris Dunsby* (*Imperial College London, UK*);

16:20 Non-contact Optical Skin Assessment for Dermatol-
invited ogy and Anaesthesiology
Janis Spigulis (*University of Latvia, Latvia*); *Ilze Lihacova* (*University of Latvia, Latvia*); *Dainis Jakovels* (*University of Latvia, Latvia*); *Ilona Kuzmina* (*University of Latvia, Latvia*); *A. Lihachev* (*University of Latvia, Latvia*); *Uldis Rubins* (*University of Latvia, Latvia*);

16:40 Novel Optical Waveguide Theory and Novel Electri-
invited cal Circuit Theory of Photoreceptors in the Human Retina
Anhui Liang (*Nanjing University of Posts and Telecommunications, China*); *Leiting Hu* (*Nanjing University of Posts and Telecommunications, China*);

17:00 Laser Detection of Tissue Disease
invited
Francesco S. Pavone (*University of Florence, Italy*);

17:20 Microcirculation Imaging with Light
invited
Martin J. Leahy (*National University of Ireland, Ireland*); *Joey Enfield* (*University of Limerick, Ireland*); *S. Daly* (*University of Limerick, Ireland*); *Hrebesh Molly Subhash* (*Yamagata University, Japan*);

Session 2P4
1_FocusSession.SC1: Casimir Effect and Heat Transfer 2

Tuesday PM, August 13, 2013

Room D

Organized by Brahim Guizal, Mauro Antezza

Chaired by Mauro Antezza, Brahim Guizal

13:00 Transition from Near-field Thermal Radiation to
keynote Phonon Interfacial Conduction
Gang Chen (*Massachusetts Institute of Technology, USA*);

13:30 Casimir-Polder Forces in Thermal Nonequilibrium
invited
Stefan Scheel (*University of Rostock, Germany*);

13:50 Single Mode Thermal Field with a Microwave Cavity
invited Parametric Amplifier
C. Braggio (*Dipartimento di Fisica e Astronomia, Italy*); *G. Carugno* (*INFN, Sezione di Padova, Italy*); *F. Della Valle* (*Dipartimento di Fisica and INFN, Sezione di Trieste, Italy*); *G. Galeazzi* (*Viale dell'Universita 2, Italy*); *A. Lombardi* (*Viale dell'Universita 2, Italy*); *Giuseppe Ruoso* (*Viale dell'Universita 2, Italy*); *D. Zanello* (*INFN, Sezione di Roma, Italy*);

14:10 Casimir Energies in a One-dimensional Cavity with a
invited Fluctuating Boundary
Salvatore Butera (*Universita degli Studi di Palermo, Italy*); *Roberto Passante* (*Universita degli Studi di Palermo, Italy*);

14:30 Aspects of Metamaterials in the Casimir Effect
keynote
Didier Felbacq (*Université de Montpellier 2, France*); *R. Messina* (*University of Montpellier 2, France*); *B. Bellomo* (*University of Montpellier 2, France*); *Mauro Antezza* (*Université Montpellier 2 and CNRS, France*);

15:00 Casimir Forces on a Silicon Micromechanical Chip
invited
Ho Bun Chan (*The Hong Kong University of Science and Technology, China*); *J. Zou* (*University of Florida, USA*); *Z. Marcet* (*The Hong Kong University of Science and Technology, China*); *Alejandro W. Rodriguez* (*Massachusetts Institute of Technology, USA*); *M. T. Homer Reid* (*Massachusetts Institute of Technology, USA*); *Alexander P. McCauley* (*Massachusetts Institute of Technology, USA*); *I. I. Kravchenko* (*Oak Ridge National Laboratory, USA*); *T. Lu* (*The Hong Kong University of Science and Technology, China*); *Y. Bao* (*University of Florida, USA*); *S. G. Johnson* (*Massachusetts Institute of Technology, USA*);

15:20 **Coffee Break**

15:40 Casimir Friction for Media of Finite Density
invited
Johan S. Hoye (*Norwegian University of Science and Technology, Norway*); *Iver Brevik* (*Norwegian University of Science and Technology, Norway*);

16:00 Current Measurements of Casimir Interactions: Are
invited Electrostatic Patches Important?
Ricardo S. Decca (*Indiana University-Purdue University Indianapolis, USA*);

16:20 Non-equilibrium Critical Casimir Forces
invited
Andrea Gambassi (*SISSA — International School for Advanced Studies and INFN, Italy*);

16:40 Casimir-polder Forces: From Quantum Friction to
invited Chiral and Non-Onsager Media
Stefan Yoshi Buhmann (*Imperial College London, UK*);

17:00 Quantum Friction from Shearing the Vacuum
invited
Rongkuo Zhao (*Imperial College London, United Kingdom*); *John B. Pendry* (*Imperial College, UK*);

17:20 Casimir Momentum of a Chiral Molecule in a Mag-
invited netic Field
Manuel Donaire (*Universite Grenoble 1/CNRS, France*); *Bart A. Van Tiggelen* (*Universite Grenoble 1/CNRS, France*); *G. L. J. A. Rikken* (*LNCMI, France*);

17:40 Near Field Radiative Heat Transfer in Microstruc-
invited tured Geometries
Alejandro W. Rodriguez (*Massachusetts Institute of Technology, USA*);

18:00 Quantum Friction: A Case Study of the Fluctuation-
invited dissipation and Quantum Regression Theorems
Diego A. R. Dalvit (*Los Alamos National Laboratory, USA*); *Ryan Behunin* (*Yale University, USA*); *Francesco Intravaia* (*University of Nottingham, UK*);

Session 2P5a
SC3: High Energy and High Power Applications in Photonic Crystal/Microstructured Fibres

Tuesday PM, August 13, 2013

Room E

Organized by Sonali Dasgupta, Nicolas Y. Joly

Chaired by Nicolas Y. Joly

13:20 High Average Power, Widely Tunable Femtosecond Laser Source from Red to Mid-infrared Based on an Yb-fiber-laser-pumped OPO
Ming-Lie Hu (*Tianjin University, China*); *Chengling Gu* (*Tianjin University, China*); *Jingtao Fan* (*Tianjin University, China*); *Limeng Zhang* (*Tianjin University, China*); *Ching-Yue Wang* (*Tianjin University, China*);

13:40 Development and Perspectives of High Repetition Rate Attosecond Sources
Cord L. Arnold (*Lund University, Sweden*); *M. Miranda* (*Lund University, Sweden*); *P. Rudawski* (*Lund University, Sweden*); *J. Guo* (*Lund University, Sweden*); *C. M. Heyl* (*Lund University, Sweden*); *E. Witting-Larsen* (*Lund University, Sweden*); *E. Lorek* (*Lund University, Sweden*); *J. Mauritsson* (*Lund University, Sweden*); *T. Binhammer* (*VENTEON Laser Technologies GmbH, Germany*); *O. Prochnow* (*VENTEON Laser Technologies GmbH, Germany*); *A. L'Huillier* (*Lund University, Sweden*);

14:00 High-power Laser Pulse Compression for Optimized High-harmonic Generation in Short Hollow Fibers
Peter Horak (*University of Southampton, UK*); *P. N. Anderson* (*University of Southampton, UK*); *T. J. Butcher* (*University of Southampton, UK*); *J. G. Frey* (*University of Southampton, UK*); *W. S. Brocklesby* (*University of Southampton, UK*);

14:20 Generation of Tunable Ultraviolet Light in Kagomé-lattice Hollow-core Photonic Crystal Fibre
Nicolas Y. Joly (*University of Erlangen-Nuremberg, Germany*); *John C. Travers* (*Max Planck Institute for the Science of Light, Germany*); *K. F. Mak* (*Max Planck Institute for the Science of Light, Germany*); *F. Tani* (*Max Planck Institute for the Science of Light, Germany*); *Philipp Hölzer* (*Max Planck Institute for the Science of Light, Germany*); *Wonkeun Chang* (*Max Planck Institute for the Science of Light, Germany*); *P. St. J. Russell* (*Max Planck Institute for the Science of Light, Germany*);

15:20 **Coffee Break**

Session 2P5b
3_FocusSession.SC3: Optical Angular Momentum and Its Applications

Tuesday PM, August 13, 2013

Room E

Organized by Gunnar G. E. Bjork

Chaired by Gunnar G. E. Bjork

15:40 tutorial Light's Orbital Angular Momentum and Its Application to the Remote Detection of a Spinning Object
Miles J. Padgett (*The University of Glasgow, UK*); *Martin P. J. Lavery* (*The University of Glasgow, UK*);

16:15 Ultrafast Optical Rotation of Gold Nanoparticles in Water
Anni Lehmuskero (*Chalmers University of Technology, Sweden*); *Robin Ogier* (*Chalmers University of Technology, Sweden*); *Tina Gschneidtner* (*Chalmers University of Technology, Sweden*); *Peter Johansson* (*Chalmers University of Technology, Sweden*); *Mikael Kall* (*Chalmers University of Technology, Sweden*);

16:30 Optical Angular Momentum Modes for Optical Communication
L. Mauritz Andersson (*AlbaNova University Center, Sweden*); *Gunnar G. E. Björk* (*AlbaNova University Center, Sweden*);

16:45 Generation of Classical and Quantum Sources of Light with Well Defied Orbital Angular Momentum
Nidia Escamilla Bojorges (*Instituto Politécnico Nacional (IPN), Mexico*); *Z. Gress Mendoza* (*Instituto Politécnico Nacional (IPN), Mexico*); *Sara Cruz y Cruz* (*Instituto Politécnico Nacional (IPN), Mexico*); *Víctor Velázquez Aguila* (*Universidad Nacional Autónoma México (UNAM), Mexico*);

17:00 Applying Humblet's Decomposition of the Electromagnetic Angular Moment in Metallic Waveguides
Eilert Berglind (*Royal Institute of Technology (KTH), Sweden*); *G. Bjork* (*Royal Institute of Technology (KTH), Sweden*);

17:15 Spin-orbit Interaction and Uncertainty-type Inequalities for Strongly Focused Fields
Miguel A. Alonso (*University of Rochester, USA*);

17:30 Photon's Angular Momentum and Center-of-mass Reference Frame
Chun-Fang Li (*Shanghai University, China*); *Zi-Hua Xin* (*Shanghai University, China*);

Session 2P6
SC4: Antenna and RF Measurements

Tuesday PM, August 13, 2013

Room F

Organized by Thomas Bolin, Hiroyuki Arai

Chaired by Hiroyuki Arai, Thomas Bolin

13:20 VHF EMF Portable Radio Assessment
Nina B. Rubtsova (*RAMS Institute of Occupational Health, Russia*); *Sergey Yu. Perov* (*RAMS Institute of Occupational Health, Russian*); *Elena Bogacheva* (*RAMS Research Institute of Occupational Health, Russian Federation*); *Quirino Balzano* (*University of Maryland, USA*); *Niels Kuster* (*Foundation for Research on Information Technologies in Society, Switzerland*);

13:40 Conductivity and Permittivity Measurements of Children and Adult's Hands Covering Mobile Communications Frequency Bands
Chinthana J. Panagamuwa (*Loughborough University, UK*); *Ian Howells* (*Loughborough University, UK*); *William Whittow* (*Loughborough University, UK*);

14:00 Optimal Size of Waterproofed Shielded Loop Antenna in a Tissue-equivalent Liquid to Calibrate SAR Probe in HF Band
Nozomu Ishii (*Niigata University, Japan*); *Ryosuke Takezawa* (*Niigata University, Japan*); *Hidenori Toyoshima* (*Niigata University, Japan*); *Lira Hamada* (*National Institute of Information and Communications Technology, Japan*); *Soichi Watanabe* (*National Institute of Information and Communications Technology, Japan*);

14:20 Characterization of HF RFID Tags Exposed to Moisture Based on Threshold Power Measurement
Toni Bjorninen (*Tampere University of Technology, Finland*); *Jukka Voutilainen* (*Voyantic Ltd., Finland*); *Lauri Sydanheimo* (*Tampere University of Technology, Finland*); *Leena Ukkonen* (*Tampere University of Technology, Finland*);

14:40 Non-invasive Antenna Pattern Characterization Using Time-domain and Frequency-domain Measurement Techniques
Tian Hong Loh (*National Physical Laboratory, UK*); *David Humphreys* (*National Physical Laboratory, UK*); *Philip Miller* (*National Physical Laboratory, UK*);

15:00 Far Field Gain Estimation Method for Japanese Broadband Antenna Standard Using Time-frequency Analysis
Satoru Kurokawa (*AIST Electromagnetic Fields Section Electromagnetic Waves Division NMIJ, Japan*); *Michitaka Ameya* (*National Institute of Advanced Industrial Science and Technology, Japan*); *Masanobu Hirose* (*National Institute of Advanced Industrial Science and Technology, Japan*);

15:20 **Coffee Break**

15:40 RCS Measurement of a Patch Antenna with Resistive Load in a Compact Anechoic Chamber
Naobumi Michishita (*National Defense Academy of Japan, Japan*); *Tadashi Chisaka* (*National Defense Academy, Japan*); *Yoshihide Yamada* (*National Defense Academy, Japan*);

16:00 Complex Antenna Pattern Measurement by Spherical Scanning and Phase Retrieval Method
Hiroyuki Arai (*Yokohama National University, Japan*); *Eriko Ohashi* (*Yokohama National University, Japan*);

16:20 Extended S-parameter Method for Radiation Characteristics and Mutual Coupling of Multiport Antennas
Takashi Yanagi (*Mitsubishi Electric Corporation, Japan*); *Toru Fukasawa* (*Mitsubishi Electric Corporation, Japan*); *Hiroaki Miyashita* (*Mitsubishi Electric Corporation, Japan*);

16:40 Path Loss Characteristics in a Civil Laboratory Building at a Frequency of 2.4 GHz
Supachai Phaiboon (*Mahidol University, Thailand*); *Adchara Kampan* (*Mahidol University, Thailand*);

17:00 New Applications and Measurement Results by MIMO Transmission
Kentaro Nishimori (*Niigata University, Japan*);

17:20 Detection Reliability Analysis of Passive DAS RFID System
Abdelmoula Bekkali (*Qatar Mobility Innovations Center (QMIC), Qatar*); *Abdullah Kadri* (*Qatar Mobility Innovations Center (QMIC), Qatar*); *Michael J. Crisp* (*University of Cambridge, UK*); *Richard V. Penty* (*University of Cambridge, UK*);

17:40 Radio Channel Measurements and Modelling Taking into Account the People Motion
Denis Dessales (*University of Poitiers, France*); *Anne-Marie Poussard* (*University of Poitiers, France*); *Rodolphe Vauzelle* (*Universite de Poitiers, France*); *Noel Richard* (*University of Poitiers, France*);

Session 2P7a
SC3: Integrated Nanophotonics for Optical Interconnects in Data Centers

Tuesday PM, August 13, 2013

Room G

Organized by Lars Thylen, Lech Wosinski

Chaired by Lars Thylen, Lech Wosinski

13:00 Photonics Communications: From Global Reach to Photonic Interconnect Networks on Multicore Architecture Chips: The Role of Low Power Nanophotonics in Data Centers
Lars Thylen (*Royal Institute of Technology KTH, Sweden*);

13:20 Active Plasmonics for Datacom Applications
Sergey I. Bozhevolnyi (*University of Southern Denmark, Denmark*);

13:40 Multiplexing Technologies and Devices Enabling Tera-bit Photonic Network-on-chip
Daoxin Dai (*Zhejiang University, China*);

14:00 Plasmonic Nanophotonic Devices for Optical Interconnects
Qiang Li (*Zhejiang University, China*); *Weichun Zhang* (*Zhejiang University, China*); *Jing Wang* (*Royal Institute of Technology (KTH), Sweden*); *Yi Song* (*Royal Institute of Technology (KTH), Sweden*); *Jie Tian* (*Royal Institute of Technology, Sweden*); *Min Yan* (*Royal Institute of Technology, Sweden*); *Min Qiu* (*Zhejiang University, China*);

14:20 Chip-level Assembly of Silicon Photonics in Optical Interconnects
Antonio La Porta (*IBM Research — Zurich, Switzerland*); *Ibrahim Murat Soganci* (*IBM Research — Zurich, Switzerland*); *Jens Hofrichter* (*IBM Research — Zurich, Switzerland*); *Folkert Horst* (*IBM Research GmbH, Switzerland*); *Bert Jan Offrein* (*IBM Research — Zurich, Switzerland*);

14:40 Surface Plasmonics and Metallic Cavity Nanolasers
Cun Zheng Ning (*Arizona State University, USA*); *K. Ding* (*Arizona State University, USA*); *D. B. Li* (*Arizona State University, USA*); *L. J. Yin* (*Arizona State University, USA*); *Z. C. Liu* (*Arizona State University, USA*);

15:00 Integration of III-V Device Structures on Silicon for Optical Interconnects
Sebastian Lourdudoss (*KTH, Sweden*); *Carl Junesand* (*KTH, Sweden*); *Wondwosen Metaferia* (*KTH, Sweden*); *Himanshu Kataria* (*KTH, Sweden*); *Yanting Sun* (*KTH, Sweden*);

15:20 **Coffee Break**

15:40 Silicon Platform-based Nanophotonics for Interconnect Applications
Lech Wosinski (*Royal Institute of Technology KTH, Sweden*); *Fei Lou* (*Royal Institute of Technology KTH, Sweden*); *Lars Thylen* (*Royal Institute of Technology KTH, Sweden*);

16:00 Active Plasmonic Circuitry
Alexey V. Krasavin (*King's College London, UK*); *Anatoly V. Zayats* (*King's College London, UK*);

Session 2P7b
SC1: High Frequency/Asymptotic Methods

Tuesday PM, August 13, 2013

Room G

Organized by Frederic Molinet

Chaired by Frederic Molinet, Tie Jun Cui

16:20 High-frequency Scattering by Strongly Elongated Spheroids
Ivan Viktorovitch Andronov (*St. Petersburg University, Russia*); *Frederic Molinet* (*MOTHESIM, France*);

16:40 Diffraction by an Acute-angled Dielectric Wedge: The $\boldsymbol{H}$-polarization Case
Marcello Frongillo (*University of Salerno, Italy*); *Gianluca Gennarelli* (*University of Salerno, Italy*); *Giovanni Riccio* (*University of Salerno, Italy*);

17:00 An Alternative Treatment of the Problem in "A New Fast Physical Optics for Smooth Surfaces by Means of a Numerical Theory of Diffraction" about Saddle Stationary Phase Point
Jun Zhang (*Southeast University, China*); *Tie Jun Cui* (*Southeast University, China*);

17:20 Improved Asymptotic Expansion of the Dyadic Potential in the Line Integral Representation of the Physical Optics Integral
Frederic Molinet (*MOTHESIM, France*);

17:40 Numerical Evaluation of Creeping Waves for EM Scattering by Arbitrary Convex Conducting Bodies of Revolution
Jun Zhang (*Southeast University, China*); *Tie Jun Cui* (*Southeast University, China*);

18:00 Time-domain SBR Method for Fast Transient Analysis of Scattering from Large PEC Objects
Xiao Zhou (*Southeast University, China*); *Tie Jun Cui* (*Southeast University, China*);

Session 2P8a
SC5: Inverse Source Problems for Localization and Diagnostics

Tuesday PM, August 13, 2013

Room H

Organized by Mats Gustafsson, Sven Nordebo

Chaired by Mats Gustafsson, Sven Nordebo

13:00 Explicit Reconstruction of Power Line Conductors Using a Two-dimensional Model
Martin Karl Norgren (*Royal Institute of Technology, Sweden*);

13:20 Reflection of TEM Waves by a Step Discontinuity on the Inner Wall of a Coaxial Waveguide
Gokhan Cinar (*Gebze Institute of Technology, Cayirova Campus, Turkey*); *Sinan Aksimsek* (*Istanbul Kultur University, Turkey*); *Borje Nilsson* (*Linnaeus University, Sweden*); *Sven Nordebo* (*Linnaeus University, Sweden*); *Ozge Yanaz Cinar* (*Gebze Institute of Technology, Turkey*);

13:40 Reconstruction Strategies for Clinical Microwave Imaging
Andreas Fhager (*Chalmers University of Technology, Sweden*); *Hoi-Shun Lui* (*The University of Queensland, Australia*); *Mikael Persson* (*Chalmers University of Technology, Sweden*);

14:00 Conductor Locations Reconstruction in a Cylindrical Winding Model
Mariana Dalarsson (*Royal Institute of Technology, Sweden*); *Martin Karl Norgren* (*KTH Royal Institute of Technology, Sweden*);

14:20 The Eigenvalue Problem for a Bianisotropic Cavity
Eftychia Argyropoulou (*National Kapodistrian University of Athens, Greece*); *Andreas D. Ioannidis* (*Linnaeus University, Sweden*);

14:40 Power Cables and Basis Properties for Lossy Closed Waveguide Modes
Borje Nilsson (*Linnaeus University, Sweden*); *Anders Andersson* (*Jonkoping University, Sweden*); *Gokhan Cinar* (*Gebze Institute of Technology, Cayirova Campus, Turkey*); *Andreas D. Ioannidis* (*Linnaeus University, Sweden*); *Sven Nordebo* (*Linnaeus University, Sweden*);

15:00 Source Reconstruction for Radome Diagnostics
Kristin Persson (*Lund University, Sweden*); *Mats Gustafsson* (*Lund University, Sweden*); *Gerhard Kristensson* (*Lund University, Sweden*); *Björn Widenberg* (*GKN Aerospace Applied Composites, Sweden*);

15:20 **Coffee Break**

15:40 An Inverse Scattering Technique Based on Finite Element — Boundary Integral Method
Emre Kilic (*Technische Univerität München, Germany*); *Thomas F. Eibert* (*Technische Univerität München, Germany*);

16:00 Characterization of Antenna Current Distributions Using Angular Momentum of the Farfield Amplitude
Jonas Friden (*Ericsson Telecom AB, Sweden*);

Session 2P8b
SC5: Emerging Techniques and Applications in SAR/ISAR Imaging

Tuesday PM, August 13, 2013

Room H

Organized by Caner Ozdemir

Chaired by Yunhua Zhang

16:20 Improved Classification of Targets Using a Fusion of the Range Profile and the Inverse Synthetic Aperture Radar Image
In-O. Choi (*Pukyong National University, Korea*); *Sang-Hong Park* (*Pukyong National University, Korea*);

16:40 Wide-field Circular SAR Imaging Studies Based on Ground-based Experiments
Sevket Demirci (*Mersin University, Turkey*); *Enes Yigit* (*Mersin University, Turkey*); *Betul Yilmaz* (*Mersin University, Turkey*); *Caner Ozdemir* (*Mersin University, Turkey*);

17:00 An Accurate High Resolution ISAR Image Reconstruction Method Based on 2-D Nonuniform Fast Fourier Transform
Xin-Yi He (*Shanghai Radio Equipment Research Institute, China*); *K. Cai* (*China Aerospace Science and Technology Corporation, China*);

17:20 Short-range Ground-based SAR Imaging Experiments: Application of Back-projection Algorithm
Enes Yigit (*Mersin University, Turkey*); *Sevket Demirci* (*Mersin University, Turkey*); *Betul Yilmaz* (*Mersin University, Turkey*); *Caner Ozdemir* (*Mersin University, Turkey*);

17:40 Compressed Sensing Based Near-field Inverse Synthetic Aperture Radar Imaging
Caner Ozdemir (*Mersin University, Turkey*); *Sevket Demirci* (*Mersin University, Turkey*); *Enes Yigit* (*Mersin University, Turkey*); *Betul Yilmaz* (*Mersin University, Turkey*);

18:00 Huynen Dichotomy-based Radar Target Adaptive Extraction
Dong Li (*Chinese Academy of Sciences, China*); *Yunhua Zhang* (*Center for Space Science and Applied Research, Chinese Academy of Sciences, China*);

18:20 Huynen Dichotomy-based Unsupervised Terrain Classification
Dong Li (*Chinese Academy of Sciences, China*); *Yunhua Zhang* (*Center for Space Science and Applied Research, Chinese Academy of Sciences, China*);

Session 2P9
Extended/Unconventional Electromagnetic Theory, EHD(Electro-hydrodynamics)/EMHD(Electro-magneto-hydrodynamics), and Electro-biology

Tuesday PM, August 13, 2013

Room I

Organized by Eva Gescheidtova

Chaired by Eva Gescheidtova

13:20 Scattered Intensity Distribution at near the Glass Transition of Charged Fibrous Virus (fd) Suspensions
Kyongok Kang (*Forschungszentrum Juelich, ICS-3, Germany*);

13:40 Deep Field Penetration in Cylindrical Conductors
Francisco Eugenio Mendonca Da Silveira (*Universidade Federal do ABC, Brazil*);

14:00 NMR Lens — Mapping of the Magnetic Field
Dusan Nespor (*Brno University of Technology, Czech Republic*); *Tomas Kriz* (*Brno University of Technology, Czech Republic*); *Radek Kubasek* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

14:20 A Measurement System for Electrical Impedance Tomography
Tomas Kriz (*Brno University of Technology, Czech Republic*); *Zdeněk Roubal* (*Brno University of Technology, Czech Republic*); *Jiří Rez* (*Brno University of Technology, Czech Republic*);

14:40 Identification of Bacteria Strains via Advanced Methods for the Statistical Processing of Near-infrared Spectra
Pavel Krepelka (*Brno University of Technology, Czech Republic*);

15:00 The Effect of a Magnetic Field on the Speed of Temperature Change
Eliska Hutová (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Institute of Scientific Instruments, Academy of Sciences of the Czech Republic, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

15:20 **Coffee Break**

15:40 Response of a Layered Medium to an Obliquely Incident Wave
Radim Kadlec (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *I. Běhunek* (*Brno University of Technology, Czech Republic*);

16:00 Low-level Measurement of the Electric Field Intensity around a Heterogeneous Structure
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*); *Jan Mikulka* (*Brno University of Technology, Czech Republic*); *I. Behunek* (*Brno University of Technology, Czech Republic*); *Z. Szabo* (*Brno University of Technology, Czech Republic*);

16:20 Consequences of the Extended Field Theory
Konstantin Meyl (*Furtwangen University, Germany*);

16:40 Automated Segmentation of Brain Tumor Edema in FLAIR MRI Using Symmetry and Thresholding
Pavel Dvorak (*Institute of Scientific Instruments of the ASCR, Czech Republic*); *Karel Bartušek* (*Institute of Scientific Instruments, Academy of Sciences of the Czech Republic, Czech Republic*); *W. G. Kropatsch* (*Institute of Computer Graphics and Algorithms, Faculty of Informatics, Vienna University of Technology, Austria*);

Session 2P_10
SC1: Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications

Tuesday PM, August 13, 2013

Room J

Organized by Georgi Nikolov Georgiev, Mariana Nikolova Georgieva-Grosse

Chaired by Mariana Nikolova Georgieva-Grosse

13:00 Wiener-Hopf Analysis of the Diffraction by a Thin Material Strip
Takashi Nagasaka (*Chuo University, Japan*); *Kazuya Kobayashi* (*Chuo University, Japan*);

13:20 Hypothesis for the Identity of the $L_2(c,\rho,n)$ and $\hat{L}_2(\hat{c},\hat{\rho},\hat{n})$ Numbers and Its Application in the Theory of Waveguides
Georgi Nikolov Georgiev (*University of Veliko Tirnovo "St. St. Cyril and Methodius", Bulgaria*); *Mariana Nikolova Georgieva-Grosse* (*Consulting and Researcher in Physics and Computer Sciences, Germany*);

13:40 On the Reflection and Shadow Regions Related to a Half-plane Illuminated by a Uniformly Moving Line Source
Serkan Barak (*Gebze Institute of Technology, Turkey*); *Kadir Durgut* (*Gebze Institute of Technology, Turkey*); *Ali Alkumru* (*Gebze Institute of Technology, Turkey*);

14:00 Propagation and Compression of Plane-wave Pulses in a Lossy Plasma
Natalie A. Cartwright (*State University of New York at New Paltz, USA*);

14:20 An Analysis of a Strip Antenna Located at an Interface between Free Space and a Magnetoplasma
Alexander V. Kudrin (*University of Nizhny Novgorod, Russia*); *T. M. Zaboronkova* (*Technical University of Nizhny Novgorod, Russia*); *Anna S. Zaitseva* (*University of Nizhny Novgorod, Russia*);

14:40 Optical Solitons in Birefringent Fibers with Kerr and Log Law Nonlinearities
Anjan Biswas (*Delaware State University, USA*); *Luminita Moraru* (*University "Dunarea de Jos", Romania*);

15:00 Scattering of a Plane Wave by the End-face of a Two-dimensional Waveguide System
Akira Komiyama (*Osaka Electro-Communication University, Japan*);

15:20 **Coffee Break**

15:40 Symmetries in Scalar Potential Scattering
Giovanni Franco Crosta (*University of Milan-Bicocca, Italy*);

16:00 Exactly Solvable High Frequency Model of a Coil of Finite Length
Dierk Bormann (*ABB AB — Corporate Research, Sweden*);

16:20 Complex Permittivity Determination of Homogeneous Objects Loaded in Circular Waveguide via Integral Equation Method
Ahmet Aydogan (*Marmara University, Turkey*); *Funda Akleman* (*Istanbul Technical University, Turkey*);

16:40 Electromagnetic Response of Self-complementary Metasurfaces
Yosuke Nakata (*Kyoto University, Japan*); *Yoshiro Urade* (*Kyoto University, Japan*); *Toshihiro Nakanishi* (*Kyoto University, Japan*); *Masao Kitano* (*Kyoto University, Japan*);

17:00 A Compact Elliptic Bandpass Filter Using Cross-coupled Miniaturised Hairpin Resonators Packaged by COB Method
C. Wang (*Kwangwoon University, Republic of Korea*); *Y. Li* (*Kwangwoon University, Korea*); *Nam-Young Kim* (*Kwangwoon University, Republic of Korea*);

17:20 A Compact Dual-band Bandpass Filter with High-selectivity and Tunable Passband for WiMax and WLAN Applications
C. Wang (*Kwangwoon University, Republic of Korea*); *Y. Li* (*Kwangwoon University, Republic of Korea*); *Nam-Young Kim* (*Kwangwoon University, Republic of Korea*);

17:40 Numerical Study of a Discontinuous Galerkin Time Domain Method for the Propagation of Electromagnetic Waves in Dispersive Media
Maciej Klemm (*University of Bristol, UK*); *Stephane Lanteri* (*INRIA Sophia Antipolis, France*); *Claire Scheid* (*University of Nice-Sophia Antipolis, France*); *J. Viquerat* (*INRIA Sophia Antipolis, France*);

18:00 Comparison of Uni- and Bi-directional Approaches to the Simulation of Intense Few-cycle Laser Pulses Propagating in an Optical Waveguide
Leonid S. Konev (*National Research University of Information Technologies, Mechanics and Optics, Russia*); *Yuri A. Shpolyanskiy* (*National Research University of Information Technologies, Mechanics and Optics, Russia*);

Session 2P_11b
SC1: Computational Techniques in Electromagnetics and Applications

Tuesday PM, August 13, 2013

Room K

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Yoichi Okuno, Tsuneki Yamasaki

15:20 **Coffee Break**

15:40 Effect of a Metal Dispersion on Characterizing Terahertz Devices in the FDTD Analysis
Jun Shibayama (*Hosei University, Japan*); *Shingo Ozaki* (*Hosei University, Japan*); *Yosuke Uchizono* (*Hosei University, Japan*); *Junji Yamauchi* (*Hosei University, Japan*); *Hisamatsu Nakano* (*Hosei University, Japan*);

16:00 Current Density Estimation and Visualization for Exposed Live Transmission Line Workers
Chokri Ahmed Belhadj (*King Fahd University of Petroleum and Minerals, Saudi Arabia*); *Nabil M. Maalej* (*King Fahd University of Petroleum and Minerals, Saudi Arabia*);

16:20 Computational Investigations on Plasmonic Waveguides of THz Waves
Qing Cao (*Shanghai University, China*);

16:40 Distribution of Energy Flow by Dielectric Waveguides Composed of Dielectric Circular Cylinders and Air-hole Type Circular Cylinders Array
Ryosuke Ozaki (*Nihon University, Japan*); *Tsuneki Yamasaki* (*Nihon University, Japan*);

17:00 An Efficient Implementation of Yasuura's Method of Modal Expansion by Sequential Accumulation
M. Kawano (*Lumerical Solutions Inc., Canada*); *T. Matsuda* (*Kumamoto National College of Technology, Japan*); *Yoichi Okuno* (*Kumamoto University, Japan*);

17:20 Three Dimensional Electromagnetic Simulations of VLF/LF Antennas in Natural Environments with FDTD Method
Julien Vincent (*Office National d'Etudes et de Recherches Aerospatiales (ONEAR), France*); *Pierre Borderies* (*Office National d'Etudes et de Recherches Aerospatiales (ONEAR), France*); *Jean-Rene Poirier* (*Université de Toulouse, France*); *Vincent Gobin* (*DEMR, ONERA, France*);

17:40 Novel Edge-based Smoothed Finite Element Time Domain Method
Khaled Sami R. Atia (*Centre for Photonics and Smart Materials, Egypt*); *Salah Sabry Ahmed Obayya* (*Zewail City of Science and Technology, Egypt*);

18:00 A Grating-based Plasmon Biosensor via Phase Detection with Wide Measurement Range
Ziqian Luo (*South China Normal University, China*); *Taikei Suyama* (*Akashi National College of Technology, Japan*); *Xun Xu* (*Kyushu Sangyo University, Japan*); *Yoichi Okuno* (*Kumamoto University, Japan*); *Sailing He* (*Zhejiang University, China*);

18:20 Parallel Performance of the Multi-threaded ICCG Solver in Electromagnetic Finite Element Analyses on the Latest Processors
Kazuki Semba (*JSOL Corporation, Japan*); *Koji Tani* (*JSOL Corporation, Japan*); *Takashi Yamada* (*JSOL Corporation, Japan*); *Takeshi Iwashita* (*Kyoto University, Japan*); *Yasuhito Takahashi* (*Doshisha University, Japan*); *Hiroshi Nakashima* (*Kyoto University, Japan*);

18:40 Detection of Electromagnetic Radiation during the Earthquake Preparation Process
Fedir Dudkin (*Lviv Centre of Institute for Space Research, Ukraine*); *Valeriy Korepanov* (*Lviv Centre of Institute for Space Research, Ukraine*);

Session 2P_K
Poster Session 4

Tuesday PM, August 13, 2013
14:00 PM - 17:00 PM
Room P

1 Maxwell Equations of Electromagnetic and Gravitational Fields in the Curved Spaces
Zi-Hua Weng (*Xiamen University, China*);

2 Adjoint Fields of Electromagnetic and Gravitational Fields in the Curved Spaces
Zi-Hua Weng (*Xiamen University, China*);

3 Dense Waves in Electromagnetic and Gravitational Fields
Zi-Hua Weng (*Xiamen University, China*);

4 Numerical Modelling of Heat Flow Distribution Based on the Nodal Heating Method
Eva Kroutilová (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Premysl Dohnal* (*Brno University of Technology, Czech Republic*); *Radim Kadlec* (*Brno University of Technology, Czech Republic*);

5 Approaches to the Modelling of Multilayer Materials
Eva Kroutilová (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Premysl Dohnal* (*Brno University of Technology, Czech Republic*); *Radim Kadlec* (*Brno University of Technology, Czech Republic*);

6 How Strict is the Validity Range of the Dipole Approximation for a Dielectric Mixture?
Changhe Yang (*Nanchang University, China*); *Liang Li* (*Nanchang University, China*); *Jian Wan* (*Nanchang University, China*); *Zhanli Chen* (*Nanchang University, China*);

7 Inhomogeneous Spatially Dispersive Electromagnetic Media
Jonathan Gratus (*Lancaster University, UK*); *Matthew Jack McCormack* (*Lancaster University, UK*);

8 The Influence of the Aspect-ratio on the Effective Optical Response of Metallic Nanowire Media
Anderson Oliveira Silva (*Federal University of Para, Brazil*); *Ivo T. Leite* (*National Institute of Engineering Systems and Computers, Portugal*); *J. M. Teixeira* (*Material Physics Institute/University of Porto, Portugal*); *J. P. Araujo* (*Material Physics Institute/University of Porto, Portugal*); *J. W. C. A. Costa* (*LEA (Applied Electromagnetic Laboratory), Brazil*); *Maria T. R. Giraldi* (*INESC Porto, Portugal*); *Pedro A. S. Jorge* (*National Institute of Engineering Systems and Computers, Portugal*); *A. Guerreiro* (*National Institute of Engineering Systems and Computers, Portugal*);

9 An Electromagnetic Meta-lens Based on a New SRR Type for Antenna Gain Enhancement
Akram Boubakri (*University of Carthage Tunisia, Tunisia*); *Fethi Choubeni* (*University of Carthage Tunisia, Tunisia*);

10 Multifunctionalized Self-supported (Nano) Membranes as Integrated Platform for Plasmonic Metamaterials
Zoran Jaksic (*University of Belgrade, Serbia*); *Filip Radovanovic* (*University of Belgrade, Serbia*); *Aleksandra Nastasovic* (*University of Belgrade, Serbia*); *Jovan Matovic* (*Technical University Vienna, Austria*);

11 Automatic Tracking of Bandpass Sampling OFDM Signal in Mobile Enviroment
Xin Wang (*Chungbuk National University, Korea*); *Heung-Gyoon Ryu* (*Chungbuk National University, Korea*);

12 A Reconfigurable Miniaturized Spiral Monopole Antenna for TV White Spaces
Mohamad Y. Abou Shahine (*American University of Beirut, Lebanon*); *Mohammed Al-Husseini* (*American University of Beirut, Lebanon*); *Youssef Nasser* (*American University of Beirut, Lebanon*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*); *Ali El-Hajj* (*American University of Beirut, Lebanon*);

13 Dual Polarized High Front-to-back Ratio Microstrip Slot Antenna
Mohamed S. El-Gendy (*Electronics Research Institute, Egypt*); *Haythem Hussein Abdullah* (*Electronics Research Institute (ERI), Egypt*); *Esmat Abdel-Fattah Abdallah* (*Electronics Research Institute, Egypt*);

14 A Proximity-fed Elliptical-shaped Aperture UWB Antenna with Triple Band-rejection Property
Mohamed Mamdouh Mahmoud (*Assuit University, Egypt*); *Ayman Ayd Ramadan Saad* (*South Valley University, Egypt*); *Elsayed Esam M. Khaled* (*Assiut University, Egypt*);

15 Design and Development of Reconfigurable Microstrip Patch Antenna Using MEMS Switch for Ku-band Application
Prafulla Chandra Prasad (*Birla Institute of Technology, India*); *Neela Chattoraj* (*Birla Institute of Technology (Deemed University), India*);

16 Wideband Patch Antenna for X-band Applications
Amal Harrabi (*FST University Campus, Tunisia*); *Tchanguiz Razban-Haghighi* (*LUNAM, IETR UMR 6164, France*); *Yann Mahe* (*Polytech'Nantes Nantes, France*); *Lotfi Osman* (*Faculte des Sciences de Tunis, Tunisie*); *Ali Gharsallah* (*Faculty of Sciences of Tunis, Tunisie*);

17 A Fractal-based Printed Slot Antenna for Multi-band Wireless Applications
Seevan F. Abdulkareem (*University of Technology, Iraq*); *Ali J. Salim* (*University of Technology, Iraq*); *Ali I. Hammoodi* (*University of Technology, Iraq*); *Jawad K. Ali* (*University of Technology, Iraq*);

18 Picosecond Erbium-doped Fiber Laser Using Carbon Nanotube Coated Abrupt Tapers
Kuan-Hao Lin (*National United University, Taiwan, R.O.C.*); *Hsiang-Ting Peng* (*National United University, Taiwan, R.O.C.*); *Tsung-Hsun Yang* (*National United University, Taiwan, R.O.C.*); *Feng-Zhou Liu* (*National United University, Taiwan*); *Nan-Kuang Chen* (*National United University, Taiwan*); *Der-Yi Hsu* (*Hortek Crystal Co., LTD., Taiwan, R.O.C.*);

19 Measurement of Evanescent Optical Force Based on Dual Fiber Sagnac Loop Interferometers
Gia-Ling Cheng (*National United University, Taiwan, R.O.C.*); *Hsiang-Ting Peng* (*National United University, Taiwan, R.O.C.*); *Zhao-Ying Chen* (*National United University, Taiwan*); *Nan-Kuang Chen* (*National United University, Taiwan*);

20 Birefringence in Dispersion-engineered Short-pass Edge Fiber
Yi-Kun Lee (*National United University, Taiwan*); *Nan-Kuang Chen* (*National United University, Taiwan*);

21 Orbital Angular Momentum of Light Generated at the Fiber End
Bin Zhou (*South China Normal University, China*);

22 Effects of the Length Variations of LYSO and Plastic Optical Fiber on the Energy Spectrum Responses of a Fiber-optic Radiation Sensor
Wook Jae Yoo (*Konkuk University, Korea*); *Kyoung Won Jang* (*Konkuk University, Korea*); *Sang Hun Shin* (*Konkuk University, Korea*); *Dayeong Jeon* (*Konkuk University, Korea*); *Byung Gi Park* (*Soonchunhyang University, Korea*); *Sin Kim* (*Jeju National University, Korea*); *Joo-Hyun Moon* (*Dongguk University, Korea*); *Seunghyun Cho* (*Soongsil University, Korea*); *Bongsoo Lee* (*Konkuk University, South Korea*);

23 A Novel Multipath Limiting Quadrifilar Helix Antenna for Local Area Augmentation System
James A. Quinlan (*Oakland University, USA*); *Daniel N. Aloi* (*Oakland University, USA*);

24 A Transfinite Set Theory for Particle-wave Duality, Wave Collapse and Quantum Entanglement
Ji-Huan He (*Soochow University, China*); *M. S. Elnaschie* (*Alexandria University, Egypt*);

25 Adapting the New IRI-Plas Model to Satellite Data in the High-latitude Ionosphere
Olga A. Maltseva (*Southern Federal University, Russia*); *N. S. Mozhaeva* (*Southern Federal University, Russia*);

26 Short-temporal Magnetosphere-ionosphere Predictors of Catastrophic Earthquakes
Nadezda P. Sergeenko (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Russian Academy of Sciences, Russia*); *Andrey L. Kharitonov* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation of Russian Academy of Scienses, Russia*);

27 Exploring and Exploiting Polarization Properties of Angle Cut Whispering Gallery Resonators
Florian Sedlmeir (*Max Planck Institute for the Science of Light, Germany*); *Martin Hauer* (*Max Planck Institute for the Science of Light, Germany*); *Josef U. Furst* (*Max Planck Institute for the Science of Light, Germany*); *Harald G. L. Schwefel* (*Max Planck Institute for the Science of Light, Germany*);

28 Compact Low Phase Noise Oscillator Using Symmetrical Square Open-loop with Loaded T-stubs Resonator
Sung-Jin Cho (*Kwangwoon University, Korea*); *Nam-Young Kim* (*Kwangwoon University, Republic of Korea*);

29 Miniaturized Dual-band Artificial Magnetic Conductor with Easy Control of Second/First Resonant Frequency Ratio
Son Xuat Ta (*Ajou University, Korea*); *Ikmo Park* (*Ajou University, Korea*);

30 A Wide-stopband EMI Filter for Power-line
Jin-Sup Kim (*Korea Electronics Technology Institute, Republic of Korea*); *Se-Hwan Choi* (*Korea Electronics Technology Institute, Republic of Korea*); *Sang-Kuk Kim* (*Dongil Technology LTD., Korea*); *Dong-Joon Lim* (*Dongil Technology LTD., Korea*); *Jong-Kyu Kim* (*Korea Electronics Technology Institute, Korea*);

31 A Computational Model of Slim Speaker Using Transmission Line Enclosure Modeling
Jin-Sup Kim (*Korea Electronics Technology Institute, Republic of Korea*); *Heung-Euy Kim* (*Hanbit T&I., R. O. Korea*); *Se-Hwan Choi* (*Korea Electronics Technology Institute, Republic of Korea*); *Yoon-Seok Heo* (*Chung Cheong University, South Korea*);

32 A Lumped-element Absorptive Bandstop Filter Topology with Perfect Impedance Matching
Kangho Lee (*Korea University, Korea*); *Tae-Hak Lee* (*Korea University, South Korea*); *Young Sik Kim* (*Korea University, Korea*); *Juseop Lee* (*Korea University, Korea*);

33 Open Stub Band-pass Filter Using Stepped Impedance Resonator for Size Reduction
Ki-Cheol Yoon (*Kwangwoon University, Korea*); *Hyunwook Lee* (*Kwangwoon University, South Korea*); *Joung-Geun Park* (*Kwangwoon University, Korea*); *Jaegook Lee* (*Kwangwoon University, Korea*); *Tae-Young Kim* (*Kwangwoon University, South Korea*); *Tae-Sung Jung* (*Kwangwoon University, South Korea*); *Jong-Chul Lee* (*Kwangwoon University, Korea*);

34 Compact Reconfigurable Dual Mode Resonator with Switchable Band Using RF PIN Diodes
Hesham Abd Elhady Mohamed (*Electronics Research Institute, Egypt*); *Heba B. El-Shaarawy* (*Faculty of Engineering, Cairo University, Egypt*); *Esmat Abdel-Fattah Abdallah* (*Electronics Research Institute, Egypt*); *Hadia M. El-Henawy* (*Ain Shams University, Egypt*);

35 Lightweight Polypropylene-metal Based Nanocomposites and Their Electromagnetic Shielding Response
Javier Arranz-Andres (*Instituto de Ciencia y Tecnología de Polímeros (ICTP-CSIC), Spain*); *Pilar Marín* (*Universidad Complutense de Madrid, Spain*); *Ana M. Aragon* (*Instituto de Magnetismo Aplicado (UCM-ADIF-CSIC), Spain*); *Maria L. Cerrada* (*Instituto de Ciencia y Tecnología de Polímeros (ICTP-CSIC), Spain*);

36 Optical Control Charge State of Nitrogen Vacancy Defects in Diamond
Xiangdong Chen (*University of Science and Technology of China, China*); *Changling Zou* (*University of Science and Technology of China, China*); *Fangwen Sun* (*University of Science and Technology of China, China*);

37 Electromagnetic Field as Human Health Risk Factor: EMF Safety Ensuring by Hygienic Standardization
I. V. Bukhtiyarov (*RAMS Institute of Occupational Health, Russia*); *Nina B. Rubtsova* (*RAMS Institute of Occupational Health, Russia*); *Yu. P. Paltsev* (*RAMS Institute of Occupational Health, Russia*); *L. V. Pokhodzey* (*RAMS Institute of Occupational Health, Russia*); *Sergey Yu. Perov* (*RAMS Institute of Occupational Health, Russian*);

38 Design of an Optimal Multi-layered Electromagnetic Absorber through the Central Force Optimization Algorithm
Jorge González (*Universidad Industrial de Santander, Colombia*); *Iván Amaya* (*Universidad Industrial de Santander, Colombia*); *Rodrigo Correa* (*Universidad Industrial de Santander, Colombia*);

39 Peculiarities of Relativistic TWT Operation near the Cyclotron Resonance
Mikhail I. Fuks (*University of New Mexico, USA*); *Edl Schamiloglu* (*University of New Mexico, USA*); *Yongdong Li* (*Xi'an Jiaotong University, China*);

40 Narrow Bipolar Pulses and Associated Microwave Radiation
Mohd Riduan Ahmad (*Uppsala University, Sweden*); *Mona Riza Mohd Esa* (*Uppsala University, Sweden*); *Vernon Cooray* (*Uppsala University, Sweden*);

41 Coaxial Reflection Probe for Measurements of Temperature and Frequency Dependent Dielectric-properties of Low-loss Liquids
Jan Vrba, Jr. (*Czech Technical University in Prague, Czech Republic*);

42 Design of Stripline Kicker for Tune Measurements in the MAX IV 3 GeV Ring
David Olsson (*University of Lund, Sweden*);

43 Compact Microstrip Patch Antenna for Ultra-wideband Applications
Waqas Mazhar (*National University of Sciences and Technology (NUST), Pakistan*); *M. A. Tarar* (*National University of Sciences and Technology (NUST), Pakistan*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST), Pakistan*); *Shan Ullah* (*National University of Sciences and Technology (NUST), Pakistan*); *Farooq Ahmad Bhatti* (*National University of Sciences and Technology (NUST), Pakistan*);

44 Self-similarity in pSi Multilayer Structures
Dan Sidney Diaz-Guerrero (*Universidad Autonoma del Estado de Morelos, Mexico*); *Luis Manuel Gaggero-Sager* (*Universidad Autónoma del Estado de Morelos, Mexico*); *A. David Ariza-Flores* (*Universidad Autonoma del Estado de Morelos, Mexico*);

45 A Theoretical Investigation of the Influence of Underground Power Cable Parameters on Magnetic Field Levels
Ivan Rostovskiy (*National Technical University "Kharkiv Polytechnic Institute", Ukraine*); *Oleksandr Okun* (*National Technical University "Kharkov Polytechnic Institute", Ukraine*); *Sergey Shevchenko* (*National Technical University "Kharkov Polytechnic Institute", Ukraine*); *Leena Korpinen* (*Tampere University of Technology, Finland*);

46 On Double Scattering in Lidar Sounding of the Atmosphere with Simple Non-spherical Particles
Piero Bruscaglioni (*University of Florence, Italy*);

47 Analysis of Metallic Terahertz Structures Using FDTD Method
Jorge R. Sosa-Pedroza (*Instituto Politecnico Nacional, Mexico*); *Méndez Rodíguez* (*Institututo Politécnico Nacional, Mexico*); *M. Galaz-Larios* (*Instituto Politécnico Nacional, Mexico*); *Mauro Alberto Enciso-Aguilar* (*Instituto Politecnico Nacional, Mexico*); *Manuel Benavides-Cruz* (*Instituto Politecnico Nacional, Mexico*);

48 Possible Methods for Limiting Magnetic Fields outside a High Voltage Power Substation by Changing the Phase Sequence of Busbar Wires
Oleksandr Okun (*National Technical University "Kharkov Polytechnic Institute", Ukraine*); *Sergey Shevchenko* (*National Technical University "Kharkov Polytechnic Institute", Ukraine*); *Leena Korpinen* (*Tampere University of Technology, Finland*);

49 FOSLL* Dual Potential Method for Time Harmonic Maxwell's Equations in 3D
Juhani Kataja (*Aalto University, Finland*);

50 An Improvement Method of Diversity Effect for the Linear Polarization Diversity by Decreasing the XPD Value
Deock-Ho Ha (*Pukyong National University, Korea*);

51 A Two-dimension Generalized Electro-magneto-thermo Elastic Diffusion with Thermal Relaxation
Shaaban EL-Shahat Mohamed Khader (*Theoretical Physics Atomic Energy Authority, Egypt*); *Mona El-Shahat Mohamed Khedr* (*University of Alexandria, Egypt*);

52 Modeling and Design of Circular Microstrip Patch Antenna Using Neuro-spectral Approach
Bedra Sami (*University of Batna, Algeria*); *Skander Aris* (*Mentouri University, Algeria*); *Amir Mounir* (*University of Batna, Algeria*); *Tarek Fortaki* (*Université de Batna, Algeria*);

53 Numerical Study of Dual-frequency Stacked Annular-ring Microstrip Antenna
Abderraouf Messai (*Université de Constantine, Algeria*); *A. Bourayou* (*Batna University, Algeria*); *Skander Aris* (*Mentouri University, Algeria*); *Tarek Fortaki* (*Université de Batna, Algeria*);

54 Analysis of Electromagnetic Shielding Effectiveness by the Change in the Distance of the Antenna
Jeong-Ju Bang (*INHA University, Korea*); *Ho-Je Kang* (*INHA University, Korea*); *Chang-Su Huh* (*INHA University, Korea*); *Woo-Chul Park* (*Korea Testing & Research Institute, Korea Republic*); *Sun-Mook Hwang* (*Hanhwa Corporation, Korea*);

55 SVM Approach for Hyperspectral Images Classification
Karim Saheb Ettabaa (*ENSI, Tunisie*); *Med Ali Hamdi* (*Ecole Nationale d'lngenieurs de Tunis, Tunisia*); *Imed Riadh Farah* (*ENSI, Tunisia*); *Bassel Souleiman* (*Technopôle Brest-Iroise, France*);

56 To Elaborate the Low Observable Characteristic of Stealth Aircrafts
Faran Awais Butt (*University of Management and Technology, Pakistan*); *Ijaz Haider Naqvi* (*Syed Babar Ali School of Science and Engineering (SSE), Pakistan*); *Ali Imran Najam* (*Advanced Engineering and Research Organization, Pakistan*);

57 Sidelobe Blanking in Phased Array Radar System for Countering Radar Jamming
Faran Awais Butt (*University of Management and Technology, Pakistan*); *Madiha Jalil* (*University of Management and Technology, Pakistan*);

58 Effectiveness of an Active Phased Array Radar System
Faran Awais Butt (*University of Management and Technology, Pakistan*); *Ahmed Malik* (*University of Management and Technology, Pakistan*); *Madiha Jalil* (*University of Management and Technology, Pakistan*);

59 Analysis of Multisection Rectangular Waveguide Impedance Transformers
Debendra Kumar Panda (*Jawaharlal Institute of Technology, India*); *Sanjay Chouhan* (*Jawaharlal Institute of Technology, India*); *Ajay Chakraborty* (*BIT Mesra, India*);

Session 3A1
2_FocusSession.SC2: Microwave Metamaterials and Applications 1

Wednesday AM, August 14, 2013

Room A

Organized by Tie Jun Cui, Yang Hao

Chaired by Tie Jun Cui, Yang Hao

08:10 Microwave Metamaterial Antennas
keynote
Tie Jun Cui (*Southeast University, China*); *Huifeng Ma* (*Southeast University, China*);

08:40 Super/Zero Scattering Characteristics of Circular
invited SRR Arrays
Yuan Zhang (*South China Normal University, China*); *Erik Forsberg* (*JORCEP [Sino-Swedish Joint Research Center of Photonics], ZJU, China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

09:00 New Strategies for Designing Broadband Absorber
invited Cloaks in the Microwave Regime Using Transformation Electromagnetics
Raj Mittra (*The Pennsylvania State University, USA*);

09:20 Broadband Magnetic Carpet Cloak without Lateral
invited Shift of Scattering Wave
Hongsheng Chen (*Zhejiang University, China*); *Su Xu* (*Zhejiang University, China*); *Runren Zhang* (*Zhejiang University, China*); *Baile Zhang* (*Nanyang Technological University, Singapore*); *Fa-Xin Yu* (*Zhejiang University, China*);

09:40 Surface Wave Reflection, Transmission and Scattering
invited from an Impedance Discontinuity
Simon James Berry (*University of Exeter, UK*); *S. Horsley* (*University of Exeter, UK*); *Alastair P. Hibbins* (*University of Exeter, UK*); *J. Roy Sambles* (*University of Exeter, United Kingdom*);

10:00 **Coffee Break**

10:20 Transparent Metal Film Based on Metamaterials and
invited Slow-light Meta-surface
Qiong He (*Fudan University, China*); *Shiyi Xiao* (*Fudan University, China*); *Zhengyong Song* (*Fudan University, China*); *Xin Li* (*Fudan University, China*); *Lei Zhou* (*Fudan University, China*);

10:40 Stability Characterization of Active Artificial Mag-
invited netic Conductors
Yifeng Fan (*Queen Mary University of London, UK*); *Khalid Z. Rajab* (*Queen Mary University of London, United Kingdom*); *Yang Hao* (*Queen Mary University of London, England*);

11:00 Directivity Enhancement of an X-band Horn Antenna Loaded by a Wire Medium
Antonio Tomaz (*Instituto Tecnologico de Aeronautica (ITA), Brazil*); *Joaquim J. Barroso* (*National Institute for Space Research-INPE, Brazil*); *Ugur Cem Hasar* (*University of Gaziantep, Turkey*); *Alberto Jose De Faro Orlando* (*CTA, Brazil*);

11:15 Enabling Asymmetric Electromagnetic Wave Propa-
invited gation with Polarization Dependent Chiral Metamaterials
Yijun Feng (*Nanjing University, China*); *Junming Zhao* (*Nanjing University, China*); *Linxiao Wu* (*Nanjing University, China*); *Bo Zhu* (*Nanjing University, China*); *Ci Huang* (*Nanjing University, China*); *Tian Jiang* (*Nanjing University, China*);

11:35 Electric Field Tunable Domain Ferromagnetic Resonances in (111) Yttrium-iron Garnet Films
Maksym A. Popov (*Oakland University, USA*); *Igor V. Zavislyak* (*Taras Shevchenko National University of Kyiv, Ukraine*); *Gopalan Srinivasan* (*Oakland University, USA*);

Session 3A2
2_FocusSession.SC2: Super Enhancement of Light with Plasmonic Nano-structures 1

Wednesday AM, August 14, 2013

Room B

Organized by Javier Aizpurua, Peter Nordlander

Chaired by Javier Aizpurua, Peter Nordlander

08:10 keynote Surface-enhanced Infrared Absorption (SEIRA) Spectroscopy Using Nanoantennas Tuned to Chemical Moieties
Lisa V. Brown (*Rice University, USA*); *K. Zhao* (*Rice University, USA*); *Peter Nordlander* (*Rice University, USA*); *Naomi J. Halas* (*Rice University, USA*);

08:40 invited Fano Lines and Signal Enhancement in IR Vibrational Spectroscopy
Annemarie Pucci (*Heidelberg University, Germany*);

09:00 invited Enhancement of Directionality, Emission Decay Rate and Gain for Emitters in Plasmonic and Hybrid Plasmonic-dielectric Systems
A. Femius Koenderink (*FOM, Netherlands*);

09:20 invited Designing Plasmonic Nanoparticles for Broadband Collection and Concentration of Light
Yu Luo (*Imperial College London, UK*); *John B. Pendry* (*Imperial College, UK*);

09:40 invited Elucidating the Signatures of Electromagnetic Hot Spots and Fano Interferences in Electron Energy-loss and Cathodoluminescence Spectroscopies via Multi-scale Electrodynamics Simulations
David J. Masiello (*University of Washington, USA*);

10:00 **Coffee Break**

10:20 invited Super Enhancement of Light in Self-assembled Multi-scale Nanoparticle Cluster Arrays and Discrete Opto-plasmonic Molecules
Bjoern M. Reinhard (*Boston University, USA*);

10:40 invited Activated Vibrational Modes and Fermi Resonance in Tip-enhanced Raman Spectroscopy
Hongxing Xu (*Institute of Physics, Chinese Academy of Sciences, China*);

11:00 invited Real-time and Ultra-sensitive Infrared Absorption Biospectroscopy of Molecular Interactions with Plasmonic Nano-antennas
Hatice Altug (*Boston University, USA*); *Ronen Adato* (*Ecole Polytechnique Federale de Lausanne, Switzerland*);

11:20 Dependence of SERS Intensity on Geometrical Structures of Metals Formed Using Anodic Porous Alumina
Hideki Masuda (*Tokyo Metropolitan University, Japan*); *Toshiaki Kondo* (*Tokyo Metropolitan University, Japan*); *Takashi Yanagishita* (*Tokyo Metropolitan University, Japan*); *Kazuyuki Nishio* (*Tokyo Metropolitan University, Japan*);

11:35 invited Optical Nanoantennas: Directionality, Super Enhancement, and Single Molecule Raman Spectroscopy
Kenneth B. Crozier (*Harvard University, USA*);

Session 3A3
3_FocusSession.SC3: Photonics of Quantum Dots and Its Applications

Wednesday AM, August 14, 2013

Room C

Organized by Yasuhiko Arakawa, Jesper Mork

Chaired by Jesper Mork, Yasuhiko Arakawa

08:00 keynote Advances in Quantum Dot Lasers for Photonic and Electronic Convergent Systems
Yasuhiko Arakawa (*The University of Tokyo, Japan*); *K. Tababe* (*The University of Tokyo, Japan*);

08:30 invited 1.5 m InP Based QD Lasers for High-speed Optical Communication Systems
Johann Peter Reithmaier (*University of Kassel, Germany*); *V. Ivanov* (*University of Kassel, Germany*); *V. Sichkovskyi* (*University of Kassel, Germany*); *D. Gready* (*Technion, Israel*); *G. Eisenstein* (*Technion, Israel*);

08:50 invited MBE Growth of III-V Droplet Quantum Dots for the Application to Nano Photonics
Jin Dong Song (*Korea Institute of Science and Technology, South Korea*); *E. H. Lee* (*Korea Institute of Science and Technology, South Korea*); *J. S. Kim* (*Yeungnam University, South Korea*);

09:10 invited Light-matter Interaction of Quantum Dots and Nanowires in Novel High-$\boldsymbol{Q}$ Photonic Crystal Cavities at Telecom Wavelength
Muhammad Danang Birowosuto (*Nippon Telegraph and Telephone Corp., Japan*); *Hisashi Sumikura* (*Nippon Telegraph and Telephone Corp., Japan*); *A. Yokoo* (*NTT Corporation, Japan*); *M. Takiguchi* (*NTT Corporation, Japan*); *Masaya Notomi* (*NTT Corporation, Japan*);

09:30 Wavelength Tunability of Two-wavelength Emission Laser with Semiconductor Quantum Dots
Kouichi Akahane (*National Institute of Information and Communications Technology, Japan*); *Naokatsu Yamamoto* (*National Institute of Information and Communications Technology, Japan*); *Atsushi Kanno* (*National Institute of Information and Communications Technology, Japan*); *Keizo Inagaki* (*National Institute of Information and Communications Technology, Japan*); *Toshimasa Umezawa* (*National Institute of Information and Communications Technology, Japan*); *Tetsuya Kawanishi* (*National Institute of Information and Communications Technology, Japan*); *Takashi Endo* (*Koshin Kogaku Co., Ltd., Japan*); *Yasunori Tomomatsu* (*Koshin Kogaku Co., Ltd., Japan*); *Toshio Yamanoi* (*Koshin Kogaku Co., Ltd., Japan*);

09:45 Teleportation Using Electrically Generated Entangled Photons from a Quantum Dot
Jonas Nilsson (*Toshiba Research Europe Limited, United Kingdom*); *R. M. Stevenson* (*Toshiba Research Europe Limited, United Kingdom*); *K. H. A. Chan* (*Toshiba Research Europe Limited, United Kingdom*); *J. Skiba-Szymanska* (*Toshiba Research Europe Limited, United Kingdom*); *M. Lucamarini* (*Toshiba Research Europe Limited, United Kingdom*); *M. B. Ward* (*Toshiba Research Europe Limited, United Kingdom*); *Anthony J. Bennett* (*Toshiba Research Europe Limited, UK*); *C. L. Salter* (*Toshiba Research Europe Limited, United Kingdom*); *I. Farrer* (*University of Cambridge, United Kingdom*); *D. A. Ritchie* (*University of Cambridge, United Kingdom*); *A. J. Shields* (*Toshiba Research Europe Limited, United Kingdom*);

10:00 **Coffee Break**

10:20 keynote Quantum Optics with Photonic Nanowires and Photonic Trumpets: Basics and Applications
Jean-Michel Gérard (*CEA/INAC/SP2M, France*); *Julien Claudon* (*CEA/INAC/SP2M, France*); *M. Munsch* (*CEA, INAC, SP2M, France*); *J. Bleuse* (*CEA/INAC/SP2M, France*); *A. Delga* (*CEA, INAC, SP2M, France*); *Niels Gregersen* (*Technical University of Denmark, Denmark*); *J. Mork* (*Technical University of Denmark, Denmark*);

10:50 invited On-chip Quantum Optics Using Electrically Driven Quantum Dot — Micropillar Cavities
C. Hopfmann (*Technische Universität Berlin, Germany*); *F. Albert* (*Universität Würzburg, Germany*); *E. Stock* (*Technische Universität Berlin, Germany*); *Matthias Lermer* (*Universität Würzburg, Germany*); *C. Schneider* (*Universität Würzburg, German*); *S. Höfling* (*Universität Würzburg, Germany*); *A. Forchel* (*Universitat Wurzburg, Germany*); *Martin Kamp* (*Wurzburg University, Germany*); *Stephan Reitzenstein* (*Technische Universität Berlin, Germany*);

11:10 invited Highly-efficient Light-matter Interaction with Quantum Dots in Photonic Crystals
Peter Lodahl (*Niels Bohr Institute, University of Copenhagen, Denmark*);

11:30 invited Controlling the Spontaneous Emission from Single Quantum Dots with Electromechanical Photonic Crystal Cavities
Leonardo Midolo (*Eindhoven University of Technology, The Netherlands*); *F. Pagliano* (*Eindhoven University of Technology, The Netherlands*); *Thang Ba Hoang* (*Eindhoven University of Technology, The Netherlands*); *T. Xia* (*Eindhoven University of Technology, The Netherlands*); *F. W. M. Van Otten* (*Eindhoven University of Technology, The Netherlands*); *L. H. Li* (*University of Leeds, United Kingdom*); *E. H. Linfield* (*University of Leeds, United Kingdom*); *Matthias Lermer* (*Universitat Wurzburg, Germany*); *S. Hofling* (*Universitat Wurzburg, Germany*); *Andrea Fiore* (*Eindhoven University of Technology, The Netherlands*);

11:50 Classical to Quantum Transition for Heat Transfer between Two Clusters
Shiyun Xiong (*Ecole Centrale Paris, France*); *Kaike Yang* (*Universidad del Pais Vasco UPV/EHU, Spain*); *Roberto D'Agosta* (*Universidad del Pais Vasco UPV/EHU, Spain*); *Pietro Cortona* (*Ecole Centrale Paris, France*); *Sebastian Volz* (*Ecole Centrale Paris, France*);

Session 3A4
1_FocusSession.SC1: EMC, Signal Integrity and Power Integrity for Semiconductor and High Speed Electronics

Wednesday AM, August 14, 2013

Room D

Organized by Er Ping Li, Ivan Ndip

Chaired by Er Ping Li, Ivan Ndip

08:10 Advances of EMC in TSV Based 3D Integrated Circuits
invited
Er Ping Li (*National University of Singapore, Singapore*);

08:30 Electromagnetic Interactions between Interconnected Patch-ring (IPR) Structures and Planes in Electronic Packages and PCBs
invited
Ivan Ndip (*IZM, Germany*); *Micha Bierwirth* (*Technische Universität Berlin, Germany*); *Stephan Guttowski* (*IZM, Germany*); *Herbert Reichl* (*IZM, Germany*); *Klaus-Dieter Lang* (*IZM, Germany*);

08:50 Stored Energies of Emission Sources
invited
Geyi Wen (*Nanjing University of Information Science and Technology, China*);

09:10 Efficient Equivalent-circuit Representation of High-speed Interconnects for Broadband Simulation with Arbitrary Terminations
invited
Marco Leone (*Otto von Guericke University of Magdeburg, Germany*); *Andreas Mantzke* (*Otto von Guericke University of Magdeburg, Germany*);

09:30 Isolation Capability of a Circulator under High Amplitude Surge Pulse Attacking
Chien-Fu Shih (*Chang Gung University, Taiwan*); *Liann-Bie Chang* (*Chang Gung University, Taiwan, R.O.C.*); *Ching-Chi Lin* (*Chang Gung University, Taiwan*); *Tung-Wuu Huang* (*Chang Gung University, Taiwan*); *Ping-Yu Kuei* (*National Defense University, Taiwan*);

09:45 Low Electrical Crosstalk Design Results of Monolithic Integraed Bi-directional Optoelectronic Transceiver and Its Package
Sungil Kim (*Electronics and Telecommunications Research Institute, Korea*);

10:00 **Coffee Break**

10:20 The Rigorous Helmholtz Decomposition for Signal Integrity
invited
Xiaoyan Y. Z. Xiong (*The University of Hong Kong, China*); *Lijun Jiang* (*The University of Hong Kong, China*); *Wei E. I. Sha* (*The University of Hong Kong, China*);

10:40 Electrical Modeling of Through-Silicon Vias (TSV) with Ohmic Contact in Silicon Interposer
invited
De-Cao Yang (*Zhejiang University, China*); *Madhavan Swaminathan* (*Georgia Institute of Technology, USA*); *Er Ping Li* (*National University of Singapore, Singapore*);

11:00 Fast Macromodel-based Transient Simulation of High-speed Channels with Nonlinear Terminations
S. B. Olivadese (*Politecnico di Torino, Italy*); *Stefano Grivet-Talocia* (*Politecnico di Torino, Italy*);

11:15 Physical Investigation on the Mobile Phone Wave Interactions with Biological Media
Adnen Rajhi (*Université de Carthage, Tunisie*);

Session 3A5
SC3&4: Microwave Photonics

Wednesday AM, August 14, 2013

Room E

Organized by Shilong Pan

Chaired by Shilong Pan, David Marpaung

08:00 Electro-optic Engineering for Microwave Photonics Applications
Davide Janner (*ICFO, Institut de Ciencies Fotoniques, Mediterranean Technology Park, Spain*); *V. Pruneri* (*ICFO, Institut de Ciencies Fotoniques, Mediterranean Technology Park, Spain*);

08:20 Microwave Photonics Signal Processing with on-chip Stimulated Brillouin Scattering
David Marpaung (*University of Sydney, Australia*);

08:40 Microwave Photonic Filter and Photonic Differentiator Employing Integrated Silicon Waveguide
Jianji Dong (*Huazhong University of Science and Technology, China*);

09:00 All Optical Frequency Conversion Utilizing Nonlinear Dynamics of Semiconductor Lasers Subject to Optical Square Wave Injection
Shao-Wei Peng (*Yuan Ze University, Taiwan*); *Yu-Shan Juan* (*Yuan Ze University, Taiwan*);

09:20 New Approach to Electronic Band Gap Filtering Structures Combining Microstrip and Dielectric Resonators
Bahareh Moradi (*Universitat Autònoma de Barcelona, Spain*); *Ursula Martinez-Iranzo* (*Universitat Autònoma de Barcelona, Spain*); *Oriol Ymbern* (*Universitat Autònoma de Barcelona, Spain*); *Cynthia Martinez* (*Universitat Autònoma de Barcelona, Spain*); *Julian Alonso* (*Universitat Autònoma de Barcelona, Spain*); *Joan Garcia-Garcia* (*Univeritat Autonoma de Barcelona, Spain*);

09:40 Dispersive Fourier Transformation for Microwave Photonics Applications
Chao Wang (*University of Kent, United Kingdom*);

10:00 **Coffee Break**

10:20 Challenging Aspects of Terahertz Terabit Wireless Communications
Xianbin Yu (*Technical University of Denmark, Denmark*); *Michael Galili* (*Technical University of Denmark, Denmark*); *Peter Uhd Jepsen* (*Technical University of Denmark, Denmark*); *Leif K. Oxenlwe* (*Technical University of Denmark, Denmark*);

10:40 Polarization-modulated Photonic Analog Links
Shilong Pan (*Nanjing University of Aeronautics and Astronautics, China*);

11:00 Multiband-OFDM Ultra Wideband Wireless Signals over Fiber Transmission
John Xiupu Zhang (*Concordia University, Canada*); *Bouchaib Hraimel* (*Concordia University, Canada*); *Dongya Shen* (*Concordia University, Canada*); *Taijun Liu* (*Concordia University, Canada*);

11:20 An Efficient and Flexible Satellite Repeater Based on Optical Frequency Combs Technology
Xinwu Yang (*Beijing University of Posts and Telecommunications, China*); *Kun Xu* (*Beijing University of Posts and Telecommunications, China*); *Jie Yin* (*Beijing Institute of Satellite Information Engineering, China*); *Yitang Dai* (*Beijing University of Posts and Telecommunications, China*); *Feifei Yin* (*Beijing University of Posts and Telecommunications, China*); *Jianqiang Li* (*Beijing University of Posts and Telecommunications, China*); *Hua Lu* (*Beijing Institute of Satellite Information Engineering, China*); *Tao Liu* (*Beijing Institute of Satellite Information Engineering, China*); *Yuefeng Ji* (*Beijing Univ Posts & Telecommun, China*);

11:40 Microwave Frequency Multiplication Based on Double-pass Modulation and Fiber Ring Microwave Photonic Filters
Zuowei Xu (*Xiamen University, China*); *Hongyan Fu* (*Xiamen University, China*); *Zhiping Cai* (*Xiamen University, China*); *Zhangwei Yu* (*Royal Institute of Technology (KTH), Sweden*);

Session 3A6
4_FocusSession.SC4: Challenges for Small Antennas

Wednesday AM, August 14, 2013

Room F

Organized by Zhinong Ying, Mats Gustafsson

Chaired by Zhinong Ying, Mats Gustafsson

08:10 keynote A Look at the Small Challenges in the Small Antenna Design
Zhinong Ying (*Sony Ericsson Mobile Communications AB, Sweden*); *Raj Mittra* (*The Pennsylvania State University, USA*);

08:40 invited Optimization of Resonant and Antiresonant Properties of Electrically Small Antennas with Single, Coupled, and Multiple Resonances
Oleg B. Vorobyev (*Stavropol Institute of Radio Communications, Russia*);

09:00 invited Antenna Bandwidth Optimization by Global Optimization Algorithms with Single Frequency Simulation
Marius Cismasu (*Lund University, Sweden*); *Mats Gustafsson* (*Lund University, Sweden*);

09:20 invited Optimum Geometry for an Electrically-small, Layered Magnetic Dipole Antenna
James S. McLean (*TDK Corporation, USA*); *Heinrich D. Foltz* (*University of Texas — Pan American, USA*); *Robert Sutton* (*TDK Corporation, USA*);

09:40 Gain Enhancement of a Fractal Antenna Using Partial Substrate Removal
Neeraj Rao (*PDPM Indian Institute of Information Technology, Design & Manufacturing, India*); *Dinesh Kumar Vishwakarma* (*PDPM Indian Institute of Information Technology, Design & Manufacturing, India*);

10:00 **Coffee Break**

10:20 invited An Overview of Physical Bounds on Small Antennas
Mats Gustafsson (*Lund University, Sweden*);

10:40 invited Compact Dual Printed MIMO Antennas for Mobile Handsets Covering GSM/UMTS/WLAN and LTE
Sultan Shoaib (*Queen Mary University of London, UK*); *Imran Shoaib* (*Queen Mary University of London, United Kingdom*); *Nosherwan Shoaib* (*Politecnico di Torino, Italy*); *Xiaodong Chen* (*Queen Mary University of London, UK*); *Clive G. Parini* (*Queen Mary University of London, UK*);

11:00 invited Stored Energies and Antenna Q, Electric and Magnetic Case
B. Lars G. Jonsson (*Royal Institute of Technology, Sweden*); *Mats Gustafsson* (*Lund University, Sweden*);

11:20 invited Challenge of Small Multi-port Antenna for Compact MIMO Mobile Terminal
Zhinong Ying (*Sony Ericsson Mobile Communications AB, Sweden*);

11:40 Compact Quad-band PIFA Antenna for LTE Handsets with MIMO and Low Mutual Coupling
Khaled A. Abdelwahab (*The Arab Academy for Science and Technology, Egypt*); *Esmat Abdel-Fattah Abdallah* (*Electronics Research Institute, Egypt*); *Mohamed Aboul El-Dahab* (*Arab Academy for Science and Technology and Maritime Transport, Egypt*);

Session 3A7a
SC4: Ultra-wideband Antennas for Radio Astronomy

Wednesday AM, August 14, 2013
Room G
Organized by Jian Yang, Marianna V. Ivashina
Chaired by Jian Yang, Arnold Van Ardenne

08:00 Ultra-wideband Feeds for the Advanced Instrumentation Program of the Square Kilometer Array
Miroslav Pantaleev (*Chalmers University of Technology, Sweden*);

08:20 Wideband Receivers for VLBI2010 Applications
Anders Emrich (*Omnisys Instruments AB, Sweden*); *T. Ekebrand* (*Omnisys Instruments AB, Sweden*); *S. Andersson* (*Omnisys Instruments AB, Sweden*); *J. Jonsson* (*Omnisys Instruments AB, Sweden*); *J. Yang* (*Chalmers University of Technology, Sweden*); *Miroslav Pantaleev* (*Chalmers University of Technology, Sweden*); *Per-Simon Kildal* (*Chalmers University of Technology, Sweden*);

08:40 Initial Comparison Study of Two Alternative Feeds for the SKA Band 1: Eleven Feed and Quad-ridge Horn
Marianna V. Ivashina (*Chalmers University of Technology, Sweden*); *Oleg Iupikov* (*Chalmers University of Technology, Sweden*); *Jian Yang* (*Chalmers University of Technology, Sweden*);

09:00 Sensitivity and Performance Analysis of Large Antenna Arrays for Radio Astronomy
Arnold Van Ardenne (*ASTRON, The Netherlands*);

09:20 The Antenna Performance of Chinese Spectral Radio Heliograph
Sha Li (*Chinese Academy of Sciences, China*); *Yihua Yan* (*Chinese Academy of Sciences, China*); *Zhijun Chen* (*Chinese Academy of Sciences, China*);

Session 3A7b
SC4: Body-centric Wireless Communications

Wednesday AM, August 14, 2013
Room G
Organized by Maxim Zhadobov, Alice Pellegrini
Chaired by Maxim Zhadobov

09:40 Reliable and Energy Efficient Communications for Wireless Biomedical Implant Systems
Georgia D. Ntouni (*National Technical University of Athens, Greece*); *A. S. Lioumpas* (*National Technical University of Athens, Greece*); *Konstantina S. Nikita* (*National Technical University of Athens, Greece*);

10:00 **Coffee Break**

10:20 Numerical Investigation of Body-worn Ultra Wideband Antenna Localisation Techniques for Motion Capture Applications
Richa Bharadwaj (*Queen Mary University of London, United Kingdom*); *Akram Alomainy* (*Queen Mary University London, United Kingdom*); *Clive G. Parini* (*Queen Mary University of London, UK*);

10:40 Characterization of Electro-textiles Using Wireless Reflectometry for Optimization of Wearable UHF RFID Tags
Karoliina Koski (*Tampere University of Technology (TUT), Finland*); *Elham Moradi* (*Tampere University of Technology (TUT), Finland*); *Arnaud Vena* (*Tampere University of Technology (TUT), Finland*); *Toni Björninen* (*Tampere University of Technology, Finland*); *Lauri Sydanheimo* (*Tampere University of Technology, Finland*); *Leena Ukkonen* (*Tampere University of Technology, Finland*); *Yahya Rahmat-Samii* (*University of California, USA*);

11:00 On the Stochastic Characterization of Wearable Antennas
Paolo Nepa (*University of Pisa, Italy*); *Giuliano Manara* (*University of Pisa, Italy*);

11:20 Active Textile Multi-antenna Systems for Energy-efficient Body-centric Communication
Hendrik Rogier (*Ghent University, Belgium*); *Sam Agneessens* (*Ghent University, Belgium*); *Arnaut Dierck* (*Ghent University, Belgium*); *Frederick Declercq* (*Ghent University, Belgium*); *Patrick Van Torre* (*Ghent University, Belgium*); *Luigi Vallozzi* (*Ghent University, Belgium*); *Emmeric Tanghe* (*Ghent University, Belgium*); *Guenter Vermeeren* (*Univ Ghent, Belgium*); *Wout Joseph* (*Univ Ghent, Belgium*);

11:40 Analysis of On-body Propagation at 60 GHz Using Skin-equivalent Phantoms and Common Textiles
Anda Raluca Guraliuc (*University of Rennes 1, France*); *Maxim Zhadobov* (*IETR, University of Rennes 1, France*); *Ronan Sauleau* (*University of Rennes 1, France*);

12:00 Evaluation of Antenna/Human Body Interactions in BAN Scenarios at Millimeter Waves
Maxim Zhadobov (*University of Rennes 1, France*); *Nacer Chahat* (*University of Rennes 1, France*); *Stanislav I. Alekseev* (*Institute of Cell Biophysics of Russian, Russia*); *Carole Leduc* (*University of Rennes 1, France*); *Anda Raluca Guraliuc* (*University of Rennes 1, France*); *Ronan Sauleau* (*University of Rennes 1, France*);

12:20 Broadband Vivaldi Array Antenna for On-body Communication
Xiao Li (*University of Birmingham, UK*); *Xianyue Wu* (*University of Birmingham, UK*); *Constantinos Constantinou* (*University of Birmingham, UK*); *Peter S. Hall* (*University of Birmingham, UK*); *Yuriy I. Nechayev* (*University of Birmingham, UK*); *Alice Pellegrini* (*University of London, UK*); *Yang Hao* (*Queen Mary University of London, England*);

Session 3A8a
GPU Computing in Electromagnetics

Wednesday AM, August 14, 2013

Room H

Organized by Amedeo Capozzoli, Angelo Liseno

Chaired by Amedeo Capozzoli

08:00 Large-scale Three-dimensional FDTD Calculation on GPU Clusters for Estimating the Specific Absorption Rate in a Human Body
Tomoaki Nagaoka (*National Institute of Information and Communications Technology, Japan*); *Soichi Watanabe* (*National Institute of Information and Communications Technology, Japan*);

08:20 B-CALM: An Open-source multi-GPU-based 3D-FDTD with Multi-pole Dispersion for Plasmonics
Pierre Wahl (*Vrije Universiteit Brussel, Belgium*); *Dany Sebastien Ly Gagnon* (*Stanford University, USA*); *Christof Debaes* (*Vrije Universiteit Brussel, Belgium*); *David A. B. Miller* (*Stanford University, USA*); *Hugo Thienpont* (*Vrije Universiteit Brussel, Belgium*);

08:40 GPU-optimized Parallel Preconditioners for Finite-element Models Using Element-by-element Strategies
Imre Kiss (*Budapest University of Technology and Economics, Hungary*); *Zsolt Badics* (*Tensor Research LLC, USA*); *Szabolcs Gyimothy* (*Budapest University of Technology and Economics, Hungary*); *Jozsef Pavo* (*Budapest University of Technology and Economics, Hungary*);

09:00 GPU-based Particle-in-Cell Plasma Simulation in PICADOR: Optimization Techniques
Sergey Bastrakov (*N. I. Lobachevsky State University of Nizhny Novgorod, Russia*); *Evgeny S. Efimenko* (*Institute of Applied Physics, Russian Academy of Sciences, Russia*); *Arkady Gonoskov* (*Institute of Applied Physics, Russian Academy of Sciences, Russia*); *Iosif Meyerov* (*N. I. Lobachevsky State University of Nizhny Novgorod, Russia*); *Igor Surmin* (*N. I. Lobachevsky State University of Nizhny Novgorod, Russia*);

09:20 Interactive FDTD Simulation Using LRnLA Algorithms
Vadim D. Levchenko (*Keldysh Institute of Applied Mathematics, Russia*); *Ivan A. Goryachev* (*Keldysh Institute of Applied Mathematics (Russian Academy of Sciences), Russia*); *A. Yu. Perepelkina* (*Keldysh Institute of Applied Mathematics (Russian Academy of Sciences), Russia*);

09:40 Dynamic Parallelism in Reflectarray Antenna Analysis and Synthesis on GPU
Amedeo Capozzoli (*Università di Napoli Federico II, Italy*); *Claudio Curcio* (*Università di Napoli Federico II, Italy*); *Angelo Liseno* (*Università di Napoli Federico II, Italy*); *Giovanni Toso* (*European Space Agency, ESA, The Netherlands*);

10:00 **Coffee Break**

Session 3A8b
SC1&3: Design and Simulation of Electromagnetic and Optical Devices

Wednesday AM, August 14, 2013

Room H

Organized by Shinichiro Ohnuki, Jun Shibayama

Chaired by Shinichiro Ohnuki, Jun Shibayama

10:20 Resonantly Confined Modes in Si/SiO_2 Microstructured Optical Fibers
Yasuo Ohtera (*Tohoku University, Japan*); *Haruka Hirose* (*Tohoku University, Japan*); *Hirohito Yamada* (*Tohoku University, Japan*);

10:40 Efficient Time-domain Technique for the analysis of Circularly Symmetric Plasmonic Waveguides
Jun Shibayama (*Hosei University, Japan*); *Takuto Oikawa* (*Hosei University, Japan*); *Junji Yamauchi* (*Hosei University, Japan*); *Hisamatsu Nakano* (*Hosei University, Japan*);

11:00 Design of a Novel Miniaturized Composite Right/Left-handed Leaky Wave Antenna
Cheng-Lung Kao (*National Chiao Tung University, Taiwan*); *Fu-Chiarng Chen* (*National Chiao Tung University, Taiwan*);

11:20 Eigenmode Analysis for Designing Plasmonic Devices by an Integral Solver
Seiya Kishimoto (*Nihon University, Japan*); *Shinichiro Ohnuki* (*Nihon University, Japan*); *Yoshito Ashizawa* (*Nihon University, Japan*); *Katsuji Nakagawa* (*Nihon University, Japan*);

11:40 All-dielectric Planar Chiral Nanogratings with Large Optical Activity
Yuu Wakabayashi (*Hosei University, Japan*); *Yukinori Shigenaga* (*Hosei University, Japan*); *Junji Yamauchi* (*Hosei University, Japan*); *Hisamatsu Nakano* (*Hosei University, Japan*);

12:00 Design of All-optical Magnetic Recording System Using Plasmonic Antennas and Particulate Media
Shinichiro Ohnuki (*Nihon University, Japan*); *Y. Takano* (*Nihon University, Japan*); *T. Kato* (*Nihon University, Japan*); *Yoshito Ashizawa* (*Nihon University, Japan*); *Katsuji Nakagawa* (*Nihon University, Japan*);

Session 3A9a
SC3: On-chip Optical Sensing Technologies and Devices

Wednesday AM, August 14, 2013
Room I
Organized by Daoxin Dai, Dan-Xia Xu
Chaired by Daoxin Dai

08:00 Silicon Nanophotonics On-chip Sensing
Peter Bienstman (*Ghent University, Belgium*); *Sam Werquin* (*Ghent Universit-IMEC, Belgium*); *Cristina Lerma Arce* (*Ghent University-IMEC, Belgium*); *Elewout Hallynck* (*Ghent University-IMEC, Belgium*); *Tom Claes* (*Ghent University-IMEC, Belgium*); *Jan-Willem Hoste* (*Ghent Universit-IMEC, Belgium*); *Daan Martens* (*Ghent Universit-IMEC, Belgium*);

08:20 SiC Based pH Sensor with Gd_2O_3/Si_3N_4 Gate Dielectrics
D. H. Ko (*Chang Gung University, Taiwan*); *C. S. Huang* (*Chang Gung University, Taiwan*); *Liann-Bie Chang* (*Chang Gung University, Taiwan, R.O.C.*); *Jer-Ming Jeng* (*Chang Gung University, Taiwan, R.O.C.*); *C. S. Lai* (*Chang Gung University, Taiwan*); *Y. T. Lin* (*Chang Gung University, Taiwan*); *Chow Lee* (*University of Central Florida, USA*);

08:40 Optical Sensing and Particle Manipulation Using Silicon-based Microresonators in Optofluidic Chips
Andrew Wing On Poon (*The Hong Kong University of Science and Technology, China*); *Ting Lei* (*The Hong Kong University of Science and Technology, China*); *Jiawei Wang* (*The Hong Kong University of Science and Technology, China*);

09:00 Directional Plasmonic Nanoantennas for Spectroscopy and Sensing
Timur Shegai (*Chalmers University of Technology, Sweden*); *Vladimir D. Miljkovic* (*Chalmers University of Technology, Sweden*); *P. Johansson* (*Chalmers University of Technology, Sweden*); *Mikael Kall* (*Chalmers University of Technology, Sweden*);

09:20 Group IV Photonics Platforms for Sensing Applications
Goran Z. Mashanovich (*University of Southampton, UK*); *M. Nedeljkovic* (*University of Southampton, UK*); *X. Chen* (*University of Southampton, UK*); *J. Soler Penades* (*University of Southampton, UK*); *G. Madalinski* (*University of Southampton, UK*); *M. Muneeb* (*Ghent University-IMEC, Belgium*); *Gunther Roelkens* (*Ghent University-IMEC, Belgium*); *H. M. H. Chong* (*University of Southampton, UK*); *G. T. Reed* (*University of Southampton, UK*);

09:40 New Fabrication and Instrumentation Techniques for Nanoplasmonic Biosensors
Sang-Hyun Oh (*University of Minnesota, USA*);

10:00 **Coffee Break**

10:20 Detection of Environmental Contaminants Using an Optical Refractometer and Silicon-on-Insulator (SOI) Devices
John E. Saunders (*Queen's University, Canada*); *Weijian Chen* (*Queen's University, Canada*); *Chris Brauer* (*Queen's University, Canada*); *Jack A. Barnes* (*Queen's University, Canada*); *Scott S.-H. Yam* (*Queen's University, Canada*); *Dan-Xia Xu* (*Institute for Microstructural Sciences, National Research Council Canada (NRC), Canada*); *Hans-Peter Loock* (*National Research Council of Canada, Canada*);

Session 3A9b
Action-at-a-distance Theories and Electrodynamics

Wednesday AM, August 14, 2013

Room I

Organized by Jayme Vicente De Luca

Chaired by Jayme Vicente De Luca, Hanno Essen

10:40 Magnetic Field Expulsion in Perfect Conductors — The Magnetic Equivalent of Thomson's Theorem
Miguel C. N. Fiolhais (*University of Coimbra, Portugal*); *Hanno Essen* (*Royal Institute of Technology (KTH), Sweden*);

11:00 The Darwin-Breit Magnetic Interaction and Superconductivity
Hanno Essen (*Royal Institute of Technology (KTH), Sweden*); *Miguel C. N. Fiolhais* (*University of Coimbra, Portugal*);

11:20 On a Method of Solving Mixed-type FDEs
C. K. Raju (*Albukhary International University, Malaysia*);

11:40 Variational Electrodynamics
Jayme Vicente De Luca (*Universidade Federal de São Carlos, Brazil*);

12:00 The Magnetic Force as a Kinematical Consequence of the Thomas Precession
David C. Lush (*2462 63rd Ave SE, Mercer Island, United States*);

Session 3A_K
Poster Session 5

Wednesday AM, August 14, 2013

9:00 AM - 12:00 AM

Room P

1 Comparison of Cylindrical FDTD with Cartesian Subcell Modeling for Circularly Shaped Objects
Stefan Kirsch (*Technische Universitat Berlin, Germany*); *Rolf Schuhmann* (*Technische Universitat Berlin, Germany*);

2 Nonreciprocal Properties of Cylindrical Junction Loaded with Axially-symmetrical Ferrite Post
Adam Kusiek (*Gdansk University of Technology, Poland*); *Wojciech Marynowski* (*Gdansk University of Technology, Poland*); *J. Mazur* (*Gdansk University of Technology, Poland*);

3 Development of Graphical User Interface for Modern FDTD Simulation Tool
Sławomir Orłowski (*Gdansk University of Technology, Poland*); *Tomasz P. Stefanski* (*Gdansk University of Technology, Poland*);

4 Examination of Discrete Green's Function Approach to Absorbing Boundary Condition in FDTD Method
Michal Wiktor (*Medical University of Gdansk, Poland*); *Tomasz P. Stefanski* (*Gdansk University of Technology, Poland*);

5 Driven Eigenproblem Computation for 2D Periodic Structures
Huanlei Chen (*Technische Universitat Munchen, Germany*); *Thomas F. Eibert* (*Technische Univerität München, Germany*); *W. Che* (*Nanjing University of Science and Technology, China*);

6 Hight Order FD Computation of TE and TM Modes in Single Grid
Alessandro Fanti (*University of Cagliari, Italy*); *M. Simone* (*University of Cagliari, Italy*); *Giuseppe Mazzarella* (*University of Cagliari, Italy*);

7 Application of Magnetic Moment Method to an Hall Effect Thrusters
Rania Oubaid (*University of Toulouse, France*); *Y. Lefevre* (*University of Toulouse, France*); *Jean-Rene Poirier* (*Université de Toulouse, France*); *C. Henaux* (*University of Toulouse, France*); *R. Vilamot* (*Liebherr-Aerospace Toulouse SAS, France*);

8 3D Conductivity Image Reconstruction Based on Electrical Impedance Tomography
Tomas Kriz (*Brno University of Technology, Czech Republic*); *Jarmila Dedkova* (*Brno University of Technology, Czech Republic*);

9 An Electrical Explanation of the Electrical Behavior of Metals
Sara Liyuba Vesely (*I.T.B., C.N.R., Italy*); *Alessandro Alberto Vesely* (*Via L. Anelli 13, Italy*);

10 Widely Tunable Mid-IR Difference-frequency Generation Based on a Cylindrical Periodically Poled $LiNbO_3$ Crystal
Xuefei Qin (*Zhejiang Normal University, China*); *Weidong Zhou* (*Zhejiang Normal University, China*);

11 Flower-shaped Dipole Based Nano-antenna for Energy Harvesting
Mohamed Hussein (*Zewail City of Science and Technology, Egypt*); *Nihal F. F. Areed* (*Mansoura University, Egypt*); *Mohamed Farhat O. Hameed* (*Zewail City of Science and Technology, Egypt*); *Salah Sabry Ahmed Obayya* (*Centre for Photonics and Smart Materials, Egypt*);

12 Prototype of Semi-transparent Photovoltaic Module for Greenhouse Roof Applications
Akira Yano (*Shimane University, Japan*); *Josuke Nakata* (*Sphelar Power Corporation, Japan*);

13 Organic Solar Cells Using Transparent Graphene Cathode with Al-TiO_2 Interfacial Layer
Di Zhang (*The University of Hong Kong, China*); *Fengxian Xie* (*The University of Hong Kong, China*); *Peng Lin* (*The University of Hong Kong, China*); *Wallace C. H. Choy* (*The University of Hong Kong, China*);

14 Light Trapping Enhancement of Inverted Polymer Solar Cells with a Nanostructured Scattering Rear Electrode
Pan-Pan Cheng (*Soochow University, China*); *Lei Zhou* (*Soochow University, China*); *Jie-Ai Li* (*Soochow University, China*); *Yanqing Li* (*Soochow University, China*); *Jianxin Tang* (*Soochow University, China*);

15 Design of the Planar Antenna for Flexible Tablet
Se-Hwan Choi (*Korea Electronics Technology Institute, Republic of Korea*); *Jae-Young Lee* (*Korea Electronics Technology Institute, Korea*); *Kyu-Bok Lee* (*Korea Electronics Technology Institute, Republic of Korea*);

16 Dual Polarization Array Antenna for WLAN
Ho-Jun Lee (*Korea Electronics Technology Institute, Korea*); *Min-Ki Woo* (*Innonet Co., Ltd., South Korea*); *Nae-In Lee* (*Innonet Co., Ltd., South Korea*); *Gene Yoo* (*Innonet Co., Ltd., South Korea*);

17 Near Field Antenna Measurement System for Radar Antenna Investigation
Mateusz Mazur (*Gdask University of Technology, Poland*); *Wlodzimierz Zieniutycz* (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*); *Wojciech Marynowski* (*Gdansk University of Technology, Poland*);

18 Design of Beam-steering Antenna Based on Stacked Structure
Wen-Chung Liu (*National Formosa University, Taiwan*); *Yu-Fan Lin* (*National Formosa University, Taiwan, R.O.C.*); *Chao-Ming Wu* (*National Formosa University, Taiwan, Republic of China*);

19 A Methodology for Short Basis Velocity Measurement in Moving Objects
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*); *Michal Kovac* (*Brno University of Technology, Czech Republic*); *Vladimir Benes* (*Brno University of Technology, Czech Republic*); *R. Koci* (*Brno University of Technology, Czech Republic*); *I. Behunek* (*Brno University of Technology, Faculty of Electrical Engineering and Communication, Czech Republic*);

20 Coherent Detected Secure Point-to-Point Optical Fiber Transmission Using Ultra-dense Optical Spectral Phase Coding (UD-SPC)
Xuezhi Hong (*South China Normal University, China*); *Yang Lu* (*Joint Research Center of Photonics of the Royal Institute of Technology, Sweden*); *Sailing He* (*KTH-Royal Institute of Technology, Sweden*);

21 Scaling Features in Graphene Multilayer Structures
Dan Sidney Diaz-Guerrero (*Universidad Autonoma del Estado de Morelos, Mexico*); *Luis Manuel Gaggero-Sager* (*Universidad Autónoma del Estado de Morelos, Mexico*);

22 Potential Like Profile in Reflection Coefficient for a Graphene Multilayer System
Dan Sidney Diaz-Guerrero (*Universidad Autonoma del Estado de Morelos, Mexico*); *Luis Manuel Gaggero-Sager* (*Universidad Autónoma del Estado de Morelos, Mexico*);

23 Harmonic and Intermodulation Performance of Contact-type MEM Microswitches
Muhammad Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals, Saudi Arabia*);

24 Dependence of Ferromagnetic Resonance Measurements with Temperature in Permalloy Nanostructured Arrays
Ana García Flores (*Universidad de Salamanca, Spain*); *Víctor Javier Raposo Funcia* (*Universidad de Salamanca, Spain*); *José Ignacio Iñiguez de la Torre* (*Universidad de Salamanca, Spain*); *Marcelino Zazo Rodríguez* (*Universidad de Salamanca, Spain*); *Carolina Redondo Esteban* (*Universidad de Salamanca, Spain*); *David Navas Otero* (*Universidad de Salamanca, Spain*);

25 Airborne Interferometric Altimetry Experiment over Lake with Multi-carrier Frequencies
Yunhua Zhang (*Center for Space Science and Applied Research, CAS, China*); *Wenshuai Zhai* (*Graduate University of the Chinese Academy of Sciences, China*); *Xueyan Kang* (*Center for Space Science and Applied Research, CAS, China*); *Xiaojin Shi* (*Center for Space Science and Applied Research, CAS, China*); *Xiang Gu* (*Center for Space Science and Applied Research, CAS, China*); *Yueying Tang* (*Center for Space Science and Applied Research, CAS, China*);

26 A Method for Simultaneous Gas and Light Path Retrievals from Space-based Spectroscopic Observations of Greenhouse Gases
Sergey Oshchepkov (*National Institute for Environmental Studies, Japan*); *Andrey Bril* (*National Institute for Environmental Studies, Japan*); *Tatsuya Yokota* (*National Institute for Environmental Studies, Japan*); *Yukio Yoshida* (*National Institute for Environmental Studies, Japan*); *Thomas Blumenstock* (*Karlsruhe Institute of Technology, Germany*); *Nicholas M. Deutscher* (*University of Bremen, Germany*); *Susanne Dohe* (*Karlsruhe Institute of Technology, Germany*); *Ronald Macatangay* (*University of Wollongong, Australia*); *Isamu Morino* (*National Institute for Environmental Studies, Japan*); *Justus Notholt* (*University of Bremen, Germany*); *Markus Rettinger* (*Karlsruhe Institute of Technology, Germany*); *Christof Petri* (*University of Bremen, Germany*); *Matthias Schneider* (*Karlsruhe Institute of Technology, Germany*); *Ralf Sussman* (*Karlsruhe Institute of Technology, Germany*); *Osamu Uchino* (*National Institute for Environmental Studies, Japan*); *Voltaire Velazco* (*University of Wollongong, Australia*); *Debra Wunch* (*California Institute of Technology, USA*);

27 Giant Magnetoimpedance Effect in Nanocrystalline Microwires
A. Talaat (*UPV/EHU, Spain*); *Valentina Zhukova* (*Universidad del Pais Vasco, Spain*); *Mihail Ipatov* (*Universidad del Pais Vasco, Spain*); *J. M. Blanco* (*Universidad del Pais Vasco, Spain*); *M. Churyukanova* (*National University of Science and Technology "MISIS", Russia*); *S. Kaloshkin* (*National University of Science and Technology "MISIS", Russia*); *E. Kostitcyna* (*National University of Science and Technology "MISIS", Russia*); *E. Shuvaeva* (*National University of Science and Technology, Russia*); *V. Sudarchikova* (*National University of Science and Technology "MISIS", Russia*); *L. González-Legarreta* (*University of Oviedo, Spain*); *B. Hernando* (*University of Oviedo, Spain*); *Arkady P. Zhukov* (*Universidad del Pais Vasco, Spain*);

28 Monitoring System for Solar Activity in the Very Low Frequency Band
Edwin Andres Quintero Salazar (*Technological University of Pereira, Colombia*); *Ivan Dario Arellano Ramirez* (*Technological University of Pereira, Colombia*);

29 Long-term Observation of GPS Phase Fluctuations near the Geomagnetic Equator in the Peruvian Sector
Chien-Chih Lee (*Chien Hsin University of Science and Technology, Taiwan*); *Wei-Sheng Chen* (*Chien Hsin University of Science and Technology, Taiwan*); *Fang-Dar Chu* (*Chunghwa Telecom Co., Ltd., Taiwan*);

30 Transmission of Electromagnetic Signals of Measurement-While-Drilling System in the Rock
Zoya A. Pyatakova (*Gubkin Russian State University of Oil and Gas, Russia*); *A. I. Arkhipov* (*Gubkin Russian State University of Oil and Gas, Russia*);

31 Characteristic Change of Particulate Matter in Osaka of Japan by Transboundary Pollution
Makiko Nakata (*Kinki University, Japan*); *Itaru Sano* (*Kinki University, Japan*); *Sonoyo Mukai* (*Kinki University, Japan*);

32 Radiation Simulation Code for Aerosol Remote Sensing in the Aerosol Events
Sonoyo Mukai (*Kinki University, Japan*); *Masayoshi Yasumoto* (*Kinki University, Japan*); *Itaru Sano* (*Kinki University, Japan*); *Makiko Nakata* (*Kinki University, Japan*);

33 Comparison of Satellite Altimetric Waveform Retracking Algorithms in the Niger River Delta
Kalifa Goita (*Université de Sherbrooke, Canada*); *Adama Diepkilé* (*Université de Sherbrooke, Canada*);

34 Astronaut Monitoring for Bow Shock Front of Petergius Nebular
Shigehisa Nakamura (*Kyoto University, Japan*);

35 Spacecraft Monitoring for Magnetic Field of Planet Mercury
Shigehisa Nakamura (*Kyoto University, Japan*);

36 Monitoring for Sea Caldera Formed at Tsunami Earthquake
Shigehisa Nakamura (*Kyoto University, Japan*);

37 Micromachined Band Stop Resonator for Millimeter-wave Applications
Alina Cristina Bunea (*National Research Institute for Microtechnologies, Romania*); *Dan Neculoiu* (*IMT Bucharest, Romania*);

38 Design of a Coplanar Waveguide to Substrate Integrated Waveguide Transition for LTCC Technology
Dan Neculoiu (*IMT Bucharest, Romania*); *Alina Cristina Bunea* (*National Research Institute for Microtechnologies, Romania*);

39 Design of Two-stage Low Noise Amplifier Based on Non Simultaneous-conjugate-matching Technique
Yana Taryana (*Indonesian Institute of Sciences, Indonesia*); *Achmad Munir* (*Institut Teknologi Bandung, Indonesia*);

40 Theoretical Analysis of Frequency Characteristic and Resonance Mode of Anisotropic Artificial Dielectric Resonator Encapsulated in Circular Waveguide
Hepi Ludiyati (*Institut Teknologi Bandung, Indonesia*); *Andriyan Bayu Suksmono* (*Institut Teknologi Bandung, Indonesia*); *Achmad Munir* (*Institut Teknologi Bandung, Indonesia*);

41 A Two Order Bandpass Filter Designed with Lowpass Filter Sections
Xing Jian Zhong (*Southeast University, China*); *Jundong Ye* (*PLA University of Science & Technology, China*); *De-Xin Qu* (*PLA University of Science and Technology, China*); *Rong Huang* (*University of Scince & Technology, China*);

42 Development of an Embedded Wafer Level Package Technology and Evaluation of Its Electrical Performance Using RF Switch IC
Se-Hoon Park (*Hanyang University, Korea*); *Jong-In Ryu* (*Korea Electronics Technology Institute, Korea*); *Jong Min Yook* (*Korea Electronics Technology Institute, Korea*); *Young-Ho Kim* (*Hanyang University, Korea*); *Duck-Kyun Choi* (*Hanyang University, Korea*);

43 70 GHz Tx and Rx LCP SoP Module for Point-to-point Millimetre Wave Applications
Young Chul Lee (*Mokpo National Maritime University (MMU), Korea*);

44 Study of the Electromagnetic Compatibility in Hospitals in Argentina and Spain
Claudio Muñoz (*Instituto Tecnológico de Buenos Aires (ITBA), Argentina*); *Roxana Saint-Nom* (*Instituto Tecnológico de Buenos Aires (ITBA), Argentina*); *Miguel Ángel Navarro* (*Universidad de Alcalá, Spain*); *Oscar Gutiérrez Blanco* (*Alcalá University, Spain*); *Francisco Saez De Adana* (*Alcala University, Spain*);

45 Photonic-assisted Measurement of Electromagnetic Coupling into a Generic Object
Dong-Joon Lee (*Korea Research Institute of Standards and Science, Korea*); *Chi-Hyun Cho* (*Korea Research Institute of Standards and Science, Korea*); *Jeong-Il Park* (*Korea Research Institute of Standards and Science, Korea*); *No-Weon Kang* (*Korea Research Institute of Standards and Science, South Korea*);

46 The Design and Implementation of an EMC Precompliance Board
F. R. L. Silva (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*); *L. R. Ribeiro* (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*); *L. P. Dias* (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*); *W. J. Santos* (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*); *C. E. Capovilla* (*Universidade Federal do ABC — UFABC, Brazil*); *Humberto Xavier De Araújo* (*Federal University of Sao Joao Del Rei — UFSJ, Brazil*);

47 Magnetoelectric Transducers
Roman Valer'evich Petrov (*Novgorod State University, Russia*); *Alexander Nikolaevich Soloviev* (*Novgorod State University, Russia*); *Ksenia Valerievna Lavrentieva* (*Novgorod State University, Russia*); *Ivan N. Solovjev* (*Novgorod State University, Russia*); *Vladimir M. Petrov* (*Novgorod State University, Russia*); *Mirza Imamovich Bichurin* (*Novgorod State University, Russia*);

48 Shielding Effectiveness of Plasma Coated Multilayered Shields
Pinar Deniz Tosun (*University of Surrey, UK*); *Sukru Ozen* (*Akdeniz University, Turkey*); *Selcuk Helhel* (*Akdeniz University, Turkey*);

49 Surge Test of High Power Radar Module Used in Military
Soon-Mi Hwang (*Korea Electronics Technology Institute (KETI), Korea*); *Chul-Hee Kim* (*Korea Electronics Technology Institute (KETI), Korea*); *Kwan-Hun Lee* (*Korea Electronics Technology Institute (KETI), Korea*);

50 A Novel Approach to Impulsive Noise Analysis in PLC In-door Systems
Monica V. Avalos (*Instituto Politécnico Nacional, Mexico*); *Jose Hector Caltenco-Franca* (*National Polytechnique Institute, Mexico*); *Roberto Linares-Miranda* (*National Polytechnique Institute, Mexico*); *Jose Alfredo Tirado-Mendez* (*Research and Advanced Studies Center of National Polytechnic Institute, Mexico*);

51 Multifunctional Reconfigurable Antenna Systems and Technologies
Bedri A. Cetiner (*Utah State University, USA*); *Hema Swaroop Mopidevi* (*Utah State University, USA*); *Zhouyuan Li* (*Utah State University, USA*); *Yasin Damgaci* (*Utah State University, USA*);

52 Metamaterial Inspired Microstrip Patch
Surabhi Dwivedi (*SVNIT, Sardar Vallabhbhai National Institute of Technology, India*); *Vivekanand Mishra* (*SVNIT, Sardar Vallabhbhai National Institute of Technology, India*); *Y. P. Kosta* (*Charotar University of Science & Technology (CHARUSAT), India*);

53 Experimental Graduate Projects on Electromagnetism in Physics Courses
J. Iñiguez (*Universidad de Salamanca, Spain*); *V. Raposo* (*Universidad de Salamanca, Spain*); *A. G. Flores* (*Universidad de Salamanca, Spain*); *M. Zazo* (*Universidad de Salamanca, Spain*); *Pablo Hernandez-Gomez* (*Universidad de Valladolid, Spain*);

54 Error Vector Magnitude Measurement for Performance Analysis of Pass Band-stop Band Electromagnetic Band Gap Filter with Metamaterial
Jamal M. Rasool (*University of North Texas, USA*);

55 RF Heating of Conducting Film/Silicon Substrate Structure: Heat Explosion Theory Approach
Misha Sinder (*Ben Gurion University, Israel*); *Joshua Pelleg* (*Ben Gurion University, Israel*); *Victor Meerovich* (*Ben Gurion University of the Negev, Israel*); *Vladimir Sokolovsky* (*Ben Gurion University of the Negev, Israel*);

56 Coplanar Waveguide-microstrip Transition with Embedded DC Block
Poonam Goel (*Indian Institute of Science, India*); *A. Agarwal* (*Trinity College, Ireland*);

57 Controllable Ultrashort Optical Pulse Shaper for Flattop Rectangular Waveform Generation
Xiaowei Dong (*North China University of Technology, China*); *Wenkai Liu* (*North China University of Technology, China*); *Wei Quan* (*North China University of Technology, China*); *Yuan Xie* (*North China University of Technology, China*);

58 Bioimpedance Dynamic Measurement for the Haemodialysis Treatment
Adnen Rajhi (*Université de Carthage, Tunisie*); *Amina Kahloul* (*Hôpital Menzel Bourguiba, Ministère de la Santé Publique, Tunisie*);

59 Magnetic Nanoparticles for Melanoma Theragnosis
Hayriye Altural (*Kirklareli University, Turkey*);

60 Rhabdomyosarcoma Cell Line is Impaired by Static and Alternated Magnetic Fields
Christian Leo (*University of Turin, Italy*); *Giampiero Gervino* (*University of Turin, Italy*); *Natalia Ptitsyna* (*University of Turin, Italy*); *Silvano Gallian* (*University of Turin, Italy*); *Antonio Ponzetto* (*University of Turin, Italy*);

Session 3P1
2_FocusSession.SC2: Super Enhancement of Light with Plasmonic Nano-structures 2

Wednesday PM, August 14, 2013

Room A

Organized by Javier Aizpurua, Peter Nordlander

Chaired by Javier Aizpurua, Peter Nordlander

13:10 keynote Control of Field Confinement and Quality Factor in Plasmonic Nanocavities
Stefan A. Maier (*Imperial College London, UK*); *Yannick Sonnefraud* (*Imperial College London, UK*);

13:40 invited Plasmonics for Single-molecule Photochemistry and Structure-specific Nanoscopy
Zee Hwan Kim (*Korea University, Kore*);

14:00 invited Plasmon Waveguiding in Nanowires and Nanoparticle Chains
Stephan Link (*Rice University, USA*);

14:20 invited Active Control of THz Field Enhancements in Semiconductor Plasmonic Resonators
Jaime Gomez-Rivas (*FOM-Institute for Atomic and Molecular Physics, Netherlands*);

14:40 Quantum Emitter Coupled to a Plasmonic Nanoantenna
invited
Dana-Codruta Marinica (*Institut des Sciences Moleculaires d'Orsay, Universite Paris-Sud, France*); *Javier Aizpurua* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*); *Andrey G. Borisov* (*Université Paris-Sud, France*);

15:00 Super-resolution Imaging of Plasmonic Nanostructures
invited
Katherine A. (Kallie) Willets (*University of Texas at Austin, USA*);

15:20 **Coffee Break**

15:40 Approaching the Strong Coupling Limit in Single Plasmonic Nanoparticles Interacting with J-aggregates
invited
G. Zengin (*Chalmers University of Technology, Sweden*); *Goran Johansson* (*Chalmers University of Technology, Sweden*); *P. Johansson* (*Chalmers University of Technology, Sweden*); *Mikael Kall* (*Chalmers University of Technology, Sweden*); *Timur Shegai* (*Chalmers University of Technology, Sweden*);

16:00 Kerr Effect Enhancement in Ni Antidot Hexagonal Nanostructures
Emil Melander (*Uppsala University, Sweden*); *Erik Ostman* (*Uppsala University, Sweden*); *Evangelos Th. Papaioannou* (*TU Kaiserslautern, Germany*); *Vassilios Kapaklis* (*Uppsala University, Sweden*); *Bjorgvin Hjorvarsson* (*Uppsala University, Sweden*);

16:15 An Analytical Model for Rod-type Nano-sized Optical Antennas
Liang Peng (*Hangdian University, China*); *Niels Asger Mortensen* (*Technical University of Denmark, Denmark*);

16:30 Electron-beam Interaction with Plasmon Fields: A New Enhanced Electron Spectral Microscopy
Ana Asenjo-Garcia (*CSIC, Spain*); *F. Javier Garcia De Abajo* (*Instituto de Optica — CSIC, Spain*);

16:45 Size-effects on Optical Properties of Asymmetric Plasmonic Nanodisk Trimer
M. Ahmadsimab (*K. N. Toosi University of Technology, Iran*); *Tavakol Pakizeh* (*K. N. Toosi University of Technology, Iran*);

17:00 Plasmonic Nano-structures Enhance the Intensity of Femtosecond Light Pulses Causing Highly Localized Nano-deformations
invited
Ventsislav K. Valev (*University of Cambridge, UK*); *Victor V. Moshchalkov* (*Superconductivity and Magnetism & Pulsed Fields Group, Belgium*); *Thierry Verbiest* (*Superconductivity and Magnetism & Pulsed Fields Group, Belgium*); *Jeremy J. Baumberg* (*University of Cambridge, UK*);

Session 3P2
1_FocusSession.SC1: Multi-scale & Multi-physics Computational Electromagnetics

Wednesday PM, August 14, 2013

Room B

Organized by Weng Cho Chew, Tie Jun Cui

Chaired by Weng Cho Chew, Tie Jun Cui

13:20 Negative Optical Pressure in Plasmonic Cavities
invited
Hui Liu (*Nanjing University, China*); *Che Ting Chan* (*The Hong Kong University of Science and Technology, China*); *Shi-Ning Zhu* (*Nanjing University, China*);

13:40 Realization of Multidirectional Microwave Cloaks Based on Thin Dielectric Coatings
invited
Yaroslav Urzhumov (*Duke University, USA*); *Nathan Landy* (*Duke University, USA*); *Tom Driscoll* (*Duke Univ, USA*); *David R. Smith* (*Duke University, USA*);

14:00 The Multiple Scale Expansion Method for Nanophotonics
invited
Didier Felbacq (*Université de Montpellier 2, France*); *Brahim Guizal* (*Université de Montpellier 2, France*);

14:20 Surface Integral Equation Solvers in Nanophotonics
invited
Jose Manuel Taboada (*University of Extremadura, Spain*); *Fernando Obelleiro* (*Universidade of Vigo, Spain*); *D. M. Solis* (*University of Vigo, Spain*); *Jose Luis Rodriguez* (*Universidade de Vigo, Spain*); *Luis Landesa* (*Universidad de Extremadura, Spain*);

14:40 High Accurate Simulations to the Interaction between Electromagnetic Waves and Particles in Complicated Environment
invited
Jianwei You (*Southeast University, China*); *Tie Jun Cui* (*Southeast University, China*);

15:00 hieLPS: A Hierarchical Loop Basis Poisson Solver for
invited Electrostatic Problems
Zu-Hui Ma (*The University of Hong Kong, China*); *Weng Cho Chew* (*University of Illinois, USA*); *Li-jun Jiang* (*University of Hong Kong, China*);

15:20 **Coffee Break**

15:40 Multiphysics and Electromagnetics
keynote
Weng Cho Chew (*University of Illinois, USA*); *L. J. Jiang* (*University of of Hong Kong, China*); *Wallace C. H. Choy* (*The University of Hong Kong, China*); *Jun Z. Huang* (*The University of Hong Kong, China*); *Wei E. I. Sha* (*The University of Hong Kong, China*); *Phillip R. Atkins* (*University of Illinois, USA*); *Yumao Wu* (*The University of Hong Kong, China*); *Yongpin Chen* (*University of Electronic Science and Technology of China, China*);

16:10 Model Order Reduction Methods for Efficient Quan-
invited tum Transport Simulation of Nanoelectronic Devices
Jun Z. Huang (*The University of Hong Kong, China*); *Weng Cho Chew* (*University of Illinois, USA*); *Jie Peng* (*The University of Hong Kong, China*); *Chi-Yung Yam* (*The University of Hong Kong, China*); *Li-jun Jiang* (*University of Hong Kong, China*); *Guan-Hua Chen* (*The University of Hong Kong, China*);

16:30 Nonlinear and Quantum Optics with the Spectral El-
invited ement Method
Ma Luo (*Duke University, USA*); *Qing Huo Liu* (*Duke University, USA*);

16:50 High Efficiency Polymer Solar Cells Achieved by Us-
invited ing Plasmonic Electrically Functionalized Electron Transport Layer
Wallace C. H. Choy (*The University of Hong Kong, China*);

17:10 Grounding Grid Safety Evaluation under Lightning Current
Farhan Hanaffi (*University of Strathclyde, UK*); *Wah Hoon Siew* (*University of Strathclyde, UK*); *Igor Timoshkin* (*University of Strathclyde, UK*);

Session 3P3a
3_FocusSession.SC3: Super-resolution in Bio-imaging and Sensing

Wednesday PM, August 14, 2013

Room C

Organized by Hyuck Choo, Stefan W. Hell

Chaired by Hyuck Choo, Stefan W. Hell

12:30 Template-stripped Metallic Pyramids for Repro-
invited ducible Near-field Optical Microscopy
Sang-Hyun Oh (*University of Minnesota, USA*);

12:50 STED Nanoscopy Combined with Optical Tweezers
invited Reveals Protein Dynamics on Densely Covered DNA
Iddo Heller (*VU University Amsterdam, The Netherlands*); *Gerrit Sitters* (*VU University Amsterdam, The Netherlands*); *Onno D. Broekmans* (*VU University Amsterdam, The Netherlands*); *Stefan W. Hell* (*Max Planck Institute for Biophysical Chemistry, Germany*); *Erwin J. G. Peterman* (*VU University Amsterdam, The Netherlands*); *Gijs J. L. Wuite* (*VU University Amsterdam, The Netherlands*);

13:10 Nanoscopy with Focused Light
keynote
Stefan W. Hell (*Max Planck Institute for Biophysical Chemistry, Germany*);

13:40 Imaging Biological Processes with Quantitative High
keynote Spatiotemporal Resolution Microscopy
Melike Lakadamyali (*ICFO — Institut de Ciències Fotòniques, Spain*);

14:10 Dissecting Plasma Membrane Organization with
invited STED(-FCS) Fluorescence Microscopy
Christian Eggeling (*University of Oxford, UK*);

14:30 Diffraction-unlimited Optical Lithography in Three
invited Dimensions
Joachim Fischer (*Karlsruhe Institute of Technology (KIT), Germany*); *Martin Wegener* (*Karlsruhe Institute of Technology (KIT), Germany*);

14:50 Characterization of Spatial Organization of Proteins
invited in Metastasizing Cells and in Platelets — Openings for Future Diagnostic Applications
Jerker Widengren (*Royal Institute of Technology (KTH), Sweden*);

15:10 Single Cell Analysis by Super-resolution Barcoding
invited
Eric Lubeck (*Program in Biochemistry and Molecular Biophysics, USA*); *Long Cai* (*California Institute of Technology, USA*);

15:20 **Coffee Break**

Session 3P3b
2_FocusSession.SC2: Plasmonics in the Quantum Regime 2

Wednesday PM, August 14, 2013

Room C

Organized by Yongmin Liu, Stefan A. Maier

Chaired by Yongmin Liu, Stefan A. Maier

15:40 invited Efficient Coupling of Semiconductor Quantum Dots to Plasmon Nanostructures: Light-matter Interaction Beyond the Dipole Approximation
Peter Lodahl (*University of Copenhagen, Denmark*);

16:00 Spontaneous Emission Enhancement at Finite-length Metal Nanowires
Konstantin Filonenko (*Syddansk Universitet, Denmark*); *Morten Willatzen* (*University of Southern Denmark, Denmark*); *Vladimir G. Bordo* (*University of Southern Denmark, Denmark*);

16:15 invited Theoretical Modelling and Experimental Study of Quantum Interactions between Molecules and Plasmonic Meta-molecules
Nicolae C. Panoiu (*University College London, United Kingdom*); *Edward J. Osley* (*University College London, United Kingdom*); *Paul A. Warburton* (*University College London, United Kingdom*);

16:35 invited Electron Energy-loss Spectroscopy of Ag Nanoparticles: Evidence of Nonlocal Blueshift
N. Asger Mortensen (*Technical University of Denmark, Denmark*);

16:55 invited Real-time Observation of Ultrafast Rabi Oscillations between Excitons and Plasmons in J-aggregate/Metal Hybrid Nanostructures
Christoph Lienau (*Carl von Ossietzky Univ Oldenburg, Germany*);

17:15 invited Engineering Vacuum and Thermal Fluctuations Using Hyperbolic Metamaterials
Zubin Jacob (*University of Alberta, Canada*);

17:35 invited Quantized Optical Transparency of Plasmonic Nanoarrays due to Resistive Coupling of Localised Plasmons
Alexander N. Grigorenko (*University of Manchester, UK*);

17:55 invited Coherent Interaction of Plasmonic Structures with Single Emitters: From Super Absorption to Cloaking
Xuewen Chen (*Friedrich-Alexander University Erlangen-Nürnberg, Germany*);

Session 3P4a
4_FocusSession.SC4&3: Radio over Fiber Systems and Components

Wednesday PM, August 14, 2013

Room D

Organized by John Xiupu Zhang

Chaired by John Xiupu Zhang

13:00 invited Intelligent Radio-over-fiber System Based on MWP for the Broadband Access and Ubiquitous Sensing
Kun Xu (*Beijing University of Posts and Telecommunications, China*);

13:20 invited Fiber-wireless Links Supporting High-capacity W-band Channels
J. J. Vegas Olmos (*Technical University of Denmark, Denmark*); *Idelfonso Tafur Monroy* (*Technical University of Denmark, Denmark*);

13:40 invited Wired and Wireless Seamless MIMO Transmissions in Millimeter-wave Radio-over-Fiber Systems
Yuki Yoshida (*Osaka University, Japan*);

14:00 invited Carrier Phase and Amplitude Manipulation for Linearization and Dispersion Compensation in Radio-over-fiber Systems Using Mach-Zehnder Modulator
Shangyuan Li (*Tsinghua University, China*); *Xiaoping Zheng* (*Tsinghua University, China*); *Fan Wei* (*Tsinghua University, China*); *Hanyi Zhang* (*Tsinghua University, China*); *Bingkun Zhou* (*Tsinghua University, China*);

14:20 invited Digitized RF Transport for Fiber-wireless in a World of Digital Optical Networks
Christina Lim (*The University of Melbourne, Australia*); *Yizhuo Yang* (*The University of Melbourne, Australia*); *Ampalavanapillai Nirmalathas* (*University of Melbourne, Australia*);

14:40 invited Linearization Techniques for Broadband Radio over Fiber Transmission
John Xiupu Zhang (*Concordia University, Canada*); *Bouchaib Hraimel* (*Concordia University, Canada*); *Ran Zhu* (*Concordia University, Canada*); *Dongya Shen* (*Yunnan University, China*); *Taijun Liu* (*Ningbo University, China*);

15:00 A Study on OFDM Millimeter-wave Radio over Fiber System
Tam Hoang Thi (*Waseda University, Japan*); *Mitsuji Matsumoto* (*Waseda University, Japan*);

15:20 **Coffee Break**

Session 3P4b
SC2: Plasmonic Nanomaterials and Nanostrcutures for Photovoltaics and Optoelectronics in Energy 1

Wednesday PM, August 14, 2013

Room D

Organized by Wallace C. H. Choy, Jianfang Wang

Chaired by Wallace C. H. Choy, Jianfang Wang

15:40 Plasmonic Scattering Studies of Photo-chemically Generated Metallic Nanoparticles on Optical Fiber Double-tapers through Evanescent Field Interference
Aaron Ho-Pui Ho (*The Chinese University of Hong Kong, China*); *Jiajie Chen* (*Chinese University of Hong Kong, China*); *Zhiwen Kang* (*Chinese University of Hong Kong, China*); *Haixi Zhang* (*Chinese University of Hong Kong, China*); *Haifei Lu* (*The Chinese University of Hong Kong, China*); *Wallace C. H. Choy* (*University of Hong Kong, China*); *Nan-Kuang Chen* (*National United University, Taiwan*);

16:00 Organic Solar Cells with Efficiency of ∼9% Achieved by Using Multiple Plasmonic Nanostructures
Wallace C. H. Choy (*The University of Hong Kong, China*);

16:20 Modeling Coherent and Incoherent Light-trapping Elements in Solar Cells
Aimi Abass (*Ghent University, Belgium*); *Bjorn Maes* (*University of Mons, Belgium*);

16:40 Plasmon-enhanced Light Harvesting of Dye Molecules in Gratzel Solar Cells
Tao Chen (*The Chinese University of Hong Kong, China*);

17:00 A Comprehensive Simulation on Plasmonic and Nanostructured Solar Cells
Xiaofeng Li (*Soochow University, China*); *Nicholas P. Hylton* (*Imperial College London, UK*); *Vincenzo Giannini* (*Imperial College London, UK*); *Yaohui Zhan* (*Soochow University, China*); *Kan-Hua Lee* (*Imperial College London, UK*); *Ned J. Ekins-Daukes* (*Imperial College London, UK*); *Stefan A. Maier* (*Imperial College London, UK*);

17:20 Surface Texturing of High-power Flip-chip LEDs by Femtosecond Pulsed Laser-induced Periodic Structures
Yi-Hong Lin (*National Chung Cheng University, Taiwan*); *Yi-Hao Wang* (*National Chung Cheng University, Taiwan*); *Ping-Han Wu* (*Industrial Technology Research Institute, Taiwan, R.O.C.*); *Chung-Wei Cheng* (*Industrial Technology Research Institute, Taiwan, R.O.C.*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *Raymond Chien-Chao Tsiang* (*National Chung Cheng University, Taiwan*);

17:40 Conjugated Polymers in Nanopatterned Photovoltaic Cells for Efficient Light Harvesting
Eunkyoung Kim (*Yonsei University, South Korea*);

Session 3P5
SC2: Effective Medium Theories and Homogenization

Wednesday PM, August 14, 2013

Room E

Organized by Ying Wu

Chaired by Ying Wu, Yun Lai

13:00 Frequency-dependent Corrections in the Theory of Homogenization of Hyperbolic Metamaterials
Lyudmila Gumen (*Universidad Popular Autonoma del Estado de Puebla, Mexico*); *Edgar Reyes Ayona* (*Universidad Autonoma de Puebla, Mexico*); *Jesus Arriaga* (*Universidad Autonoma de Puebla, Mexico*); *Arkadii A. Krokhin* (*University of North Texas, USA*);

13:20 Effective Material Parameters of Hyperbolic Metamaterials with Hydrodynamic Nonlocal Response
Wei Yan (*Technical University of Denmark, Denmark*); *Martijn Wubs* (*Technical University of Denmark, Denmark*); *N. Asger Mortensen* (*Technical University of Denmark, Denmark*);

13:40 Retrieving Electromagnetic Properties of Anisotropic Magnetic Metamaterials: An Effective-medium Theory
Shiyang Liu (*Zhejiang Normal University, China*); *Zhifang Lin* (*Fudan University, China*); *Siu-Tat Chui* (*University of Delaware, USA*);

14:00 Effective-medium Properties of Meta-materials Studied by a Quasi-mode Method
Shulin Sun (*Fudan University, China*); *Lei Zhou* (*Fudan University, China*);

14:20 Photonic Band Engineering of Zero-refractive-index Materials
Zhi Hong Hang (*Soochow University, China*);

14:40 Dispersion Engineering through Mixing Formulas
Ari Henrik Sihvola (*Aalto University, Finland*); *Henrik Wallen* (*Aalto University School of Science and Technology, Finland*);

15:00 Equal-potential Approach to Realize the Homogenization of Metamaterials
Liang Peng (*Hangdian University, China*); *Niels Asger Mortensen* (*Technical University of Denmark, Denmark*);

15:20 **Coffee Break**

15:40 Effective Medium Obtained by Eigenmode Boundary Field Analysis
Yun Lai (*Soochow University, China*); *Y. Wu* (*King Abdullah University of Science and Technology, Saudi Arabia*); *P. Sheng* (*Hong Kong University of Science and Technology, China*); *Z. Q. Zhang* (*Hong Kong University of Science and Technology, China*);

16:00 Theory of the Photoelastic Effect and Effective Photoelastic Constants of 2-D Photonic Crystals
Zoya A. Pyatakova (*Gubkin Russian State University of Oil and Gas, Russia*);

16:20 Theoretical Design of a Two-dimensional Acoustic Metafluid with Anisotropic Effective Mass Density
Jesus Arriaga (*Universidad Autonoma de Puebla, Mexico*); *Lyudmila Gumen* (*Universidad Popular Autonoma del Estado de Puebla, Mexico*); *Arkadii A. Krokhin* (*University of North Texas, USA*);

16:40 Bubbly Water as a Dispersive Acoustic Metamaterial
Pi-Gang Luan (*National Central University, Taiwan*); *Kao-Der Chang* (*Industrial Technology Research Institute, Taiwan*);

17:00 Dark Acoustic Metamaterials
Jun Mei (*South China University of Technology, China*); *Guancong Ma* (*Hong Kong University of Science and Technology, China*); *Min Yang* (*Hong Kong University of Science and Technology, China*); *Zhiyu Yang* (*Hong Kong University of Science and Technology, China*); *Weijia Wen* (*The Hong Kong University of Science and Technology, China*); *Ping Sheng* (*Hong Kong University of Science and Technology, China*);

17:20 3D Numerical Simulations and Measurements of Effective Dielectric Properties of Oil-in-Water Emulsions
Jan Vrba, Jr. (*Czech Technical University in Prague, Czech Republic*);

Session 3P6
SC4: Active Antennas, MIMO and Beamforming Systems

Wednesday PM, August 14, 2013

Room F

Organized by Akram Alomainy, Julien Perruisseau-Carrier
Chaired by Akram Alomainy

13:00 Design of a Frequency and Null Switchable Microstrip Antenna
Ajit Yadav (*Loughborough University, United Kingdom*); *Chinthana J. Panagamuwa* (*Loughborough University, United Kingdom*); *Robert D. Seager* (*Loughborough University, UK*);

13:20 Robust Antenna Array Beamforming under Some Uncertain Environment
Ju-Hong Lee (*National Taiwan University, Taiwan*); *Wen-Chen Lo* (*National Taiwan University, Taiwan*);

13:40 Flexible 3-D Printed Substrates for Antenna Applications
S. S. Bukhari (*Loughborough University, UK*); *William Whittow* (*Loughborough University, UK*);

14:00 Estimation of Direction of Arrival Algorithms
Tuna Orul (*Institute of Occupational Health and Safety, Turkey*); *Erkan Afacan* (*Gazi University, Turkey*);

14:20 Using Subwavelength Diffraction Gratings to Design Open Microwave Cavities
Matthieu Dupre (*ESPCI ParisTech & CNRS, France*); *M. Fink* (*ESPCI ParisTech & CNRS, France*); *Geoffroy Lerosey* (*Universite Paris 7, France*);

14:40 A Study of SNR Degradation due to Impedance Mismatch in ESPAR Antennas
V. Daskalaki (*University of Piraeus, Greece*); *K. Maliatsos* (*University of Piraeus, Greece*); *Athanasios G. Kanatas* (*University of Piraeus, Greece*);

15:00 A Tunable Multiband Handset Antenna Operating at VHF and UHF Bands
Luyi Liu (*Antenova Ltd., UK*); *Jonathan M. Rigelsford* (*The University of Sheffield, UK*); *Richard Langley* (*University of Sheffield, UK*);

15:20 **Coffee Break**

15:40 Antenna Array with Meshed Elements for Beamforming Applications
Eric R. Escobar (*University of New Hampshire, USA*); *Nicholas J. Kirsch* (*University of New Hampshire, USA*); *R. Brough Turner* (*NetBlazr, Inc., USA*);

16:00 Compound Reconfiguration in Reflectarrays for Cognitive Radio Applications
Julien Perruisseau-Carrier (*CTTC, Spain*); *Eduardo Carrasco* (*Ecole Polytechnique Fédérale de Lausanne, Switzerland*);

16:20 Performance of Capacity Optimized Line-of-sight MIMO HAP-to-train Architectures
Emmanouel T. Michailidis (*University of Piraeus, Greece*); *Paraskevi N. Daskalaki* (*University of Piraeus, Greece*); *Athanasios G. Kanatas* (*University of Piraeus, Greece*);

16:40 Actively-matched Antennas for UHF Applications
Khalid Z. Rajab (*Queen Mary University of London, United Kingdom*); *Deepak Singh Nagarkoti* (*Queen Mary University of London, UK*); *Yifeng Fan* (*Queen Mary University of London, UK*); *Yang Hao* (*Queen Mary University of London, England*);

Session 3P7a
SC1: Intentional Electromagnetic Interference (IEMI) and EMC

Wednesday PM, August 14, 2013

Room G

Organized by Mats Backstrom, Rajeev Thottappillil

Chaired by Mats Backstrom, Rajeev Thottappillil

13:00 IEMI — A General Background and Military Experience
Mats Backstrom (*Royal Institute of Technology, Sweden*);

13:20 A Survey of Low Cost UWB Sources for Conducted IEMI
Lars Ole Fichte (*Helmut Schmidt University, University of Federal Armed Forces Hamburg, Germany*);

13:40 On the Feasibility of Low-power IEMI Attacks on Communication and Control Lines
Akiyoshi Tatematsu (*Central Research Institute of Electric Power Industry (CRIEPI), Japan*); *Marcos Rubinstein* (*University of Applied Sciences of Western Switzerland, Switzerland*); *Farhad Rachidi* (*Swiss Federal Institute of Technology Lausanne, Switzerland*); *Nicolas Mora* (*Swiss Federal Institute of Technology Lausanne, Switzerland*); *Sana Sliman* (*University of Applied Sciences Western Switzerland (HES-SO), Switzerland*);

14:00 IEMI and EMC Considerations for Large Systems — Smart Grid Aspects
Daniel Månsson (*Royal Institute of Technology (KTH), Sweden*);

14:20 Threat and Detection of High Power Microwaves
Michael Suhrke (*Fraunhofer INT, Germany*);

14:40 An Experimental Characterization of Substation Impulsive Noise for a RF Channel Model
Minh Au (*Ecole de Technologie Superieure, Canada*); *F. Gagnon* (*Ecole de Technologie Superieure, Canada*); *Basile L. Agba* (*Institut de Recherche d'Hydro-Québec, Canada*);

15:00 On the Spectral Domain Approach to Long-range Propagation along a Strip Conductor above a Finite Conducting Ground of High-frequency Disturbances Induced by an Arbitrary Dipole Source
Ben Oakes (*Royal Institute of Technology, Stockholm*);

15:20 **Coffee Break**

15:40 Wavelet Analysis of the First Pulse of Initial Breakdown Process in Lightning Discharges
Mona Riza Mohd Esa (*Uppsala University, Sweden*); *Mohd Riduan Ahmad* (*Uppsala University, Sweden*); *Vernon Cooray* (*Uppsala University, Sweden*);

Session 3P7b
SC4: THz Technologies and Applications

Wednesday PM, August 14, 2013

Room G

Organized by Xiaodong Chen, Jan Stake

Chaired by Xiaodong Chen, Jan Stake

16:00 Si-based Devices Technologies toward THz
Albert Chin (*National Chiao Tung University, Taiwan, R.O.C.*); *Hsuan-Ling Kao* (*Chang Gung University, Taiwan*);

16:20 Towards Developing a Dielectric Metrology for the Life Sciences
Robert S. Donnan (*Queen Mary University of London, UK*); *Alex McIntosh* (*Queen Mary University of London, UK*); *Bin Yang* (*Queen Mary University of London, UK*); *Oleksandr Sushko* (*Queen Mary University of London, UK*); *Junyi Qui* (*Queen Mary University of London, UK*);

16:40 Tri-reflector Compact Antenna Test Range for Millimetre/Sub-millimetre Wave and THz Antenna Measurement
Junsheng Yu (*Beijing University of Posts and Telecommunications, China*); *Xiaoming Liu* (*Beijing University of Posts and Telecommunications, China*); *Xiaodong Chen* (*Queen Mary University of London, UK*); *Yuan Yao* (*Beijing University of Posts and Telecommunications, China*); *Cheng Yang* (*Beijing University of Posts and Telecommunications, China*); *Zejiang Lu* (*Beijing University of Posts and Telecommunications, China*);

17:00 Steerable THz Emission by Optical Coherent Control
Heiko Fueser (*Physikalisch-Technische Bundesanstalt, Germany*); *Mark Bieler* (*Physikalisch-Technische Bundesanstalt, Germany*);

17:20 Characterization of THz Pulse Pumped by High Power Pulse Amplified by Double-clad Yb-doped Fiber Amplifier
Junichi Hamazaki (*National Institute of Information and Communications Technology, Japan*); *Norihiko Sekine* (*National Institute of Information and Communications Technology, Japan*); *Shingo Saito* (*National Institute for Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*);

Session 3P8a
SC4: Advanced Magnetic Materials for Microwave Applications

Wednesday PM, August 14, 2013
Room H
Organized by Chong Kim Ong, Yungui Ma
Chaired by Yungui Ma

13:20 invited Voltage Control of Magnetism in Multiferroic Heterostructures and Low-power Devices
Nian-Xiang Sun (*Northeastern University, USA*);

13:40 invited Topological Phenomena of Magnons in Ferromagnets
Shuichi Murakami (*Tokyo Institute of Technology, Japan*);

14:00 invited Microwave Properties of Ferromagnetic Thin Films — Layering and Magnetic Domain Effects
Jeffrey McCord (*University Kiel, Germany*);

14:20 invited Amorphous/Silicone Composites and Their Applications in Microwave Attenuation
Zheng-Wen Li (*National University of Singapore, Singapore*); *Zhihong Yang* (*National University of Singapore, Singapore*);

14:40 invited Microwave Application of the Magnetic Rare Earth Intermetallics with in-plane Anisotropy
Fashen Li (*Lanzhou University, China*); *Tao Wang* (*Lanzhou University, China*); *Liang Qiao* (*Lanzhou University, China*); *Jianqian Wei* (*Lanzhou University, China*);

15:00 X-ray Exposure and Thermal Annealing Effects on Nanocrystals of Y and Co Codoped CeO_2 Diluted Magnetic Oxides
Tai-Sing Wu (*National Tsing Hua University, Taiwan*); *Shih-Lin Chang* (*National Tsing Hua University, Taiwan, R.O.C.*); *Horng-Tay Jeng* (*National Tsing Hua University, Taiwan*); *Yunliang Soo* (*National Tsing Hua University, Taiwan*);

15:20 **Coffee Break**

Session 3P8b
New Materials for EM Shielding — Materials and Technology

Wednesday PM, August 14, 2013
Room H
Organized by Maciej Jaroszewski, Jan Ziaja
Chaired by Maciej Jaroszewski

15:40 Microwave and Terahertz Shielding Properties of PET-MWCNT Composites
Viktor Bovtun (*Institute of Physics ASCR, Czech Republic*); *Jan Petzelt* (*Institute of Physics ASCR, Czech Republic*); *Dmitry Nuzhnyy* (*Institute of Physics ASCR, Czech Republic*); *Martin Kempa* (*Institute of Physics ASCR, Czech Republic*);

16:00 Graphene/PMMA Sandwich Structures: Toward Electromagnetic Applications in Microwave Range
Polina Kuzhir (*Belarusian State University, Republic of Belarus*); *Konstantin Batrakov* (*Belarusian State University, Republic of Belarus*); *Alesia G. Paddubskaya* (*Belarusian State University, Republic of Belarus*); *Sophia Voronovich* (*Belarusian State University, Republic of Belarus*); *Sergey A. Maksimenko* (*Belarusian State University, Republic of Belarus*); *Tommi Kaplas* (*University of Eastern, Finland*); *Yuri Svirko* (*University of Eastern, Finland*);

16:20 Microwave Dielectric, Magnetic and Shielding Properties of Composites of Metal Nanoparticles and Epoxy Resin
Aleksandra Borisova (*NTUU "Kyiv Polytechnic Institute", Ukraine*); *Viktor Bovtun* (*Institute of Physics ASCR, Czech Republic*); *Aleksander Machulyansky* (*NTUU "Kyiv Polytechnic Institute", Ukraine*); *Martin Kempa* (*Institute of Physics ASCR, Czech Republic*); *Maxim Savinov* (*Institute of Physics ASCR, Czech Republic*); *Yuriy Yakymenko* (*NTUU "Kyiv Polytechnic Institute", Ukraine*);

16:40 The Influence of Magnetic Impurities on the Electromagnetic Absorption of the Foam Silicates in the Wide Frequency Range
Karen Oganisian (*Institute of Low Temperature and Structure Research, PAS, Poland*); *D. Hreniak* (*Institute of Low Temperature and Structure Research, PAS, Poland*); *M. Skrajnowska* (*Institute of Low Temperature and Structure Research, PAS, Poland*); *W. Strek* (*Institute of Low Temperature and Structure Research, PAS, Poland*);

17:00 Low Frequency Magnetic Field Shielding by Metamaterials
Mustafa Boyvat (*ETH Zurich, Switzerland*); *Christian Valentin Hafner* (*ETH Zurich, Switzerland*);

17:20 Impact of Technology on the Shielding Effectiveness of Barrier Materials Damping Frequency Selected Electromagnetic Fields
Jan Ziaja (*Wroclaw University of Technology, Poland*); *Grzegorz Szafran* (*Wroclaw University of Technology, Poland*); *Maciej Jaroszewski* (*Wrocław University of Technology, Poland*);

Session 3P9a
SC4: Giant Magneto-impedance and EM Safety

Wednesday PM, August 14, 2013

Room I

Organized by Arkady P. Zhukov

Chaired by Arkady P. Zhukov

13:20 Stable Pico-Tesla Resolution Multi Amorphous Wire GMI Sensor and Its Applications
Tsuyoshi Uchiyama (*Nagoya University, Japan*); *N. Hamada* (*Aichi Steel Corp., Japan*); *Kaneo Mohri* (*Nagoya Industrial Science Research Institute (NISRI), Japan*);

13:40 Development and Optimization of High Sensitive Magnetometer Based on Diagonal Magnetoimpedance Effect
Mihail Ipatov (*Universidad del Pais Vasco, Spain*); *Valentina Zhukova* (*Universidad del Pais Vasco, Spain*); *A. Zhukov* (*University of Oviedo, Spain*); *J. Gonzalez* (*Universidad del Pais Vasco, Spain*);

14:00 EM-safety: Low Frequency Magnetic Field Exposure in Vehicles with Electrical Powertrains
Alastair R. Ruddle (*MIRA Limited, UK*); *Lester Low* (*MIRA Limited, UK*); *Andréa Vassilev* (*CEA-Leti, France*);

14:20 Magneto-optical Investigations of Co- and Fe-rich Composite Glass Covered Microwires
Alexander Chizhik (*Universidad del Pais Vasco, Spain*); *Arkady P. Zhukov* (*Universidad del Pais Vasco, Spain*); *Julian Gonzalez* (*Universidad del Pais Vasco, Spain*);

14:40 Ferromagnetic Microwires Enabled Multifunctional Polymer Meta-composites
Faxiang Qin (*National Institute for Materials Science, Japan*); *Hua-Xin Peng* (*University of Bristol, UK*); *Jie Tang* (*National Institute for Materials Science, Japan*);

15:00 Optimization of Giant Magnetoimpedance Effect in Thin Composite Microwires
Arkady P. Zhukov (*Universidad del Pais Vasco, Spain*); *Mihail Ipatov* (*Universidad del Pais Vasco, Spain*); *V. Zhukova* (*Universidad del Pais Vasco, Spain*);

15:20 **Coffee Break**

Session 3P9b
SC1: Advanced Techniques in Nanoelectromagnetics Applications

Wednesday PM, August 14, 2013

Room I

Organized by Taner Sengor

Chaired by Taner Sengor

15:40 The State Space Model for Atomic Interactions
Taner Sengor (*Yildiz Technical University, Turkey*);

16:00 New Directions in Plasmonics: SERS and Nanoparticle Superlattice Crystals
George C. Schatz (*Northwestern University, USA*);

16:20 Mapping Structural and Plasmonic Properties of Gold Nanoparticles
Cecilia Noguez (*Universidad Nacional Autonoma de Mexico, Mexico*);

16:40 Simulation of Plasmon Probing with Electrons
Ulrich Hohenester (*Karl-Franzens-Universität Graz, Austria*);

17:00 Designed Surface Waves at an Interface of Plasmonic Nanolayered Metamaterial and Isotropic Dielectric
Slobodan M. Vukovic (*University of Belgrade, Serbia*); *Carlos J. Zapata-Rodriguez* (*University of Valencia, Spain*); *J. J. Miret* (*University of Alicante, Spain*); *Zoran Jaksic* (*University of Belgrade, Serbia*);

Session 3P_K
Poster Session 6

Wednesday PM, August 14, 2013
14:00 PM - 17:00 PM
Room P

1 LIPSS Formation on Copper Thin Films Induced by UV Picosecond Laser Pulse
Thi Trang Dai Huynh (*CNRS/Université d'Orléans, France*); *Agnès Petit* (*CNRS/Université d'Orléans, France*); *Nadjib Semmar* (*CNRS/Université d'Orléans, France*);

2 High Quality Porous Silicon Multilayer Structures for Infra-red Applications
Zorayda Lazcano Ortiz (*Universidad Autónoma de Puebla, Mexico*); *Jesus Arriaga* (*Universidad Autonoma de Puebla, Mexico*);

3 A Metal-dielectric Composited Film Applied to Enhance the Fluorescence Imaging
Taikei Suyama (*Akashi National College of Technology, Japan*); *Xiaowei Ji* (*Kumamoto University, Japan*); *Yaoju Zhang* (*Wenzhou University, China*);

4 Resonant State Expansion Applied to Two-dimensional Open Optical Systems
Mark B. Doost (*Cardiff University, United Kingdom*); *Wolfgang Langbein* (*Cardiff University, United Kingdom*); *Egor A. Muljarov* (*Cardiff University, United Kingdom*);

5 Background Atomic Mercury Detection Using Differential Absorption Lidar System
Liang Mei (*Zhejiang University, China*); *Guangyu Zhao* (*South China Normal University, China*); *Sune Svanberg* (*Lund University, Sweden*);

6 Gas Detection in Wood and Porous Ceramics Using Gas in Scattering Media Absorption Spectroscopy
Liang Mei (*Zhejiang University, China*); *Tom Ghenne* (*Lund University, Sweden*); *Patrik Lund* (*Lund University, Sweden*); *Jiandong Hu* (*Henan Agricultural University, China*); *Sune Svanberg* (*Lund University, Sweden*); *Gabriel Somesfalean* (*Lund University, Sweden*);

7 An Eigenvector Expansion Method for Localized Plasmon Modes: Application to Extinction and Electron Energy Loss Spectra of Isolated and Coupled Metallic Nanoparticles
Stéphane-Olivier Guillaume (*University of Namur, Belgium*); *F. Javier Garcia De Abajo* (*Instituto de Optica — CSIC, Spain*); *Luc Henrard* (*University of Namur, Belgium*);

8 A New Homogenization Technique for Unfitted Finite Element Electrostatic Analysis
Takeshi Mifune (*Kyoto University, Japan*);

9 3D Numerical Modeling of Propagation of Electromagnetic Pulse through Subwavelength Gratings
Ivan A. Goryachev (*Keldysh Institute of Applied Mathematics, Russia*); *Vadim D. Levchenko* (*Keldysh Institute of Applied Mathematics, Russia*); *Andrey V. Zakirov* (*Moscow Institute of Physics and Technology (SU), Russia*);

10 Generation of Difference-frequency Radiation by Spatially Limited Few-cycle Laser Pulse in Thin Crystal of GaAs
Arsen A. Hakhoumian (*Yerevan State University, Armenia*); *Radik M. Martirosyan* (*Yerevan State University, Armenia*); *Gevorg Davit Hovhannisyan* (*Yerevan State University, Armenia*);

11 Numerical Method to Study Three-dimensional Metamaterial Photonic Crystals
Takamichi Terao (*Gifu University, Japan*);

12 Triple Band Planar Monopole Antenna for MIMO Application
Hashimu Uledi Iddi (*Universiti Teknologi Malaysia, Malaysia*); *Muhammad Ramlee Kamarudin* (*Universiti Teknologi Malaysia, Malaysia*); *Tharek Bin Abdul Rahman* (*University Technology Malaysia (UTM), Malaysia*); *Amuda Yusuf Abdulrahman* (*University Technology Malaysia (UTM), Malaysia*); *Raimi Dewan* (*Universiti Teknologi Malaysia, Malaysia*); *Alyaa Syaza Azini* (*Universiti Teknologi Malaysia, Malaysia*);

13 A Novel Wideband and Dual-polarized Cross-antenna for Satellite Communications
Haiyang Zhang (*LUNAM Université, Université de Nantes, France*); *Yann Mahe* (*Polytech'Nantes Nantes, France*); *Tchanguiz Razban-Haghighi* (*LUNAM, IETR UMR 6164, France*);

14 Novel Design of Miniaturized Triple Band Square Microstrip Patch Antenna with F Slot for Fixed Service Satellite and Microwave C Band Applications
Faria Jaheen (*American International University, Bangladesh*); *Abdullah Al Noman Ovi* (*Bangladesh University of Engineering & Technology, Bangladesh*);

15 Highly Compact Broadband LTCC-based Butler Matrix for X-band Applications
Dongsu Kim (*Korea Electronics Technology Institute, South Korea*); *Jongkyun Kim* (*Korea Electronics Technology Institute, South Korea*); *Jong-In Ryu* (*Korea Electronics Technology Institute, Korea*); *Jong Min Yook* (*Korea Electronics Technology Institute, Korea*); *Youngcheol Park* (*Hankuk University of Foreign Studies, South Korea*); *Jun-Chul Kim* (*Korea Elect Technol Inst, South Korea*);

16 Invariant Embedding Method Modification for Calculation "Woodpile" Photonic Crystal
Valery L. Kuznetsov (*Moscow State Technical University of Civil Aviation (MSTUCA), Russia*); *Anton S. Rudkovskiy* (*Moscow State Technical University of Civil Aviation (MSTUCA), Russia*);

17 A Homogeneous Magnetostatic Field Exposure System for Presowing Magnetic Treatment of Seeds
Marco A. Azpurua (*Instituto de Ingeniería, Venezuela*); *Y. Sanchez* (*Instituto de Ingeniería, Venezuela*); *Eduardo Javier Paez* (*Instituto de Ingenieria, Venezuela*);

18 Electromagnetic Wave Induced Force and Stress on Metallic Thin Films
Shubo Wang (*The Hong Kong University of Science and Technology, China*); *Jack Ng* (*The Hong Kong University of Science and Technology, China*); *Hui Liu* (*Nanjing University, China*); *Zhi Hong Hang* (*Soochow University, China*); *Z. Marcet* (*The Hong Kong University of Science and Technology, China*); *H. B. Chan* (*Soochow University, China*); *Che Ting Chan* (*The Hong Kong University of Science and Technology, China*);

19 FDTD Based EM Modeling and Analysis for Microwave Imaging of Biological Tissues
Elizabeth Rufus (*Middle East College, Sultanate of Oman*); *Zachariah C. Alex* (*Vellore Institute of Technology University, India*);

20 Preliminary Study on Phase-contrast Terahertz Computed Tomography Using Mach-Zehnder Interferometer with Continuous Wave Source
Masayuki Suga (*Yamagata University, Japan*); *Yoshiaki Sasaki* (*RIKEN, Japan*); *Takeshi Sasahara* (*Yamagata University, Japan*); *Tetsuya Yuasa* (*Yamagata University, Japan*); *Chiko Otani* (*RIKEN, Japan*);

21 Design of Waveguide Structure in Terahertz Quantum Cascade Lasers for Higher Operation Temperature
Norihiko Sekine (*National Institute of Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*);

22 Fractal Zone Plates for Terahertz Focusing and Imaging
Walter D. Furlan (*Universitat de València, Spain*); *V. Ferrando* (*Universitat de València, Spain*); *Arnau Calatayud* (*Universidad Politècnica de València, Spain*); *Juan A. Monsoriu* (*Universidad Politècnica de València, Spain*);

23 A Terahertz Source with High Frequency Accuracy Using a Mach-Zehnder-modulator-based Flat Comb Generator for High Resolution Spectroscopy
Isao Morohashi (*National Institute of Information and Communications Technology, Japan*); *Yoshihisa Irimajiri* (*National Institute of Information and Communications Technology, Japan*); *Takahide Sakamoto* (*National Institute of Information and Communications Technology (NICT), Japan*); *Norihiko Sekine* (*National Institute of Information and Communications Technology, Japan*); *Tetsuya Kawanishi* (*National Institute of Information and Communications Technology, Japan*); *Motoaki Yasui* (*National Institute of Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*);

24 Design of a Substrate Lens for a Terahertz Coplanar Stripline Dipole Antenna
Truong Khang Nguyen (*Ajou University, Korea*); *Ikmo Park* (*Ajou University, Korea*);

25 Harmonic and Intermodulation Performance of a Radio-frequency Plasma Capacitor
Muhammad Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals, Saudi Arabia*);

26 Propagation of TE Waves in a Double-layer Nonlinear Cylindrical Waveguide
Evgenii Yu. Smolkin (*Penza State University, Russia*); *Dmitry V. Valovik* (*Penza State University, Russia*);

27 TE Wave Propagation in a Inhomogeneous Nonlinear Plane Layer
Ekaterina A. Marennikova (*Penza State University, Russia*); *Dmitry V. Valovik* (*Penza State University, Russia*);

28 Simulation of the Ionospheric Plasma Disturbances Stimulated by the Powerful HF Radio Emission from the SURA Heating Facility
A. S. Belov (*University of Nizhny Novgorod, Russia*); *Alexander V. Kudrin* (*University of Nizhny Novgorod, Russia*); *L. E. Kurina* (*University of Nizhny Novgorod, Russia*);

29 Study of the Dispersive Properties of Three-dimensional Magnetized Plasma Photonic Crystals with Diamond Lattices
Hai Feng Zhang (*Nanjing University of Aeronautics and Astronautics, China*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics, China*); *Hai-Ming Li* (*Nanjing University of Aeronautics and Astronautics, China*); *Bing-Xiang Li* (*Nanjing University of Aeronautics and Astronautics, China*);

30 Frequency Multiplier Based on Nonlinear Defective Photonic Crystal
Yi Dai (*Nanjing University of Aeronautics and Astronautics, China*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics, China*); *Xiang-Kun Kong* (*Nanjing University of Aeronautics and Astronautics, China*); *Hai Feng Zhang* (*Nanjing University of Aeronautics and Astronautics, China*); *Hui-Chao Zhao* (*Nanjing University of Aeronautics and Astronautics, China*); *Chen Chen* (*Nanjing University of Aeronautics and Astronautics, China*);

31 Collapse of Nonlinear Dust Sound Pulses in Dusty Plasma Waveguides
M. E. Bustos De La Rosa (*Autonomous University of State Morelos, Mexico*); *Volodymyr V. Grimalsky* (*Autonomous University of State Morelos (UAEM), Mexico*); *Svetlana V. Koshevaya* (*Autonomous University of State Morelos (UAEM), Mexico*); *Anatoliy N. Kotsarenko* (*UNAM, Mexico*);

32 Effects of Plasma Formation on Reflection of Laser Light in Ablation of Metals in Air
Olena Benavides (*Universidad Autonoma del Carmen, Mexico*); *L. De la Cruz May* (*Universidad Autonoma del Carmen, Mexico*); *A. Flores Gil* (*Universidad Autonoma del Carmen, Mexico*);

33 Reflection of Nanosecond Nd-YAG Laser Pulses in Ablation of Metals in Air and in Vacuum: A Comparative Study
Olena Benavides (*Universidad Autonoma del Carmen, Mexico*); *L. De la Cruz May* (*Universidad Autonoma del Carmen, Mexico*); *A. Flores Gil* (*Universidad Autonoma del Carmen, Mexico*);

34 On the Interaction of Electromagnetic Beams and Space-charge Fields in Laser-plasma Systems
A. Bonatto (*Instituto de Fisica UFRGS, Brazil*); *R. Pakter* (*Instituto de Fisica UFRGS, Brazil*); *C. Bonatto* (*Instituto de Fisica UFRGS, Brazil*); *Felipe Barbedo Rizzato* (*Universidade Federal do Rio Grande do Sul, Brazil*); *R. P. Nunes* (*UFRGS, Brazil*);

35 Effects of Magnetic Field on Low-power Microwave Micro-plasma Excitation
Huan Zhang (*East China Normal University, China*); *Ning Ma* (*East China Normal University, China*); *Bin Liao* (*East China Normal University, China*);

36 Analysis of Fractures Detectability by Borehole Radar: A Numerical Study
Sixin Liu (*Jilin University, China*); *Jiaxin Yu* (*Jilin University, China*);

37 Application of Time Domain Electromagnetic Method to Detect Shale Gas in Andaman Island, India
Ramanujam Nainar (*Pondicherry University, India*); *A. Vignesh* (*Pondicherry University, India*); *A. Janarthana Boobalan* (*Pondicherry University, India*);

38 The Potential of Time-domain Electromagnetic Sounding to Infer the Transpression and Transtension along the Strike-slip Fault in South Andaman — India
Ramanujam Nainar (*Pondicherry University, India*); *A. Vignesh* (*Pondicherry University, India*); *P. Prasad* (*Pondicherry University, India*);

39 Volume Scattering Influence on MARSIS and SHARAD Data Inversion
Marco Restano (*University of Rome "Sapienza", Italy*); *Giovanni Picardi* (*University of Rome "La Sapienza", Italy*); *Roberto Seu* (*University of Rome "La Sapienza", Italy*);

40 Electromagnetic Reconstruction of Multi-layered Media Applied to Pavement Profiling
Salvatore Caorsi (*University di Pavia, Italy*); *Mattia Stasolla* (*University of Pavia, Italy*);

41 Electromagnetic Susceptibility Analysis of Printed Circuits Board (PCB) and Their Impact to IEC 61000-4-3
Roberto Linares-Miranda (*National Polytechnique Institute, Mexico*); *J. H. Caltenco Franca* (*National Polytechnique Institute, Mexico*); *Raul Peña Rivero* (*National Polytechnique Institute, Mexico*);

42 Thin-layer Carbon Coating on Nonwoven Polypropylene Obtained by Low-temperature Glow Discharge Plasma
Janina Pospieszna (*Wrocław University of Technology, Poland*); *Maciej Jaroszewski* (*Wrocław University of Technology, Poland*); *Artur Henrykowski* (*Wroclaw University of Technology, Poland*);

43 3-phase VSC Modifications for Symmetrical and Asymmetrical Operation
Seyed Mahdi Fazeli (*University of Malaya, Malaysia*); *Hew Wooi Ping* (*University of Malaya, Malaysia*); *Nasrudin Bin Abd Rahim* (*University of Malaya, Malaysia*); *Boon Teck Ooi* (*McGill University, Canada*); *Jeyraj Seelvaraj* (*University of Malaya, Malaysia*);

44 Design Optimization of the Exponentially Tapered Microstrip Impedance Matching Sections Using a Cost Effective 3-D-SONNET-based SVRM with the Particle Swarm Intelligence
Mehmet Ali Belen (*Yildiz Technical University, Turkey*); *Salih Demirel* (*Yildiz Technical University, Turkey*); *Filiz Gunes* (*Yildiz Technical University, Turkey*); *Ahmet Kenan Keskin* (*Yildiz Technical University, Turkey*);

45 Space Gravity Optimization Applied to the Feasible Design Target Space Required for a Wide-band Front-end Amplifier
Nihal Kilinc (*Yildiz Technical University, Turkey*); *Peyman Mahouti* (*Yildiz Technical University, Turkey*); *Filiz Gunes* (*Yildiz Technical University, Turkey*);

46 Ultra Wide Band Parabolic Reflector Antenna Design for Forward Looking Ground Penetrating Impulse Radar
Ahmet Serdar Turk (*Yildiz Technical University, Turkey*); *Mustafa Dagcan Senturk* (*Yildiz Technical University, Turkey*); *Abdullah Magat* (*Yildiz Technical University, Turkey*); *Alper Caliskan* (*Yildiz Technical University, Turkey*);

47 Simulation and Implementation of RF Components
Abdullah Eroglu (*Indiana University-Purdue University, USA*);

48 Impact of Uncompensated Ionospheric Distortions on MARSIS Data
Marco Restano (*University of Rome "Sapienza", Italy*); *Giovanni Picardi* (*University of Rome "La Sapienza", Italy*); *Roberto Seu* (*University of Rome "La Sapienza", Italy*);

49 Subsurface Geometry Influence on Radar Returns in the Orbiting Ground Penetrating Radar Context
Marco Restano (*University of Rome "Sapienza", Italy*); *Giovanni Picardi* (*University of Rome "La Sapienza", Italy*); *Roberto Seu* (*University of Rome "La Sapienza", Italy*);

50 Consequences of Electromagnetic Stimulation on Hydraulic Conductivity of Soils
Arvin Farid (*Boise State University, USA*); *Sahba Azad* (*Boise State University, USA*); *Jim Browning* (*Boise State University, USA*); *Elisa Barney-Smith* (*Boise State University, USA*);

51 UWB SAR Landmine-enhanced Imaging Based on Aspect-frequency Characteristics Using Sparse Representation
Fu-Lai Liang (*National University of Defense Technology, China*); *Yuming Wang* (*National University of Defense Technology, China*); *Qian Song* (*National University of Defense Technology, China*); *Hanhua Zhang* (*National University of Defense Technology, China*); *Zhi-Min Zhou* (*National University of Defense Technology, China*);

52 Robust Compressive Imaging Approach to Through-wall Imaging Radar Based on Stepped-frequency and Virtual Aperture
Peng-Yu Wang (*National University of Defense Technology, China*); *Qian Song* (*National University of Defense Technology, China*); *Jian Wang* (*National University of Defense Technology, China*); *Zhi-Min Zhou* (*National University of Defense Technology, China*);

53 Model for Determination of Territorial Distribution of Surface Radio Refractivity
Mindaugas Zilinskas (*Communications Regulatory Authority of the Republic of Lithuania, Lithuania*); *Milda Tamosiunaite* (*Semiconductor Physics Institute of Center for Physical Sciences and Technology, Lithuania*); *Stasys Tamosiunas* (*Vilnius University, Lithuania*); *Edvinas Brilius* (*Vilnius University, Lithuania*); *Milda Tamosiuniene* (*Semiconductor Physics Institute of Center for Physical Sciences and Technology, Lithuania*);

54 HEMS with Wireless Power Transmission and Energy Harvesting
Takashi Yoshikawa (*Kinki University Technical College, Japan*);

55 A New CPW-fed Circularly Polarized Square Slot Antenna Design with Inverted-L Grounded Strips for Wireless Applications
Erol Karaca (*Istanbul Technical University, Turkey*); *Mesut Kartal* (*Istanbul Technical University, Turkey*);

56 Investigation of Preliminary Breakdown Pulses in Lightning Waveforms
Kamyar Mehranzamir (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Behnam Salimi* (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Zulkurnain Abdul-Malek* (*Universiti Teknologi Malaysia (UTM), Malaysia*);

57 A Numerical Hybrid Technique for Radiation and Scattering by Electrically Large Structures with Embedded Substructures
Wasyl Wasylkiwskyj (*George Washington University, USA*);

58 Antenna Array Spatial Correlation of Wireless Communication Systems with Multipath Fading Channel
Ju-Hong Lee (*National Taiwan University, Taiwan*); *Jia-Han Lee* (*National Taiwan University, Taiwan*);

Session 4A1a
2_FocusSession.SC2: Transformation Optics 2

Thursday AM, August 15, 2013
Room A
Organized by Hongsheng Chen, Yaroslav Kurylev
Chaired by Hongsheng Chen

08:20 Preventing Reflections from Impedance-mismatched
invited Transformation-optics Devices
Ian R. Hooper (*University of Exeter, UK*); *T. G. Philbin* (*University of Exeter, UK*);

08:40 Transforming Optical Forces Using Thin Film Meta-
invited materials
Vincent Ginis (*Vrije Univesiteit Brussel, Belgium*); *Philippe Tassin* (*Iowa State University, USA*); *Costas M. Soukoulis* (*Iowa State University, USA*); *Irina Veretennicoff* (*Vrije Universiteit Brussel, Belgium*);

09:00 Design Lens with Isotropic Transformation Media to
invited Improve Fractional Fourier Transform
Jin Hu (*Beijing Institute of Technology, China*); *Xiangyang Lu* (*Beijing Institute of Technology, China*); *Ran Tao* (*Beijing Institute of Technology, China*);

09:20 Metal-dielectric Metamaterials for Cylindrical Cloak-
invited ing Devices at Visible Frequencies
Andreas Rottler (*Universitat of Hamburg, Germany*);

09:40 Novel Approaches to Quasi-isotropic Transformation
invited Media
Carlos Garcia-Meca (*Universidad Politécnica de Valencia, Spain*);

10:00 **Coffee Break**

Session 4A1b
3_FocusSession.SC3: Photonics and Optoelectronics in Industry

Thursday AM, August 15, 2013
Room A
Organized by Cees Ronda
Chaired by Cees Ronda

10:20 Photonics and Photonic Materials in Medical Appli-
keynote cations
Cees Ronda (*Philips Research, The Netherlands*);

10:50 Photonics Innovations at Philips Healthcare
invited
J. J. H. B. Schleipen (*Philips Research, The Netherlands*);

11:10 Progress in Electronic Paper Displays
invited
P. F. Bai (*South China Normal University, China*); *M. L. Jin* (*South China Normal University, China*); *L. L. Shui* (*South China Normal University, China*); *X. Zhang* (*South China Normal University, China*); *Z. C. Yi* (*South China Normal University, China*); *R. A. Hayes* (*South China Normal University, China*); *Guofu Zhou* (*South China Normal University, China*);

11:30 Generic InP-based Integration Technology: Present
invited and Prospects
Giovanni Gilardi (*Technical University Eindhoven, The Netherlands*); *Meint K. Smit* (*Technical University Eindhoven, The Netherlands*);

11:50 Quantum Dots for Display Backlighting
invited
Jonathan Steckel (*QD Vision, Inc., USA*);

12:10 Wide Band Reflectance Spectrometry and Hyperspectral Imaging for Intraoperative Tissue Recognition
invited
Anna Tchebotareva (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *R. M. Schols* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *F. P. Wieringa* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *L. Alic* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *N. D. Bouvy* (*Maastricht University, The Netherlands*); *L. P. S. Stassen* (*Maastricht University, The Netherlands*); *E. Van de Steeg* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *D. Klomp* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *S. Baumer* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *A. Statham* (*Netherlands Organization for Applied Scientific Research, The Netherlands*); *P. Dunias* (*Netherlands Organization for Applied Scientific Research, The Netherlands*);

Session 4A2
SC2: Non-linear Metamaterials and Plasmonics

Thursday AM, August 15, 2013

Room B

Organized by Francisco J. Garcia-Vidal, Jorge Bravo-Abad

Chaired by Jorge Bravo-Abad

08:00 Shining a (Bright) Light on the Very Small
Romain Quidant (*ICFO, Spain*);

08:20 Realization of High-quality Metamaterials Resonators Adding Metallic Structures to Dielectric Slabs
Costas M. Soukoulis (*Iowa State University, USA*);

08:40 Stopped-Light Lasing in Nanoplasmonic Metasurfaces
Ortwin Hess (*Imperial College London, United Kingdom*);

09:00 Amplification and Lasing with Surface Plasmons
Pierre Berini (*University of Ottawa, Canada*);

09:20 Nonlinear Nanoplasmonics: Making Use of Metal Nonlinearities
Pavel Ginzburg (*King's College London, UK*); *Alexey V. Krasavin* (*King's College London, UK*); *Anatoly V. Zayats* (*King's College London, UK*);

09:40 Taking Control of Surface Plasmons
Laurens Kobus Kuipers (*Stichting FOM, The Netherlands*);

10:00 **Coffee Break**

10:20 Templated Self-assembly of Gold Nanostructures for SERS
Kristjan Leosson (*University of Iceland, Iceland*); *Virginia Merk* (*University of Iceland, Iceland*);

10:40 Metallic Nanostructures on Ferroelectric Domain Patterns in Nonlinear Laser Crystals
E. Yraola (*Universidad Autonoma de Madrid, Spain*); *P. Molina* (*Universidad Autonoma de Madrid, Spain*); *J. L. Plaza* (*Universidad Autonoma de Madrid, Spain*); *M. O. Ramirez* (*Universidad Autonoma de Madrid, Spain*); *Luisa E. Bausa* (*Universidad Autonoma de Madrid, Spain*);

11:00 Nonlinear and Tunable Metamaterials with Superconductors and Graphene
Philippe Tassin (*Iowa State University, USA*);

11:20 Coulomb-interaction-based Strong Enhancement of Photoluminescence from Semiconductor Quantum Well
Arkadii A. Krokhin (*University of North Texas, USA*); *Antony Llopis* (*University of North Texas, USA*); *Arup Neogi* (*University of North Texas, USA*);

Session 4A3
3_FocusSession.SC3: Progress in Optical Sensing and Environmental Monitoring

Thursday AM, August 15, 2013

Room C

Organized by Sune Svanberg, Gabriel Somesfalean

Chaired by Sune Svanberg, Gabriel Somesfalean

08:00 Laser Spectroscopy in Environmental Sensing
keynote
Sune Svanberg (*Lund University, Sweden*);

08:30 Remote Sensing of Atmospheric Traces and Particulate Matter Using Backscattered Light from Nanosecond and Femtosecond Laser Light
invited
Benjamin Thomas (*Université Lyon1, France*); *Gregory David* (*Université Lyon1, France*); *Christophe Anselmo* (*Université Lyon1, France*); *Elodie Coillet* (*Université Lyon1, France*); *Katja Rieth* (*Université Lyon1, France*); *Alain Miffre* (*Université Lyon1, France*); *Patrick Rairoux* (*Université Lyon1, France*);

08:50 Photonic Sensing of Reactive Molecules in the Atmosphere: Challenges and Opportunities (invited)
Wei Dong Chen (*University of the Littoral Opal Coast, France*); *R. Maamary* (*University of the Littoral Opal Coast, France*); *X. Cui* (*University of the Littoral Opal Coast, France*); *T. Wu* (*University of the Littoral Opal Coast, France*); *E. Fertein* (*University of the Littoral Opal Coast, France*); *C. Coeur* (*University of the Littoral Opal Coast, France*); *A. Cassez* (*University of the Littoral Opal Coast, France*); *W. Liu* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*); *F. Dong* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*); *Y. Wang* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*); *W. Zhang* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*); *X. Gao* (*Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences, China*); *G. Zha* (*The Hong Kong Polytechnic University, China*); *Z. Xu* (*The Hong Kong Polytechnic University, China*); *T. Wang* (*The Hong Kong Polytechnic University, China*);

09:10 Quantum Cascade Lasers for Process and Emission Control (invited)
Peter Kaspersen (*Norsk Elektro Optikk A/S, Norway*); *Peter Geiser* (*Norsk Elektro Optikk A/S, Norway*);

09:30 NICE-OHMS — A Frequency Modulated Cavity Enhanced Spectroscopic Technique for Sensitive Detection of Gases down to the $10^{-12}\,\mathrm{cm^{-1}Hz^{-1/2}}$ Range (invited)
Ove Axner (*Umea University, Sweden*); *Patrick Ehlers* (*Umea University, Sweden*); *Isak Silander* (*Umea University, Sweden*); *Junyang Wang* (*Umea University, Sweden*);

09:50 Concentration Extraction of Multiple Gases Based on Shape Analysis of a Single Absorption Line
Patrik Lundin (*Lund University, Sweden*); *Liang Mei* (*Zhejiang University, China*); *Stefan Andersson-Engels* (*Lund University, Sweden*); *Sune Svanberg* (*Lund University, Sweden*);

10:00 **Coffee Break**

10:20 Recent Progress on WindScanners Based on Coherent Doppler Lidars (invited)
Mikael Sjöholm (*Technical University of Denmark, Denmark*); *Nikolas Angelou* (*Technical University of Denmark, Denmark*); *Farzad Cyrus Foroughi Abari* (*Technical University of Denmark, Denmark*); *Per Hansen* (*Technical University of Denmark, Denmark*); *Kasper Hjorth Hansen* (*Technical University of Denmark, Denmark*); *Guillaume Lea* (*Technical University of Denmark, Denmark*); *Jakob Mann* (*Technical University of Denmark, Denmark*); *Torben Mikkelsen* (*Technical University of Denmark, Denmark*); *Ameya Sathe* (*Technical University of Denmark, Denmark*); *Anders Tegtmeier Pedersen* (*Technical University of Denmark, Denmark*); *Nikola Vasiljevic* (*Technical University of Denmark, Denmark*);

10:40 LIDAR Techniques for the Cultural Heritage Sector (invited)
Giovanna Cecchi (*National Research Council of Italy, Italy*); *David Lognoli* (*National Research Council of Italy, Italy*); *Lorenzo Palombi* (*National Research Council of Italy, Italy*);

11:00 Field Entomological Applications of kHz Optical Ranging and Sensing
Mikkel Brydegaard (*Universiteit van Stellenbosch, South Africa*); *Alem Gebru* (*Universiteit van Stellenbosch, South Africa*);

11:15 Authentication of Jadeite Using Surface Enhanced Raman Spectroscopy
Chi Man Lawrence Wu (*City University of Hong Kong, China*); *Siu Pang Ng* (*City University of Hong Kong, China*);

11:30 Lorentz Contraction, Apparent or Real
Nils Hugo Abramson (*Royal Institute of Technology, Sweden*);

11:45 High Speed BOCDA Measurement of Strain Distribution by Longitudinal Sweep Method
Kazuki Washiyama (*University of Tokyo, Japan*); *Masato Kishi* (*University of Tokyo, Japan*); *Zuyuan He* (*University of Tokyo, Japan*); *Kazuo Hotate* (*University of Tokyo, Japan*);

12:00 Inverse Obstacle Scattering and Linear Classification
Giovanni Franco Crosta (*University of Milan-Bicocca, Italy*); *Yong-Le Pan* (*Yale University, USA*); *Gorden Videen* (*Army Research Laboratory, USA*);

Session 4A4
SC4: Wireless Energy Transmission and Harvesting 1

Thursday AM, August 15, 2013

Room D

Organized by Ki Young Kim, Alessandra Costanzo

Chaired by Elisenda Bou Balust, Riccardo Trevisan

08:00 Adaptive Impedance Matching for 2, 3, 4-coil Wireless Power Systems
Benjamin H. Waters (*University of Washington, USA*); *Vamsi Talla* (*University of Washington, USA*); *Brody J. Mahoney* (*University of Washington, USA*); *Joshua R. Smith* (*University of Washington, USA*);

08:20 Magnetic Characterization of Interfering Objects in Resonant Inductive Coupling Wireless Power Transfer
Elisenda Bou Balust (*Technical University of Catalonia UPC BarcelonaTech, Spain*); *D. Vidal* (*Technical University of Catalonia UPC BarcelonaTech, Spain*); *Raymond J. Sedwick* (*University of Maryland, USA*); *Eduard Alarcon* (*Technical University of Catalonia UPC BarcelonaTech, Spain*);

08:40 Inductive Power Transmission by Toothed Drive Belt
Hans-Jurgen Roscher (*Fraunhofer Institute for Machine Tools and Forming Technology IWU, Germany*); *K. Wolf* (*Fraunhofer Institute for Machine Tools and Forming Technology IWU, Germany*);

09:00 A 1-kW Wireless Power Transfer Link for Welding Rollers
Riccardo Trevisan (*University of Bologna, Italy*); *Alessandra Costanzo* (*University of Bologna, Italy*);

09:20 Frequency Compensation of Wireless Power Transfer for Vehicles
Uooyeol Yoon (*KAIST, Korea*); *Sang Hoon Chung* (*KAIST, Korea*); *Dang-Oh Kim* (*KAIST, Korea*); *Ja Hyeon Lee* (*KAIST, Korea*); *Dong-Ho Cho* (*Korea Advanced Institute of Science and Technology, Korea*);

09:40 Negative-permeability Superlenses for Near-field Magneto-inductive Wireless Power
Yaroslav A. Urzhumov (*Duke University, USA*); *Guy Lipworth* (*Duke University, USA*); *Joshua Ensworth* (*Duke University, USA*); *Kushal Seetharam* (*Duke University, USA*); *Jae Seung Lee* (*Toyota Research Institute of North America, USA*); *Paul Schmalenberg* (*Toyota Research Institute of North America, USA*); *Matthew S. Reynolds* (*Duke University, USA*); *David R. Smith* (*Duke University, USA*);

10:00 **Coffee Break**

10:20 A Study of Detuning Effects and Losses in Implantable Coils for Biomedical Wireless Power Transfer
Vamsi Talla (*University of Washington, USA*); *Benjamin H. Waters* (*University of Washington, USA*); *Joshua R. Smith* (*University of Washington, USA*);

10:40 Distributed Resonant Coil Systems for Efficient Wireless Power Transfer in Mobile Systems
Matthew J. Chabalko (*Carnegie Mellon University, USA*); *David S. Ricketts* (*Carnegie Mellon University, USA*);

11:00 "textitQ-factor Improvement in Planar RF Inductors by the Use of Ferrite Compensators
Mikhail Makurin (*Samsung Moscow Research Center, Russia*); *Nikolay Olyunin* (*Samsung Moscow Research Center, Russia*); *Ki Young Kim* (*Samsung Advanced Institute of Technology, Korea*); *Keum-Su Song* (*Samsung Advanced Institute of Technology, Korea*); *Vladimir Mihaylovich Parfenyev* (*Moscow Institute of Physics and Technology, Russia*);

11:20 Obstacle Detection Method Using Array Antenna for Coupled-resonant Wireless Power Transfer
Hiroyuki Yamada (*Nagoya Institute of Technology, Japan*); *Keishi Miwa* (*Nagoya Institute of Technology, Japan*); *Hiroshi Hirayama* (*Nagoya Institute of Technology, Japan*); *Nobuyoshi Kikuma* (*Nagoya Institute of Technology, Japan*); *Kunio Sakakibara* (*Nagoya Institute of Technology, Japan*);

11:40 Superconducting-ferromagnetic Shell for Magnetic Energy Harvesting and Transmission at a Distance
Jordi Prat-Camps (*Universitat Autonoma de Barcelona, Spain*); *Carles Navau* (*Universitat Autonoma de Barcelona, Spain*); *Alvaro Sanchez* (*Universitat Autonoma de Barcelona, Spain*);

Session 4A5
SC5: High Resolution Imaging with Penetrating Radar Scanners for Detection of Small or Low Contrast Objects

Thursday AM, August 15, 2013

Room E

Organized by Lorenzo Capineri, Timothy D. Bechtel

Chaired by Lorenzo Capineri, Timothy D. Bechtel

08:00 Ultrawideband Radar Future Directions and Benefits
James D. Taylor (*cs.com, USA*);

08:20 Advances in Imaging of Archaeological Structures Using GPR
Salvatore Piro (*CNR, Italy*); *D. Goodman* (*Geophysical Archaeometry Laboratory, USA*);

08:40 High Resolution Imaging with a Holographic Radar Mounted on a Robotic Scanner
Lorenzo Capineri (*Università di Firenze, Italy*); *I. Arezzini* (*Università di Firenze, Italy*); *M. Calzolai* (*Università di Firenze, Italy*); *Colin G. Windsor* (*United Kingdom Atomic Energy Authority (UKAEA), UK*); *Masaharu Inagaki* (*Walnut Ltd., Japan*); *Tim Bechtel* (*Franklin & Marshall College, USA*); *Sergey I. Ivashov* (*Bauman Moscow State Technical University, Russia*);

09:00 Analytical Approach for RASCAN Radar Images of Dinosaur Footprints through Basic Experiments
Masaharu Inagaki (*Walnut Ltd., Japan*); *Timothy D. Bechtel* (*Enviroscan, Inc., USA*); *Lorenzo Capineri* (*Università di Firenze, Italy*); *Sergey I. Ivashov* (*Bauman Moscow State Technical University, Russia*); *Colin G. Windsor* (*United Kingdom Atomic Energy Authority (UKAEA), UK*);

09:20 Bringing up the Bodies: High Resolution and Target Definition Using GPR
Erica Utsi (*Utsi Electronics Ltd., UK*);

09:40 A GPR Study of Parabolic Dune Stratification, White Sands New Mexico
Mark Domaracki (*University of Pennsylvania, USA*); *Douglas J. Jerolmack* (*University of Pennsylvania, USA*); *Tim Bechtel* (*Franklin & Marshall College, USA*);

10:00 **Coffee Break**

10:20 Concrete Imaging without Information of Incident Field
Toshiyuki Tanaka (*Nagasaki University, Japan*); *Toshifumi Moriyama* (*Nagasaki University, Japan*); *Takashi Takenaka* (*Nagasaki University, Japan*);

10:40 A Novel Method for Developing Receiver Operating Characteristic Curves for Target Discrimination by Penetrating Radar
Timothy D. Bechtel (*Franklin & Marshall College, USA*); *Lorenzo Capineri* (*Università di Firenze, Italy*); *Colin G. Windsor* (*United Kingdom Atomic Energy Authority (UKAEA), UK*); *Masaharu Inagaki* (*Walnut Ltd., Japan*); *Sergey I. Ivashov* (*Bauman Moscow State Technical University, Russia*);

11:00 A Real Scale Validator for a High Resolution 3D Imaging GPR Using Geometrical Surface Reconstruction
Mario Duran (*Pontificia Univ Catolica Chile, Chile*); *Pedro Ramaciotti* (*Pontificia Universidad Católica de Chile, Chile*); *Ricardo Hein* (*INGMAT, Chile*);

11:20 An Experimental Study of Through-the-Wall Radar for Lifesign Detection
Betul Yilmaz (*Mersin University, Turkey*); *Sevket Demirci* (*Mersin University, Turkey*); *Enes Yigit* (*Mersin University, Turkey*); *Caner Ozdemir* (*Mersin University, Turkey*);

11:40 QPSK Mapped OFDM Signal Processing on Radar Applications
Arsen A. Hakhoumian (*Institute of Radiophysics and Electronics, Armenian National Academy of Sciences, Armenia*); *Kh. Tovmasyan* (*Institute of Radiophysics and Electronics, Armenian National Academy of Sciences, Armenia*); *Tigran Zakaryan* (*Institute of Radiophysics and Electronics, Armenian National Academy of Sciences, Armenia*);

Session 4A6a
SC3&2: Physics and Modeling of Laser-induced Periodic Surface Structures

Thursday AM, August 15, 2013

Room F

Organized by Jürgen Reif, Bert Huis In't Veld

Chaired by Jürgen Reif, Bert Huis In't Veld

08:00 Surface Reorganization from Laser-induced Instability as Origin of LIPSS
Olga Varlamova (*Brandenburg University of Technology (BTU) Cottbus, Germany*); *Jürgen Reif* (*Brandenburg University of Technology (BTU) Cottbus, Germany*); *Sergej Varlamov* (*Brandenburg University of Technology (BTU) Cottbus, Germany*); *Michael Bestehorn* (*Brandenburg University of Technology (BTU) Cottbus, Germany*);

08:20 Adaptive Generation of Laser Induced Periodic Structures with MEMS Axicons
Alexander Treffer (*Max-Born-Institute, Germany*); *Susanta Kumar Das* (*Max-Born-Institute, Germany*); *Hamza Messaoudi* (*Max-Born-Institute, Germany*); *Jens Brunne* (*University of Freiburg, Germany*); *Ulrike Wallrabe* (*University of Freiburg, Germany*); *Ruediger Grunwald* (*Max-Born-Institute, Germany*);

08:40 Direct Patterning of a Nanograting with Femtosecond Laser Pulses
Kenzo Miyazaki (*Kyoto University, Japan*); *Godai Miyaji* (*Kyoto University, Japan*);

09:00 "Golden" Principles of Ultimate Surface Nanostructuring by Ultrashort Laser Pulses: The Role of Transient Material Optics and Photo-excitation Conditions
Sergey I. Kudryashov (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Andrey A. Ionin* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Sergey V. Makarov* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Pavel N. Saltuganov* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Leonid V. Seleznev* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*);

09:20 Role of Multiple Shots of Low-fluence Pulses in Femtosecond-laser-induced Periodic Surface Nanostruture Formation
Godai Miyaji (*Kyoto University, Japan*); *Kenzo Miyazaki* (*Kyoto University, Japan*);

09:40 Basic Stages of Laser-induced Periodical Structures Evolution: From Near-wavelength to Sub-wavelength Gratings
Sergey V. Makarov (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Andrey A. Ionin* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Sergey I. Kudryashov* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Leonid V. Seleznev* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Dmitry V. Sinitsyn* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*);

10:00 **Coffee Break**

Session 4A6b
SC4: Millimeter-Wave and THz Components, Antennas and Arrays

Thursday AM, August 15, 2013

Room F

Organized by Peter G. Huggard, Kamal K. Samanta

Chaired by Peter G. Huggard, Kamal K. Samanta

10:20 invited Novel All-dielectric Horn Antennas Based on the Woodpile EBG Structure
Inigo Ederra (*Public University of Navarra, Spain*); *Irina Khromova* (*Public University of Navarra, Spain*); *Ramon Gonzalo* (*Universidad Publica de Navarra, Spain*); *Jorge Teniente* (*Public Univrsity of Navarra, Spain*); *Bastiaan P. de Hon* (*Eindhoven University of Technology, The Netherlands*); *Karu P. Esselle* (*Macquarie University, Australia*);

10:40 invited Efficient Horn Antenna Designs for Next Generation Terahertz and Millimeter-wave (Far-infrared) Space Telescopes
Neil Trappe (*National University of Ireland, Maynooth, Ireland*); *J. A. Murphy* (*National University of Ireland, Maynooth, Ireland*); *C. O'Sullivan* (*National University of Ireland, Maynooth, Ireland*); *M. L. Gradziel* (*National University of Ireland, Maynooth, Ireland*); *S. Doherty* (*National University of Ireland, Maynooth, Ireland*); *D. McCarthy* (*National University of Ireland, Maynooth, Ireland*); *C. Bracken* (*National University of Ireland, Maynooth, Ireland*); *A. Polegre* (*ESA ESTEC, Holland*);

11:00 Microwave Diode on the Base of Symmetrically and Asymmetrically Doped Semiconductor Heterojunction
Algirdas Sužiedėlis (*Center for Physical Sciences and Technology, Lithuania*); *Steponas Asmontas* (*Semiconductor Physics Institute, Lithuania*); *Algis Jurgis Kundrotas* (*Semiconductor Physics Institute, Center for Physical Sciences and Technology, Lithuania*); *Jonas Gradauskas* (*Center for Physical Sciences and Technology, Lithuania*); *Andžej Lučun* (*Center for Physical Sciences and Technology, Lithuania*); *Aurimas Čerškus* (*Center for Physical Sciences and Technology, Lithuania*); *Viktorija Nargelienė* (*Center for Physical Sciences and Technology, Lithuania*); *Tomas Anbinderis* (*Elmika Ltd., Lithuania*); *Pavel Anbinderis* (*Elmika Ltd, Lithuania*);

11:20 80 GHz Array Antenna for MM-wave Applications
W. Swelam (*University of Waterloo, Canada*);

11:40 A Waveguide-to-microstrip Line Transition in Multilayered Structure for 77 GHz Band Automotive Radar Applications
Ching-Han Tsai (*National Chao-Tung University, Taiwan*); *Shyh-Jong Chung* (*National Chaio Tung University, Taiwan, R.O.C.*);

12:00 Two-dimensional Angle-of-arrival Analysis by One Enhanced Six-port Structure
Alexander Koelpin (*University of Erlangen-Nuremberg, Germany*); *Stefan Lindner* (*University of Erlangen-Nuremberg, Germany*); *Sebastian Mann* (*University of Erlangen-Nuremberg, Germany*); *Francesco Barbon* (*University of Erlangen-Nuremberg, Germany*); *Sarah Linz* (*University of Erlangen-Nuremberg, Germany*); *Robert Weigel* (*University of Erlangen-Nuremberg, Germany*);

Session 4A7
Integrated Optical Passive and Active Components for Communication and Sensing Applications

Thursday AM, August 15, 2013

Room G

Organized by Nan-Kuang Chen, Mattias Hammar

Chaired by Nan-Kuang Chen, Mattias Hammar

08:20 III-V Semiconductor Quantum Structure Based Electroabsorption Modulators for Communication Applications
Qin Wang (*Acreo Swedish_ICT AB, Sweden*); *Bertrand Noharet* (*Acreo Swedish_ICT AB, Sweden*); *Stephane Junique* (*Acreo Swedish_ICT AB, Sweden*); *Susanne Almqvist* (*Acreo Swedish_ICT AB, Sweden*); *Andy Zhang* (*Acreo Swedish_ICT AB, Sweden*); *Duncan Platt* (*Acreo Swedish_ICT AB, Sweden*); *Michael Salter* (*Acreo Swedish_ICT AB, Sweden*); *Jan Y. Andersson* (*Acreo Swedish_ICT AB, Sweden*);

08:40 Current Distribution in InGaAs/GaAs Transistor Vertical-cavity Surface Emitting Lasers
Yu Xiang (*KTH Royal Institute of Technology, Sweden*); *Xingang Yu* (*KTH Royal Institute of Technology, Sweden*); *Jesper Berggren* (*KTH Royal Institute of Technology, Sweden*); *Thomas Zabel* (*KTH Royal Institute of Technology, Sweden*); *Mattias Hammar* (*Royal Institute Technology KTH, Sweden*); *Muhammad Nadeem Akram* (*University College VestFold, Norway*);

09:00 1.3-μm InGaAs/GaAs VCSELs with Buried Tunnel Junction Current Injection
Xingang Yu (*KTH Royal Institute of Technology, Sweden*); *Yu Xiang* (*KTH Royal Institute of Technology, Sweden*); *Thomas Zabel* (*KTH Royal Institute of Technology, Sweden*); *Jesper Berggren* (*KTH Royal Institute of Technology, Sweden*); *Mattias Hammar* (*KTH Royal Institute of Technology, Sweden*);

09:20 Optical Properties of InSb and InGaSb Quantum Dots Grown on InAs
Oscar Gustafsson (*KTH Royal Institute of Technology, Sweden*); *Amir Karim* (*Acreo AB, Sweden*); *Carl Reuterskiöld Hedlund* (*KTH Royal Institute of Technology, Sweden*); *Susan Savage* (*Acreo AB, Sweden*); *Susanne Almqvist* (*Acreo Swedish_ICT AB, Sweden*); *Qin Wang* (*Acreo Swedish_ICT AB, Sweden*); *Jonas Weissenrieder* (*KTH Royal Institute of Technology, Sweden*); *Thomas Zabel* (*KTH Royal Institute of Technology, Sweden*); *Jesper Berggren* (*KTH Royal Institute of Technology, Sweden*); *Mattias Hammar* (*KTH Royal Institute of Technology, Sweden*);

09:40 Challenges and Solutions for Fabricating Monolithically Integrated EAM-DFB for Radio-over-fiber System
Andy Z. Zhang (*Acreo Swedish_ICT AB, Sweden*); *Qin Wang* (*Acreo Swedish_ICT AB, Sweden*); *Richard Schatz* (*Royal Institute of Technology (KTH), Sweden*); *Olle Kjebon* (*Royal Institute of Technology (KTH), Sweden*); *Pierre-Yves Fonjallaz* (*Acreo Swedish_ICT AB, Sweden*); *Susanne Almqvist* (*Acreo Swedish_ICT AB, Sweden*); *Marek Chacinski* (*Royal Institute of Technology (KTH), Sweden*); *Stefan Karlsson* (*Royal Institute of Technology (KTH), Sweden*); *Jesper Berggren* (*KTH Royal Institute of Technology, Sweden*); *Mattias Hammar* (*KTH Royal Institute of Technology, Sweden*);

10:00 **Coffee Break**

10:20 Picoliter Volume Glucose Concentration Microsensing Using Micro-abrupt-tapered Fiber Mach-Zehnder Interferometers with Immobilized Glucose Oxidase
Kuen-Yi He (*National United University, Taiwan*); *Ming-Yu Lin* (*NARL, Taiwan*); *Yen-Pei Lu* (*NARL, Taiwan*); *Tsung-Hsun Yang* (*National United University, Taiwan, R.O.C.*); *Nan-Kuang Chen* (*National United University, Taiwan*); *Yi-Ning Chen* (*National United University, Taiwan*);

10:40 Stretched-abrupt-tapered Fiber Mach-Zehnder Interferometer for Active Microsensing Applications
Kuen-Yi He (*National United University, Taiwan*); *Tsung-Hsun Yang* (*National United University, Taiwan, R.O.C.*); *Hsiang-Ting Peng* (*National United University, Taiwan, R.O.C.*); *Zhao-Ying Chen* (*National United University, Taiwan*); *Nan-Kuang Chen* (*National United University, Taiwan*);

11:00 Dispersion Properties of Subwavelength Grating SOI Waveguides
Jiri Ctyroky (*Institute of Photonics and Electronics AS CR, v.v.i., Czech Republic*); *P. Kwiecien* (*Czech Technical University in Prague, Czech Republic*); *Ivan Richter* (*Czech Technical University in Prague, Czech Republic*);

11:20 High Finesse Micro Fabry-Perot Resonator Using Thin Tellurite Glass Film over a Tapered Fiber
Yu-Hsin Hsieh (*National United University, Taiwan*); *Nan-Kuang Chen* (*National United University, Taiwan*); *Junjie Zhang* (*Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science, China*);

Session 4A8a
Remote Sensing of the Earth, Ocean, and Atmosphere

Thursday AM, August 15, 2013

Room H

Organized by George Vakhtang Jandieri

Chaired by George Vakhtang Jandieri

08:20 Power Spectra of a Radio Wave Diffracted by Random Electron Density Irregularities
George Vakhtang Jandieri (*Georgian Technical University, Georgia*); *Akira Ishimaru* (*University of Washington, USA*);

08:40 Aperture Averaging of Focused Multi-Gaussian Beams
Canan Kamacioglu (*Cankaya University, Turkey*); *Yahya Kemal Baykal* (*Cankaya University, Turkey*); *Erdem Yazgan* (*Hacettepe University, Turkey*);

09:00 Real Beam vs. Synthetic Aperture Radar for Slope Monitoring
Massimiliano Pieraccini (*University of Florence, Italy*);

09:20 Propagation inside a Space Made Up of a Homogeneous Medium Overlying a Duct Having a Linear-square Refractive Index Profile
Christophe Bourlier (*Universite de Nantes, France*); *Nicolas Pinel* (*Université de Nantes, France*);

09:40 A Dynamical System Perspective of Multi-temporal Remote Sensing: Analysis of MODIS Spectral Index Time Series from Forest Wildfires
Biagio Di Mauro (*University of Milano-Bicocca, Italy*); *Giovanni Franco Crosta* (*University of Milan-Bicocca, Italy*); *Francesco Fava* (*University of Milano-Bicocca, Italy*); *Lorenzo Busetto* (*University of Milano-Bicocca, Italy*); *Roberto Colombo* (*University of Milano-Bicocca, Italy*);

10:00 **Coffee Break**

Session 4A8b
SC5: Advances in EM Imaging and Detection of Concealed Objects or People through Walls

Thursday AM, August 15, 2013

Room H

Organized by Patrick Millot

Chaired by Patrick Millot

10:20 Overview of EM Imaging and Detection of Concealed Objects: EM Modeling, Efficient Signal Processing and Experimental Results
Patrick Millot (*ONERA, The French Aerospace Lab, France*); *Brahim Boudamouz* (*Office National d'Etudes et de Recherches Aérospatiales (ONERA), France*); *Nadia Maaref* (*ONERA, The French Aerospace Lab, France*); *Xavier Ferrieres* (*Office National d'Etudes et de Recherches Aerospatiales (ONERA), France*); *Laurent Casadebaig* (*ONERA, The French Aerospace Lab, France*); *Christian Pichot* (*University of Nice-Sophia Antipolis-CNRS, France*);

10:40 FDTD Based EM Modeling and Analysis for Detection of Tumors
Elizabeth Rufus (*Middle East College, Sultanate of Oman*); *Zachariah C. Alex* (*Vellore Institute of Technology University, India*);

11:00 An Approach for on Body Concealed Weapon Detection Using Continuous Wavelet Transform
Ali Saied Atiah (*Manchester Metropolitan University, UK*); *Nicholas John Bowring* (*Manchester Metropolitan University, UK*);

11:20 Improving Non-coherent Multistatic UWB Impulse Radar System for through-the-wall Applications
Vincent Mérelle (*La Rochelle University, France*); *Omar Benahmed Daho* (*La Rochelle University, France*); *Alain Gaugue* (*La Rochelle University, France*); *Jamal Khamlichi* (*La Rochelle University, France*); *Michel Ménard* (*La Rochelle University, France*);

11:40 UWB MIMO EM Radar Imaging for the Detection of Human Beings inside Buildings
Brahim Boudamouz (*Office National d'Etudes et de Recherches Aérospatiales (ONERA), France*); *Patrick Millot* (*ONERA, France*); *Xavier Ferrieres* (*Office National d'Etudes et de Recherches Aerospatiales (ONERA), France*); *Christian Pichot* (*University of Nice Sophia Antipolis, CNRS, France*);

Session 4A_K
Poster Session 7

Thursday AM, August 15, 2013
9:00 AM - 12:00 AM
Room P

1 Single-particle Plasmonic Switching Realized by Coating Polyaniline on Colloidal Gold Nanorods
Nina Jiang (*The Chinese University of Hong Kong, China*); *Lei Shao* (*The Chinese University of Hong Kong, China*); *Jianfang Wang* (*The Chinese University of Hong Kong, China*);

2 Dependence of Slow Light Characteristics of Photonic Crystal Waveguides on the Properties of Holes Surrounding the Line Defect
Fulya Bagci (*Ankara University, Turkey*); *Baris Akaoglu* (*Ankara University, Turkey*);

3 Magnetron Sputtered Optical Nanogradient Coatings
Nikolay F. Abramov (*JSC "M. F. Stelmakh R&D Institute-Polyus", Russian Federation*); *Oleg D. Volpian* (*Federal State Unitary Enterprise "M. F. Stelmakh Research Institute-Polus", Russian Federation*); *Yuri A. Obod* (*Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation*); *Sergey V. Schkatula* (*Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation*);

4 Examples of UV Measurements under 400 kV Powerlines in Finland
Rauno Paakkonen (*Finnish Institute of Occupational Health, Finland*); *Leena Korpinen* (*Tampere University of Technology, Finland*); *Fabriziomaria Gobba* (*University of Modena and Reggio Emilia, Italy*);

5 Multi-core Liquid Photonic Crystal Fiber Based Localized Surface Plasmon Resonance Temperature Sensor
Ying Lu (*Tianjin University, China*); *Congjing Hao* (*Tianjin University, China*);

6 Stochastic Electromagnetic Plane-wave Pulse with Non-uniform Correlation Distribution
Chaoliang Ding (*Luoyang Normal University, China*); *Liuzhan Pan* (*Luoyang Normal University, China*); *Haixia Wang* (*Luoyang Normal University, China*); *Zhiguo Zhao* (*Luoyang Normal College, China*);

7 Polarization Changes of Stochastic Electromagnetic Bessel-Gauss Pulsed Beams through a Dispersive Aperture Lens
Haixia Wang (*Luoyang Normal University, China*); *Chaoliang Ding* (*Luoyang Normal University, China*); *Zhiguo Zhao* (*Luoyang Normal College, China*); *Liuzhan Pan* (*Luoyang Normal University, China*);

8 Nonlinear Dissipative Dynamics and Optical Properties of Quantum Dots for Nanomedicine
Vladimir D. Krevchik (*Penza State University, Russia*); *Vladimir I. Volchikhin* (*Penza State University, Russia*); *Igor I. Artemov* (*Penza State University, Russia*); *Mikhail B. Semenov* (*Penza State University, Russia*); *Roman V. Zaitsev* (*Penza State University, Russia*); *Alexey V. Razumov* (*Penza State University, Russia*); *Ascar K. Aringazin* (*Eurasian National University, Kazakhstan*); *Kenji Yamamoto* (*International Medical Center, Japan*);

9 Effects of Extremaly High Frequency EMI on Growth and Some Parameters of Wheat Seedlings Nuclei
Liya A. Minasbekyan (*Yerevan State University, Armenia*); *M. R. Darbinyan* (*Yerevan State University, Armenia*);

10 Increasing of Fermentative and Antiinflamatory Activity of the *Pleurotus Ostreatus (Jacq.:Fr.) Kumm.* Culture by Modification of Growth Conditions by MM-waves
Inessa A. Avagyan (*Yerevan State University, Armenia*); *Liya A. Minasbekyan* (*Yerevan State University, Armenia*); *Siranush G. Nanagulyan* (*Yerevan State University, Armenia*);

11 3-D Reconstruction of the Breast Surface for Microwave Breast Cancer Imaging Applications
Ahmet Hakan Tunçay (*Istanbul Technical University, Turkey*); *P. Tunçay* (*Istanbul Technical University, Turkey*); *Ibrahim Akduman* (*Istanbul Technical University, Turkey*);

12 A Flexible RF Exposure Setup for Long-term Electrophysiological Investigations on Biological Samples in Vitro
Stefan Oster Oster (*University of Applied Sciences Aschaffenburg, Germany*); *Andreas Daus* (*University of Applied Sciences Aschaffenburg, Germany*); *Michael Goldhammer* (*University of Applied Sciences Aschaffenburg, Germany*); *Ulrich Bochtler* (*University of Applied Sciences Aschaffenburg, Germany*); *Christiane Thielemann* (*University of Applied Sciences Aschaffenburg, Germany*);

13 Influence of Near Earth Electromagnetic Resonances on Human Cerebrovascular System in Time of Heliogeophysical Disturbances
Elena A. Sazanova (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation RAS, Russia*); *A. V. Sazanov* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation RAS, Russia*); *Nadezda P. Sergeenko* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Russian Academy of Sciences, Russia*); *V. G. Ionova* (*Scientific Center of Neurology RAMS, Russia*); *Yu. Ya. Varakin* (*Scientific Center of Neurology RAMS, Russia*);

14 MRI Imaging of the Physiology of Fungal Pathogens in Cultivated Plants
Eliska Hutová (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Institute of Scientific Instruments, Academy of Sciences of the Czech Republic, Czech Republic*); *Radim Korinek* (*Brno University of Technology, Czech Republic*); *Radovan Pokorny* (*Mendel University in Brno, Czech Republic*);

15 Comparison and Display of the Water Contained in Early Somatic Embryos
Eliska Hutová (*Brno University of Technology, Czech Republic*); *Radim Korinek* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Institute of Scientific Instruments, Academy of Sciences of the Czech Republic, Czech Republic*); *Ladislav Havel* (*Mendel University in Brno, Czech Republic*);

16 Methods for the Sensing of Ionosphere Changes
Michael Hanzelka (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*);

17 Thermal Conductivity and Heat Capacity Measurement of Biological Tissues
Jan Hrozek (*Brno University of Technology, Czech Republic*); *Dusan Nespor* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Institute of Scientific Instruments, Academy of Sciences of the Czech Republic, Czech Republic*);

18 Multi-resolution Analysis Technique for Lung Cancer Detection in Computed Tomograpic Images
Muhammad Usman (*University of Hail, Kingdom of Saudi Arabia*); *Muhammad Shoaib* (*University of Hail, Kingdom of Saudi Arabia*); *Mohamad Rahal* (*University of Hail, Saudi Arabia*);

19 Development of Biological Tissue-equivalent Agar-based Solid Phantom in HF Band
Mizuki Inoue (*Chiba University, Japan*); *Ryotaro Suga* (*Chiba University, Japan*); *Kazuyuki Saito* (*Chiba University, Japan*); *Masaharu Takahashi* (*Chiba University, Japan*); *Koichi Ito* (*Chiba University, Japan*);

20 Novel Magnetic Lens for Static Magnetic Field Enhancement
Fei Sun (*Zhejiang University, China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

21 Impact of Electromagnetic Field Generated nearby High Voltage Alternating Current Transmission Lines on Prooxidant-antioxidant Balance in Selected Internal Organs of Rats
Pawel Sowa (*Silesian University of Technology, Poland*); *Karolina Sieron-Stoltny* (*Medical University of Silesia, Poland*); *Grzegorz Jan Cieslar* (*Medical University of Silesia, Poland*); *Aleksander Sieron* (*Medical University of Silesia, Poland*);

22 System Information Therapy as a Tool in Personalized Medicine
Alberto Foletti (*University of Applied Sciences of Southern Switzerland-SUPSI, Switzerland*); *Settimio Grimaldi* (*Institute of Neurobiology and Molecular Medicine (INMM), National Research Council (CNR), Italy*);

23 System Information Therapy in the Management of Pain: A Pilot Study
Paolo Baron (*Regione Friuli Venezia Giulia, Italy*); *Giuseppe Bucci* (*Regione Friuli Venezia Giulia, Italy*); *Alfio Rinaudo* (*Regione Friuli Venezia Giulia, Italy*); *Roberto Rocco* (*Regione Friuli Venezia Giulia, Italy*); *Eugenio Sclauzero* (*Regione Friuli Venezia Giulia, Italy*); *Alberto Foletti* (*University of Applied Sciences of Southern Switzerland-SUPSI, Switzerland*);

24 The Thermal Analysis of Some Light Sources
A. Yasin Citkaya (*Bogazici University, Turkey*); *S. Selim Seker* (*Bogazici University, Turkey*); *Osman Cerezci* (*Sakarya University, Turkey*);

25 EM System to Guide Visually Impaired Running Athlete
Valerio Petrini (*Universita Politecnica delle Marche, Italy*); *Valentina Di Mattia* (*Universita Politecnica delle Marche, Italy*); *Marco Pieralisi* (*Universita Politecnica delle Marche, Italy*); *Lorenzo Scalise* (*Universita Politecnica delle Marche, Italy*); *Valter Mariani Primiani* (*Universita Politecnica delle Marche, Italy*); *Alfredo De Leo* (*Universita Politecnica delle Marche, Italy*); *Paola Russo* (*Universita Politecnica delle Marche, Italy*); *Graziano Cerri* (*Universita Politecnica delle Marche, Italy*);

26 Characteristics of an Optical Bowtie Nanoantenna
Ahmed Abbas (*Cairo University, Egypt*); *Mostafa El-Said* (*Cairo University, Egypt*); *Samir F. Mahmoud* (*Kuwait University, Kuwait*);

27 Characteristic of Novel Elliptical-spiral Photonic Crystal Fibre with Arbitrary Gold Wires Embedded in Cladding Air Holes
Ahmed Mahmoud Heikal (*Zewail City of Science and Technology, Egypt*); *Salah Sabry Ahmed Obayya* (*Zewail City of Science and Technology, Egypt*);

28 Near Field Optics of Plasmonic Nanostructures Presenting High Aspect Ratio
Yacoub Ould Agha (*CNRS-Universite de Bourgogne, France*); *G. Colas des Francs* (*CNRS-Universite de Bourgogne, France*);

29 Localized Plasmons and Interface Reflections: Fano Interference and Complete Light Annihilation
Mikael Svedendahl (*Chalmers University of Technology, Sweden*); *P. Johansson* (*Chalmers University of Technology, Sweden*); *Mikael Kall* (*Chalmers University of Technology, Sweden*);

30 Redshift by Design for Plasmonic Enhancement of Ultrathin Infrared Detectors
Marko Obradov (*University of Belgrade, Serbia*); *Zoran Jaksic* (*University of Belgrade, Serbia*); *Milija Sarajlić* (*University of Belgrade, Serbia*); *Danijela Randjelović* (*University of Belgrade, Serbia*);

31 Gain Assisted Surface Plasmon Polariton Propagation in a Schottky Junction Based Cylindrical Structure
Thamani Manjula Wijesinghe (*Monash University, Australia*); *Malin Premaratne* (*Monash University, Australia*);

32 Novel, Compact and Multiband Antenna for Mobile and Wireless Communication
Kamel Salah Sultan (*Electronics Research Institute, Egypt*); *Haythem Hussein Abdullah* (*Electronics Research Institute (ERI), Egypt*); *Esmat Abdel-Fattah Abdallah* (*Electronics Research Institute, Egypt*); *Essam Abdel Haleem Hashish* (*Cairo University, Egypt*);

33 Gold Plating Carbon Nano Tube Antenna Integrated with Voltage Control Oscillator
Kuan-Ting Lin (*National Taiwan University, Taiwan, R.O.C.*); *Jian-Yu Hsieh* (*National Taiwan University, Taiwan, R.O.C.*); *Yu-Jen Chen* (*National Taiwan University, Taiwan, R.O.C.*); *Shuo-Hung Chang* (*National Taiwan University, Taiwan, R.O.C.*); *Ying-Jay Yang* (*National Taiwan University, Taiwan, R.O.C.*); *Shey-Shi Lu* (*National Taiwan University, Taiwan, R.O.C.*);

34 Dual-band Antenna for In-building Repeater Systems
Ho-Jun Lee (*Korea Electronics Technology Institute, Korea*); *Min-Ki Woo* (*Innonet Co., Ltd., South Korea*); *Nae-In Lee* (*Innonet Co., Ltd., South Korea*); *Gene Yoo* (*Innonet Co., Ltd., South Korea*);

35 Development of Textile Antennas for Smart Clothing Applications
Kuo-Sheng Chin (*Chang Gung University, Taiwan*); *Chi-Sheng Wu* (*Chang Gung University, Taiwan*); *Chih Chun Chang* (*Chang Gung University, Taiwan, R.O.C.*);

36 MIMO Reference Antennas for OTA Applications
Shuai Zhang (*Royal Institute of Technology, Sweden*); *Kun Zhao* (*KTH-Royal Institute of Technology, Sweden*); *Zhinong Ying* (*Sony Ericsson Mobile Communications AB, Sweden*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

37 Theoretical Analysis of AC Resistance of Coil Made by Copper Clad Aluminum Wires
Chihiro Kamidaki (*Fujikura Ltd., Japan*); *Ning Guan* (*Fujikura Ltd., Japan*);

38 A Hybrid Optimization of Wireless Power Transfer with Intermediate Coils
Tie Jun Cui (*Southeast University, China*); *Shuo Liu* (*Southeast University, China*); *Linhui Chen* (*Southeast University, China*);

39 A Rectenna for Wireless Power Transmission
Jwo-Shiun Sun (*National Taipei University of Technology, Taiwan, R.O.C.*); *Si-Jyun Hung* (*National Taipei University of Technology, Taiwan*); *Yi-Ching Huang* (*National Taipei University of Technology, Taiwan*); *Tsung-Lin Li* (*National Taipei University of Technology, Taiwan*); *Guan-Pu Pan* (*National Taipei University of Technology, Taiwan*);

40 Compact Design of a Flexible and Wearable Tri-band Rectenna
Diego Masotti (*Universita di Bologna, Italy*); *Alessandra Costanzo* (*University of Bologna, Italy*); *Massimo Del Prete* (*University of Bologna, Italy*); *Martino Aldrigo* (*University of Bologna, Italy*); *Riccardo Trevisan* (*University of Bologna/IMA Industries, Italy*);

41 Wireless Power Transmission by Enlarging the Near Field
Konstantin Meyl (*Furtwangen University, Germany*);

42 Numerical Study on the Radiative Transmission Efficiency of Dipolar Sources
Charles Luke Moorey (*University of Reading, UK*); *William Holderbaum* (*University of Reading, UK*); *Ben A. Potter* (*University of Reading, UK*);

43 An Energy Management Circuit Based on Up-conversion to Power Wireless Sensor Nodes
Shiqiang Pan (*Chongqing University, China*); *Ping Li* (*Chongqing University, China*); *Yumei Wen* (*Chongqing University, China*); *Ziqiang Zhang* (*Chongqing University, China*); *Dan Lu* (*Chongqing University, China*); *Dengfeng Sun* (*Chongqing University, China*);

44 Self-contained Self-powered Wireless Sensing Node for AC Power Supply Cords Monitoring
Dan Lu (*Chongqing University, China*); *Yumei Wen* (*Chongqing University, China*); *Ping Li* (*Chongqing University, China*); *Shiqiang Pan* (*Chongqing University, China*); *Ziqiang Zhang* (*Chongqing University, China*);

45 Symmetric Ridge-type Semiconductor Laser with Selectively Formed Double-sided Antiguiding Cladding Layers
Daiya Katsuragawa (*Ritsumeikan University, Japan*); *Takahiro Numai* (*Ritsumeikan University, Japan*);

46 Design of Narrow Core Structure for High Power Pickup Device in Railroad Application
Sang Hoon Chung (*KAIST, Korea*); *Bo Yune Song* (*KAIST, Korea*); *Dang-Oh Kim* (*KAIST, Korea*); *Uooyeol Yoon* (*KAIST, Korea*); *Jaegue Shin* (*KAIST, Korea*); *Yangsu Kim* (*KAIST, Korea*); *Chung Hee Lee* (*KAIST, Korea*); *Guho Jung* (*KAIST, Korea*);

47 A 200 GHz on-chip Active Antenna
Bing Zhang (*Chalmers University of Technology, Sweden*); *Li Wei* (*Chalmers University of Technology, Sweden*); *Mingquan Bao* (*Microwave and High Speed Electronics Research Center, Ericsson Research, Sweden*); *Yinggang Li* (*Microwave and High Speed Electronics Research Center, Ericsson Research, Sweden*); *Herbert Zirath* (*Chalmers University of Technology, Sweden*);

48 A Compact Energy Pattern Reconfigurable Antenna
Junrui Zhang (*University of Electronic Science and Technology of China, China*); *Shao-Qiu Xiao* (*University of Electronic Science and Technology of China, China*);

49 Scanning Range Expanding of Time Domain Array with Energy Pattern Reconfigurable Antenna Elements
Junrui Zhang (*University of Electronic Science and Technology of China, China*); *Shao-Qiu Xiao* (*University of Electronic Science and Technology of China, China*);

50 Design of Ultra Wideband Balanced Antipodal Vivaldi Antenna for Hyperthermia Treatment
Khaled A. Alsulaiman (*King Saud University, Saudi Arabia*); *Mohammed Al alShaykh* (*King Saud University, Saudi Arabia*); *Sulaiman Alsulaiman* (*King Saud University, Saudi Arabia*); *Ibrahim M. Elshafiey* (*King Saud University, Saudi Arabia*);

51 Label-free Acoustic and Optical Biosensors Playing on Evanescent Waves
Yihui Wu (*Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China*); *Guigen Liu* (*Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China*); *Peng Hao* (*Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China*); *Junfeng Wu* (*Chinese Academy of Sciences, China*); *Yongbo Deng* (*Chinese Academy of Sciences, China*); *Yongshun Liu* (*Changchun, *); *Ming Xuan* (*Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China*);

52 The Estimation of a Gold Nanoparticles Distribution Using the Evanescent Electric Field in Gold Nanoparticles Filled Surface Plasmon Resonance Biosensing
Chardchai Korjittavanit (*King Mongkut's University of Technology Thonburi, Thailand*); *Rardchawadee Silapunt* (*King Mongkut's University of Technology Thonburi, Thailand*); *Boonsong Sutapun* (*Suranaree University of Technology, Thailand*);

53 Numerical Analysis of Passively Q-switched Er and Yb Doped Fiber Laser
Dan Savastru (*National Institute of R&D for Optoelectronics INOE-2000, Romania*); *Roxana Savastru* (*National Institute of R&D for Optoelectronics INOE 2000, Romania*); *Sorin Miclos* (*National Institute of R&D for Optoelectronics INOE-2000, Romania*); *Ion Lancranjan* (*National Institute of R&D for Optoelectronics INOE 2000, Romania*);

54 Vector Magnetic Field Detecting with a Single Nitrogen Vacancy Center in Diamond
Xiangdong Chen (*University of Science and Technology of China, China*); *Changling Zou* (*University of Science and Technology of China, China*); *Fangwen Sun* (*University of Science and Technology of China, China*);

55 Low-pass Filter Design from EBG Waveguides Periodically Loaded with Metal Ridges
Stephan Marini (*Universidad de Alicante, Spain*); *Pablo Soto* (*Universidad Politécnica de Valencia, Spain*); *Angela Coves* (*Universidad Miguel Hernandez, Spain*); *Benito Gimeno Martinez* (*Universidad de Valencia, Spain*); *Vicente E. Boria* (*Universidad Politecnica de Valencia, Spain*);

56 Monte-Carlo MPSTD Analysis on Scattering of Cylinders Buried in a Layered Half Space with Random Rough Interface
Yueyang Dai (*Clemson University, USA*); *Wei Liu* (*Clemson University, USA*); *Xiao-Bang Xu* (*Clemson University, USA*);

57 Design of Multiband Reflection Filters with Dielectric Frequency Selective Surfaces
Angela Coves Soler (*Universidad Miguel Hernandez, Spain*); *Benito Gimeno Martinez* (*Universidad de Valencia, Spain*); *Miguel Vicente Andres* (*Universidad de Valencia, Spain*);

58 Method of Pseudodifferential Equations for Problems of Electromagnetic Wave Diffraction by Closed Screens
A. Ilyinsky (*Penza State University, Russia*); *Yury G. Smirnov* (*Penza State University, Russia*);

59 Nonlinear Optical Limiting in Suspensions of Carbon Nanotubes
Andrey Yu. Vlasov (*St. Petersburg State University, Russia*); *Anastasia Venediktova* (*St. Petersburg State University, Russia*); *Ivan M. Kislyakov* (*S. I. Vavilov State Optical Institute, Russia*); *Dmitry A. Videnichev* (*S. I. Vavilov State Optical Institute, Russia*); *Elena D. Obraztsova* (*A. M. Prokhorov Institute of General Physics, Russian Academy of Sciences, Russia*); *Ekaterina P. Sokolova* (*St. Petersburg State University, Russia*);

60 A 12-cavity Relativistic Magnetron with Optimized Design of Diffraction Output
Meiqin Liu (*Xi'an Jiaotong University, China*); *C. Liu* (*Xi'an Jiaotong University, China*); *Edl Schamiloglu* (*University of New Mexico, USA*);

Session 4P1
2_FocusSession.SC2: Microwave Metamaterials and Applications 2

Thursday PM, August 15, 2013

Room A

Organized by Tie Jun Cui, Yang Hao

Chaired by Tie Jun Cui, Yang Hao

13:30 invited RCS Reduction Based on Random Scattering via Artificial Metamaterials
Qiang Cheng (*Southeast University, China*); *Jie Chen* (*Southeast University, China*); *Di Sha Dong* (*Southeast University, China*); *Jie Zhao* (*Southeast University, China*); *Tie Jun Cui* (*Southeast University, China*);

13:50 Narrow-band Wave Block by Chiral Metamaterials
Nantakan Wongkasem (*Khon Kaen University, Thailand*); *Amornthep Sonsilphong* (*Khon Kaen University, Thailand*);

14:05 invited Extraordinary Transmission Induced by Thin Metamaterial Layers with Longitudinal Electric Resonances
S. C. Li (*Soochow University, China*); *J. Luo* (*Soochow University, China*); *Yun Lai* (*Soochow University, China*); *Bo Hou* (*Soochow University, China*);

14:25 invited Experimental Demonstration of High-performance Grin Lens Antenna with Controllable Aperture Field
Mei-Qing Qi (*Southeast University, China*); *W. X. Tang* (*Southeast University, China*); *Di Bao* (*Southeast University, China*); *Hui-Feng Ma* (*Southeast University, China*); *Tie Jun Cui* (*Southeast University, China*);

14:45 Some Characteristics of Gyrator Using Magnetoelectric Effect
Makoto Tsutsumi (*Fukui University of Technology, Japan*);

15:00 Hybrid Resonance of SRR Metamaterials: A Circuit Model
Rui-Xin Wu (*Nanjing University, China*); *Min Liu* (*Nanjing University, China*); *Yin Poo* (*Nanjing University, China*);

15:20 **Coffee Break**

15:40 Ray Tracing in an Arbitrary Cloak in Two Dimensions
Haroonhaider Sidhwa (*Indian Institute of Technology, India*); *R. P. R. C. Aiyar* (*Indian Institute of Technology, India*); *S. V. Kulkarni* (*Indian Institute of Technology, India*);

15:55 Broadband Flattened Luneburg Lens with Ultra-wide Angle Based on a Liquid Medium
Lingling Wu (*Xi'an Jiaotong University, China*); *Ming Yin* (*Xi'an Jiaotong University, China*); *Xiaoyong Tian* (*Xi'an Jiaotong University, China*); *Dichen Li* (*Xi'an Jiaotong University, China*);

16:10 A 3D Electromagnetic Wave Concentrator Realized with Gradient Index Woodpile Structure in Metamaterial Regime
Ming Yin (*Xi'an Jiaotong University, China*); *Lingling Wu* (*Xi'an Jiaotong University, China*); *Xiaoyong Tian* (*Xi'an Jiaotong University, China*); *Dichen Li* (*Xi'an Jiaotong University, China*);

16:25 Electromagnetic Behavior of SRR Loaded Microstrip Transmission Lines: Investigation for Different SRR Types and Array Topologies
Gokay Disken (*Suleyman Demirel University, Turkey*); *Fazil Pala* (*Suleyman Demirel University, Turkey*); *Esra Demir* (*Suleyman Demirel University, Turkey*); *H. Demet Korucu* (*Suleyman Demirel University, Turkey*); *Evren Ekmekci* (*Suleyman Demirel University, Turkey*);

16:40 The High Directivity Antenna Based on Metamaterials
Wanzhao Cui (*Xi'an Institute of Space Radio Technology, China*); *Tiancun Hu* (*Xi'an Institute of Space Radio Technology, China*);

16:55 Microwave Focusing by a Wire Medium
Joaquim J. Barroso (*National Institute for Space Research-INPE, Brazil*); *Antonio Tomaz* (*Instituto Tecnologico de Aeronautica, Brazil*); *Ugur C. Hasar* (*University of Gaziantep, Turkey*); *Alberto Jose de Faro Orlando* (*CTA, Brazil*);

Session 4P2
SC2: New and Novel Concepts on Metamaterials/Plasmonics

Thursday PM, August 15, 2013

Room B

Organized by Jensen Li, Che Ting Chan

Chaired by Jensen Li

13:00 invited Controlling Light at Subwavelength Scales: The Nonlocal and Quantum Tunnelling Effects
Yu Luo (*Imperial College London, UK*); *Antonio I. Fernandez-Dominguez* (*Imperial College, UK*); *Stefan A. Maier* (*Imperial College London, UK*); *John B. Pendry* (*Imperial College, UK*);

13:20 Plasmonic Phase Retardation in Anisotropic Nanodots: Modeling and Increased Sensor Figure of Merit
Wen-Yu Chen (*National Cheng Kung University, Taiwan*); *Chun-Hung Lin* (*National Cheng Kung University, Taiwan*); *Wei-Ting Chen* (*National Cheng Kung University, Taiwan*);

13:40 invited Giant Photobleaching Suppression Using the Strong Purcell Effect of Plasmonic Nanostructures
Yongmin Liu (*Northeastern University, USA*); *Hu Cang* (*Salk Institute for Biological Studies, USA*); *Xiang Zhang* (*University of California, USA*);

14:00 Chirality in the Interaction between Plasmons, Light, and Vortex Electron Beams
Ana Asenjo-Garcia (*CSIC, Spain*); *F. Javier Garcia De Abajo* (*Instituto de Optica — CSIC, Spain*);

14:20 Multipole Nanodisk Plasmons Excited by Cylindrical Vector Beams
Kyosuke Sakai (*Hokkaido University, Japan*); *Takeaki Yamamoto* (*Hokkaido University, Japan*); *Kensuke Nomura* (*Hokkaido University, Japan*); *Yoshito Tanaka* (*Hokkaido University, Japan*); *Keiji Sasaki* (*Hokkaido University, Japan*);

14:40 invited Effective Model for Plasmonic Coupling: A Rigorous Derivation
Meng Qiu (*Fudan University, China*); *Bin Xi* (*Fudan University, China*); *Shiyi Xiao* (*Fudan University, China*); *Hao Xu* (*Fudan University, China*); *Lei Zhou* (*Fudan University, China*);

15:00 Invisibility through Radial Anisotropy
Henrik Kettunen (*Aalto University School of Electrical Engineering, Finland*); *Henrik Wallen* (*Aalto University School of Science and Technology, Finland*); *Ari Henrik Sihvola* (*Aalto University School of Electrical Engineering, Finland*);

15:20 **Coffee Break**

15:40 Calculating the van der Waals Interaction Using Transformation Optics
Rongkuo Zhao (*Imperial College London, United Kingdom*); *Yu Luo* (*Imperial College London, UK*); *Antonio I. Fernandez-Dominguez* (*Imperial College, UK*); *John B. Pendry* (*Imperial College, UK*);

16:00 Metamaterials Simulators for Topological Excitations in Condensed Matters
Wei Tan (*Tongji University, China*); *Yong Sun* (*Tongji University, China*); *Shun-Qing Shen* (*The University of Hong Kong, China*); *Hong Chen* (*Tongji University, China*);

16:20 Novel Realizations for Optical Magnetism and Magnetic Metamaterials Down to Ultraviolet Wavelengths
Jianwei Tang (*Zhejiang University, China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

16:40 Designer Magnetoplasmonics in Anisotropic Nanoferromagnets
Kristof Lodewijks (*Chalmers University of Technology, Sweden*); *Irina Zubritskaya* (*Chalmers University of Technology, Sweden*); *Randy Dumas* (*Gothenburg University, Sweden*); *Johan Akerman* (*Gothenburg University, Sweden*); *Alexandre Dmitriev* (*Chalmers University of Technology, Sweden*);

17:00 Refraction and Reflection of Surface Plasmon Polaritons with Parasitic Scattering Suppression
Evgeni A. Bezus (*Image Processing Systems Institute of the Russian Academy of Sciences, Russia*); *L. L. Doskolovich* (*Image Processing Systems Institute of the Russian Academy of Sciences, Russia*);

17:20 Super-absorbing Plasmonic Metamaterials: From Visible to Mid-infrared
Michaël Lobet (*Université de Namur, Belgium*); *Olivier Deparis* (*Facultes Universitaires Notre-Dame de la Paix, Belgium*); *Luc Henrard* (*University of Namur, Belgium*);

17:40 Direct Observation of Plasmon Enhanced Four Wave Mixing (FWM)
Po-Wen Tang (*National Central University, Taiwan*); *Wen-Hsiang Yu* (*National Central University, Taiwan*); *Chao-Yi Tai* (*National Central University, Taiwan*);

Session 4P3
SC2: Plasmonic Nanomaterials and Nanostrcutures for Photovoltaics and Optoelectronics in Energy 2

Thursday PM, August 15, 2013

Room C

Organized by Wallace C. H. Choy, Jianfang Wang

Chaired by Wallace C. H. Choy, Jianfang Wang

13:20 Comprehensive Study of Plasmonic Effects in Organic Solar Cells
Wei E. I. Sha (*The University of Hong Kong, China*); *Wallace C. H. Choy* (*The University of Hong Kong, China*); *Weng Cho Chew* (*University of Illinois, USA*);

13:40 Plasmonic Harvesting of Solar Energy for Chemical Reactions
Jianfang Wang (*The Chinese University of Hong Kong, China*);

14:00 Plasmonic Enhancement of Organic Optoelectronic Devices with Metallic Nanostructures
Jianxin Tang (*Soochow University, China*);

14:20 Black Macroporous Silicon Film for Thin-silicon Photovoltaics
Xianyu Ao (*South China Normal University, China*); *Sailing He* (*KTH-Royal Institute of Technology, Sweden*);

14:40 Plasmonic Solar Cells beyond the Shockley-Queisser Limit
Krzysztof Kempa (*Boston College, USA*); *F. Ye* (*Boston College, USA*); *M. J. Burns* (*Boston College, USA*); *M. J. Naughton* (*Boston College, USA*);

15:00 The Use of Metal Nanoparticles in Photovoltaic Junctions
Philipp Reineck (*Monash University, Australia*); *Udo Bach* (*Monash University, Australia*);

15:20 **Coffee Break**

15:40 Planar Heterojunction Small-molecule Organic Solar Cell with Plasmonic Anode Structure
Shun-Po Yang (*Yuan Ze University, Taiwan*); *Tien-Lung Chiu* (*Yuan Ze University, Taiwan*); *Meng-Lin Tsai* (*National Taiwan University, Taiwan*); *Jr-Hau He* (*National Taiwan University, Taiwan*); *Jiun-Haw Lee* (*National Taiwan University, Taiwan, R.O.C.*); *Chi-Feng Lin* (*National United University, Taiwan*);

16:00 Achieving 8% Efficiency Inverted Organic Solar Cells by Using Room-temperature Solution-process Ag Nanoparticles Doped Hole Transport Layer
Xinchen Li (*The University of Hong Kong, China*); *Wallace C. H. Choy* (*The University of Hong Kong, China*); *Fengxian Xie* (*The University of Hong Kong, China*); *Shaoqing Zhang* (*Institute of Chemistry, Chinese Academy of Sciences, China*); *Jianhui Hou* (*Institute of Chemistry, Chinese Academy of Sciences, China*);

16:20 Encapsulated Au Nanorods Serving as Plasmonic Materials in Dye-sensitized Solar Cells
Shuai Chang (*The Chinese University of Hong Kong, China*); *Tao Chen* (*The Chinese University of Hong Kong, China*);

16:40 Graphene Nanoantenna with Tunable Optical Properties
Xingang Ren (*The University of Hong Kong, China*); *Wei E. I. Sha* (*The University of Hong Kong, China*); *Wallace C. H. Choy* (*The University of Hong Kong, China*);

Session 4P4
SC2: Plasmonics beyond the Common Local-response Approximation

Thursday PM, August 15, 2013

Room D

Organized by N. Asger Mortensen

Chaired by N. Asger Mortensen

13:00 invited Ab Initio Plasmonics: Beyond Classical Local Electromagnetic Theory
Peter Nordlander (*Rice University, USA*);

13:20 invited Quantum Plasmonics from First Principles
Kristian Sommer Thygesen (*Technical University of Denmark, Denmark*);

13:40 Hybrid Quantum/Classical Calculations by Real-time Classical Electrodynamics and Time-dependent Density Functional Theory
Arto Sakko (*Aalto University, Finland*); *T. Rossi* (*Aalto University, Finland*); *R. M. Nieminen* (*Aalto University, Finland*);

14:00 invited Performance of Non-local Optics When Applied to Plasmonic Nanostructures
Lorenzo Stella (*Universidad del Pais Vasco, United Kingdom*); *Pu Zhang* (*Facultad de Ciencias, Universidad Autónoma de Madrid, Spain*); *Francisco J. Garcia-Vidal* (*Universidad Autonoma de Madrid, Spain*); *Angel Rubio* (*Universidad del Pais Vasco, Spain*); *Pablo Garcia-Gonzalez* (*Universidad Autonoma de Madrid, Spain*);

14:20 invited Robust Subnanometric Plasmon Ruler by Rescaling of the Non-local Optical Response
T. V. Teperik (*Univ Paris 11, France*); *Peter Nordlander* (*Rice University, USA*); *A. G. Borisov* (*Univ Paris 11, France*); *Javier Aizpurua* (*Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU), Spain*);

14:40 invited Spatial Dispersion in Plasmonics and Metamaterials
Pavel Ginzburg (*King's College London, UK*); *Viktor A. Podolskiy* (*Oregon State University, USA*); *Anatoly V. Zayats* (*King's College London, UK*);

15:00 invited Nanoplasmonics: Hydrodynamic Approach to Nonlocal Response
Martijn Wubs (*Technical University of Denmark, Denmark*); *N. Asger Mortensen* (*Technical University of Denmark, Denmark*);

15:20 **Coffee Break**

15:40 Inclusion of Nonlocal Effects in the Hydrodynamic Description of Metal Surfaces with Smooth Density Profiles
Christin David (*Instituto de Quimica-Fisica Rocasolano, Consejo Superior de Investigaciones Cientifcas, Spain*); *F. Javier Garcia De Abajo* (*Instituto de Optica — CSIC, Spain*);

16:00 invited The Impact of Plasmonic Nonlocality on Field Enhancement
Cristian Ciraci (*Duke University, USA*); *David R. Smith* (*Duke University, USA*);

16:20 invited Nonlocal Effects in Three-dimensional Nanoplasmonic Devices
Antonio I. Fernandez-Dominguez (*Imperial College, UK*);

16:40 Nonlocal Response in Waveguides
Soren Raza (*Technical University of Denmark, Denmark*); *Thomas Christensen* (*Technical University of Denmark (DTU), Denmark*); *Martijn Wubs* (*Technical University of Denmark, Denmark*); *Sergey I. Bozhevolnyi* (*University of Southern Denmark, Denmark*); *N. Asger Mortensen* (*Technical University of Denmark, Denmark*);

17:00 Nonlocal Effects in a Hybrid Plasmonic Waveguide for Nanoscale Confinement
Qiangsheng Huang (*Zhejiang University, China*); *Fanglin Bao* (*Zhejiang University, China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

17:20 Nonlocal Response in Plasmonic Waveguiding
Giuseppe Toscano (*Technical University of Denmark, Denmark*);

17:40 Perfect Imaging and ENZ Phenomena for Metallic Slabs in the Scope of Nonlocal Effects
Christin David (*Instituto de Quimica-Fisica Rocasolano, Consejo Superior de Investigaciones Cientifcas, Spain*); *Niels Asger Mortensen* (*Technical University of Denmark, Denmark*); *J. Christensen* (*Technical University of Denmark, Denmark*);

Session 4P5a
SC4: Wireless Energy Transmission and Harvesting 2

Thursday PM, August 15, 2013

Room E

Organized by Ki Young Kim, Alessandra Costanzo

Chaired by Elisenda Bou Balust, Riccardo Trevisan

13:00 Wireless Energy Harvester with a Switching Passive Charge Pump Rectifier
Andre Luis Rodrigues Mansano (*Delft University of Technology, The Netherlands*); *Wouter A. Serdijn* (*Delft University of Technology, The Netherlands*);

13:20 Analysis, Design and Experimental Verification of Modified Folded Loop Antennas for RF Harvesting and RFID Applications on Metal Objects
Hubregt J. Visser (*Eindhoven University of Technology, The Netherlands*);

13:40 A Critical Look at the Challenges of RF Energy Harvesting
Raj Mittra (*The Pennsylvania State University, USA*); *Giacomo Bianconi* (*Università di Pisa, Italy*);

14:00 Theoretical and Numerical Investigation of a Mid-infrared Energy-harvesting System
Martino Aldrigo (*University of Bologna, Italy*); *Alessandra Costanzo* (*University of Bologna, Italy*); *Diego Masotti* (*Universita di Bologna, Italy*); *Riccardo Trevisan* (*University of Bologna/IMA Industries, Italy*);

14:20 Novel Rectenna Using Modified Ground Plane for RF Energy Harvesting
Jung-Ick Moon (*Electronics and Telecommunications Research Institute, South of Korea*); *In-Kui Cho* (*Electronics and Telecommunications Research Institute, South of Korea*); *Seong-Min Kim* (*Electronics and Telecommunications Research Institute, South of Korea*); *Soon-Ik Jeon* (*Electronics and Telecommunications Research Institute, South Korea*); *Jae-Ick Choi* (*Electronics and Telecommunications Research Institute, Korea*);

14:40 A High-efficiency Matching Technique for Low Power Levels in RF Harvesting
Iker Anchustegi-Echearte-Atienzar (*Universitat Politècnica de Catalunya, Spain*); *David Jiménez-López* (*Universitat Politècnica de Catalunya, Spain*); *Manel Gasulla* (*Universitat Politècnica de Catalunya, Spain*); *Francesco Giuppi* (*Centre Tecnològic de Telecomunicacions de Catalunya, Spain*); *Apostolos Georgiadis* (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC), Spain*);

15:00 Co-design of a 90 nm CMOS Rectifier and Small Loop Antenna for Large Range RF Energy Harvesters
Mark Stoopman (*Delft University of Technology, The Netherlands*); *S. Keyrouz* (*IMEC-NL, The Netherlands*); *H. J. Visser* (*IMEC-N, The Netherlands*); *Kathleen Philips* (*IMEC-NL, The Netherlands*); *Wouter A. Serdijn* (*Delft University of Technology, The Netherlands*);

15:20 **Coffee Break**

Session 4P5b
Antenna and Array

Thursday PM, August 15, 2013

Room E

Chaired by B. Lars G. Jonsson, Filiz Gunes

15:40 Phase Characterization of X-band Minkowski Reflectarray Antennas Using 3-D CST Microwave Studio-based Neural Network Model Included Dielectric Properties
Selahattin Nesil (*Fatih University, Turkey*); *Filiz Gunes* (*Yildiz Technical University, Turkey*); *Salih Demirel* (*Yildiz Technical University, Turkey*);

16:00 Antenna Array Synthesis, Using Method of Compressed Cosines
Peter Stoyanov Apostolov (*High School "College of Telecommunications and Post", Bulgaria*);

16:20 High-gain ***S***-band Slotted Waveguide Antenna Arrays with Elliptical Slots and Low Sidelobe Levels
Mohammed Al-Husseini (*American University of Beirut, Lebanon*); *Ali El-Hajj* (*American University of Beirut, Lebanon*); *Karim Y. Kabalan* (*American University of Beirut, Lebanon*);

16:40 Large Impedance Ground Plane Antennas for mm-accuracy of GNSS Positioning in Real Time
Dmitry V. Tatarnikov (*Topcon Positioning Systems, Russia*); *Andrey Astakhov* (*Topcon Positioning Systems, Russia*);

17:00 The Proposal of a Printed Dipole Array Antenna with Partial Drive through Transmission Line Coupling
Hiroyuki Hosono (*Nihon University, Japan*); *Kuniaki Shibata* (*Nihon University, Japan*); *Kenji Saegusa* (*Nihon University, Japan*); *Tadashi Takano* (*Nihon University, Japan*);

17:20 Omni-directional Leaky-wave Coaxial Antenna
Ahmed Mohamed Attiya (*Electronics Research Institute, Egypt*);

17:40 Comparison of Radiation Patterns of Transmission Antennas for Marathon Race Considering Frequency Migration of Field Pick-up Units
Naoto Kogo (*NHK, Japan*); *Tetsuomi Ikeda* (*NHK, Japan*);

18:00 Robust Beamforming Using Weighted Directional Constraints and Wavelet Blocking Matrix
Said Esmail El-Khamy (*Alexandria University, Egypt*); *Mohamed R. M. Rizk* (*Alexandria University, Egypt*); *Roshdy K. Korayem* (*Alexandria University, Egypt*);

Session 4P6a
Electromagnetic Modeling, Inversion and Applications

Thursday PM, August 15, 2013

Room F

Organized by Ganquan Xie

Chaired by Jay Kyoon Lee

13:00 Antenna Design for a Ground Penetrating Radar inside a Bottom Hole Assembly
Jan-Florian Höfinghoff (*Leibniz University Hannover, Germany*); *Ludger Overmeyer* (*Leibniz University Hannover, Germany*);

13:20 Design of Elliptic-Function Microstrip Filters with Defected Ground Structures
Agâh Oktay Ertay (*Istanbul Technical University, Turkey*); *Serkan Simsek* (*Istanbul Technical University, Turkey*);

13:40 Shape Reconstruction of a Dielectric Coated PEC through Generalized Impedance Boundary Conditions
Birol Aslanyurek (*Yildiz Technical University, Turkey*); *Tolga Ulas Gurbuz* (*Istanbul Technical University, Turkey*); *Hulya Sahinturk* (*Yildiz Technical University, Turkey*);

14:00 Electromagnetic Stimulation of Transport in Water for Geoenvironmental Applications
Arvin Farid (*Boise State University, USA*); *Mahsa Azad* (*Boise State University, USA*); *Jim Browning* (*Boise State University, USA*); *Elisa Barney-Smith* (*Boise State University, USA*);

14:20 Inversion of Planetary Rough Surface Permittivity and Thickness from Radar Sounder Observations
Hongxia Ye (*Fudan University, China*);

14:40 Wave Propagation Characteristics of Layered Uniaxially Anisotropic Media
Y. H. Lee (*Telecommunication R&D Center, Korea*); *Abdullah Eroglu* (*IPFW, USA*); *Jay Kyoon Lee* (*Syracuse University, USA*);

Session 4P6b
SC4: MIMO Antennas

Thursday PM, August 15, 2013

Room F

Organized by Cyril Luxey, Shuai Zhang

Chaired by Shuai Zhang

15:00 Modeling of Ultra Wideband Antenna Arrays
Yvan Duroc (*Grenoble Institute of Technology (Grenoble-INP), France*);

15:20 **Coffee Break**

15:40 A Method of Dual-frequency Decoupling for Two-element MIMO Antenna
Hiroshi Sato (*Panasonic Mobile Communications Co., Ltd., Japan*); *Yoshio Koyanagi* (*Panasonic Mobile Communications Co., Ltd., Japan*); *Koichi Ogawa* (*Toyama University, Japan*); *Masaharu Takahashi* (*Chiba University, Japan*);

16:00 4G LTE MIMO Array Antenna
W. Swelam (*University of Waterloo, Canada*);

16:20 CDMA Microstrip Array Antenna
Hassan Elkotbe Elesawy (*Egyptian Armed Forces, Egypt*); *W. Swelam* (*Egyptian Armed Forces, Egypt*); *Ismail Hafez* (*Ain Shams University, Egypt*);

16:40 Body-effect-adaptive Compact Wideband LTE MIMO Antenna Array with Quad Elements for Mobile Terminals
Shuai Zhang (*Royal Institute of Technology, Sweden*); *Kun Zhao* (*School of Electrical Engineering, KTH-Royal Institute of Technology, Sweden*); *Zhinong Ying* (*Sony Ericsson Mobile Communications AB, Sweden*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

17:00 Multiple-feed Coupling Measurements for Luneburg Lens Antenna
Debora Franco-Vazquez (*Universidade de Vigo, Spain*); *María Vera-Isasa* (*Universidad de Vigo, Spain*); *M. Edita De Lorenzo Rodriguez* (*Universidad de Vigo, Spain*);

17:20 Planar MIMO Antenna System for Laptop Applications
Amira El-Tokhy Ali (*Modern Science and Arts University (MSA), Egypt*); *Deena A. Salem* (*Electronics Research Institute, Egypt*);

17:40 The Study of Loss Effect on the LTE MIMO Antenna in Mobile Handset
Kun Zhao (*KTH-Royal Institute of Technology, Sweden*); *Shuai Zhang* (*Royal Institute of Technology, Sweden*); *Zhinong Ying* (*Sony Ericsson Mobile Communications AB, Sweden*); *Erik Bengtsson* (*Sony Mobile Communications AB, Sweden*); *Sailing He* (*KTH-Royal Institute of Technology, Sweden*);

Session 4P7
Microwave and Millimeter Wave Circuits and Devices, CAD

Thursday PM, August 15, 2013

Room G

Chaired by Martin Norgren

13:20 Asymetrical Interdigital Dual-band Bandpass Filter Using Grounded inside Arms with via Holes
Ram Krishna Maharjan (*Kwangwoon University, South Korea*); *Nam-Young Kim* (*Kwangwoon University, Republic of Korea*);

13:40 Low Profile Planar Composite Inductor Design for High Power Applications
Abdullah Eroglu (*Indiana University-Purdue University, USA*);

14:00 A Design of Multi-harmonics Load Network for Class-S Power Amplifier
Girdhari Chaudhary (*Chonbuk National University, Republic of Korea*); *Phirun Kim* (*Chonbuk National University, Republic of Korea*); *Yongchae Jeong* (*Chonbuk National University, South Korea*); *Chan-Sei Yoo* (*Korea Electronics Technology Institute (KETI), Korea*);

14:20 Systematic Study of the Effective Permittivity in a Periodically Drilled Substrate Integrated Waveguide
Rodrigo Isidro (*Universidad Miguel Hernández de Elche, Spain*); *Angela Coves Soler* (*Universidad Miguel Hernández de Elche, Spain*); *Miguel Ángel Sanchez-Soriano* (*Universite Bretagne Occidentale, France*); *German Torregrosa-Penalva* (*Universidad Miguel Hernández de Elche, Spain*); *Enrique Bronchalo* (*Universidad Miguel Hernández de Elche, Spain*); *Maurizio Bozzi* (*University of Pavia, Italy*);

14:40 Design of a Single-board Two-port Analyzer for Microwave Dielectrometry
Roberto Olmi (*Institute of Applied Physics N. Carrara-CNR, Italy*); *Filippo Micheletti* (*Institute for Applied Physics — National Research Council IFAC-CNR, Italy*);

15:00 A 2.45 GHz High Figure-of-Merit Reflection Type Phase Shifter
François Burdin (*University of Grenoble, France*); *Zyad Iskandar* (*LAIR/DACLE, CEA/Léti, France*); *Florence Podevin* (*University of Grenoble, France*); *Philippe Ferrari* (*University of Grenoble, France*);

15:20 **Coffee Break**

15:40 A Compact Hybrid EBG Microstrip Bandstop Filter for Digital Clock Suppression in a Power Supply System
Raul Peña Rivero (*National Polytechnique Institute, Mexico*); *A. Mendoza-Tellez* (*National Polytechnique Institute, Mexico*); *Roberto Linares-Miranda* (*National Polytechnique Institute, Mexico*); *J. A. Tirado-Mendez* (*National Polytechnique Institute, Mexico*);

16:00 Switchable Band-stop to All Pass Filter Using Stepped Impedance Resonator
Amine Adoum Bakhit (*Universiti Teknologi PETRONAS, Malaysia*); *Peng Wen Wong* (*Universiti Teknologi PETRONAS, Malaysia*);

16:20 Study of Dynamic-periodic Transmission Lines
Jose Roberto Reyes Ayona (*Instituto Nacional de Astrofisica Optica y Electronica, Mexico*); *Peter Halevi* (*Instituto Nacional de Astrofisica, Optica y Electronica (INAOE), Mexico*);

16:40 A Length-reduced Microstrip Line with Inductive and Capacitive Perturbations
Jongsik Lim (*Soonchunhyang University, Republic of Korea*); *Kyunghoon Kwon* (*Soonchunhyang University, Republic of Korea*); *Kolet Mok* (*Chonbuk National University, Republic of Korea*); *Yongchae Jeong* (*Chonbuk National University, South Korea*); *Sang-Min Han* (*Soonchunhyang University, Korea*); *Dal Ahn* (*Soonchunhyang University, Korea*);

17:00 Effect of the Ionizing Radiation on the Harmonic and Intermodulation Performance of the CMOS Inverting Amplifier
Muhammad Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals, Saudi Arabia*);

17:20 Design Optimization of Microstrip Matching Circuits Using a Honey Bee Mating Algorithm Subject to the Transistor's Potential Performance
Peyman Mahouti (*University Istanbul, Turkey*); *Salih Demirel* (*Yildiz Technical University, Turkey*); *Filiz Gunes* (*Yildiz Technical University, Turkey*);

Session 4P8a
Medical Electromagnetics, Biological Effects

Thursday PM, August 15, 2013

Room H

Chaired by Qiu Qiang Zhan

13:00 Electromagnetic Information Delivery as a New Perspsctive in Medicine
Alberto Foletti (*University of Applied Sciences of Southern Switzerland-SUPSI, Switzerland*); *Settimio Grimaldi* (*Institute of Neurobiology and Molecular Medicine (INMM), National Research Council (CNR), Italy*); *Mario Ledda* (*Istituto di Neurobiologia e Medicina Molecolare, C.N.R., Italy*); *Antonella Lisi* (*Istituto di Neurobiologia e Medicina Molecolare, CNR, Italy*);

13:20 A Novel Conformal Antenna for Ingestible Capsule Endoscopy in the MedRadio Band
Konstantinos A. Psathas (*National Technical University of Athens, Greece*); *Asimina Kiourti* (*National Technical University of Athens, Greece*); *Konstantina S. Nikita* (*National Technical University of Athens, Greece*);

13:40 Impact of Electromagnetic Field Generated by Mobile Phone on Prooxidant-antioxidant Balance in Selected Internal Organs of Rats
Pawel Sowa (*Silesian University of Technology, Poland*); *Karolina Sieron-Stoltny* (*Medical University of Silesia, Poland*); *Grzegorz Jan Cieslar* (*Medical University of Silesia, Poland*); *Aleksander Sieron* (*Medical University of Silesia, Poland*);

14:00 Electric and Magnetic Fields Due to the Operation of Roof Mounted Photovoltaic Systems
Anastasia S. Safigianni (*Democritus University Thrace, Greece*); *Aristotle M. Tsimtsios* (*Democritus University Thrace, Greece*);

14:20 Experimental Study about the Thermal Effects of EM Sources on Human Skin Tissue
A. Yasin Citkaya (*Bogazici University, Turkey*); *S. Selim Seker* (*Bogazici University, Turkey*); *Osman Cerezci* (*Sakarya University, Turkey*);

14:40 Optimized Nanocage for Cancer Photothermal Therapy and Comparison with Other Nanoparticles
Sameh Kessentini (*University of Technology of Troyes, France*); *Dominique Barchiesi* (*University of Technology of Troyes, France*);

Session 4P8b
SC3: Nonlinear Optics: Structured Materials, Functional Devices and Applications 2

Thursday PM, August 15, 2013

Room H

Organized by Chia Chen Hsu, Shiming Gao

Chaired by Roberto Caputo, Shiming Gao

15:00 invited Dynamic Frequency Conversion in an Ultrahigh-Q Fiber Grating Cavity
Zhangwei Yu (*Royal Institute of Technology (KTH), Sweden*); *Irina V. Kabakova* (*University of Sydney, Australia*); *Patrik Rugeland* (*Institute of Technology (KTH), Sweden*); *Pierre-Yves Fonjallaz* (*Acreo Swedish ICT AB, Sweden*); *Oleksandr Tarasenko* (*Acreo Swedish ICT AB, Sweden*); *C. Martijn de Sterke* (*University of Sydney, Australia*); *Walter Margulis* (*Royal Institute of Technology (KTH), Sweden*);

15:20 **Coffee Break**

15:40 Third Harmonic Generation by Optimized Hyperfine Aperiodic Optical Superlattice
Cheng-Wei Hsu (*National Tsing Hua University, Taiwan*); *Jui-Yu Lai* (*National Tsing Hua University, Taiwan*); *Shangda Yang* (*National Tsing Hua University, Taiwan*);

16:00 Enhanced Visible-harmonic Generations in an Azo-polymer Resonant Waveguide Grating
Jian-Hung Lin (*National Chung Cheng University, Taiwan*); *Georg W. Rieger* (*University of British Columbia, Canada*); *Hung-Chih Kan* (*National Chung Cheng University, Taiwan*); *Ching-Ting Lee* (*Cheng Kung University, Taiwan*); *Jeff F. Young* (*University of British Columbia, Canada*); *Chia Chen Hsu* (*National Chung Cheng University, Taiwan, R.O.C.*);

16:20 Fiber-based Ultrafast Frequency Conversion Sources for Multiphoton Microscopy
Yen-Yin Lin (*National Tsinghua University, Taiwan*); *Shi-Wei Chu* (*National Taiwan University, Taiwan*); *Yuan Yao Lin* (*National Tsing-Hua University, Taiwan*);

16:40 invited Tunable Plasmonic Behaviour of Micro-structured Composite Materials
Roberto Caputo (*University of Calabria, Italy*); *Luciano De Sio* (*Beam Engineering for Advanced Measurements Company, USA*); *Marco Castriota* (*University of Calabria, Italy*); *Cesare P. Umeton* (*University of Calabria, Italy*);

17:00 Gap Solitons in Coupled Bragg Gratings with Cubic-quintic Nonlinearity
Md. Jahedul Islam (*The University of Sydney, Australia*); *Javid Atai* (*The University of Sydney, Australia*);

17:20 Dispersion Engineering of Suspended Silicon Photonic Waveguides for Broadband Mid-infrared Wavelength Conversion
Xibin Li (*Zhejiang University, China*); *Ping Zhou* (*Zhejiang University,, China*); *Shiming Gao* (*Zhejiang University, Ctr. Opt. & Electromagnet. Res., China*); *Sailing He* (*Royal Institute of Technology, KTH-ZJU Joint Research Center of Photonics, Sweden*);

17:40 Dual Wavelength Switching by a Bare Fiber Butt Joint in an Erbium-doped Fiber Ring Laser
Fang-Wen Sheu (*National Chiayi University, Taiwan*); *Yu-Han Kao* (*National Chiayi University, Taiwan*);

PIERS SURVEY

This is to inform you about future Progress in Electromagnetics Research Symposium (PIERS).

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A1. For the next PIERS 2014 to be held in Guangzhou, CHINA,

( ) I will be interested in organizing and chairing a session, and the proposed title is

_____

B. For past PIERS, I attended

( ) 1st PIERS1989 in Boston
( ) 2nd PIERS1991 in Cambridge
( ) 3rd PIERS1993 in Pasadena
( ) 4th PIERS1994 in Noordwijk
( ) 5th PIERS1995 in Seattle
( ) 6th PIERS1996 in Innsbruck
( ) 7th PIERS1997 in Hong Kong
( ) 8th PIERS1997 in Cambridge
( ) 9th PIERS1998 in Nantes
( ) 10th PIERS1999 in Taipei
( ) 11th PIERS2000 in Cambridge
( ) 12th PIERS2001 in Osaka
( ) 13th PIERS2002 in Cambridge
( ) 14th PIERS2003 in Singapore
( ) 15th PIERS2003 in Honolulu
( ) 16th PIERS2004 in Pisa
( ) 17th PIERS2004 in Nanjing
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( ) 25th PIERS2009 in Beijing
( ) 26th PIERS2009 in Moscow
( ) 27th PIERS2010 in Xi'an
( ) 28th PIERS2010 in Cambridge
( ) 29th PIERS2011 in Marrakesh
( ) 30th PIERS2011 in Suzhou
( ) 31th PIERS2012 in Kuala Lumpur
( ) 32th PIERS2012 in Moscow
( ) 33th PIERS2013 in Taipei
( ) 34th PIERS2013 in Stockholm

C. I have the following comments about PIERS:

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	MONDAY AM 8:00 August 12	MONDAY PM 13:00 August 12	TUESDAY AM 8:00 August 13	TUESDAY PM 13:00 August 13
ROOM A	1A1 - Metamaterials and Plasmonics Based on Graphene	1P1 - Plasmonics in the Quantum Regime 1	2A1 - Transformation Optics 1	2P1 - Recent Progress in Photonic Crystals 2
ROOM B	1A2 - New Developments in Non-reciprocal EMs and Optics	1P2 - Metasurfaces for Wavefront Control	2A2 - Recent Progress in Photonic Crystals 1	2P2 - Quantum Bits and Entanglement at Microwave Frequencies
ROOM C	1A3 - Frontiers of Ultrafast Optics	1P3 - Casimir Effect and Heat Transfer 1	2A3 - Education for Electromagnetics	2P3 - Optics for Bio-medical Diagnostics and Therapy Applications
ROOM D	1A4 - Foundations of Casimir Physics (with tutorials)	1P4a - Novel Frequency Selective Structures 1P4b - Metamaterials for Circuits and Antennas	2A4 - Microwave Remote Sensing of Snow Cover	2P4 - Casimir Effect and Heat Transfer 2
ROOM E	1A5 - Silicon Photonics	1P5 - Advances in Millimeter-Wave and THz Circuit, Techniques and Applications	2A5 - Lightwaves and Resonances in Confined Structures	2P5a - High Energy and High Power in PC Fibres 2P5b - Optical Angular Momentum and Its Applications
ROOM F	1A6 - Antenna Modeling and Simulation	1P6 - Multiband and Wideband Antenna and Array Techniques	2A6 - Small and Miniaturized Antenna Techniques	2P6 - Antenna and RF Measurements
ROOM G	1A7 - Advanced Photonic Materials and Nanophtonics	1P7a - Optical Fiber Communications 1P7b - Industrial Forum on CEM Software	2A7 - Nonlinear Optics: Structured Materials, Functional Devices and Applications 1	2P7a - Integrated Nanophotonics for Optical Interconnects 2P7b - High Frequency/Asymptotic Methods
ROOM H	1A8 - Inverse Scattering Problems: Theory and Applications	1P8 - Fano Resonances in Microwaves and Optics: Physics and Application	2A8 - Analytical and Numerical Techniques for Periodic Structures	2P8a - Inverse Source Problems for Localization 2P8b - Techniques and Applications in SAR/ISAR Imaging
ROOM I	1A9 - Novel Mathematical Methods in Electromagnetics	1P9 - Ultrawideband Nondiffracting and Accelerating Waves	2A9 - Spectral Theory of Open Structures: Critical and Interaction Phenomena	2P9 - Extended/Unconventional EM Theory, EHD/EMHD, and Electro-biology
ROOM J	1A_10 - Electromagnetics of Gradient Nanostructures and Heterogeneous Media	1P_10a - RS of Atmosphere, Ocean, Hydrology 1P_10b - Nonlinear and Inverse Problems in EMs	2A_10 - Antenna-channel Interactions and Multipath Wireless Channels	2P_10 - Advanced Mathematical and Computational Methods in EM Theory and Their Applications
ROOM K	1A_11a - Application of EM in Medicine and Ecologica Industria 1A_11b - Nonlinear Materials and Devices	1P_11 - Computational Electromagnetics	2A_11a - Paper-based Microwave Circuits and Antennas 2A_11b - Circuit Modelling in Microwave Devices	2P11b - Computational Techniques in EMs and Applications
ROOM P	1A_K - Poster Session 1	1P_K - Poster Session 2	2A_K - Poster Session 3	2P_K - Poster Session 4

	WEDNESDAY AM 8:00 August 14		WEDNESDAY PM 13:00 August 14		THURSDAY AM 8:00 August 15		THURSDAY PM 13:00 August 15	
ROOM A	3A1 - Microwave Metamaterials and Applications 1		3P1 - Super Enhancement of Light with Plasmonic Nano-structures 2		4A1a - Transformation Optics 2	4A1b - Photonics and Optoelectronics in Industry	4P1 - Microwave Metamaterials and Applications 2	
ROOM B	3A2 - Super Enhancement of Light with Plasmonic Nano-structures 1		3P2 - Multi-scale & Multi-physics Computational Electromagnetics		4A2 - Non-linear Metamaterials and Plasmonics		4P2 - New and Novel Concepts on Metamaterials/Plasmonics	
ROOM C	3A3 - Photonics of Quantum Dots and Its Applications		3P3a - Super-resolution in Bio-imaging and Sensing	3P3b - Plasmonics in the Quantum Regime 2	4A3 - Progress in Optical Sensing and Environmental Monitoring		4P3 - Plasmonic Nanomaterials and Nanostrcutures for Photovoltaics and Optoelectronics in Energy 2	
ROOM D	3A4 - EMC, Signal Integrity and Power Integrity for Semiconductor and High Speed Electronics		3P4a - Radio over Fiber Systems and Components	3P4b - Plasmonic Nanomaterials and Nanostrcutures 1	4A4 - Wireless Energy Transmission and Harvesting 1		4P4 - Plasmonics beyond the Common Local-response Approximation	
ROOM E	3A5 - Microwave Photonics		3P5 - Effective Medium Theories and Homogenization		4A5 - High Resolution Imaging with Penetrating Radar Scanners for Detection of Small or Low Contrast Objects		4P5a - Wireless Energy Transmission and Harvesting 2	4P5b - Antenna and Array
ROOM F	3A6 - Challenges for Small Antennas		3P6 - Active Antennas, MIMO and Beamforming Systems		4A6a - Physics and Modeling of Laser-induced Periodic Surface Structures	4A6b - Millimeter-Wave and THz Components, Antennas and Arrays	4P6a - Electromagnetic Modeling, Inversion and Applications	4P6b - MIMO Antennas
ROOM G	3A7a - Ultra-wideband Antennas for Radio Astronomy	3A7b - Body-centric Wireless Communications	3P7a - IEMI and EMC	3P7b - THz Technologies and Applications	4A7 - Integrated Optical Passive and Active Components for Communication and Sensing Applications		4P7 - Microwave and Millimeter Wave Circuits and Devices, CAD	
ROOM H	3A8a - GPU Computing in Electromagnetics	3A8b - Design and Simulation of EM and Optical Devices	3P8a - Advanced Magnetic Materials for Microwave Applications	3P8b - New Materials for EM Shielding --- Materials and Technology	4A8a - Remote Sensing of the Earth, Ocean, and Atmosphere	4A8b - EM Imaging and Detection of Concealed Objects	4P8a - Medical Electromagnetics, Biological Effects	4P8b - Nonlinear Optics: Structured Materials, Functional Devices 2
ROOM I	3A9a - On-chip Optical Sensing Technologies and Devices	3A9b - Action-at-a-distance Theories and Electrodynamics	3P9a - Giant Magneto-impedance and EM Safety	3P9b - Advanced Techniques in Nanoelectromagnetics Applications				
ROOM P	3A_K - Poster Session 5		3P_K - Poster Session 6		4A_K - Poster Session 7			