PIERS 2012 Kuala Lumpur

Progress In Electromagnetics Research Symposium

Program

March 27–30, 2012
Kuala Lumpur, MALAYSIA

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Progress In Electromagnetics Research Symposium

March 27–30, 2012

Kuala Lumpur, MALAYSIA

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- Multimedia University (MMU)
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SYMPOSIUM VENUE

The 2012 Progress in Electromagnetics Research Symposium will be held on March 27–30, 2012, at Sunway Resort Hotel and Spa, Kuala Lumpur. During the symposium, the PIERS OFFICE will also be located in Sunway Resort Hotel and Spa.

REGISTRATION

The PIERS technical sessions will begin on Tuesday morning, March 27, 2012 at Sunway Resort Hotel and Spa, Kuala Lumpur. You may register in the PIERS OFFICE on Monday, March 26, from 13:00 to 17:00, or during the symposium from 8:30 through 17:00, March 27–30, 2012.

The on-site registration fee is USD$680. The student registration fee 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 Tuesday, March 27, 2012, from 12:00 to 13:30, symposium reception will take place at the PIERS host hotel. For registered PIERS participant, the reception is free. For unregistered companions, the price is USD 20 per person. Please make reservation in advance and pay cash at PIERS check-in desk.

Symposium Banquet

On Thursday evening, March 29, 2012 at 19:30, 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 80 per person. Reservations for the banquet can be done online at https://portal.utar.edu.my/conference/online_conference_form.jsp. Please make reservation and pay in advance before March 26, 2012.

PIERS ONLINE

Information on PIERS 2012 Kuala Lumpur and future PIERS is posted at www.piers.org.

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.
- **20 mins time limit:**
  Each oral presentation, including questions and answers, should be less than 20 minutes.
- **DO NOT change presentation sequence:**
  Session Chair, please be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each talk and refrain from changing paper presentation sequence.

Presenters choosing to use overhead projectors with transparencies, please inform PIERS OFFICE to prepare in advance.

Poster Presentations

Presenters should indicate time slots of their presence on the panel and be present for interactive questions within the posted time slots. All presenters are suggested to be present during 10:00–10:20 and 15:00–15:20.

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

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

ACCOMMODATION

Participants are responsible for making their own housing arrangements. The PIERS Host Hotel is Sunway Resort Hotel and Spa, Kuala Lumpur. Please visit PIERS 2012 website for detailed information. The Sunway Resort Hotel and Spa is offering participants a limited number of rooms at a discounted rate on a first come first served basis. The form can be downloaded from http://www.utar.edu.my/piers2012/file/Sunway_Hotel_Booking.pdf. Fill in the form and fax it directly to Sunway Resort Hotel and Spa. The information below is provided for your convenience.

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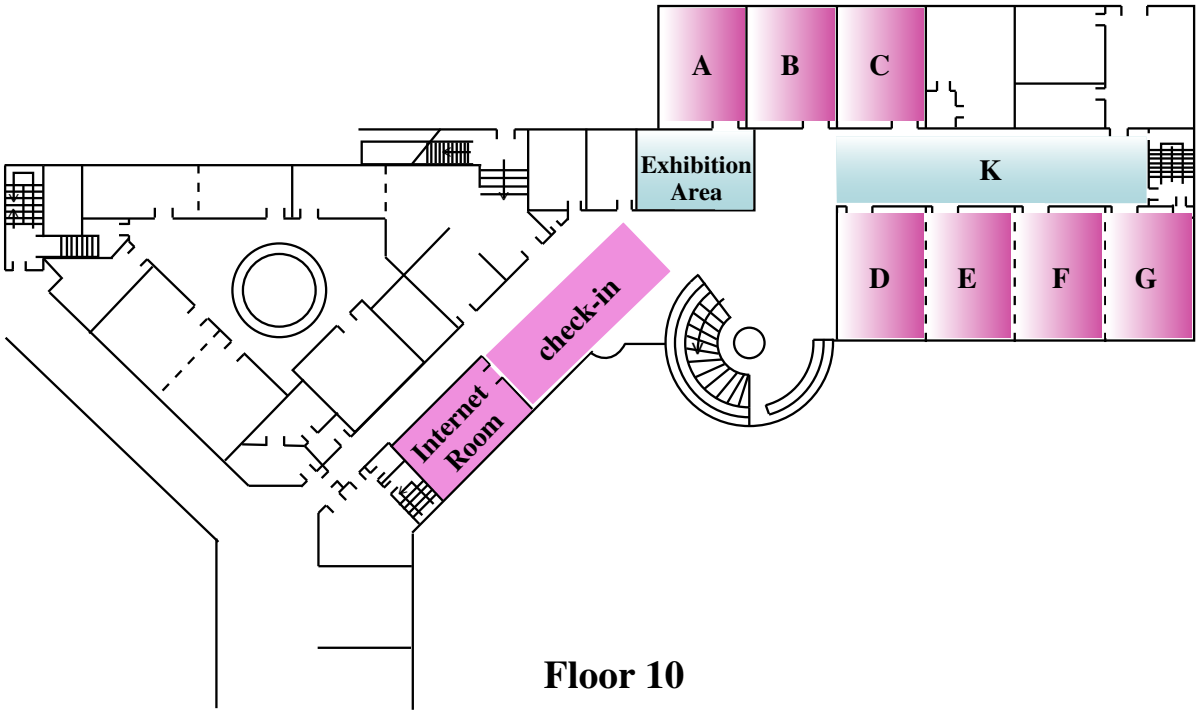

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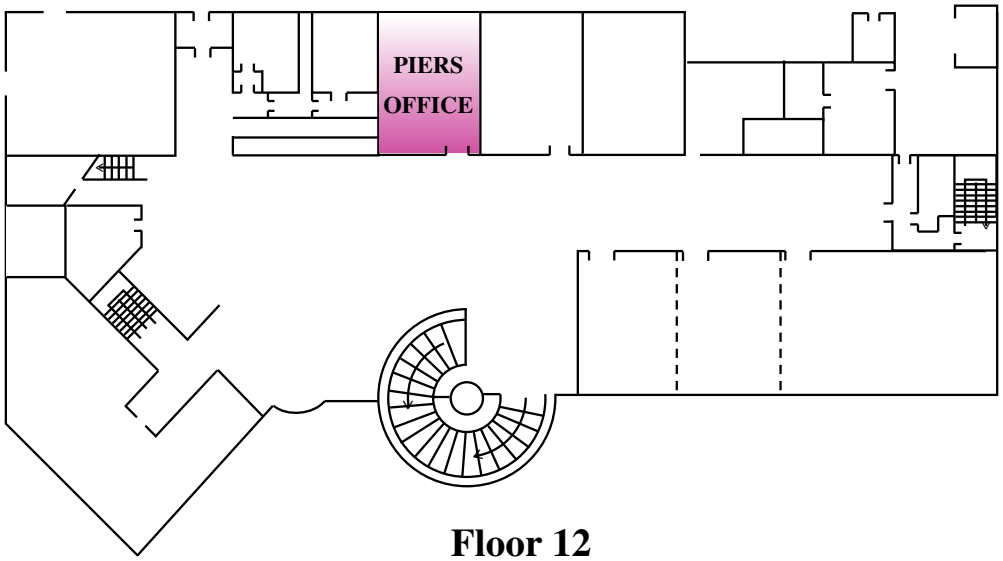

Floor 12

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English. However, in the public society, Malay, Mandarin, Tamil and English are commonly spoken.

CURRENCY AND CREDIT CARDS

Malaysia currency is MYR with its monetary unit MYR (*Ringgit*). The exchange rate is 1 USD for about 3.15 MYR. Credit cards and local currency (MYR) are accepted at the registration desk of the PIERS Host Hotel. This is also the case in most shopping malls and other hotels.

TAX AND TIP

Please do not tip a waiter/waitress or a taxi driver and other persons who provide regular service. All advertised merchandise prices normally include tax. Bargaining is quite common on buying merchandise especially from Street Markets. A 10% service charge and 5% government tax are levied in restaurants, but hawkers charge a flat price without tax.

TAXI

Usually, a taxi is available along the roadsides, while you wave for it. However, on main streets it is normally available at taxi stops or in front of a hotel. Please request the taxi driver to charge by meter.

BUSINESS OPENING HOURS

- **Bank**
  Opening hours: 9:15 – 16:30, from Monday to Friday (except for Fridays which is until 16:00).
- **Post Office**
  Opening hours: 8:30 – 17:00, from Monday to Saturday (closes on first Saturdays of the month).
- **Government Office**
  Opening hours: 8:30 – 17:30, from Monday to Friday.
- **Stores**
  Opening hours: usually 10:00 to 21:00, but large shopping centers normally serve till 22:00, from Monday to Sunday.

ELECTRICITY

In Malaysia, the standard outlets provide AC of 240 V/50 Hz.

PIERS 2012 KUALA LUMPUR TECHNICAL PROGRAM

Session 1A1
Systems and Components, Electromagnetic Compatibility 1

Tuesday AM, March 27, 2012

Room A

Organized by Hai Jiang

Chaired by Fatih Ustuner

08:40 Radiation and Temperature Effects on the Harmonic and Intermodulation Performance of Mach-Zehnder Optomodulator
Muhammed Taher Abuelma'atti (*King Fahd University of Petroleum and Mineral, Arabia*);

09:00 Experimental Investigation of the Shield Termination Effect on the Field-to-Cable Coupling Level
Fatih Ustuner (*TUBITAK BILGEM UEKAE, Turkey*); *Nevzat Tarim* (*Anadolu University, Turkey*); *Ersan Baran* (*TUBITAK BILGEM UEKAE, Turkey*);

09:20 EMC in Malaysia: The First 10-Meter Semi-Anechoic Chamber (SAC) — Inception, Approach and Challenges
Lay Heng Chee (*EMC Testing Services and Solutions, Cisspr Sdn. Bhd., Malaysia*); *See See Cheng* (*EMC Testing Services and Solutions, Cisspr Sdn. Bhd., Malaysia*);

09:40 The Effects of End Plates on Coaxial Cable Coupling
Yu Xian Teo (*University of Nottingham, UK*); *David W. P. Thomas* (*University of Nottingham, UK*); *Christos Christopoulos* (*University of Nottingham, UK*);

10:20 **Coffee Break**

10:40 Development of RF Attenuation Standard in the Frequency Range of 100 kHz to 10 MHz
Anton Widarta (*National Institute of Advanced Industrial Science and Technology (AIST), Japan*);

11:00 Electromagnetic Shielding of Expanded Polystyrene Doped with Copper, Zinc and Graphite
Eduardo Wiese (*Pontificia Universidad Católica del Perú, Perú*); *Manuel A. Yarleque Medina* (*Pontificia Universidad Católica del Perú, Sección Telecomunicaciones, Perú*);

11:20 Computation of Coupled Voltage to an Unshielded Cable Due to Transient EM Fields Radiated by ESD
Rajashree Narendra (*BNM Institute of Technology, India*); *M. L. Sudheer* (*UVCE, India*); *V. Jithesh* (*LRDE, India*); *D. C. Pande* (*Electronics & Radar Development Establishment (LRDE), India*);

11:40 Sampling Criterion for EMC Near Field Measurements
Ondrej Franek (*Aalborg University, Denmark*); *Morten Sørensen* (*Bang & Olufsen a/s, Denmark*); *Hans Ebert* (*Aalborg University, Denmark*); *Gert F. Pedersen* (*Aalborg University, Denmark*);

Session 1A2
Biomedical Electromagnetic Instruments, EM Condensed Materials and Imaging

Tuesday AM, March 27, 2012

Room B

Organized by Ganquan Xie, Jianhua Li

Chaired by Ganquan Xie

08:40 Contact-less Concentration Measurements in Aqueous Sodium-chloride Solutions Using Microwaves
Akio Oota (*Toyohashi University of Technology, Japan*); *Tatsunori Uchida* (*Toyohashi University of Technology, Japan*);

09:00 FPCB RF Coil for Small Animal NMR Imaging at 3T MRI Systems
Sheikh Faisal Ahmad (*Kyungpook National University, South Korea*); *Son Hyeok Woo* (*Kyungpook National University, South Korea*); *Young Cheol Kim* (*Kyungpook National University, South Korea*); *Ick Chang Choi* (*Kyungpook National University, South Korea*); *Yongmin Chang* (*Kyungpook National University, South Korea*); *Hyun Deok Kim* (*Kyungpook National University, South Korea*);

09:20 Point Spread Function for Optical Transillumination Imaging of Animal Body
Koichi Shimizu (*Hokkaido University, Japan*); *Hiroki Takahashi* (*Hokkaido University, Japan*); *Takeshi Namita* (*Hokkaido University, Japan*); *Yuji Kato* (*Hokkaido University, Japan*);

09:40 Maxwell Sumudu Based Magnetic Solutions
Fethi Bin Muhammad Belgacem (*Faculty of Basic Education, PAAET, Kuwait*); *Eman Al-Shemas* (*Faculty of Basic Education, PAAET, Kuwait*);

10:20 **Coffee Break**

10:40 Cryptography of the Medical Images
Cherif Moumen (*University of Constantine, Algeria*); *Malek Benslama* (*University of Constantine, Algeria*); *Mekhilef Saad* (*University of Malaya, Malaysia*);

11:00 Expandable Multi-frequency EIT System for Clinical Applications
H. Wi (*Kyung Hee University, Korea*); *T. E. Kim* (*Kyung Hee University, Korea*); *T. I. Oh* (*Kyung Hee University, Korea*); *E. J. Woo* (*Kyung Hee University, Korea*);

11:20 Conductivity Imaging of Animal and Human Body Using 3T Magnetic Resonance Electrical Impedance Tomography (MREIT)
W. C. Jeong (*Kyung Hee University, Korea*); *C. Y. Lim* (*Konkuk University, Korea*); *H. M. Park* (*Konkuk University, Korea*); *E. J. Woo* (*Kyung Hee University, Korea*);

11:40 Microwave-heating for Liver Cancer Thermothrapy with Three Layer Tapered Coaxial Line Applicator
Urata Masako (*Ritsumeikan University, Japan*); *Kikuo Wakino* (*Ritsumeikan University, Japan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*);

Session 1A3
Inverse Scattering Problems: Theories, Computations, and Applications

Tuesday AM, March 27, 2012

Room C

Organized by Xudong Chen, Dominique Lesselier

Chaired by Xudong Chen, Dominique Lesselier

08:40 Isoflux Beam Shaping Utilizing an Inverse Antenna Problem Approach
Kuiwen Xu (*Zhejiang University, China*); *Bo Lv* (*Zhejiang University, China*); *Lili Xu* (*Zhejiang University, China*); *Jianhua Shen* (*Zhejiang University, China*); *Jiangtao Huangfu* (*Zhejiang University, China*); *Li-Xin Ran* (*Zhejiang University, China*);

09:00 Preliminary Assessment of the Iterative Multi-scaling Subspace Optimization Method in Three-dimensional Microwave Imaging
Giacomo Oliveri (*University of Trento, Italy*); *Yu Zhong* (*National University of Singapore, Singapore*); *Krishna Agarwal* (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*); *Andrea Massa* (*University of Trento, Italy*);

09:20 3D Microwave Imaging Using the Source-receiver Compression Scheme
Aria Abubakar (*Schlumberger-Doll Research, USA*); *Guangdong Pan* (*Schlumberger-Doll Research, USA*); *Tarek M. Habashy* (*Schlumberger-Doll Research, USA*);

09:40 Comparison of Various Sparsity-regularized Gradient-based Algorithms for Solving 2D Electromagnetic Inverse Scattering Problem
Abdulla Desmal (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*);

10:20 **Coffee Break**

10:40 On the Electromagnetic Response of Anisotropic Laminates
Yu Zhong (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*); *Marc Lambert* (*Univ Paris Sud, France*); *Dominique Lesselier* (*Univ Paris Sud, France*);

11:00 Twofold Subspace-based Optimization Methods for Solving Electromagnetic Inverse Scattering Problem
Yu Zhong (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*);

11:20 Linear Sampling in Transverse Electric Case
Krishna Agarwal (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*); *Yu Zhong* (*National University of Singapore, Singapore*);

Session 1A4
Antennas, Waves and Shielding

Tuesday AM, March 27, 2012

Room D

Organized by Leszek Nowosielski, Rafal Przesmycki

Chaired by Leszek Nowosielski, Marian Tadeusz Wnuk

08:20 Dual Band Microstrip Antenna Working in the Frequency Bands 2.4 GHz and 5.8 GHz
Rafal Przesmycki (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*);

08:40 Analysis Different Methods of Microstrip Antennas Feeding for Their Electrical Parameters
Marek Bugaj (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*);

09:00 Wearable Antenna Constructed in Microstrip Technology
Marian Wnuk (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*);

09:20 Coaxial Cables Shielding Efficiency Measuring Methodology
Leszek Nowosielski (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*);

09:40 The Conducted and Radiated Emission Levels from IT Devices
Rafal Przesmycki (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Kazimierz Piwowarczyk* (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*);

10:00 EMC Filters Attenuation Measuring Method
Kazimierz Piwowarczyk (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*); *Leszek Nowosielski* (*Military University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Marek Bugaj* (*Military University of Technology, Poland*);

10:20 **Coffee Break**

10:40 The Absorption Effectiveness of Pulverized Metallic Glass at Microwaves
Roman Kubacki (*Military University of Technology, Poland*); *Jarosław Ferenc* (*Warsaw University of Technology, Poland*); *Rafal Przesmycki* (*Military University of Technology, Poland*); *Marian Wnuk* (*Military University of Technology, Poland*);

11:00 NO and N_2O Detection with CEAS Method
Jacek Wojtas (*Military University of Technology, Poland*); *Zbigniew Bielecki* (*Military University of Technology, Poland*); *Tadeusz Stacewicz* (*Warsaw University, Poland*); *Janusz Mikolajczyk* (*Military University of Technology, Poland*); *R. Mędrzycki* (*Military University of Technology, Poland*); *Beata Rutecka* (*Military University of Technology, Poland*);

11:20 Asymmetric Coplanar Strip Semielliptical Dual Band Antenna
R. Dinesh (*Cochin University of Science and Technology, India*); *D. Laila* (*Cochin University of Science and Technology, India*); *V. P. Sarin* (*Cochin University of Science and Technology, India*); *C. M. Nijas* (*Cochin University of Science and Technology, India*); *V. A. Shameena* (*Cochin University of Science and Technology, India*); *Pezholil Mohanan* (*Cochin University of Science and Technology, India*);

11:40 Band Notched Ultra Wide Band Slot Antenna
V. A. Shameena (*Cochin University of Science and Technology, India*); *U. Deepak* (*Cochin University of Science and Technology, India*); *R. Sujith* (*Cochin University of Science and Technology, India*); *D. Laila* (*Cochin University of Science and Technology, India*); *R. Dinesh* (*Cochin University of Science and Technology, India*); *Pezholil Mohanan* (*Cochin University of Science and Technology, India*);

12:00 Broadband Circular Polarization Truncated Horn Antenna
Theng Huat Gan (*Nanyang Technological University, Singapore*); *Eng Leong Tan* (*Nanyang Technological University, Singapore*);

Session 1A5
Next Generation Broadband Access

Tuesday AM, March 27, 2012

Room E

Organized by Fong Kok Hann

Chaired by Fong Kok Hann

08:20 Estimation of Specific Attenuation Due to Scattering Points for Broadband PLC Channels
C. T. Mulangu (*University of Kwazulu-Natal, South Africa*); *Thomas J. Afullo* (*University of KwaZulu-Natal, South Africa*); *N. M. Ijumba* (*University of KwaZulu-Natal, South Africa*);

08:40 Transmission Analysis of Optical OFDMA-based Passive Optical Network Architecture Supporting Heterogeneous Services
Fan Bai (*Waseda University, Japan*); *Peng Liu* (*Waseda University, Japan*); *Mitsuji Matsumoto* (*Waseda University, Japan*);

09:00 Emerging Optical Broadband Access Networks from TDM PON to OFDM PON
Redhwan Qasem Shaddad (*Universiti Teknologi Malaysia, Malaysia*); *Abu Bakar Mohammad* (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Sevia M. Idrus* (*Universiti Teknologi Malaysia, Malaysia*); *Abdulaziz Mohammed Al-Hetar* (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Nasir A. Al-geelani* (*Universiti Teknologi Malaysia, Malaysia*);

09:20 Over 300 km Repearterless Transmission Systems for Terrestial Applications in Malaysia
Zainuddin Lambak (*Next Generation Access, Malaysia*); *Kharina Khairi* (*Next Generation Access Network Lab, Malaysia*); *Zulkifli Hamzah* (*Next Generation Access Network Lab, Malaysia*); *Muhammad Najib Abdul Raman* (*Next Generation Access Network Lab, Malaysia*); *Fong Kok Hann* (*Telekom Malaysian Research & Development, Malaysia*);

09:40 Scattering Points Size Distribution for Indoor Broadband PLC Channels
C. T. Mulangu (*University of Kwazulu-Natal, South Africa*); *Thomas J. O. Afullo* (*University of Kwa-Zulu Natal (UKZN), South Africa*); *N. M. Ijumba* (*University of KwaZulu-Natal, South Africa*);

10:00 ONU Monitoring and Management Employing an Inband Ethernet Communication in FTTH/x System
Zulhedry Abdul Manaf (*Next Generation Access Network Lab, Malaysia*); *Mohd. Shahril Salleh* (*Next Generation Access Network Lab, Malaysia*); *Kharina Khairi* (*Next Generation Access Network Lab, Malaysia*); *Zulkifli Hamzah* (*Next Generation Access Network Lab, Malaysia*); *Muhammad Najib Abd. Raman* (*Next Generation Access Network Lab, Malaysia*); *Drees Andriyanto M. Ssi* (*Next Generation Access Network Lab, Malaysia*); *Romli Mohamad* (*Next Generation Access Network Lab, Malaysia*); *Zulkalnain Mohd. Yussof* (*Next Generation Access Network Lab, Malaysia*);

10:20 **Coffee Break**

10:40 Implementing Multiple WiFi Hotspots Using One Single Embedded Platform
Chun Yeow Yeoh (*TM Research & Development Sdn. Bhd., Malaysia*);

11:00 Low Profile Monolithic Array Si Avalanche Photodiodes for Alignment Tracking Application
Mazlaini Yahya (*TM Research & Development Sdn Bhd, Malaysia*); *Zaiki Awang* (*Universiti Teknologi Mara, Malaysia*); *Mohd Khairil Azhar* (*Universiti Teknologi Mara, Malaysia*);

11:20 Monolithic Double Quadrant Array Si Avalanche Photodiodes for High Performance Dynamic Alignment Tracking Application
Mazlaini Yahya (*TM Research & Development Sdn Bhd, Malaysia*); *Zulkalnain Mohd Yusof* (*TM Research & Development Sdn Bhd, Malaysia*); *Zaiki Awang* (*Universiti Teknologi Mara, Malaysia*); *Mohd Khairil Adzhar Mahmood* (*Universiti Teknologi Mara, Malaysia*);

11:40 Particle Swarm Optimization Based Reception Diversity in Rayleigh Fading Channel
Mohsen Riahi Manesh (*Multimedia University, Malaysia*); *Mohsen Akbari* (*Multimedia University, Malaysia*); *Seyed Ahmad Rafiei Taba Zavareh* (*Multimedia University, Malaysia*); *Paria Shahabi* (*Multimedia University, Malaysia*); *Zeinab Pouladmast Ghadiri* (*Multimedia University, Malaysia*);

12:00 Maximizing the Probability of Detection of Cooperative Spectrum Sensing in Cognitive Radio Networks
Mohsen Akbari (*Multimedia University, Malaysia*); *Mohsen Riahi Manesh* (*Multimedia University, Malaysia*); *Seyed Ahmad Rafiei Taba Zavareh* (*Multimedia University, Malaysia*); *Paria Shahabi* (*Multimedia University, Malaysia*);

Session 1A6a
Metamaterials and Applications

Tuesday AM, March 27, 2012

Room F

Chaired by Arcady P. Zhukov

08:20 Tuneable Metamaterials Containing Arrays of Magnetically Soft Microwires with GMI Effect
Larissa V. Panina (*University of Plymouth, UK*); *Mihail Ipatov* (*Universidad del Pais Vasco, Spain*); *Valentina Zhukova* (*Universidad del Pais Vasco, Spain*); *J. González* (*Universidad del País Vasco, Spain*); *A. Zhukov* (*Universidad del País Vasco, Spain*);

08:40 Deformation of Surface Waves Propagating on 2-dimensional Metamaterial Structure
Osamu Sakai (*Kyoto University, Japan*); *Dae-Sung Lee* (*Kyoto University, Japan*);

09:00 A Bandwidth Enhanced Elliptical Metamaterial Antenna
K. L. Sheeja (*N.I.T. Rourkela, India*); *P. K. Sahu* (*National Institute of Technology, India*); *Santanu Kumar Behera* (*National Institute of Technology, India*);

09:20 Perfect Invisibility Devices with Negative Refraction
Jose C. Nacher (*Future University-Hakodate, Japan*); *T. Ochiai* (*Otsuma Women's University, Japan*);

09:40 Determination of Effective Constitutive Parameters, Material Boundaries and Properties of SRR-rod and Fishnet Metamaterials by Drude/Lorentz Dispersion Models
Feng-Ju Hsieh (*University of Washington, USA*); *Cheng-Ling Chang* (*University of Washington, USA*); *Wei-Chih Wang* (*University of Washington, USA*);

10:00 A Compact Hilbert Curve Fractal Antenna on Metamaterial Using CSRR
S. Suganthi (*Shri Angalamman College of Engineering and Technology, India*); *Singaravelu Raghavan* (*National Institute of Technology, India*); *D. Kumar* (*Periyar Maniammai University, India*); *S. Hosimin Thilagar* (*College of Engineering Guindy, India*);

10:20 **Coffee Break**

Session 1A6b
Microwave Energy Application for Materials and Environmental Processing

Tuesday AM, March 27, 2012

Room F

Organized by Noboru Yoshikawa

Chaired by Noboru Yoshikawa

10:40 Fundamental and Application of Microwave Processing of Materials and Environmental Technology
Noboru Yoshikawa (*Tohoku University, Japan*);

11:00 Study of the Heating Behavior of Fe_3O_4/Al Mixtures in Separated H and E Field and Heating of the Fabricated Porous Composite Body
Lee Chang Chuan (*Tohoku University, Japan*); *Noboru Yoshikawa* (*Tohoku University, Japan*); *Shoji Taniguchi* (*Tohoku University, Japan*);

11:20 Effect of Coherency of Microwave on Non-thermal Reduction Process
Motoyasu Sato (*National Institute for Fuson Science, Japan*);

11:40 A Simultaneous Cooling and Dielectric Heating: An Advanced Technology to Improve the Yield of Lactides
Ani Idris (*Universiti Teknologi Malaysia, Malaysia*); *Noordin Mohd Yusof* (*Universiti Teknologi Malaysia, Malaysia*); *K. G. Tan* (*Synotherm (SEA) Pte. Ltd., Malaysia*);

12:00 Industrial Microwave Processing of Agri-food Products
K. G. Tan (*Synotherm (SEA) Pte. Ltd., Malaysia*); *Hu Peng* (*Synotherm (SEA) Pte. Ltd., Malaysia*);

Session 1A7
Observing the Terrestrial Environment at HF

Tuesday AM, March 27, 2012

Room G

Organized by Stuart J. Anderson

Chaired by Stuart J. Anderson

08:40 Propagation of HF Radar Signals through the Air-ground Interface
Stuart J. Anderson (*Australian Defence Science and Technology Organisation, Australia*);

09:00 Monostatic and Bistatic Electromagnetic Signature of Sea and Ground Clutter in HF Band Estimated by Using SPM, TSM and SSA Models
Laurent Vaitilingom (*Lab-Sticc UMR CNRS 6285, France*); *Ali Khenchaf* (*Lab-Sticc UMR CNRS 6285, France*);

09:20 Spatial Change of Normalized Radar Cross Section of Ocean Surface for HF Ocean Surface Radar due to the Wave-current Interaction Around Eddy
Akitsugu Nadai (*National Institute of Information and Communications Technology (NICT), Japan*);

09:40 Novel Concept for Compact ULA Using MIMO Beamformer
Thomas Heinrich Fickenscher (*Helmut Schmidt University/University of the Federal Armed Forces Hamburg, Germany*); *A. Gupta* (*Helmut Schmidt University/University of the Federal Armed Forces Hamburg, Germany*);

10:20 **Coffee Break**

10:40 A Coordinate Registration Technique for OTH Skywave Radars Based on 3D Ray-tracing and Sea-land Transitions
Andrea Cacciamano (*University of Pisa, Italy*); *Amerigo Capria* (*University of Pisa, Italy*); *Domenico Olivadese* (*University of Pisa, Italy*); *Fabrizio Berizzi* (*University of Pisa, Italy*); *Enzo Dalle Mese* (*University of Pisa, Italy*); *Fabrizio Cuccoli* (*Università di Firenze, Italy*);

11:00 Sea/Land Transition Identification for Coordinate Registration of OTH Sky Wave Radar: End to End Software Simulator and Performance Analysis
Fabrizio Cuccoli (*Università di Firenze, Italy*); *Luca Facheris* (*Università di Firenze, Italy*); *Francesco Sermi* (*Università di Firenze, Italy*);

11:20 Target Detection Based on Morphological Component Analysis of HFSWR Images for Maritime Surveillance
Alexandre Baussard (*ENSTA Bretagne (REMS), Lab-STICC, France*); *Samuel Grosdidier* (*Universite Sud Toulon Var, France*);

11:40 Radiowave Depolarisation and Repolarisation During HF Skywave Propagation
Stuart J. Anderson (*Australian Defence Science and Technology Organisation, Australia*);

Session 1P1
Optics and Photonic Crystals

Tuesday PM, March 27, 2012

Room A

Chaired by Weng Cho Chew, Robert C. Gauthier

13:20 Photonic Crystal Based on Holographic Polymer Dispersed Liquid Crystal Films
Andy Ying-Guey Fuh (*National Cheng Kung University, Taiwan, R.O.C.*); *Shing-Trong Wu* (*National Cheng Kung University, Taiwan, R.O.C.*); *Ming Shian Li* (*National Cheng Kung University, Taiwan, R.O.C.*);

13:40 Photonic Quasi-crystal Research; Recent Theoretical Developments in Band Gap and Localized State Determination
Robert C. Gauthier (*Carleton University, Canada*); *S. Newman* (*Carleton University, Canada*);

14:00 Simultaneous Photonic and Phononic Band Gap, Defect States and Waveguides in Silicon-polymer Composite
Robert C. Gauthier (*Carleton University, Canada*); *Mohammed A. Alzahrani* (*Carleton University, Canada*);

14:20 Investigation of the Transmittance in Superconducting Photonic Crystal
Arafa Hussien Aly (*Beni-Suef University, Egypt*); *Walied Sabra* (*Beni-Suef University, Egypt*); *Ehab-Abdel Rahman* (*The American University in Cairo, Egypt*);

14:40 Biaxial Anisotropy in Gradient Permittivity Dielectric Optical Instruments
Alireza Akbarzadeh (*National University of Singapore, Singapore*); *Cheng-Wei Qiu* (*National University of Singapore, Singapore*); *Aaron J. Danner* (*National University of Singapore, Singapore*);

15:00 Simulation of Reflection and Total Reflection of Optical Beams Using a Bidirectional Beam Propagation Method
Debjani Bhattacharya (*Indian Institute of Technology Delhi, India*); *Anurag Sharma* (*Indian Institute of Technology Delhi, India*);

15:20 **Coffee Break**

15:40 Cancerous Cell Detection by Multi-spectral Imaging
Tsung-Chih Lin (*National Chung Cheng University, Taiwan, R.O.C.*); *Ta-Wei Chien* (*National Chung Cheng University, Taiwan, R.O.C.*); *Ju-Hsiu Hsiao* (*National Chung Cheng University, Taiwan, R.O.C.*); *Ching-Te Huang* (*National Chung Cheng University, Taiwan, R.O.C.*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *Chun-Ping Jen* (*National Chung Cheng University, Taiwan, R.O.C.*);

16:00 Efficiency Enhancement of CIGS Solar Cell with Nano-fabrication Technique
Guan-Huang Wu (*National Chung Cheng University, Taiwan*); *Xusn-Yu Yu* (*National Chung Cheng University, Taiwan*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *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.*); *Raymond Chien-Chao Tsiang* (*National Chung Cheng University, Taiwan*);

16:20 Plasmonic Effects in Organic Solar Cells
Wei E. I. Sha (*University of Hong Kong, China*); *Wallace C. H. Choy* (*University of Hong Kong, China*); *Weng Cho Chew* (*University of Illinois, USA*);

16:40 Optical Defect Modes in Spiral Media at Active Defect Layer
V. A. Belyakov (*Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia*);

17:20 Soliton Cryptography Using Dark-bright Conversion in a PANDA Ring Resonator
Sanga Songmuang (*Kasem Bundit University, Thailand*); *Xaythavy Louangvilay* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Somsak Mitatha* (*King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand*); *M. Yoshida* (*Tokai University, Japan*); *N. Komine* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Preecha P. Yupapin* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*);

17:40 THz Switching Generation Using a PANDA Ring Resonator for High Speed Computer Communication
Suphanchai Punthawanunt (*Kasem Bundit University, Thailand*); *Saysamone Soysouvanh* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Khanthanou Luangxaysana* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Somsak Mitatha* (*King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand*); *Masahiro Yoshida* (*Tokai University, Japan*); *Noriyuki Komine* (*Tokai University, Japan*); *Preecha P. Yupapin* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*);

18:00 All Optical Logic NAND Gate Using Dark-Bright Soliton Conversion Control
Saysamone Soysouvanh (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Prapas Phongsanam* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Khanthanou Luangxaysana* (*Kasem Bundit University, Thailand*); *Somsak Mitatha* (*King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand*); *Komine Noriyuki* (*Tokai University, Japan*); *Masahiro Yoshida* (*Tokai University, Japan*); *Preecha P. Yupapin* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*);

Session 1P2
Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals

Tuesday PM, March 27, 2012

Room B

Organized by Ganquan Xie, Jianhua Li, Tzong-Jer Yang

Chaired by Ganquan Xie, Fethi Bin Muhammad Belgacem

13:40 A New Novel GL Isotropic Invisible Cloak without Exceeding Light Speed Wave in Outer Layer of the Double Layer Cloak
Ganquan Xie (*GL Geophysical Laboratory, USA*); *Jianhua Li* (*GL Geophysical Laboratory, USA*); *Lee Xie* (*GL Geophysical Laboratory, USA*); *Feng Xie* (*GL Geophysical Laboratory, USA*);

14:00 Lossy Gradient Index Metamaterial with General Periodic Permeability and Permittivity: The Case of Constant Impedance throughout the Structure
Mariana Dalarsson (*Royal Institute of Technology, Sweden*); *Martin Karl Norgren* (*Royal Institute of Technology, Sweden*); *Zoran Jaksic* (*University of Belgrade, Serbia*);

14:20 Monolithic Silicon-based Gauss to $\boldsymbol{J_0}$-Bessel-Gauss Beam Converter
D. P. San Roman Alerigi (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Y. Zhang* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *T. K. Ng* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *A. B. Slimane* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *B. S. Ooi* (*King Abdullah University of Science and Technology, Saudi Arabia*);

14:40 A New Tunable Metamaterial Using Low-loss Ferrofluid and Its Application on Lens Antenna
Haoxue Han (*Xi'an Jiaotong University, China*); *Dichen Li* (*Xi'an Jiaotong University, China*); *Xiaoyong Tian* (*Xi'an Jiaotong University, China*);

15:00 Fabrication of Gradient index 3D Photonic Crystals Structure in Metamaterial
Ming Yin (*Xi'an Jiaotong University, China*); *Dichen Li* (*Xi'an Jiaotong University, China*); *Xiaoyong Tian* (*Xi'an Jiaotong University, China*);

15:20 **Coffee Break**

15:40 Azimuthal Directive Emission Realized by Transformation Optics Concept
Xinying Wu (*University of Paris-Sud, France*); *Paul-Henri Tichit* (*Univ Paris 11, France*); *Souad Kirouane* (*University Paris-Sud, France*); *Shah nawaz Burokur* (*University of Paris-Sud, France*); *Andre De Lustrac* (*Universite pairs-Sud, France*);

16:00 Quasi-perfect Isotropic Emission Realized by Coordinate Transformation
Paul-Henri Tichit (*University of Paris-Sud, France*); *Shah nawaz Burokur* (*University of Paris-Sud, France*); *Andre De Lustrac* (*Universite pairs-Sud, France*);

16:20 High Energy Particals and Nanostructures Physics
Diyar Bajalan (*ret., Austria*);

16:40 Research on Potential Use of Nanomaterials and Properties in Astrophysics
Diyar Bajalan (*ret., Austria*);

17:00 Nano Particle Thermal Stability and Natural Subnanostructures
Diyar Bajalan (*ret., Austria*);

Session 1P3a
Microwave Remote Sensing

Tuesday PM, March 27, 2012

Room C

Chaired by Leung Tsang

13:20 Physical Model for Radar Remote Sensing of Snow at X-band and Ku-band Based on Bicontinuous Medium
Xiaolan Xu (*University of Washington, USA*); *Leung Tsang* (*University of Washington, USA*); *Wenmo Chang* (*University of Washington, USA*); *Simon H. Yueh* (*California Institute of Technology, USA*); *Kung-Hau Ding* (*Air Force Research Laboratory, Wright-Patterson AFB, USA*);

13:40 Physical Forward Models and Data Cubes for Radar Remote Sensing at L-band for SMAP Applications
Xiaolan Xu (*University of Washington, USA*); *Leung Tsang* (*University of Washington, USA*); *Tien-Hao Liao* (*University of Washington, USA*); *Shaowu Huang* (*University of Washington, USA*); *Seung-Bum Kim* (*California Institute of Technology, USA*);

14:00 Numerical Modeling to Analyze Effects of Mobile EM Source for Seafloor Exploration
Nazabat Hussain (*Universiti Teknologi PETRONAS, Malaysia*); *Norashikin Yahya* (*Universiti Teknologi PETRONAS, Malaysia*); *Noor Hazrin Hany Mohamad Hanif* (*Universiti Teknologi PETRONAS, Malaysia*); *Mohd Noh Karsiti* (*Universiti Teknologi PETRONAS, Malaysia*);

14:20 Variation in Wireless-sensing of UHF-RFID Antennas with Insertion of Dielectric Material
Shankar D. Nawale (*Sinhgad Institute of Technology, India*); *Nisha P. Sarwade* (*Veermata Jijabai Technological Institute, India*);

14:40 Reflection Technique for the Determination of Moisture Content in Hevea Rubber Latex
Farizah Ansarudin (*Universiti Putra Malaysia, Malaysia*); *Zulkifly Abbas* (*University Putra Malaysia, Malaysia*); *Ali Hamad Ali* (*Universiti Putra Malaysia, Malaysia*); *Mohamad Alif Ismail* (*Universiti Putra Malaysia, Malaysia*);

15:20 **Coffee Break**

Session 1P3b
SAR/ISAR and Its Applications

Tuesday PM, March 27, 2012

Room C

Organized by Qun Zhang, Changzheng Ma

Chaired by Tat-Soon Yeo, Christer Larsson

15:40 SAR and ISAR for Diagnostic RCS Measurements
Christer Larsson (*Lund University, Sweden*);

16:00 MIMO Radar 3D Imaging with Improved Rotation Parameters Estimation
Changzheng Ma (*National University of Singapore, Singapore*); *Tat-Soon Yeo* (*National University of Singapore, Singapore*); *Chin Yuan Chong* (*DSO, Singapore*); *Tao Zhang* (*Xi'an Electronic Engineering Research Institute, China*);

16:20 High Performance Parallel Implementation of Compressive Sensing SAR Imaging
Jihua Tian (*Beihang University, China*); *Jinping Sun* (*Beihang University, China*); *Yuxi Zhang* (*Beihang University, China*); *Najeeb Ahmad* (*Beihang University, China*);

16:40 Spaceborne SAR Wide-swath Imaging Based on Poisson Disk-like Sampling and Compressive Sensing
Jinping Sun (*Beihang University, China*); *Yuxi Zhang* (*Beihang University, China*); *Jihua Tian* (*Beihang University, China*); *Bingchen Zhang* (*Institute of Electronics, CAS, China*);

17:00 Antenna Squint Effects on SAR Interferometric Requirements
Chih-Yuan Chu (*National Central University, Taiwan*); *Chin-Fu Chao* (*National Central University, Taiwan*); *Kun-Shan Chen* (*National Central University, Taiwan*); *Chih-Tien Wang* (*National Central University, Taiwan*);

17:20 High-resolution ISAR Imaging with Sparse-spectrum OFDM-LFM Waveforms
Ying Luo (*Air Force Engineering University, China*); *Qun Zhang* (*Air Force Engineering University, China*); *You-Qing Bai* (*Air Force Engineering University, China*); *Yan-Li Duan* (*Air Force Engineering University, China*);

17:40 SAR Imagery Compressing and Reconstruction Method Based on Compressed Sensing
Feng Zhu (*Air Force Engineering University, China*); *Qun Zhang* (*Air Force Engineering University, China*); *Jia-Bing Yan* (*Air Force Engineering University, China*); *Fu-Fei Gu* (*Air Force Engineering University, China*); *Meng Zhu* (*Air Force Engineering University, China*);

Session 1P4a
The Biological Effects of Exposure to Extremely Low Frequency (ELF) Electromagnetic Radiation

Tuesday PM, March 27, 2012

Room D

Chaired by Jan Vrba

13:20 Health Recovery Effect of Physiological Magnetic Stimulation on Elder Person's Immunity Source Area with Transition of ECG and EEG
Kaneo Mohri (*Nagoya Industrial Science Research Institute (NISRI), Japan*); *Y. Inden* (*Nagoya University, Japan*); *Muneo Yamada* (*Meijo University, Japan*); *Yoshiyuki Mohri* (*Yamazaki Mazak Co., Japan*);

13:40 Arousal Effect of Physiological Magnetic Stimulation on Car Driver's Spine Evaluated with Electroencephalogram Using Driving Simulator
Yoshiyuki Mohri (*Yamazaki Mazak Co., Japan*); *Muneo Yamada* (*Meijo University, Japan*); *K. Endo* (*Meijo University, Japan*); *T. Suzuki* (*Meijo University, Japan*); *Kaneo Mohri* (*Nagoya Industrial Science Research Institute (NISRI), Japan*);

14:00 Characteristic of Human Arm Frequency Radiation
Siti Zura A. Jalil (*University Teknologi MARA (UiTM) Pulau Pinang, Malaysia*); *Mohd Nasir Taib* (*Universiti Teknologi MARA, Malaysia*); *Hasnain Bin Abdullah* (*University Teknologi MARA (UiTM) Pulau Pinang, Malaysia*); *Megawati Mohd Yunos* (*Universiti Teknologi MARA, Malaysia*);

14:20 Medical Imaging and Diagnostics Based on EM Field
Jan Vrba (*Czech Technical University in Prague, Czech Republic*); *Jaroslav Vorlíček* (*Czech Technical University, Czech Republic*); *David Vrba* (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba (Jr.)* (*RWTH Aachen University, Germany*); *Barbora Vrbova* (*Czech Technical University in Prague, Czech Republic*); *Tomas Vydra* (*Czech Technical University in Prague, Czech Republic*);

14:40 Applicators with Optimized Effective Aperture
Jan Vrba (*Czech Technical University in Prague, Czech Republic*); *Barbora Vrbova* (*Czech Technical University in Prague, Czech Republic*); *Jan Vrba (Jr.)* (*RWTH Aachen University, Germany*); *Jaroslav Vorlíček* (*Czech Technical University, Czech Republic*); *David Vrba* (*Czech Technical University in Prague, Czech Republic*); *Tomas Vydra* (*Czech Technical University in Prague, Czech Republic*);

15:20 **Coffee Break**

Session 1P4b
RF Safety Issues

Tuesday PM, March 27, 2012

Room D

Organized by Chung-Kwang Chou, Kwan-Hoong Ng

Chaired by Chung-Kwang Chou, Kwan-Hoong Ng

15:40 Influence of Shield Distance on RF Transmit Performance for a 7T Multi-channel MRI Loop Array
Mikhail Kozlov (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*); *Robert Turner* (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*);

16:00 Duplication of in Vitro Experiments: Forgotten or Overlooked Factors
Quirino Balzano (*University of Maryland, USA*); *Asher R. Sheppard* (*Asher Sheppard Consulting, USA*);

16:20 Estimation of Electromagnetic Exposure Level Based on a Multilayered Model of the Pelvic-hip Region
Manuel Macedo (*Pontificia Universidad Católica del Perú, Sección Telecomunicaciones, Perú*); *Manuel A. Yarleque Medina* (*Pontificia Universidad Católica del Perú, Sección Telecomunicaciones, Perú*);

16:40 An Investigation into the Effectiveness of Protective Clothing in the Presence of High Frequency Electromagnetic Fields
R. P. Findlay (*Health Protection Agency, UK*); *Peter J. Dimbylow* (*Health Protection Agency, UK*);

17:00 An Overview of RF-EMF Health-related Activities in Malaysia
Kwan-Hoong Ng (*University of Malaya, Malaysia*);

17:20 Should Standards Be Revised Because There Are Reported Possible Biological Effects of RF Exposure?
Chung-Kwang Chou (*Technical Committee 95, IEEE International Committee on Electromagnetic Safety, USA*);

Session 1P5a
Radio Propagation, Ionospheric Propagation

Tuesday PM, March 27, 2012

Room E

Chaired by Robert L. Gardner, Rachid Talhi

13:20 Uncertainties in the Electromagnetic Field Environment around a Lightning Return Stroke
Robert L. Gardner (*6152 Manchester Park Circle, USA*);

13:40 Investigation of Ionospheric Impacts on RF Propagation during Minimum Solar Activity
Rachid Talhi (*University of Tours, France*); *G. Rogerie* (*University of Tours, France*);

14:00 Temporal Backscattering of Tropical Forest at P Band with Ground Experiment
Clément Albinet (*ONERA-DEMR, France*); *Pierre Borderies* (*Office National d'Etudes et de Recherches Aerospatiales (ONEAR), France*); *Thierry Koleck* (*Centre National d'Etudes Spatiales (CNES), France*); *Fabio Rocca* (*Politechnic of Milan, Italy*); *Stefano Tebaldini* (*Politecn Milan, Italy*); *Thuy Le Toan* (*CNES-CNRS-Universite Paul Sabatier, France*); *L. Villard* (*CESBIO, France*);

14:20 Comments on Some Radio Wave Propagation Mechanisms in the Amazon Region
Mauro S. Assis (*Univ Fed Fluminense, Brazil*);

14:40 Negative Power Law Attenuation Estimation for Rainy Earth-Space Radio Links
Peter O. Akuon (*University of Kwa-Zulu Natal (UKZN), South Africa*); *Thomas J. O. Afullo* (*University of Kwa-Zulu Natal (UKZN), South Africa*);

15:20 **Coffee Break**

Session 1P5b
Distributed Coding and Cooperative Communications

Tuesday PM, March 27, 2012

Room E

Organized by Soon Xin (Michael) Ng

Chaired by Soon Xin (Michael) Ng

15:40 A Simple Forwarding Technique for Two-way Relay Channels
Anisul Karim (*University of New South Wales (UNSW), Australia*); *Jinhong Yuan* (*University of New South Wales (UNSW), Australia*); *Jun Li* (*University of New South Wales (UNSW), Australia*); *Zhuo Chen* (*CSIRO ICT Centre, Australia*);

16:00 BICM-ID for Relay System Allowing Intra-link Errors and a Similarity Constellation to ARQ Schemes
Meng Cheng (*Japan Advanced Institute of Science and Technology (JAIST), Japan*); *Ade Irawan* (*Japan Advanced Institute of Science and Technology (JAIST), Japan*); *Khoirul Anwar* (*Japan Advanced Institute of Science and Technology (JAIST), Japan*); *Tad Matsumoto* (*University of Oulu, Finland*);

16:20 Turbo-coded CDMA-based Two-way Relaying
Soon Xin (Michael) Ng (*University of Southampton, UK*); *Sha Sha Liao* (*University of Southampton, UK*);

16:40 Differential Distributed Space-time Block Code for Two-way Relay Channel with Physical-layer Network Coding
Kai Zhu (*University of York, UK*); *Alister G Burr* (*The University of York, UK*);

17:00 Distributed Algorithm for Multiple Antenna Cooperative Cognitive Radio Networks with Multiple Primary and Secondary Users
Siavash Bayat (*The University of Sydney, Australia*); *Raymond Louie* (*The University of Sydney, Australia*); *Yonghui Li* (*The University of Sydney, Australia*); *Soon Xin (Michael) Ng* (*Southampton University, UK*); *Branka Vucetic* (*The University of Sydney, Australia*);

17:20 Distributed Allocation of the Spectrum Sensing Durations for Cooperative Cognitive Radios
Olivier Van den Biggelaar (*Université Libre de Bruxelles (ULB), Belgium*); *Jean Michel Dricot* (*Université Libre de Bruxelles (ULB), Belgium*); *Philippe De Doncker* (*Université Libre de Bruxelles (ULB), Belgium*); *Francois Horlin* (*Université Libre de Bruxelles (ULB), Belgium*);

17:40 Collaborative Data Dissemination in Opportunistic Vehicular Networks
Yong Li (*Tsinghua University, China*); *Zhaocheng Wang* (*Tsinghua University, China*); *Depeng Jin* (*Tsinghua University, China*); *Lieguang Zeng* (*Tsinghua University, China*); *Sheng Chen* (*University of Southampton, UK*);

Session 1P6
Millimetre and Submillimetre Wave Radar Systems — Theory and Applications

Tuesday PM, March 27, 2012

Room F

Organized by Sebastian Hantscher

Chaired by Sebastian Hantscher, Helmut Essen

13:20 Ultra Thin Metamaterial Absorbers Using Electric Field Driven LC (ELC) Resonator Structure
Somak Bhattacharyya (*Indian Institute of Technology, India*); *Kumar Vaibhav Srivastava* (*Indian Institute of Technology, India*);

13:40 Moving Passenger Screening Using a Fast Millimetre Wave FMCW Radar
Sebastian Hantscher (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Beverly Schlenther* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Stefan Lang* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Manfred Hägelen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Helmut Essen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Axel Tessmann* (*Fraunhofer Institute for Applied Solid State Physics, Germany*);

14:00 Millimeter-wave Imaging System Using a One Dimensional Virtual Array for Stand-off Detection
Viktor Krozer (*Goethe University Frankfurt, Germany*); *J. Moll* (*Goethe University Frankfurt, Germany*);

14:20 Comparison of Ultra-wideband Radar Target Classification Methods Based on Complex Natural Resonances
Mahmoud Khodjet-Kesba (*LASMEA UMR 6602 UBP/CNRS, France*); *K. Chahine* (*LASMEA UMR 6602 UBP/CNRS, France*); *Khalil El Khamlichi Drissi* (*Blaise Pascal University, France*); *Kamal Kerroum* (*Blaise Pascal University, France*);

14:40 Millimeterwave Synthetic Aperture Radar for UAV Applications
Winfried Johannes (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Helmut Essen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Stephan Stanko* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Rainer Sommer* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Alfred Wahlen* (*Fraunhofer FHR, Germany*); *Jörn Wilcke* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*);

15:00 Millimeterwave SAR Monitoring for Precision Farming Applications
Helmut Essen (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Thorsten Brehm* (*Fraunhofer FHR, Germany*); *Stefan Sieger* (*Fraunhofer Intitute for High Frequency Physics and Radar Techniques, Germany*); *Rainer Sommer* (*Fraunhofer Intitute for High Frequency Physics and Radar Techniques, Germany*); *Erich Meier* (*University of Zurich, Switzerland*); *Christophe Magnard* (*University of Zurich, Switzerland*);

15:20 **Coffee Break**

15:40 Processing of COBRA FMCW SAR Data
Max Frioud (*University of Zurich, Switzerland*); *Alfred Wahlen* (*Fraunhofer FHR, Germany*); *Helmut Essen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Erich Meier* (*University of Zurich, Switzerland*);

16:00 High Resolution MEMPHIS SAR Data Processing and Applications
Christophe Magnard (*University of Zurich, Switzerland*); *Thorsten Brehm* (*Fraunhofer FHR, Germany*); *Helmut Essen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Erich Meier* (*University of Zurich, Switzerland*);

16:20 A Highly-linear Low-power Down-conversion Mixer for Monostatic Broadband 80 GHz FMCW-radar Transceivers
Christian Bredendiek (*Ruhr-Universität-Bochum, Germany*); *Nils Pohl* (*Ruhr-Universität-Bochum, Germany*); *Timo Jaeschke* (*Ruhr-Universität-Bochum, Germany*); *Klaus Aufinger* (*Infineon Technologies AG, Germany*); *Attila Bilgic* (*KROHNE Messtechnik, Germany*);

16:40 Advantages of Using Broadband Millimeter Wave Radar Sensors for High Precision Distance Measurements and SAR Imaging
Timo Jaeschke (*Ruhr-Universität-Bochum, Germany*); *Michael Vogt* (*Ruhr-Universitat Bochum, Germany*); *Christian Bredendiek* (*Ruhr-Universität-Bochum, Germany*); *Nils Pohl* (*Ruhr-Universität-Bochum, Germany*);

17:00 Dual-Frequency Laser Doppler Radar for Coherence Enhancement and Speckle Noise Reduction
Chih-Hao Cheng (*National Tsing Hua University, Taiwan*); *Jia-Wei Lee* (*National Tsing Hua University, Taiwan*); *Tzu-Wei Lin* (*National Tsing Hua University, Taiwan*); *Fan-Yi Lin* (*National Tsing Hua University, Taiwan*);

Session 1P7
Extended/Unconventional Electromagnetic Theory, EHD (Electro-hydrodynamics)/EMHD (Electro-magneto-hydrodynamics), and Electro-biology

Tuesday PM, March 27, 2012

Room G

Organized by Eva Gescheidtová

Chaired by Pavel Fiala

13:20 Electromagnetic and Gravitational Equations of Rotational Objects
Zi-Hua Weng (*Xiamen University, China*);

13:40 The Active Filter for Use in Measurement of the Fast Moving Object
Martin Friedl (*Brno University of Technology, Czech Republic*); *Lubomír Frohlich* (*Brno University of Technology, Czech Republic*); *Jirí Sedlácek* (*Brno University of Technology, Czech Republic*);

14:00 Electromagnetic Force and Velocity Curl
Zi-Hua Weng (*Xiamen University, China*);

14:20 Limiting Effects in the Application of Inductive Sensors for Measuring of Non-harmonic High-level Current Pulses
R. Myška (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*);

14:40 Temperature Dependencies Measurement, Proposal and Preparing
Jan Hrozek (*Brno University of Technology, Czech Republic*); *Dusan Nespor* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*);

15:00 NMR Lens — Technological Limits
Dusan Nespor (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

15:20 **Coffee Break**

15:40 The Correction of $\boldsymbol{B_1}$ Errors in Magnetization Transfer Ratio Measurements
Mouin Alkhaddour (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

16:00 Measurement of DWI and DTI Images of Isotropic and Anisotropic Materials by Using NMR Methods
Petr Marcon (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*); *Martin Cap* (*Brno University of Technology, Czech Republic*);

16:20 The Determination of Function G and Air Ion Mobility Spectrum in an Aspiration Condenser with Segmented Inner Electrode
Zdeněk Roubal (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*);

16:40 MR Perfusion Visualization in 3D Image
Martin Cap (*Brno University of Technology, Czech Republic*); *Eva Gescheidtová* (*Brno University of Technology, Czech Republic*); *Petr Marcon* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*); *Eva Kroutilová* (*Brno University of Technology, Czech Republic*);

17:00 Calibration of the Apparatus for 3D Magnetic Measurement for EIT
Zdeněk Roubal (*Brno University of Technology, Czech Republic*); *Tomáš Kriz* (*Brno University of Technology, Czech Republic*);

17:20 Detection of Skull Trauma Using Resistance Tomography
Ksenia Ostanina (*Brno University of Technology, Czech Republic*); *Jarmila Dedkova* (*Brno University of Technology, Czech Republic*);

17:40 NMR Diagnostic and Brain Cancer Treatment
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*); *Martin Cap* (*Brno University of Technology, Czech Republic*);

18:00 X-ray Diagnostics of Non-homogeneous Material by Means of 2D Plane Transformation
Pavel Fiala (*Brno University of Technology, Czech Republic*); *Petr Koňas* (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*); *Eva Kroutilová* (*Brno University of Technology, Czech Republic*); *P. Šmíra* (*Thermo Sanace s.r.o., Czech Republic*);

Session 1P8
Poster Session 1

Tuesday PM, March 27, 2012
14:00 PM - 17:00 PM
Room K

1 Inhabitation of LPS-induced Brain Damage Using Static Magnetic Field
Che-Tong Lin (*Taipei Medical University, Taiwan*); *Wei-Jen Chang* (*Taipei Medical University, Taiwan*); *Po-Chieh Yang* (*Taipei Medical University, Taiwan*); *Wei-Yi Lai* (*Taipei Medical University, Taiwan*); *Kan-Shin Fan* (*En-Chu-Kong Hospital, Taiwan*); *Haw-Ming Huang* (*Taipei Medical University, Taiwan*);

2 Static Magnetic Fields Increase Low-temperature Storage Efficiency of Human Blood Cells
Haw-Ming Huang (*Taipei Medical University, Taiwan*); *Chun-Yen Lin* (*Taipei Medical University, Taiwan*); *Wei-Jen Chang* (*Taipei Medical University, Taiwan*); *Kuo-Ning Ho* (*Taipei Medical University, Taiwan*); *Yuh-Yuan Shiau* (*National Taiwan University, Taiwan*); *Che-Tong Lin* (*Taipei Medical University, Taiwan*);

3 Biological Properties and Haemocompatibility Evaluation of a Novel Paramagnetic Nano-membrane via Electrospinning
Sheng-Wei Feng (*Taipei Medical University, Taiwan*); *Ya-Hui Chan* (*Taipei Medical University, Taiwan*); *Che-Tong Lin* (*Taipei Medical University, Taiwan*); *Chien-Wu Yeh* (*Cathay General Hospital, Taiwan*); *Shu-Li Lin* (*Cathay General Hospital, Taiwan*); *Haw-Ming Huang* (*Taipei Medical University, Taiwan*);

4 Analysis of SRR Metamaterials with Controllable Resonance Frequency
Shi-Quan Zhang (*Engineering University of CAPF, China*); *Li-Jie Wang* (*Engineering University of CAPF, China*); *Hui Zhang* (*Engineering University of CAPF, China*); *Bing Wei* (*Xidian University, China*);

5 Measurement of High Frequency Magnetic Radiation in Kuwait
Fuad M. Alkoot (*PAAET, Kuwait*); *Rabie K. Dib* (*College of Technological Studies, Kuwait*);

6 Relative Cellular Energy Balance and Biometric Interaction
Karl F. Kaspareck (*CTE, Italy*);

7 Influence of Variations of Near Earth Electromagnetic Fields on Cerebrovascular System of the Person in Time of Heliogophysical Disturbances
Yu. Ya. Varakin (*Scientific Center of Neurology RAMS, Russia*); *V. G. Ionova* (*Scientific Center of Neurology RAMS, Russia*); *G. V. Gornostaeva* (*Scientific Center of Neurology RAMS, Russia*); *Elena A. Sazanova* (*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*);

8 Overview of Methods for Magnetic Susceptibility Measurement
Petr Marcon (*Brno University of Technology, Czech Republic*); *K. Ostanina* (*Brno University of Technology, Czech Republic*);

9 Algorithms for Electromagnetic Waves on Interface
Zdeněk Roubal (*Brno University of Technology, Czech Republic*); *Radim Kadlec* (*Brno University of Technology, Czech Republic*); *Eva Kroutilova* (*Brno University of Technology, Czech Republic*); *Pavel Fiala* (*Brno University of Technology, Czech Republic*);

10 Comparison of Segmentation Methods in MR Image Processing
Jan Mikulka (*Brno University of Technology, Czech Republic*); *Eva Gescheidtová* (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*); *Dusan Nespor* (*Brno University of Technology, Czech Republic*);

11 Simulation and Experimental Measurements for Near Field Imaging
Shahid Adnan (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Muhammad Usman* (*University of Hail, Kingdom of Saudi Arabia*); *Chan H. See* (*University of Bradford, UK*); *J. M. Noras* (*University of Bradford, UK*); *M. B. Child* (*University of Bradford, UK*);

12 Consideration of Metamaterial Transmission Line with Extended Constitutive Relationships by Using Circuit Theory
Toshikazu Sekine (*Gifu University, Japan*); *Yoshihiro Kawasaki* (*Gifu University, Japan*); *Yasuhiro Takahashi* (*Gifu University, Japan*);

13 The Measurement of Diffusion in Plants Tissue Culture
Michaela Burdková (*Brno University of Technology, Czech Republic*); *Petr Marcon* (*Brno University of Technology, Czech Republic*); *Eva Gescheidtová* (*Brno University of Technology, Czech Republic*); *Martin Cap* (*Brno University of Technology, Czech Republic*);

14 Waves and Signals
Sara Liyuba Vesely (*I.T.B. — C.N.R., Italy*); *Alessandro Alberto Vesely* (*Via L. Anelli 13, Italy*); *Caterina Alessandra Dolci* (*Liceo Einstein, Italy*);

15 Effects of Multipath Propagation and Measurement Noise in IEEE 802.11g WLAN Beacon for Indoor Localization
Chamal Sapumohotti (*Multimedia University, Malaysia*); *Mohamad Yusoff Alias* (*Multimedia University, Malaysia*); *Su Wei Tan* (*Multimedia University, Malaysia*);

16 Correlation Analysis on the Specific Absorption Rate (SAR) between Metallic Spectacle and Pins Exposed from Radiation Sources
Mohd Hafizuddin Mat (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Mohd Fareq Bin AbdMalek* (*University Malaysia Perlis (UniMAP), Malaysia*); *S. I. Syed Hassan* (*Universiti Malaysia Perlis, Malaysia*); *M. S. Zulkefli* (*Universiti Malaysia Perlis, Perlis*); *S. H. Ronald* (*Universiti Malaysia Perlis (UniMAP), Malaysia*);

17 Active Basestation Antenna for 4G Mobile Service
Young-Bae Jung (*Electronics and Telecommunications Research Institute, South Korea*);

18 Q-factors of Weakly Deformed Optical Resonators
Michael White (*University of Nottingham, UK*); *Stephen C. Creagh* (*University of Nottingham, UK*);

19 Self-field Theory — A Biophotonic Model of Cellular Replication
Anthony H. J. Fleming (*Biophotonics Research Institute, Australia*);

20 A Compact Internal Antenna Design for 3G and 4G Mobile Handset
Cheng-Hung Lin (*National Taiwan Ocean University, Taiwan*); *Chih-Liang Cheng* (*National Taiwan Ocean University, Taiwan*); *Kwong-Kau Tiong* (*National Taiwan Ocean University, Taiwan*); *Guan-Yu Chen* (*National Taipei University of Technology, Taiwan*);

21 A Internal Planar Antenna Design for WiMAX Mobile Handset
Cheng-Hung Lin (*National Taiwan Ocean University, Taiwan*); *Chung-Wei Liu* (*National Chiayi University, Taiwan*); *Kwong-Kau Tiong* (*National Taiwan Ocean University, Taiwan*); *Guan-Yu Chen* (*National Taipei University of Technology, Taiwan*);

22 A Novel on-glass DVB-H Antenna Design for Mobile Handset
Cheng-Hung Lin (*National Taiwan Ocean University, Taiwan*); *Li-Gang Lai* (*National Taiwan Ocean University, Taiwan*); *Kwong-Kau Tiong* (*National Taiwan Ocean University, Taiwan*); *Guan-Yu Chen* (*National Taipei University of Technology, Taiwan*);

23 A New Proof of the Non-constancy of Speed of Light in Vacuum and a Simple Solution for the Damped Wave Equation with a Moving Mirror Boundary (Part I)
Namik Yener (*Kocaeli University, Turkey*);

24 A New Proof of the Non-constancy of Speed of Light in Vacuum and a Simple Solution for the Damped Wave Equation with a Moving Mirror Boundary (Part II)
Namik Yener (*Kocaeli University, Turkey*);

25 A New Proof of the Non-constancy of Speed of Light in Vacuum and a Simple Solution for the Damped Wave Equation with a Moving Mirror Boundary (Part III)
Namik Yener (*Kocaeli University, Turkey*);

28 ARC-phobic and Other Characteristics of Surface Flashover
Halimatusaadiah Binti Rusli (*Universiti Putra Malaysia, Malaysia*); *Chandima Gomes* (*Universiti Putra Malaysia, Malaysia*); *Mohd Zainal Abidin Ab Kadir* (*Universiti Putra Malaysia, Malaysia*);

29 Optical Properties of Photo-induced Metallic Structure in Terahertz Frequency Region
Takanori Okada (*Kyoto University, Japan*);

35 Indoor Positioning Based on IEEE 802.15.4a Standard Using Trilateration Technique and UWB Signal
Jirapat Sangthong (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Prakaidao Dokpikul* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Sathaporn Promwong* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*);

Session 2A1
Microwave/Terahertz Photonics Technologies and Their Applications

Wednesday AM, March 28, 2012

Room A

Organized by Katsumi Iwatsuki

Chaired by Katsumi Iwatsuki, Katsutoshi Tsukamoto

08:20 Design of Terahertz Quantum Cascade Lasers for High Temperature Operations Using Non-equilibrium Green's Function Method
Hiroaki Yasuda (*National Institute of Information and Communications Technology, Japan*); *Tillmann Kubis* (*Purdue University, USA*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*); *Kazuhiko Hirakawa* (*University of Tokyo, Japan*);

08:40 Optical Pulse Generation from Quantum Dot Optical Frequency Comb Laser
Naoukatu Yamamoto (*National Institute of Information and Communications Technology, Japan*); *Kouichi Akahane* (*National Institute of Information and Communications Technology, Japan*); *Tetsuya Kawanishi* (*National Institute of Information and Communications Technology, Japan*); *Hideyuki Sotobayashi* (*Aoyama Gakuin University, Japan*); *Yuki Yoshioka* (*Tokyo Denki University, Japan*); *Hiroshi Takai* (*Tokyo Denki University, Japan*);

09:00 Mode-locked Yb-doped Fiber Ring-Laser for Use as a Pump Pulse Source of THz-TDS
Junichi Hamazaki (*National Institute of Information and Communications Technology, Japan*); *Norihiko Sekine* (*National Institute of Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*);

09:20 Terahertz Negative Dynamic Conductivity in Optically Pumped Graphene
Akira Satou (*The University of Aizu, Japan*); *Taiichi Otsuji* (*Tohoku University, Japan*); *Victor Ryzhii* (*The University of Aizu, Japan*); *Fedir T. Vasko* (*NAS of Ukraine, Ukraine*);

09:40 Electromagnetic Beam Steering Based on Nonreciprocal Metamaterials
Tetsuya Ueda (*Kyoto Institute of Technology, Japan*); *Yuichi Kado* (*Kyoto Institute of Technology, Japan*);

10:00 Millimeter-wave Generation and Modulation Techniques Based on Photonics for Wired and Wireless Convergence
Tadao Nagatsuma (*Osaka University, Japan*); *Daisuke Asa* (*Osaka University, Japan*); *Naoto Yoshimoto* (*NTT Corporation, Japan*); *Katsumi Iwatsuki* (*NTT Corporation, Japan*);

10:20 **Coffee Break**

10:40 RoF-DAS over WDM-PON Using Bandpass-sampling and Optical TDM Techniques as Universal Entrance Network for Broadband Wireless Access
Katsutoshi Tsukamoto (*Osaka University, Japan*); *Tatsuhiko Iwakuni* (*Osaka University, Japan*); *Kenji Miyamoto* (*Osaka University, Japan*); *Takeshi Higashino* (*Osaka University, Japan*); *Shozo Komaki* (*Osaka University, Japan*); *Takayoshi Tashiro* (*NTT Access Network Service Systems Laboratories, Japan*); *Youichi Fukada* (*NTT Corp., Japan*); *Junichi Kani* (*NTT Access Network Service Systems Laboratories, Japan*); *Naoto Yoshimoto* (*NTT Corporation, Japan*); *Katsumi Iwatsuki* (*NTT Corporation, Japan*);

11:00 Toward 100 G High-speed Wireless Communication by Coherent RoF Technique
Atsushi Kanno (*National Institute of Information and Communications Technology, Japan*); *Toshiaki Kuri* (*National Institute of Information and Communications Technology, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*); *Tetsuya Kawanishi* (*National Institute of Information and Communications Technology (NICT), Japan*); *Yuki Yoshida* (*Osaka University, Japan*); *Yoshihiro Yasumura* (*Osaka University, Japan*); *Ken-Ichi Kitayama* (*Osaka University, Japan*);

11:20 Development of Heterogeneous Radio Access Network Using Radio on Fiber and Its Field Trial
Takeshi Higashino (*Osaka University, Japan*); *Satoru Okumura* (*Osaka University, Japan*); *Keisuke Hayasaka* (*Osaka University, Japan*); *Katsutoshi Tsukamoto* (*Osaka University, Japan*); *Shozo Komaki* (*Osaka University, Japan*);

11:40 Next Generation Free-space Optical System by System Design Optimization and Performance Enhancement
Mitsuji Matsumoto (*Waseda University, Japan*);

12:00 **λ**-tunable WDM/TDM-PON Using DWBA towards Flexible Next-generation Optical Access Networks
Hirotaka Nakamura (*NTT Corporation, Japan*);

Session 2A2
Laser-induced Periodic Surface Nanostructures: Fundamental Fabrication Mechanisms, Nanoscale-dominated Physical and Chemical Properties 1

Wednesday AM, March 28, 2012

Room B

Organized by Eric Audouard, Ya Cheng

Chaired by Eric Mazur, Eric Audouard

08:20 New Regimes of Sub- and Near-threshold Femtosecond Laser Nanostructuring of Solids
Sergey I. Kudryashov (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Eugene Golosov* (*Belgorod State University, Russia*); *Ol'ga Golosova* (*Belgorod State University, Russia*); *Andrey Ionin* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Yuriy Kolobov* (*Belgorod State University, Russia*); *Alexander Ligachev* (*General Physics Institute, Russian Academy of Sciences, Russia*); *Sergey Makarov* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Leonid Seleznev* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Dmitry Sinitsyn* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*);

08:40 Formation Dynamics of Ultrafast Laser-induced Periodic-surface Structure
Jean-Philippe Colombier (*Université de Lyon, France*); *F. Garrelie* (*Université de Lyon, France*); *R. Stoian* (*Université de Lyon, France*); *M. Bounhalli* (*Université de Lyon, France*); *S. Reynaud* (*Université de Lyon, France*); *N. Faure* (*Université de Lyon, France*); *E. Audouard* (*Université de Lyon, France*); *F. Pigeon* (*Université de Lyon, France*);

09:00 Femtosecond Laser-induced Subwavelength Ripples on Various Materials (Al, Si, CaF_2 and CR-39)
Wolfgang Husinsky (*Vienna University of Technology, Austria*); *Shazia Bashir* (*Vienna University of Technology, Austria*); *M. Shahid Rafique* (*Vienna University of Technology, Austria*);

09:20 Femtosecond-laser-induced Nanostructuring on Si Surface through the Excitation of Surface Plasmon Polaritons
Kenzo Miyazaki (*Kyoto University, Japan*); *Godai Miyaji* (*Kyoto University, Japan*);

09:40 The Role of Anisotropic Excitation in Self-organized Nanostructure Formation upon Femtosecond Laser Ablation
Olga Varlamova (*Brandenburg. Tech. Univ. BTU Cottbus, Germany*); *S. Varlamov* (*BTU Cottbus, Germany*); *M. Bestehorn* (*BTU Cottbus, Germany*); *Juergen Reif* (*Brandenburg. Tech. Univ. BTU Cottbus, Germany*);

10:00 Femtosecond Laser Ablation from Silicon and Ripples Formation: Evolution of Surface Excitation
Mourad Bounhalli (*Brandenburg. Tech. Univ. BTU Cottbus, Germany*); *Marco Muth* (*Brandenburg. Tech. Univ. BTU Cottbus, Germany*); *Olga Varlamova* (*Brandenburg. Tech. Univ. BTU Cottbus, Germany*); *Juergen Reif* (*Brandenburg. Tech. Univ. BTU Cottbus, Germany*);

10:20 **Coffee Break**

10:40 Selected Studies of Laser-induced Periodic Surface Structures on Synthetic Single-crystal Diamond
J. A. Z. Brawley-Hayes (*McMaster University, Canada*); *E. M. Hsu* (*McMaster University, Canada*); *Harold K. Haugen* (*McMaster University, Canada*);

11:00 Selected Studies of Laser-induced Periodic Surface Structures on Silicon
E. M. Hsu (*McMaster University, Canada*); *B. Liu* (*McMaster University, Canada*); *Andrew P. Knights* (*McMaster University, Canada*); *Harold K. Haugen* (*McMaster University, Canada*);

11:20 Fabricating Nanostructured TiO_2 by Femtosecond Laser Irradiating Titanium
Eric Mazur (*Harvard University, USA*); *Katherine C. Phillips* (*Harvard University, USA*); *Elizabeth C. Landis* (*Harvard University, USA*); *Cynthia M. Friend* (*Harvard University, USA*);

11:40 Orientation Controlling of Femtosecond Laser-induced Subwavelength Ripples on Metal Surfaces by the Light Helicity
Jianjun Yang (*Nankai University, China*); *Yanfu Tang* (*Nankai University, China*); *Bo Zhao* (*Nankai University, China*); *Mingwei Wang* (*Nankai University, China*); *Xiaonong Zhu* (*Nankai University, China*);

12:00 Experimental and Theoretical Investigations of Laser-induced Periodical Structures Main Parameters in Femtosecond Regime
Sergey Makarov (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Andrey Ionin* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Sergey I. Kudryashov* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Alexander Ligachev* (*General Physics Institute, Russian Academy of Sciences, Russia*); *Leonid Seleznev* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*); *Dmitry Sinitsyn* (*P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia*);

Session 2A3
Solution Strategies for Inverse Scattering Problems

Wednesday AM, March 28, 2012

Room C

Organized by Andrea Massa, Takashi Takenaka

Chaired by Toshifumi Moriyama

08:40 Reconstruction of a Layered Dielectric Cylinder Using a Split Particle Swarm Optimization
Kenichi Ishida (*Kyushu Sangyo University, Japan*);

09:00 PSO-FBTS Approach to Microwave Breast Imaging
Toshifumi Moriyama (*Nagasaki University, Japan*); *Zhi Qi Meng* (*Fukuoka University, Japan*); *Kismet Hong Ping* (*University Malaysia Sarawak, Malaysia*); *Takashi Takenaka* (*Nagasaki University, Japan*);

09:20 Imaging of 3D Anisotropic Inclusions in Multi-layered Medium by MUSIC with Enhanced Resolution
Rencheng Song (*National University of Singapore, Singapore*); *Rui Chen* (*National University of Singapore, Singapore*); *Xudong Chen* (*National University of Singapore, Singapore*);

09:40 Time-domain Inverse Scattering through the Filtered IMSA-FBTS Strategy: A Numerical Assessment
Federico Caramanica (*University of Trento, Italy*); *Toshifumi Moriyama* (*Nagasaki University, Japan*); *Giacomo Oliveri* (*University of Trento, Italy*); *Andrea Massa* (*University of Trento, Italy*); *Takashi Takenaka* (*Nagasaki University, Japan*);

10:20 **Coffee Break**

10:40 On Using Multiple Modes to Reconstruct Conductor Locations in a Power Transformer Winding
Mariana Dalarsson (*Royal Institute of Technology, Sweden*); *Alireza Motevasselian* (*Royal Institute of Technology, Sweden*); *Martin Karl Norgren* (*Royal Institute of Technology, Sweden*);

11:00 Shape Reconstruction of a Buried Perfectly Conducting Cylinder by Inverse Schemes
Wei Chien (*De Lin Institute of Technology, Taiwan, R.O.C.*); *Chi-Hsien Sun* (*Tamkang University, Taiwan, R.O.C.*); *Chien-Ching Chiu* (*Tamkang University, Taiwan, R.O.C.*); *Szu-Chi Shen* (*Tamkang University, Taiwan, R.O.C.*); *Chung-Hsin Huang* (*Taipei College of Maritime Technology, Taiwan*);

11:20 A Multiplicative Regularization Scheme for Three-dimensional Shape-based Inversion
Maokun Li (*Schlumberger-Doll Research, USA*); *Aria Abubakar* (*Schlumberger-Doll Research, USA*);

11:40 Reconstruction of Perfectly Electric Conductors under TE Wave
Jianhua Shen (*Zhejiang University, China*); *Xudong Chen* (*National University of Singapore, Singapore*); *Li-Xin Ran* (*Zhejiang University, China*);

Session 2A4
Antennas for Mobile Communication 1

Wednesday AM, March 28, 2012

Room D

Organized by Toshio Wakabayashi

Chaired by Toshio Wakabayashi, Yasumitsu Miyazaki

08:20 Study of Compact Thin-film UWB Antenna with Dual Band-notched Characteristics
M. Tangitjetsada (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Paitoon Rakluea* (*Rajamangala University of Technology Thanyaburi, Thailand*); *Chawalit Benjangkaprasert* (*King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand*);

08:40 High-gain Antenna for Base Station Using MSA and Triangular EBG Cavity
P. Kamphikul (*Suranaree University of Technology, Thailand*); *Piyaporn Krachodnok* (*Suranaree University of Technology, Thailand*); *Rangsan Wongsan* (*Suranaree University of Technology, Thailand*);

09:00 A Dual-band Single-feed Planar Antenna for WLANs
Herman Hideyuki Uchida (*Tokai University, Japan*); *Toshio Wakabayashi* (*University of Technology Malaysia (UTM), Malaysia*);

09:20 Statistical Analysis of Microwave Scattering and Attenuation in Randomly Distributed Rainfalls Using Parallel Computation
Yasumitsu Miyazaki (*Aichi University of Technology, Japan*); *Koichi Takahashi* (*Aichi University of Technology, Japan*); *Nobuo Goto* (*The University of Tokushima, Japan*);

09:40 Calculation of Circular Microstrip Antenna Parameters with a Single Artificial Neural Network Model
S. Sinan Gultekin (*Selcuk University, Turkey*); *Dilek Uzer* (*Selcuk University, TURKEY*); *Ozgur Dündar* (*Selcuk University, Turkey*);

10:00 Estimation and Design of U-slot Physical Patch Parameters with Artificial Neural Networks
Dilek Uzer (*Selcuk University, TURKEY*); *S. Sinan Gultekin* (*Selcuk University, Turkey*); *Ozgur Dündar* (*Selcuk University, Turkey*);

10:20 **Coffee Break**

10:40 Effect of U-slot Applications on Circular Microstrip Patches Modeling with Artificial Neural Networks on Impedance Bandwidth
Dilek Uzer (*Selcuk University, Turkey*); *M. S. Uzer* (*Selcuk University, Turkey*); *S. S. Gultekin* (*Selcuk University, Turkey*); *N. Yilmaz* (*Selcuk University, Turkey*);

11:00 Bandwidth Modeling of U-slot Rectangular Microstrip Antennas with Artificial Neural Networks
Mustafa S. Uzer (*Selcuk University, Turkey*); *Dilek Uzer* (*Selcuk University, Turkey*); *N. Yilmaz* (*Selcuk University, Turkey*); *S. S. Gultekin* (*Selcuk University, Turkey*);

11:20 A Metamaterial Antenna with Reduced Radiation Hazards towards Human Head
D. Laila (*Cochin University of Science and Technology, India*); *R. Sujith* (*Cochin University of Science and Technology, India*); *C. M. Nijas* (*Cochin University of Science and Technology, India*); *V. A. Shameena* (*Cochin University of Science and Technology, India*); *R. Dinesh* (*Cochin University of Science and Technology, India*); *Pezholil Mohanan* (*Cochin University of Science and Technology, India*);

11:40 Polarization Diversity Unidirectional Antenna for IEEE 802.11a Applications
Souphanna Vongsack (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Chuwong Phongcharoenpanich* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Sompol Kosulvit* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *K. Hamamoto* (*Tokai University, Japan*); *Toshio Wakabayashi* (*University of Technology Malaysia (UTM), Malaysia*);

12:00 A New Seljuk Star Shape Microstrip Antenna Design
Dilek Uzer (*Selcuk University, Turkey*); *S. Sinan Gultekin* (*Selcuk University, Turkey*);

Session 2A5
Wireless Network and Applications 1

Wednesday AM, March 28, 2012

Room E

Organized by Soon Yim Tan, Chee Kiat Seow

Chaired by Soon Yim Tan, Chee Kiat Seow

08:20 A Novel Radiation Enhancement Technique for Multilayer Microwave Circuits
Kum Meng Lum (*University of Surrey, UK*);

08:40 Novel M-shaped Defected Ground Structure for Spurious Suppressed Dual Mode Bandpass Filter Design
John Weng Lau (*University of Newcastle, Australia*); *K. M. Lum* (*University of Newcastle, Australia*);

09:00 Stepped Impedance Key-shaped Resonator for Bandpass and Bandstop Filters Design
Khim Chwee Lek (*University of Newcastle Callaghan, Australia*); *K. M. Lum* (*University of Newcastle, Australia*);

09:20 Multilayered Miniaturized Hairpin Resonator for Bandpass Filter Design
Meng Long Lee (*SIM University, Singapore*); *K. M. Lum* (*SIM University, Singapore*);

09:40 A Stepped Impedance Comb-line Filter Design Using Defective Ground Structure for Wireless Applications
Yon Thor Lim (*SIM University, Singapore*); *K. M. Lum* (*SIM University, Singapore*);

10:00 Miniaturized Multilayered Bandpass Filter Using Microstrip Hairpin Resonator for C-band Application
Chin Yong Wong (*SIM University, Singapore*); *K. M. Lum* (*SIM University, Singapore*);

10:20 **Coffee Break**

10:40 Compact Lowpass Filter Design Using Cavity Resonator and Ladder-shaped Defected Ground Structure
Kan Xing Ng (*SIM University, Singapore*); *K. M. Lum* (*SIM University, Singapore*);

11:00 A Novel Bandpass Filter Design Using E-shaped Resonator and Dual Square-loop Defected Ground Structure
Pik Ling Lim (*SIM University, Singapore*); *K. M. Lum* (*SIM University, Singapore*);

11:20 Study on New Ultrasonic Positioning and Movement Detection Installed in Sensor Network
Mitsutaka Hikita (*Kogakuin University, Japan*); *Aoki Hiroaki* (*Kogakuin University, Japan*); *Natsuki Tobita* (*Kogakuin University, Japan*);

11:40 Evaluation of Site Diversity Effectiveness Using Weather Radar Data for Singapore
See Chuan Leong (*Defence Science & Technology Agency, Singapore*); *Wan Jing Loh* (*Defence Science & Technology Agency, Singapore*); *Yanjuan Chen* (*Defence Science & Technology Agency, Singapore*); *Peng Hon Yip* (*Defence Science & Technology Agency, Singapore*); *Boon Tiong Koh* (*Defence Science & Technology Agency, Singapore*);

12:00 An Assessment of ZigBee Wireless Communications in Aircraft
Anthony Centeno (*Imperial College London, UK*); *Neil Alford* (*Imperial College London, UK*);

Session 2A6
Filter, Transmission Line and Waveguide

Wednesday AM, March 28, 2012

Room F

Chaired by Homayoon Oraizi, Peter Halevi

08:20 Realization and Characterization of a High-performance SOA-based Multi-wavelength Fiber Ring Laser
Peng-Chun Peng (*National Taipei University of Technology, Taiwan*); *An-Li Tsou* (*National Taipei University of Technology, Taiwan*); *Ho Shin Yee* (*National Taipei University of Technology, Taiwan*); *Hai-Han Lu* (*National Taipei University of Technology, Taiwan*);

08:40 Design and Implementation of Asymmetric Coupled SIR Dual-band Bandpass Filter
Wen Ko (*Feng Chia University, Taiwan, China*); *Man-Long Her* (*Feng Chia University, Taiwan*);

09:00 Realization of Compact Dual-band Band Pass Filter with Transmission Zeros and Wide Bandwidth Using Low-temperature Co-fired Ceramic
Li Ju Chen (*National Sun Yat-Sen University, Taiwan*); *Ken-Huang Lin* (*National Sun Yat-Sen University, Taiwan*);

09:20 A Compact Aperture-backed Square Ring UWB Bandpass Filter
Albin SuiHian Kuek (*Swinburne University of Technology (Sarawak Campus), Malaysia*); *Hieng Tiong Su* (*Swinburne University of Technology (Sarawak Campus), Malaysia*); *Manas Kumar Haldar* (*Swinburne University of Technology (Sarawak Campus), Malaysia*);

09:40 180 GHz Microstrip Ring Resonator Bandpass Filter on Micromachined Silicon Substrate
Hong-Ren Lin (*University of Washington, USA*); *Kung Bo Ng* (*City University of Hong Kong, China*); *Chi Hou Chan* (*City University of Hongkong, China*); *Edwin Yue-Bun Pun* (*City University of Hong Kong, China*); *Feng-Ju Hsieh* (*University of Washington, USA*); *Wei-Chih Wang* (*University of Washington, USA*);

10:00 Wide Band Harmonic Suppression Bandpass Filters Using Coupled Open- and Short-ended Resonators
Homayoon Oraizi (*Iran University of Science and Technology, Iran*); *Mahdi Zoghi* (*Iran University of Science and Technology, Iran*);

10:20 **Coffee Break**

10:40 Novel Tunable Band-reject Filter Using Modified C-shaped Defected Ground Structure
Rajab Mohammad Begenji (*Ferdowsi University of Mashhad, Iran*); *Mohammad Hassan Neshati* (*Ferdowsi University of Mashhad, Iran*);

11:00 Miniaturization and Harmonic Suppression of a Novel Rat-race Coupler
Wei Song (*Doshisha University, Japan*); *Hiroyuki Deguchi* (*Doshisha University, Japan*); *Mikio Tsuji* (*Doshisha University, Japan*);

11:20 A New Method for Detection and Characterization of Electrical Cable Aging
Lola El Sahmarany (*CEA, LIST, France*); *Fabrice Auzanneau* (*CEA LIST, France*); *Pierre Bonnet* (*Clermont University, Blaise Pascal University, France*);

11:40 A Dynamic Low-pass Transmission Line and Resonant Power Transmission and Reflection
Peter Halevi (*Instituto Nacional de Astrofisica, Optica y Electronica (INAOE), Mexico*); *Uriel Algredo-Badillo* (*Instituto Nacional de Astrofisica, Optica y Electronica, Mexico*); *O. M. Becerra-Fuentes* (*Instituto Nacional de Astrofisica, Optica y Electronica (INAOE), Mexico*);

12:00 Inverse Scattering Experiments for Electric Cable Soft Fault Diagnosis and Connector Location
Florent Loete (*LGEP-SUPELEC, France*); *Qinghua Zhang* (*INRIA-IRISA, France*); *Michel Sorine* (*INRIA-IRISA, France*);

Session 2A7
Electromagnetic Modeling, Inversion and Applications

Wednesday AM, March 28, 2012

Room G

Organized by Ganquan Xie, Jianhua Li, Michael Oristaglio

Chaired by Ganquan Xie, Mohd Noh Karsiti

08:40 MAGIC2D Implicit Particle Pusher Description and Test
Andrew J. Woods (*Alliant Techsystems (ATK), USA*); *Lars D. Ludeking* (*Alliant Techsystems (ATK), USA*);

09:00 A New GL Visible and Controlling EM Stirring for Steel and Meta Casts
Ganquan Xie (*GL Geophysical Laboratory, USA*); *Jianhua Li* (*GL Geophysical Laboratory, USA*); *Qing Xie* (*Hunan Super Computational Science Center, China*); *Feng Xie* (*GL Geophysical Laboratory, USA*); *Lee Xie* (*GL Geophysical Laboratory, USA*);

09:20 Application of Digital Filtering Techniques in Field Solvers to Represent Small Embedded Features in a Coarse Mesh
Vongurai Rawin (*University of Nottingham, UK*); *Christos Christopoulos* (*University of Nottingham, UK*); *Dave Thomas* (*University of Nottingham, UK*); *Steve Greedy* (*University of Nottingham, UK*);

09:40 Synthesis of Composite Materials with Conductive Aligned Cylindrical Inclusions
Muhammet Hilmi Nisanci (*University of L'Aquila, Italy*); *Francesco De Paulis* (*University of L'Aquila, Italy*); *Danilo Di Febo* (*University of L'Aquila, Italy*); *Antonio Orlandi* (*University of L'Aquila, Italy*);

10:00 Efficient Embedding of Thin Sheet Models in TLM Simulations
Xuesong Meng (*The University of Nottingham, UK*); *Phillip Donald Sewell* (*Univeristy of Nottingham, UK*); *Ana Vukovic* (*University of Nottingham, UK*); *Trevor Mark Benson* (*University of Nottingham, UK*);

10:20 **Coffee Break**

10:40 Analyzing Effects of Mobile Dipole Speed on Survey Data via Forward Modeling Technique
Nazabat Hussain (*Universiti Teknologi PETRONAS, Malaysia*); *Norashikin Yahya* (*Universiti Teknologi PETRONAS, Malaysia*); *Mohd Noh Karsiti* (*Universiti Teknologi PETRONAS, Malaysia*); *Zainal A. Burhanuddin* (*Universiti Teknologi PETRONAS, Malaysia*);

11:00 Numerical Solution of BLT Equation for Inhomogeneous Transmission Line Networks
Mohamed Oumri (*INRIA, France*); *Qinghua Zhang* (*INRIA-IRISA, France*); *Michel Sorine* (*INRIA-IRISA, France*);

11:20 Quasi Dispersion Curve And Its Bandwidth in Coupled Resonator Optical Waveguides
Chih-Hsien Huang (*National Chiao Tung University, Taiwan*); *Wei-Shuo Li* (*National Chiao Tung University, Taiwan*); *Jing-Nuo Wu* (*Chinese Culture University, Taiwan*); *Wen-Feng Hsieh* (*National Cheng Kung University, Taiwan*); *Yia-Chung Chang* (*Research Centre for Applied Sciences, Academia Sinica, Taiwan*);

11:40 Improvised PEEC Method in the Modeling of the Near-field Coupling with Electrical Cable
Elagiri-Ramalingam Rajkumar (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Mohamed Bensetti* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Blaise Ravelo* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Moncef Kadi* (*ESIGELEC, France*);

Session 2A8
Poster Session 2

Wednesday AM, March 28, 2012
9:00 AM - 12:00 AM
Room K

1 The Scattering Property Analysis of Metamaterials-coated Object Based on FDTD
Shi-Quan Zhang (*Engineering University of CAPF, China*);

2 Multilayered Periodic Structures — Tunneling and Electromagnetic Curtain Effects
Rafal Lech (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*); *J. Mazur* (*Gdansk University of Technology, Poland*);

3 Mutual Impedance Probes as Diagnostic Tools for Space Plasmas
Jean Gabriel Trotignon (*Centre National de la Recherche Scientifique, CNRS, France*); *Jean Louis Rauch* (*Centre National de la Recherche Scientifique, CNRS, France*);

4 Measurement of the Electric Thunderstorm Lightnings and TLEs Signatures by IME-HF Instrument on Board TARANIS Satellite
Jean Louis Rauch (*Centre National de la Recherche Scientifique, CNRS, France*); *O. Santolik* (*Institute of Atmospheric Physics AS CR, Czech Republic*); *I. Kolmasova* (*Institute of Atmospheric Physics AS CR, Czech Republic*); *J. Chum* (*Institute of Atmospheric Physics AS CR, Czech Republic*); *F. Hruska* (*Institute of Atmospheric Physics AS CR, Czech Republic*); *L. Uhlír* (*Institute of Atmospheric Physics AS CR, Czech Republic*);

5 Analysis of Near-field Optical Disk with a Circular Aperture
Toshiaki Kitamura (*Kansai University, Japan*);

6 GMI Effect in Thin Amorphous Microwires for Sensors and Tuneable Metamateriales Applications
Arcady P. Zhukov (*Universidad del Pais Vasco, Spain*); *Mihail Ipatov* (*Universidad del Pais Vasco, Spain*); *V. Zhukova* (*Universidad del Pais Vasco, Spain*);

7 Effect of Ionospheric Macroscale Inhomogeneities on Radiosignals under Conditions of High-frequency Oblique Heating
Yu. K. Kalinin (*Fedorov Institute of Applied Geophysics, Russia*); *Nadezda P. Sergeenko* (*Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Russian Academy of Sciences, Russia*);

8 Spectral Switches of a Circular Aperture with Pockels Effect
Hsun-Ching Hsu (*National Chung Hsing University, Taiwan, R.O.C.*); *Pin Han* (*National Chung Hsing University, Taiwan*);

9 Background Field Modeling for Ionospheric Ion Temperature Based on DEMETER Satellite Data
Lingli Tang (*Academy of Opto-Electronics, Chinese Academy of Sciences, China*); *Chuanrong Li* (*Academy of Opto-Electronics, Chinese Academy of Sciences, China*); *Xianfeng Song* (*Graduate University of Chinese Academy of Sciences, China*); *Bo Yuan* (*Academy of Opto-Electronics, Chinese Academy of Sciences, China*); *Lingling Ma* (*Academy of Opto-Electronics, Chinese Academy of Sciences, China*); *Xinhong Wang* (*Academy of Opto-Electronics, Chinese Academy of Sciences, China*);

10 UHF Propagation Prediction in Smooth Homogenous Earth Using Split-step Fourier Algorithm
Seyyed Reza Hosseini (*Amirkabir University of Technology, Iran*); *R. Sarraf Shirazi* (*Amirkabir University of Technology, Iran*); *Ali Kiaee* (*Amirkabir University of Technology, Iran*); *P. Pahlavan* (*Sharif University of Technology, Iran*); *M. Sharifi* (*Khajenasir University of Technology, Iran*);

11 Radio-frequency Spectrum of Radar Return Signal from Extended Targets
Boris S. Yurchak (*University of Maryland, Baltimore County, USA*);

12 Specular Radar Backscatter from a Planar Surface
Boris S. Yurchak (*University of Maryland, Baltimore County, USA*);

13 A New Compact Size Fractal Based Microstrip Slot Antenna for GPS Applications
Jawad K. Ali (*University of Technology, Iraq*); *Zaid A. Abed AL-Hussain* (*Al-Mustansiriya University, Iraq*); *Ammer A. Osman* (*University of Technology, Iraq*); *Ali J. Salim* (*University of Technology, Iraq*);

14 Simulation and Verification of Methods for Partial Discharge Source Localization
Radek Myška (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*);

15 The Development of Methods for Estimation of Time Differences of Arrival of Pulse Signals
Radek Myška (*Brno University of Technology, Czech Republic*); *Petr Drexler* (*Brno University of Technology, Czech Republic*);

16 A Time Domain Analytic Solution for Finite and Perfectly Conducting Ellipsoidal Surface Illuminated by Transient Impulsive Plane Wave
Shih-Chung Tuan (*Oriental Institute of Technology, Taiwan*); *Hsi-Tseng Chou* (*Yuan Ze University, Taiwan*);

17 Omega-K Algorithm for Bistatic SAR Image Formation
Chunyang Dai (*University of Electronic Science and Technology of China, China*); *Xiao-Ling Zhang* (*University of Electronic Science and Technology of China, China*);

18 The Object Position Detection and Tracing Using Bistatic Radar Network and Modified Hyperbolic Positioning Method
Tadeusz Nowak (*Przemysłowy Instytut Telekomunikacji S.A., Poland*); *Mateusz Mazur* (*Telecommunication Research Institute, Poland*); *Andrzej Nalewaja* (*Przemysłowy Instytut Telekomunikacji S.A., Poland*); *Jarosław Pędziwiatr* (*Przemysłowy Instytut Telekomunikacji S.A., Poland*);

19 The Effective 3D Modeling of Electromagnetic Waves' Evolution in Photonic Crystals and Metamaterials
Andrey V. Zakirov (*Moscow Institute of Physics and Technology, Russia*); *V. D. Levchenko* (*Keldysh Institute of Applied Mathematics, Russia*);

20 Implementation of Space-time Adaptive Processing (STAP) for Target Detection in Passive Bi-static Radar
Zia Ul Mahmood (*King Saud University, Kingdom of Saudi Arabia*); *Mubashir Alam* (*King Saud University, Kingdom of Saudi Arabia*); *Khalid Jamil* (*King Saud University, Kingdom of Saudi Arabia*); *Mohammed Elnamaky* (*King Saud University, Saudi Arabia*);

21 Fusion of Radar and Optical Images for Person Screening in Security Sensitive Environments
Nadia Fatihi (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Sebastian Hantscher* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Stefan Lang* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*); *Helmut Essen* (*Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany*);

22 A Study on Recognition of Similar Wire Targets Using E-pulse Technique
In-Sik Choi (*Hannam University, Korea*); *Seung-Jae Lee* (*Hannam University, Korea*); *Se-Hoon Park* (*Hannam University, Korea*); *Edward J. Rothwell* (*Michigan State University, USA*);

23 Performance Improvement of a Switched Reluctance Motor
Jawad Faiz (*University of Tehran, Iran*); *F. Tahvilipour* (*Islamic Azad University, Najafabad Branch, Iran*); *G. Shahgholian* (*Islamic Azad University, Najafabad Branch, Iran*);

24 Monitoring of Mid-ocean Eddies in the Northeastern Atlantic
Shigehisa Nakamura (*Kyoto University, Japan*);

25 Satellite Monitoring in Relation to Ekman Transport and Kelvin-Helmholz Billows in Ocean
Shigehisa Nakamura (*Kyoto University, Japan*);

26 Satellite Monitoring of the Ocean in Relation to Structure of the North Atlantic
Shigehisa Nakamura (*Kyoto University, Japan*);

27 Improvement of Signal Integrity with Active Metamaterial for Microwave Applications
Blaise Ravelo (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Elagiri-Ramalingam Rajkumar* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*);

29 Radar and Optical Parallel Remote Sensing Modelling of Forest: Soil and Leaves Moisture Content Effect
Clément Albinet (*Office National d'Études et de Recherches Aérospatiales, ONERA, France*); *Pierre Borderies* (*Office National d'Etudes et de Recherches Aerospatiales (ONEAR), France*); *Sophie Fabre* (*Office National d'Études et de Recherches Aérospatiales, ONERA, France*);

31 Signal Processing for High Resolution RCS Measurement
Elham Sadat Kashani (*Amirkabir University of Technology, Iran*); *Y. Norouzi* (*Amirkabir University of Technology, Iran*);

33 The Pancharatnam-berry Phase for Non-cyclic Polarization Changes: Theory and Experiment
Thomas Van Dijk (*Free University, The Netherlands*); *Hugo F. Schouten* (*Free University, The Netherlands*); *Wim Ubachs* (*Free University, The Netherlands*); *T. D. Visser* (*Free University, The Netherlands*);

34 Experimental Demonstration of an Intensity Minimum at the Focus of a Laser Beam Created by Spatial Coherence
Shreyas B. Raghunathan (*Delft University of Technology, The Netherlands*); *Thomas Van Dijk* (*Free University, The Netherlands*); *Erwin Peterman* (*Free University, The Netherlands*); *Taco D. Visser* (*Free University, The Netherlands*);

35 Coherence Effects in Mie Scattering
David G. Fischer (*NASA Glenn Research Center, USA*); *Thomas Van Dijk* (*Free University, The Netherlands*); *Emil Wolf* (*University of Rochester, USA*); *Taco D. Visser* (*Free University, The Netherlands*);

36 L-band H Polarized Microwave Emission during the Corn Growth Cycle
Alicia T. Joseph (*NASA/Goddard Space Flight Center, USA*); *R. Van der Velde* (*University of Twente, The Netherlands*); *Peggy Elizabeth O'Neill* (*NASA Goddard Space Flight Center, USA*); *E. Kim* (*University of Twente, The Netherlands*); *Roger H. Lang* (*The George Washington University, USA*); *Tim Gish* (*USDA-ARS, USA*);

Session 2P1
Quantum and Classical Aspects of Novel Photonic Materials

Wednesday PM, March 28, 2012

Room A

Organized by Didier Felbacq, Brahim Guizal

Chaired by Brahim Guizal

13:20 Analysis of Diffraction Gratings via Their Resonances
B. Vial (*Aix-Marseille Université, France*); *Frédéric Zolla* (*Aix-Marseille Universite, France*); *André Nicolet* (*Aix-Marseille Universite, France*); *M. Commandré* (*Aix-Marseille Université, France*); *Guillaume Demesy* (*Univ Aix Marseille, France*); *S. Tisserand* (*Silios Technologies, France*);

13:40 Efficient Light Coupling into Retinal Rods: Towards Single Photon Detection?
Guillaume Vienne (*Data Storage Institute, Agency for Science Technology and Research (A-STAR), Singapore*); *Nigel Sim* (*Data Storage Institute, Agency for Science Technology and Research (A-STAR), Singapore*); *Ying Lin* (*Data Storage Institute, Agency for Science Technology and Research (A-STAR), Singapore*); *Leonid Krivitsky* (*Data Storage Institute, Agency for Science Technology and Research (A-STAR), Singapore*);

14:00 Random Dielectric Fibers and Resonances
Guy Bouchitte (*Universite de Toulon, France*); *Cristophe Bourel* (*Universite de Toulon, France*); *L. Manca* (*Universite de Toulon, France*);

14:20 Tamm Surface Plasmon Laser
Clementine Symonds (*Université de Lyon, France*); *S. Aberra Guebrou* (*Université de Lyon, France*); *A. Lemaitre* (*CNRS, France*); *Pascale Senellart* (*LPN/CNRS, France*); *Joel Bellessa* (*Université de Lyon, France*);

14:40 Numerical Studies in Nanoplasmonics: Local vs Nonlocal Response
Giuseppe Toscano (*Technical University of Denmark, Denmark*); *S. Raza* (*Technical University of Denmark, Denmark*); *Antti-Pekka Jauho* (*Technical University of Denmark, Denmark*); *Martijn Wubs* (*Technical University of Denmark, Denmark*); *Niels Asger Mortensen* (*Technical University of Denmark, Denmark*);

15:20 **Coffee Break**

15:40 Spontaneous Radiation in Hyperbolic Media
Alexander N. Poddubny (*National Research University for Information Technology, Mechanics and Optics, Russia*); *Ivan Iorsh* (*National Research University for Information Technology, Mechanics and Optics, Russia*); *Alexey A. Orlov* (*St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia*); *Pavel A. Belov* (*Queen Mary University of London, UK*); *Yuri S. Kivshar* (*Australian National University, Australia*);

16:20 Quasi-normal Modes and Strong Coupling in a Plasmonic Nanocavity
Aurore Castanie (*University of Montpellier 2, France*); *Didier Felbacq* (*Université de Montpellier 2, France*);

16:40 Photon-plasmon Strong Coupling in a Layered Structure
Brahim Guizal (*Université de Montpellier 2, France*); *Aurore Castanie* (*University of Montpellier 2, France*);

Session 2P2a
Laser-induced Periodic Surface Nanostructures: Fundamental Fabrication Mechanisms, Nanoscale-dominated Physical and Chemical Properties 2

Wednesday PM, March 28, 2012

Room B

Organized by Sergey I. Kudryashov, Eric Mazur

Chaired by Juergen Reif, Harold K. Haugen

13:20 Ripples Formation under Femtosecond Laser Irradiation: Actual and Potential Applications
Eric Audouard (*Université de Lyon, France*);

13:40 Harnessing Ultrafast Laser-induced Subwavelength Structures for Liquid Crystal Photonics Application
Ya Cheng (*Chinese Academy of Sciences, China*); *Yang Liao* (*Chinese Academy of Sciences, China*); *Min Huang* (*Chinese Academy of Sciences, China*); *Zhizhan Xu* (*Chinese Academy of Sciences, China*);

14:00 Hyperdoped and Microstructured Silicon for Solar Energy Harvesting
Eric Mazur (*Harvard University, USA*); *Meng-Ju Sher* (*Harvard University, USA*); *Benjamin Franta* (*Harvard University, USA*); *Yu-Ting Lin* (*Harvard University, USA*); *Katherine C. Phillips* (*Harvard University, USA*);

14:20 Laser Fabrication of Large-scale Nanoparticle Arrays and Their Application to Plasmonic Sensing
Arseniy I. Kuznetsov (*Laser Zentrum Hannover eV, Germany*); *Andrey B. Evlyukhin* (*Laser Zentrum Hannover e.V., Germany*); *Carsten Reinhardt* (*Laser Zentrum Hannover eV, Germany*); *Manuel R. Gonçalves* (*Ulm University, Germany*); *O. Marti* (*Ulm University, Germany*); *Guillaume Vienne* (*Data Storage Institute, Singapore*); *Boris Luk'yanchuk* (*Data Storage Institute, Singapore*); *Boris N. Chichkov* (*Laser Zentrum Hannover e.V., Germany*);

14:40 Preparation of Nanostructured Ag Substrate with Femtosecond Laser as Surface-enhanced Raman Scattering Substrates
H. W. Chang (*National Chung Hsing University, Taiwan*); *C. Y. Lin* (*Industrial Technology Research Institute, Taiwan*); *C. W. Cheng* (*Industrial Technology Research Institute, Taiwan*); *Y. W. Lin* (*National Chung Hsing University, Taiwan*); *T. M. Wu* (*National Chung Hsing University, Taiwan*); *Y. C. Tsai* (*National Chung Hsing University, Taiwan*);

15:00 Photonic Applications of Femtosecond Laser-induced Surface Nanogratings
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*); *Alexander Ligachev* (*General Physics 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*); *R. V. Samsonov* (*Novosibirsk State University, Russian Federation*); *A. I. Maslii* (*Institute of Solid State Chemistry and Mechanochemistry, Siberian Branch of the Russian Academy of Sciences, Russian Federation*); *A. Zh. Medvedev* (*Institute of Solid State Chemistry and Mechanochemistry, Siberian Branch of the Russian Academy of Sciences, Russian Federation*); *B. G. Gol'denberg* (*G. I. Budker Institute of Nuclear Physics, Siberian Branch of the Russian Academy of Sciences, Russian Federation*); *V. P. Korolkov* (*Institute of Automation and Electrometry, Siberian Branch, Russian Academy of Sciences, Russian Federation*);

15:20 **Coffee Break**

15:40 Rapid Prototyping of Three-dimensional Microfluidic Mixers in Glass by Femtosecond Laser Direct Writing
Yang Liao (*Chinese Academy of Sciences, China*); *Jiangxin Song* (*Shanghai Institute of Optics and Fine Mechanics, China*); *Ya Cheng* (*Shanghai Institute of Optics and Fine Mechanics, China*); *Zhizhan Xu* (*Chinese Academy of Sciences, China*);

Session 2P2b
Nano Scale Electromagnetics

Wednesday PM, March 28, 2012

Room B

Chaired by Anthony Centeno

16:00 Resonant Magnetoplasmonic Core-shell Nanostructures for Biosensing Applications
M. Essone Mezeme (*Université de Bretagne Occidentale, France*); *S. Lasquellec* (*Université de Bretagne Occidentale, France*); *Christian Brosseau* (*Université de Bretagne Occidentale, France*);

16:20 Exchange Splitting of Backward Volume Spin Wave Configuration Dispersion Curves in a Permalloy Nano-stripe
G. Venkat (*I.I.T. Madras, India*); *Anil Prabhakar* (*I.I.T. Madras, India*); *M. Franchin* (*University of Southampton, United Kingdom*); *H. Fangohr* (*University of Southampton, United Kingdom*);

16:40 A Computational Study of the Coupled Emissions between Flurophores and Gold Triangular Prism Bow Tie
Anthony Centeno (*Imperial College London, UK*); *Fang Xie* (*Imperial College London, UK*); *Neil Alford* (*Imperial College London, UK*);

17:00 Blocking Oscillation Due to Combination of Discrete and Continuous Charge/Flux Transfer in Systems Including Nano/Josephson Tunnel Junctions
Yoshinao Mizugaki (*The University of Electro-Communications (UEC Tokyo), Japan*);

17:20 Derivative-free Optimization of Nano-plasmonic Structures
Mohamed H. El Sherif (*McMaster University, Canada*); *Osman S. Ahmed* (*McMaster University, Canada*); *Mohamed H. Bakr* (*McMaster University, Canada*);

17:40 Calculation of the Acoustomagnetoelectric Field in a Rectangular Quantum Wire with an Infinite Potential in the Presence of an External Magnetic Field
Nguyen Van Nghia (*Water Resources University, Vietnam*); *Nguyen Quang Bau* (*Hanoi National University, Vietnam*); *Nguyen Vu Nhan* (*Academy of Defence force-Air force, Vietnam*); *Dinh Quoc Vuong* (*Hanoi National University, Vietnam*);

18:00 Sensitive Surface Plasmon Sensors Using Hot Embossing Gold Nanostructures on Plastic Films
Kuang-Li Lee (*Academia Sinica, Taiwan*); *Shu-Han Wu* (*National Yang-Ming University, Taiwan*); *Pei-Kuen Wei* (*Academia Sinica, Taiwan*);

Session 2P3a
Ground Penetrating Radar Methods for Subsurface Investigations

Wednesday PM, March 28, 2012

Room C

Organized by Lorenzo Capineri, Colin G. Windsor

Chaired by Lorenzo Capineri, Timothy D. Bechtel

13:20 Ground Penetrating Radar Detection of Human Vital Signals in Complex Environments
Lanbo Liu (*Cold Regions Research and Engineering Laboratory, USA*); *Zijian Liu* (*University of Connecticut, USA*); *Hao Xie* (*University of Connecticut, USA*); *Benjamin Barrowes* (*Cold Regions Research and Engineering Laboratory, USA*); *Amvrossios Bagtzoglou* (*University of Connecticut, USA*);

13:40 Microwave Reflectometry for the Diagnostic of Cultural Heritage Assets
Lorenzo Capineri (*Università di Firenze, Italy*); *Pierluigi Falorni* (*Universita di Firenze, Italy*); *Cecilia Frosinini* (*Opificio delle Pietre Dure, Italy*); *Massimo Mannucci* (*LegnoDOC, Italy*); *Nicola Macchioni* (*CNR, IVALSA, Italy*); *Roberto Olmi* (*Institute of Applied Physics N. Carrara-CNR, Italy*); *Sabrina Palanti* (*CNR, IVALSA, Italy*); *Sara Penoni* (*Faberestauro, Italy*); *Stefano Pieri* (*ELab Scientific, Italy*); *S. Priori* (*IFAC, Italy*); *Cristiano Riminesi* (*ELab Scientific, Italy*); *Andrea Santacesaria* (*Opificio delle Pietre Dure, Italy*); *Cristiana Todaro* (*Faberestauro, Italy*);

14:00 Investigation of Holographic Radar Capabilities for the Detection of Shallow Buried Plastic Antipersonnel Landmines
Tim Bechtel (*Franklin & Marshall College, USA*); *L. Capineri* (*University of Florence, Italy*); *P. Falorni* (*University of Florence, Italy*); *Masaharu Inagaki* (*Walnut Ltd., Japan*); *Sergey I. Ivashov* (*Bauman Moscow State Technical University, Russia*); *Colin G. Windsor* (*United Kingdom Atomic Energy Authority (UKAEA), UK*);

14:20 Microwave Imaging System for the Detection of Buried Objects Using UWB Antenna — An Experimental Study
Elizabeth Rufus (*VIT University, India*); *Zachariah C. Alex* (*Vellore Institute of Technology University, India*);

14:40 Detection, Identification and Localization of Underground Objects via Continuous Wave GPR
Hulya Sahinturk (*Yildiz Technical University, Turkey*); *Ibrahim Akduman* (*Istanbul Technical University, Turkey*);

15:00 A Review on the Migration Methods in B-scan Ground Penetrating Radar Imaging
Caner Ozdemir (*Zirve University, Turkey*); *Sevket Demirci* (*Mersin University, Turkey*); *Enes Yigit* (*Mersin University, Turkey*);

15:20 **Coffee Break**

Session 2P3b
EM Scattering Models and Applications

Wednesday PM, March 28, 2012

Room C

Organized by Hong Tat Ewe, Yang Du

Chaired by Hong Tat Ewe, Yang Du

15:40 Topology Optimization Procedure to Minimize Radar Cross Section of Perfectly Electric Conductive Structures
Hüseyin Yigit (*Gebze Institute of Technology, Turkey*);

16:00 An Extended Study on an Inverse Model for the Retrieval of Sea Ice Parameters
Y. J. Lee (*Universiti Tunku Abdul Rahman, Malaysia*); *Y. F. Chan* (*Universiti Tunku Abdul Rahman, Malaysia*); *Wee Keong Lim* (*Multimedia University, Malaysia*); *Hong Tat Ewe* (*Universiti Tunku Abdul Rahman, Malaysia*);

16:20 The Physical Interpretation of Complex Angles of Refraction in DZR Metamaterials
Ali Abdolali (*Iran University of Science and Technology, Iran*); *Homayoon Oraizi* (*Iran University of Science and Technology, Iran*); *Soheil Hashemi* (*Tehran University, Iran*); *Ali Mohtadi* (*Tehran University, Iran*); *Noushin Vaseghi* (*K. N. Toosi University of Technology, Iran*); *H. Mirzaei* (*Iran University of Science and Technology (IUST), Iran*); *M. Aghajani* (*Amirkabir University of Technology, Iran*);

16:40 A Preconditioned GMRES Method for EM Scattering from Dielectric Rough Surfaces
Guangdi Yang (*Zhejiang University, China*); *Yang Du* (*Zhejiang University, China*);

17:00 Radar Cross Section Analysis of a Square Plate Modeled with Triangular Patch
Nilgun Altin (*Turkish Aerospace Industries, Inc., Turkey*); *Erdem Yazgan* (*Hacettepe University, Turkey*);

Session 2P4a
Antennas for Mobile Communication 2

Wednesday PM, March 28, 2012

Room D

Organized by Toshio Wakabayashi

Chaired by Koichi Takahashi

13:20 Feeding Techniques to Excite Slot on an Open Ended Coplanar Waveguide Transmission Line
R. Sujith (*Cochin University of Science and Technology, India*); *D. Laila* (*Cochin University of Science and Technology, India*); *C. M. Nijas* (*Cochin University of Science and Technology, India*); *U. Deepak* (*Cochin University of Science and Technology, India*); *R. Dinesh* (*Cochin University of Science and Technology, India*); *Pezholil Mohanan* (*Cochin University of Science and Technology, India*);

13:40 A Three Element Handheld, Mobile Communication Antenna for MS Space Diversity
A. R. Lwin Maw (*University of Malaya, Malaysia*); *P. R. P. Hoole* (*Taylor's University, Malaysia*); *Ramiah Harikrishnan* (*University of Malaya, Malaysia*); *K. Jeevan* (*University of Malaya, Malaysia*); *S. R. H. Hoole* (*Rensselaer Polytechnic Institute, USA*);

14:00 Dual Wideband CPW Fed Dieletric Resonator Antenna
Sriparna Bhattacharya (Mitra) (*Heritage Institute of Technology, India*); *Bhaskar Gupta* (*Jadavpur University, India*);

14:20 Design of a Wide Dual-band Microstrip Antenna for WLANs Applications
Abdulkareem S. Abdullah (*University of Basrah, Iraq*); *Nabil E. Abdulhussein* (*University of Basrah, Iraq*);

14:40 Relevant Electromagnetic Details for a Couple Antenna-vehicle
M. Sossouhounto (*Royal Military Academy of Brussels, Belgium*); *Thierry Gilles* (*Ecole Royale Militaire, Laboratoire d'Electromagnétisme Appliqué (LEMA), Belgium*);

15:20 **Coffee Break**

Session 2P4b
UWB and Reconfiguration Antennas

Wednesday PM, March 28, 2012

Room D

Organized by Sing Wai Cheung, Hattan F. Abutarboush

Chaired by Sing Wai Cheung, Hattan F. Abutarboush

15:40 Reconfigurable E-shaped Antenna with Bandwidth Control for Wideband Applications
Hattan F. Abutarboush (*King Abdullah Univesity for Scince and Technology (KAUST), Saudi Arabia*); *Rajagopal Nilavalan* (*Brunel University, UK*);

16:00 Frequency-tunable Antenna for Dual-band WLAN Applications
Xiao Lei Sun (*The University of Hong Kong, China*); *Sing Wai Cheung* (*The University of Hong Kong, China*); *Tung Ip Yuk* (*The University of Hong Kong, China*);

16:20 CPW-coupled-fed Elliptical Monopole UWB Antenna with Dual-band Notched Characteristic
Jun Zhang (*The University of Hong Kong, China*); *Sing Wai Cheung* (*The University of Hong Kong, China*); *Tung Ip Yuk* (*The University of Hong Kong, China*);

16:40 Deep Band-notched Characteristic Using Meander Lines for UWB Monopole Antennas
Li Liu (*University of Hong Kong, China*); *Y. F. Weng* (*University of Hong Kong, China*); *Sing Wai Cheung* (*The University of Hong Kong, China*); *Tung Ip Yuk* (*The University of Hong Kong, China*); *Thomas Peter* (*Brunel University, UK*);

17:00 Planar UWB Monopole Antenna with Tunable Notch Band
Xiao Lei Sun (*The University of Hong Kong, China*); *C. Wang* (*The University of Hong Kong, China*); *Sing Wai Cheung* (*The University of Hong Kong, China*); *Tung Ip Yuk* (*The University of Hong Kong, China*); *Hattan F. Abutarboush* (*King Abdullah Univesity for Scince and Technology (KAUST), Saudi Arabia*);

17:20 A Novel Transparent TSA for Laptop and UWB Applications
Thomas Peter (*Brunel University, UK*); *Rajagopal Nilavalan* (*Brunel University, UK*); *Sing Wai Cheung* (*The University of Hong Kong, China*);

17:40 Planar Monopole Ultra-wideband Antennas with Different Radiator Shapes for Body-centric Wireless Networks
Yiye Sun (*The University of Hong Kong, China*); *Sing Wai Cheung* (*The University of Hong Kong, China*); *Tung Ip Yuk* (*The University of Hong Kong, China*);

Session 2P5
Wireless Network and Applications 2

Wednesday PM, March 28, 2012

Room E

Organized by Soon Yim Tan, Chee Kiat Seow

Chaired by Soon Yim Tan, Chee Kiat Seow

13:20 Energy Consumption Reduction by Multi-hop Transmission in Cellular Network
Pengty Ngor (*Nanyang Technological University, Singapore*); *Siya Mi* (*Nanyang Technological University, Singapore*); *Peter Han Joo Chong* (*Nanyang Technol Univ, Singapore*);

13:40 Routing Performance of Mobile Ad Hoc Network in Urban Street-grid Environment by Using Peer-to-Peer Propagation Model
Pengty Ngor (*Nanyang Technological University, Singapore*); *Peter Han Joo Chong* (*Nanyang Technological University, Singapore*);

14:00 Observations of the Effect of Temperature upon Stability of Resource-constrained, Embedded Clocks
Michael Collett (*National Physical Laboratory, United Kingdom*); *Tian Hong Loh* (*National Physical Laboratory, United Kingdom*);

14:20 On a Useful Tool to Localize Jacks in Wiring Network
Maud Franchet (*CEA LIST, France*); *Nicolas Ravot* (*CEA LIST, France*); *Odile Picon* (*Universite Paris-Est, France*);

14:40 Deterministic Chanel Modeling for the White-Space TV-Band in Real-World Indoor Environments Considering Antennas Effects
Mohamed El-Hadidy (*The University of Duisburg-Essen, Germany*); *Mohamed Fahmy* (*The German University in Cairo, Egypt*); *Mennatallah Ibrahim* (*The German University in Cairo, Egypt*); *Thomas Kaiser* (*The University of Duisburg-Essen, Germany*);

15:00 Shadowing Effect Analysis at Multiple Moving Persons Tracking by UWB Radar
Daniel Urdzik (*Technical University of Košice, Slovak Republic*); *Rudolf Zetik* (*Ilmenau University of Technology, Germany*); *Dusan Kocur* (*Technical University of Kosice, Slovakia*); *Jana Rovnakova* (*Technical University of Kosice, Slovakia*);

15:20 **Coffee Break**

15:40 Human Shadow Effect Assessment when Integrating Inertial Navigation System with Signal Strength Measurements for Pedestrian Dead Reckoning
Alfonso Bahillo Martinez (*University of Valladolid, Spain*); *Javier Prieto Tejedor* (*University of Valladolid, Spain*); *Santiago Mazuelas Franco* (*Massachusetts Institute of Technology, USA*); *Patricia Fernandez Reguero* (*University of Valladolid, Spain*); *R. J. Duran* (*University of Valladolid, Spain*); *Ruben Mateo Lorenzo Toledo* (*University of Valladolid, Spain*); *Evaristo Jose Abril* (*University of Valladolid, Spain*);

16:00 A Novel 3D Ray-tracing Model for Precise Mobile Localization Application
Chee Kiat Seow (*Nanyang Technological University of Singapore, Singapore*); *Teng Wah Ang* (*Nanyang Technological University of Singapore, Singapore*); *Kai Wen* (*Nanyang Technological University of Singapore, Singapore*);

16:20 Peer-to-peer Non-line-of-sight Localization in Multipath Environment
Siwen Chen (*Nanyang Technological University, Singapore*); *Chee Kiat Seow* (*Nanyang Technological University of Singapore, Singapore*); *Kai Wen* (*Nanyang Technological University of Singapore, Singapore*);

16:40 PAPR Reduction in OFDM Signals via Combination of Active Constellation Extension and Genetic Algorithm
Seyed Ahmad Rafiei Taba Zavareh (*Multimedia University, Malaysia*); *Paria Shahabi* (*Multimedia University, Malaysia*); *Mohsen Akbari* (*Multimedia University, Malaysia*); *Mohsen Riahi Manesh* (*Multimedia University, Malaysia*); *Ayman A. El-Saleh* (*Multimedia University, Malaysia*);

17:00 Multi-user MC-CDMA Using Pseudo Noise Code for Rayleigh and Gaussian Channel
Mayada Faris Ghanim (*University Tun Hussein Onn Malaysia, Malaysia*); *M. F. L. Abdullah* (*University of Tun Hussein Onn Malaysia, Malaysia*);

Session 2P6
Microwave and Millimeter Wave Circuits and Devices

Wednesday PM, March 28, 2012

Room F

Chaired by Qijun Zhang, Kumar Narendra

13:20 Medium Power Amplifiers: A Review
Arjuna Marzuki (*Universiti Sains Malaysia, Malaysia*);

13:40 Analysis and Design of Triple-band Input Matching for CMOS Low-noise Amplifier
Chun-Yi Lin (*National Chiao Tung University, Taiwan*); *Ching-Piao Liang* (*National Chiao Tung University, Taiwan*); *Pei-Zong Rao* (*National Chiao Tung University, Taiwan*); *Shyh-Jong Chung* (*National Chiao Tung University, Taiwan, R.O.C.*);

14:00 A 24 GHz Low-power and High-gain Low-noise Amplifier Using 0.18 µm CMOS Technology for FMCW Radar Applications
Chun-Yi Lin (*National Chiao Tung University, Taiwan*); *Ming-Wei Lin* (*National Chiao Tung University, Taiwan*); *Ching-Piao Liang* (*National Chiao Tung University, Taiwan*); *Shyh-Jong Chung* (*National Chiao Tung University, Taiwan, R.O.C.*);

14:20 Design of High Resolution MEMS Accelerometer Using Interdigital Bandpass Filter
Chandan Sharma (*Indus International University, India*); *Chandra Charu Tripathi* (*Kurukshetra University, India*); *Santosh Bhagat* (*South Campus, University of Delhi, India*); *Harpreet Singh* (*Defence Research & Development Organisation, India*);

14:40 Tuning Space Mapping: The State of the Art
Qingsha S. Cheng (*McMaster University, Canada*); *John W. Bandler* (*McMaster University, Canada*); *Slawomir Koziel* (*Reykjavik University, Iceland*);

15:00 Advances in Automatic Model Generation for Microwave Modeling
Chuan Zhang (*Tianjin University, China*); *Qijun Zhang* (*Tianjin University, China*); *Jian-Guo Ma* (*Tianjin University, China*);

15:20 **Coffee Break**

15:40 A Novel Defected Microstip Structure (DMS) for Microstrip Gaps
Seyyed Reza Hosseini (*Amirkabir University of Technology, Iran*); *R. Sarraf Shirazi* (*Amirkabir University of Technology, Iran*); *Gholamreza R. Moradi* (*Amirkabir University of Technology, Iran*);

16:00 Frequency Selective Surfaces Based Planar Microwave Absorber
Fauziahanim Che Seman (*University of Tun Hussein Onn Malaysia, Malaysia*); *Robert Cahill* (*Queen's University Belfast, UK*);

16:20 Performance Analysis of Complementary and Non-complementary EBG Geometries
Gnanam Gnanagurunathan (*The University of Nottingham, Malaysia Campus, Malaysia*); *Krishnasamy T. Selvan* (*The University of Nottingham, Malaysia Campus, Malaysia*);

16:40 Design a Broadband 50 W Power Amplifier with Large Signal Stability Verification
Kumar Narendra (*Motorola Technology, Malaysia*); *Juan-Mari Collantes* (*University of the Basque Country, Spain*); *Mohamad Noorazuan* (*Motorola Technology, Malaysia*);

Session 2P7a
Power Electronics

Wednesday PM, March 28, 2012

Room G

Organized by Jiri Lettl, Reinhard Doebbelin

Chaired by Jiri Lettl

13:20 Simulation of Sensorless Control of Induction Motor Using HIL Method
Pavel Brandstetter (*VSB-Technical University of Ostrava, Czech Republic*); *Marek Dobrovsky* (*VSB-Technical University of Ostrava, Czech Republic*); *Petr Krna* (*VSB-Technical University of Ostrava, Czech Republic*);

13:40 Optimization of Indirect Space Vector Modulation Strategy for Matrix Converter
Dragan Kuzmanovic (*Czech Technical University in Prague, Czech Republic*); *Jiri Lettl* (*Czech Technical University in Prague, Czech Republic*);

14:00 Comparison of Gamma and T Models for Convector Controlled Induction Machine Drives
Jiri Lettl (*Czech Technical University in Prague, Czech Republic*); *Stanislav Fligl* (*Czech Technical University in Prague, Czech Republic*); *Jan Bauer* (*Czech Technical University in Prague, Czech Republic*); *Martin Vlcek* (*Czech Technical University in Prague, Czech Republic*);

14:20 Simulation of the Matrix Converter Drive with Sliding Mode Control
Jiri Lettl (*Czech Technical University in Prague, Czech Republic*); *Stanislav Fligl* (*Czech Technical University in Prague, Czech Republic*); *Jan Bauer* (*Czech Technical University in Prague, Czech Republic*); *Sergey Ryvkin* (*Trapeznikov Institute of Control Sciences, Russian Academy of Science, Russia*);

14:40 Voltage Converters with Switched-capacitor
Vaclav Sladecek (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Palacký* (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Vaculik* (*VSB — Technical University of Ostrava, Czech Republic*); *Josef Opluštil* (*VŠB-Technical University of Ostrava, Czech Republic*);

15:00 Modern Control Strategies for Power Active Filter
Petr Simonik (*VSB — Technical University of Ostrava, Czech Republic*); *Slivka David* (*VSB — Technical University of Ostrava, Czech Republic*); *Petr Hudeček* (*VŠB — Technical University of Ostrava, Czech Republic*); *Lukáš Odlevák* (*VSB — Technical University of Ostrava, Czech Republic*);

15:20 **Coffee Break**

Session 2P7b
Microwave and Millimeter-wave Measurements

Wednesday PM, March 28, 2012

Room G

Organized by Toshiyuki Yakabe, Masahiro Horibe

Chaired by Toshiyuki Yakabe, Masahiro Horibe

15:40 Accurate Measurement Standards and Calibration Techniques for $\boldsymbol{S}$-parameter Measurements in Coaxial Line System at Millimeter Wave Frequency
Masahiro Horibe (*National Institute of Advanced Industrial Science and Technology, Japan*); *Ryoko Kishikawa* (*National Institute of Advanced Industrial Science and Technology, Japan*);

16:00 Establishment of S-parameter Standards of Rectangular Waveguide at Millimeter-wave and THz Frequencies
Ryoko Kishikawa (*National Institute of Advanced Industrial Science and Technology, Japan*); *Masahiro Horibe* (*National Institute of Advanced Industrial Science and Technology, Japan*);

16:20 A Calibration Method without a Matched Load for a Six-port Wave-correlator Based VNA
N. Akutsu (*The University of Electoro-Communications, Japan*); *R. Matsuguma* (*The University of Electoro-Communications, Japan*); *N. Iwaki* (*The University of Electoro-Communications, Japan*); *Toshiyuki Yakabe* (*The University of Electro-Communication, Japan*);

16:40 Estimation of Terrestrial Rain Attenuation at Microwave and Millimeter Wave Signals in South Africa Using the ITU-R Model
Pius Adewale Owolawi (*Mangosuthu University of Technology, South Africa*); *Senzo Jerome Malinga* (*Mangosuthu University of Technology, South Africa*); *Thomas J. Afullo* (*University of KwaZulu-Natal, South Africa*);

17:00 Computational Design and Performance Evaluation of Green Painting Absorbing Material
Hasnain Bin Abdullah (*University Teknologi MARA (UiTM) Pulau Pinang, Malaysia*); *Mohd Nasir Taib* (*Universiti Teknologi MARA, Malaysia*); *Ida Rahayu Mohamed Noordin* (*University Teknologi MARA (UiTM) Pulau Pinang, Malaysia*); *Norhidayah Saad* (*University Teknologi MARA (UiTM) Pulau Pinang, Malaysia*); *Wan Khairuddin Wan Ali* (*Universiti Teknologi Malaysia, Malaysia*); *Rusnani Ariffin* (*Universiti Teknologi MARA (UiTM), Malaysia*); *Ahmad Takiyuddin Abdullah* (*UniKL MFI, Malaysia*); *Siti Zura A. Jalil* (*University Teknologi MARA (UiTM), Malaysia*);

17:20 Measurements and Analysis of Terrain Clutters at Ku-band
Chih-Yuan Chu (*National Central University, Taiwan*); *Kun-Shan Chen* (*National Central University, Taiwan*); *Wei-An Chuang* (*National Central University, Taiwan*);

17:40 Design of High Performance Low Pass Filter Using Neural Network and Simulated Annealing
Bhabani Sankar Nayak (*NIST, India*); *Subhendu Sekhar Behera* (*NIST, India*); *Patra Pradyumna Kumar* (*National Institute of Science and Technology, India*); *Rabindra K. Mishra* (*Berhampur University, India*);

Session 2P8
Poster Session 3

Wednesday PM, March 28, 2012

14:00 PM - 17:00 PM

Room K

1 FDTD Study on Permittivity and Permeability Adapted to Noise Suppression Sheet
Yusuke Kawamura (*Chiba University, Japan*); *Tatsuya Suzuki* (*Kisarazu National College of Technology, Japan*); *Takanobu Ohno* (*Kisarazu National College of Technology, Japan*); *Kouichi Ishii* (*Kisarazu National College of Technology, Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

2 Numerical Design of Matching Structures for Characteristic Improvement of Finite Periodic Structures
Hirofumi Sanada (*Hokkaido Institute of Technology, Japan*); *Jie Ren* (*Hokkaido University, Japan*);

3 Investigation of Spectrally Efficient Transmission in Mixed WDM Systems
Vjaceslavs Bobrovs (*Riga Technical University, Latvia*); *Aleksejs Udalcovs* (*Riga Technical University, Latvia*); *Ilja Trifonovs* (*Riga Technical University, Latvia*);

4 Investigation of External Electromagnetic Disturbance in HDWDM System
Jurgis Porins (*Riga Technical University, Latvia*); *Girts Ivanovs* (*Riga Technical University, Latvia*); *Vjaceslavs Bobrovs* (*Riga Technical University, Latvia*); *Andis Supe* (*Riga Technical University, Latvia*);

5 The Design of HEV Drive Unit with an Axial Flux Rotary Converter
Petr Chlebis (*VSB — Technical University of Ostrava, Czech Republic*); *Ales Havel* (*VSB — Technical University of Ostrava, Czech Republic*); *Petr Vaculik* (*VSB-Technical University of Ostrava, Czech Republic*);

6 Absorption Enhancement of Multiple Junction Solar Cells by an Intermediate Reflection Mirror
Ming-Jer Jeng (*Chang Gung University, Taiwan, R.O.C.*); *Liann-Be Chang* (*Chang Gung University, Taiwan, R.O.C.*);

7 Characterization of the Cerenkov Radiations Generated in Optical Fibers Irradiated by Co-60 Isotope
Kyoung Won Jang (*Konkuk University, Korea*); *Wook Jae Yoo* (*Konkuk University, Korea*); *Jinsoo Moon* (*Konkuk University, Korea*); *Ki Tek Han* (*Konkuk University, Korea*); *D. Y. Jun* (*Konkuk University, Korea*); *Seung-Ho Shin* (*Konkuk University, Korea*); *Jae Yeong Park* (*Konkuk University, South Korea*); *Byung Gi Park* (*Soonchunhyang University, Korea*); *Sin Kim* (*Cheju National University, Korea*); *Young-Ho Cho* (*Catholic University, Korea*); *Bongsoo Lee* (*Konkuk University, South Korea*);

8 A Study on Surge Immunity of the 77 GHz Radar System
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*);

9 Active Charging Stations for Electric Vehicles Charging
Petr Simonik (*VSB — Technical University of Ostrava, Czech Republic*); *Ales Havel* (*VSB — Technical University of Ostrava, Czech Republic*); *Michal Hromjak* (*VSB — Technical University of Ostrava, Czech Republic*); *Petr Chlebis* (*VSB — Technical University of Ostrava, Czech Republic*);

10 Estimation of Induction Machine Electrical Parameters Based on the Genetic Algorithms
Petr Simonik (*VSB — Technical University of Ostrava, Czech Republic*); *Petr Hudeček* (*VŠB — Technical University of Ostrava, Czech Republic*); *Petr Palacký* (*VŠB — Technical University of Ostrava, Czech Republic*); *Slivka David* (*VSB — Technical University of Ostrava, Czech Republic*);

11 PCB Power Plane with Wideband Noise Suppression by Embedding High Permeability Material between the Substrate and Power Plane
Hui-Fen Huang (*South China University of Technology, China*); *Wei Guo* (*South China University of Technology, China*);

12 Equivalent Parallel Capacitance Cancellation Utilizing Coupling between Integrated EMI Filter Components
Hui-Fen Huang (*South China University of Technology, China*); *Mao Ye* (*South China University of Technology, China*); *Liang-Yong Deng* (*South China University of Technology, China*);

13 A Novel Integrated EMI Filter Based on Interleaved Planar PCB Windings and Flexible Foils
Liang-Yong Deng (*South China University of Technology, China*); *Hui-Fen Huang* (*South China University of Technology, China*);

14 Asymmetric Y-branch Plastic Optical Fiber Coupler
Abang Annuar Ehsan (*Universiti Kebangsaan Malaysia, Malaysia*); *Sahbudin Shaari* (*Universiti Kebangsaan Malaysia, Malaysia*); *Mohd Kamil Abd-Rahman* (*Universiti Teknologi MARA, Malaysia*);

15 Optimization of the Femtosecond Laser Pulses for Micromachining Processes
Hoon Jeong (*Korea Institute of Industrial Technology, South Korea*); *Dongjoo Lee* (*Swamp Optics, USA*); *Seungtaek Kim* (*Korea Institute of Industrial Technology, South Korea*); *Jongseok Kim* (*Korea Institute of Industrial Technology, South Korea*); *Hyoyeong Park* (*Korea Institute of Industrial Technology, South Korea*);

16 Enhanced Sensitivity of Surface Plasmon Resonance Phase-interrogation Biosensor by Using Oblique Angle Deposited Silver Nanorods
Chih-Chia Chen (*National Taiwan Ocean University, Taiwan, R.O.C.*); *Wen-Chi Lin* (*National Taiwan Ocean University, Taiwan, R.O.C.*); *Chih-Wei Chen* (*National Taiwan Ocean University, Taiwan, R.O.C.*); *Hsiang-Lin Huang* (*National Taiwan Ocean University, Taiwan, R.O.C.*); *Heng-Chuan Kan* (*National Applied Research Laboratories, Taiwan, R.O.C.*); *Din Ping Tsai* (*National Taiwan University, Taiwan, R.O.C.*); *Hai-Pang Chiang* (*National Taiwan Ocean University, Taiwan*);

17 All-optical Switches for Transparent Networks: The Problem, Available Technologies, New Implementations
Jin-Wei Tioh (*Iowa State University, USA*); *Mani Mina* (*Iowa State University, USA*); *Robert Weber* (*Iowa State University, USA*);

18 On the Improved Characterization of the Faraday Effect
Jin-Wei Tioh (*Iowa State University, USA*); *Robert Weber* (*Iowa State University, USA*); *Mani Mina* (*Iowa State University, USA*);

19 PV Carbon Emissions Baseline Study
Karl F. Kaspareck (*CTE, Italy*); *Elio Poggiagliolmi* (*EnTec Integrated Tech., UK*);

20 Interband Detectors of Terahertz and Infrared Radiation Based on Graphene p-i-n Structures
Maxim Ryzhii (*The University of Aizu, Japan*); *Victor Ryzhii* (*The University of Aizu, Japan*); *N. V. Baryshnikov* (*Bauman Moscow State Technical University, Russia*); *V. E. Karasik* (*Bauman Moscow State Technical University, Russia*); *Taiichi Otsuji* (*Tohoku University, Japan*);

21 The Intensity Modulation of THz-quantum Cascade Lasers by NIR Optical Pulse Injection
Shingo Saito (*National Institute for Information and Communications Technology, Japan*); *Yohei Sakasegawa* (*National Institute for Information and Communications Technology, Japan*); *Norihiko Sekine* (*National Institute of Information and Communications Technology, Japan*); *Masaaki Ashida* (*Osaka University, Japan*); *Iwao Hosako* (*National Institute of Information and Communications Technology, Japan*);

22 Phononic Band Gaps in One Dimensional Mass Spring System
Arafa Hussien Aly (*Beni-Suef University, Egypt*); *Ahmed Mehaney* (*Beni-Suef University, Egypt*); *Hassan S. Hanafey* (*Beni-Suef University, Egypt*);

23 The Influence of the Electromagnetic Wave on the Nonlinear Acoustoelectric Effect in a Superlattice
Nguyen Van Hieu (*Hanoi National University, Vietnam*); *Nguyen Quang Bau* (*Hanoi National University, Vietnam*); *Nguyen Vu Nhan* (*Academy of Defence force-Air force, Vietnam*);

24 Ability to Increase a Weak Electromagnetic Wave by Confined Electrons in Quantum Wells in the Presence of Laser Radiation
Nguyen Vu Nhan (*Academy of Defence force-Air force, Vietnam*); *Nguyen Thi Thanh Nhan* (*Hanoi National University, Viet Nam*); *Nguyen Van Nghia* (*Water Resources University, Vietnam*); *Sa Thi Lan Anh* (*Hanoi National University, Viet Nam*); *Nguyen Quang Bau* (*Hanoi National University, Vietnam*);

27 Optical Bistability in a V-type System in the Presence of an Additional Field
R. Doustkam (*University of Zanjan, Iran*); *Mohammad Mahmoudi* (*University of Zanjan, Iran*); *Mostafa Sahrai* (*University of Tabriz, Iran*);

28 Controlling the Optical Bistability via Electromagnetically Induced Absorption in a Three-level Λ-type System
E. Sadati Nosrat Abad (*University of Zanjan, Iran*); *Mohammad Mahmoudi* (*University of Zanjan, Iran*); *Mostafa Sahrai* (*University of Tabriz, Iran*);

30 NMR Measurement of the Relaxations and Conductivity of Gel Electrolytes
Radim Korinek (*Brno University of Technology, Czech Republic*); *Karel Bartušek* (*Brno University of Technology, Czech Republic*); *Ksenia Ostanina* (*Brno University of Technology, Czech Republic*); *M. Musil* (*Brno University of Technology, Czech Republic*);

31 Phase and Amplitude Control of Optical Bistability in the Closed-loop Three-coupled Quantum Wells
Mohammad Mahmoudi (*Zanjan University, Iran*); *N. Heidari* (*Zanjan University, Iran*);

32 Theoretical Study of Negative Refraction in Pseudochiral Media
Ruey-Lin Chern (*National Taiwan University, Taiwan, R.O.C.*);

33 Recovery of Electron-photon Interaction Time τ_{eph} Using the Quasi-particle Tunnelling Heating Effect in a Niobium SIS Mixer
B.-K. Tan (*University of Oxford, UK*); *Ghassan Yassin* (*University of Oxford, UK*);

34 Measurement of Dielectric Parameters of Biological Tissue
Jaroslav Vorlíček (*Czech Technical University, Czech Republic*); *Jan Vrba* (*Czech Technical University in Prague, Czech Republic*);

35 Amorphous Silicon-based Thin Film Solar Cells
Shokri Saleh M. Khalifa (*Plasma Research Laboratory, Libya*); *M. Sbeta* (*Center for Solar Energy Studies æ Libya, Libya*); *A. Abugalia* (*Center for Solar Energy Studies æ Libya, Libya*);

Session 3A1
Optics, Photonics, and Biophotonics for Young Scholars and Researchers 1

Thursday AM, March 29, 2012

Room A

Organized by Hsiang-Chen Wang, Shih-Wei Feng

Chaired by Shih-Wei Feng, Chao-Kuei Lee

08:40 Self-field Theory: Faster Than Light Neutrino
Anthony H. J. Fleming (*Biophotonics Research Institute, Australia*);

09:00 Theoretical Simulations of the Performance of InGaN***p-n*** Junction Solar Cells
Shih-Wei Feng (*National University of Kaohsiung, Taiwan, R.O.C.*); *Yu-Ru Su* (*National University of Kaohsiung, Taiwan, R.O.C.*); *Chih-Ming Lai* (*Ming-Chuan University, Taiwan*); *Li-Wei Tu* (*National Sun Yat-Sen University, Taiwan, R.O.C.*);

09:20 Crystallinity Improvement of ZnO Thin Film on Different Buffer Layers Grown by MBE
Shao-Ying Ting (*National Taiwan University, Taiwan*); *Po-Ching Chou* (*National Chung Cheng University, Taiwan*); *Jeng-Jie Huang* (*National Taiwan University, Taiwan*); *Che-Hao Liao* (*National Taiwan University, Taiwan*); *Wen-Ming Chang* (*National Taiwan University, Taiwan*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *C. C. Yang* (*National Taiwan University, Taiwan*);

09:40 High-excitation Effects on Photoluminescence of ZnMgO Alloys
Chin-Hau Chia (*National University of Kaohsiung, Taiwan, R.O.C.*); *T. C. Han* (*National University of Kaohsiung, Taiwan, R.O.C.*); *Y. M. Hu* (*National University of Kaohsiung, Taiwan, R.O.C.*);

10:00 Suppression of Surface Recombination in an InGaN/GaN Multiple Quantum Well Sample by Surface Plasmon Coupling
Xusn-Yu Yu (*National Chung Cheng University, Taiwan*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *Yu-Lun Chueh* (*National Tsing-Hua University, Taiwan*); *Tadas Malinauskas* (*Vilnius University, Lithuania*); *Kestutis Jarasiunas* (*Vilnius University, Lithuania*); *Shih-Wei Feng* (*National University of Kaohsiung, Taiwan, R.O.C.*);

10:20 **Coffee Break**

10:40 Speckle Reduction Based on EMD Database
Chen Wei Lee (*National Sun Yat-Sen University, Taiwan*); *Wei-Hung Su* (*National Sun Yat-Sen University, Taiwan, R.O.C.*); *Chao-Kuei Lee* (*National Sun-Yat-Sen University, Taiwan, R.O.C.*);

11:00 Determination of Moisture Content of Maize Kernel (*Zea mays L.*) by Reflectance Measurement at Wavelengths 300 nm to 800 nm Using Optical Technique
Amizadillah Md Norimi (*Universiti Putra Malaysia, Malaysia*); *Zulkifly Abbas* (*University Putra Malaysia, Malaysia*); *A. Jusoh* (*Universiti Putra Malaysia, Malaysia*); *M. A. Ismail* (*Universiti Putra Malaysia, Malaysia*);

11:20 High Resolution Image Synthesized by Using Multiple Low-resolution CCD
Chen Wei Lee (*National Sun Yat-Sen University, Taiwan, R.O.C.*); *Jhao-Yu Zeng* (*National Sun Yat-Sen University, Taiwan, R.O.C.*); *Wei-Hung Su* (*National Sun Yat-sen University, Taiwan, R.O.C.*); *Chao-Kuei Lee* (*National Sun-Yat-Sen University, Taiwan, R.O.C.*); *Tsong-Ru Tsai* (*National Taiwan Ocean University, Taiwan, R.O.C.*);

11:40 Ultrafast Ablation Dynamics in Fused Silica with a White Light Beam Probe
Guan-Huang Wu (*National Chung Cheng University, Taiwan*); *Ping-Han Wu* (*ITRI South, Industrial Technology Research Institute, Taiwan*); *Xuan-Yu Yu* (*National Chung Cheng University, Taiwan*); *Chung-Wei Cheng* (*ITRI South, Industrial Technology Research Institute, Taiwan*); *Che-Hao Liao* (*National Taiwan University, Taiwan*); *Shih-Wei Feng* (*National University of Kaohsiung, Taiwan*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*);

12:00 Optical Frequency Conversion: Novel Integrated Devices and Applications
Roberto Morandotti (*Institute National de la Recherche Scientifique, Canada*); *Luca Razzari* (*Universite du Quebec, Canada*); *Marcello Ferrera* (*Universite du Quebec, Canada*); *David Duchesne* (*INRS-EMT, Université du Québec, Canada*); *M. Peccianti* (*INRS-EMT, Canada*); *A. Pasquazi* (*INRS-EMT, Canada*); *Sai T. Chu* (*Infinera Corp., USA*); *Brent E. Little* (*Infinera Corp., USA*); *David J. Moss* (*University of Sydney, Australia*);

Session 3A2a
Optics, Quantum-well Devices, Optical Soliton

Thursday AM, March 29, 2012

Room B

Chaired by Chaudry Masood Khalique

08:20 Entanglement Creation by the Dipole-dipole Blockade Effect
Khulud Almutairi (*University of Calgary, Canada*); *Ryszard Tanas* (*Adam Mickiewicz University, Poland*); *Zbigniew Ficek* (*The National Centre for Mathematics and Physics, Saudi Arabia*);

08:40 Gaussian Optical Solitons for the Biswas-Milovic Equation
Chaudry Masood Khalique (*North-West University, Republic of South Africa*);

10:00 Simulation of High Power GaInNAs-GaNAs Double Quantum-well Laser Diodes for Raman Amplifier Pumping
M. Faiez Ali (*Universti Teknologi MARA, Malaysia*); *Mohd Kamil Abd-Rahman* (*Universiti Teknologi MARA, Malaysia*); *M. Salleh Mohd Deni* (*Universti Teknologi MARA, Malaysia*); *M. Sharizal Alias* (*Telekom Malaysia Research & Development (TMR&D), Malaysia*);

10:20 **Coffee Break**

10:40 Fidelity of Classical and Quantum Measurements
Thomas B. Bahder (*US Army RDECOM, Redstone Arsenal, USA*);

Session 3A2b
Plasmonic Nanophotonics I - Experiment

Thursday AM, March 29, 2012

Room B

Organized by Yung-Chiang Lan, Din Ping Tsai

Chaired by Yung-Chiang Lan

11:00 Surface Plasmon Modulation in Silver Nanowires Revealed by Quantum Dot Fluorescence Imaging
Hong Wei (*Institute of Physics, Chinese Academy of Sciences, China*); *Hongxing Xu* (*Institute of Physics, Chinese Academy of Sciences, China*);

11:20 Hybrid Plasmonic Structures Design and Fabrication by Laser Means
Minghui Hong (*National University of Singapore, Singapore*); *L. Xu* (*National University of Singapore, Singapore*); *N. T. V. Thanh* (*National University of Singapore, Singapore*); *M. Tang* (*National University of Singapore, Singapore*); *Z. C. Chen* (*National University of Singapore, Singapore*);

11:40 Localized Surface Plasmon Resonance of Arrayed Metallic Nano-structures Fabricated by Metal Contact Printing Lithography
Hao-Yuan Chung (*National Cheng-Kung University, Taiwan, R.O.C.*); *Chun-Ying Wu* (*National Cheng-Kung University, Taiwan, R.O.C.*); *Chun-Hung Chen* (*National Cheng-Kung University, Taiwan, R.O.C.*); *Yung-Chun Lee* (*National Cheng-Kung University, Taiwan, R.O.C.*);

12:00 Speed-up the Nanoelectronics with Plasmonics Technology
Er Ping Li (*National University of Singapore, Singapore*); *Ping Bai* (*A*STAR-IHPC, Singapore*);

Session 3A3
SAR Systems and Signal Processing

Thursday AM, March 29, 2012

Room C

Organized by Voon Chet Koo

Chaired by Voon Chet Koo, Yee Kit Chan

08:40 Dual Band Antenna with Paired Excitation for Reduced Cross-polarisation
Gobi Vetharatnam (*Multimedia Unviersity, Malaysia*); *Koo Voon Chet* (*Multimedia University, Malaysia*); *Fabian Kung Wai Lee* (*Multimedia University, Malaysia*);

09:00 Three Layers Configuration Microstrip Patch Antenna for Unmanned Aerial Vehicle Synthetic Aperture Radar
Poi Ngee Tan (*Multimedia University, Malaysia*); *Vetharatnam Gobi* (*Multimedia Unviersity, Malaysia*); *Yee Kit Chan* (*Multimedia University, Malaysia*); *Tien Sze Lim* (*Multimedia University, Malaysia*); *Voon Chet Koo* (*Multimedia University, Malaysia*);

09:20 The Design and Development of Unmanned Aerial Vehicle Synthetic Aperture Radar for Environmental Monitoring
Yee Kit Chan (*Multimedia University, Malaysia*); *Voon Chet Koo* (*Multimedia University, Malaysia*);

09:40 Design and Development of a Miniature C-band RF Transceiver for Synthetic Aperture Radar
Kuo Shen Yee (*Multimedia University, Malaysia*); *Yee Kit Chan* (*Multimedia University, Malaysia*); *Wai Lee Fabian Kung* (*Multimedia University, Malaysia*); *Voon Chet Koo* (*Multimedia University, Malaysia*); *Ming Yam Chua* (*Multimedia University, Malaysia*);

10:20 **Coffee Break**

10:40 Design of a Digital Synthetic Aperture Radar
Wen Guey Cheaw (*Multimedia University, Malaysia*); *Yee Kit Chan* (*Multimedia University, Malaysia*); *Voon Chet Koo* (*Multimedia University, Malaysia*);

11:00 FPGA-based Pre-processing Unit for Real-time Synthetic Aperture Radar (SAR) Imaging
Yung Chong Lee (*Multimedia University, Malaysia*); *Voon Chet Koo* (*Multimedia University, Malaysia*); *Yee Kit Chan* (*Multimedia University, Malaysia*);

11:20 Performance Evaluation of Modified MLCC Dopple Centroid Estimator
Sew Bee Cheng (*Multimedia University, Malaysia*); *Yee Kit Chan* (*Multimedia University, Malaysia*); *Tien Sze Lim* (*Multimedia University, Malaysia*);

11:40 Geometric Correction on SAR Imagery
Ai Ling Choo (*Multimedia University, Malaysia*); *Yee Kit Chan* (*Multimedia University, Malaysia*); *Voon Chet Koo* (*Multimedia University, Malaysia*);

Session 3A4
Design and Mathematical Modeling of Wide band Antennas

Thursday AM, March 29, 2012

Room D

Organized by Atif Shamim, Ahmed Gomaa Radwan

Chaired by Atif Shamim, Ahmed Gomaa Radwan

08:20 A 60 GHz Wideband and Miniaturized CMOS Fractal Antenna
Farhan Abdul Ghaffar (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Atif Shamim* (*King Abdullah University of Science and Technology, Saudi Arabia*);

08:40 LCP-based Half Circle Fractal Patch Antenna for Wide Band Applications
Mohamad Sabeh (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *A. Shamim* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*);

09:00 Design and Analysis of a High Performance Triband 20/30/44 GHz Corrugated Horn
Kwok Kee Chan (*Chan Technologies Inc., Canada*);

09:20 Micro Strip Line Fed I-shaped Dielectric Resonant Antenna for Millimeter Wave Applications
Chandra Kandula (*N.I.T. Rourkela, India*); *Prasanna Kumar Sahu* (*National Institute of Technology, India*); *Prakash Kumar Panda* (*NIT Rourkela, India*); *K. L. Sheeja* (*N.I.T. Rourkela, India*);

09:40 Fractional-order Equivalent Circuit Models of UWB Omnidirectional Small Antennas
Ahmed Gomaa Radwan (*Cairo University, Egypt*);

10:20 **Coffee Break**

10:40 On the Mathematical Analysis of Broadband Equivalent Circuit Model Suitable for Mobile Terminal Antenna
Ahmed Gomaa Radwan (*Cairo University, Egypt*);

11:00 Modeling the Transmit and Receive Antenna Impulse Responses for UWB Systems and Increasing the Effective Channel Gain
Mohamed El-Hadidy (*The University of Duisburg-Essen, Germany*); *Thomas Kaiser* (*The University of Duisburg-Essen, Germany*);

11:20 Wideband Isosceles 75°-30°-75° Triangular Dielectric Resonator Antenna
Sudipta Maity (*Jadavpur University, India*); *Sanghamitra Dasgupta* (*Jadavpur University, India*); *Bhaskar Gupta* (*Jadavpur University, India*);

11:40 Resonant Frequency and Field Solution of Isosceles Triangular Dielectric Resonator Antenna
Sudipta Maity (*Jadavpur University, India*); *Sanghamitra Dasgupta* (*Jadavpur University, India*); *Bhaskar Gupta* (*Jadavpur University, India*);

12:00 Study and Analysis of GUNN Loaded Active Microstrip Patch Antenna
Sanghamitra Dasgupta (*Jadavpur University, India*); *Bhaskar Gupta* (*Jadavpur University, India*);

Session 3A5
FDTD Methods and Applications

Thursday AM, March 29, 2012

Room E

Organized by Eng Leong Tan

Chaired by Eng Leong Tan

08:40 Comprehensive Comparison of FDTD Algorithms for Kerr Nonlinearities
Ivan S. Maksymov (*Australian National University, Australia*); *Andrey A. Sukhorukov* (*Australian National University, Australia*); *Andrei V. Lavrinenko* (*Technical University of Denmark, Denmark*); *Yuri S. Kivshar* (*Australian National University, Australia*);

09:00 BPM and FDTD Analyses of a Metal-insulator-metal-type Terahertz Waveguide
Jun Shibayama (*Hosei University, Japan*); *Yosuke Uchizono* (*Hosei University, Japan*); *Junji Yamauchi* (*Hosei University, Japan*); *Hisamatsu Nakano* (*Hosei University, Japan*);

09:20 An Explicit Fractional Step Scattered Field Formulation for Modeling General Lossy Media in the FDTD Technique
Haythem Hussein Abdullah (*Electronics Research Institute (ERI), Egypt*); *Adel Mohsen* (*Cairo University, Egypt*);

09:40 Unified Efficient Fundamental ADI-FDTD Schemes for Lossy Media
Ding Yu Heh (*Nanyang Technological University, Singapore*); *Eng Leong Tan* (*Nanyang Technological University, Singapore*);

10:00 An Unconditionally-stable FDTD Method with Low Anisotropy in Three-dimensional Domains
Yong-Dan Kong (*South China University of Technology, China*); *Qing-Xin Chu* (*South China University of Technology, China*);

10:20 **Coffee Break**

10:40 SAR Computation of a Human Head Exposed to Different Mobile Headsets Using FDTD Method
Reza Aminzadeh (*Iran University of Science and Technology, Iran*); *Mehrangiz Ashiri* (*Iran University of Science and Technology, Iran*); *Ali Abdolali* (*Iran University of Science and Technology, Iran*);

11:00 FDTD Simulation of an Arbitrary Shape in Google SketchUp
Yong-Gu Lee (*Gwangju Institute of Science and Technology (GIST), South Korea*);

11:20 Transient Electromagnetic Response of a Coaxial Feeding Monopole Antenna Mounted on a Rectangular Metallic Enclosure Illuminated by Electromagnetic Pulses (EMP)
Qingqing Zhang (*Shanghai Jiao Tong University, China*); *Jian Wang* (*Shanghai Jiao Tong University, China*); *Wen-Yan Yin* (*Zhejiang University, China*);

Session 3A6
Systems and Components, Electromagnetic Compatibility 2

Thursday AM, March 29, 2012

Room F

Organized by Koviljka Stankovic

Chaired by Koviljka Stankovic

08:40 Effect of Electromagnetic Interference (EMI) on the DC Shift, Harmonic and Intermodulation Performance of NMOSFET Current Mirror
Muhammed Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals, Arabia*); *Ali M. T. Abuelmaatti* (*RFMD (UK) Ltd., UK*);

09:00 Near-field Characterization of a Printed Circuit Board in the Presence of a Finite-sized Metallic Ground Plane
Ondrej Franek (*Aalborg University, Denmark*); *Morten Sørensen* (*Bang & Olufsen a/s, Denmark*); *Hans Ebert* (*Aalborg University, Denmark*); *Gert F. Pedersen* (*Aalborg University, Denmark*);

09:20 Improvement of Absorbing Frequency Bandwidth of Composite Electromagnetic Wave Absorber Made of Granular Sendust Particles Dispersed in Polystyrene Resin
Yuki Hongo (*Doshisha University, Japan*); *Kenji Sakai* (*Doshisha University, Japan*); *Yuuki Sato* (*Doshisha University, Japan*); *Shinzo Yoshikado* (*Doshisha University, Japan*);

09:40 Delay Response of Gas Discharge Tubes
Milic Pejovic (*University of Nis, Serbia*); *Momcilo Pejovic* (*University of Nis, Serbia*); *Radeta Maric* (*Electric Power Industry of Serbia (EPS), Serbia*); *Ljubinko Timotijevic* (*University of Belgrade, Serbia*); *Koviljka Stankovic* (*University of Belgrade, Serbia*);

10:00 Radiation Induced Noise Level in Solar Cells
Milos Zdravkovic (*University of Belgrade, Serbia*); *Aleksandra Vasic* (*University of Belgrade, Serbia*); *Bojan Cavric* (*University of Belgrade, Serbia*); *Radovan Radosavljevic* (*University of Belgrade, Serbia*); *Koviljka Stankovic* (*University of Belgrade, Serbia*);

10:20 **Coffee Break**

10:40 Radiation Effects in Cooper Pair Insulating Thin Films
Djordje Lazarevic (*VINCA Institute of Nuclear Sciences, Serbia*); *Edin Dolićanin* (*University of Belgrade, Serbia*); *Bratislav Iričanin* (*University of Belgrade, Serbia*); *Milos Vujisic* (*University of Belgrade, Serbia*); *Koviljka Stankovic* (*University of Belgrade, Serbia*);

11:00 Expressing the Measurement Uncertainty of the Nonionizing Radiation Survey in the Vicinity of GSM Base Stations
Branislav Vulevic (*Public Company Nuclear Facilities of Serbia, Serbia*); *Dragan Kovacevic* (*Institute of Electrical Engineering "Nikola Tesla", Serbia*); *Predrag Osmokrović* (*University of Belgrade, Serbia*);

11:20 Uncertainty Evaluation of Conducted Emission Measurement by the Monte Carlo Method and the Modified Least-squares Method
Aleksandar Kovačević (*Technical Test Centre, Serbia*); *Dragan Kovacevic* (*Institute of Electrical Engineering "Nikola Tesla", Serbia*); *Predrag Osmokrović* (*University of Belgrade, Serbia*);

11:40 Radiation Induced Change of Serial PNP Power Transistor's Dropout Voltage in Voltage Regulators
Vladimir Vukić (*University of Belgrade, Serbia*); *Predrag Osmokrović* (*University of Belgrade, Serbia*);

Session 3A7
Electromagnetic Waves Propagation in the Atmosphere and Remote Sensing

Thursday AM, March 29, 2012

Room G

Organized by George Vakhtang Jandieri, Shuanggen Jin

Chaired by George Vakhtang Jandieri, Shuanggen Jin

08:20 Seismo-Electromagnetics: GNSS Observations and Implications for Recent Earthquakes
Shuanggen Jin (*Shanghai Astronomical Observatory, Chinese Academy of Sciences, China*);

08:40 Special Beam Arrays for Scintillation Reduction in Atmospheric Turbulence
Greg Gbur (*University of North Carolina at Charlotte, USA*); *Yalong Gu* (*University of North Carolina at Charlotte, USA*);

09:00 A Radiometeorological Study Based on Data from Malaysia and Amazon Region (Brazil)
Kesavan Ulaganathen (*Universiti Teknologi Malaysia, Malaysia*); *Tharek Bin Abdul Rahman* (*University Technology Malaysia (UTM), Malaysia*); *Jorge L. Cerqueira* (*Military Institute of Engineering, Brazil*); *Mauro S. Assis* (*Brazilian Committee of URSI, Brazil*);

09:20 Microwave Absorption in Nonuniform Plasma with Different Magnetic Field Configurations Using the Magneto-ionic Appleton-Hartree Theory
Muhammad S. Bawa'aneh (*Khalifa University of Science, Technology and Research, United Arab Emirates*); *Ahmed M. Al-Khateeb* (*King Faisal University, Saudi Arabia*); *Sayeed Makkiyil* (*Khalifa University of Science, Technology and Research, United Arab Emirates*); *Saud Al-Awfi* (*Taibah University, Saudi Arabia*); *Ibrahim Abualhaol* (*Khalifa University, United Arab Emirates*); *Ghada Assayed* (*The Hashemite University, Jordan*);

09:40 The Statistical Character of Atmospheric Noise Temperature Induced by Rain at Millimeter Wave Band in Xi'an, China
Shu-Hong Gong (*Xidian University, China*); *Meng Wei* (*Xidian University, China*); *Tiancheng Zheng* (*Xidian University, China*); *Xiangdong Li* (*Xidian University, China*);

10:20 **Coffee Break**

10:40 Far Field of a Electric Dipole Located above Layered Half Space
Bing Wei (*Xidian University, China*); *Debiao Ge* (*Xidian University, China*);

11:40 On the Influence of Spatial-temporal Fluctuations of Electron Density and Magnetic Field Fluctuations on the Angular Power Spectrum of Scattered Electromagnetic Wave by Magnetized Plasma Slab
George Vakhtang Jandieri (*Georgian Technical University, Georgia*); *Akira Ishimaru* (*University of Washington, USA*); *Kiyotoshi Yasumoto* (*Kyushu University, Japan*);

12:00 Statistical Characteristics of Scattered Radiation by Collisional Magnetized Turbulent Plasma Slab
George Vakhtang Jandieri (*Georgian Technical University, Georgia*); *Akira Ishimaru* (*University of Washington, USA*); *Kiyotoshi Yasumoto* (*Kyushu University, Japan*);

Session 3A8
Poster Session 4

Thursday AM, March 29, 2012
9:00 AM - 12:00 AM
Room K

1 An Ultra-wideband CMOS LNA for 3–10 GHz with Low Power Consumption
Chien-Hua Lai (*Yuan Ze University, Taiwan*); *Jeng-Rern Yang* (*Yuan Ze University, Taiwan, R.O.C.*);

2 Suitable Thickness of Material in Determination of Complex Permittivity from Transmission Measurements
Tatsuya Suzuki (*Kisarazu National College of Technology, Japan*); *Yusuke Kawamura* (*Chiba University, Japan*); *Takanobu Ohno* (*Kisarazu National College of Technology, Japan*); *Kouichi Ishii* (*Kisarazu National College of Technology, Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

3 A Multi-band Magnetic Metamaterial Structure Using the Three Split Ring Resonators
Jeong-Geun Park (*Kyungpook National University, Korea*); *Kyung-Soo Kim* (*Kyungpook National University, South Korea*); *Che-Young Kim* (*Kyungpook National University, South Korea*);

4 Balanced UWB BPF Design Using Slotline Resonator
Chung-Jung Chen (*National Changhua University of Education, Taiwan*); *Ching-Her Lee* (*National Changhua University of Education, Taiwan R.O.C.*); *Chung-I. G. Hsu* (*National Yunlin University of Science and Technology, Taiwan*); *Jhih-Hong Chang* (*National Changhua University of Education, Taiwan*);

5 Design Investigation of a Novel Bandpass Filter Using Trisection Open Loop Resonator
Hossein Saghlatoon (*Ferdowsi University, Iran*); *Mohammad Hassan Neshati* (*Ferdowsi University of Mashhad, Iran*);

6 Application of Cylindrical Ferrite Coupled Line Junction to Nonreciprocal Devices
Adam Kusiek (*Gdansk University of Technology, Poland*); *Wojciech Marynowski* (*Gdansk University of Technology, Poland*); *Rafal Lech* (*Gdansk University of Technology, Poland*); *J. Mazur* (*Gdansk University of Technology, Poland*);

7 Novel Structures of Circulator and Isolator Employing Ferrite Coupled Line Section
Wojciech Marynowski (*Gdansk University of Technology, Poland*); *Adam Kusiek* (*Gdansk University of Technology, Poland*); *Rafal Lech* (*Gdansk University of Technology, Poland*); *J. Mazur* (*Gdansk University of Technology, Poland*);

8 Remotely Controllable Robotic System to Detect Shallow Buried Objects with High Efficiency by Using an Holographic 4 GHz Radar
I. Arezzini (*Università di Firenze, Italy*); *M. Calzolai* (*Università di Firenze, Italy*); *L. Lombardi* (*Università di Firenze, Italy*); *Lorenzo Capineri* (*Università di Firenze, Italy*); *Y. Kansal* (*Birla Institute of Technology and Science, India*);

9 High-$\boldsymbol{Q}$ Transmission Line Stub Resonators Using Interdigital Capacitor Loading for MMIC Applications
T. Katayose (*Shibaura Institute of Technology, Japan*); *M. Okunogi* (*Shibaura Institute of Technology, Japan*); *Ken'ichi Hosoya* (*NEC Corporation, Japan*); *Shinichi Tanaka* (*Shibaura Institute of Technology, Japan*);

10 Non-bias Inspection of Electrical Failures in LSI Chips Using Laser Terahertz Emission Microscope
Masatsugu Yamashita (*RIKEN Advanced Science Institute, Japan*); *Chiko Otani* (*RIKEN Advanced Science Institute (ASI), Japan*); *Toru Matsumoto* (*Hamamatsu Photonics, Japan*); *Yoshihiro Midoh* (*Osaka University, Japan*); *Katsuyoshi Miura* (*Osaka University, Japan*); *Kiyoshi Nikawa* (*Osaka University, Japan*); *Koji Nakamae* (*Osaka University, Japan*); *Masayoshi Tonouchi* (*Osaka University, Japan*);

11 Design of ARC Filters by Leap-Frog Method
Lubomír Frohlich (*Brno University of Technology, Czech Republic*); *Jirí Sedlácek* (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*);

12 Programme for Synthesis of ARC Leap-frog Filters
Lubomír Frohlich (*Brno University of Technology, Czech Republic*); *Jirí Sedlácek* (*Brno University of Technology, Czech Republic*); *Martin Friedl* (*Brno University of Technology, Czech Republic*);

13 Novel Compact Triple-bandpass Filter Using $\boldsymbol{\lambda}/4$ Resonator Pairs with Common via Ground
Fei Liang (*Huazhong University of Science and Technology, China*); *Hongwen Gan* (*Wuhan Hongxin Telecommuniaction Technologies Co., LTD, China*); *Zhiyong Wang* (*Wuhan Hongxin Telecommuniaction Technologies Co., LTD, China*); *Wenzhong Lu* (*Huazhong University of Science and Technology, China*);

14 An Efficient Method for Analyzing Microwave Polarizer with Finite Grid Thickness
Teng Wah Ang (*National University of Singapore, Singapore*); *Kwok Kee Chan* (*Chan Technologies Inc., Canada*); *Tat-Soon Yeo* (*Temasek Defence Systems Institute, Singapore*);

15 Failure Analysis of LTCC Coupler Using Microwave
Soon-Mi Hwang (*Korea Electronics Technology Institute (KETI), Korea*); *Yong-Baek Jung* (*Korea Electronics Technology Institute (KETI), Korea*); *Sung-Dae Noh* (*Korea Electronics Technology Institute(KETI), Korea*);

16 A New Tunable Dual-mode Bandpass Filter Design Based on Fractally Slotted Microstrip Patch Resonator
Jawad K. Ali (*University of Technology, Iraq*); *Nasr N. Hussain* (*Technical College of Najaf, Iraq*); *Ali J. Salim* (*University of Technology, Iraq*); *Hussam Alsaedi* (*University of Technology, Iraq*);

17 The Design of Wideband DC-35 GHz IF Modules for 78–113 GHz Receiver Array
Hsiao-Feng Teng (*National Taiwan University, Taiwan, R.O.C.*); *Jing-Cheng Wu* (*National Taiwan University, Taiwan, R.O.C.*); *Tzi-Hong Chiueh* (*National Taiwan University, Taiwan, R.O.C.*); *Robert Hu* (*National Chiao Tung University, Taiwan, R.O.C.*);

18 A New High-Q Resonator Using Combination of D-SR and S-SRR with $\boldsymbol{\mu}$-near Zero Metamaterial
Hyunwook Lee (*Kwangwoon University, South Korea*); *K. C. Yoon* (*Kwangwoon University, Korea*); *D. K. Lee* (*Kwangwoon University, South Korea*); *T. S. Jung* (*Kwangwoon University, South Korea*); *Jong-Chul Lee* (*Kwangwoon University, Korea*);

19 A Differential-mode Wideband Band-pass Filter for UWB Application
Meng Li (*Kwangwoon University, Korea*); *Fang Zhang* (*Kwangwoon University, Korea*); *Kyosoon Choi* (*Kwangwoon University, Korea*); *Jaeyeong Lee* (*Kwangwoon University, Korea*); *Jong-Chul Lee* (*Kwangwoon University, Korea*);

20 Design of Double-Pole-Double-Throw Bandpass Filter-Integrated Switches
Shih-Fong Chao (*National Kaohsiung Marine University, Taiwan*); *M. W. Shih* (*National Kaohsiung Marine University, Taiwan*);

21 Measurement of the Temperature by FSS Structures
Ali Abdolali (*Iran University of Science and Technology, Iran*); *A. Emami* (*Iran University of Science & Technology, Iran*); *S. Moinzad* (*Iran University of Science & Technology, Iran*);

22 E-band Transmitter Module Using a LCP Substrate
Young Chul Lee (*Mokpo National Maritime University (MMU), Korea*); *Salizul Jaafar* (*Telecom Malaysia Research & Development (TMR&D), Korea*); *Mohd. Fadzil Amiruddin* (*Telecom Malaysia Research & Development (TMR&D), Korea*); *Suhandi Bujang* (*Telecom Malaysia Research & Development (TMR&D), Korea*); *Azzemi Ariffin* (*Telecom Malaysia Research & Development (TMR&D), Korea*);

23 Effect of Finger-patterned Electrodes on Tunability of Tunable Capacitors
Young Chul Lee (*Mokpo National Maritime University (MMU), Korea*); *Baek Ju Lee* (*Ajou University, Korea*); *Kyung Hyun Ko* (*Ajou University, Korea*);

24 Dumbbell Resonators to Reduce Crosstalk on Slotted Ground Plane
Ding-Bing Lin (*National Taipei University of Technology, Taiwan, R.O.C.*); *Chen-Kuang Wang* (*National Taipei University of Technology, Taiwan, R.O.C.*); *Chi-Hao Lu* (*National Taipei University of Technology, Taiwan, R.O.C.*); *Jui-Hung Chou* (*National Taiwan University, Taiwan*);

25 An Ultra-low-voltage CMOS VCO Using Parallel Capacitor for Phase Noise Reduction
Chun-Yi Lin (*National Chiao Tung University, Taiwan*); *Pei-Zong Rao* (*National Chiao Tung University, Taiwan*); *Hsen-Hung Chiu* (*National Chiao Tung University, Taiwan*); *Shyh-Jong Chung* (*National Chiao Tung University, Taiwan, R.O.C.*);

26 Investigation of Zeros and Poles Properties for Filter Tuning Procedures
Mateusz Mazur (*Telecommunication Research Institute, Poland*); *Jerzy Julian Michalski* (*Telemobile Electronics Ltd., Poland*);

27 Research for RFID Tag Implementation in Vehicle Environments
Shih-Chung Tuan (*Oriental Institute of Technology, Taiwan*); *Hsi-Tseng Chou* (*Yuan Ze University, Taiwan*); *Shih-Peng Liang* (*Yuan Ze University, Taiwan*);

28 Terahertz High-pass Filter Fabricated by Imprinting Pd-based Bulk Metallic Glass
Tsong-Ru Tsai (*National Taiwan Ocean University, Taiwan, R.O.C.*); *H. Sung* (*National Taiwan Ocean University, Taiwan, R.O.C.*); *Y. C. Chen* (*National Taiwan University of Science and Technology, Taiwan*); *J. P. Chu* (*National Taiwan University of Science and Technology, Taiwan*);

29 Second Harmonic Reduction of Miniaturized Dual-mode Microstrip Bandpass Filters Using Fractal Shaped Open Stub Resonators
Jawad K. Ali (*University of Technology, Iraq*); *Hussam Alsaedi* (*University of Technology, Iraq*);

30 Coupled-line Bandpass Filters Using Mixed Half-wave and Quarter-wave Resonators with Improved Out-of-band Response
Shih-Cheng Lin (*National Chiayi University, Taiwan*); *Chi-Wen Hsieh* (*National Chiayi University, Taiwan*);

31 Design of K-band CMOS Frequency Divider Integrating a Marchand-type Transformer
Sen Wang (*National Taipei University of Technology, Taiwan*); *Chen-Chin Lin* (*National Taipei University of Technology, Taiwan*);

32 Compact MEMS Based Tunable Bandstop Microstrip Filter Using Defected Ground Structure (DGS)
Sajjad Ur Rehman (*King Saud University, Kingdom of Saudi Arabia*); *Abdel-Fattah A. Sheta* (*King Saud University, Saudi Arabia*); *Majeed A. S. Alkanhal* (*King Saud University, Saudi Arabia*);

33 Broadband Resistive Active Power Combiner
Blaise Ravelo (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*); *Elagiri-Ramalingam Rajkumar* (*Institut de Recherche en Systèmes Electroniques Embarqués (IRSEEM), France*);

34 Triple Band Fractal Koch Antenna for Wearable Application
Mohd Ezwan Bin Jalil (*University Technology Malaysia, Malaysia*); *Mohamad K. A. Rahim* (*Universiti Teknologi Malaysia (UTM), Malaysia*); *N. A. Samsuri* (*Universiti Teknologi Malaysia, Malaysia*); *N. A. Murad* (*Universiti Teknologi Malaysia, Malaysia*);

Session 3P1a
Optics, Photonics, and Biophotonics for Young Scholars and Researchers 2

Thursday PM, March 29, 2012

Room A

Organized by Hsiang-Chen Wang, Shih-Wei Feng

Chaired by Shih-Wei Feng, Chao-Kuei Lee

13:20 Determination of Moisture Content of Hevea Rubber Latex Using a Microstrip Patch Antenna
Nor Zakiah Yahaya (*Universiti Putra Malaysia, Malaysia*); *Zulkifly Abbas* (*University Putra Malaysia, Malaysia*); *M. A. Ismail* (*Universiti Putra Malaysia, Malaysia*); *Borhanuddin Mohd Ali* (*Universiti Putra Malaysia, Malaysia*);

13:40 Synthesis of CIGS Absorber Layer by Solvothermal Route
Chao-Chi Wang (*National Chung Cheng University, Taiwan*); *Pei-Chang Tsai* (*National Chung Cheng University, Taiwan*); *Jian-Hung Lin* (*National Chung Cheng University, Taiwan*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *Chia Chen Hsu* (*National Chung Cheng University, Taiwan, R.O.C.*); *Raymond Chien-Chao Tsiang* (*National Chung Cheng University, Taiwan*);

14:00 Optimal Visual Perception and Detection of Oral Cancer by Multi-spectral Imaging
Ta-Wei Chien (*National Chung Cheng University, Taiwan, R.O.C.*); *Yung-Tsan Chen* (*National Chung Cheng University, Taiwan, R.O.C.*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*); *Meng-Tsan Tsai* (*Chang Gung University, Taiwan*); *Chun-Ping Chiang* (*National Taiwan University, Taiwan*);

14:20 Discrimination of Precancerous Stages with Optical Coherence Tomography
Hong-Li Jin (*Chang Gung University, Taiwan, R.O.C.*); *Meng-Tsan Tsai* (*Chang Gung University, Taiwan*); *Jainn-Der Lee* (*Chang Gung University, Taiwan, R.O.C.*);

14:40 Optimal Illumination for the Direct Visualization of Oral Cavity
Tsung-Chih Lin (*National Chung Cheng University, Taiwan, R.O.C.*); *Yung-Tsan Chen* (*National Chung Cheng University, Taiwan, R.O.C.*); *Hsiang-Chen Wang* (*National Chung Cheng University, Taiwan*);

15:20 **Coffee Break**

Session 3P1b
Generation, Transform, Propagation and Applications for Laser Beams

Thursday PM, March 29, 2012

Room A

Organized by Xuanhui Lu

Chaired by Xuanhui Lu, Yangjian Cai

15:40 Experimental Study of the Coupling of a Stochastic Beam into a Single-mode Optical Fiber
Chengliang Zhao (*Soochow University, China*); *Yangjian Cai* (*Soochow University, China*);

16:00 The Optical Airy Transform and Its Application in Generating and Controlling the Airy Beam
Yunfeng Jiang (*Zhejiang University, China*); *Kaikai Huang* (*Zhejiang University, China*); *Xuanhui Lu* (*Zhejiang University, China*);

16:20 Generation and Propagation of a Stochastic Electromagnetic Gaussian Schell-model Beam
Yahong Chen (*Soochow University, China*); *Fei Wang* (*Soochow University, China*); *Yangjian Cai* (*Soochow University, China*);

16:40 Experimental Generation of a Partially Coherent Vortex Beam
Fei Wang (*Soochow University, China*); *Shijun Zhu* (*Soochow University, China*); *Yangjian Cai* (*Soochow University, China*);

Session 3P2
Plasmonic Nanophotonics II - Theory, Design and Simulation

Thursday PM, March 29, 2012

Room B

Organized by Yung-Chiang Lan, Din Ping Tsai

Chaired by Yung-Chiang Lan, Yuan-Fong Chau

13:20 Electromagnetic Forces in Metallic Cavity
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*); *H. H. Zheng* (*The Hong Kong University of Science and Technology, China*); *Zhihong Hang* (*The Hong Kong University of Science and Technology, China*); *Che Ting Chan* (*The Hong Kong University of Science and Technology, China*);

13:40 Plasmonic Metamaterials: From Total Absorption to High Tunneling
Jiaming Hao (*Laboratoire de Génie Electrique de Paris (LGEP), France*); *Laurent Santandréa* (*Laboratoire de Génie Electrique de Paris, France*); *Said Zouhdi* (*University Paris Sud, France*);

14:00 Engineering of Radiation of Optically Active Molecules with Chiral Nano-meta-particles
Vasily V. Klimov (*Lebedev Physical Institute, Russia*);

14:20 Plasmonic Toroidal Metamaterials at Optical Frequencies
Yao-Wei Huang (*National Taiwan University, Taiwan*); *Wei Ting Chen* (*National Taiwan University, Taiwan*); *Pin Chieh Wu* (*National Taiwan University, Taiwan*); *You Zhe Ho* (*National Taiwan University, Taiwan*); *Yuan-Fong Chau* (*Ching Yun University, Taiwan*); *Nikolay I. Zheludev* (*University of Southampton, UK*); *Din Ping Tsai* (*National Taiwan University, Taiwan, R.O.C.*);

14:40 Generalization of Superscatterer Design and Photorealistic Raytracing Thereof
Alireza Akbarzadeh (*National University of Singapore, Singapore*); *Tiancheng Han* (*National University of Singapore, Singapore*); *Aaron J. Danner* (*National University of Singapore, Singapore*); *Cheng-Wei Qiu* (*National University of Singapore, Singapore*);

15:00 Subwavelength Modulational Instability And Plasmon Oscillons in Arrays of Metal Nanoparticles
Roman E. Noskov (*St. Petersburg University of Information Technologies, Mechanics and Optics (ITMO), Russia*); *Pavel A. Belov* (*Queen Mary University of London, UK*); *Yuri S. Kivshar* (*Australian National University, Australia*);

15:20 **Coffee Break**

15:40 Study of Transformation Optics with Uniform and Non-uniform Grid in Electro-optical Simulation
Jian-Shiung Hong (*National Cheng Kung University, Taiwan, R.O.C.*); *Wei-Ming Cheng* (*National Cheng Kung University, Taiwan, R.O.C.*); *Ruei-Cheng Shiu* (*National Cheng Kung University, Taiwan, R.O.C.*); *Yung-Chiang Lan* (*National Cheng Kung University, Taiwan, R.O.C.*); *Kuan-Ren Chen* (*National Cheng Kung University, Taiwan, R.O.C.*);

16:00 Coherence-converting Plasmonic Hole Arrays
Greg Gbur (*University of North Carolina at Charlotte, USA*); *Choon How Gan* (*Institute of High Performance Computing, Singapore*); *Yalong Gu* (*University of North Carolina at Charlotte, USA*); *T. D. Visser* (*Free University, The Netherlands*);

16:20 Design of Optical Hybrid-Hyperlens for Go beyond the Diffraction Limit
B. H. Cheng (*National Cheng Kung University, Taiwan, R.O.C.*); *You Zhe Ho* (*National Taiwan University, Taiwan*); *Yung-Chiang Lan* (*National Cheng Kung University, Taiwan, R.O.C.*); *Din Ping Tsai* (*National Taiwan University, Taiwan, R.O.C.*);

16:40 Design of a Castle-like Shape Plasmonic Nanoantenna with Wavelengths Ranging from UV, Visible Light and IR Light
Yuan-Fong Chau (*Ching Yun University, Taiwan*);

17:00 Electromagnetic Field Confinement in Self-similar Chains of Magnetoplasmonic Core-shell Nanostructures
M. Essone Mezeme (*Université de Bretagne Occidentale, France*); *S. Lasquellec* (*Université de Bretagne Occidentale, France*); *Christian Brosseau* (*Université de Bretagne Occidentale, France*);

17:20 Plasmonic Roche Limit in Metal-Dielectric-Metal Structure
Ruei-Cheng Shiu (*National Cheng Kung University, Taiwan, R.O.C.*); *Yung-Chiang Lan* (*National Cheng Kung University, Taiwan, R.O.C.*);

Session 3P3a
Electromagnetic Inverse Problems in Medicine and Biology

Thursday PM, March 29, 2012

Room C

Organized by Doga Gürsoy

Chaired by Alexander V. Korjenevsky, Doga Gürsoy

13:20 Image Reconstruction in Electric Field Tomography (EFT)
Alexander V. Korjenevsky (*Kotel'nikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Russia*); *T. S. Tuykin* (*Kotel'nikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Russia*);

13:40 Overview of Electric Field Tomography Experiments in Russia
Vladimir Alekseevich Cherepenin (*Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia*); *Alexander V. Korjenevsky* (*Kotel'nikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Russia*); *T. S. Tuykin* (*Kotel'nikov Institute of Radioengineering and Electronics of Russian Academy of Sciences, Russia*);

14:00 Using Memristive Elements for Modeling Electrical Properties of Biological Tissue
Orjan G. Martinsen (*University of Oslo, Norway*); *Sverre Grimnes* (*University of Oslo, Norway*); *Carsten A. Lütken* (*University of Oslo, Norway*); *Gorm Krogh Johnsen* (*University of Oslo, Norway*);

14:20 Numerical Reconstruction of Perfectly Conducting Inclusions from One Electrostatic Boundary Measurement
Mirza Karamehmedovic (*University of Bremen, Germany*); *Kim Knudsen* (*Technical University of Denmark, Denmark*); *Thomas Wriedt* (*Institute of Materials Science, Germany*);

14:40 The Impact of Model Mismatch Errors on Magnetic Induction Tomography Inverse Problem
Doga Gürsoy (*Graz University of Technology, Austria*); *H. Scharfetter* (*Graz University of Technology, Austria*);

15:00 A Software Based Framework for Estimating Patient Displacement in Magnetic Induction Tomography
Mamatjan Yasin (*Carleton University, Canada*); *M. Ali Roula* (*University of Glamorgan, UK*); *Doga Gursoy* (*Graz University of Technology, Austria*); *Andy Adler* (*Carleton University, Canada*);

15:20 **Coffee Break**

Session 3P3b
Advanced Artificial Materials for Sensing and Imaging

Thursday PM, March 29, 2012

Room C

Organized by Baile Zhang, George Barbastathis

Chaired by Baile Zhang, George Barbastathis

15:40 Spatial-spectral Optical Imaging and Sensing
Yuan Luo (*National Taiwan University, Taiwan, R.O.C.*); *George Barbastathis* (*Massachusetts Institute of Technology, USA*);

16:00 Z-shaped LC Resonator for Producing Negative Permittivity
Abdallah Dhouibi (*University of Paris-Ouest, France*); *Shah Nawaz Burokur* (*University of Paris-Sud, France*); *Andre De Lustrac* (*Universite pairs-Sud, France*); *Alain C. Priou* (*Universite Paris West Nanterre la Défense, France*);

16:20 Smooth-interfaces-induced High Contrast Superlens Lithography
Hong Liu (*Agency for Science, Technology and Research (A*STAR), Singapore*); *B. Wang* (*Agency for Science, Technology and Research (A*STAR), Singapore*); *L. Ke* (*Agency for Science, Technology and Research (A*STAR), Singapore*); *J. Deng* (*Agency for Science, Technology and Research (A*STAR), Singapore*); *C. C. Chum* (*Agency for Science, Technology and Research (A*STAR), Singapore*); *L. Shen* (*Agency for Science, Technology and Research (A*STAR), Singapore*); *Stefan A. Maier* (*Imperial College London, UK*); *Jing Hua Teng* (*Agency for Science, Technology and Research (A*STAR), Singapore*);

16:40 Analytical Approach for Design of Thin-film Photonic Lüneburg Lens
Hanhong Gao (*Massachusetts Institute of Technology, USA*); *Baile Zhang* (*Nanyang Technological University, Singapore*); *Steven G. Johnson* (*Massachusetts Institute of Technology, USA*); *George Barbastathis* (*Massachusetts Institute of Technology, USA*);

17:00 Classical Imaging Theory of a Microlens with Superresolution
Baile Zhang (*Nanyang Technological University, Singapore*); *George Barbastathis* (*Massachusetts Institute of Technology, USA*);

Session 3P4
Antenna Arrays in Wireless Communications and Biomedical Applications

Thursday PM, March 29, 2012

Room D

Organized by Hon Tat Hui, Tat-Soon Yeo

Chaired by Hon Tat Hui, Tat-Soon Yeo

13:20 Effects of Loop Shape, Size and Filling Factor on RF Transmit Performance for a 7 T Multi-channel Loop Array
Mikhail Kozlov (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*); *Robert Turner* (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*);

13:40 Radiation Pattern Decoupling for Compact Transmitting Antenna Arrays
Choon Hock Niow (*National University of Singapore, Singapore*); *Hon Tat Hui* (*National University of Singapore, Singapore*);

14:00 Wideband Beamforming for Compact Receiving Antenna Arrays
Choon Hock Niow (*National University of Singapore, Singapore*); *Hon Tat Hui* (*National University of Singapore, Singapore*); *Tat-Soon Yeo* (*National University of Singapore, Singapore*);

14:20 A Simple Channel Simulator for Multiuser MIMO Broadcast Channel Systems
Chong Pei Ho (*National University of Singapore, Singapore*); *Hieu Duy Nguyen* (*National University of Singapore, Singapore*); *Xuan Wang* (*National University of Singapore, Singapore*); *Hon Tat Hui* (*National University of Singapore, Singapore*);

14:40 Influence of the Position of Decoupling Capacitors on RF Transmit Performance for a 7 T MRI Loop Array
Mikhail Kozlov (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*); *Robert Turner* (*Max Planck Institute for Human Cognitive and Brain Sciences, Germany*);

15:00 Side Lobe Level Reduction of Linear Antenna Arrays Using a Hybrid Approach Based on MoM/GA Algorithms
Amr Hussein Hussein (*Tanta University, Egypt*); *Haythem Hussein Abdullah* (*Electronics Research Institute (ERI), Egypt*); *Salah Khamis* (*Tanta University, Egypt*); *Ahmed Mohamed Attiya* (*King Saud University, Egypt*); *Mohamed ELsaed Nasr* (*Tanta University, Egypt*);

15:20 **Coffee Break**

15:40 Fixed Beamwidth Electronic Scanning Antenna Array Synthesis and Its Application to Multibeam Pattern Synthesis
Amr Hussein Hussein (*Tanta University, Egypt*); *Haythem Hussein Abdullah* (*Electronics Research Institute (ERI), Egypt*); *Mohamed ELsaed Nasr* (*Tanta University, Egypt*); *Salah Khamis* (*Tanta University, Egypt*); *Ahmed Mohamed Attiya* (*King Saud University, Egypt*);

16:00 Mutual Coupling Compensation for a Compact Array in Direction Finding
Yantao Yu (*Chongqing University, China*); *Choon Hock Niow* (*National University of Singapore, Singapore*); *Hon Tat Hui* (*National University of Singapore, Singapore*);

16:20 Effects of Microstrip Feed Line Width on $\mathbf{1 \times 4}$ Rectangular Microstrip Antenna Array Electrical Parameters and Estimation with Artificial Neural Networks
Ozgur Dündar (*Selcuk University, Turkey*); *Dilek Uzer* (*Selcuk University, Turkey*); *S. Sinan Gultekin* (*Selcuk University, Turkey*); *Mehmet Bayrak* (*Mevlana University, Turkey*);

16:40 Fractal Inspired Patch Antenna on Metamaterial
S. Suganthi (*Shri Angalamman College of Engineering and Technology, India*); *S. Raghavan* (*National Institute of Technology, India*); *D. Kumar* (*Periyar Maniammai University, India*);

17:00 CPW-fed Slot Patch Antenna for 5.2/5.8 GHz WLAN Application
Vepuri Niranjan (*Indian Institute of Technology, India*); *Alok Kumar Saxena* (*Indian Institute of Technology, India*); *Kumar Vaibhav Srivastava* (*Indian Institute of Technology, India*);

17:20 E-shaped Reflectarray Antenna with Radar Cross Section Reduction
Noor Hafizah Binti Sulaiman (*University of Tun Hussein Onn Malaysia, Malaysia*); *Muhammad Yusof Ismail* (*University of Tun Hussein Onn Malaysia, Malaysia*);

17:40 Analytical Model of Progressive Phase Distribution of Reflectarray Antenna
Muhammad Inam Abbasi (*University of Tun Hussein Onn Malaysia, Malaysia*); *Muhammad Yusof Ismail* (*University of Tun Hussein Onn Malaysia, Malaysia*);

Session 3P5
Computational Electromagnetics, Spectra, Time, and Frequency Domain Techniques

Thursday PM, March 29, 2012

Room E

Chaired by Hung-Wen Chang, Lars D. Ludeking

13:20 MAGIC3D EM-PIC Code Implicit Particle Pusher Description and Test
Andrew J. Woods (*Alliant Techsystems (ATK), USA*); *Lars D. Ludeking* (*Alliant Techsystems (ATK), USA*);

13:40 An Efficient Method for Computing Highly Oscillatory Physical Optics Integral
Yumao Wu (*The University of Hong Kong, China*); *Lijun Jiang* (*University of Hong Kong, China*); *Weng Cho Chew* (*University of Illinois, USA*);

14:00 Method of Moments Analysis for Antenna Arrays with Optimum Memory and Time Consumption
Kamel Salah Sultan (*Electronics Research Institute, Egypt*); *Haythem Hussein Abdullah* (*Electronics Research Institute (ERI), Egypt*); *Esmat Abdel-Fattah Abdallah* (*Electronics Research Institute, Egypt*);

14:20 Development of a Symplectic Scheme with Optimized Numerical Dispersion-relation Equation to Solve the Maxwell's Equations in Dispersive Media
Tony W. H. Sheu (*National Taiwan University, Taiwan*); *R. Y. Chung* (*National Taiwan University, Taiwan*); *Jia-Han Li* (*National Taiwan University, Taiwan*);

14:40 Eigenproblem Approach for Analysis of Microwave Filters Using Finite Element Method
Adam Lamecki (*Gdansk University of Technology, Poland*); *M. Rewienski* (*Gdansk University of Technology, Poland*); *Michal Piotr Mrozowski* (*Technical University of Gdansk, Poland*);

15:00 Frequency Sensitivity of Lossless Planar Devices by FEM
Ali Kiaee (*Amirkabir University of Technology, Iran*); *R. Sarraf Shirazi* (*Amirkabir University of Technology, Iran*); *S. R. Hosseini* (*Amirkabir University of Technology, Iran*);

15:20 **Coffee Break**

15:40 Analysis of Waveguide with Arbitrarily Shaped Cross-section and Its Application to Circular Polarizer
Masahumi Tanigawa (*Ritsumeikan University, Japan*); *Yusuke Urano* (*Ritsumeikan University, Japan*); *Kikuo Wakino* (*Ritsumeikan University, Japan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*); *Suguru Imai* (*Kitami Institute of Technology, Japan*); *Kenji Taguchi* (*Kitami Institute of Technology, Japan*); *Tatsuya Kashiwa* (*Kitami Institute of Technology, Japan*); *Masahiro Suzuki* (*Japan Atomic Energy Agency, Japan*); *Kanichi Fujii* (*Japan Atomic Energy Agency, Japan*);

16:00 Determination of Complex Permittivity of Materials with High or Low Losses
Ryo Yokoyama (*Ritsumeikan University, Japan*); *Y. Konishi* (*Ritsumeikan University, Japan*); *Kikuo Wakino* (*Ritsumeikan University, Japan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*);

16:20 Classification of Multi-rate CDMA Signals Using Compressed Cyclostationary Features
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*);

16:40 Solving the Electric Field Integral Equation Using Markov Chain Monte Carlo Method
Mrinal Mishra (*Birla Institute of Technology, India*);

17:00 3D LFE-27 Formulae for the Method of Connected Local Fields
Hung-Wen Chang (*National Sun Yat-Sen University, Taiwan*); *Sin-Yuan Mu* (*National Sun Yat-Sen University, Taiwan*);

17:20 Implementation of Second-order Accurate Engquist-Majdat Absorbing Boundary Condition for the Helmholtz Equation
Hung-Wen Chang (*National Sun Yat-Sen University, Taiwan*); *Chun-Yu Lian* (*National Sun Yat-Sen University, Taiwan*);

17:40 New Numerical Method for Solving Maxwell Equations with Strong Singularity
Victor A. Rukavishnikov (*Computing Center of Far-Eastern Branch, Russian Academy of Sciences, Russia*); *A. O. Mosolapov* (*Computing Center of Far-Eastern Branch, Russian Academy of Sciences, Russia*);

18:00 Design of Rectangular Cavity by Extended Spectral Domain Approach
Mohamad Shaiful Bin Abdul Karim (*Ritsumeikan University, Japan*); *Toshihide Kitazawa* (*Ritsumeikan University, Japan*); *Kikuo Wakino* (*Ritsumeikan University, Japan*); *Hsin Hsiang Su* (*National Sun Yat-Sen University, Taiwan*); *Chih-Wen Kuo* (*National Sun Yat-Sen University, Taiwan*);

Session 3P6
Microwave and Millimeter Wave Circuits and Devices, CAD

Thursday PM, March 29, 2012

Room F

Organized by Homayoon Oraizi

Chaired by Homayoon Oraizi

13:20 Characteristic Impedance of a Defected Microstrip Line Structure
Jongsik Lim (*Soonchunhyang University, Republic of Korea*); *Yuckhwan Jeon* (*Soonchunhyang University, Republic of Korea*); *Kyunghoon Kwon* (*Soonchunhyang University, Republic of Korea*); *Jaehoon Lee* (*Soonchunhyang University, Republic of Korea*); *Yongchae Jeong* (*Chonbuk National University, South Korea*); *Sang-Min Han* (*Soonchunhyang University, Korea*); *Dal Ahn* (*Soonchunhyang University, Korea*);

13:40 Efficiency Enhancement by Harmonic Phase Tuning in Class-F Amplifiers
Ken Hiraga (*Hokkaido University, Japan*); *Toshio Nojima* (*Hokkaido University, Japan*);

14:00 Compact Microstrip Bandstop Filter with Controllable Triple Stopband Response
Shry-Sann Liao (*Feng-Chia University, Taiwan, R.O.C.*); *Shih-Yi Yuan* (*Feng-Chia University, Taiwan*); *Yu-Lun Wu* (*Feng-Chia University, Taiwan, R.O.C.*); *Ting-Yao Huang* (*Feng-Chia University, Taiwan, R.O.C.*);

14:20 The Design of 40 GHz Active Power Splitter
Ching-Ying Huang (*School of Electrical Engineering, National Chiao Tung University, Taiwan*); *Dow-Chih Niu* (*Chun Shan Institute of Science and Technology, Taiwan*); *Robert Hu* (*National Chiao Tung University, Taiwan, R.O.C.*); *Christina F. Jou* (*National Chiao-Tung University, Taiwan*);

14:40 Dielectric Measurement Using a Planar Ring Sensor for Low-loss Powder Form Materials
Kok Yeow You (*University Teknologi Malaysia, Malaysia*); *Hou Kit Mun* (*University Teknologi Malaysia, Malaysia*);

15:00 Linearized 2.4 GHz Power Amplifier
Bilge Turkel (*Süleyman Demirel University, Turkey*); *Mehmet Fatih Caglar* (*Süleyman Demirel University, Turkey*);

15:20 **Coffee Break**

15:40 Sequential Tuning of Waveguide PIN Diode Limiters
Tomasz Kacmajor (*Telemobile Electronics Ltd., Poland*); *Jerzy Julian Michalski* (*Telemobile Electronics Ltd., Poland*); *Mateusz Mazur* (*Telecommunication Research Institute, Poland*);

16:00 Dynamics of a System of Bilaterally Coupled Chaotic Gunn Oscillators
Bishnu Charan Sarkar (*Burdwan University, India*); *D. Ghosh* (*Burdwan University, India*); *C. Koley* (*Burdwan University, India*); *A. Guin* (*Burdwan University, India*); *S. Sarkar* (*Burdwan Raj College, India*);

16:20 Application of PSO Algorithm for Optimizing the Dimensions of Tunable Interdigitated Capacitor
G. Lakshmi Narayana Rao (*University of Hyderabad, India*); *Sravan Kumar* (*University of Hyderabad, India*); *Samrat L. Sabat* (*University of Hyderabad, India*); *Kanakkappillavila Chinnayya James Raju* (*University of Hyderabad, India*);

16:40 A Novel Passive Dual-band Bandpass Microwave Filter Using Microstrip Loop Resonators
Sholeh Jahani Maleki (*Islamic Azad University (IAU), Science and Research Branch, Iran*); *Samaneh Sadi* (*Islamic Azad University (IAU), South Tehran Branch, Iran*); *Kambiz Sadat Najafi* (*Islamic Azad University (IAU), Iran*); *Massoud Dousti* (*Islamic Azad University (IAU), Science and Research Branch, Iran*);

17:00 A Miniaturized Dual-narrowband Bandpass Filter Using Microstrip Open-loop and Complementary Split Ring Resonators (CSRRs) for Personal Communication Systems (PCS's)
Samaneh Sadi (*Islamic Azad University (IAU), South Tehran Branch, Iran*); *Massoud Dousti* (*Islamic Azad University (IAU), Science and Research Branch, Iran*); *Alishir Moradikordalivand* (*Arak Islamic Azad University, Iran*);

17:20 A Novel Miniaturized Narrow Band Bandpass Filter Utilizing Microstrip Open-loop Ring Resonators for Narrow-band Applications
Massoud Dousti (*Islamic Azad University (IAU), Science and Research Branch, Iran*); *Parisa Taheri* (*Islamic Azad University (IAU), South Tehran Branch, Iran*); *Samaneh Sadi* (*Islamic Azad University (IAU), South Tehran Branch, Iran*); *Majid Zamani* (*Islamic Azad University (IAU), Science and Research Branch, Iran*);

Session 3P7
RF and Wireless Communication, Multipath

Thursday PM, March 29, 2012

Room G

Organized by Uche A. Kennedy Chude-Okonkwo

Chaired by Aziz Benlarbi-Delai, Ibrahim M. Elshafiey

13:20 A New Wavelet Space Time Coding Technique Designed for UWB MISO Systems
Said Esmail El-Khamy (*Alexandria University, Egypt*); *Ehab Farouk Badran* (*College of Engineering and Technology, Arab Academy for Science and Technology, Egypt*); *Amira Ibrahim Zaki* (*Arab Academy for Science and Technology, Egypt*);

13:40 Linear Regression Route Roughness Parameter to Correct Hata Path Loss Prediction Formula for 1800 MHz
Mahdi A. Nisirat (*Universiti Kebangsaan Malaysia, Malaysia*); *Mahamod Ismail* (*Universiti Kebangsaan Malaysia, Malaysia*); *Liyth Nissirat* (*Universiti Kebangsaan Malaysia, Malaysia*); *Salim Alkhawaldeh* (*Al-Balqa' Applied University, Jordan*);

14:00 Performance Analysis of a Simple Coordinated and Distributed MIMO Network
Gerard George Borg (*The Australian National University, Australia*); *Asaduzzaman Khandaker* (*The Australian National University, Australia*);

14:20 Impact of Wireless Channel Modeling on SAR Estimation in Indoor Environment
Ourouk Jawad (*Université Libre de Bruxelles (ULB), Belgium*); *David Lautru* (*UPMC University Paris 06, France*); *Jean Michel Dricot* (*Université Libre de Bruxelles (ULB), Belgium*); *Francois Horlin* (*Université Libre de Bruxelles (ULB), Belgium*); *Philippe De Doncker* (*Université Libre de Bruxelles (ULB), Belgium*);

14:40 Analytical and Experimental Study of Spatial Focusing by UWB Time-Reversal in Indoor Environment
Theodoros Mavridis (*Université Libre de Bruxelles, Belgium*); *Francois Bellens* (*Université Libre de Bruxelles, Belgium*); *Francois Quitin* (*Université Libre de Bruxelles, Belgium*); *Aziz Benlarbi-Delai* (*University Paris 06, France*); *Philippe De Doncker* (*Université Libre de Bruxelles (ULB), Belgium*);

15:00 Characterization of the Polarization of Received Electromagnetic Waves in Indoor Communication Channels
Ali Panahandeh (*Université Libre de Bruxelles (ULB), Belgium*); *Francois Quitin* (*Université Libre de Bruxelles, Belgium*); *Jean Michel Dricot* (*Université Libre de Bruxelles (ULB), Belgium*); *Francois Horlin* (*Université Libre de Bruxelles (ULB), Belgium*); *Claude Oestges* (*Université Catholique de Louvain (UCL), Belgium*); *Philippe De Doncker* (*Université Libre de Bruxelles (ULB), Belgium*);

15:20 **Coffee Break**

15:40 Genetic Algorithm Optimization Tool for Multi-user Detection of SDMA-OFDM Systems
M. A. Alansi (*King Saud University, Saudi Arabia*); *Ibrahim M. Elshafiey* (*King Saud University, Saudi Arabia*); *A. M. Al-Sanie* (*King Saud University, Saudi Arabia*);

16:00 Methods for the Assessment of the Performance of Short-range Multi-hop Wireless Network Communications
Michael Collett (*National Physical Laboratory, United Kingdom*); *Tian Hong Loh* (*National Physical Laboratory, United Kingdom*);

16:20 A Rigorous Measurement Technique for Radiation Pattern Characterisation of Embedded Wireless Communication Systems
Tian Hong Loh (*National Physical Laboratory, United Kingdom*); *Michael A. Collett* (*National Physical Laboratory, United Kingdom*);

16:40 Characterization of Indoor 30 GHz Bandwidth Multipath Channel Propagation
Wan Nurdiana Wan Ibrahim (*The University of Duisburg-Essen, Germany*); *Mohamed El-Hadidy* (*The University of Duisburg-Essen, Germany*); *Thomas Kaiser* (*The University of Duisburg-Essen, Germany*);

17:00 RFID and Bluetooth Technology for Tagging and Transmission of Data to POS (Point of Sale)
R. Mardeni (*Multimedia University, Malaysia*); *Teik Wei Lee* (*Multimedia University, Malaysia*);

17:20 LTE-FDD and LTE-TDD for Cellular Communications
Aws Zuheer Yonis (*University of Tun Hussein Onn Malaysia, Malaysia*); *M. F. L. Abdullah* (*University of Tun Hussein Onn Malaysia, Malaysia*); *M. F. Ghanim* (*University of Mosul, Iraq*);

17:40 A RFID Reader Suppressive Interferences Due to Multipath
Sarun Duangsuwan (*King Mongkut's Institute of Technology Ladkrabang, Thailand*); *Sathaporn Promwong* (*King Mongkut's Institute of Technology Ladkrabang, Thailand*);

18:00 Measurement and Parameter Description of Time-varying Ultra-wideband Infostation Channel
Uche A. Kennedy Chude-Okonkwo (*Universiti Teknologi Malaysia, Malaysia*); *Razali Ngah* (*Universiti Teknologi Malaysia, Malaysia*); *Yasser K. Zahedi* (*Universiti Teknologi Malaysia, Malaysia*); *S. M. Zaid* (*Universiti Teknologi Malaysia, Malaysia*); *Tharek Bin Abdul Rahman* (*University Technology Malaysia (UTM), Malaysia*);

Session 3P8
Poster Session 5

Thursday PM, March 29, 2012
14:00 PM - 17:00 PM
Room K

1 Small Loop-type Mobile Antenna with Less Interference of Nearby Conductors for Wi-Fi Application
Hyunmin Jang (*Hanyang University, Korea*); *Yang Liu* (*Hanyang University, South Korea*); *Jongin Ryu* (*Hanyang University, Korea*); *Hyeongdong Kim* (*Hanyang University, Korea*);

2 Analysis of Cable Effects in Portable Antennas
Xinxin Lu (*Hanyang University, Korea*); *Yang Liu* (*Hanyang University, South Korea*); *Hyeongdong Kim* (*Hanyang University, Korea*);

3 Size Reduction of Patch Antenna Array Using CSRRs Loaded Ground Plane
Hyun-Ah Jang (*Kyungpook National University, South Korea*); *Dang-Oh Kim* (*Kyungpook National University, South Korea*); *Che-Young Kim* (*Kyungpook National University, South Korea*);

4 Design of Internal Multi-band Mobile Antenna for LTE700/WCDMA/UMTS/WiMAX/WLAN Operation
Dae-Geun Yang (*Kyungpook National University, South Korea*); *Dang-Oh Kim* (*Kyungpook National University, South Korea*); *Che-Young Kim* (*Kyungpook National University, South Korea*);

5 Planar UWB Antenna with WLAN/WiMAX Dual Band-notched Characteristics Using the Hilbert-curve Slots
Dang-Oh Kim (*Kyungpook National University, South Korea*); *Che-Young Kim* (*Kyungpook National University, South Korea*);

6 Reconfigurable Omnidirectional Loop Antenna with Left-handed Loading for RFID Applications
E. Serrano (*Universidad de Castilla-La Mancha, Spain*); *Elena Diaz* (*Universidad Politécnica de Valencia, Spain*); *Angel Belenguer* (*Universidad de Castilla-La Mancha, Spain*); *Joaquin Cascon Lopez* (*Universidad de Castilla-La Mancha, Spain*); *H. Hesteban* (*Universidad Politécnica de Valencia, Spain*); *Alejandro Lucas Borja* (*Universidad de Castilla-La Mancha, Spain*);

7 Millimeter-wave Design of Broadband Active Integrated Microstrip Patch Antenna
Mohammad Mahdi Honari (*Amirkabir University of Technology, Iran*); *Abdolali Abdipour* (*Amirkabir University of Technology, Iran*); *Gholamreza Moradi* (*Amirkabir University of Technology, Iran*);

8 Phase Only Optimization for Omni-directional Radiation Pattern with Constrained Amplitude
Lili Xu (*Zhejiang University, China*); *Qingqing Song* (*Zhejiang University, China*); *Jianhua Shen* (*Zhejiang University, China*); *Jiangtao Huangfu* (*Zhejiang University, China*); *Li-Xin Ran* (*Zhejiang University, China*);

9 A Dual Bevel Compact Planar Monopole Antenna for UHF Application
Muzammil Jusoh (*University of Malaysia Perlis, Malaysia*); *Mohd Faizal Jamlos* (*University Technology Malaysia (UTM), Malaysia*); *Muhammad Ramlee Bin Kamarudin* (*Universiti Teknologi Malaysia, Malaysia*); *Z. A. Ahmad* (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *M. A. Romli* (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Naseer Sabri* (*Universiti Malaysia Perlis (UniMAP), Malaysia*);

10 A UWB MIMO Spatial Design Effect on Radiation Pattern
Muzammil Jusoh (*University of Malaysia Perlis, Malaysia*); *Mohd Faizal Jamlos* (*University Technology Malaysia (UTM), Malaysia*); *Muhammad Ramlee Bin Kamarudin* (*Universiti Teknologi Malaysia, Malaysia*); *Z. A. Ahmad* (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *M. A. Romli* (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *S. H. Ronald* (*Universiti Malaysia Perlis (UniMAP), Malaysia*);

11 Modal Study of a Via-hole in a Planar Circuit
Sameh Toumi (*Engineers' National School of Tunis, Tunisia*); *Fethi Mejri* (*Ecole Nationale d'Ingenieurs de Tunis, Tunisia*); *Taoufik Aguili* (*National Engineering School of Tunis, Tunisia*);

12 Harmonic Rejection Triangle Patch Antenna
Mohammad S. Bin-Melha (*University of Bradford, UK*); *Raed A. Abd-Alhameed* (*University of Bradford, UK*); *Chan H. See* (*University of Bradford, UK*); *Muhammad Usman* (*University of Hail, Kingdom of Saudi Arabia*); *I. T. E. Elfergani* (*University of Bradford, UK*); *J. M. Noras* (*University of Bradford, UK*);

13 A New Fractal Based Printed Slot Antenna for Dual Band Wireless Communication Applications
Jawad K. Ali (*University of Technology, Iraq*); *Emad S. Ahmed* (*University of Technology, Iraq*);

14 Performance Evaluation of Three Rectangular Patch Element Array Antenna Conformed on Small Radius Cylindrical Surface
Emad S. Ahmed (*University of Technology, Iraq*); *Jawad K. Ali* (*University of Technology, Iraq*);

15 A New Fractal Based PIFA Antenna Design for MIMO Dual Band WLAN Applications
Ali J. Salim (*University of Technology, Iraq*); *Raad S. Fyath* (*University of Al-Nahrain, Iraq*); *Adil H. Ahmad* (*University of Technology, Iraq*); *Jawad K. Ali* (*University of Technology, Iraq*);

16 A New Compact Ultra Wideband Printed Monopole Antenna with Reduced Ground Plane and Band Notch Characterization
Jawad K. Ali (*University of Technology, Iraq*); *Mahmood T. Yassen* (*University of Technology, Iraq*); *Mohammed R. Hussan* (*University of Technology, Iraq*); *Mohammed F. Hasan* (*University of Technology, Iraq*);

17 Experimental Studying the Nonlinearity Effects on Adaptive Nulling
Cheng-Nan Hu (*Oriental Institute of Technology, Taiwan, R.O.C.*); *Jing-Wei Huang* (*Oriental Institute of Technology, Taiwan, R.O.C.*); *Kevin Peng* (*Oriental Institute of Technology, Taiwan, R.O.C.*);

18 Circular Switched Parasitic Patch Antenna Array for Unmanned Aerial Vehicle
Mohd Hafizuddin Mat (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Mohd Fareq bin Abd Malek* (*University Malaysia Perlis (UniMAP), Malaysia*); *Muzammil Jusoh* (*University of Malaysia Perlis, Malaysia*);

19 Wideband Circularly Polarized Antenna Using Two Linked Loops
The-Nan Chang (*Tatung University, Taiwan*);

20 A Broadband Dipole Antenna for DTV and GSM850/900 Applications
I-Tseng Tang (*National University of Tainan, Taiwan*); *Ding-Bing Lin* (*National Taipei University of Technology, Taiwan, R.O.C.*); *Simon C. Li* (*National University of Tainan, Taiwan*); *Wen-Fan Chang* (*National University of Tainan, Taiwan*); *Kuan-Ting Lin* (*National Taiwan University, Taiwan, R.O.C.*);

21 A Planar Monopole Antenna for DTV/GSM850/900 Applications
I-Tseng Tang (*National University of Tainan, Taiwan*); *Ding-Bing Lin* (*National Taipei University of Technology, Taiwan, R.O.C.*); *Chi-Min Li* (*Nation Taiwan Ocean University, Taiwan*); *Sin-Siang Wang* (*National University of Tainan, Taiwan*); *Tony Su* (*National University of Tainan, Taiwan*);

22 The Antenna Feed Structure with the Wide Impedance Bandwidth
Sinhyung Jeon (*Hanyang University, Korea*); *Yang Liu* (*Hanyang University, Korea*); *Jaeseok Lee* (*Hanyang University, Korea*); *Hyunmin Jang* (*Hanyang University, Korea*); *Hyeongdong Kim* (*Hanyang University, Korea*);

23 A New CPW-Fed C-slot Based Printed Antenna for Dual Band WLAN Applications
Jawad K. Ali (*University of Technology, Iraq*); *Ali J. Salim* (*University of Technology, Iraq*); *Zaid A. Abed AL-Hussain* (*Al-Mustansiriya University, Iraq*); *Hussam Alsaedi* (*University of Technology, Iraq*);

24 Analysis and Simulation of Electric Field Intensity from a Half-wave Dipole Antenna in Open Area Test Site
Ignatius Agung Wibowo (*Universiti Tun Hussein Onn Malaysia, Malaysia*); *Mohammad Zarar Mohamed Jenu* (*Kolej Universiti Teknologi Tun Hussein Onn, Malaysia*); *Alireza Kazemipour* (*Universiti Tun Hussein Onn Malaysia, Malaysia*);

25 Impact of Spacing and Number of Elements on Array Factor
Siti Fazlina Binti Maharimi (*Universiti Malaysia Perlis, Malaysia*); *Mohd Fareq Bin Abdul Malek* (*University Malaysia Perlis (UniMAP), Malaysia*); *Mohd Faizal Jamlos* (*Universiti Malaysia Perlis (UniMAP), Malaysia*); *Siew Chin Neoh* (*University Malaysia Perlis, Malaysia*); *Muzammil Jusoh* (*University of Malaysia Perlis, Malaysia*);

26 Analysis of Multi Turn 4-Arm Archimedean Spiral Antenna with Varying Spacing between Arms
Ashutosh Baheti (*The LNM Institute of Information Technology, India*); *Ali M. Mehrabani* (*The University of Manitoba, Canada*); *Lotfollah Shafai* (*University of Manitoba, Canada*);

27 Reconfigurable Low-profile H-shaped Microstrip Antenna
Abdel-Fattah A. Sheta (*King Saud University, Saudi Arabia*); *Wazie M. A. Abdulkawi* (*King Saud University, Saudi Arabia*); *Majeed A. S. Alkanhal* (*King Saud University, Saudi Arabia*);

28 A Reconfigurable Antenna for Quad-band Mobile Handset Applications
Y. K. Park (*Kyonggi University, Republic Korea*); *Youngje Sung* (*Kyonggi University, Republic Korea*);

29 Compatibility between Cognitive Radio and the Terrestrial Digital Broadcasting Services in the Digital Dividend Band
Walid A. Hassan (*University Technology Malaysia (UTM, Malaysia*); *Tharek Bin Abdul Rahman* (*University Technology Malaysia (UTM), Malaysia*);

30 The Digital Dividend Spectrum in Asia
Walid A. Hassan (*University Technology Malaysia (UTM), Malaysia*); *Amuda Yusuf Abdulrahman* (*University Technology Malaysia (UTM), Malaysia*); *Tharek Bin Abdul Rahman* (*University Technology Malaysia (UTM), Malaysia*);

31 Analytical Unit Pulse Propagation in an Active Single Resonance Lorentzian Medium
Ali Abdolali (*Iran University of Science and Technology, Iran*); *Maziar Hedayati* (*Iran University of Science and Technology, Iran*); *Shahram Hedayati* (*Iran University of Science and Technology, Iran*);

32 System Power Integrity Impact by Package Power/Ground Balls Assignment
Cheng-Hsun Lin (*National Kaohsiung University of Applied Sciences, Taiwan*); *Hung-Yu Wang* (*National Kaohsiung University of Applied Sciences, Taiwan*); *Chen-Chao Wang* (*Advanced Semiconductor Engineering, Inc., Taiwan*);

33 Metasurfaces for Ultracompact Base Stations
Xing Liu (*University of Paris-Sud, France*); *Shah nawaz Burokur* (*University of Paris-Sud, France*); *Andre De Lustrac* (*Universite pairs-Sud, France*); *G. Sabanowski* (*EADS IW, France*); *Gerard Pascal Piau* (*EADS IW, France*);

34 Applicational Effects of an Atmospheric Pressure Plasma Device
Zhuwen Zhou (*Guizhou Educational College, China*); *Yan-Fen Huang* (*Guizhou Normal College, China*); *Si-Ze Yang* (*Institute of Physics, Chinese Academy of Sciences, China*); *De-Yong Xiong* (*Guizhou Normal College, China*);

35 Design Curves of Microstrip Ring Resonator
Nafaa M. Shebani (*Office of Education Services, Libya*); *Amal E. Mohammed* (*Nasser International University, Libya*); *Bashir Moh. Khamoudi* (*R&D Center, Libya*);

Session 4A1
Fiber Optics, Optical Sensors

Friday AM, March 30, 2012

Room A

Chaired by Dmitry Agafontsev, Faidz Abd-Rahman

08:20 Terahertz Emission by Atom in Multicolor Laser Field in Ionization-free Regime
A. V. Andreev (*M.V. Lomonosov Moscow State University, Russia*); *Sergey Yurievich Stremoukhov* (*M.V. Lomonosov Moscow State University, Russia*); *O. A. Shoutova* (*M.V. Lomonosov Moscow State University, Russia*);

08:40 Mode Field Diameters of Microstructured Optical Fibers: Estimation Using an Analytical Field Model
Dinesh Kumar Sharma (*Indian Institute of Technology Delhi, India*); *Anurag Sharma* (*Indian Institute of Technology Delhi, India*);

09:00 Analysis of the Confinement Loss in Kagome Fibers
Luca Vincetti (*University of Modena and Reggio Emilia, Italy*); *V. Setti* (*University of Modena and Reggio Emilia, Italy*); *Maurizio Zoboli* (*University of Modena and Reggio Emilia, Italy*);

09:20 Simultaneous Measurement of Stress, Temperature and Refractive Index Using an PMFBG Cascaded with an LPG
Jiang-Chiou Mau (*Feng-Chia University, Taiwan, R.O.C.*); *Pei-Ping Wu* (*Feng-Chia University, Taiwan, R.O.C.*); *Ming-Yue Fu* (*Air Force Academy, Taiwan, R.O.C.*); *Wen-Fung Liu* (*Feng Chia University, Taiwan*);

09:40 QoS-based Genetic Expression Programming Prediction Scheme in the EPONs
I-Shyan Hwang (*Yuan-Ze University, Taiwan*); *Jhong-Yue Lee* (*Yuan-Ze University, Taiwan*); *Andrew Tanny Liem* (*Yuan-Ze University, Taiwan*);

10:00 Performance and Confidentiality Comparison of Different Hybrid SAC/OCDMA-WDM Overlay Schemes
Isaac A. M. Ashoura (*Universiti Kebangsaan Malaysia, Malaysia*); *Sahbudin Shaari* (*Universiti Kebangsaan Malaysia, Malaysia*); *Hossam M. H. Shalaby* (*Egypt-Japan University of Science and Technology (E-JUST), Egypt*); *P. Susthitha Menon* (*Universiti Kebangsaan Malaysia, Malaysia*);

10:20 **Coffee Break**

10:40 Birefringence in Elliptical Tube Fibers
Luca Vincetti (*University of Modena and Reggio Emilia, Italy*); *V. Setti* (*University of Modena and Reggio Emilia, Italy*); *Maurizio Zoboli* (*University of Modena and Reggio Emilia, Italy*);

11:00 2D Fiberoptic Metal Profile Detector
Wei-Shu Hua (*National Taiwan University, Taiwan*); *Joshua Hooks* (*University of Washington, USA*); *Nicholas Erwin* (*University of Washington, USA*); *Wen-Jong Wu* (*National Taiwan University, Taiwan*); *Feng-Ju Hsieh* (*University of Washington, USA*); *Wei-Chih Wang* (*University of Washington, USA*);

11:20 Gain Flattening in Erbium Doped Fiber Amplifiers by Use of a Coaxial Fiber
Jyoti Anand (*University of Delhi, India*); *Jagneet Kaur Anand* (*University of Delhi, India*); *Enakshi K. Sharma* (*University of Delhi South Campus, India*);

11:40 Rogue Waves Statistics in the Framework of One-dimensional Generalized Nonlinear Schrodinger Equation
Dmitry Agafontsev (*Lebedev Institute of Physics, Russia*); *V. Zakharov* (*University of Arizona, USA*);

12:00 A Proposed Method for Sensitivity Analysis of Log-periodic Dipole Antenna Array-type Optical Electric Field Sensor
Shingo Tsujino (*Aoyama Gakuin University, Japan*); *Hideaki Sugama* (*Kanagawa Industrial Technology Center, Japan*); *Akihisa Tsuchiya* (*Kanagawa Industrial Technology Center, Japan*); *Kazuya Miyamoto* (*Aoyama Gakuin University, Japan*); *Naomi Hidaka* (*Kanagawa Industrial Technology Center, Japan*); *Osamu Hashimoto* (*Aoyama Gakuin University, Japan*);

Session 4A2
Fano Effect in Nanophotonics: Fundamentals and Applications

Friday AM, March 30, 2012

Room B

Organized by Andrey E. Miroshnichenko, Boris Luk'yanchuk

Chaired by Andrey E. Miroshnichenko

08:40 Nanoparticle Arrays with Narrow Fano-type Resonances and Their Application to Plasmonic Sensing
Arseniy I. Kuznetsov (*Laser Zentrum Hannover eV, Germany*); *Andrey B. Evlyukhin* (*Laser Zentrum Hannover e.V., Germany*); *Carsten Reinhardt* (*Laser Zentrum Hannover eV, Germany*); *Manuel R. Gonçalves* (*Ulm University, Germany*); *Othmar Marti* (*Ulm University, Germany*); *Guillaume Vienne* (*Data Storage Institute, Singapore*); *Boris Luk'yanchuk* (*Data Storage Institute, Singapore*); *Boris N. Chichkov* (*Laser Zentrum Hannover e.V., Germany*);

09:00 Fano Resonance Tunable Plasmonic-photonic Nanoantennas
Ivan S. Maksymov (*Australian National University, Australia*); *Andrey E. Miroshnichenko* (*Australian National University, Australia*);

09:20 Enhancement of the Nonlinear Response in Mach-Zehnder-Fano Interferometer
Yi Xu (*Australian National University, Australia*); *Andrey E. Miroshnichenko* (*Australian National University, Australia*);

09:40 Design and Tuning of Fano-shape Resonances in Planar Symmetric Coupled Oligomers
Mohsen Rahmani (*Data Storage Institute, (A*STAR) Agency for Science, Technology and Research, Singapore*); *Boris Luk'yanchuk* (*Data Storage Institute, (A*STAR) Agency for Science, Technology and Research, Singapore*); *Yun Fook Thomas Liew* (*Data Storage Institute, (A*STAR) Agency for Science, Technology and Research, Singapore*); *Minghui Hong* (*National University of Singapore, Singapore*);

10:00 Fano Resonances in Complex Plasmonic Nanostructures for Novel Sensors
Harald W. Giessen (*University of Stuttgart, Germany*); *Na Liu* (*Rice University, USA*); *Mario Hentschel* (*University of Stuttgart, Germany*); *Andreas Tittl* (*University of Stuttgart, Germany*); *Ralf Ameling* (*University of Stuttgart, Germany*); *Nikolai Strohfeldt* (*University of Stuttgart, Germany*); *Martin Mesch* (*Universitat Stuttgart, Germany*); *Jun Zhao* (*University of Stuttgart, Germany*); *Thomas Weiss* (*University of Stuttgart, Germany*); *Carsten Sönnichsen* (*University of Mainz, Germany*);

10:20 **Coffee Break**

10:40 Optical Fano Vortex
Yi Xu (*Australian National University, Australia*); *Anton S. Desyatnikov* (*The Australian National University, Australia*); *Andrey E. Miroshnichenko* (*Australian National University, Australia*);

11:00 ***ab*** Initio Electromagnetic Theory of Fano Resonances in Plasmonic Nanostructures
Benjamin Gallinet (*Ecole Polytech Fed Lausanne, Switzerland*); *Olivier J. F. Martin* (*Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland*);

11:20 Fano Resonances in Disordered Systems at Bragg Wavelengths
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*);

11:40 Investigation of Fano Resonance Induced by Higher-order Plasmon Modes on a Gold Disk with an Elongated Cavity
Muhammad Amin (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Techonology (KAUST), Saudi Arabia*);

12:00 Classical Analog of Electromagnetically Induced Absorption in Plasmonics
Harald W. Giessen (*University of Stuttgart, Germany*); *Richard Taubert* (*University of Stuttgart, Germany*); *Mario Hentschel* (*University of Stuttgart, Germany*); *Jürgen Kästel* (*Institute of Technical Physics, Germany*);

Session 4A3a
Imaging and Detection, Inverse Problem

Friday AM, March 30, 2012

Room C

Chaired by Dong Feng He

08:20 Design of Undersampled Digitally Heterodyned SFGPR with Variable Sampling Frequency
Doroteo Adirosi (*Thales Alenia Space Italia, Italy*); *Giovanni Alberti* (*Consortium for Research on Advanced Remote Sensing Systems — CO.RI.S.T.A., Italy*); *Giovanni Galiero* (*Consortium for Research on Advanced Remote Sensing Systems — CO.RI.S.T.A., Italy*);

08:40 Investigation on Passive Multi-channel Millimeter Wave Images for Concealed Object Detection
Seokwon Yeom (*Daegu University, South Korea*); *Dongsu Lee* (*Daegu University, Korea*);

09:00 Automatic Non-destructive Imagingsystem for Spot Welding Using a Magnetic Flux Leakage Method
Kenji Sakai (*Okayama University, Japan*); *Kosuke Miyake* (*Okayama University, Japan*); *Toshihiko Kiwa* (*Okayama University, Japan*); *Yoshinobu Hirano* (*Ohashi Engineering Co.Ltd, Japan*); *Keiji Tsukada* (*Okayama University, Japan*);

09:20 Simulation Tool for the Error Estimation of the Probe Tilt in Eddy Current NDT Context
Laurent Santandréa (*Laboratoire de Génie Electrique de Paris, France*); *Yann Le Bihan* (*Université de Paris Sud XI, France*); *Christophe Reboud* (*CEA LIST, France*); *Pierre Calmon* (*CEA LIST, France*);

09:40 Checking of Combustion Chamber of Rocket Using ECT with AMR Sensor
Dong Feng He (*National Institute for Materials Science, Japan*); *Mitsuharu Shiwa* (*National Institute for Materials Science, Japan*); *J. Takatsubo* (*Advanced Industrial Science and Technology, Japan*); *S. Moriya* (*Japan Aerospace Exploration Agency, Japan*);

10:00 Fast Numerical Shape Reconstruction of Highly Conductive Submicron Particles on Substrates
Mirza Karamehmedovic (*University of Bremen, Germany*); *Poul-Erik Hansen* (*Danish Fundamental Metrol, Denmark*); *Thomas Wriedt* (*Institute of Materials Science, Germany*);

10:20 **Coffee Break**

Session 4A3b
Innovative Instruments and Processing for Understanding Phenomenology through Remote Sensing

Friday AM, March 30, 2012

Room C

Organized by Stephen D. Wall, Giorgio Franceschetti

Chaired by Stephen D. Wall, Giorgio Franceschetti

10:40 Designing for Science: Combining Geophysical and Engineering Models for Space Mission Design
Stephen D. Wall (*California Institute of Technology, USA*);

11:00 Interpreting Titan's Surface Geology from Cassini RADAR Observations
Rosaly M. C. Lopes (*California Institute of Technology, USA*); *Alice Le Gall* (*California Institute of Technology, USA*); *Michael A. Janssen* (*California Institute of Technology, USA*); *Randolph L. Kirk* (*United States Geological Survey, USA*); *O. Aharonson* (*California Institute of Technology, USA*); *Alex Hayes* (*California Institute of Technology, USA*); *Karl L. Mitchell* (*California Institute of Technology, USA*); *Ellen R. Stofan* (*Proxemy Research, USA*); *Jani Radebaugh* (*Brigham Young University, USA*); *Stephen D. Wall* (*California Institute of Technology, USA*); *Charles A. Wood* (*Wheeling Jesuit University, USA*); *The Cassini RADAR Team* (*California Institute of Technology, USA*);

11:20 Generating Surface Fractal Dimension Maps from SAR Data
Gerardo Di Martino (*Università di Napoli "Federico II", Italy*); *Giorgio Franceschetti* (*University of Naples "Federico II", Italy*); *Antonio Iodice* (*University of Naples "Federico II", Italy*); *Daniele Riccio* (*University of Naples "Federico II", Italy*); *Giuseppe Ruello* (*Universita di Napoli "Federico II", Italy*); *I. Zinno* (*Università di Napoli "Federico II", Italy*);

11:40 An Investigation into the Detection of Possible Gamma Rays from Lightning at Venus
Ralph D. Lorenz (*Johns Hopkins University, USA*); *David J. Lawrence* (*Johns Hopkins University, USA*);

12:00 SWB: An Analysis and Visualization Tool for COSMO SkyMed
V. A. Lore (*INNOVA Consorzio per L'informatica e la Telematica, Italy*); *Giovanni Dott Milillo* (*ASI-CGS (Agenzia Spaziale Italiana-Centro di Geodesia Spaziale), Italy*); *Pietro Milillo* (*Università degli Studi di Bari, Italy*); *Antonio Dott Valentino* (*INNOVA Consorzio per L'informatica e la Telematica, Italy*); *Giorgio Franceschetti* (*University of Naples "Federico II", Italy*);

Session 4A4
Antenna Theory and Radiation 1

Friday AM, March 30, 2012

Room D

Chaired by Dau-Chyrh Chang

08:20 High-gain and Light-weight Antenna for Radar System Using a Horn Covered with Curved Woodpile EBG
S. Kampeephat (*Suranaree University of Technology, Thailand*); *Piyaporn Krachodnok* (*Suranaree University of Technology, Thailand*); *Rangsan Wongsan* (*Suranaree University of Technology, Thailand*);

08:40 Gain Improvement of Curved Strip Dipole Using EBG Resonator
Nuchanart Fhafhiem (*Suranaree University of Technology, Thailand*); *Piyaporn Krachodnok* (*Suranaree University of Technology, Thailand*); *Rangsan Wongsan* (*Suranaree University of Technology, Thailand*);

09:00 A New Feed for Reflector Based 100 $\mathbf{\Omega}$ Impulse Radiating Antenna
Dhiraj Kumar Singh (*Electronics & Radar Development Establishment (LRDE), India*); *D. C. Pande* (*Electronics & Radar Development Establishment (LRDE), India*); *Amithabha Bhattacharya* (*Indian Institute of Technology, India*);

09:20 A Dielectric Loaded HMSIW $\boldsymbol{H}$-plane Horn Antenna
Said Ali Razavi (*Ferdowsi University of Mashhad, Iran*); *Mohammad Hassan Neshati* (*Ferdowsi University of Mashhad, Iran*);

09:40 On the Radiation Fields of the Hyperbolic Helical Antenna
Sulaiman Adeniyi Adekola (*University of Lagos, Nigeria*); *Alex Ike Mowete* (*University of Lagos, Nigeria*); *Ayotunde Abimbola Ayorinde* (*University of Lagos, Nigeria*);

10:00 Directivity Characteristics of a Circular-loop Zigzag Thin-wire Antenna
Sulaiman Adeniyi Adekola (*University of Lagos, Nigeria*); *Alex Ike Mowete* (*University of Lagos, Nigeria*); *Hisham Abubakar Muhammed* (*University of Lagos, Nigeria*);

10:20 **Coffee Break**

10:40 Analysis of a Circular-loop Zigzag Thin-wire Antenna
Sulaiman Adeniyi Adekola (*University of Lagos, Nigeria*); *Alex Ike Mowete* (*University of Lagos, Nigeria*); *Hisham Abubakar Muhammed* (*University of Lagos, Nigeria*);

11:00 On the Insulated Dipole Antenna in a Dissipative Non-conducting Medium
Alex Ike Mowete (*University of Lagos, Nigeria*); *Ade Ogunsola* (*University of Lagos, Nigeria*);

11:20 A Planar Resonator Antenna Using Folded Dipole with Reflective Walls
Siripinya A-Sa (*Suranaree University of Technology, Thailand*); *Piyaporn Krachodnok* (*Suranaree University of Technology, Thailand*); *Rangsan Wongsan* (*Suranaree University of Technology, Thailand*);

11:40 Reduction of EMI due to Antenna Radiation inside Complex PCB
Cheng-Wei Chen (*Oriental Institute of Technology, Taiwan*); *Dau-Chyrh Chang* (*Oriental Institute of Technology, Taiwan*); *Hsiao-Bin Liang* (*Climax Technology Co., Ltd., Taiwan*); *Chi-Hsiung Wang* (*Climax Technology Co., Ltd., Taiwan*); *Tsan-Hung Wu* (*Climax Technology Co., Ltd., Taiwan*);

12:00 Effect of Attached Materials on Frequency Characteristics of UHF RFID Tag Antenna
Panisa Keowsawat (*Phetchaburi Rajabhat University, Thailand*); *P. Keowsawat* (*Phetchaburi Rajabhat University, Thailand*);

12:20 Fast Adaptive Least Mean Square Algorithm
Sudipta Maity (*Jadavpur University, India*); *Sanghamitra Dasgupta* (*Jadavpur University, India*); *Bhaskar Gupta* (*Jadavpur University, India*);

Session 4A5
Novel Mathematical Methods in Electromagnetics

Friday AM, March 30, 2012

Room E

Organized by Kazuya Kobayashi, Yury V. Shestopalov

Chaired by Kazuya Kobayashi, Yury V. Shestopalov

08:20 Nonlinear Effects of Electromagnetic TM Wave Propagation in Anisotropic Layer with Kerr Nonlinearity
Yury G. Smirnov (*Penza State University, Russia*); *Dmitry V. Valovik* (*Penza State University, Russia*);

08:40 Electromagnetic TM Wave Propagation through a Nonlinear Metamaterial Layer with Arbitrary Nonlinearity
Dmitry V. Valovik (*Penza State University, Russia*);

09:00 Wave Equation in the Electromagnetic Field with Velocity Curl
Zi-Hua Weng (*Xiamen University, China*);

09:20 TE-like to TM-like Mode Conversion in a Finitely Conducting Periodically Corrugated Circular Waveguide
Omar Rafik Asfar (*Jordan University of Science and Technology, Jordan*); *H. Saba'neh* (*Jordan University of Science and Technology, Jordan*);

09:40 Optical Neural Router Consisting of Acousto-optic Waveguide-type Switches for Adaptive Network
Nobuo Goto (*The University of Tokushima, Japan*); *Yasumitsu Miyazaki* (*Aichi University of Technology, Japan*);

10:00 Spatial Sampling Characteristics of Beam Wave Eigen Functions Representation for Optical CT
Yasumitsu Miyazaki (*Aichi University of Technology, Japan*);

10:20 **Coffee Break**

10:40 A Multi-dimensional CIP-BS Method for Electromagnetic Simulation
Yoshiaki Ando (*The University of Electro-Communications, Japan*); *Yusuke Takahashi* (*The University of Electro-Communications, Japan*);

11:00 On the Implementation of a Discontinuous Galerkin Finite Element Method with Exact Absorbing Boundary Conditions
Kostyantyn Sirenko (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Meilin Liu* (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Techonology (KAUST), Saudi Arabia*);

11:20 Solution of Coupled Landau-Lifshitz-Gilbert and Volume Integral Equations for Characterizing Electromagnetic Wave Interactions on Composite Ferrite Structures
Muhammad Furqan (*King Abdullah University of Science and Technology (KAUST), Saudi Arabia*); *Hakan Bagci* (*King Abdullah University of Science and Techonology (KAUST), Saudi Arabia*);

11:40 Axisymmetric Electric and Magnetic Field Calculations with Zonal Harmonic Expansion
Ferenc Gluck (*Karlsruhe Institute of Technology, IEKP, Germany*);

12:00 Propagation Characteristics of Dielectric Waveguides with Arbitrary Inhomogeneous Media along the Middle Layer (Part II)
Ryosuke Ozaki (*Nihon University, Japan*); *Tsuneki Yamasaki* (*Nihon University, Japan*);

12:20 Dispersion Characteristics of Hyperbolic Waveguide for Weak-guidance
Deepak Kumar (*Multimedia University, Malaysia*); *Kwang Hwai Mak* (*Multimedia University, Malaysia*); *Hin Yong Wong* (*Multimedia University, Malaysia*);

Session 4A6
Microwave and Millimeter Wave Devices

Friday AM, March 30, 2012

Room F

Organized by Ashok Kumar Sinha

Chaired by P. K. Jain

08:40 Design of 120 GHz, 1 MW Gyrotron for Plasma Fusion Application
Anil Kumar (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Nitin Kumar* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Udaybir Singh* (*Central Electronics Engineering Research Institute (CEERI), Council of Scientific and Industrial Research (CSIR), India*); *Ranojoy Bhattacharya* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Narendra Kumar Singh* (*Central Electronics Engineering Research Institute (CEERI), Council of Scientific and Industrial Research (CSIR), India*); *Hasina Khatun* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Mukesh Kumar Alaria* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Ashok Kumar Sinha* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*);

09:00 Investigation of a Disc-Loaded Gyro-TWT Using Particle-In-Cell Simulation
Rajiv Kumar Singh (*Bharat Sanchar Nigam Limited, India*); *Ashutosh* (*Banaras Hindu University, India*); *P. K. Jain* (*Banaras Hindu University, India*);

09:20 Design of Higher Harmonic Interaction Cavity for 0.3 THz Gyrotron
Anil Kumar (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Nitin Kumar* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Hasina Khatun* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Udaybir Singh* (*Central Electronics Engineering Research Institute (CEERI), Council of Scientific and Industrial Research (CSIR), India*); *V. Vyas* (*Banasthali University, India*); *Ashok Kumar Sinha* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*);

09:40 Study of Stagger-tuning in the Gyroklystrons
Madan Singh Chauhan (*Banaras Hindu University, India*); *P. K. Jain* (*Banaras Hindu University, India*);

10:00 Power and Frequency Estimation for 0.67 THz Gyrotron for Radioactive Material Detection
Nitin Kumar (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Udaybir Singh* (*Central Electronics Engineering Research Institute (CEERI), Council of Scientific and Industrial Research (CSIR), India*); *Anil Kumar* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Hasina Khatun* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Ashok Kumar Sinha* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*);

10:20 **Coffee Break**

10:40 Swarm Optimization of Raised Cosine Non-linear Cylindrical Waveguide Taper for High-power Applications
Rajeev Sharma (*TDT Division, India*); *Smrity Dwivedi* (*Banaras Hindu University, India*); *R. P. Gupta* (*Jaipur National University, India*); *P. K. Jain* (*Banaras Hindu University, India*);

11:00 Investigation of New Material for Megawatt Power Gyrotron Collector
Hasina Khatun (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Naveen K. Sahu* (*Central Electronics Engineering Research Institute (CEERI), Council of Scientific and Industrial Research (CSIR), India*); *Sudeep Sharan* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Ranojoy Bhattacharya* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Uttam K. Goswami* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Anil Kumar* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*); *Udaybir Singh* (*Central Electronics Engineering Research Institute (CEERI), Council of Scientific and Industrial Research (CSIR), India*); *Ashok Kumar Sinha* (*Central Electronics Engineering Research Institute, Council of Scientific and Industrial Research (CSIR), India*);

11:20 Eigenmode Analysis of Metal Photonic Band Gap Cavity for Gyrotron Operating in Higher Order Mode
Ashutosh (*Banaras Hindu University, India*); *P. K. Jain* (*Banaras Hindu University, India*);

Session 4A7a
Frequency Selective & Retarding Surfaces for Microwave and Millimetre-wave Applications

Friday AM, March 30, 2012

Room G

Organized by Giampaolo Pisano

Chaired by Giampaolo Pisano

08:20 A Triple-bandgap Uni-planar EBG Structure for Antenna Applications
Huynh Nguyen Bao Phuong (*Hanoi University of Technology, Vietnam*); *Dao Ngoc Chien* (*Hanoi University of Technology, Vietnam*); *Tran Minh Tuan* (*National Institute of Information and Communications Strategy, Vietnam*);

08:40 A Terahertz Meta Surface Filter Employing Subwavelength Metallic Apertures on a Thin Substrate
Sajid Hussain (*Gwangju Institute of Science and Technology, South Korea*); *Dong-Ju Kim* (*Gwangju Institute of Science and Technology (GIST), Korea*); *Jae-Hyung Jang* (*Gwangju Institute of Science and Technology (GIST), South Korea*);

09:00 A Broadband Photolithographic Polariser for Millimetre Wave Applications
Giampaolo Pisano (*The University of Manchester, UK*); *Ming Wah Richard Ng* (*The University of Manchester, UK*); *Vic Haynes* (*The University of Manchester, UK*); *Bruno Maffei* (*The University of Manchester, UK*);

09:20 Design and Characterization of a Dielectric Q-plate for Millimetre-wave Photon Orbital Angular Momentum Applications
Stefania Maccalli (*The University of Manchester, UK*); *Giampaolo Pisano* (*The University of Manchester, UK*); *Ming Wah Richard Ng* (*The University of Manchester, UK*); *Bruno Maffei* (*The University of Manchester, UK*); *Malcolm Gray* (*The University of Manchester, UK*); *Sergio Colafrancesco* (*University of the Witwatersrand, South Africa*);

09:40 Dog Bone Triplet Metamaterial Wave Plate
Imran Mohamed (*University of Manchester, United Kingdom*); *Giampaolo Pisano* (*The University of Manchester, UK*); *Ming Wah Richard Ng* (*The University of Manchester, UK*); *Vic Haynes* (*The University of Manchester, UK*); *Bruno Maffei* (*The University of Manchester, UK*);

10:00 Millimetre Waves Photolithographic Polariser Beam Impact
Bruno Maffei (*The University of Manchester, UK*); *Giampaolo Pisano* (*The University of Manchester, UK*); *Ming Wah Richard Ng* (*The University of Manchester, UK*); *Vic Haynes* (*The University of Manchester, UK*); *F. Ozturk* (*The University of Manchester, UK*);

10:20 **Coffee Break**

Session 4A7b
Electromagnetic Theory

Friday AM, March 30, 2012

Room G

Chaired by Akira Komiyama, Michael James Underhill

10:40 Energy Conservation in a Waveguide System with an Imperfection Core
Akira Komiyama (*Osaka Electro-Communication University, Japan*);

11:00 Maxwell's Transfer Functions
Michael James Underhill (*Underhill Research, UK*);

11:20 Novel Analytic EM Modelling of Antennas and Fields
Michael James Underhill (*Underhill Research, UK*);

11:40 Evanescent Fields Outside Weakly Deformed Optical Resonators
Stephen C. Creagh (*University of Nottingham, UK*); *Michael White* (*University of Nottingham, UK*);

12:00 A New View of Spectral Analysis of Linear Systems
Juan Heredia Juesas (*University of Oviedo, Spain*); *Emilio Gago-Ribas* (*University of Oviedo, Spain*);

12:20 Complex Parameterization of the Lossy Transmission Line Theory
Emilio Gago-Ribas (*University of Oviedo, Spain*); *Manuel Carril-Campa* (*University of Oviedo, Spain*);

Session 4P1
Physics and Applications of Structured Light

Friday PM, March 30, 2012

Room A

Organized by Jamal Berakdar

Chaired by Jamal Berakdar

14:40 Shaping the Flow of Light in 4 Dimensions by Subcycle Switching of Ultrastrong Light-matter Coupling
Jean-Michel Menard (*University of Regensburg, Germany*); *Michael Porer* (*University of Regensburg, Germany*); *Alfred Leitenstorfer* (*University of Konstanz, Germany*); *Rupert Huber* (*University of Regensburg, Germany*); *Simone Zanotto* (*CNR, Italy*); *Riccardo Degl'Innocenti* (*CNR-IOM, Italy*); *Giorgio Biasiol* (*CNR-IOM, Italy*); *Lucia Sorba* (*CNR-IOM, Italy*); *Alessandro Tredicucci* (*NEST CNR-INFM and Scuola Normale Superiore, Italy*);

15:00 Charge Carrier Dynamics in Nanostructures Driven by Ultrashort Light Pulses
Andrey S. Moskalenko (*Martin Luther University Halle-Wittenberg, Germany*); *Jonas Wätzel* (*Martin Luther University of Halle-Wittenberg, Germany*); *Jamal Berakdar* (*Martin Luther University of Halle-Wittenberg, Germany*);

15:20 **Coffee Break**

15:20 Optimal Control of Electron Dynamics with Shaped Laser Pulses
E. K. U. Gross (*Max Planck Institute of Microstructure Physics, Germany*);

15:40 Self-focusing of Structured Light
Anton S. Desyatnikov (*The Australian National University, Australia*);

Session 4P2
Lightning Electromagnetics

Friday PM, March 30, 2012

Room B

Organized by Chandima Gomes

Chaired by Robert L. Gardner

14:40 Channel Base Current Effects on the Magnetic Flux Density Waveshape Associated with Vertical Lightning Channel
Mahdi Izadi (*Universiti Putra Malaysia (UPM), Malaysia*); *Mohd Zainal Abidin Ab Kadir* (*Universiti Putra Malaysia, Malaysia*); *Chandima Gomes* (*Universiti Putra Malaysia, Malaysia*); *Wan Fatinhamamah Wan Ahmad* (*Universiti Putra Malaysia, Malaysia*);

15:00 Possible Relation between Lightning and Solitons
Vladimir Skarka (*University of Angers, France*);

15:20 **Coffee Break**

15:20 Physical Processes That Govern the Propagation of the Current Pulse along the Early Portions of the Lightning Return Stroke
Robert L. Gardner (*6152 Manchester Park Circle, USA*);

16:20 Ground to Cloud and Cloud to Ground Lightning Flashes: A Comparative Study
S. Thirukumaran (*University of Malaya, Malaysia*); *Paul Ratnehahilan Polycarp Hoole* (*University of Malaya, Malaysia*); *R. Harikrishnan* (*University of Malaya, Malaysia*); *K. Jeevan* (*University of Malaya, Malaysia*); *S. R. H. Hoole* (*Rensselaer Polytechnic Institute, USA*);

16:40 Electrostatic Discharges (ESD): Rate of Rise of Currents and Radiated Electric Fields
S. Thirukumaran (*University of Malaya, Malaysia*); *Paul Ratnehahilan Polycarp Hoole* (*University of Malaya, Malaysia*); *R. Harikrishnan* (*University of Malaya, Malaysia*); *K. Jeevan* (*University of Malaya, Malaysia*); *S. R. H. Hoole* (*Rensselaer Polytechnic Institute, USA*);

Session 4P3
Remote Sensing of the Earth, Ocean, and Atmosphere

Friday PM, March 30, 2012

Room C

Organized by Yunmei Li

Chaired by Yunmei Li

14:40 Layover and Shadow Detection in Multi-baseline InSAR Based on Gerschgorin Disks
Shuang Li (*Beihang University, China*); *Huaping Xu* (*Beihang University, China*);

15:00 Retrieval of Cloud Geometrical Properties Using ADEOS-II/GLI Data
Makoto Kuji (*Nara Women's University, Japan*);

15:20 **Coffee Break**

15:20 Optical Classification and the Absorption Character of Inland Entrophic Water in China
Yunmei Li (*Nanjing Normal University, China*); *Qiao Wang* (*Satellite Environment Application Center, Ministry of Environmental Protection, China*); *Heng Lu* (*Nanjing Normal University, China*); *Jiazhu Huang* (*Nanjing Normal University, China*); *Chuanqing Wu* (*Satellite Environment Application Center, Ministry of Environmental Protection, China*); *Li Zhu* (*Satellite Environment Application Center, Ministry of Environmental Protection, China*);

15:40 Automatic Detection Algorithms for Oil Spill from Multisar Data
Maged Marghany (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Mazlan Hashim* (*Universiti Teknologi Malaysia (UTM), Malaysia*);

16:20 3-D Coastal Water Front Visualization Using RADARSAT-1 SAR Satellite Data
Maged Marghany (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Mazlan Hashim* (*Universiti Teknologi Malaysia (UTM), Malaysia*);

16:40 Digital Elevation Model of Spit Using Dinsar of Radarsat-1 Fine Mode Data
Maged Marghany (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Mazlan Hashim* (*Universiti Teknologi Malaysia (UTM), Malaysia*);

Session 4P4
Microstrip and Printed Antennas, Array Antennas

Friday PM, March 30, 2012

Room D

Chaired by Homayoon Oraizi, Vetharatnam Gobi

14:40 Design of Reconfigurable Slot Antenna for Diverse Frequency Wireless Applications
Chilukuri Sulakshana (*National Institute of Technology, India*); *L. Anjaneyulu* (*National Institute of Technology, India*);

15:00 A Single Feed Circularly Polarized Wallis Sieve Fractal Microstrip Antenna
V. Venkateshwar Reddy (*National Institute of Technology, India*); *N. V. S. N. Sarma* (*National Institute of Technology, India*);

15:20 **Coffee Break**

15:20 Flat Lens Based on Aperture-coupled-patch FSS with Four-pole Resonance Behavior
Yu Wang (*Doshisha University, Japan*); *Hiroyuki Deguchi* (*Doshisha University, Japan*); *Mikio Tsuji* (*Doshisha University, Japan*);

15:40 Analysis on Physical and Electromagnetic Parameter of a Concentric Split Ring Square Reflectarray Element
Siti Hafizah Yusop (*Universiti Kebangsaan Malaysia, Malaysia*); *Norbahiah Misran* (*Universiti Kebangsaan Malaysia, Malaysia*); *Mohammad Tariqul Islam* (*Universiti Kebangsaan Malaysia, Malaysia*); *Muhammad Yusof Ismail* (*University of Tun Hussein Onn Malaysia, Malaysia*);

16:20 A Novel Design of Dual-feed Single-element Antenna for 4G MIMO Terminals
Nguyen Khac Kiem (*Hanoi University of Science and Technology, Vietnam*); *Dang Nhu Dinh* (*Hanoi University of Science and Technology, Vietnam*); *Hoang The Viet* (*Hanoi University of Science and Technology, Vietnam*); *Dao Ngoc Chien* (*Hanoi University of Science and Technology, Vietnam*);

16:40 Placement Effects on a Higher Order Mode Patch Antenna within HALE Aircraft Wing
Derek Gray (*University of Nottingham, Malaysia Campus, Malaysia*);

17:00 Circularly Polarized Multiband Microstrip Antenna Using the Combination of Novel Fractals
Homayoon Oraizi (*Iran University of Science and Technology, Iran*); *Shahram Hedayati* (*Iran University of Science and Technology, Iran*);

17:20 An Equivalent Circuit of Microstrip Slot Coupled Rectangular Dielectric Resonator Antenna
Mohd Fadzil bin Ain (*Universiti Sains Malaysia, Malaysia*); *Yazeed Mohammad Qasaymeh* (*Universiti Sains Malaysia, Malaysia*); *Zainal Arrifin Ahmad* (*Universiti Sains Malaysia, Malaysia*); *Mohammad Azman Zakariya* (*Universiti Sains Malaysia, Malaysia*); *Ubaid Ullah* (*University Sains Malaysia, Malaysia*);

17:40 Low Cost, Efficient, High Gain and Wideband Microstrip Antenna Fed Yagi Array in Fabry-Perot Cavity
Avinash Ramnath Vaidya (*Indian Institute of Technology (IIT) Bombay, India*); *Rajiv Kumar Gupta* (*Terna Engineering College, India*); *Sanjeev Kumar Mishra* (*Indian Institute of Technology (IIT) Bombay, India*); *Jayanta Mukherjee* (*Indian Institute of Technology (IIT) Bombay, India*);

18:00 Parallel Metal Plated U-shape Ultra-wide Band Antenna with WLAN Band-notched Characteristics
Sanjeev Kumar Mishra (*Indian Institute of Technology (IIT) Bombay, India*); *Rajiv Kumar Gupta* (*Terna Engineering College, India*); *Avinash Ramnath Vaidya* (*Indian Institute of Technology (IIT) Bombay, India*); *Jayanta Mukherjee* (*Indian Institute of Technology (IIT) Bombay, India*);

18:40 Performance Analysis of Reflectarray Antenna Elements printed on Non-linear Dielectric Materials
M. Hashim Dahri (*University Tun Hussein Onn Malaysia, Malaysia*); *M. Yusof Ismail* (*University Tun Hussein Onn Malaysia, Malaysia*);

Session 4P5
Accelerated Computational Electromagnetics

Friday PM, March 30, 2012

Room E

Organized by Alireza R. Baghai-Wadji

Chaired by Alireza R. Baghai-Wadji

14:40 Necessity of Quantitative Based Thermographic Inspection of Electrical Equipments
A. S. Nazmul Huda (*Universiti Sains Malaysia, Malaysia*); *Soib Bin Taib* (*Universiti Sains Malaysia, Malaysia*); *Dahaman Bin Ishak* (*Universiti Sains Malaysia, Malaysia*);

15:00 Analysis and Prediction of Temperature of Electrical Equipment for Infrared Diagnosis Considering Emissivity and Object to Camera Distance Setting Effect
A. S. Nazmul Huda (*Universiti Sains Malaysia, Malaysia*); *Soib Bin Taib* (*Universiti Sains Malaysia, Malaysia*); *Dahaman Bin Ishak* (*Universiti Sains Malaysia, Malaysia*);

15:20 **Coffee Break**

15:20 Electric Field Calculations for the KATRIN Wire Electrodes
Ferenc Gluck (*Karlsruhe Institute of Technology, IEKP, Germany*);

15:40 On the Construction of Dirac's Delta Functions from Poisson's and Maxwell's Equations
Alireza R. Baghai-Wadji (*RMIT University, Australia*);

16:20 On the Construction of a Hierarchy of Lower Dimensional Auxiliary Boundary Value Problems for Solving Real-life Problems in Engineering Applications
Andrew J. Smith (*RMIT University, Australia*); *Alireza R. Baghai-Wadji* (*RMIT University, Australia*);

16:40 On the Construction of Distributed Elementary Source Self-regularized Dyadic Green's Functions
Hardik A. Vagh (*RMIT University, Australia*); *Alireza Baghai-Wadji* (*RMIT University, Australia*);

Session 4P6
Plasmas, Composite Media, Materials Science

Friday PM, March 30, 2012

Room F

Chaired by Guenter Radons, Mihail Nazarov

14:40 Features of Magneto-optical Response in Multilayer Nanostructures Composite-silicon
E. Gan'shina (*Moscow State University, Russia*); *V. Buravtsova* (*Moscow State University, Russia*); *A. Novikov* (*Moscow State University, Russia*); *Yu. E. Kalinin* (*Voronezh State Technical University, Russia*); *A. Sitnikov* (*Voronezh State Technical University, Russia*);

15:00 Luminescence of Yttrium Niobium-tantalate Doubly Activated by Europium and/or Terbium under X-ray and Electron Beam Excitation
Iván Darío Arellano Ramírez (*Technological University of Pereira, Colombia*); *Mihail Nazarov* (*Universiti Sains Malaysia, Malaysia*); *Jimmy Alexander Cortés Osorio* (*Technological University of Pereira, Colombia*);

15:20 **Coffee Break**

15:20 Luminescence of Tantalate and Niobate Phosphors Excited from X-ray to THz Frequency Range
Mihail Nazarov (*Universiti Sains Malaysia, Malaysia*); *Ahmad Fauzi Mohd Noor* (*Universiti Sains Malaysia, Malaysia*);

15:40 Luminescence and Energy Transfer Mechanisms in $CaWO_4$
Dmitry Spassky (*Moscow State University, Russia*); *Mihail Nazarov* (*Universiti Sains Malaysia, Malaysia*); *A. Zhbanov* (*Gwangju Institute of Science and Technology, Korea*); *Ahmad Fauzi Mohd Noor* (*Universiti Sains Malaysia, Malaysia*);

16:20 Nonlinear Dynamics, Long-time Tails, and 1/F-noise in Simple Systems with Complex Hysteresis
Guenter Radons (*Chemnitz University of Technology, Institute of Physics, Germany*); *Sven Schubert* (*Chemnitz University of Technology, Institute of Physics, Germany*); *Andreas Zienert* (*Chemnitz University of Technology, Institute of Physics, Germany*);

16:40 Low Field Microwave Absorption, Giant Magnetoimpedance and Anisotropy Field in Soft Magnetic Materials
Raul Valenzuela (*Universidad Nacional Autónoma de México, México*);

17:00 Numerical Experiments for Radial Dynamics and Opacity Effect in Argon Plasma Focus
Zahra Ali (*Universiti Teknologi Malaysia (UTM), Malaysia*); *Jalil Ali* (*Universiti Teknologi Malaysia (UTM), Malaysia*); *S. H. Saw* (*INTI University College, Malaysia*); *Sing Lee* (*Nanyang Technological University, Singapore*);

17:20 Three-dimensional Analysis of a Surface Plasmon Resonance Waveguide Sensor for Detecting Material Absorption
Jun Shibayama (*Hosei University, Japan*); *Akio Yokomizo* (*Hosei University, Japan*); *Junji Yamauchi* (*Hosei University, Japan*); *Hisamatsu Nakano* (*Hosei University, Japan*);

17:40 Microwave Characterization of Expanded Graphite/Phenolic Resin Composite for Strategic Applications
Jyoti Prasad Gogoi (*Tezpur University, India*); *Nidhi Saxena Bhattacharyya* (*Tezpur University, India*);

Session 4P7
Electromagnetic, Electronics and Signal Processing Research in Biomedical Engineering

Friday PM, March 30, 2012

Room G

Organized by Sheikh Hussain Shaikh Salleh

Chaired by Sheikh Hussain Shaikh Salleh

14:40 Investigation of AC Effects in Planar Spiral Coils for Powering Implantable Electronics
Gordana K. Felic (*University of Melbourne, Australia*); *David C. Ng* (*University of Melbourne, Australia*); *E. Skafidas* (*The University of Melbourne, Australia*);

15:00 Kalman Filter for ABR Signal Analysis
Mohd Hafizi Omar (*Universiti Teknologi Malaysia, Malaysia*); *Sheikh Hussain Shaikh Salleh* (*Universiti Teknologi Malaysia, Malaysia*); *Ting Chee Ming* (*Universiti Teknologi Malaysia, Malaysia*); *R. Ariffi Suraya* (*Universiti Teknologi Malaysia, Malaysia*); *I. KamarulAfizam* (*Universiti Teknologi Malaysia, Malaysia*); *Tan Tian Swee* (*Universiti Teknologi Malaysia, Malaysia*);

15:20 **Coffee Break**

15:20 Wave V Detection Using Continuous Wavelet Transform of Auditory Brainstem Response Signal
M. M. Rushaidin (*Universiti Teknologi Malaysia, Malaysia*); *Sheikh Hussain Shaikh Salleh* (*Universiti Teknologi Malaysia, Malaysia*); *Mohd Hafizi Omar* (*Universiti Teknologi Malaysia, Malaysia*); *H. Mahyar* (*Universiti Teknologi Malaysia, Malaysia*); *Ting Chee Ming* (*Universiti Teknologi Malaysia, Malaysia*); *A. K. Ariff* (*Universiti Teknologi Malaysia, Malaysia*);

15:40 Adaptive Discrimination Filters for TMS-electroencephalographic Feature Extraction
Arief R. Harris (*Universiti Teknologi Malaysia, Malaysia*); *Daniel J. Strauss* (*University of Applied Sciences, Germany*); *Sh-Hussain Salleh* (*Universiti Teknologi Malaysia, Malaysia*);

16:20 Malay Speech Digit Recognition for Speech Therapy Application
Tan Tian Swee (*Universiti Teknologi Malaysia, Malaysia*); *Sheikh Hussain Shaikh Salleh* (*Universiti Teknologi Malaysia, Malaysia*); *Ahmad Kamarul Arif* (*Universiti Teknologi Malaysia, Malaysia*); *Cheng Wei Lip* (*Universiti Teknologi Malaysia, Malaysia*); *Lau Chee Yong* (*Universiti Teknologi Malaysia, Malaysia*);

16:40 Comparison of Different Time-domain Feature Extraction Methods on Facial Gestures' EMGs
Mahyar Hamedi (*Universiti Teknologi Malaysia, Malaysia*); *Sh-Hussain Salleh* (*Universiti Teknologi Malaysia, Malaysia*); *Alias Mohd Noor* (*Universiti Teknologi Malaysia, Malaysia*); *Tan Tian Swee* (*Universiti Teknologi Malaysia, Malaysia*); *I. Kamarul Afizam* (*Universiti Teknologi Malaysia, Malaysia*);

17:00 Determination of Optimal Auscultation Point on the Chest Walls for Personal Identification Using Heart Sounds
Sh-Hussain Salleh (*Universiti Teknologi Malaysia, Malaysia*); *I. Nur Fariza* (*Universiti Teknologi Malaysia, Malaysia*); *I. KamarulAfizam* (*Universiti Teknologi Malaysia, Malaysia*); *A. K. Ariff* (*Universiti Teknologi Malaysia, Malaysia*); *Ting Chee Ming* (*Universiti Teknologi Malaysia, Malaysia*);

17:20 Standalone ECG Monitoring System Using Digital Signal Processing Hardware
Goh Chun Seng (*Universiti Teknologi Malaysia, Malaysia*); *Sh-Hussain Salleh* (*Universiti Teknologi Malaysia, Malaysia*); *Arief R. Harris* (*Universiti Teknologi Malaysia, Malaysia*); *J. M. Najeb* (*Universiti Teknologi Malaysia, Malaysia*); *I. Kamarulafizam* (*Universiti Teknologi Malaysia, Malaysia*);

17:40 Heart Sound Analysis Using Hidden Markov Models
Siti Hadrina Bt Sheikh Hussain (*Universiti Teknologi Malaysia, Malaysia*); *Sheikh Hussain Shaikh Salleh* (*Universiti Teknologi Malaysia, Malaysia*); *Tan Tian Swee* (*Universiti Teknologi Malaysia, Malaysia*); *Ting Chee Ming* (*Universiti Teknologi Malaysia, Malaysia*); *Ahmad Kamarul Ariff* (*Universiti Teknologi Malaysia, Malaysia*); *I. KamarulAfizam* (*Universiti Teknologi Malaysia, Malaysia*);

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( ) 3rd PIERS1993 in Pasadena
( ) 4th PIERS1994 in Noordwijk
( ) 5th PIERS1995 in Seattle
( ) 6th PIERS1996 in Innsbruck
( ) 7th PIERS1997 in Hong Kong
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( ) 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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( ) 19th PIERS2006 in Cambridge
( ) 20th PIERS2006 in Tokyo
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C. I have the following comments about PIERS:

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Progress in Electromagnetics Research Symposium

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5 Transmission lines and waveguide discontinuities
6 Resonators, filters, interconnects, packaging, MMIC
7 Antenna theory and radiation
8 Microstrip and printed antennas, phase array antennas
9 RF and wireless communication, multipath
10 Mobile antennas, conformal and smart skin antennas
11 Power electronics, superconducting devices
12 Systems and components, electromagnetic compatibility
13 Nano scale electromagnetics, MEMS
14 Magnetic levitation, transportation and collision avoidance
15 Precision airport landing systems, GPS
16 Radar sounding of atmosphere, ionospheric propagation
17 Microwave remote sensing and polarimetry, SAR
18 Subsurface imaging and detection technology, GPR
19 Active and passive remote sensing systems
20 Electromagnetic signal processing, wavelets, neural network
21 Rough surface scattering and volume scattering
22 Remote sensing of the earth, ocean, and atmosphere
23 Scattering, diffraction, and inverse scattering
24 Microwave and millimeter wave circuits and devices, CAD
25 Optics and photonics, gyrotrons, THz technology
26 Quantum well devices, microwave photonic systems, PBG
27 Medical electromagnetics, biological effects, MRI
28 Fiber optics, optical sensors, quantum computing
29 Biological media, composite and random media
30 Plasmas, nonlinear media, fractal, chiral media, LHM
31 Constitutive relations and bianisotropic media
32 Moving media, relativity, field quantization, and others

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13 Nano scale electromagnetics, MEMS
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15 Precision airport landing systems, GPS
16 Radar sounding of atmosphere, ionospheric propagation
17 Microwave remote sensing and polarimetry, SAR
18 Subsurface imaging and detection technology, GPR
19 Active and passive remote sensing systems
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26 Quantum well devices, microwave photonic systems, PBG
27 Medical electromagnetics, biological effects, MRI
28 Fiber optics, optical sensors, quantum computing
29 Biological media, composite and random media
30 Plasmas, nonlinear media, fractal, chiral media, LHM
31 Constitutive relations and bianisotropic media
32 Moving media, relativity, field quantization, and others

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	TUESDAY AM 8:20 March 27		TUESDAY PM 13:20 March 27		WEDNESDAY AM 8:20 March 28	WEDNESDAY PM 13:20 March 28	
ROOM A	1A1 - Systems and Components, Electromagnetic Compatibility 1		1P1 - Optics and Photonic Crystals		2A1 - Microwave/Terahertz Photonics Technologies and Their Applications	2P1 - Quantum and Classical Aspects of Novel Photonic Materials	
ROOM B	1A2 - Biomedical Electromagnetic Instruments, EM Condensed Materials and Imaging		1P2 - Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals		2A2 - Laser-induced Periodic Surface Nanostructures 1	2P2a - Laser-induced Periodic Surface Nanostructures 2	2P2b - Nano Scale Electromagnetics
ROOM C	1A3 - Inverse Scattering Problems: Theories, Computations, and Applications		1P3a - Microwave Remote Sensing	1P3b - SAR/ISAR and Its Applications	2A3 - Solution Strategies for Inverse Scattering Problems	2P3a - Ground Penetrating Radar Methods for Subsurface Investigations	2P3b - EM Scattering Models and Applications
ROOM D	1A4 - Antennas, Waves and Shielding		1P4a - The Biological Effects of Exposure to ELF Electromagnetic Radiation	1P4b - RF Safety Issues	2A4 - Antennas for Mobile Communication 1	2P4a - Antennas for Mobile Communication 2	2P4b - UWB and Reconfiguration Antennas
ROOM E	1A5 - Next Generation Broadband Access		1P5a - Radio Propagation, Ionospheric Propagation	1P5b - Distributed Coding and Cooperative Communications	2A5 - Wireless Network and Applications 1	2P5 - Wireless Network and Applications 2	
ROOM F	1A6a - Metamaterials and Applications	1A6b - Microwave Energy Application for Materials and Environmental Processing	1P6 - Millimetre and Submillimetre Wave Radar Systems --- Theory and Applications		2A6 - Filter, Transmission Line and Waveguide	2P6 - Microwave and Millimeter Wave Circuits and Devices	
ROOM G	1A7 - Observing the Terrestrial Environment at HF		1P7 - Extended/Unconventional Electromagnetic Theory, EHD/EMHD, and Electro-biology		2A7 - Electromagnetic Modeling, Inversion and Applications	2P7a - Power Electronics	2P7b - Microwave and Millimeter-wave Measurements
ROOM K			1P8 - Poster Session 1		2A8 - Poster Session 2	2P8 - Poster Session 3	

	THURSDAY AM 8:20 March 29		THURSDAY PM 13:20 March 29		FRIDAY AM 8:20 March 30		FRIDAY PM 14:40 March 30
ROOM A	3A1 - Optics, Photonics, and Biophotonics for Young Scholars and Researchers 1		3P1a - Optics, Photonics, and Biophotonics for Young Scholars and Researchers 2	3P1b - Generation, Transform, Propagation and Applications for Laser Beams	4A1 - Fiber Optics, Optical Sensors		4P1 - Physics and Applications of Structured Light
ROOM B	3A2a - Optics, Quantum-well Devices, Optical Soliton	3A2b - Plasmonic Nanophotonics I --- Experiment	3P2 - Plasmonic Nanophotonics II --- Theory, Design and Simulation		4A2 - Fano Effect in Nanophotonics: Fundamentals and Applications		4P2 - Lightning Electromagnetics
ROOM C	3A3 - SAR Systems and Signal Processing		3P3a - Electromagnetic Inverse Problems in Medicine and Biology	3P3b - Advanced Artificial Materials for Sensing and Imaging	4A3a - Imaging and Detection, Inverse Problem	4A3b - Innovative Instruments and Processing for Remote Sensing	4P3 - Remote Sensing of the Earth, Ocean, and Atmosphere
ROOM D	3A4 - Design and Mathematical Modeling of Wide band Antennas		3P4 - Antenna Arrays in Wireless Communications and Biomedical Applications		4A4 - Antenna Theory and Radiation 1		4P4 - Microstrip and Printed Antennas, Array Antennas
ROOM E	3A5 - FDTD Methods and Applications		3P5 - Computational Electromagnetics, Spectra, Time, and Frequency Domain Techniques		4A5 - Novel Mathematical Methods in Electromagnetics		4P5 - Accelerated Computational Electromagnetics
ROOM F	3A6 - Systems and Components, Electromagnetic Compatibility 2		3P6 - Microwave and Millimeter Wave Circuits and Devices, CAD		4A6 - Microwave and Millimeter Wave Devices		4P6 - Plasmas, Composite Media, Materials Science
ROOM G	3A7 - Electromagnetic Waves Propagation in the Atmosphere and Remote Sensing		3P7 - RF and Wireless Communication, Multipath		4A7a - Frequency Selective & Retarding Surfaces for Microwave and MMW Applications	4A7b - Electromagnetic Theory	4P7 - Electromagnetic, Electronics and Signal Processing Research in Biomedical Engineering
ROOM K	3A8 - Poster Session 4		3P8 - Poster Session 5				