

# PIERS 2013 Taipei

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Progress In Electromagnetics Research Symposium

Program

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March 25–28, 2013

TAIPEI

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## CONTENTS

TECHNICAL PROGRAM SUMMARY . . . . .	4
PIERS 2013 TAIPEI ORGANIZATION . . . . .	6
PIERS 2013 TAIPEI SESSION ORGANIZERS . . . . .	7
PIERS 2013 TAIPEI SPONSORS . . . . .	8
PIERS 2013 TAIPEI EXHIBITORS . . . . .	8
SYMPOSIUM VENUE . . . . .	9
REGISTRATION . . . . .	9
SPECIAL EVENTS . . . . .	9
PIERS ONLINE . . . . .	9
GUIDELINE FOR PRESENTER . . . . .	10
MAP OF CONFERENCE SITE . . . . .	11
GENERAL INFORMATION . . . . .	12
PIERS 2013 TAIPEI TECHNICAL PROGRAM . . . . .	13
PIERS SURVEY . . . . .	56
PIERS 2013 STOCKHOLM CALL FOR PAPERS . . . . .	57
PIERS 2013 TAIPEI SESSION OVERVIEW . . . . .	59

## TECHNICAL PROGRAM SUMMARY

### Monday AM, March 25, 2013

1A1	Nonlinear Propagation in Optical Systems .....	13
1A2	Extended/Unconventional Electromagnetic Theory, EHD(Electro-hydrodynamics)/EMHD(Electro-magneto-hydrodynamics), and Electro-biology 1 .....	13
1A3a	Wireless Network and Applications.....	14
1A3b	MIMO Systems .....	15
1A4	Novel Mathematical Methods in Electromagnetics .....	15
1A5	Reconfigurable Antenna and Array Antenna .....	16

### Monday PM, March 25, 2013

1P1	Quantum Metamaterials .....	16
1P2a	Extended/Unconventional Electromagnetic Theory, EHD(Electro-hydrodynamics)/EMHD(Electro-magneto-hydrodynamics), and Electro-biology 2 .....	17
1P2b	Application of EM Field in Medicine and in Ecological Technologies.....	18
1P3a	Near-field Engineering, Surface-enhanced Raman Scattering and Their Applications .....	18
1P3b	Wireless Communication, Propagation Prediction .....	19
1P4	Advanced Numerical Techniques in Electromagnetics.....	19
1P5a	Antennas for Wireless Communications .....	20
1P5b	Small Size and Low-profile Antennas .....	21

### Tuesday AM, March 26, 2013

2A1	Manipulating Wave with Metamaterials and Photonic Crystal 1 .....	21
2A2	Biological Effects and Medical Applications of Electromagnetic Energy 1 .....	22
2A3	Microwave Remote Sensing and Polarimetry, SAR, GPR .....	22
2A4	Multi-scale and Multi-physics Computational Techniques .....	23
2A5	Antenna Measurement .....	24
2A6	Passive Waveguide Devices Theory and Numerical Modeling .....	25
2A7	Resonators, Filters, Interconnects, Packaging, MMIC .....	25
2A8	Poster Session 1 .....	26

**Tuesday PM, March 26, 2013**

2P1a	Manipulating Wave with Metamaterials and Photonic Crystal 2 .....	29
2P1b	Electromagnetic Theory, Analysis and Simulation in Photonics .....	29
2P2a	Biological Effects and Medical Applications of Electromagnetic Energy 2 .....	30
2P2b	Medical Electromagnetics, Medical Imaging, MRI .....	30
2P3a	Earth Electromagnetic Environment and Radiowaves Propagation & Scattering: Modeling, Observation and Measurements.....	31
2P3b	Present and Future of Terahertz Science & Technology, Including Applications in Radio-sciences.....	32
2P4	Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications	32
2P5	Wideband and Multi-band Antennas .....	33
2P6	Optics and Photonics, Fiber, Lasers, Gyrotrons .....	34
2P7	Electromagnetics of Gradient Nanostructures and Heterogeneous Media.....	35
2P8	Poster Session 2 .....	35

**Wednesday AM, March 27, 2013**

3A1	Plasmonic Nanophotonics 1 - Experiment and Fabrication.....	38
3A2	Power Electronics .....	39
3A3	EM Scattering Models and Applications .....	40
3A4	Design and Simulation of Electromagnetic and Optical Devices 1 .....	40
3A5	Microstrip and Printed Antenna, Antenna Theory.....	41
3A6	Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals.....	42
3A7	Microwave and Millimeter Wave Circuits and Devices, CAD .....	42
3A8	Poster Session 3 .....	43

**Wednesday PM, March 27, 2013**

3P1	Plasmonic Nanophotonics 2 - Analysis, Theory, Calculation and Simulation .....	46
3P2a	Intelligent Electronics .....	47
3P2b	RF, Microwave and Millimeter-wave Measurements .....	47
3P3	SAR System and Signal Processing.....	48
3P4a	Design and Simulation of Electromagnetic and Optical Devices 2 .....	49
3P4b	Computational Electromagnetics .....	49
3P5	Antenna and EMC .....	50
3P6a	Biomedical Electromagnetic Instruments, EM Condensed Materials and Imaging and Education .....	51
3P6b	Electromagnetic Modeling, Inversion and Applications .....	52
3P8	Poster Session 4 .....	52

# Progress In Electromagnetics Research Symposium

March 25–28, 2013

TAIPEI

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- The Electromagnetics Academy at Zhejiang University
- The Electromagnetics Academy

## **PIERS 2013 TAIPEI EXHIBITORS**

- Victory Microwave Cooperation
- Wavepro Cooperation
- CST — Computer Simulation Technology
- Communication Research Center, OIT



## **SYMPOSIUM VENUE**

The 2013 Progress in Electromagnetics Research Symposium will be held on March 25–28, 2013, in the Grand Hotel, Taipei. During the symposium, the PIERS OFFICE will also be located at the Grand Hotel.

## **REGISTRATION**

The PIERS technical sessions will begin at 8:20 on Monday, March 25, 2013. You may register at the registration desk located in the Grand Hotel, beginning from 13:00 to 18:00 on Sunday, March 24, 2013, and from 08:00 to 18:00 during the Symposium, March 25–27, 2013.

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 Monday, March 25, from 12:00 to 13:30, symposium reception will take place at the Grand Hotel. For registered PIERS participant, the reception is free. For unregistered companions, the price is USD 30 per person. Please make reservation in advance and pay cash at PIERS check-in desk.

### **Symposium Banquet**

On Wednesday, March 27, from 18:30 to 21:30, 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. Please make reservation and pay in advance.

## **PIERS ONLINE**

Information on PIERS 2013 Taipei and future PIERS is posted at [www.piers.org](http://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.

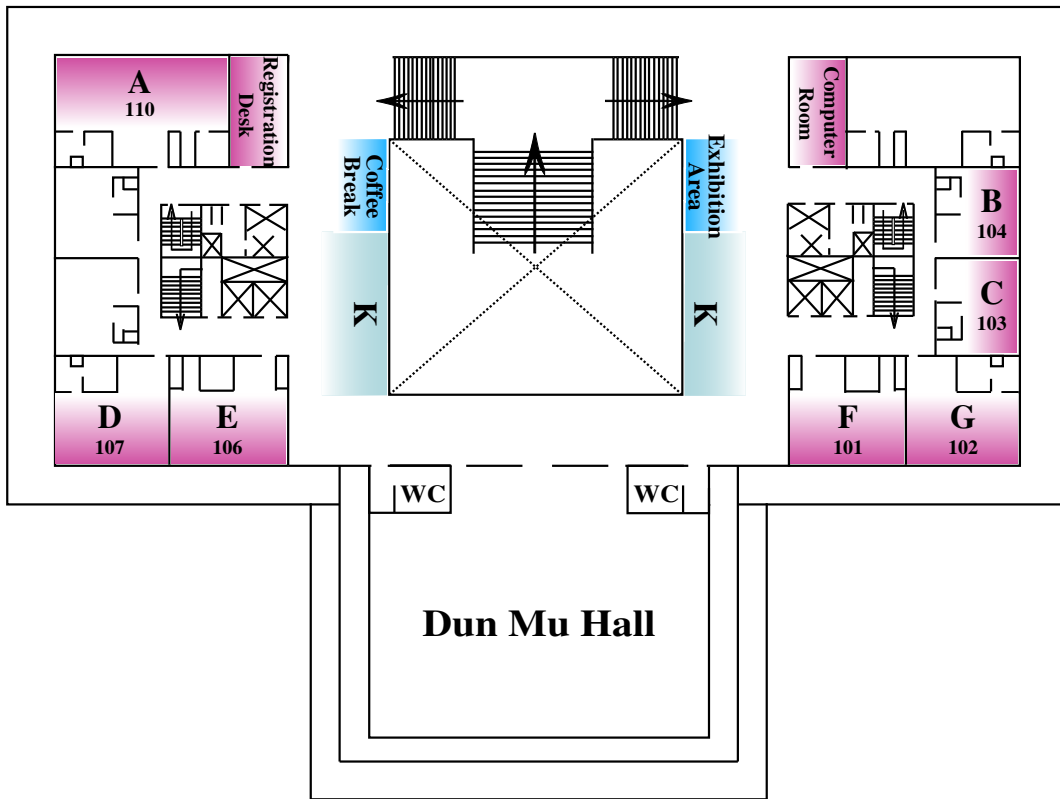
### Poster Presentations

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

One panel (about 59(W) x 84(H) cm) 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.

## MAP OF CONFERENCE SITE



## GENERAL INFORMATION

### LANGUAGE

Although the local language is Mandarin, the conference language is English.

### CURRENCY AND CREDIT CARDS

The local currency is the New Taiwan Dollar (NT\$) and the exchange rate is 1 USD for about NT\$30. The credit cards and cash are acceptable for payments. The credit cards are also acceptable in most large shopping centers and hotels.

### TAX AND TIP

In Taipei tips are not necessary but it is possible to tip hotel porters and for restaurant service. A 10% service charge and a 5% value-added tax are added to room rates and meals. Bargaining is necessary on buying merchandise especially from markets.

### TAXI

Usually, a taxi is available along the roadsides, while you wave for it or right in front of a hotel.

### BUSINESS OPENING HOURS

- **Bank**  
Opening hours: 9:00 – 15:30, from Monday to Friday.

### ELECTRICITY

In Taipei, the standard outlets provide AC of 110 V/60 Hz.

## PIERS 2013 TAIPEI TECHNICAL PROGRAM

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### Session 1A1

#### Nonlinear Propagation in Optical Systems

**Monday AM, March 25, 2013**

#### Room A

Organized by Ray-Kuang Lee

Chaired by Ray-Kuang Lee

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- 09:00 Simulation of Quantum Mechanics in Optical Systems  
*Blas Manuel Rodriguez-Lara (Instituto Nacional de Astrofísica, Óptica y Electrónica, Mexico);*
- 09:20 Barycenter Properties of Diffraction-free Light Beams  
*Chun-Fang Li (Shanghai University, China); Shuang-Yan Yang (Shanghai University, China); Zi-Hua Xin (Shanghai University, China);*
- 09:40 Giant Goos-Hänchen Shift in Evanescent Field and Near-field Applications  
*Xi Chen (Shanghai University, China);*
- 10:00 Optical Soliton Perturbation by Semi-inverse Variational Principle  
*Anjan Biswas (Delaware State University, USA);*
- 10:20 **Coffee Break**
- 10:40 Bragg Grating Solitons in Semilinear Couplers with Dispersive Reflectivity  
*S. A. M. S. Chowdhury (The University of Sydney, Australia); Javid Atai (The University of Sydney, Australia);*
- 11:00 Few-cycle Optical Solitons  
*Yuan-Yao Lin (National Tsing-Hua University, Taiwan); Mou-Ray Chen (National Tsing-Hua University, Taiwan); I-Hong Chen (National Tsing-Hua University, Taiwan); Ray-Kuang Lee (National Tsing-Hua University, Taiwan);*
- 11:20 Influence of Six-wave Interactions and Saturated Nonlinearity on the Statistics of Waves in the Framework of One-dimensional Generalized NLS Equation  
*Dmitry Agafontsev (Novosibirsk State University, Russia);*

- 11:40 Spatial Optical Solitons and Their Interaction in Non-local Media with Competing Nonlinearities  
*Ming Shen (Shanghai University, China); H. Zhao (Shanghai University, China); L. Chen (Shanghai University, China); Y.-Y. Lin (National Tsing-Hua University, Taiwan); C. C. Jeng (National Chung-Hsing University, Taiwan); R.-K. Lee (National Tsing-Hua University, Taiwan); Wieslaw Krolikowski (Australian National University, Australia);*

- 12:00 Second Harmonic Generation Due to Magnetic Field of Intense Light Field  
*Showvik Mukherjee (Indian Institute of Technology, India); Sourabh Mukhopadhyay (Govt. College, India); Biplab Kumar Datta (Development Consultant Pvt. Ltd, India); Prasanta Kumar Dutta (Indian Institute of Technology, India);*

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### Session 1A2

#### Extended/Unconventional Electromagnetic Theory, EHD(Electrohydrodynamics)/EMHD(Electro-magneto-hydrodynamics), and Electro-biology

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**Monday AM, March 25, 2013**

#### Room B

Organized by Eva Gescheidtova

Chaired by Eva Gescheidtova, Jan Mikulka

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- 08:20 Dynamic Frequency Response of Charged Chiral Rods  
*Kyongok Kang (Forschungszentrum Juelich, IFF, Germany); Jan K. G. Dhont (Forschungszentrum Juelich, IFF, Germany);*
- 08:40 Segmentation of OPG Images in Studying Jawbone Diseases  
*Jan Mikulka (Brno University of Technology, Czech Republic);*

- 09:00 An Improved Segmentation of Brain Tumor, Edema and Necrosis  
*Jan Mikulka (Brno University of Technology, Czech Republic); Eva Gescheidtová (Brno University of Technology, Czech Republic);*
- 09:20 Bone Marrow Analysis in Multi-contrast MR Images  
*Petr Marcon (Brno University of Technology, Czech Republic); Karel Bartušek (Brno University of Technology, Czech Republic);*
- 09:40 Stochastic Models of Electrodynamics and Numerical Models  
*Robert Urban (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Michael Hanzelka (Brno University of Technology, Czech Republic); Jan Mikulka (Brno University of Technology, Czech Republic);*
- 10:00 Stochastic Description of Wireless Channel for Cognitive Radio  
*Robert Urban (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Tomáš Kříž (Brno University of Technology, Czech Republic); Jan Mikulka (Brno University of Technology, Czech Republic);*
- 10:20 **Coffee Break**
- 10:40 Statistical Evaluation of Diffusion-weighted Imaging of the Human Tissues  
*Petr Marcon (Brno University of Technology, Czech Republic); Jan Mikulka (Brno University of Technology, Czech Republic); Eva Gescheidtová (Brno University of Technology, Czech Republic); Karel Bartušek (Brno University of Technology, Czech Republic); Andrea Sprlakova (Masaryk University, Czech Republic);*
- 11:00 Software for Partial Discharge and Localization  
*Martin Cap (Brno University of Technology, Czech Republic); Petr Drexler (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Radek Myška (Brno University of Technology, Czech Republic);*
- 11:20 Automatic Detection and Segmentation of the Tumor Tissue  
*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);*
- 11:40 Study of the Influence of Magnetic Fields on Plants Tissues  
*Eliska Hutová (Brno University of Technology, Czech Republic); Karel Bartušek (Brno University of Technology, Czech Republic); Jan Mikulka (Brno University of Technology, Czech Republic);*
- 12:00 Combined X-ray Diagnostics of Heterogeneous Biological Material  
*Pavel Fiala (Brno University of Technology, Czech Republic); Petr Koňas (Brno University of Technology, Czech Republic); Martin Friedl (Brno University of Technology, Czech Republic); P. Šmíra (Thermo Sanace s.r.o., Czech Republic); Premysl Dohnal (Brno University of Technology, Czech Republic); Michael Hanzelka (Brno University of Technology, Czech Republic); A. Nasswetrová (Thermo Sanace s.r.o., Czech Republic);*
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- Session 1A3a**  
**Wireless Network and Applications**
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- Monday AM, March 25, 2013**  
**Room C**  
Organized by Soon Yim Tan, Chee Kiat Seow  
Chaired by Chee Kiat Seow
- 
- 08:20 Miniature Planar Triple Passband Filter Using Embedded Resonators  
*Soon Pheng Lim (SIM University, Singapore); K. M. Lum (SIM University, Singapore);*
- 08:40 Design of Planar Single-section and Cascaded Directional Filters  
*Yong Huat Choo (SIM University, Singapore); K. M. Lum (SIM University, Singapore);*
- 09:00 Wideband Planar Filter Using Signal-interference Techniques  
*Weiwen Hong (SIM University, Singapore); K. M. Lum (SIM University, Singapore);*
- 09:20 Planar Bandpass Filter Design Using Transversal Filtering  
*Kien Keng Oh (SIM University, Singapore); K. M. Lum (SIM University, Singapore);*
- 09:40 Performance of MIMO RADAR Using Two-way MUSIC  
*Pasan De Silva (SIM University, Singapore); Chee Kiat Seow (Nanyang Technological University of Singapore, Singapore);*

10:00 Study of Channel Measurement Parameter Estimation for Precise Mobile Localization Applications  
*Chee Kiat Seow (Nanyang Technological University of Singapore, Singapore); Soon Yim Tan (Nanyang Technological University of Singapore, Singapore); Kai Wen (Nanyang Technological University of Singapore, Singapore);*

10:20 **Coffee Break**

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**Session 1A3b**  
**MIMO Systems**

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**Monday AM, March 25, 2013**

**Room C**

Organized by Mario Marques da Silva

Chaired by Mario Marques da Silva

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10:40 On Multi-antenna Systems for Wireless Transmission Mediums

*Mario Marques da Silva (Telecommunications Institute, Portugal); Rui Dinis (Instituto de Telecomunicações, Portugal); Américo Correia (Instituto de Telecomunicações, Portugal);*

11:00 On the Multihop Relays with Multiple Antennas for LTE-A

*Carlos Reis (Instituto de Telecomunicações, Portugal); Américo Correia (Instituto de Telecomunicações, Portugal); Nuno Souto (Instituto de Telecomunicações, Portugal); Mario Marques da Silva (Telecommunications Institute, Portugal);*

11:20 Channel Capacity Improvement Dependency of the Number of Receiving Antennas for Aeronautical MIMO Systems

*Naoki Kanada (Electronic Navigation Research Institute, Japan); Yasuto Sumiya (Electronic Navigation Research Institute, Japan); Naruto Yonemoto (Electronic Navigation Research Institute, Japan); Shunichi Futatsumori (Electronic Navigation Research Institute, Japan); Akiko Kohmura (Electronic Navigation Research Institute, Japan); Eiju Isozaki (Japan Radio Air Navigation Systems Association, Japan);*

11:40 MIMO SC-FDE Transmission Techniques with Channel Estimation and High-order Modulations

*João Carlos Silva (ISCTE/Instituto de Telecomunicações, Portugal); Rui Dinis (ISCTE/Instituto de Telecomunicações, Portugal); Nuno Souto (ISCTE/Instituto de Telecomunicações, Portugal); Mario Marques da Silva (UAL/Instituto de Telecomunicações, Portugal);*

12:00 Single-stream Communication Using Orthogonal Signal Division Multiplexing with Multiple Antennas  
*Tadashi Ebihara (University of Tsukuba, Japan);*

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**Session 1A4**  
**Novel Mathematical Methods in**  
**Electromagnetics**

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**Monday AM, March 25, 2013**

**Room D**

Organized by Kazuya Kobayashi, Yury V. Shestopalov

Chaired by Kazuya Kobayashi, Yury V. Shestopalov

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09:00 General Ray Method for Solution of Dirichlet Boundary Value Problem for Helmholtz Equations

*Alexandre Grebennikov (Benemérita Universidad Autónoma de Puebla, Mexico); A. Lizabeth Cortés Cortés (Benemérita Universidad Autónoma de Puebla, Mexico);*

09:20 High Resolvability of Electrical Tomography Based on General Ray Method

*Alexandre Grebennikov (Benemérita Universidad Autónoma de Puebla, Mexico);*

09:40 Fast Numerical Solution of Dirichlet Boundary Problem for Laplace Equation in 3D Domains with Complicated Geometry

*Alexandre Grebennikov (Benemérita Universidad Autónoma de Puebla, Mexico);*

10:00 Electromagnetic Eigen-field Characteristics of Acousto-optic Waveguides with Transverse SAW

*Yasumitsu Miyazaki (Aichi University of Technology, Japan);*

10:20 **Coffee Break**

10:40 Polynomial Modal Analysis of Slanted Lamellar Diffraction Gratings in Classical Mountings

*Randriamihaja Manjakavola Honore (Université de Fianarantsoa, Madagascar); Karyl Ranirihari-nosy (Université de Fianarantsoa, Madagascar); Gérard Granet (Clermont Univerités, France);*

11:00 Diffraction by a Subwavelength Concaved Perfectly Conducting Wedge

*Thierry E. Gilles (Ecole Royale Militaire, Laboratoire d'Electromagnétisme Appliqué (LEMA), Belgium);*

- 11:20 Permittivity Determination of Multi-sectional Diaphragm with Metamaterial Layers in Rectangular Waveguide  
*Yury G. Smirnov (Penza State University, Russia); Yury V. Shestopalov (Karlstad University, Sweden); Ekaterina D. Derevyanchuk (Penza State University, Russia);*

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**Session 1A5**

**Reconfigurable Antenna and Array Antenna**

**Monday AM, March 25, 2013**

**Room E**

Organized by Dau-Chyrh Chang

Chaired by Dau-Chyrh Chang, Jean-Fu Kiang

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- 09:00 Multi Bands Reconfigurable Antenna for Mobile Phone Application  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Hsin-Chi Li (Oriental Institute of Technology, Taiwan, R.O.C.);*
- 09:20 Reconfigurable Antenna with Tri-polarization Capability  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Hsin-Chi Li (Oriental Institute of Technology, Taiwan, R.O.C.);*
- 09:40 Extension of Matrix Pencil Methods to the Synthesis of Sparse Linear Arrays with Multiple-patterns  
*Yanhui Liu (Xiamen University, China); Qing Huo Liu (Duke University, USA); Zai-Ping Nie (University of Electronic Science and Technology of China, China); Kun Liao (Xiamen University, China);*
- 10:00 Analysis of Phase Range Distribution of Different Reflectarray Elements on Polycrystalline Silicon Cell  
*Arshad Selamat (Universiti Kebangsaan Malaysia, Malaysia); Norbahiah Misran (Universiti Kebangsaan Malaysia, Malaysia); Mohammad Tariqul Islam (Universiti Kebangsaan Malaysia, Malaysia); Mohd Fais Mansor (Universiti Kebangsaan Malaysia, Malaysia);*

10:20 **Coffee Break**

- 10:40 Design a Patch Antenna Array to an Optimum Near Field Distribution in the Near-Zone for RFID Applications  
*Hsi-Tseng Chou (Yuan Ze University, Taiwan); Kai-Te Wang (Yuan Ze University, Taiwan); Shih-Chung Tuan (Oriental Institute of Technology, Taiwan); Chien-Te Yu (Yuan Ze University, Taiwan); Kai-Hao Bai (Yuan Ze University, Taiwan); Paolo Nepa (University of Pisa, Italy);*

- 11:00 Circularly Polarized Waveguide Slot Array  
*Ming Hui Chen (Victory Microwave Corporation, Taiwan);*

- 11:20 Beam Steering of a Large Phased-array Antenna with Constant Major-lobe Width and Constrained Side-lobes  
*Song-Han Yang (National Taiwan University, Taiwan); Jean-Fu Kiang (National Taiwan University, Taiwan);*

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**Session 1P1**

**Quantum Metamaterials**

**Monday PM, March 25, 2013**

**Room A**

Organized by Alexandre M. Zagoskin, Didier Felbacq  
 Chaired by Alexandre M. Zagoskin, Didier Felbacq

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- 13:40 Quantum Measurement and Metamaterials  
*Mark J. Everitt (Univ. Loughborough, UK); J. H. Samson (Univ. Loughborough, UK); S. E. Savel'ev (Univ. Loughborough, UK); T. P. Spiller (University of Leeds, USA); R. Wilson (Univ. Loughborough, UK); Alexandre M. Zagoskin (Loughborough University, UK);*
- 14:00 Microwave Structures with Quantum Topological Effects Based on Magnetic-dipolar-mode Ferrite Particles  
*M. Berezin (Ben Gurion University of the Negev, Israel); Eugene O. Kamenetskii (Ben-Gurion University of the Negev, Israel); Reuven Shavit (Ben-Gurion University of the Negev, Israel);*



- 14:20 A Quantum Phase-slip Junction Built from a Josephson Junction Crystal  
*Thomas Weissl (Universite Joseph Fourier, France); Gianluca Rastelli (Universite Joseph Fourier, France); Bruno Kung (Universite Joseph Fourier, France); Alexey K. Feofanov (Universite Joseph Fourier, France); Etienne Dumur (Universite Joseph Fourier, France); Vitaly N. Golovach (Universite Joseph Fourier, France); Olivier Buisson (Universite Joseph Fourier, France); Frank W. J. Hekking (Universite Joseph Fourier, France); Wiebke Guichard (Universite Joseph Fourier, France);*
- 14:40 Superconducting Qubits for Quantum Optics and Quantum Metamaterials  
*Oleg Astafiev (RIKEN, Japan);*
- 15:00 Quantum Metamaterials for Optical Elements and Detectors: New Possibilities  
*Alexandre M. Zagoskin (Loughborough University, UK);*
- 15:20 **Coffee Break**
- 15:40 Photon Generation from Quantum Vacuum Using a Josephson Metamaterial  
*Pasi Lähteenmäki (Aalto University, Finland); Gheorghe Sorin Paroanu (Aalto University, Finland); J. Hassel (VTT Technical Research Centre of Finland, Finland); Pertti J. Hakonen (Aalto University, Finland);*
- 16:00 Quantum-dot Metamaterials  
*M. Decker (The Australian National University, Australia); I. Staude (The Australian National University, Australia); I. Shishkin (The Australian National University, Australia); K. B. Samusev (Lofte Physics-Technical Institute of the Russian Academy of Science, Russia); P. Parkinson (Australian National University, Australia); V. K. A. Sreenivasan (Macquarie University, Australia); Alexander Minovich (The Australian National University, Australia); Andrey E. Miroshnichenko (Australian National University, Australia); Andrei V. Zvyagin (Macquarie University, Australia); C. Jagadish (Australian National University, Australia); Dragomir N. Neshev (Australian National University, Australia); Yuri S. Kivshar (Australian National University, Australia);*
- 16:20 Low Threshold Confined Tamm Plasmon Laser  
*Joel Bellessa (Université de Lyon, France); Clementine Symonds (Université de Lyon, France); S. Aberraghebrou (Université de Lyon, France); A. Lemaitre (CNRS, France); Pascale Senellart (LPN/CNRS, France);*
- 16:40 A Quantum Effect in the Classical Limit: Nonequilibrium Tunneling in the Quantum Duffing Oscillator  
*Alec Maassen Van Den Brink (Academia Sinica, Taiwan);*
- 17:00 Surface Plasmon Interaction with a Gain Medium  
*Aurore Castanie (University of Montpellier 2, France); Brahim Guizal (Université de Montpellier 2, France); Didier Felbacq (Université de Montpellier 2, France);*
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- Session 1P2a**  
**Extended/Unconventional Electromagnetic Theory, EHD(Electrohydrodynamics)/EMHD(Electromagneto-hydrodynamics), and Electro-biology**  
**2**
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- Monday PM, March 25, 2013**  
**Room B**  
 Organized by Eva Gescheidtova  
 Chaired by Jan Mikulka
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- 13:20 Filtration Properties of a System for the Measurement of Air Ions  
*Zoltán Szabó (Brno University of Technology, Czech Republic); Zdeněk Roubal (Brno University of Technology, Czech Republic); Karel Bartušek (Brno University of Technology, Czech Republic);*
- 13:40 Hierarchy of Discontinuous Solutions in Plasma Model of Two-fluids  
*Oleg V. Kravchenko (Bauman Moscow State Technical University, Russian Federation);*
- 14:00 A Comparison of the Dynamic Range of FDNR Building Blocks  
*Zoltán Szabó (Brno University of Technology, Czech Republic); Jirí Sedláček (Brno University of Technology, Czech Republic); Martin Friedl (Brno University of Technology, Czech Republic);*
- 14:20 Analysis of Leap-frog Filter in the Programme NAF  
*Lubomír Frohlich (Brno University of Technology, Czech Republic); Jirí Sedláček (Brno University of Technology, Czech Republic); Martin Friedl (Brno University of Technology, Czech Republic); Martin Čap (Brno University of Technology, Czech Republic);*
- 14:40 Application of the Level Set Method in MR-EIT Inverse Problems  
*Tomas Kriz (Brno University of Technology, Czech Republic); Jarmila Dědková (Brno University of Technology, Czech Republic);*

- 15:00 Influence of Initial Conditions on Conductivity Calculation via the MR-EIT Inverse Problem  
*Tomas Kriz (Brno University of Technology, Czech Republic); Jarmila Dědková (Brno University of Technology, Czech Republic);*

15:20 **Coffee Break**

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**Session 1P2b**  
**Application of EM Field in Medicine and in Ecological Technologies**

**Monday PM, March 25, 2013**

**Room B**

Organized by Jan Vrba

Chaired by Jan Vrba

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- 15:40 Analytical Model of Resonant Dryer Textile  
*Jan Vrba (Czech Technical University in Prague, Czech Republic); Marika Pourova (Czech Technical University in Prague, Czech Republic);*
- 16:00 Application of EM Field in Medicine  
*Jan Vrba (Czech Technical University in Prague, Czech Republic);*
- 16:20 EM Field and Biological Systems Interactions  
*Jan Vrba (Czech Technical University in Prague, Czech Republic);*
- 16:40 Electromagnetic Applicators for Deep Local Treatment  
*Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);*
- 17:00 EM Applicators: Aperture and Water Bolus Resonances  
*David Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic);*
- 17:20 Lens Applicator for EM Thermotherapy  
*David Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic);*

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**Session 1P3a**  
**Near-field Engineering, Surface-enhanced Raman Scattering and Their Applications**

**Monday PM, March 25, 2013**

**Room C**

Organized by Shiu-an-Yeh Chen, Qing Huo Liu

Chaired by Shiu-an-Yeh Chen, Qing Huo Liu

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- 13:20 A Nanotechnology Platform Based on Surface-enhanced Raman Spectroscopy for Rapid Detection of Microbes  
*Ting-Yu Liu (National Taiwan University, Taiwan); Huai-Hsien Wang (Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan); Kun-Tong Tsai (Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan); Yu Chen (Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan); Yuan-Chun Chao (Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan); Hsuan-Hao Chang (Institute of Atomic and Molecular Sciences, Academia Sinica, Taiwan); Yin-Yi Han (National Taiwan University Hospital, Taiwan); Wei-Nan Lian (National Yang-Ming University, Taiwan); Chi-Hung Lin (National Yang-Ming University, Taiwan); Juen-Kai Wang (National Taiwan University, Taiwan, R.O.C.); Yuh-Lin Wang (Acad Sinica, Taiwan);*
- 13:40 Manipulating the Optical Properties of Metallic Thin Film with Nanoscale Holes  
*Jinfeng Zhu (Xiamen University, China); Qing Huo Liu (Duke University, USA);*
- 14:00 Barcoded Beads Based on Surface-enhanced Raman Scattering for Pathogen Detection  
*Lai-Kwan Chau (National Chung Cheng University, Taiwan);*
- 14:20 Gain-assisted Hybrid-superlens Hyperlens for Nano Imaging  
*You Zhe Ho (National Taiwan University, Taiwan); Yao-Ting Wang (National Central University, Taiwan); Bo Han Cheng (Academia Sinica, Taiwan); Yung-Chiang Lan (National Cheng Kung University, Taiwan, R.O.C.); Pi-Gang Luan (National Central University, Taiwan); Din Ping Tsai (National Taiwan University, Taiwan, R.O.C.);*

- 14:40 Electromagnetic Modeling and Simulation for Interconnect Structures Based on Volume-surface Integral Equations  
*Y. Q. Zhang (Tongji University, China); M. H. Wei (Tongji University, China); Y. R. Cao (Tongji University, China); Y. Q. Wang (Tongji University, China); Mei Song Tong (Tongji University, China);*
- 15:00 Fast Fabrication of Plasmonic Nanostructures on AgO<sub>x</sub> Thin Film Using Femtosecond Laser-direct Writing  
*Ming Lun Tseng (National Taiwan University, Taiwan); Yueh-Hung Cheng (National Taiwan University, Taiwan); Yao-Wei Huang (National Taiwan University, Taiwan); Cheng Hung Chu (National Taiwan University, Taiwan); Chia Min Chang (National Taiwan University, Taiwan); Dingwei Huang (National Taiwan University, Taiwan); Hai-Pang Chiang (National Taiwan Ocean University, Taiwan); Greg Sun (University of Massachusetts Boston, USA); Dim Ping Tsai (National Taiwan University, Taiwan, R.O.C.); Yu Lim Chen (National Taiwan University, Taiwan);*
- 15:20 **Coffee Break**
- 15:40 Refractive Index Profiling of Metal-diffused Planar Waveguides Using a Differential Near-field Optical Microscopy  
*Wan-Shao Tsai (National Chi-Nan University, Taiwan); Pei-Kuen Wei (Academia Sinica, Taiwan);*
- 16:40 Rain Attenuation Prediction Using Frequency Scaling Technique at Tropical Region for Terrestrial Link  
*Ulaganathen Kesavan (Technology University of Malaysia, Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Mohd Rafiqul Islam (International Islamic University Malaysia, Malaysia);*
- 17:00 New Indoor Propagation Channel Model for Location Purposes  
*Alain Moretto (ESIGETEL, France); Elizabeth Colin (ESIGETEL, France);*
- 17:20 Access Point Selection for WLAN Indoor Localization Systems Using RF Walk Test Data  
*Chamal Sapumohotti (Multimedia University, Malaysia); Mohamad Yusoff Alias (Multimedia University, Malaysia); Su Wei Tan (Multimedia University, Malaysia);*
- 17:40 Reducing the Calibration Effort in WLAN Indoor Localization Systems Using Cluster Analysis of RF Walk Test Data  
*Chamal Sapumohotti (Multimedia University, Malaysia); Mohamad Yusoff Alias (Multimedia University, Malaysia); Su Wei Tan (Multimedia University, Malaysia);*
- 18:00 Impact of Floor Attenuation Factor on Indoor Localization Accuracy for Multi-floor Environment  
*Abdulraqueeb Alhammadi (Multimedia University, Malaysia); Mohamad Yusoff Alias (Multimedia University, Malaysia); Su Wei Tan (Multimedia University, Malaysia);*

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**Session 1P3b**
**Wireless Communication, Propagation Prediction**


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**Monday PM, March 25, 2013**
**Room C**

 Chaired by Takehiko Kobayashi
 

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- 16:00 Evaluation of Path Visibility between Base and Mobile Stations in Cellular Communication Systems  
*Kazuya Iwasaki (Tokyo Denki University, Japan); Takehiko Kobayashi (Tokyo Denki University, Japan);*
- 16:20 Interference Cancellation and DOA Estimation by Generalized Receiver Applying LMS and MUSIC Algorithms  
*Jingui Liu (Kyungpook Natinal University, South Korea); Modar Safir Shbat (Kyungpook Natinal University, South Korea); Vyacheslav Tuzlukov (Kyungpook Natinal University, South Korea);*

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**Session 1P4**
**Advanced Numerical Techniques in Electromagnetics**


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**Monday PM, March 25, 2013**
**Room D**

Organized by Mei Song Tong, Naoshi Nishimura

 Chaired by Mei Song Tong, Naoshi Nishimura
 

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- 13:40 Electric Fields Radiated from an Electrostatic Discharge Suppressor Filled with Air, Argon, Helium, and Neon  
*Hsing-Yi Chen (Yuan Ze University, Taiwan); Pei-Kuen Li (Yuan Ze University, Taiwan);*
- 14:00 Real-time Local Capacitance Extraction at Field-solver Accuracy Using Instantiable Basis Functions with Boundary Element Methods  
*Yu-Chung Hsiao (Massachusetts Institute of Technology, USA); Luca Daniel (Massachusetts Institute of Technology, USA);*

- 14:20 An FMBEM for Periodic Transmission Problems Using Müller's Formulation and Nyström's Method  
*K. Niino (Kyoto University, Japan); Naoshi Nishimura (Kyoto University, Japan);*
- 14:40 Analysis of Transient Electromagnetic Fields near Nano Objects by an Integral Equation Method with FILT  
*Seiya Kishimoto (Nihon University, Japan); Shinichiro Ohnuki (Nihon University, Japan); Yoshito Ashizawa (Nihon University, Japan); Katsuji Nakagawa (Nihon University, Japan); Shao Ying Huang (Singapore University of Technology and Design, Singapore); Weng Cho Chew (University of Illinois, USA);*
- 15:20 **Coffee Break**
- 15:40 Perturbation-based Electric Field Integral Equation for Low Frequency Capacitive Problems  
*Sheng Sun (The University of Hong Kong, China); Q. S. Liu (The University of Hong Kong, China); Weng Cho Chew (University of Illinois, USA);*
- 16:00 Extension of the Spectral Acceleration Method to Absorptive Medium and Its Application to Electromagnetic Scattering from Rough Surfaces  
*Yinhui Wang (Zhejiang University, China); Yang Du (Zhejiang University, China);*
- 16:20 Evaluation of Singular Potential Integrals with Linear Source Distribution  
*W. T. Sheng (Tongji University, China); Z. Y. Zhu (Tongji University, China); G. C. Wan (Tongji University, China); Mei Song Tong (Tongji University, China);*
- 16:40 Direct Matrix Solutions of Linear Complexity for Rapid Electromagnetic Analysis of Large-scale Integrated Circuits  
*Dan Jiao (Purdue University, USA);*
- 17:00 SEM for Huge Enhancement of Second-harmonic Generation in Air-bridge Photonic Crystal Slabs  
*Ma Luo (Duke University, USA); Qing Huo Liu (Duke University, USA);*
- 13:20 A Novel Square Ring Patch Antenna for GPS Signal Reception  
*Wen-Shan Chen (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Yu-Ching Su (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Ke-Ming Lin (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Chien-Min Cheng (Southern Taiwan University of Science and Technology, Taiwan); Yu-Zung Chiou (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Chun-Kai Wang (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.);*
- 13:40 A Multi-arm Coupled-fed Monopole Antenna for WWAN Mobile Systems  
*Wen-Shan Chen (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Bau-Yi Lee (Tung Fang Design University, Taiwan); Hung-Ying Lin (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Chien-Min Cheng (Southern Taiwan University of Science and Technology, Taiwan); Shih-Chiang Chiu (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Jing-Yen Chen (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.);*
- 14:00 A Feeding Method for Broadband Microstrip Antenna Using Coaxial Structure  
*Sotaro Maruyama (Kumamoto University, Japan); Takeshi Fukusako (Kumamoto University, Japan);*
- 14:20 Improving Wireless Power Transfer Efficiency by Using Coil Antenna Arrays for Charging Wireless Communication Devices  
*Shi Pu (National University of Singapore, Singapore); Hon Tat Hui (National University of Singapore, Singapore);*
- 14:40 Design of Two-layer Hemispherical Dielectric Resonator Antenna  
*Xiao Sheng Fang (City University of Hong Kong, China); Kwok Wa Leung (City University of Hong Kong, China);*
- 15:00 A Wideband Circularly Polarized Magneto-electric Dipole Antenna  
*Kwai Man Luk (City University of Hong Kong, China); Mingjian Li (City University of Hong Kong, China);*
- 15:20 **Coffee Break**

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**Session 1P5a**
**Antennas for Wireless Communications**


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**Monday PM, March 25, 2013**
**Room E**

Organized by Kwok Wa Leung, Kwai Man Luk

 Chaired by Kwok Wa Leung, Kwai Man Luk
 

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**Session 1P5b**  
**Small Size and Low-profile Antennas**

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**Monday PM, March 25, 2013**

**Room E**

Organized by Takeshi Fukusako

Chaired by Takeshi Fukusako

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- 15:40 Use of Transparent Dielectric Resonator Antenna as a Light Cover  
*Xiao Sheng Fang (City University of Hong Kong, China); Kwok Wa Leung (City University of Hong Kong, China);*
- 16:00 A Consideration of Grounded Helical Antenna for Coupled-resonant Wireless Power Transfer  
*Hiroshi Hirayama (Nagoya Institute of Technology, Japan); Tomohiro Amano (Nagoya Institute of Technology, Japan); Nobuyoshi Kikuma (Nagoya Institute of Technology, Japan); Kunio Sakakibara (Nagoya Institute of Technology, Japan);*
- 16:20 A Compact Loop Antenna with Parasitic Split Ring for UHF RFID Application  
*Kittima Lertsakwimarn (King Mongkut's Institute of Technology Ladkrabang, Thailand); Rattapong Suwalak (King Mongkut's Institute of Technology, Thailand); Chuwong Phongcharoenpanich (King Mongkut's Institute of Technology, Thailand);*
- 16:40 Compact Size Antenna for Car FM Radio  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Fong-Yi Lin (Oriental Institute of Technology, Taiwan); Bing-Hao Zeng (Lorom Industrial Co. Ltd, Taiwan); Jay Chen (Lorom Industrial Co. Ltd, Taiwan);*
- 17:00 Triple-band Circularly Polarized Small Microstrip Antenna with Crank Slits  
*Takafumi Fujimoto (Nagasaki University, Japan); Akinori Tanaka (Nagasaki University, Japan);*
- 17:20 Gain Enhancement of Circularly Polarized Slender Antenna Using a Wider Helical Element  
*Ye Zhang (Kumamoto University, Japan); Takeshi Fukusako (Kumamoto University, Japan);*
- 17:40 A New Method of Antenna Miniaturization  
*Li-Yuan Cheng (National Chiao Tung University, Taiwan); Fu-Chiarnng Chen (National Chiao Tung University, Taiwan);*

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**Session 2A1**  
**Manipulating Wave with Metamaterials and Photonic Crystal 1**

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**Tuesday AM, March 26, 2013**

**Room A**

Organized by Che Ting Chan, Zhi Hong Hang

Chaired by Zhi Hong Hang

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- 08:40 Transformation Bending Device Emulated by Graded-index Waveguide  
*Y. Wang (Nanjing University, China); C. Sheng (Nanjing University, China); Hui Liu (Nanjing University, China); Y. J. Zheng (Nanjing University, China); Cong Zhu (Nanjing University, China); S. M. Wang (Nanjing University, China); S. N. Zhu (Nanjing University, China);*
- 09:00 Resonantly Confined Modes in Optical Fibers with Circularly Aligned High-index Rods  
*Yasuo Ohtera (Tohoku University, Japan); Haruka Hirose (Tohoku University, Japan); Hirohito Yamada (Tohoku University, Japan);*
- 09:20 Manipulating Electromagnetic Waves in Subwavelength Dimensions by Meta-atoms  
*Bo Hou (Soochow University, China); Sucheng Li (Soochow University, China);*
- 09:40 Terahertz Metamaterial Absorbers for Sensing and Imaging  
*Patrick Kung (The University of Alabama, USA); Seongsin Margaret Kim (The University of Alabama, USA);*
- 10:00 Anisotropic Guidance Correction on the Analytical Design Approach of Thin-film Photonic Lüneburg Lens  
*Hanhong Gao (Massachusetts Institute of Technology, USA); Baile Zhang (Nanyang Technological University, Singapore); George Barbastathis (Massachusetts Institute of Technology, USA);*
- 10:20 **Coffee Break**
- 10:40 Operational Slow Line Underpinned by a 1D Metamaterial  
*Darell Dowlet (UPMC Univ Paris 06, France); Thierry Ditchi (UPMC Univ. Paris 6, ESPCI-Paris Tech, France); Emmanuel Geron (ESPCI-Paris Tech, France); Jerome Lucas (ESPCI-Paris Tech, France);*

- 11:00 An Optimized Design of Cylindrical Acoustic Cloak with Two-phase Isotropic Layered Composites  
*Chung-Ning Weng (National Cheng Kung University, Taiwan); W. H. Chung (National Cheng Kung University, Taiwan); Tungyang Chen (National Cheng Kung University, Taiwan);*
- 11:20 Energy Sinks in Optics of Metamaterials: Fundamentals and Applications  
*Vasily V. Klimov (Lebedev Physical Institute, Russian Academy of Sciences, Russia);*
- 11:40 Engineering Transmission and Group Delay in Active Plasmonic Waveguide with Slightly Detuned Resonators  
*Jian-Wen Dong (Sun Yat-Sen (Zhongshan) University, China); Zi-Lan Deng (Sun Yat-Sen (Zhongshan) University, China); Jensen Li (City University of Hong Kong, China);*
- 12:00 Flat Dispersion Eigenmode Drives Perfect Imaging in DNG Slab  
*Gilad Rosenblatt (Technion, Israel); G. Bartal (Technion, Israel); Meir Orenstein (Technion Israel Institute of Technology, Israel);*
- 09:20 Molecular Dynamics Simulations of Vesicles in Electric Fields  
*Xiaowei Zhao (Xiamen University, China); Jianhua Zhang (Xiamen University, China); Qing Huo Liu (Duke University, USA);*
- 09:40 Do Microwaves Induce Free Radicals in Food or Tissues?  
*John Moses Osepchuk (Full Spectrum Consulting, USA); Bob Schiffmann (R. F. Schiffmann Associates, Inc., USA); Chung-Kwang Chou (Motorola Solutions, Inc., USA);*
- 10:00 The Application of Electrochemotherapy in Medicine  
*Jing-Hong Li (China-Japan Hospitality Hospital, China); Yu-Ling Xin (China-Japan Hospitality Hospital, China);*
- 10:20 **Coffee Break**
- 10:40 Thermal Dosimetry and Thermodynamics of In Vitro RF Bioassays  
*Quirino Balzano (University of Maryland, USA); Asher R. Sheppard (Asher Sheppard Consulting, USA); Giorgi Bit-Babik (Motorola Labs, USA);*
- 11:00 Calculation of SAR and Temperature Increase in Human Bodies Due to on-body Communications at 900 MHz  
*Hsing-Yi Chen (Yuan Ze University, Taiwan); Heng-Ming Lee (Yuan Ze University, Taiwan);*

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**Session 2A2**

**Biological Effects and Medical Applications of Electromagnetic Energy 1**

**Tuesday AM, March 26, 2013**

**Room B**

Organized by Chung-Kwang Chou

Chaired by Chung-Kwang Chou, Ji-Shing Lin

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- 08:40 Topological Magnetoelectric Fields for Microwave Biosensing  
*Eugene O. Kamenetskii (Ben-Gurion University of the Negev, Israel); Roman Joffe (Ben-Gurion University of the Negev, Israel); Reuven Shavit (Ben-Gurion University of the Negev, Israel);*
- 09:00 Real-time Study of Sinusoidal Electromagnetic Fields Induced Intracellular  $[Ca^{2+}]$ ; Responses in the Osteoblast Cells  
*Guizian Meng (Nankai University, China); Leitong Pan (Nankai University, China); Xiaoxu Wang (Nankai University, China); Taojie Bao (Nankai University, China); Haiying Sun (Nankai University, China); Renzhi (Imshik) Li (Lee) (Nankai University, China);*
- 11:20 Normalization of the Peak Spatial Absorption Rate for the Simulation of Wireless Communication Devices  
*Jafar Keshvari (Nokia Corporation, Finland); Andreas Christ (Nokia Corporation, Finland);*
- 11:40 Evaluation on Electromagnetic Interference of Implanted Cardiac Pacemaker by Mobile Phone  
*Yuta Endo (Chiba University, Japan); Kazuyuki Saito (Chiba University, Japan); Soichi Watanabe (National Institute of Information and Communications Technology, Japan); Masaharu Takahashi (Chiba University, Japan); Koichi Ito (Chiba University, Japan);*

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**Session 2A3**

**Microwave Remote Sensing and Polarimetry, SAR, GPR**

**Tuesday AM, March 26, 2013**

**Room C**

Chaired by Leung Tsang

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- 09:00 Physical Models and Validation for L-band Radar Backscattering from Vegetated Surfaces  
*Tien-Hao Liao (University of Washington, USA); Leung Tsang (University of Washington, USA); Xiaolan Xu (California Institute of Technology, USA); Huanting Huang (University of Washington, USA); Seung-Bum Kim (California Institute of Technology, USA);*
- 09:20 Applicability of SSDC Method for SNR Evaluation on Hyperion and HJ-1A Hyperspectral Data  
*Xinhong Wang (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Bo Zhu (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Hongbing Niu (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Lingli Tang (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Guangzhou Ouyang (Academy of Opto-Electronics, Chinese Academy of Sciences, China);*
- 09:40 3D Active Imaging Models and Systems to See through Adverse Conditions: Application to the Surveillance of an Aircraft Environment  
*Nicolas Riviere (Onera, The French Aerospace Lab, France); Romain Ceolato (Onera, The French Aerospace Lab, France); Erwan Bernard (Onera, The French Aerospace Lab, France); Laurent Hespel (Onera, The French Aerospace Lab, France); Mathieu Renaudat (Sagem Security and Defense, France);*
- 10:00 Time Series of Polarimetric Intensity and Coherence over Tropical Forest: Rainy and Dry Season  
*Alia Hamadi (CESBIO, France); Clément Albinet (Office National d'Études et de Recherches Aérospatiales, ONERA, France); Pierre Borderies (Office National d'Études et de Recherches Aérospatiales (ONERA), France); Thierry Koleck (Centre National d'Études Spatiales (CNES), France); Fabio Rocca (Politechnic of Milan, Italy); Stefano Tebaldini (Politecn Milan, Italy); Thuy Le Toan (CNES-CNRS-Université Paul Sabatier, France); L. Villard (CESBIO, France);*
- 10:20 **Coffee Break**
- 10:40 A Multi-scale SAR Segmentation Based on Hierarchical Merging  
*Xi Ye (Center for Earth Observation and Digital Earth, CAS, China); Meng Liu (Center for Earth Observation and Digital Earth, CAS, China); Hong Zhang (Center for Earth Observation and Digital Earth, CAS, China); Chao Wang (Center for Earth Observation and Digital Earth, CAS, China);*
- 11:00 New SAW Odor and Gas Sensor for Sensor Network Installed in Smart House  
*Mitsutaka Hikita (Kogakuin University, Japan); Jun Hosaka (Kogakuin University, Japan);*
- 11:20 Checking of Combustion Chamber of Liquid Rocket Using ECT with AMR Sensor  
*Dong Feng He (National Institute for Materials Science, Japan); Mitsuharu Shiwa (National Institute for Materials Science, Japan); S. Moriya (Japan Aerospace Exploration Agency, Japan);*
- 11:40 Study of Earthquake Location Using Electromagnetic Precursors  
*Yi Wang (Nanjing University of Aeronautics and Astronautics, China); Qunsheng Cao (Nanjing University of Aeronautics and Astronautics, China); Xiao Yuan (Nanjing University of Aeronautics and Astronautics, China); Ya'nan Liu (Nanjing University of Aeronautics and Astronautics, China);*
- 12:00 Prediction of Radar Reflectivity along Radio Link  
*Chrispin Tshikomb. Mulangu (University of Kwazulu-Natal, South Africa); Senzo Jerome Malinga (Mangosuthu University of Technology, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa);*
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- Session 2A4**  
**Multi-scale and Multi-physics Computational Techniques**
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- Tuesday AM, March 26, 2013**  
**Room D**  
Organized by Jin-Fa Lee, Yang Shao  
Chaired by Yang Shao, Jin-Fa Lee
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- 09:00 Time Domain Transient Analysis of Electromagnetic Field Radiation for Phased Periodic Array Antennas Applications  
*Shih-Chung Tuan (Oriental Institute of Technology, Taiwan); Hsi-Tseng Chou (Yuan Ze University, Taiwan);*
- 09:20 Effect of Random Medium on Wave Propagation in Evaporation Ducts above a Rough Sea Surface  
*Yung-Hsiang Chou (National Taiwan University, Taiwan); Jean-Fu Kiang (National Taiwan University, Taiwan);*
- 09:40 Rigorous Conductor Modeling of Signal Integrity in ICs Using a Multi-solver Domain Decomposition Method  
*Yang Shao (The Ohio State University, USA); Zhen Peng (The Ohio State University, USA); Jin-Fa Lee (The Ohio State University, USA);*

- 10:00 Non-overlapping Integral Equation Domain Decomposition Method for Dielectric Problems  
*Ming Jiang (University of Electronic Science and Technology of China, China); Jun Hu (University of Electronic Science and Technology of China, China); Ran Zhao (University of Electronic Science and Technology of China, China); Xiang Wei (University of Electronic Science and Technology of China, China); Zai-Ping Nie (University of Electronic Science and Technology of China, China);*
- 10:20 **Coffee Break**
- 11:00 Multiphysics Analysis for Electromagnetic Radiation by Elastic Media  
*M. H. Wei (Tongji University, China); Y. Q. Zhang (Tongji University, China); Y. Q. Wang (Tongji University, China); Mei Song Tong (Tongji University, China);*
- 11:20 Multiphysics Modeling and Understanding for Plasmonic Organic Solar Cells  
*Wei E. I. Sha (The University of Hong Kong, China); Wallace C. H. Choy (The University of Hong Kong, China); Weng Cho Chew (University of Illinois, USA);*
- 11:40 An Alternative Algorithm for Dynamic Recognition of Handwritten Signatures  
*Jimmy Alexander Cortes Osorio (Technological University of Pereira, Colombia); David Esteban Ardila Nieto (Universidad Tecnológica de Pereira, Colombia); Jairo Alberto Mendoza Vargas (Universidad Tecnológica de Pereira, Colombia);*
- 12:00 Homogenization and Applications of Ferromagnetic Nano-wires Based Metamaterials  
*Jue Wang (The Ohio State University, USA); Zhen Peng (The Ohio State University, USA); Jin-Fa Lee (The Ohio State University, USA);*
- 09:20 Balanced and Unbalanced Mode Analysis in a Practical Balanced Dipole Antenna Using Mixed-mode  $S$ -parameter  
*Nozomu Ishii (Niigata University, Japan); Junki Hayakawa (Niigata University, Japan);*
- 09:40 Measurement Methods for Total Radiated Power from an Antenna  
*Hiroyuki Arai (Yokohama National University, Japan); Nozomu Ishii (Niigata University, Japan);*
- 10:00 A New Transmission Formula to Extend Friis Formula  
*Masanobu Hirose (National Institute of Advanced Industrial Science and Technology, Japan); Michitaka Ameya (National Institute of Advanced Industrial Science and Technology, Japan); Satoru Kurokawa (AIST Electromagnetic Fields Section Electromagnetic Waves Division NMIJ, Japan);*
- 10:20 **Coffee Break**
- 10:40 W-band Antenna Pattern Measurement System Using Photomixing Technique with UTC-PD  
*Michitaka Ameya (National Institute of Advanced Industrial Science and Technology, Japan); Masanobu Hirose (National Institute of Advanced Industrial Science and Technology, Japan); Satoru Kurokawa (AIST Electromagnetic Fields Section Electromagnetic Waves Division NMIJ, Japan);*
- 11:00 Near-field Magnetic Probe Method Predicting Far-field Measurements — Correlation of Dipole Boresight Measurements with Anechoic Range Model  
*Daniel Brooks (Aprel Inc., Canada); Stuart Nicol (Aprel Inc., Canada); Jesse Hones (Aprel Inc., Canada); John Lee (Aprel Inc., Canada);*
- 11:20 Near-field Measurement System for Evaluation of Aperture Distribution, Radiation Pattern and Gain of Millimeter-wave Planar Array Antennas  
*Kunio Sakakibara (Nagoya Institute of Technology, Japan); Hiroshi Hirayama (Nagoya Institute of Technology, Japan); Nobuyoshi Kikuma (Nagoya Institute of Technology, Japan);*
- 11:40 Broadband and Simplified SAR Measurement Method Using Wave Absorber Phantom for Handset Antennas  
*Naobumi Michishita (National Defense Academy of Japan, Japan); Keita Ochiyama (National Defense Academy, Japan); Yoshihide Yamada (National Defense Academy, Japan); Hiroyuki Arai (Yokohama National University, Japan); Toshiyasu Tanaka (Microwave Factory Co., Ltd., Japan);*

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**Session 2A5**
**Antenna Measurement**


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**Tuesday AM, March 26, 2013**
**Room E**

Organized by Hiroyuki Arai

 Chaired by Hiroyuki Arai, Kunio Sakakibara
 

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- 09:00 Input Impedance Measurement for Balanced Antenna by  $S$ -parameter Method  
*Takayuki Sasamori (Akita Prefectural University, Japan); Teruo Tobana (Akita Prefectural University, Japan); Yoji Isota (Akita Prefectural University, Japan);*



12:00 A Planar PIM-generator for Antenna PIM Test Setup  
*Kohei Takada (Yokohama National University, Japan); Nobuhiro Kuga (Yokohama National University, Japan);*

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**Session 2A6**

**Passive Waveguide Devices Theory and Numerical Modeling**

**Tuesday AM, March 26, 2013**

**Room F**

Organized by Hung-Wen Chang

Chaired by Hung-Wen Chang

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08:40 Method of Connected Local Fields for the Helmholtz Equation  
*Hung-Wen Chang (National Sun Yat-Sen University, Taiwan); Sin-Yuan Mu (National Sun Yat-Sen University, Taiwan);*

09:00 Dispersion Analysis of the 3D LFE-27 Formula for the Method of Connected Local Fields  
*Sin-Yuan Mu (National Sun Yat-Sen University, Taiwan); Hung-Wen Chang (National Sun Yat-Sen University, Taiwan);*

09:20 FD-FD Analysis of SOI Based Micro-ring Cavities  
*Hung-Wen Chang (National Sun Yat-Sen University, Taiwan);*

09:40 Guided Modes of Photonic Crystal Fiber Coupler Using Vector Boundary Element Method  
*Jung-Sheng Chiang (I-Shou University, Taiwan); Rui-Sheng Wang (I-Shou University, Taiwan); Yu-Liang Chen (I-Shou University, Taiwan); Nai-Hsiang Sun (I-Shou University, Taiwan);*

10:00 Grating-assisted Coupling between Contra-propagated Modes  
*Nai-Hsiang Sun (I-Shou University, Taiwan); Chia-Ming Hu (I-Shou University, Taiwan); Shou-Feng Tsai (I-Shou University, Taiwan); Tsum-Yen He (I-Shou University, Taiwan); Shih-Cing Lei (I-Shou University, Taiwan); Jung-Sheng Chiang (I-Shou University, Taiwan);*

10:20 **Coffee Break**

10:40 Analysis of Fiber Bragg Gratings with Multi-grating Sections  
*Nai-Hsiang Sun (I-Shou University, Taiwan); Chia-Ming Hu (I-Shou University, Taiwan); Kun-Jhe Li (I-Shou University, Taiwan); Fang-Jui Chang (I-Shou University, Taiwan); Jung-Sheng Chiang (I-Shou University, Taiwan);*

11:00 Analysis of Surface Plasmon Phenomenon of Multi-pair Array of Silver Nanocylinders and Design  
*Po-Jui Chiang (National Kaohsiung University of Applied Sciences, Taiwan); Fang-Chi Li (National Kaohsiung University of Applied Sciences, Taiwan); Nai-Hsiang Sun (I-Shou University, Taiwan); Chia-Ming Hu (I-Shou University, Taiwan);*

11:20 Investigation of Frequency-domain Absorbing Boundary Conditions for the Helmholtz Equation  
*Hung-Wen Chang (National Sun Yat-Sen University, Taiwan);*

11:40 Comparison of Frequency-domain Absorbing Boundary Conditions for the Helmholtz Equation  
*Hung-Wen Chang (National Sun Yat-Sen University, Taiwan);*

12:00 Local Field Expansion Coefficients for Dielectric Media with Interfaces Based on the Method of Connected Local Fields  
*Hung-Wen Chang (National Sun Yat-Sen University, Taiwan); Sin-Yuan Mu (National Sun Yat-Sen University, Taiwan);*

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**Session 2A7**

**Resonators, Filters, Interconnects, Packaging, MMIC**

**Tuesday AM, March 26, 2013**

**Room G**

Organized by Albert Chin, Hsuan-Ling Kao

Chaired by Albert Chin, Hsuan-Ling Kao

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09:00 Effects of Residual Stress on Assembled SAW Strain Sensors  
*Jochen Hempel (University of Freiburg, Germany); Jürgen Wilde (Department of Microsystem Engineering, IMTEK, Germany); Leonhard M. Reindl (Albert-Ludwigs-University, Germany);*

09:20 Design of Second-order Inductive-coupled Resonator-based Bandpass Filter with Controllable Multiple Transmission Zeros  
*Hui-Hsiang Huang (National Sun Yat-Sen University, Taiwan); Tzzy-Sheng Horng (National Sun Yat-Sen University, Taiwan);*

09:40 Exact Synthesis of a Compact Dual-band Filter with an Asymmetric Response  
*Vincent Lunot (National Cheng Kung University, Taiwan); Chihming Tsai (National Cheng Kung University, Taiwan);*

- 10:00 Design of Dual-band Coupling Matrix-based Matching Network  
*Chieh-Sen Lee (National Cheng Kung University, Taiwan); Chin-Lung Yang (National Cheng Kung University, Taiwan);*
- 10:20 **Coffee Break**
- 10:40 A Low-power K-band VCO Using Switchable Active Circuit Design  
*Szu-Ling Liu (National Chiao Tung University, Taiwan); Xin-Cheng Tian (Xidian University, China); Yue Hao (Xidian University, China); Yu-Chien Huang (National Chiao Tung University, Taiwan); Albert Chin (National Chiao-Tung University, Taiwan, R.O.C.);*
- 11:00 Design and Characterization of Cryogenic Wideband LNA Using WIN 0.15  $\mu\text{m}$  GaAs pHEMT Process  
*Ying Chen (Shanghai Astronomical Observatory, Chinese Academy of Sciences, China); Bin Li (Shanghai Astronomical Observatory, Chinese Academy of Sciences, China); Kun-Long Wu (National Chiao Tung University, Taiwan); Robert (Shu-I) Hu (National Chiao Tung University, Taiwan, R.O.C.);*
- 11:20 A 0.7 V Ka-band MMIC Amplifier in 65 nm CMOS Technology  
*Yu-Shao Jerry Shiao (National Nano Device Laboratories, Taiwan, R.O.C.); Hsuan-Der Yen (National Tsing Hua University, Taiwan, R.O.C.); Guo-Wei Huang (National Nano Device Laboratories, Taiwan);*
- 11:40 A 3.5 GHz Single-Pole Double-Throw T/R Switch with High P1dB Implemented in a 0.35  $\mu\text{m}$  GaN-on-Si HEMT Process  
*Hsuan-Ling Kao (Chang Gung University, Taiwan); Chih-Sheng Yeh (Chang Gung University, Taiwan); Hsien-Chin Chiu (Chang Gung University, Taiwan, R.O.C.);*
- 2 Ridge-type Semiconductor Laser with a Partially Undoped Antiguinding Cladding Layer for Horizontal Transverse Modes  
*Guowei Chai (Ritsumeikan University, Japan); Takahiro Numai (Ritsumeikan University, Japan);*
- 3 Enhanced Visible Photoluminescence of  $\text{SnO}_2/\text{Gd}_2\text{O}_3$  Co-doped Glasses  
*Yu Tong (East China University of Science and Technology, China); Yinyao Liu (East China University of Science and Technology, China); Jing Ren (East China University of Science and Technology, China); Guorong Chen (East China University of Science and Technology, China);*
- 4 Evaluation of Nonlinear Effect Impact on Optical Signal Transmission over Combined WDM System  
*Vjaceslavs Bobrovs (Riga Technical University, Latvia); Aleksejs Udalcovs (Riga Technical University, Latvia); Rolands Parts (Riga Technical University, Latvia); Ilja Trifonovs (Riga Technical University, Latvia);*
- 5 Performance Improvement of Spectrum-sliced Passive Optical Network  
*Girts Ivanovs (Riga Technical University, Latvia); Sandis Spolitis (Riga Technical University, Latvia); Rolands Parts (Riga Technical University, Latvia); Vjaceslavs Bobrovs (Riga Technical University, Latvia);*
- 6 Numerical Investigation of Mode Birefringence and Confinement Loss of Different Air Hole Patterns in Photonic Crystal Fiber Cladding  
*Yuan-Fong Chau (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Shinn-Fwu Wang (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Yi Chu (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Jeng-Hua Wei (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Wayne Yang (Chien Hsin University of Science and Technology, Taiwan, R.O.C.);*

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**Session 2A8**

**Poster Session 1**

**Tuesday AM, March 26, 2013**

**9:00 AM - 12:00 AM**

**Room K**

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- 1 Plasmonic Band Edge Effects in Periodic Metallic Gratings  
*Wei E. I. Sha (The University of Hong Kong, China); Ling Ling Meng (The University of Hong Kong, China);*
- 7 Design of an Optimal Benes WEX Architecture Based on Sufficient Permutations  
*Jieh-Chian Wu (National Kaohsiung First University of Science and Technology, Taiwan); Miao-Hsu Wei (National Kaohsiung First University of Science and Technology, Taiwan);*

- 8 Analysis of Anisotropic Diffraction in Volume Gratings Using Liquid Crystal Composites  
Akifumi Ogiwara (Kobe City College of Technology, Japan); Hiromu Shichi (Kobe City College of Technology, Japan); Hiroshi Kakiuchida (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Akira Emoto (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Hiroshi Ono (Nagaoka University of Technology, Japan);
- 9 Temperature Dependable Holographic Memory Using Holographic Polymer-dispersed Liquid Crystal  
Akifumi Ogiwara (Kobe City College of Technology, Japan); Minoru Watanabe (Shizuoka University, Japan); Retsu Moriwaki (Shizuoka University, Japan);
- 10 Investigation on Band Gap Characteristics in a Two-dimensional Photonic Crystal with Honeycomb Structure  
Shang-Lin Hou (Lanzhou University of Technology, China); Rui Lv (Lanzhou University of Technology, China); Yan-Jun Liu (Lanzhou University of Technology, China); Jingli Lei (Lanzhou University of Technology, China); Suo-Ping Li (Lanzhou University of Technology, China);
- 11 Study on Characteristics of the Photonic Crystal Fibers with Three Zero-dispersion Points  
Shang-Lin Hou (Lanzhou University of Technology, China); Yu Du (Lanzhou University of Technology, China); Rui Lv (Lanzhou University of Technology, China); Yan-Jun Liu (Lanzhou University of Technology, China); Jingli Lei (Lanzhou University of Technology, China); Suo-Ping Li (Lanzhou University of Technology, China);
- 12 Investigation on Slow Light of Uniform Fiber Bragg Gratings  
Jingli Lei (Lanzhou University of Technology, China); Shang-Lin Hou (Lanzhou University of Technology, China); Rui Lv (Lanzhou University of Technology, China); Yan-Jun Liu (Lanzhou University of Technology, China); Suo-Ping Li (Lanzhou University of Technology, China);
- 13 Optical Fiber Nonlinear Coefficient Measurements Using FWM  
Andis Supe (Riga Technical University, Latvia); Jurgis Porins (Riga Technical University, Latvia); Girts Ivanovs (Riga Technical University, Latvia);
- 14 Multi-level Pores, Size-tunable  $\text{Fe}_3\text{O}_4$  Nano/Submicrospheres for Electromagnetic Wave Adsorption  
Xutang Qing (Nanjing University, China); Xiaoxiao Yue (Nanjing University, China); Yun Lu (Nanjing University, China);
- 15 Design of Quantum Secure Communication System Based on FPGA  
Jun Li (Peking University, China); Jie Chen (East China Normal University, China); Heping Zeng (East China Normal University, China); Hui Li (Peking University, China);
- 16 Numerical Study of Effective Plasma Frequency for a Plasma Photonic Crystal in the Presence of Magnetic Field  
Heng-Tung Hsu (Yuan Ze University, Taiwan, R.O.C.); Jin-Jei Wu (Chung Hua University, Taiwan, R.O.C.); Chi-Chung Liu (National Formosa University, Taiwan); Chien-Jang Wu (National Taiwan Normal University, Taiwan);
- 17 Mode Transformations of Surface Plasmons to Propagating and Back to Surface Plasmons in Metal Dielectric Interface with a Half Space Cloaking Region  
D. Mahanta (Indian Institute of Technology Madras, India); P. Arora (Indian Institute of Technology Madras, India); Ananth Krishnan (Indian Institute of Technology Madras, India);
- 18 Characterization of Picosecond Laser Pulses Using a Single-shot Measurement Method  
Hoon Jeong (Korea Institute of Industrial Technology, South Korea); Dongjoo Lee (Swamp Optics, USA); Mi Joung Kim (Korea Institute of Industrial Technology, South Korea);
- 19 The Studies of Enhanced Optical Single Sideband Modulation Using by Laser's Cavity Mode and Non-linear Optical Fiber Effect  
Hsiang-Yun Shao (Ming Chi University of Technology, Taiwan); Wen-Shing Tsai (Ming Chi University of Technology, Taiwan, R.O.C.); G. C. Lin (Ming Chi University of Technology, Taiwan); H. H. Lu (National Taipei University of Technology, Taiwan);
- 20 A Study of Enhanced Optical Single Sideband Modulation Based on Scattering Effects and Semiconductor Laser Injection Locked Technology  
Yi-Lin Chen (Ming Chi University of Technology, Taiwan); W. S. Tsai (Ming Chi University of Technology, Taiwan); G. Z. Lin (Ming Chi University of Technology, Taiwan); Hai-Han Lu (National Taipei University of Technology, Taiwan);

- 21 Increasing the Luminous Efficiency of Flip-chip Light Emitting Diode with a Reflective Aluminum Layer  
*Ming-Jer Jeng (Chang Gung University, Taiwan, R.O.C.); Wen-Yu Guo (National Taiwan University of Science and Technology, Taiwan, R.O.C.); Chia-Yi Yen (Chang Gung University, Taiwan, R.O.C.); Liann-Be Chang (Chang Gung University, Taiwan, R.O.C.); Boren Huang (National Taiwan University of Science and Technology, Taiwan, R.O.C.);*
- 22 Asymmetric Permittivity and Permeability Sensitivities of Plasmonic Sensors  
*Yen-Kai Chang (National Taiwan University, Taiwan); Chih-Wei Chang (National Taiwan University, Taiwan);*
- 23 Development of Optical Wave Microphone Measuring Sound Waves with No Diaphragm  
*Yoshito Sonoda (Tokai University, Japan); Takashi Samatsu (Tokai University, Japan); Toshiyuki Nakamiya (Tokai University, Japan);*
- 24 Visualization of Electric Discharge Sound Fields in Atmospheric Pressure Plasma Using Fraunhofer Diffraction  
*Toshiyuki Nakamiya (Tokai University, Japan); Fumiaki Mitsugi (Kumamoto University, Japan); Yoichiro Iwasaki (Tokai University, Japan); Tomoaki Ikegami (Kumamoto University, Japan); Ryoichi Tsuda (Tokai University, Japan); Yoshito Sonoda (Tokai University, Japan);*
- 25 An Overview of Metamaterials in Biomedical Applications  
*Singaravelu Raghavan (National Institute of Technology, India); V. Rajeshkumar (National Institute of Technology, India);*
- 26 Interfacial Properties of Modified Natural Polysaccharide Carbohydrate Surfactants  
*Mou-Chuan Hwang (Oriental Institute of Technology, Taiwan, R.O.C.); Li-Huei Lin (Vanung University, Taiwan, R.O.C.); Wei-Min Hwang (Oriental Institute of Technology, Taiwan, R.O.C.);*
- 27 Indoor Broadband Spectrum Survey Measurements for the Improvement of Wireless Systems  
*Robert Urban (Brno University of Technology, Czech Republic); Tomas Kriz (Brno University of Technology, Czech Republic); Martin Cap (Brno University of Technology, Czech Republic);*
- 28 Measurement of Inhomogeneity in the  $B_0$  and  $B_1$  Fields Performed via the Spin-Echo and Gradient-Echo MR Imaging Techniques  
*Radek Kubasek (Brno University of Technology, Czech Republic); Eva Gescheidtova (Brno University of Technology, Czech Republic); Karel Bartušek (Brno University of Technology, Czech Republic);*
- 29 Processing of Magnetic Resonance Images of Adipose Tissues  
*Michaela Pokludová (Brno University of Technology, Czech Republic); Eva Gescheidtova (Brno University of Technology, Czech Republic); Jan Mikulka (Brno University of Technology, Czech Republic);*
- 30 The Effect of Extremely Low Frequency (ELF) Pulsed Electromagnetic Field (PEMF) on Bacteria *Staphylococcus Aureus*  
*Istiaque Ahmed (Royal Melbourne Institute of Technology (RMIT) University, Australia); Taghrid Istivan (RMIT University, Australia); Elena Pirogova (Royal Melbourne Institute of Technology RMIT University, Australia);*
- 31 The Effects of Visible Light Radiation (400–500 nm) on Enzymatic Activity of Collagenase  
*Jie Hu (Royal Melbourne Institute of Technology (RMIT) University, Australia); Vuk Vojisavljevic (RMIT University, Australia); Elena Pirogova (Royal Melbourne Institute of Technology (RMIT) University, Australia);*
- 32 Scattering-induced Changes in the Degree of Polarization of a Stochastic Electromagnetic Plane-wave Pulse  
*Liuzhan Pan (Luoyang Normal College, China); Chaoliang Ding (Luoyang Normal College, China);*
- 33 The Comparison of the Contrasts of Magnetic Resonance Images of Plants  
*Michaela Pokludová (Brno University of Technology, Czech Republic); Eva Gescheidtova (Brno University of Technology, Czech Republic);*
- 34 Electromagnetic Structures and Inertias of Particles including the Higgs Boson  
*Michael James Underhill (Underhill Research Ltd., UK);*
- 35 A Low Phase Noise CMOS VCO for the Millimeter Wave Application  
*Mingzhu Zhou (Hangzhou Dianzi University, China); Jincai Wen (Hangzhou Dianzi University, China); Jie Wang (Hangzhou Dianzi University, China); Zhili Liu (Hangzhou C-Sky Microsystems Co. Ltd., China);*
- 36 The Influence of an Electromagnetic Wave on the Acoustoelectric Current in a Rectangular Quantum Wire with an Infinite Potential  
*Nguyen Van Nghia (Water Resources University, Vietnam); Nguyen Quang Bau (Hanoi National University, Vietnam); Nguyen Van Hieu (Hanoi National University, Vietnam); Nguyen Vu Nhan (Academy of Defence Force-Air force, Vietnam);*

- 37 Influence of a Strong Electromagnetic Wave (Laser Radiation) on the Hall Coefficient in Doped Semiconductor Superlattices with an In-plane Magnetic Field  
*Nguyen Quang Bau (Hanoi National University, Vietnam); Nguyen Van Nghia (Water Resources University, Vietnam); Nguyen Van Hieu (Hanoi National University, Vietnam); Bui Dinh Hoi (Vietnam National University, Vietnam);*

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**Session 2P1a**

**Manipulating Wave with Metamaterials and Photonic Crystal 2**

**Tuesday PM, March 26, 2013**

**Room A**

Organized by Che Ting Chan, Zhi Hong Hang

Chaired by Zhi Hong Hang, Hui Liu

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- 13:20 Fabrication and Applications of Polymer Photonic Crystals  
*Yanlin Song (Institute of Chemistry, Chinese Academy of Sciences, China);*
- 13:40 Effective Medium of Periodic Electromagnetic Composites  
*Ying Wu (King Abdullah University of Science and Technology, Saudi Arabia);*
- 14:00 Dirac Points in Two-Dimensional Photonic Crystals  
*Jun Mei (South China University of Technology, China); Yan Li (South China University of Technology, China); Ying Wu (King Abdullah University of Science and Technology, Saudi Arabia);*
- 14:20 Optical Force in Parallel-plate Metamaterial  
*Zhi Hong Hang (Soochow University, China); Z. Marcet (The Hong Kong University of Science and Technology, China); D. Guan (The Hong Kong University of Science and Technology, China); S. B. Wang (The Hong Kong University of Science and Technology, China); Hui Liu (Nanjing University, China); H. B. Chan (Soochow University, China); Penger Tong (Hong Kong University of Science and Technology, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);*
- 14:40 Effects of Broken Time-reversal Symmetry on Periodic Resonator Arrays  
*Kin Hung Fung (The Hong Kong University of Science and Technology, China); Jin Wang (Southeast University, China); Ross Chin Hang Tang (The Hong Kong University of Science and Technology, China); Che Ting Chan (The Hong Kong University of Science and Technology, China); Nicholas X. Fang (Massachusetts Institute of Technology, USA);*

- 15:00 Dispersion in Drude DNG Stacks: Infinite Density and Line Gaps  
*Gilad Rosenblatt (Technion, Israel); Meir Orenstein (Technion Israel Institute of Technology, Israel);*

**15:20 Coffee Break**

- 15:40 Bending and Cloaking for a Surface Plasmonic Wave  
*Hongyi Xu (Nanyang Technological University, Singapore); Su Xu (Zhejiang University, China); Hongsheng Chen (Zhejiang University, China); Handong Sun (Nanyang Technological University, Singapore); Baile Zhang (Nanyang Technological University, Singapore);*
- 16:00 The Manipulation of Heat Flow by Affine Transformation Thermodynamics  
*Hongyi Xu (Nanyang Technological University, Singapore); Handong Sun (Nanyang Technological University, Singapore); Baile Zhang (Nanyang Technological University, Singapore);*

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**Session 2P1b**

**Electromagnetic Theory, Analysis and Simulation in Photonics**

**Tuesday PM, March 26, 2013**

**Room A**

Organized by Igor Tsukerman

Chaired by Igor Tsukerman

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- 16:20 Controlling the Dynamics of Quantum Mechanical Processes Using Meta-atoms  
*Carsten Rockstuhl (Friedrich-Schiller-Universität, Germany); R. Filter (Friedrich-Schiller-Universität, Germany); S. Muhlig (Friedrich-Schiller-Universität, Germany); T. Eichelkraut (Friedrich-Schiller-Universität, Germany); S. Fischer (Fraunhofer Institute for Solar Energy Systems, Germany); J. C. Goldschmidt (Fraunhofer Institute for Solar Energy Systems, Germany); Falk Lederer (Friedrich Schiller University Jena, Germany);*
- 16:40 Engineering the Response of Fano-resonant Plasmonic Systems for Sensing at the Ultimate Scale  
*Benjamin Gallinet (Ecole Polytech Fed Lausanne, Switzerland); Thomas Siegfried (Paul Scherrer Institut, Switzerland); Hans Sigg (Paul Scherrer Institut, Switzerland); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland);*

- 17:00 Real-space vs Fourier-space Homogenization of Metamaterials  
*Vadim A. Markel (University of Pennsylvania, USA); Igor Tsukerman (The University of Akron, USA); Xiaoyan Xiong (The University of Hong Kong, China); Lijun Jiang (University of Hong Kong, China);*
- 17:20 Scattering Problem in s-SNOM: Novel Model for Interaction between Near-field Probe and Inhomogeneous 3D Sample  
*Alexander A. Govyadinov (CIC Nanogune Consolider, Spain); F. Huth (CIC Nanogune Consolider, Spain); Martin Schnell (CIC Nanogune Consolider, Spain); P. Scott Carney (University of Illinois, USA); Rainer Hillenbrand (CIC Nanogune Consolider, Spain);*
- 17:40 Surface Waves in Electromagnetic Metamaterials and Their Effect on Effective Parameters  
*Xiaoyan Y. Z. Xiong (The University of Hong Kong, China); Lijun Jiang (University of Hong Kong, China); Vadim A. Markel (University of Pennsylvania, USA); Igor Tsukerman (The University of Akron, USA);*
- 18:00 Signal Formation in Scanning Nearfield Optical Microscopy  
*Ralf Vogelgesang (University of Stuttgart, Germany); M. Esslinger (Max Planck Institute for Solid State Science, Germany);*
- 14:00 Interesting Issues of Mobile Phones and Base Stations in Taiwan  
*Ji-Shing Lin (Office of Board of S&T of the Executive Yuan (Cabinet), Taiwan);*
- 14:20 Impact of Planning Based Restrictions on Operation of Mobile Networks  
*Jack Rowley (GSM Association, UK);*
- 14:40 Occupational Over-exposure to RF Radiation in TV Tower  
*Maila Hietanen (Finnish Institute of Occupational Health, Finland);*
- 15:00 Update of IEEE C95.1 Exposure Standard Revision  
*Chung-Kwang Chou (Motorola Solutions, Inc., USA); J. Patrick Reilly (Metatec Associates, USA); R. Kavet (Electric Power Research Institute, USA); Bertram J. Klauenberg (Air Force, USA); Marvin C. Ziskin (Temple University Medical School, USA); Art Thansandote (Health Canada, Canada); Thanh Dovan (SP AusNet, Australia); R. A. Tell (International Committee on Electromagnetic Safety, Subcommittee 4, USA); Ken Gettman (National Electrical Manufacturers Association, USA); Ralf Bodemann (Siemens Inc., Germany); R. C. Petersen (International Committee on Electromagnetic Safety, Subcommittee 4, USA);*
- 15:20 **Coffee Break**

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**Session 2P2a**

**Biological Effects and Medical Applications of Electromagnetic Energy 2**

**Tuesday PM, March 26, 2013**

**Room B**

Organized by Chung-Kwang Chou

Chaired by Chung-Kwang Chou, Ji-Shing Lin

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- 13:20 Effects of Tuning Condition, Head Size and Position on the SAR of a MRI Dual-row Transmit Array at 400 MHz  
*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 Active Implantable Medical Devices and Electromagnetic Compatibility  
*Veronica Ivans (Medtronic CRDM, USA); Chung-Kwang Chou (Motorola Solutions, Inc., USA);*

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**Session 2P2b**

**Medical Electromagnetics, Medical Imaging, MRI**

**Tuesday PM, March 26, 2013**

**Room B**

Chaired by George G. Cheng, Shao Ying Huang

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- 15:40 A Review on Electrical Property Retrieval in a Non-invasive Way  
*Shao Ying Huang (Massachusetts Institute of Technology, USA); Shaohui Foong (Singapore University of Technology and Design, Singapore);*
- 16:00 Quantification Error in Local Maxwell Tomography (LMT) Introduced by  $B_1$  Map Inaccuracy  
*Longfei Hou (Xi'an Jiaotong University, China); Shao Ying Huang (Massachusetts Institute of Technology, USA); Shaohui Foong (Singapore University of Technology and Design, Singapore); Jiu Hui Wu (Xi'an Jiaotong University, China);*

- 16:20 A Economical Surface Coil Design without Lumped Elements for MRI Application  
*Siya Mi (Nanyang Technological University, Singapore); Yee Hui Lee (Nanyang Technological University, Singapore);*
- 16:40 Resonant RF Biosensors for Immature Cells Identification  
*Ling Yan Zhang (University of Limoges, France); Aurelie Lacroix (EA 3842 University of Limoges, France); Claire Dalmay (University of Limoges, France); Alaeddine Landoulsi (University of Limoges, France); Annie Bessaudou (University of Limoges, France); Christophe Bounaix Morand Du Puch (Oncomedics, France); Christophe Lautrette (Oncomedics, France); Serge Battu (University of Limoges, France); Fabrice Lalloué (University of Limoges, France); Marie-Odile Jauberteau (University of Limoges, France); Pierre Blondy (University of Limoges, France); Arnaud Pothier (University of Limoges, France);*
- 17:00 Feasibility of Microwave Dental Imaging  
*Chun-Sen Wu (Metal Industries Research & Development Centre, Taiwan); Hsien-Nan Kuo (Metal Industries Research & Development Centre, Taiwan); George G. Cheng (Allwave Corporation, USA); Yong Zhu (Allwave Corporation, USA); Jan Alexander Grzesik (Allwave Corporation, USA);*
- 17:20 Microwave Medical Imaging Techniques  
*George G. Cheng (Allwave Corporation, USA); Yong Zhu (Allwave Corporation, USA); Jan Alexander Grzesik (Allwave Corporation, USA);*
- 17:40 Three Dimensional Radar Imaging by Using Spherical Near Field Range  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Chih-Hung Lee (Yuan Ze University, Taiwan); Tsung-Yuan Yang (Electronics Testing Center, Taiwan);*
- 13:20 Measuring ELF-EMF Levels in the State of Kuwait  
*Fuad M. Alkoot (PAAET, Kuwait); Essa M. Alkoot (PAI, Kuwait); Ahmad A. Dashti (KOC, Kuwait); Mahdi B. Abdulaziz (KOC, Kuwait);*
- 13:40 An Investigation on Ionospheric Total Absorption of Radio Waves in High Latitude Region  
*Wei Tao (Center for Space Science and Applied Research, CAS, China); Jiankui Shi (Center for Space Science and Applied Research, CAS, China); Guojun Wang (Center for Space Science and Applied Research, CAS, China); X. Wang (Center for Space Science and Applied Research, CAS, China); G. A. Zhrebtsov (Institute of Solar-Terrestrial Physics SD RAS, Russia); Alexander P. Potekhin (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); E. B. Romanova (Institute of Solar-Terrestrial Physics SD RAS, Russia); K. G. Ratovsky (Institute of Solar-Terrestrial Physics SD RAS, Russia); A. Stepanov (Russian Academy of Sciences, Russia);*
- 14:00 Oblique Sounding of the Ionosphere Layer F2 by Powerful Wave Beams  
*Barbara Atamaniuk (Space Research Centre of the Polish Academy of Sciences, Poland); I. A. Molotkov (Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, RAS, Russia); Alexei Popov (Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, RAS, Russia);*
- 14:20 Evaluation of Correlation Detector for Ship Detection with HF Radar  
*A. Gupta (Helmut Schmidt University/University of the Federal Armed Forces Hamburg, Germany); Thomas Heinrich Fickenschner (Helmut Schmidt University/University of the Federal Armed Forces Hamburg, Germany);*
- 14:40 Compensation of Mutual Coupling for Antenna Array with Application of Ground Penetrating Radar  
*Qiang Hou (China University of Geosciences, China); He Ping Pan (China University of Geosciences, China); Feng Zhou (China University of Geosciences, China); Guo Hong Wang (China University of Geosciences, China); Si Pei Liao (China University of Geosciences, China);*

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**Session 2P3a**

**Earth Electromagnetic Environment and Radiowaves Propagation & Scattering: Modeling, Observation and Measurements**

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**Tuesday PM, March 26, 2013**

**Room C**

Organized by Rachid Talhi

Chaired by Rachid Talhi

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15:00 Integration of Multi Instrument Ionospheric Plasma Diagnostics Used for Description of the Near Earth's Plasma Environment  
*Hanna Rothkaehl (Space Research Center Polish Academy of Sciences (SRC PAS), Poland); A. Krankowski (University of Warmia and Mazury in Olsztyn, Poland); D. Przepiórka (Space Research Center Polish Academy of Sciences (SRC PAS), Poland); E. Słomińska (Space Research Center Polish Academy of Sciences (SRC PAS), Poland);*

15:20 **Coffee Break**

15:40 Analysis of Radio Signals Spatial Structure in Relation with Ionospheric Perturbations  
*Rachid Talhi (University of Tours, France); G. Rogerie (University of Tours, France);*

16:00 Passive Ionospheric Sounding and OTH Radar Using DRM Signals  
*Michael James Underhill (Underhill Research Ltd., UK);*

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**Session 2P3b**

**Present and Future of Terahertz Science & Technology, Including Applications in Radio-sciences**

**Tuesday PM, March 26, 2013**

**Room C**

Organized by Rachid Talhi

Chaired by Rachid Talhi, Yunfei Liu

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16:20 Study of DNA Fingerprint of Pine Wood Nematode Based on Terahertz Spectroscopic Technology at 0–10 THz  
*Ling Jiang (Nanjing Forestry University, China); Chun Li (Nanjing Forestry University, China); Lin Huang (Nanjing Forestry University, China); Zhenwei Zhang (Capital Normal University, China); Cunlin Zhang (Capital Normal University, China); Yunfei Liu (Nanjing Forestry University, China);*

16:40 Terahertz Functional Tissue Imaging  
*Seongsin Margaret Kim (The University of Alabama, USA); Patrick Kung (The University of Alabama, USA);*

17:00 Characterization of High Intense Pulse Amplified by Yb-doped Fiber Chirped Pulse Amplification System for THz Wave Generation  
*Junichi Hamazaki (National Institute of Information and Communications Technology, Japan); Norihiko Sekine (National Institute of Information and Communications Technology, Japan); Shingo Saito (National Institute for Information and Communications Technology, Japan); Iwao Hosako (National Institute of Information and Communications Technology, Japan);*

17:20 The Transmission Spectra of Semiconductor Based Samples Using the Terahertz Spectroscopy System  
*Weixin Lu (Soochow University, China); Bo Hou (Soochow University, China);*

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**Session 2P4**

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

**Tuesday PM, March 26, 2013**

**Room D**

Organized by Georgi Nikolov Georgiev, Mariana Nikolova Georgieva-Grosse

Chaired by Mariana Nikolova Georgieva-Grosse

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13:20 Numerical Steepest Descent Method for Computing Highly Oscillatory Physical Optics Integral on Saddle Surfaces  
*Yumao Wu (The University of Hong Kong, China); Weng Cho Chew (University of Illinois, USA); Lijun Jiang (University of Hong Kong, China);*

13:40 Scattering of a Plane Wave by a Half Plane with a Sinusoidally Deformed Edge  
*Akira Komiyama (Osaka Electro-Communication University, Japan);*

14:00 Reflection and Transmission of Electromagnetic Waves from the Boundaries of Anisotropic Magneto Dielectric Plate in the Waveguide  
*Eduard A. Gevorkyan (Moscow State University of Economics, Statistics and Informatics, Russia); V. I. Steshkin (Moscow State University of Economics, Statistics and Informatics, Russia);*

14:20 Optical Gausson Perturbation  
*Anjan Biswas (Delaware State University, USA);*



- 14:40 Wiener-Hopf Method for Problems of Diffraction of Asymmetric Waves by a Circular Cylinder  
*Seil S. Sautbekov (Eurasian National University Named after L. N. Gumilyov, Kazakhstan); Gulnar K. Alkina (Eurasian National University Named after L. N. Gumilyov, Kazakhstan); Mery S. Sautbekova (Eurasian National University Named after L. N. Gumilyov, Kazakhstan);*
- 15:00 Exact Axisymmetric Solutions for the Magnetic Force between Disk Coils  
*John Thomas Conway (University of Agder, Norway);*
- 15:20 **Coffee Break**
- 15:40 Advances in the Theory of the Circular Waveguide with an Azimuthally Magnetized Ferrite Cylinder and a Dielectric Toroid  
*Mariana Nikolova Georgieva-Grosse (Consulting and Researcher in Physics and Computer Sciences, Germany); Georgi Nikolov Georgiev (University of Veliko Tırnovo "St. St. Cyril and Methodius", Bulgaria);*
- 16:00 DOA Estimation via Phase Measurement  
*Andrew Im (California State Polytechnic University-Pomona, USA); Matthew Gialich (California State Polytechnic University-Pomona, USA); Zekeriya Aliyazicioglu (California State Polytechnic University-Pomona, USA); H. K. Hwang (California State Polytechnic University-Pomona, USA);*
- 16:20 Universal Properties of Electromagnetic Pulses  
*John Lekner (Victoria University of Wellington, New Zealand);*
- 16:40 Approximate Solution Method of Nonlinear Helmholtz Equation  
*Mery S. Sautbekova (Eurasian National University Named after L. N. Gumilyov, Kazakhstan); Seil S. Sautbekov (Eurasian National University Named after L. N. Gumilyov, Kazakhstan);*
- 17:00 Reconstruction Parameters of Local Scattering Sources of a Cylindrical Object from the Backscattering Pattern  
*Stanislav Nikolaevich Kutishchev (Voronezh State University of Architecture and Civil Engineering, Russia);*
- 17:20 Universal Properties of Electromagnetic Beams  
*John Lekner (Victoria University of Wellington, New Zealand);*

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**Session 2P5**  
**Wideband and Multi-band Antennas**

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**Tuesday PM, March 26, 2013**

**Room E**

Organized by Sing Wai Cheung, Tharek Bin Abdul Rahman

Chaired by Sing Wai Cheung, Tharek Bin Abdul Rahman

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- 13:40 Wide Band Open Ended Air Gap RLSA Antenna at 26 GHz Frequency Band  
*Imran Mohd Ibrahim (Universiti Teknikal Malaysia Melaka (UTeM), Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Mursyidul Idzam bin Sabran (University Technology Malaysia, Malaysia); Ulaganathen Kesavan (Technology University of Malaysia, Malaysia); T. Purnamirza (Universiti Teknologi, Malaysia);*
- 14:20 Design of Wideband Monopole Antennas Using a Simple Tapered Feed Line and Slot  
*Li Liu (The University of Hong Kong, China); X. J. Yang (The University of Hong Kong, China); Sing Wai Cheung (The University of Hong Kong, China);*
- 14:40 A Grounded CPW Transparent UWB Antenna for UHF and Microwave Frequency Application  
*Thomas Peter (Brunel University, United Kingdom); Sing Wai Cheung (The University of Hong Kong, China); Sharul Kamal Bin Abdul Rahim (Technology University of Malaysia, Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia);*
- 15:00 A Printed Dipole Antenna with U-line Matched for Dual-band WiFi Applications  
*Churng-Jou Tsai (Kun Shan University, Taiwan); Bo-Yuan Tsai (Kun Shan University, Taiwan);*
- 15:20 **Coffee Break**
- 15:40 Compact Dual-band Monopole Antenna for 2.4/3.5 GHz WiMAX 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);*

- 16:00 Dual-band Transparent Antenna for ISM Band Applications  
*Mohd Subri Bin Abdul Rani (Universiti Teknologi Malaysia, Malaysia); Sharul Kamal Bin Abdul Rahim (Technology University of Malaysia, Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Thomas Peter (Brunel University, United Kingdom); Sing Wai Cheung (The University of Hong Kong, China);*
- 16:20 Developing Alternatives of Small Monopole Antenna Design for Achieving 4G-LTE Requirements in a Limited Antenna Size  
*Nassrin Ibrahim Mohamed Elamin (Universiti Teknologi Malaysia (UTM), Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Amuda Yusuf Abdulrahman (University Technology Malaysia (UTM), Malaysia);*
- 16:40 Investigation on CPW Koch Antenna Durability for Microwave Imaging  
*Roshayati Yahya (Universiti Tun Hussein Onn Malaysia (UTHM), Malaysia); Muhammad Ramlee Bin Kamarudin (Universiti Teknologi Malaysia, Malaysia); Norhudah Seman (Universiti Teknologi Malaysia, Malaysia); Mursyidul Idzam bin Sabran (University Technology Malaysia, Malaysia); Mohd Faizal Jamlos (Universiti Malaysia Perlis (UniMAP), Malaysia);*
- 17:00 P-shape Monopole Antenna Design for WBAN Application  
*Ebrahim Sailan Alabidi (Universiti Teknologi Malaysia, Malaysia); Muhammad Ramlee Bin Kamarudin (Universiti Teknologi Malaysia, Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Hashimu Uledi Iddi (Universiti Teknologi Malaysia, Malaysia);*
- 17:20 Planar UWB Antenna with Dual Band Notch Characteristics  
*Rezaul Azim (Universiti Kebangsaan Malaysia, Malaysia); Mohammad Tariqul Islam (Universiti Kebangsaan Malaysia, Malaysia); Ahmed Toaha Mobashsher (Universiti Kebangsaan Malaysia, Malaysia);*

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**Session 2P6**  
**Optics and Photonics, Fiber, Lasers,**  
**Gyrotrons**

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**Tuesday PM, March 26, 2013**

**Room F**

Chaired by I-Shyan Hwang

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- 13:20 Can There Be WDM Solitons in Fibers?  
*Cavour Yeh (California Advanced Studies, USA); F. I. Shimabukuro (California Advanced Studies, USA);*
- 13:40 Investigation of Two Bidirectional C + L Band Fiber Amplifiers with Pumping Sharing and Wavelength Reused Mechanisms  
*Shien-Kuei Liaw (National Taiwan University of Science and Technology, Taiwan); Yi-Lin Yu (National Taiwan University of Science and Technology, Taiwan); Y. C. Wang (National Taiwan University of Science and Technology, Taiwan); W. F. Wu (National Taiwan University, Taiwan); R. Y. Liu (National Space Organization, Taiwan);*
- 14:00 Optical-circulator-based Single-frequency Fiber Laser Using Absorber and Subring Cavity in the Linear Cavity  
*Shien-Kuei Liaw (National Taiwan University of Science and Technology, Taiwan); H. Wang (National Taiwan University of Science and Technology, Taiwan); Haiyin Hsu (National Taiwan University of Science and Technology, Taiwan); C. S. Shin (National Taiwan University, Taiwan); R. Y. Liu (National Space Organization, Taiwan);*
- 14:20 Generation of Terahertz, Microwave, Radio Waves from a Laser-excited Wire Antenna  
*Kuan-Yan Huang (National Tsinghua University, Taiwan); Chia-Hsiang Chen (National Tsinghua University, Taiwan); Ming-Hsiung Wu (National Tsinghua University, Taiwan); Yen-Chieh Huang (National Tsinghua University, Taiwan);*
- 14:40 An Improved Method for SNR Estimation on Optical Remote Sensing Images  
*Xinhong Wang (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Chuanrong Li (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Bo Zhu (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Lingli Tang (Academy of Opto-Electronics, Chinese Academy of Sciences, China); Hong Yuan (Academy of Opto-Electronics, Chinese Academy of Sciences, China);*

15:00 Arc-induced Long Period Fiber Gratings Based on Flat-clad Fibers  
*Zhi-Zong Zheng (National United University, Taiwan, R.O.C.); Chai-Ming Li (National United University, Taiwan); Cheng-Ling Lee (National United University, Taiwan); Jing-Shyang Horng (National United University, Taiwan, R.O.C.);*

15:20 **Coffee Break**

15:40 Optical Properties of Raman-enhancing Substrates  
*Hui-Hsin Hsiao (National Taiwan University, Taiwan, R.O.C.); Juen-Kai Wang (National Taiwan University, Taiwan, R.O.C.); Hung-Chun Chang (National Taiwan University, Taiwan, R.O.C.);*

16:00 Analysis of Frequency Coded Quantum Key Distribution for Secure Communication  
*Hum Nath Parajuli (Helmut-Schmidt-Universität, Germany); Reinhold Herschel (Helmut-Schmidt-Universität, Germany); Stefan Schwarz (Helmut-Schmidt-Universität, Germany); C. G. Schäffer (Helmut-Schmidt-Universität, Germany);*

16:20 Transmitted Characterization of 625 Mbps/15 GHz ROF Signal Using a Direct Modulated Baseband Signal and Twice Optical Carrier Suppression Modulation  
*Yu-Peng Chang (National Taipei University of Technology, Taiwan); Wen-Jeng Ho (National Taipei University of Technology, Taiwan); Jhe-Min Lin (National Taipei University of Technology, Taiwan); Peng-Chun Peng (National Taipei University of Technology, Taiwan); Hai-Han Lu (National Taipei University of Technology, Taiwan);*

16:40 Experimental Study of All-optical Frequency Conversion Using Period-one Dynamics of Semiconductor Lasers  
*Yu-Han Hung (National Cheng Kung University, Taiwan); Sheng-Kwang Hwang (National Cheng Kung University, Taiwan);*

17:00 A Fault-tolerant Mechanism on Star-ring Based Ethernet Passive Optical Networks  
*Zen-Der Shyu (Army Academy, Taiwan); I-Shyan Hwang (Yuan-Ze University, Taiwan); I. C. Lin (Yuan-Ze University, Taiwan);*

17:20 A New Mechanism to Improve Bandwidth Utilization and QoS of IPTV in Ethernet Passive Optical Network  
*I-Shyan Hwang (Yuan-Ze University, Taiwan); Andrew Tanny Liem (Yuan-Ze University, Taiwan); Ali Akbar Nikoukar (Yuan-Ze University, Taiwan); Ku Chieh Chen (Yuan-Ze University, Taiwan);*

17:40 The Influence of the Electromagnetic Wave on the Nonlinear Quantum Acoustoelectric Current in a Quantum Well  
*Nguyen Van Hieu (Hanoi National University, Vietnam); Nguyen Quang Bau (Hanoi National University, Vietnam); Nguyen Van Nghia (Water Resources University, Vietnam);*

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### Session 2P7

#### Electromagnetics of Gradient Nanostructures and Heterogeneous Media

Tuesday PM, March 26, 2013

Room G

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13:40 Dyson Equations for Dense Random Media Composed of Dielectric or Metallic Nanoscale Scatterers  
*Gerard Berginc (Thales, France);*

15:20 **Coffee Break**

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### Session 2P8

#### Poster Session 2

Tuesday PM, March 26, 2013

14:00 PM - 17:00 PM

Room K

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1 Compact LTCC-based Identification Reader Modules with Thermal Consideration for Ku-band Application  
*Yu Ye (Shanghai Institute of Micro-system and Information Technology, China); Liang Wu (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Science, China); Lingyun Li (Shanghai Institute of Micro-system and Information Technology, China); Wei Wang (Shanghai Institute of Microsystem and Information Technology, Chinese Academy Sciences, China); Shu-Na Wang (Shanghai Institute of Micro-system and Information Technology, China); Xiao-Wei Sun (The Institute of Microsystems and Information Technique, Chinese Academy of Science, China);*

2 A Model the Production of Nanoparticles in an Inductively Coupled Plasma Reactor: Application to the Design of an Industrial Unit  
*Silvania Lopes (Von Karman Institute for Fluid Dynamics, Belgium); Patrick Rambaud (Von Karman Institute for Fluid Dynamics, Belgium); Pierre Proulx (von Karman Institute for Fluid Dynamics, Belgium);*

- 3 Investigations of Plane Wave Scattering on Ferrite Posts Configurations Using Hybrid Technique  
*Adam Kusiek (Gdansk University of Technology, Poland); Rafal Lech (Gdansk University of Technology, Poland); Jerzy Mazur (Gdansk University of Technology, Poland);*
- 4 Analysis of Parameter Sensitivity of Electromagnetic Railgun System  
*Na Pan (Northeast Dianli University, China); Zejun Shen (Tsinghua University, China); Peng Zuo (Tsinghua University, China); Jiansheng Yuan (Tsinghua University, China);*
- 5 Analysis of Approaches for Modeling the Contact Resistance on Conductor Interface by the Finite Element Method  
*Zejun Shen (Tsinghua University, China); Li Hao (Tsinghua University, China); Peng Zuo (Tsinghua University, China); Jiansheng Yuan (Tsinghua University, China);*
- 6 Analysis of the Electric Field Environment around Railway Platform  
*Yuyi Lin (Tsinghua University, China); Li Hao (Tsinghua University, China); Zejun Shen (Tsinghua University, China); Jun Zou (Tsinghua University, China); Jiansheng Yuan (Tsinghua University, China);*
- 7 The Multi-component Signal Model and Learning Algorithm of Blind Source Separation  
*Tiao Jun Zeng (Southwest Jiaotong University, China); Quanyuan Feng (Southwest Jiaotong University, China); Xiao-Hui Yuan (Southwest Jiaotong University, China); Hongbo Ma (Southwest Jiaotong University, China);*
- 8 Near-weightlessness Movements in Electromagnetic Fields  
*Zi-Hua Weng (Xiamen University, China);*
- 9 Electromagnetic Radiation  
*Ilias J. Tyrovolas (Agricultural University of Athens, Greece);*
- 10 Tunable Quantum Interference in a Four-level Atomic System for Photonic Device Design  
*Shengtao Mei (Zhejiang University, China); Hang Zhao (Zhejiang University, China); Jian Qi Shen (Zhejiang University, China);*
- 11 Focusing on the Moiré Effect  
*Sara Liyuba Vesely (I.T.B. — C.N.R., Italy); Alessandro Alberto Vesely (Via L. Anelli 13, Italy);*
- 12 Response of Multilayer Materials to Electromagnetic Waves  
*Radim Kadlec (Brno University of Technology, Czech Republic); Petr Marcon (Brno University of Technology, Czech Republic); Eva Kroutilová (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic);*
- 13 Analysis of Distortion Factor of Three Phase Linear Synchronous Motor  
*Koichi Nakaiwa (Tamagawa Seiki Corporation, Japan); Hiroyuki Wakiwaka (Shinshu University, Japan);*
- 14 Simulation of 3-D SAR Imaging Based Outdoor RCS Measurement Technique  
*Ke-Fei Liao (University of Electronic Science and Technology of China, China); Sanyuan Xu (Unit 95784 of PLA, China); Xiao-Ling Zhang (University of Electronic Science and Technology of China, China); Jun Shi (University of Electronic Science and Technology of China, China);*
- 15 GRECO Based Spotlight SAR Imaging Simulation Method  
*Min Su (Beihang University, China); Jia Liu (Beihang University, China); Ning Fang (Beihang University, China); Bao Fa Wang (Beihang University, China);*
- 16 A Multi-baseline InSAR DEM Reconstruction Approach Based on Proportional Subband Filtering  
*Shuang Li (Beihang University, China); Huaping Xu (Beihang University, China);*
- 17 Bridgeless SEPIC-derived LED Driver without Electrolytic Capacitor for Multistring Application  
*Hongbo Ma (Southwest Jiaotong University, China); Quanyuan Feng (Southwest Jiaotong University, China); Tiao Jun Zeng (Southwest Jiaotong University, China); Xiao-Hui Yuan (Southwest Jiaotong University, China);*
- 18 Investigation of Irregularities Induced from Medium-scale Traveling Ionospheric Disturbances Using Global Positioning System and Digisonde  
*Wei-Sheng Chen (Chien Hsin University of Science and Technology, Taiwan); Chien-Chih Lee (Chien Hsin University of Science and Technology, Taiwan); Fang-Dar Chu (Chunghwa Telecom Co. Ltd., Taiwan);*

- 19 A Study of Equatorial Ionospheric Irregularities over the Indian-Ocean Sector during Solar Maximum by Using the Global Positioning System  
*Fang-Dar Chu (Chunghwa Telecom Co., Ltd., Taiwan); Wei-Sheng Chen (Chien Hsin University of Science and Technology, Taiwan); Chien-Chih Lee (Chien Hsin University of Science and Technology, Taiwan); W. H. Tseng (Chunghwa Telecom Co., Ltd., Taiwan); Huang-Tien Lin (Chunghwa Telecom Co., Ltd., Taiwan); Chia-Shu Liao (Chunghwa Telecom Co., Ltd., Taiwan);*
- 20 Multi-instrument Observations of F-region Irregularities near the Crest of Equatorial Ionization Anomaly  
*Chien-Chih Lee (Chien Hsin University of Science and Technology, Taiwan); Wei-Sheng Chen (Chien Hsin University of Science and Technology, Taiwan); Fang-Dar Chu (Chunghwa Telecom Co. Ltd., Taiwan);*
- 21 Satellite Monitoring for Elasto-plastic Behavior of Plate around Epicenter in a Process Tsunami Earthquakes  
*Shigehisa Nakamura (Kyoto University, Japan);*
- 22 A Geomagnetic Polar Drifting Path Evolution on the Geographic Earth Surface  
*Shigehisa Nakamura (Kyoto University, Japan);*
- 23 Electromagnetic Process at a Crustal Fault Formation for Tsunami Earthquake on the Planet Earth  
*Shigehisa Nakamura (Kyoto University, Japan);*
- 24 Advancing Climate Studies in the Australasian Region Using Ground and Space-based GPS Techniques — An Overview of Recent Progress  
*Yuriy Kuleshov (RMIT University, Australia); Er-jiang Fu (Bureau of Meteorology, Australia); Sue-Lynn Choy (RMIT University, Australia); Fabrice Chane-Ming (Université de la Reunion St Denis, France); Yuei-An Liou (National Central University, Taiwan); Alexander G. Pavelyev (Institute of Radio Engineering and Electronics of Russian Academy of Sciences (IRE RAS), Russia);*
- 25 Scattering of Light from Rough Surfaces, the Limits of Validity of Geometric Optics Approximation Method  
*Imed Sassi (University of Monastir, Tunisia); Mehdi Khemiri (Université de Monastir, Tunisie);*
- 26 Modulation in the Spectral Degrees of Polarization of Stochastic Electromagnetic Higher-order Bessel-Gauss Pulsed Beams  
*Weimin Peng (Luoyang Normal University, China); Haixia Wang (Luoyang Normal University, China); Chaoliang Ding (Luoyang Normal University, China);*
- 27 Weighted Multi-frequency Imaging of Thin, Crack-like Electromagnetic Inhomogeneities  
*Young Deuk Joh (Kookmin University, Korea); Young Mi Kwon (Kookmin University, Korea); Joo Young Huh (Kookmin University, Korea); Won-Kwang Park (Kookmin University, Korea);*
- 28 Broad-band Spectrum Control with Polarization  
*Pin Han (National Chung Hsing University, Taiwan);*
- 29 Estimating Properties of Subsurface Layers from GPR Spectral Attributes  
*Zhonglai Huang (Xiamen University, China); Jianzhong Zhang (Ocean University of China, China);*
- 30 Identification of Subsurface Thin Layers Using Cepstrum of GPR Data  
*Zhonglai Huang (Xiamen University, China); Jianzhong Zhang (Ocean University of China, China);*
- 31 Monitoring System for Space Weather  
*Edwin Andres Quintero Salazar (Technological University of Pereira, Colombia); Ivan Dario Arellano Ramirez (Technological University of Pereira, Colombia); Jimmy Alexander Cortes Osorio (Technological University of Pereira, Colombia);*
- 32 Principle of Locality and Remote Sensing from Space  
*Alexander G. Pavelyev (Institute of Radio Engineering and Electronics, Russian Academy of Sciences (IRE RAS), Russia); Yuei-An Liou (National Central University, Taiwan); Alexey A. Pavelyev (Institute of Radio Engineering and Electronics, Russian Academy of Sciences (IRE RAS), Russia); Keifei Zhang (RMIT University, Australia); Yuriy Kuleshov (RMIT University, Australia);*
- 33 Design and Implementation of Bandgap References Voltage Circuit for SOC Module Applications  
*Min-Chin Lee (Orient Institute of Technology, Taiwan); Chi-Jing Hu (Orient Institute of Technology, Taiwan); Wen-Shiang Jung (Orient Institute of Technology, Taiwan);*
- 34 Spatial Interpolation for Mapping Geoclimatic Factor  $K$  in South Africa  
*Mike Omondi Asiyo (University of KwaZulu-Natal, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa);*

- 35 Non-parametric and Parametric Modelling and Characterization of the Effective Earth Radius Factor for South Africa  
*Abraham M. Nyete (University of Kwa-Zulu Natal, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa);*
- 36 A Novel Imaging Formation Algorithm Based on Lagrange Interpolation for SweepSAR Data Processing  
*Wei Yang (Beihang University, China); Hongcheng Zeng (Beihang University, China); Jie Chen (Beijing University of Aeronautics and Astronautics, China); Pengbo Wang (Beihang University, China);*
- 37 Proposal of Technical Measures for a Partial Discharge Detection System Based on Real Measurement  
*Radek Myška (Brno University of Technology, Czech Republic); Petr Drexler (Brno University of Technology, Czech Republic); Tomas Kriz (Brno University of Technology, Czech Republic);*
- 38 A 60 GHz Marchand Balun with Floating Ground Centre-tap in CMOS Technology  
*Leijun Xu (Jiangsu University, China); Henrik Sjoland (Lund University, Sweden); Markus Tormanen (Lund University, Sweden); Tianhong Pan (Jiangsu University, China); Xue Bai (Jiangsu University, China);*
- 39 Compact UWB Monopole Antenna with Tapered Ground Plane  
*Akkala Subbarao (National Institute of Technology, India); Singaravelu Raghavan (National Institute of Technology, India);*
- 40 The Effects of Low Power Microwaves at 500 MHz and 900 MHz on Yeast Cells Growth  
*Hamad Suliman Alsuhaime (Royal Melbourne Institute of Technology (RMIT) University, Australia); Vuk Vojisavljevic (Royal Melbourne Institute of Technology (RMIT) University, Australia); Elena Pirogova (Royal Melbourne Institute of Technology (RMIT) University, Australia);*
- 41 Design of 4GHz Multiplier Based on Sigma-Delta Modulation in a 0.18- $\mu\text{m}$  CMOS Technology  
*Xiao Dan Guo (Southeast University, China); Qiao Meng (Southeast University, China); Yiong Liang (Southeast University, China);*
- 42 Effect of Low-power Microwave Radiation on Seed Growth Rate  
*Manu Fuangfoong (Thammasat University, Thailand); K. Eaipresertsak (Thammasat University, Thailand); T. Chim-Oye (Thammasat University, Thailand); K. Dungkanya (Thammasat University, Thailand);*
- 43 An Optical Imaging Lift Using a Birefringent Homogeneous Crystal  
*Chia-Wei Chu (National Taiwan University, Taiwan); Zhi Chen (Singapore-MIT Alliance for Research and Technology (SMART) Centre, Singapore); Yubo Duan (Singapore-MIT Alliance for Research and Technology (SMART) Centre, Singapore); Yuan Luo (National Taiwan University, Taiwan, R.O.C.);*
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- Session 3A1**  
**Plasmonic Nanophotonics 1 - Experiment and Fabrication**
- 
- Wednesday AM, March 27, 2013**  
**Room A**  
Organized by Yung-Chiang Lan, Din Ping Tsai  
Chaired by Din Ping Tsai, Yi-Jun Jen
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- 08:20 Using Human Cells to Synthesize Plasmonic Nanoparticles  
*Shourya Dutta-Gupta (Swiss Federal Institute of Technology Lausanne, Switzerland); Guillaume Suárez (Swiss Federal Institute of Technology Lausanne, Switzerland); Christian Santschi (Swiss Federal Institute of Technology Lausanne, Switzerland); Lucienne Juillerat-Jeanneret (Centre Hospitalier Universitaire Vaudois (CHUV) and University of Lausanne (UNIL), Switzerland); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland);*
- 08:40 Narrow-band Thermal Radiation by Metal Metasurface  
*Junichi Takahara (Osaka University, Japan);*
- 09:00 Biansotropic Property of Aluminum Nanorod Array fabricated by Glancing Angle Deposition  
*Yi-Jun Jen (National Taipei University of Technology, Taiwan); Meng-Jie Lin (National Taipei University of Technology, Taiwan); Huang-Ming Wu (National Taipei University of Technology, Taiwan);*
- 09:20 Bioanalytics Using Single Plasmonic Nanostructures  
*Thomas Schneider (Institute for Photonic Technology (IPHT), Germany); Norbert Jahr (Institute for Photonic Technology (IPHT), Germany); J. Wirth (Institute for Photonic Technology (IPHT), Germany); Frank Garwe (Institute for Photonic Technology, Germany); O. Stranik (Institute of Photonic Technology (IPHT), Germany); Andrea Csaki (Institute for Photonic Technology (IPHT), Germany); Wolfgang Fritzsche (Institute for Photonic Technology (IPHT), Germany);*

09:40 Efficient Mode Converters for Plasmonic Optical Nanocircuits

*Jer-Shing Huang (National Tsing Hua University, Taiwan);*

10:00 Additional Efficiency Enhanced for DL-ARC Triple-junction GaAs/Ge Solar Cells Based on Indium Nanoparticles Surface Plasmon Light Scattering

*Chi-He Lin (National Taipei University of Technology, Taiwan); Wen-Jeng Ho (National Taipei University of Technology, Taiwan); Yi-Yu Lee (National Taipei University of Technology, Taiwan); Jheng-Jie Liou (National Taipei University of Technology, Taiwan); Po-Hung Tsai (National Taipei University of Technology, Taiwan); Yu-Peng Chang (National Taipei University of Technology, Taiwan);*

10:20 **Coffee Break**

10:40 Metallodielectric Hybrid Optical Antennas for Ultrastrongly Enhancing and Directing Single-photon Emission

*Xuwen Chen (Friedrich-Alexander University Erlangen-Nürnberg, Germany); Vahid Sandoghdar (Friedrich-Alexander University Erlangen-Nürnberg, Germany);*

11:00 Localized Surface Plasmon Resonance in Single Gold Nanowires and Edges of Gold Film Patterns

*Sheng-Yung Lo (National Tsing Hua University, Taiwan); Wei-Yu Chen (National Tsing Hua University, Taiwan); Ly-Yun Wang (National Tsing Hua University, Taiwan); Heh-Nan Lin (National Tsing Hua University, Taiwan);*

11:20 Direct Visualization of Nano-plasmonic Waveguide Devices Using a Modified Near-field Spectroscopy

*Ming-Yang Pan (National Tsing Hua University, Taiwan); En-Hong Lin (National Tsing Hua University, Taiwan); Pei-Kuen Wei (Academia Sinica, Taiwan);*

11:40 Large-scale Plasmonic Nanostructures Fabricated with Nanospherical-lens Lithography

*Yun-Chorng Chang (National Cheng-Kung University, Taiwan); Yung-Chiang Lan (National Cheng Kung University, Taiwan, R.O.C.);*

12:00 Fabrication of Three-dimensional Plasmonic Devices Using Highly Ordered Anodic Porous Alumina

*Hideki Masuda (Tokyo Metropolitan University, Japan); Takashi Yanagishita (Tokyo Metropolitan University, Japan); Kazuyuki Nishio (Tokyo Metropolitan University, Japan); Toshiaki Kondo (Kanagawa Academy of Science and Technology, Japan);*

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**Session 3A2**

**Power Electronics**

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**Wednesday AM, March 27, 2013**

**Room B**

Organized by Jiri Lettl

Chaired by Jiri Lettl

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09:00 Analysis and Construction of Output Capacitance Filter for High Power LLC Resonant Converter

*Jiri Lettl (Czech Technical University in Prague, Czech Republic); Ondrej Plhak (Czech Technical University in Prague, Czech Republic);*

09:20 Stable Adaptive Signal Generation in Current Based MRAS Induction Motor Sensorless Speed Control

*Miroslav Bednar (Czech Technical University in Prague, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic); Martin Vlcek (Czech Technical University in Prague, Czech Republic);*

09:40 Comparison of DTC and Sliding Mode Control of IM Drive

*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);*

10:00 Design and Implementation of a Variable-frequency Multiphase VRM with Optimized Phase-reduction Control

*Shengyuan Ou (National Taipei University of Technology, Taiwan); Yi-Peng Lin (National Taipei University of Technology, Taiwan); Jui-Chien Wang (National Taipei University of Technology, Taiwan);*

10:20 **Coffee Break**

10:40 An Adaptive Current-sharing Control Technology for Multi Power Module with Hot Swapping

*Shengyuan Ou (National Taipei University of Technology, Taiwan); Fu-Sung Chen (National Taipei University of Technology, Taiwan);*

11:00 Implementation and Study of Super-capacitor Cell Power Management System

*Shao-Wei Chieh (National Taipei University of Technology, Taiwan); Wen-Hsien Ho (Taiwan Textile Research Institute, Taiwan); Chung-Bo Tsai (Taiwan Textile Research Institute, Taiwan); Po-Chou Chen (Taiwan Textile Research Institute, Taiwan); Shengyuan Ou (National Taipei University of Technology, Taiwan);*

11:20 Design and Implementation of an LED Switching Regulator Using Inverse Buck Topology  
*Shengyuan Ou (National Taipei University of Technology, Taiwan); Hong-Hsiang Chang (National Taipei University of Technology, Taiwan);*

11:00 Investigating the Radar Returns of a Wind Turbine  
*Muhammad Bilal Raza (Helmut Schmidt University/University of Federal Armed Forces, Germany); Thomas Heinrich Fickenscher (Helmut Schmidt University/University of the Federal Armed Forces, Germany);*

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**Session 3A3**

**EM Scattering Models and Applications**

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**Wednesday AM, March 27, 2013**

**Room C**

Organized by Hong Tat Ewe, Yang Du

Chaired by Hong Tat Ewe

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09:00 Efficient Solutions of Volume Integral Equations with Inhomogeneous Materials  
*K. Yang (Tongji University, China); Y. Q. Zhang (Tongji University, China); M. H. Wei (Tongji University, China); Mei Song Tong (Tongji University, China);*

09:20 A General Overview on the Microwave Remote Sensing of Tropical Vegetation  
*Yu Jen Lee (Universiti Tunku Abdul Rahman, Malaysia); Hong Tat Ewe (Universiti Tunku Abdul Rahman, Malaysia); Hean-Teik Chuah (Universiti Tunku Abdul Rahman, Malaysia);*

09:40 Electromagnetic Scattering from Aggregates Embedded in Absorbing Media  
*Romain Ceolato (Onera, The French Aerospace Lab, France); Nicolas Riviere (Onera, The French Aerospace Lab, France); Matthew J. Berg (Mississippi State University, USA); Beatrice Biscans (Universite de Toulouse, France);*

10:00 A New Parallel Version of the DDSCAT Code for Electromagnetic Scattering from Big Targets  
*Robert W. Numrich (City University of New York, USA); Thomas L. Chune (NASA Goddard Space Flight Center, USA); Kwo-Sen Kuo (University of Maryland, USA);*

10:20 **Coffee Break**

10:40 Analysis of Electromagnetic Scattering from Absorptive Dielectric Rough Surfaces with Underneath Target  
*Yinhui Wang (Zhejiang University, China); Yang Du (Zhejiang University, China);*

11:20 EM Plane Wave Diffraction by a Moving Half-plane  
*Adam Ciarkowski (Warsaw University of Life Sciences, Poland);*

11:40 Backscattering Coefficient Laboratory Measurements in Ka Band and at Small Incidence Angles  
*Pierre Borderies (Office National d'Etudes et de Recherches Aerospatiales (ONERA), France); Christophe Fatras (ONERA-DEMR, France); Guillemette Caulliez (Mediterranean Institute of Oceanography (MIO), France); Sébastien Pioch (Mediterranean Institute of Oceanography (MIO), France); Jean-Claude Lalaurie (CNES, France); Roger Fjørtoft (CNES, France);*

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**Session 3A4**

**Design and Simulation of Electromagnetic and Optical Devices 1**

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**Wednesday AM, March 27, 2013**

**Room D**

Organized by Shinichiro Ohnuki, Masahiro Tanaka

Chaired by Shinichiro Ohnuki, Masahiro Tanaka

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08:20 Modal Analysis of Post-wall Waveguides Based on a Model of Two-dimensional Photonic Crystal Waveguides  
*Kiyotoshi Yasumoto (Fukuoka Institute of Technology, Japan); Hiroshi Maeda (Fukuoka Institute of Technology, Japan); Vakhtang Jandieri (Kyungpook National University, South Korea);*

08:40 Design and Simulation of Three-dimensional Woodpile Photonic Crystal Defect Cavities  
*Ying-Lung Daniel Ho (University of Bristol, United Kingdom); Mike P. C. Taverne (University of Bristol, United Kingdom); Xu Zheng (University of Bristol, United Kingdom); Lifeng Chen (University of Bristol, United Kingdom); Martin Lopez Garcia (University of Bristol, United Kingdom); John G. Rarity (University of Bristol, United Kingdom);*

09:00 Electromagnetic Scattering from Imperfectly Periodic Array of Circular Cylinders  
*Koki Watanabe (Fukuoka Institute of Technology, Japan); Yoshimasa Nakatake (Fukuoka Institute of Technology, Japan);*



- 09:20 Tapered Fiber Mach-Zehnder Interferometer for Liquid Level Sensing  
*Hun-Pin Chang (National United University, Taiwan); Chai-Ming Li (National United University, Taiwan); Cheng-Ling Lee (National United University, Taiwan); Jui-Ming Hsu (National United University, Taiwan, R.O.C.);*
- 09:40 Analysis of Plasmonic Devices Using the Frequency-dependent Fundamental 3D-LOD-FDTD Method  
*Jun Shibayama (Hosei University, Japan); Tomoyuki Hirano (Hosei University, Japan); Y. Wakabayashi (Hosei University, Japan); Junji Yamauchi (Hosei University, Japan); Hisamatsu Nakano (Hosei University, Japan);*
- 10:00 Computational Accuracy of a Hybrid Scheme for Maxwell-Schrödinger Equations  
*Shinichiro Ohnuki (Nihon University, Japan); Takashi Takeuchi (Nihon University, Japan); T. Sako (Nihon University, Japan); Yoshito Ashizawa (Nihon University, Japan); Katsuji Nakagawa (Nihon University, Japan); Masahiro Tanaka (Gifu University, Japan); Weng Cho Chew (University of Illinois, USA);*
- 10:20 **Coffee Break**
- 10:40 Reflection and Transmission Characteristics of Lattice Grid with Lossy Clad for Optical CT  
*Yasumitsu Miyazaki (Aichi University of Technology, Japan); Koichi Takahashi (Aichi University of Technology, Japan); Nobuo Goto (The University of Tokushima, Japan);*
- 11:00 Reconstruction of Dielectric Objects by Solving Volume Integral Equations with Tetrahedral Discretization  
*Guochun Wan (Tongji University, China); Q. F. Li (Tongji University, China); K. Yang (Tongji University, China); Mei Song Tong (Tongji University, China);*
- 11:20 Numerical Technique Based on Superposition Solution Combined with Method of Moments  
*Masahiro Tanaka (Gifu University, Japan); K. Tanaka (Gifu University, Japan);*
- 11:40 Distance Property of Electric Field Patterns for an Antenna Mounted on a Car in UHF Band  
*R. Aoyama (Kitami Institute of Technology, Japan); Kenji Taguchi (Kitami Institute of Technology, Japan); Suguru Imai (Kitami Institute of Technology, Japan); Tatsuya Kashiwa (Kitami Institute of Technology, Japan); H. Kuribayashi (Honda R&D Co., Ltd., Japan); S. Komatsu (Honda R&D Co., Ltd., Japan);*
- 12:00 Low SAR, Compact and Multiband Antenna  
*Kamel Salah Sultan (Electronics Research Institute, Egypt); Haythem Hussein Abdullah (Electronics Research Institute (ERI), Egypt); Esmat Abdel-Fattah Abdallah (Electronics Research Institute, Egypt); Essam Abdel Haleem Hashish (Cairo University, Egypt);*
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- Session 3A5**  
**Microstrip and Printed Antenna, Antenna Theory**
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- Wednesday AM, March 27, 2013**  
**Room E**  
 Chaired by Singaravelu Raghavan
- 
- 09:00 Creeping Wave Antenna Design and Application for On-body Surface Communication  
*Shih-Chung Tuan (Oriental Institute of Technology, Taiwan); Hsi-Tseng Chou (Yuan Ze University, Taiwan); Ching-Hui Chen (Yuan Ze University, Taiwan);*
- 09:20 Compact Folded Meander PIFA Antennas in MedRadio Bands  
*Chiu-Yueh Huang (National Cheng Kung University, Taiwan); Chi-Lin Tsai (National Cheng Kung University, Taiwan); Chin-Lung Yang (National Cheng Kung University, Taiwan);*
- 09:40 Band Notch Characteristics of a UWB Planar Antenna with an Elliptical Element Comprising Single Slots  
*Siti Fatimah Jainal (Universiti Teknologi Malaysia (UTM), UTM International Campus, Malaysia); Toshio Wakabayashi (Universiti Teknologi Malaysia (UTM), UTM International Campus, Malaysia); Mohamad Kamal Abd Rahim (Universiti Teknologi Malaysia (UTM), Malaysia);*
- 10:00 Dual-polarized and Dual-band Omni Directional Antenna  
*Ming Hui Chen (Victory Microwave Corporation, Taiwan);*
- 10:20 **Coffee Break**
- 10:40 Metamaterial Loaded Wideband Patch Antenna  
*Singaravelu Raghavan (National Institute of Technology, India); Anoop Jayaram (National Institute of Technology (NIT), India);*
- 11:00 Wideband Small Loop-monopole HF Transmitting Antenna with Implications for Maxwell's Equations and the Chu Criterion  
*Michael James Underhill (Underhill Research Ltd., UK);*

- 11:20 Performance Characteristics of Loop Antennas above a Ground Plane of Finite Extent  
*Ayotunde Abimbola Ayorinde (University of Lagos, Nigeria); Sulaiman Adeniyi Adekola (University of Lagos, Nigeria); Alex Ike Mowete (University of Lagos, Nigeria);*
- 11:40 Design and Analysis of a Stripline Archimedean Snail Antenna  
*Teng-Kai Chen (Texas A&M University, USA); Gregory H. Huff (Texas A&M University, USA);*
- 10:00 Unidirectional and Wavelength-selective Photonic Sphere-array Nanoantennas  
*Yang G. Liu (Institute of Applied Physics and Computational Mathematics, China); Wallace C. H. Choy (University of Hong Kong, China); Wei E. I. Sha (University of Hong Kong, China); Weng Cho Chew (University of Illinois, USA);*
- 10:20 **Coffee Break**
- 10:40 Sensitivity Enhancement of Surface Plasmon Resonance (SPR) Sensor in a Phase-shift Interferometry (PSI) System  
*Wen-Kai Kuo (National Formosa University, Taiwan, R.O.C.); Chi-Xian Chen (National Formosa University, Taiwan, R.O.C.); Chien-Jang Wu (National Taiwan Normal University, Taiwan);*

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**Session 3A6**

**Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals**

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**Wednesday AM, March 27, 2013**

**Room F**

Organized by Ganquan Xie, Tzong-Jer Yang,  
Chien-Jang Wu

Chaired by Ganquan Xie, Tzong-Jer Yang

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- 09:00 Terahertz Super Thin Planar Lens Based on Generalized Huygens' Principle  
*Yan Zhang (Capital Normal University, China); Jia-Sheng Ye (Capital Normal University, China); Dan Hu (Capital Normal University, China); Xinke Wang (Capital Normal University, China); Shengfei Feng (Capital Normal University, China); Wenfeng Sun (Capital Normal University, China);*
- 09:20 Light Speed Is an Irrational Number  
*Ganquan Xie (GL & Hunan Super Computational Sciences Center, China); Jianhua Li (GL Geophysical Laboratory, USA); Feng Xie (GL Geophysical Laboratory, USA); Lee Xie (GL Geophysical Laboratory, USA);*
- 09:40 Transmission Characteristics of a Plasmonic Open Waveguide Based on Low Frequency Spoof Surface Plasmon Polaritons  
*Yao-Huang Kao (Chung-Hua University, Taiwan, R.O.C.); Jin-Jei Wu (Chung Hua University, Taiwan, R.O.C.); Her-Lih Chiueh (Lunghwa University of Science and Technology, Taiwan); Tzong-Jer Yang (Chung-Hua University, Taiwan, R.O.C.); Da Jun Hou (Chung-Hua University, Taiwan, R.O.C.); Chien-Jang Wu (National Taiwan Normal University, Taiwan); Linfang Shen (Zhejiang University, China);*
- 11:00 Experimental Verification of the Suppression of Crosstalk between Bended Parallel Microstrips via Designer Surface Plasmon Polaritons  
*Hung Erh Lin (Chung Hua University, Taiwan, R.O.C.); Tzong-Jer Yang (Chung-Hua University, Taiwan, R.O.C.); Yao-Huang Kao (Chung-Hua University, Taiwan, R.O.C.); Jin-Jei Wu (Chung Hua University, Taiwan, R.O.C.); Clark Li (Chung Hua University, Taiwan, R.O.C.); Chien-Jang Wu (National Taiwan Normal University, Taiwan); Xianmin Zhang (Zhejiang University, China);*
- 11:20 A New Proof on Boundary Conditions in Electromagnetic Theory  
*Cavour Yeh (California Advanced Studies, USA); F. I. Shimabukuro (California Advanced Studies, USA);*
- 11:40 Frequency Spectra of Absolute Optical Instruments  
*Tomas Tyc (Masaryk University, Czech Republic); Aaron J. Danner (National University of Singapore, Singapore);*

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**Session 3A7**

**Microwave and Millimeter Wave Circuits and Devices, CAD**

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**Wednesday AM, March 27, 2013**

**Room G**

Chaired by Yi-Hsin Pang

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- 08:20 Variable Gain Low Noise Amplifier Using Mutual Inductor for Input Matching Network  
*George Chang-Lin Guu (Yuan Ze University, Taiwan); Chien-Chang Huang (Yuan Ze University, Taiwan);*

- 08:40 Design of Ultra Low-power Voltage Controlled Oscillator in 0.18- $\mu\text{m}$  CMOS Technology  
*Shao-Ping Yu (National Cheng Kung University, Taiwan); Chin-Lung Yang (National Cheng Kung University, Taiwan);*
- 09:00 Road-vehicle Cooperation for Lateral Guidance  
*Nabil Houdali (Ecole Supérieure De Physique et de Chimie Industrielles (E.S.P.C.I.), France); Thierry Ditchi (UPMC Univ. Paris 6, ESPCI-ParisTech, France); Emmanuel Geron (ESPCI-Paris Tech, France); Jerome Lucas (ESPCI-Paris Tech, France); Stephane Holé (ESPCI-Paris Tech, France);*
- 09:20 A Compact Wilkinson Power Divider Utilizing Coupled Lines for Unequal Power Division and Equal Port Impedance  
*Yi Fan Chen (National University of Kaohsiung, Taiwan); Yi-Hsin Pang (National University of Kaohsiung, Taiwan);*
- 09:40 A New Lowpass-to-broadband Synthesis Method which Preserves DC Connection  
*Tao-Yi Lee (National Chiao-Tung University, Taiwan); Li-Han Chang (National Chiao-Tung University, Taiwan); Yu-Jiu Wang (National Chiao-Tung University, Taiwan);*
- 10:00 Design of a Ku-band High Gain Low Noise Amplifier  
*Muhammad Adil Bashir (Bahauddin Zakariya University, Pakistan); M. Mansoor Ahmed (Mohammad Ali Jinnah University, Pakistan); Umair Rafique (Mohammad Ali Jinnah University, Pakistan); Qamar-ud-Din Memon (Mohammad Ali Jinnah University, Pakistan);*
- 10:20 **Coffee Break**
- 10:40 A Novel Ultra-wideband Range Bandstop Filter Using Electromagnetic Bandgap Structure with Triangular Unit Cells  
*Shao Ying Huang (Massachusetts Institute of Technology, USA); Yee Hui Lee (Nanyang Technological University, Singapore);*
- 11:00 Wide Band Band-stop Filters with a Rectangle and a Unsymmetrical T-shape DGS  
*Jin-Ling Zhang (Beijing University of Posts and Telecommunications, China); Cui Juan He (Beijing University of Posts and Telecommunications, China); Yu-Lei Du (Beijing University of Posts and Telecommunications, China); Nan Zhang (Beijing University of Posts and Telecommunications, China); Lei Shu (Beijing University of Posts and Telecommunications, China); Ying-Hua Lu (Beijing University of Posts and Telecommunications, China);*
- 11:20 Contactless Power Transmission Track with Core Array Structure Unit for Mobile Apparatuses  
*Jiayou Lee (National Cheng Kung University, Taiwan, R.O.C.); Hung-Yu Shen (National Cheng Kung University, Taiwan); Yi-Ying Lee (National Cheng Kung University, Taiwan, R.O.C.);*
- 11:40 Broadband Characterization of Connector's Degradation Level by Frequency Domain Reflectometry  
*Florent Loete (Laboratoire de Genie Électrique de Paris SUPELEC, France); Cedric Gilbert (University of Paris Sud, France);*
- 12:00 Using Contactless RF Power Transfer Technique to Improve the Power Supply Issue of Implanted Neurostimulator  
*Jiayou Lee (National Cheng Kung University, Taiwan, R.O.C.); Hung-Yu Shen (National Cheng Kung University, Taiwan); Yan-Tian Liu (National Cheng Kung University, Taiwan, R.O.C.);*

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**Session 3A8**
**Poster Session 3**


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**Wednesday AM, March 27, 2013**
**9:00 AM - 12:00 AM**
**Room K**


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- 1 Improved Circularly Polarized Bandwidth in Dielectric Resonator Antenna for L-band Satellite Application  
*Abraham Heshmati (Islamic Azad University, Iran); F. Geran (Islamic Azad University, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran);*
- 2 UWB Microstrip Antennas on a Cylindrical Surfaces  
*Rafal Lech (Gdansk University of Technology, Poland); Wojciech Marynowski (Gdansk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland);*
- 3 The Improvement of Open-ended Waveguides Used As Probes in Near Field Antenna Measurements  
*Mateusz Mazur (Gdansk University of Technology, Poland); Wlodzimierz Zieniutycz (Gdansk University of Technology, Poland); Lukasz Sorokosz (Gdansk University of Technology, Poland);*
- 4 The Probes Dedicated for Multiband or Wideband Antennas Patterns Measurements in Near Field  
*Mateusz Mazur (Gdansk University of Technology, Poland); Wlodzimierz Zieniutycz (Gdansk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland); Wojciech Marynowski (Gdansk University of Technology, Poland);*

- 5 Real Time Parallel PSO and CFO for Adaptive Beam-forming Applications  
*Eman Ahmed Fahmy (Ain Shams University, Egypt); Korany Ragab Mahmoud (Helwan University, Egypt); Safwat Helmy Hamad (Ain Shams University, Egypt); Zaki Taha Fayed (Ain Shams University, Egypt);*
- 6 Design of a Novel Dual-band Microstrip Patch Antenna for WLAN/WiMAX Applications Using Complementary Split Ring Resonators and Partially Defected Ground Structure  
*Debdeep Sarkar (Indian Institute of Technology, India); Kushmanda Saurav (Indian Institute of Technology, India); Kumar Vaibhav Srivastava (Indian Institute of Technology, India);*
- 7 A Moment-method Analysis of the Thin-wire Circular-loop Zigzag Antenna  
*Sulaiman Adeniyi Adekola (University of Lagos, Nigeria); Hisham Abubakar Muhammed (University of Lagos, Nigeria); Alex Ike Mowete (University of Lagos, Nigeria);*
- 8 Influence of Probe Positioning Precision in Near Field Antenna Measurement System on Far Field Calculation  
*Wojciech Marynowski (Gdansk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland); Mateusz Mazur (Gdansk University of Technology, Poland);*
- 9 Design of MIMO Antenna with Enhanced Isolation Elements for USB Dongle Applications  
*Wen-Shan Chen (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.); Ke-Ming Lin (Southern Taiwan University of Science and Technology, Taiwan, R.O.C.);*
- 10 Mutual Coupling Effects on the Linear Microstrip Array Self-impedance  
*Cheng-Nan Hu (Oriental Institute of Technology, Taiwan, R.O.C.); Kai-Hong Jheng (Oriental Institute of Technology, Taiwan, R.O.C.); Esther Lee (Oriental Institute of Technology, Taiwan, R.O.C.);*
- 11 Design of the MIMO Antenna Using Cavity-backed Structure  
*Se-Hwan Choi (Korea Electronics Technology Institute, Republic of Korea); Yemin Hein (Korea Electronics Technology Institute, Korea); Jae-Young Lee (Korea Electronics Technology Institute, Korea);*
- 12 A Compact UHF Antenna for Handheld RFID Reader  
*Wei Che Hung (National Pingtung Institute of Commerce, Taiwan); Hsin-Lung Su (National Pingtung Institute of Commerce, Taiwan); Sung-Lin Chen (China Steel Corporation, Taiwan); Chang-Tsun Lin (China Steel Corporation, Taiwan);*
- 13 Dual-band Slot Antenna Using CPW Feed Line and Metasurface  
*Hailiang Zhu (The University of Hong Kong, China); Sing Wai Cheung (The University of Hong Kong, China); Tung Ip Yuk (The University of Hong Kong, China);*
- 14 Loaded Circular Patch Rectangular Slit Ultra-wideband (UWB) Microstrip Antenna  
*Chao Wang (University of Electronic Science and Technology of China, China); En Li (University of Electronic Science and Technology of China, China); Gaofeng Guo (University of Electronic Science and Technology of China, China);*
- 15 Printed Modified Bow-tie Dipole Antenna with Band-notch Structure  
*Huai-Yu Lin (Jinwen University of Science and Technology, Taiwan); I-Fong Chen (Jinwen University of Science and Technology, Taiwan); Ching-Chih Hung (Jinwen University of Science and Technology, Taiwan); Chia-Mei Peng (Jinwen University of Science and Technology, Taiwan, R.O.C.);*
- 16 Printed Dual-polarization Broadband Directional Antenna  
*Lu-I Yams (Jinwen University of Science and Technology, Taiwan); Chia-Mei Peng (Jinwen University of Science and Technology, Taiwan, R.O.C.); I-Fong Chen (Jinwen University of Science and Technology, Taiwan); Kang-Ling Li (Jinwen University of Science and Technology, Taiwan);*
- 17 A Y-shaped Microstrip-line-fed Wide-slot Antenna with Band-controlled for Multiband Applications  
*Sheng-Jun Wei (Southwest Jiaotong University, China); Quanyuan Feng (Southwest Jiaotong University, China); Ding-Hong Jia (Southwest Jiaotong University, China);*
- 18 Wide Band Frequency Control of Circularly Polarized Patch Antenna with Movable Dielectric  
*Kazuhiro Kitatani (Osaka University, Japan); Masahiro Wada (Osaka University, Japan); Yasuyuki Okamura (Osaka University, Japan);*
- 19 Crosstalk Modeling and Analysis of Through-Silicon-Via Connection in 3D Integration  
*Xiang He (Nanjing University of Aeronautics and Astronautics, China); Wensong Wang (Nanjing University of Aeronautics and Astronautics, China); Qunsheng Cao (Nanjing University of Aeronautics and Astronautics, China);*

- 20 FDTD Study on Transmission Characteristics Affected by Air-gap between Noise Suppression Sheet and Strip Conductor  
*Kyota Otsuka (Kisarazu National College of Technology, Japan); Tatsuya Suzuki (Kisarazu National College of Technology, Japan); Sho Suzuki (Kisarazu National College of Technology, Japan); Kota Kiyomi (Kisarazu National College of Technology, Japan); Takano Ohno (Kisarazu National College of Technology, Japan); Kouichi Ishii (Kisarazu National College of Technology, Japan);*
- 21 Portable Wireless Power Transmission Demonstration System with Low Power Consuming and Compact Size  
*Chun-Hao Hsu (National Central University, Taiwan); Ko-Wen Hsu (National Central University, Taiwan); Wen-Hua Tu (National Central University, Taiwan);*
- 22 Effect of Electromagnetic Interference (EMI) on the DC Shift of NMOSFET Current-mirror  
*Muhammad Taher Abuelma'atti (King Fahd University of Petroleum and Minerals, Saudi Arabia); Ali M. T. Abuelmaatti (RFMD (UK) Ltd., UK);*
- 23 Effect of Electromagnetic Interference (EMI) on the DC Shift of NMOSFET Current Mirror with Capacitor Between Mirror Node and Ground  
*Muhammad Taher Abuelma'atti (King Fahd University of Petroleum and Minerals, Saudi Arabia); Ali M. T. Abuelmaatti (RFMD (UK) Ltd., UK);*
- 24 Behavioral Modeling of a 12-bit 500-MS/s Multi-stage ADC  
*Wen Wei He (Southeast University, China); Qiao Meng (Southeast University, China);*
- 25 The Impact of USB 3.0 Module on Wireless Communication with Improved Solution for EMI Problem of High Speed Connectors  
*Han-Nien Lin (Feng-Chia University, Taiwan, R.O.C.); Wei-Hua Huang (Training Research Co., LTD, Taiwan, R.O.C.); Wei-Jr Lai (Feng-Chia University, Taiwan, R.O.C.);*
- 26 Verification Analysis of Electromagnetic Coupling between Display Module and Antenna of Mobile Devices for Wireless Communications  
*Han-Nien Lin (Feng-Chia University, Taiwan, R.O.C.); Allen Laio (Training Research Co., LTD, Taiwan); Yen-Lin Tseng (Feng-Chia University, Taiwan, R.O.C.); Ming-Shan Lin (M.O.E.A., Taiwan, R.O.C.);*
- 27 Resonant Capability of Multilayer Spheroidal Nanoparticles as Plasmonic Nanoantennas  
*Mahdie Khosravi (K. N. Toosi University of Technology, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran); Mohammad Sadegh Abrishamian (K. N. Toosi University of Technology, Iran);*
- 28 Electromagnetic Equations in Curved Octonion Compounding Spaces  
*Zi-Hua Weng (Xiamen University, China);*
- 29 Theoretic Analysis on a Periodic Array of Broadband Plasmonic Nanoantenna  
*Yuan-Fong Chau (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Wayne Yang (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Shinn-Fwu Wang (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Yi Chu (Chien Hsin University of Science and Technology, Taiwan, R.O.C.);*
- 30 Analysis of the Bonding and Anti-bonding Modes on Periodic Array of Nanometals  
*Yuan-Fong Chau (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Wayne Yang (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Ci-Yao Jheng (Chien Hsin University of Science and Technology, Taiwan); San-Cai Jheng (Chien Hsin University of Science and Technology, Taiwan); Shinn-Fwu Wang (Chien Hsin University of Science and Technology, Taiwan, R.O.C.); Yi Chu (Chien Hsin University of Science and Technology, Taiwan, R.O.C.);*
- 31 Design of Three-coupled Finline Bandpass Filter Using Full Wave Analysis  
*V. Madhusudana Rao (Qtr. no. C6, All India Radio Staff Quarters, India); B. Prabhakara Rao (Jawaharlal Technological University, India);*
- 32 Reconstruction of Electromagnetic Scatterers with Different Boundary Conditions  
*Rencheng Song (National University of Singapore, Singapore); Xiuzhu Ye (National University of Singapore, Singapore); Xudong Chen (National University of Singapore, Singapore);*
- 33 Compressive-sensing-based Phaseless Imaging  
*Li Pan (Technology and Research (A\*STAR), Singapore); Rencheng Song (National University of Singapore, Singapore); Swee Ping Yeo (National University of Singapore, Singapore); Xudong Chen (National University of Singapore, Singapore);*

- 34 Perturbation Influence Analysis on the RCS of Dynamic Targets  
*Jia Liu (Beihang University, China); Min Su (Beijing University of Aeronautics and Astronautics, China); Ning Fang (Beihang University, China); Bao Fa Wang (Beijing University of Aeronautics and Astronautics, China);*
- 35 Electromagnetic Interference on Metal Sandwiched Quartz Crystal  
*Kuei-Jie Tseng (National University of Kaohsiung, Taiwan); Wen-Teng Chang (National University of Kaohsiung, Taiwan);*
- 36 Efficient Characterization of Fabry-Perot Resonator Antennas  
*Yuehe Ge (Huaqiao University, China); Wang Can (Huaqiao University, China);*
- 37 Transparent Antenna Design for Wireless Access Point Application  
*A. S. Azini (Universiti Teknologi Malaysia, Malaysia); Muhammad Ramlee Bin Kamarudin (Universiti Teknologi Malaysia, Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Sharul Kamal Bin Abdul Rahim (Technology University of Malaysia, Malaysia); Mohd Subri Bin Abdul Rani (Universiti Teknologi Malaysia, Malaysia);*
- 38 Design of a Programmable Low-pass Filter for UHF RFID ZIF Receivers  
*Changchun Zhang (Nanjing University of Posts and Telecommunications, China); Chao Wang (Nanjing University of Posts and Telecommunications, China); Yufeng Guo (Nanjing University of Posts and Telecommunications, China); Yuming Fang (Nanjing University of Posts and Telecommunications, China); Leilei Liu (Nanjing University of Posts and Telecommunications, China); Deyuan Chen (Nanjing University of Posts and Telecommunications, China); Wei Li (Nanjing University of Posts and Telecommunications, China);*
- 39 Experimental Evaluation of Cytotoxicity Effects in Cancer and Normal Cells Exposed to Far Infrared Radiation  
*Pantea Peidaee (RMIT University, Australia); Taghrir Istivan (RMIT University, Australia); Ravi Shukla (RMIT University, Australia); Elena Pirogova (RMIT University, Australia);*
- 40 The Effect of Pulse Parameters and Medium Information on the Temporal Coherence Length of a Partially Coherent Pulse on Scattering  
*Chaoliang Ding (Luoyang Normal University, China); Liuzhan Pan (Luoyang Normal University, China);*
- 41 Investigating Embedded Planar Electromagnetic Band Gap (EPEBG) Structure for Noise Suppression in PCBs  
*Yao-Te Shu (National Taiwan Ocean University, Taiwan); Jiun-Hwa Lin (National Taiwan Ocean University, Taiwan);*
- 42 High Isolation Pencil Beams Antenna Array for IEEE802.11a MIMO Application  
*Dau-Chyrrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Chia-Ping Huang (Oriental Institute of Technology, Taiwan, R.O.C.); Fong-Yi Lin (Oriental Institute of Technology, Taiwan); Chih-Hung Lee (Yuan Ze University, Taiwan); Ming-Ching Yen (Oriental Institute of Technology, Taiwan, R.O.C.); Yau-Jyun Tsai (Oriental Institute of Technology, Taiwan, R.O.C.);*
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- Session 3P1**  
**Plasmonic Nanophotonics 2 - Analysis, Theory, Calculation and Simulation**
- 
- Wednesday PM, March 27, 2013**  
**Room A**  
Organized by Yung-Chiang Lan, Din Ping Tsai  
Chaired by Yung-Chiang Lan, Wei-Chih Liu
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- 13:40 Universal Scaling Relation of Plasmonic Refractive Index Sensors  
*Yen-Kai Chang (National Taiwan University, Taiwan); Zong-Xing Lou (National Taiwan University, Taiwan); Kao-Der Chang (Industrial Technology Research Institute, Taiwan); Chih-Wei Chang (National Taiwan University, Taiwan);*
- 14:00 Dispersion Relation, Zero Refraction, and Nanofocusing in 1D Chiral Metamaterials  
*Wei-Chih Liu (National Taiwan Normal University, Taiwan, R.O.C.);*
- 14:20 Magnetic Plasmon Induced Transparency in Three Dimensional Metamolecule  
*Chun Yen Liao (National Taiwan University, Taiwan); Pin Chieh Wu (National Taiwan University, Taiwan); Wei Ting Chen (National Taiwan University, Taiwan); Kuang Yu Yang (National Taiwan University, Taiwan); Greg Sun (University of Massachusetts Boston, USA); Ai Qun Liu (Nanyang Technological University, Singapore); Nikolay I. Zheludev (University of Southampton, UK); Din Ping Tsai (National Taiwan University, Taiwan, R.O.C.);*

14:40 Addressable Nanoscale Light Localizations in Hybrid Plasmonic Nanostructures  
*Minghui Hong (National University of Singapore, Singapore); Tsung Sheng Kao (National University of Singapore, Singapore); Mohsen Rahmani (National University of Singapore, Singapore);*

15:00 Optical Refractive Index Sensor Based on Upright U-shape Metamaterials  
*Hsiang-Lin Huang (National Taiwan Ocean University, Taiwan, R.O.C.); Pin Chieh Wu (National Taiwan University, Taiwan); Kuang Yu Yang (National Taiwan University, Taiwan); Ta-Jen (David) Yen (National Tsing Hua University, Taiwan); Din Ping Tsai (National Taiwan University, Taiwan, R.O.C.); Hai-Pang Chiang (National Taiwan Ocean University, Taiwan);*

15:20 **Coffee Break**

15:40 Electromagnetic Scattering Field Computation on Plasmonic Structures  
*Yong-Gu Lee (Gwangju Institute of Science and Technology (GIST), South Korea);*

16:00 Plasmonic Gap Modes in a Nano-antenna with Particle-film Configuration  
*Chua-Zu Huang (National Chi Nan University, Taiwan); Ting-Hao Wang (National Chi Nan University, Taiwan); Lingling Tang (National Chi Nan University, Taiwan); Shiuan-Yeh Chen (National Chi Nan University, Taiwan);*

16:20 Radiative and Non-radiative Channels of Molecule Fluorescence Near Hyperbolic Half Space  
*Vasily V. Klimov (Lebedev Physical Institute, Russian Academy of Sciences, Russia); Dmitry V. Guzatov (Lebedev Physical Institute, Russian Academy of Sciences, Russia); Vitaly Savinov (Lebedev Physical Institute, Russian Academy of Sciences, Russia);*

16:40 Enhancing Efficiency of Electromagnetic Simulation in Time-domain with Transformation Optics  
*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.);*

17:00 Chiral Surface Plasmon Modes on Metallic Nanorods  
*Chih-Min Chen (National Cheng Kung University, Taiwan); Chih-Kai Yang (National Cheng Kung University, Taiwan); Yung-Chiang Lan (National Cheng Kung University, Taiwan, R.O.C.);*

17:20 Analysis of Transmission Characteristics and Multiple Resonances in Plasmonic Gratings Coated with Homogeneous Dielectrics  
*P. Arora (Indian Institute of Technology Madras, India); Ananth Krishnan (Indian Institute of Technology Madras, India);*

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**Session 3P2a**  
**Intelligent Electronics**

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**Wednesday PM, March 27, 2013**

**Room B**

Organized by Chien-Nan Lee

Chaired by Chien-Nan Lee

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13:20 The Design and Implementation of a MISO Fuzzy Logic Controller Based on CPLD  
*Chien-Nan Lee (Oriental Institute of Technology, Taiwan); Kai-Teng Jheng (Oriental Institute of Technology, Taiwan);*

13:40 Mobile Mouse Pad  
*Li-Lin Chen (Oriental Institute of Technology, Taiwan, R.O.C.);*

14:00 An ECG Signal Enhancement Based on Improved EMD  
*Mei-Lin Su (Oriental Institute of Technology, Taiwan); Keh-Shih Chuang (National Tsing-Hua University, Taiwan);*

14:20 A Rehabilitation Device for the Patients of Carpal Tunnel Syndrome  
*Li-Lin Chen (Oriental Institute of Technology, Taiwan, R.O.C.);*

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**Session 3P2b**  
**RF, Microwave and Millimeter-wave Measurements**

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**Wednesday PM, March 27, 2013**

**Room B**

Organized by Masahiro Horibe

Chaired by Toshiyuki Yakabe, Masahiro Horibe

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14:40 Estimation of Rain Attenuation at C, Ka, Ku and V Bands for Satellite Links in South Africa  
*Senzo Jerome Malinga (Mangosuthu University of Technology, South Africa); Pius Adewale Owolawi (Mangosuthu University of Technology, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa);*

- 15:00 Computation of Rain Attenuation through Scattering at Microwave and Millimeter Bands in South Africa  
*Senzo Jerome Malinga (Mangosuthu University of Technology, South Africa); Pius Adewale Owolawi (Mangosuthu University of Technology, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa);*
- 15:20 **Coffee Break**
- 15:40 Six-port Based Wave Correlator with Application to Micro-displacement Measurement  
*Nobuaki Iwaki (The University of Electro-Communications, Japan); Fengchao Xiao (The University of Electro-Communications, Japan); Toshiyuki Yakabe (The University of Electro-Communication, Japan);*
- 16:00 Accuracy of Transmission Loss Measurements in W-band Antenna Gain Calibration System  
*Anton Widarta (National Institute of Advanced Industrial Science and Technology (AIST), Japan); Michitaka Ameya (National Institute of Advanced Industrial Science and Technology, Japan);*
- 16:20 Uncertainty in Waveguide Vector Network Analyzer Measurements in the Frequency Range of D-band (110 GHz to 170 GHz)  
*Masahiro Horibe (National Institute of Advanced Industrial Science and Technology, Japan); Ryoko Kishikawa (National Institute of Advanced Industrial Science and Technology, Japan);*
- 16:40 Applying Effective Medium Theory in Characterizing Dielectric Constant of Solids  
*Sucheng Li (Soochow University, China); Ruirui Chen (Soochow University, China); Shahzad Anwar (Soochow University, China); Weixin Lu (Soochow University, China); Yun Lai (Soochow University, China); Huanyang Chen (Soochow University, China); Bo Hou (Soochow University, China); Fengran Ren (Soochow University, China); Bangming Gu (Zhejiang Wanli University, China);*
- 17:00 Downscaling of Passive Microwave Soil Moisture Using Radar and Visible near Infrared Data Sets  
*Venkat Lakshmi (University of South Carolina, USA);*

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**Session 3P3**  
**SAR System and Signal Processing**

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**Wednesday PM, March 27, 2013**

**Room C**

Organized by Yee Kit Chan

Chaired by Yee Kit Chan

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- 13:40 The Progress of Unmanned Aerial Vehicle Synthetic Aperture Radar Development for Environmental Monitoring  
*Yee Kit Chan (Multimedia University, Malaysia); Voon Chet Koo (Multimedia University, Malaysia); Hean-Teik Chuah (Universiti Tunku Abdul Rahman, Malaysia);*
- 14:00 Development of an Integrated Velocity Compensation Timing and Control Unit for SAR  
*Huey Shen Boey (Multimedia University, Malaysia); Tien Sze Lim (Multimedia University, Malaysia); Chua Ming Yam (Multimedia University, Malaysia); Voon Chet Koo (Multimedia University, Malaysia);*
- 14:20 Design and Development of a Sidelooking Microstrip Patch Antenna for Unmanned Aerial Vehicle Synthetic Aperture Antenna  
*Poi Ngee Tan (Multimedia University, Malaysia); Yee Kit Chan (Multimedia University, Malaysia); Tien Sze Lim (Multimedia University, Malaysia); Vetharatnam Gobi (Multimedia University, Malaysia);*
- 14:40 Performance Evaluation of an Integrated IMU-GPS Motion Sensing System for UAVSAR  
*Wei Qiang Tan (Multimedia University, Malaysia); Chot Chun Lim (Multimedia University, Malaysia); Voon Chet Koo (Multimedia University, Malaysia); Tien Sze Lim (Multimedia University, Malaysia);*
- 15:00 UAV SAR Signal Processing with Motion Error Compensation  
*Chee-Siong Lim (Multimedia University, Malaysia); Voon Chet Koo (Multimedia University, Malaysia); Yee Kit Chan (Multimedia University, Malaysia); Chot Chun Lim (Multimedia University, Malaysia);*
- 15:20 **Coffee Break**
- 15:40 High Speed AD DA for Synthetic Aperture Radar  
*Ming Yam Chua (Multimedia University, Malaysia); Voon Chet Koo (Multimedia University, Malaysia); Heng Siong Lim (Multimedia University, Malaysia); Huey Shen Boey (Multimedia University, Malaysia); Yee Kit Chan (Multimedia University, Malaysia); Chot Hun Lim (Multimedia University, Malaysia); Tien Sze Lim (Multimedia University, Malaysia); Hean-Teik Chuah (Universiti Tunku Abdul Rahman, Malaysia);*



16:00 Realization of Interpolation-free Fast SAR Range-Doppler Algorithm Using Parallel Processing on GPU  
*Ozgur Altun (Istanbul Technical University, Turkey); Selcuk Paker (Istanbul Technical University, Turkey); Mesut Kartal (Istanbul Tech Univ, Turkey);*

16:40 Performance Analysis of DPCA Based SAR Moving Target Detection  
*Han Gao (Beihang University, China); Jingwen Li (Beihang University, China); Li Zhang (Beihang University, China);*

17:00 A Three-component Model-based Target Decomposition for Compact Polarimetric SAR Data  
*Lei Xie (Center for Earth Observation and Digital Earth, CAS, China); Hong Zhang (Center for Earth Observation and Digital Earth, CAS, China); Chao Wang (Center for Earth Observation and Digital Earth, CAS, China); Bo Zhang (Center for Earth Observation and Digital Earth, CAS, China);*

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### Session 3P4a

#### Design and Simulation of Electromagnetic and Optical Devices 2

Wednesday PM, March 27, 2013

#### Room D

Organized by Shinichiro Ohnuki, Masahiro Tanaka

Chaired by Shinichiro Ohnuki, Masahiro Tanaka

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13:20 Frequency-dependent LOD-FDTD Simulation of THz Sensing  
*Jun Shibayama (Hosei University, Japan); Naoki Sasaki (Hosei University, Japan); Junji Yamauchi (Hosei University, Japan); Hisamatsu Nakano (Hosei University, Japan);*

13:40 Microstrip Slot Antenna for Mobile Base Station  
*Mohamed S. El-Gendy (Electronics Research Institute, Egypt); Haythem Hussein Abdullah (Electronics Research Institute (ERI), Egypt); Esmat Abdel-Fattah Abdallah (Electronics Research Institute, Egypt);*

14:00 Analysis of Localized Circularly Polarized Light by Plasmonic Antennas for All-optical Magnetic Recording  
*Shinichiro Ohnuki (Nihon University, Japan); T. Kato (Nihon University, Japan); Yoshito Ashizawa (Nihon University, Japan); Katsuji Nakagawa (Nihon University, Japan); Weng Cho Chew (University of Illinois, USA);*

14:20 Cavity Array Metamaterials

*James Quach (The University of Melbourne, Australia); Chun-Hsu Su (The University of Melbourne, Australia); Andrew M. Martin (The University of Melbourne, Australia); Andrew D. Greentree (RMIT University, Australia); Lloyd C. L. Hollenberg (The University of Melbourne, Australia);*

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### Session 3P4b

#### Computational Electromagnetics

Wednesday PM, March 27, 2013

#### Room D

Chaired by Yoichi Okuno, Tsuneki Yamasaki

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14:40 Computation of a Quasi-static Field Induced by Two Long Straight Parallel Wires in an Inhomogeneous Layered Conductor  
*François Caire (CEA LIST, DISC/LSME, France); Denis Premel (CEA LIST, DISC/LSME, France); Gérard Granet (Université Blaise Pascal, LASMEA, France);*

15:00 Finite Difference — Trefftz Schemes in Electromagnetics  
*Igor Tsukerman (The University of Akron, USA);*

15:20 **Coffee Break**

15:40 Special Difference Schemes for Singularity-free Boundary Methods  
*Osama Alkhateeb (The University of Akron, USA); Igor Tsukerman (The University of Akron, USA);*

16:00 Distribution of Energy Flow by Dielectric Waveguide with Defects Composed of Air-hole Type Circular Cylinder Array  
*Ryosuke Ozaki (Nihon University, Japan); Tsuneki Yamasaki (Nihon University, Japan);*

16:20 Resonance Absorption in Multilayered Bi-gratings  
*Yoichi Okuno (Kumamoto University, Japan); S. Bai (Kumamoto University, Japan); Taikei Suyama (Kumamoto University, Japan); Q. Zhao (Kumamoto University, Japan); X. Xu (Kyushu Sangyo University, Japan);*

16:40 Applications of the High-order Method in Dielectric Material  
*Min Zhu (Nanjing University of Aeronautics and Astronautics, China); L. Zhao (Nanjing ASSEN Environment Technology Co. Ltd., China); Qunsheng Cao (Nanjing University of Aeronautics and Astronautics, China);*

- 17:00 Application of the Eigenfunctions in Fast RCS Computing  
*You-Bao Wang (Nanjing University of Posts and Telecommunications, China); Xiao Zhu (Nanjing University of Information Science & Technology, China); Chao Shi (Nanjing University of Information Science & Technology, China);*
- 17:20 Validating the Response of UHF Partial Discharge Sensor Using FDTD Method  
*Asnor Mazuan Ishak (University of Strathclyde, UK); Martin D. Judd (University of Strathclyde, UK); Wah Hoon Siew (University of Strathclyde, UK);*
- 14:40 Novel Design of Site Source for Radiation and Conduction Emission Test  
*Dau-Chyrrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Chih-Hung Lee (Yuan Ze University, Taiwan); Tsung-Yuan Yang (Electronics Testing Center, Taiwan);*
- 15:00 Ultra-wideband Microstrip Patch Antenna for Microwave Communications  
*Syed Ahsan Ali (Mohammad Ali Jinnah University, Pakistan); Umair Rafique (Mohammad Ali Jinnah University, Pakistan); Umair Ahmad (Mohammad Ali Jinnah University, Pakistan); M. Mansoor Ahmed (Mohammad Ali Jinnah University, Pakistan); M. Arif Khan (Mohammad Ali Jinnah University, Pakistan);*

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**Session 3P5**  
**Antenna and EMC**

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**Wednesday PM, March 27, 2013**

**Room E**

Organized by Hsiao-Bin Liang, Chih-Hung Lee

Chaired by Hsiao-Bin Liang, Chih-Hung Lee

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- 13:20 An Improved Gain Log-periodic Dipole Array Design Using Swarm Optimization  
*Muhammad Aziz-ul-Haq (Mohammad Ali Jinnah University, Pakistan); M. Tausif Afzal (Mohammad Ali Jinnah University, Pakistan); M. Mansoor Ahmed (Mohammad Ali Jinnah University, Pakistan); Qamar-ud-Din Memon (Mohammad Ali Jinnah University, Pakistan); Umair Rafique (Mohammad Ali Jinnah University, Pakistan); M. Arif Khan (Mohammad Ali Jinnah University, Pakistan);*
- 13:40 Assessment of Decoupling between MRI Array Elements at 300 MHz  
*Mikhail Kozlov (Max Planck Institute for Human Cognitive and Brain Sciences, Germany); Robert Turner (Max Planck Institute for Human Cognitive and Brain Sciences, Germany);*
- 14:00 Circularly Polarized Patch Antenna Based on Chiral Metamaterial  
*Yahong Liu (Northwestern Polytechnical University, China); Ying Qi (Northwestern Polytechnical University, China); Kun Song (Northwestern Polytechnical University, China); Shuai Gu (Northwestern Polytechnical University, China); Xiao-Peng Zhao (Northwestern Polytechnical University, China);*
- 14:20 Simulation of the Noise Induced by Corona Discharges on a Ground VHF Antenna  
*Mingtian Wang (EMA Research Group, Telecom Lab, ENAC, France); Alexandre Chaborry (ENAC, France); Jean-Pierre Boeuf (LAPLACE, France);*
- 15:20 **Coffee Break**
- 15:40 The Analysis of Antenna Performance due to PCB Grounding Effect from the EMC Bead Device  
*Hsiao-Bin Liang (Climax Technology Co., Ltd., Taiwan); Cheng-Wei Chen (Oriental Institute of Technology, Taiwan, R.O.C.); Dau-Chyrrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Ming-Ching Yen (Oriental Institute of Technology, Taiwan, R.O.C.); Yu-Ling Chou (Climax Technology Co., Ltd, Taiwan);*
- 16:00 Design, Analysis and Implementation of RF/MMW Passive Circuits for Combining Yagi Antennas Using Mixed-mode  $S$ -parameters Concept  
*Hsiao-Bin Liang (Climax Technology Co., Ltd., Taiwan); Dau-Chyrrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Cheng-Wei Chen (Oriental Institute of Technology, Taiwan); Chih-Ying Lin (Climax Technology Co., Ltd., Taiwan);*
- 16:20 A Low Cost Elliptical Dipole Antenna Array for 60 GHz Applications  
*Jianjun Xu (University of Science and Technology of China, China); Weidong Wang (University of Science and Technology of China, China);*
- 16:40 Reconfigurable Monopole Antenna for WLAN/WiMAX Applications  
*Hashimu Uledi Iddi (Universiti Teknologi Malaysia, Malaysia); Muhammad Ramlee Bin Kamarudin (Universiti Teknologi Malaysia, Malaysia); Tharek Bin Abdul Rahman (University Technology Malaysia (UTM), Malaysia); Raimi Dewan (Universiti Teknologi Malaysia, Malaysia);*

- 17:00 Performance Improvement of Broadband Double Ridged Horn Antenna  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Chih-Hung Lee (Yuan Ze University, Taiwan); Tsung-Yuan Yang (Electronics Testing Center, Taiwan);*
- 17:20 Upgrade the Traditional EMC Chamber for Avionic EMC Applications  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Chih-Hung Lee (Yuan Ze University, Taiwan); Tsung-Yuan Yang (Electronics Testing Center, Taiwan);*
- 17:40 EMS of AM/FM Car Radio  
*Dau-Chyrh Chang (Oriental Institute of Technology, Taiwan, R.O.C.); Yao-Jyun Cai (Oriental Institute of Technology, Taiwan); Fong-Yi Lin (Oriental Institute of Technology, Taiwan); Bing-Hao Zeng (Lorom Industrial Co. Ltd, Taiwan); Jay Chen (Lorom Industrial Co. Ltd, Taiwan);*
- 14:00 Arousal Effect of Physiological Magnetic Stimulation on Car Driver's Pit of Stomach Evaluated with Electroencephalogram Using Driving Simulator  
*Yoshiyuki Mohri (MI Institute, Japan); Muneo Yamada (Meijo University, Japan); Kota Sakai (Meijo University, Japan); Wataru Kato (Meijo University, Japan); Kaneo Mohri (Nagoya Industrial Science Research Institute (NISRI), Japan); Tsuyoshi Uchiyama (Nagoya University, Japan);*
- 14:20 Simulation of the Waveguide Earthquake by Using GL Geophysical Modeling  
*Ganquan Xie (GL & Hunan Super Computational Sciences Center, China); Jianhua Li (GL Geophysical Laboratory, USA); Lee Xie (Hunan Super Computational Sciences Center, China); Qing Xie (Hunan Super Computational Science Center, China); Xianwei Zhou (Beijing Scientific Technology University, China); Daxin Zuo (Hunan Super Computational Sciences Center, China); Feng Xie (GL Geophysical Laboratory, USA); Xuan Zhou (Hunan Super Computational Sciences Center, China); Mengji Xie (Hunan Super Computational Sciences Center, China);*

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**Session 3P6a**

**Biomedical Electromagnetic Instruments, EM Condensed Materials and Imaging and Education**

**Wednesday PM, March 27, 2013**

**Room F**

Organized by Ganquan Xie, Jianhua Li

Chaired by Ganquan Xie

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- 13:20 RF Transmit Performance Comparison for Several MRI Head Arrays at 300 MHz  
*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 Pulse Train Distributed Magnetic Field Generated from High Strength Concrete Using Magnetized Olivine Stone Aggregate  
*Kaneo Mohri (Nagoya Industrial Science Research Institute (NISRI), Japan); M. Sasaki (Shinchita Concrete Kogyo Co. Ltd., Japan); T. Uemura (Tsuruta Sekizai Co. Ltd., Japan); Yoshiyuki Mohri (MI Institute, Japan); Muneo Yamada (Meijo University, Japan); Takeshi Kato (Nagoya University, Japan);*
- 14:40 GL EM Modeling for Entertainment  
*Jianhua Li (GL Geophysical Laboratory, USA); Ganquan Xie (GL & Hunan Super Computational Sciences Center, China); Bihua Zhou (Hunan GL Super Computational Sciences Center, China); Xiangwu Xie (Hunan GL Super Computational Sciences Center, China); Ke Li (Hunan GL Super Computational Sciences Center, China); Chuan Xie (GL Geophysical Laboratory, USA);*
- 15:00 GL EM Visualization for Electromagnetic Education  
*Jianhua Li (GL Geophysical Laboratory, USA); Hong Jun Li (Wang Cheng Second High School, China); Jian Sheng Liu (Wang Cheng Second High School, China); Ganquan Xie (GL & Hunan Super Computational Sciences Center, China); Xiangqi Xie (Hunan Super Computational Sciences Center, China);*
- 15:20 **Coffee Break**

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**Session 3P6b**

**Electromagnetic Modeling, Inversion and Applications**

**Wednesday PM, March 27, 2013**

**Room F**

Organized by Ganquan Xie, Jianhua Li

Chaired by Ganquan Xie

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- 15:40 GL EM Modeling for an Industrial and Art Scenery Design Model  
*Jianhua Li (GL Geophysical Laboratory, USA); Ganquan Xie (GL & Hunan Super Computational Sciences Center, China); Qing Xie (Hunan Super Computational Science Center, China); Lee Xie (Hunan Super Computational Sciences Center, China); Feng Xie (GL Geophysical Laboratory, USA); Y. J. Xie (Hunan Super Computational Sciences Center, China); Xinsheng Xie (Hunan Super Computational Sciences Center, China); Y. Zhang (Hunan Super Computational Sciences Center, China);*
- 16:00 Electromagnetic, Seismic, Heating, and Fluid Modeling and Inversion for Social and Natural Earthquake Dynamic  
*Ganquan Xie (GL & Hunan Super Computational Sciences Center, China); Jianhua Li (GL Geophysical Laboratory, USA); Qing Xie (Hunan Super Computational Science Center, China); Xianwei Zhou (Beijing Scientific Technology University, China);*
- 16:20 Three-dimensional Controlled-source Electromagnetic Finite Element Modeling Using A- $\Phi$  Method  
*Bo Han (China University of Geosciences, China); Xianguyun Hu (China University of Geosciences, China); Guiju Wu (China University of Geosciences, China);*
- 16:40 Temporal Orthogonal Projection Inversion Technique for EMI Sensing of UXO  
*Lin-Ping Song (University of British Columbia, Canada); Douglas W. Oldenburg (University of British Columbia, Canada); Leonard R. Pasion (Black Tusk Geophysics, Canada); Stephen D. Billings (Black Tusk Geophysics, Canada); Laurens Beran (Black Tusk Geophysics, Canada);*
- 17:00 Speed-feedback, Direct-drive Control of a Low-speed Transverse Flux-type Motor with Large Number of Poles for Ship Propulsion  
*Yuta Yamamoto (The University of Tokyo, Japan); Taichi Nakamura (West Japan Railway Company, Japan); Yasuhiro Takada (The University of Tokyo, Japan); Takafumi Koseki (The University of Tokyo, Japan); Yasuaki Aoyama (Hitachi, Ltd., Japan); Yoshitaka Iwaji (Hitachi, Ltd., Japan);*
- 1 A 2.4 GHz Array Combination High-power Amplifier  
*Chien-Hua Lai (Yuan Ze University, Taiwan); Jeng-Rern Yang (Yuan Ze University, Taiwan, R.O.C.);*
- 2 Design and Optimization of Carrier Suppression Circuit for UHF RFID Reader Applications  
*You Bin (Hangzhou Dianzi University, 310018); Quliang Yu (Hangzhou Dianzi University, China); Mingzhu Zhou (Hangzhou Dianzi University, China); Xiao-Hong Zhang (Hangzhou Dianzi University, China);*
- 3 Planar Four-port Circulator Using Single Longitudinally Magnetized Ferrite Coupled Line Junction  
*Wojciech Marynowski (Gdansk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland); J. Mazur (Gdansk University of Technology, Poland);*
- 4 Analysis of Magnetic Losses in Ferrite Coupled Lines Using SDA and Hybrid Root Finding Algorithm  
*Wojciech Marynowski (Gdansk University of Technology, Poland); Piotr Kowalczyk (Gdansk University of Technology, Poland);*
- 5 A Novel Tunable Bandpass Filter Using Microstrip Open-loop Resonators and Varactor Diodes  
*Minoo Najafi (Islamic Azad University, Bushehr Branch, Iran); Alireza Malahzadeh (Islamic Azad University, Bushehr Branch, Iran);*
- 6 Complex Permittivity Measurement for Thin Sample Using Rectangular Waveguide Filled with Supporting Materials  
*Tatsuya Suzuki (Kisarazu National College of Technology, Japan); Sho Suzuki (Kisarazu National College of Technology, Japan); Kyota Otsuka (Kisarazu National College of Technology, Japan); Kota Kiyomi (Kisarazu National College of Technology, Japan); Takanobu Ohno (Kisarazu National College of Technology, Japan); Kowichi Ishii (Kisarazu National College of Technology, Japan);*
- 7 A Design for Ultra-wideband Bandpass Filter Using Parallel-coupled Line and Stepped Impedance Resonator by Genetic Algorithm  
*Kota Kiyomi (Kisarazu National College of Technology, Japan); Tatsuya Suzuki (Kisarazu National College of Technology, Japan); Kyota Otsuka (Kisarazu National College of Technology, Japan); Sho Suzuki (Kisarazu National College of Technology, Japan); Takanobu Ohno (Kisarazu National College of Technology, Japan); Kowichi Ishii (Kisarazu National College of Technology, Japan);*

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**Session 3P8**
**Poster Session 4**


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**Wednesday PM, March 27, 2013**
**14:00 PM - 17:00 PM**
**Room K**


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- 8 A Study on Thickness of High Loss Material for Determining Accurate Complex Permittivity in Transmission Line Method Using Rectangular Waveguide  
*Sho Suzuki (Kisarazu National College of Technology, Japan); Tatsuya Suzuki (Kisarazu National College of Technology, Japan); Kyota Otsuka (Kisarazu National College of Technology, Japan); Kota Kiyomi (Kisarazu National College of Technology, Japan); Takano Ohno (Kisarazu National College of Technology, Japan); Kouichi Ishii (Kisarazu National College of Technology, Japan);*
- 9 Reasonable Estimations of Constituent Losses of Printed Circuit Board Interconnects  
*Kuen-Fwu Fuh (National United University, Taiwan); Pin Deng (National United University, Taiwan); Annie Liu (Taiwan Union Technology Corporation, Taiwan); Eric Liao (Taiwan Union Technology Corporation, Taiwan);*
- 10 Implementation of a Compact RF Module by Analysis and Fabrication for Organic Substrate with Embedded Passives  
*Jongin Ryu (Hanyang University, Korea); Jong Min Yook (Korea Electronics Technology Institute, Korea); Dongsu Kim (Korea Electronics Technology Institute, South Korea);*
- 11 Propagation Characteristics of the Meandered Defected Ground Structure  
*Wan-Ti Wang (National University of Tainan, Taiwan); Tzu-Hsiung Lin (National University of Tainan, Taiwan); Chien-Jen Wang (National University of Tainan, Taiwan);*
- 12 Three-port De-embedding Methodology for GaAs pHEMT Characterization  
*Chie-In Lee (National Sun Yat-Sen University, Taiwan, R.O.C.); Wei-Cheng Lin (National Sun Yat-Sen University, Taiwan, R.O.C.); Yan-Ting Lin (National Sun Yat-Sen University, Taiwan, R.O.C.);*
- 13 Wideband Leveling Amplifier Design Using 0.18  $\mu\text{m}$  CMOS Process  
*Guan-Shian Li (National Taiwan University, Taiwan); Ching-Ying Huang (National Chiao Tung University, Taiwan); Robert (Shu-I) Hu (National Chiao Tung University, Taiwan, R.O.C.); Chung-Ping Chen (National Taiwan University, Taiwan, R.O.C.);*
- 14 FPGA Implementation and Verification of Reed-Solomon Code in SDR System  
*Yi Hua Chen (Oriental Institute of Technology, Taiwan); Chang Lueng Chu (Oriental Institute of Technology, Taiwan); Chun Chun Yeh (Oriental Institute of Technology, Taiwan);*
- 15 Design of a Bandwidth-enhanced Ultra Thin Metamaterial Absorber  
*Saptarshi Ghosh (Indian Institute of Technology, India); Somak Bhattacharyya (Indian Institute of Technology, India); Kumar Vaibhav Srivastava (Indian Institute of Technology, India);*
- 16 Investigation of Parasitic Effects Induced by the Ground on LTCC Passive Components  
*Runiu Fang (Peking University, China); Min Miao (Peking University, China); Yufeng Jin (Peking University, China);*
- 17 Microwave Optoelectronic Oscillator for Distributed Receivers Operating Remotely  
*Larissa Aguiar Dantas de Britto (São José dos Campos, Brazil); Débora Maria Souza Morais (São José dos Campos, Brazil); Gefeson Mendes Pacheco (São José dos Campos, Brazil);*
- 18 LTE Mixer Array of 0.5 W High Output Power  
*Pang-Hsing Chen (Yuan Ze University, Taiwan); Yen-Heng Chen (Yuan Ze University, Taiwan); Jeng-Rern Yang (Yuan Ze University, Taiwan, R.O.C.);*
- 19 Design of a Highly Linear Low-noise Amplifier with Noise and Distortion Cancellation  
*Pang-Hsing Chen (Yuan Ze University, Taiwan); Jeng-Rern Yang (Yuan Ze University, Taiwan, R.O.C.);*
- 20 Dual-band Bandpass Filter with a Tunable Upper Passband  
*Shun Fu Liao (National Changhua University of Education, Taiwan); Hsun-Hsiang Chen (National Changhua University of Education, Taiwan); Ching-Her Lee (National Changhua University of Education, Taiwan, R.O.C.);*
- 21 A Tunable Dual-band Bandpass Filter with Two Independently Tunable Passbands  
*Ding-Hong Jia (Southwest Jiaotong University, China); Quanyuan Feng (Southwest Jiaotong University, China); Xiao-Guo Huang (Southwest Jiaotong University, China); Qian-Yin Xiang (Southwest Jiaotong University, China);*
- 22 A Constant Absolute Bandwidth Tunable Compline Bandpass Filter  
*Xiao-Guo Huang (Southwest Jiaotong University, China); Quanyuan Feng (Southwest Jiaotong University, China); Qian-Yin Xiang (Southwest Jiaotong University, China); Ding-Hong Jia (Southwest Jiaotong University, China);*

- 23 Digital Predistortion for RF Power Amplifiers Based on Enhanced Orthonormal Hermite Polynomial Basis Neural Network  
*Xiao-Hui Yuan (Southwest Jiaotong University, China); Quanyuan Feng (Southwest Jiaotong University, China); Tiao Jun Zeng (Southwest Jiaotong University, China); Hongbo Ma (Southwest Jiaotong University, China);*
- 24 The Investigation of the Effects of Electromagnetic Band Gap Structure and Configuration Size on Power Integrity of High Speed Circuit Board  
*Yun-Hsih Chou (St. John's University, Taiwan); Ming-Chang Tsai (St. John's University, Taiwan);*
- 25 Closed Loop Cell Texture Thermodynamics  
*Karl F. Kaspareck (CTE, Italy);*
- 26 Design of Parallel FFT Based on FPGA in the Field of Software Radio  
*Guochun Wan (Tongji University, China); Y. Q. Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);*
- 27 Dual Band Circuit Design Using Mixed Lumped Elements/Coupled Lines  
*Kuan-Yu Liao (National Chin-Yi University of Technology, Taiwan, R.O.C.); Jan-Dong Tseng (National Chin-Yi University of Technology, Taiwan, R.O.C.);*
- 28 A Correction Term for Maxwell's Equations Transformed between Galilean Reference Systems (Part I)  
*Namik Yener (Kocaeli University, Turkey);*
- 29 A Correction Term for Maxwell's Equations Transformed between Galilean Reference Systems (Part II)  
*Namik Yener (Kocaeli University, Turkey);*
- 30 A Large Tuning Range Ring VCO in 180nm CMOS  
*Xuemei Lei (Southeast University, China); Zhigong Wang (Southeast University, China); Lianfeng Shen (Southeast University, China); Keping Wang (University of Washington, USA);*
- 31 A Planar MIMO Antenna for Mobile Phones  
*Di Wu (The University of Hong Kong, China); Sing Wai Cheung (The University of Hong Kong, China); Tung Ip Yuk (The University of Hong Kong, China); Xiao Lei Sun (The University of Hong Kong, China);*
- 32 CPW-coupled-fed Circular UWB Monopole Antenna  
*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);*
- 33 A Compact Branch-line Directional Coupler Using Lumped-element CRLH TLs  
*Y. F. Wu (The University of Hong Kong, China); Jun Zhang (The University of Hong Kong, China); Sing Wai Cheung (The University of Hong Kong, China);*
- 34 Direction of Arrival Estimation Based on Maximum Likelihood Criteria Using Gravitational Search Algorithm  
*Ahmed Magdy Mohamed (Helwan University, Egypt); Korany Ragab Mahmoud (Helwan University, Egypt); Samir G. Abdel Gawad (Helwan University, Egypt); Ibrahim I. Ibrahim (Helwan University, Egypt);*
- 35 Experimental Studies on Microwave Gunn Oscillator Based Modulator-demodulator Systems with Chaotic Modulating Signals  
*Bishnu Charan Sarkar (Burdwan University, India); T. Banerjee (Burdwan University, India); Suvra Sarkar (Burdwan Raj College, India); Chaitali Koley (Burdwan University, India); Arun K. Guin (Burdwan University, India);*
- 36 Effects of Nonlinear Bias Tuning of X-band Gunn Oscillator Based Frequency Modulators  
*Bishnu Charan Sarkar (Burdwan University, India); T. Banerjee (Burdwan University, India); Arun K. Guin (Burdwan University, India); Chaitali Koley (Burdwan University, India);*
- 37 Experimental Studies on the Nonlinear Interaction between a Chaotic Signal and a Periodic Signal at Microwave Frequency Range  
*Bishnu Charan Sarkar (Burdwan University, India); Suvra Sarkar (Burdwan Raj College, India); Chaitali Koley (Burdwan University, India); Arun K. Guin (Burdwan University, India); T. Banerjee (Burdwan University, India);*
- 38 A Contactless Inductive Charging Platform  
*Han-Chung Teng (National Taipei University of Technology, Taiwan); Tsung-Lin Li (National Taipei University of Technology, Taiwan); Guan-Pu Pan (National Taipei University of Technology, Taiwan); Jwo-Shiun Sun (National Taipei University of Technology, Taiwan, R.O.C.);*
- 39 FPGA Implementation of LDPC Encoder with Approximate Lower Triangular Matrix  
*Yi Hua Chen (Oriental Institute of Technology, Taiwan); Jheng Shyuan He (Oriental Institute of Technology, Taiwan);*

- 40 A Novel Function Tuner with Microstrip Circuit for Slot Patch Antenna  
*Chia-Ching Chu (I-Shou University, Taiwan, R.O.C.); Lih-Shan Chen (I-Shou University, Taiwan); Hsien-Chiao Teng (ROC Military Academy, Taiwan, R.O.C.); Shen Cherng (Chengshiu University, Taiwan);*
- 41 An Emergency Medical Service Support System  
*Li-Lin Chen (Oriental Institute of Technology, Taiwan, R.O.C.);*
- 42 A Novel Design of Reconfigurable Annular Slot Active Patch Antenna  
*Yu-Ming Lee (I-Shou University, Taiwan, R.O.C.); Shen Cherng (Chengshiu University, Taiwan); Hsien-Chiao Teng (ROC Military Academy, Taiwan, R.O.C.); Shuming T. Wang (I-Shou University, Taiwan, R.O.C.);*
- 43 A Surface-potential Based Compact Model of Gate Capacitance in GaN HEMTs  
*Jie Wang (Hangzhou Dianzi University, China); Lingling Sun (Hangzhou Dianzi University, China); Jun Liu (Hangzhou Dianzi University, China); Mingzhu Zhou (Hangzhou Dianzi University, China);*
- 44 Design of the Envelope Modulator for High Efficiency RF Envelope Tracking Power Amplifier (ET-PA)  
*C. A. Schecht (Texas Tech University (TTU), USA); Donald Y. C. Lie (Texas Tech University (TTU), USA); J. Lopez (Texas Tech University (TTU), USA);*
- 45 Design of a Multi-band Dielectric Resonator Antenna  
*Hsin-Chih Tsai (National Taipei University of Technology, Taiwan); Tsung-Lin Li (National Taipei University of Technology, Taiwan); Hung-Wen Liu (National Taipei University of Technology, Taiwan); Jwo-Shiun Sun (National Taipei University of Technology, Taiwan, R.O.C.);*
- 46 Design of a Circularly Polarized Rectenna for Wireless Power Transmission  
*Si-Jyun Hung (National Taipei University of Technology, Taiwan); Tsung-Lin Li (National Taipei University of Technology, Taiwan); Yi-Ching Huang (National Taipei University of Technology, Taiwan); Jwo-Shiun Sun (National Taipei University of Technology, Taiwan, R.O.C.);*
- 47 High-peak Power, Low-average Power RF Pulses, Bioeffects and Standards: Recent Developments  
*Michael R. Murphy (United States Air Force Research Laboratory, Directed Energy Bioeffects division, USA);*
- 48 Electromagnetic Forces in the Curved Octonion Spaces  
*Zi-Hua Weng (Xiamen University, China);*
- 49 The Effect of Exposure to ELF-EMFs on Learning and Memory Ability Changes in Rats  
*Jian Feng Guo (Shenzhen Environmental Monitoring Centre, China); Dong Wang (Shenzhen Environmental Monitoring Centre, China); Lingfeng Kong (Environmental Protection of Guangdong Province, China);*
- 50 Electron Energy Loss and Second-harmonic Emission of Nonlinear Nanoparticles  
*Jinying Xu (Beijing Computational Science Research Center, China); Xiangdong Zhang (Beijing Computational Science Research Center, China);*
- 51 3D CFDTD PIC Simulation Study on Low-frequency Oscillations in a Gyrotron  
*Ming-Chieh Lin (Tech-X Corporation, USA); David N. Smithe (Tech-X Corporation, USA);*
- 52 A Prototype Design of Dental Microwave Imaging Equipment  
*Chun-Sen Wu (Metal Industries Research & Development Centre, Taiwan); Hsien-Nan Kuo (Metal Industries Research & Development Centre, Taiwan); Tsung-Chih Yu (Metal Industries Research & Development Centre, Taiwan);*
- 53 Research of Improved Matching Doherty Solid State Power Amplifier  
*Zheng-Qin Li (City College of Wenzhou University, China); Wei Wei Cheng (Zhejiang University, China); Yuan-Yuan Wu (Guizhou Minzu University, China);*
- 54 Research of Doherty Solid State Power Amplifier with Improved Bias Matching  
*Ming-Hai Xu (City College of Wenzhou University, China); Wei Wei Cheng (Zhejiang University, China);*
- 55 Analysis and Design of the Microstrip Matching for Doherty Amplifier  
*Ming-Hai Xu (City College of Wenzhou University, China); Shengyun Luo (Fudan University, China);*
- 56 A Novel Oscillator Based on Film Bulk Acoustic Resonator  
*Wei Wei Cheng (Zhejiang University, China); Shu Rong Dong (Zhejiang University, China); Shengyun Luo (Fudan University, China);*
- 57 Analysis and Optimization of the Linearity and Efficiency for Doherty Amplifier  
*Zheng-Qin Li (City College of Wenzhou University, China); Wei Wei Cheng (Zhejiang University, China); Mei-Yi Xiang (East China Normal University, China);*
- 58 Design and Implementation of Low Phase Noise Oscillator Based on Film Bulk Acoustic Resonator  
*Wei Wei Cheng (Zhejiang University, China); Shu Rong Dong (Zhejiang University, China); Shengyun Luo (Fudan University, China);*

## PIERS SURVEY

This is to inform you about future Progress in Electromagnetics Research Symposium (PIERS).

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Should you be interested in organizing a session, please online fill out this PIERS Survey Form in PIERS web site at <http://emacademy.org> or <http://piers.org>.

Name: \_\_\_\_\_ Position: \_\_\_\_\_  
Affiliation: \_\_\_\_\_ Email: \_\_\_\_\_  
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Address: \_\_\_\_\_ Fax: \_\_\_\_\_  
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Web: \_\_\_\_\_  
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Date: \_\_\_\_\_

A1. For the next PIERS to be held on 12–15 August, 2013 in Stockholm, SWEDEN,

( ) I will be interested in organizing and chairing a session, and the proposed title is  
\_\_\_\_\_

B. For past PIERS, I attended

- |                                    |                                 |                                 |
|------------------------------------|---------------------------------|---------------------------------|
| ( ) 1st PIERS1989 in Boston        | ( ) 2nd PIERS1991 in Cambridge  | ( ) 3rd PIERS1993 in Pasadena   |
| ( ) 4th PIERS1994 in Noordwijk     | ( ) 5th PIERS1995 in Seattle    | ( ) 6th PIERS1996 in Innsbruck  |
| ( ) 7th PIERS1997 in Hong Kong     | ( ) 8th PIERS1997 in Cambridge  | ( ) 9th PIERS1998 in Nantes     |
| ( ) 10th PIERS1999 in Taipei       | ( ) 11th PIERS2000 in Cambridge | ( ) 12th PIERS2001 in Osaka     |
| ( ) 13th PIERS2002 in Cambridge    | ( ) 14th PIERS2003 in Singapore | ( ) 15th PIERS2003 in Honolulu  |
| ( ) 16th PIERS2004 in Pisa         | ( ) 17th PIERS2004 in Nanjing   | ( ) 18th PIERS2005 in Hangzhou  |
| ( ) 19th PIERS2006 in Cambridge    | ( ) 20th PIERS2006 in Tokyo     | ( ) 21st PIERS2007 in Beijing   |
| ( ) 22nd PIERS2007 in Prague       | ( ) 23rd PIERS2008 in Hangzhou  | ( ) 24th PIERS2008 in Cambridge |
| ( ) 25th PIERS2009 in Beijing      | ( ) 26th PIERS2009 in Moscow    | ( ) 27th PIERS2010 in Xi'an     |
| ( ) 28th PIERS2010 in Cambridge    | ( ) 29th PIERS2011 in Marrakesh | ( ) 30th PIERS2011 in Suzhou    |
| ( ) 31th PIERS2012 in Kuala Lumpur | ( ) 32th PIERS2012 in Moscow    | ( ) 33th PIERS2013 in Taipei    |

C. I have the following comments about PIERS:

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# PIERS 2013 in Stockholm

## Progress in Electromagnetics Research Symposium

### 12 – 15 August, 2013

Stockholm, SWEDEN

## CALL FOR PAPERS

PIERS provides an international forum for reporting progress and recent advances in all aspects of electromagnetics. Spectra range from statics to RF, microwave, photonics, and beyond. Topics include radiation, propagation, diffraction, scattering, guidance, resonance, power, energy and force issues, and all applications and modern developments. Potential session organizers are welcome to propose specific technical topics by filling out the PIERS survey at <http://piers.org/>.

### SUGGESTED TOPICS:

- |  |  |
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| 1 Electromagnetic theory                           | 2 Computational electromagnetics, hybrid methods               |
| 3 Spectra, time, and frequency domain techniques   | 4 Fast iteration, large scale and parallel computation         |
| 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 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 Wireless power transfer and harvesting          | 26 Medical electromagnetics, biological effects, bioimaging    |
| 27 Microwave photonics, THz technology             | 28 Biophotonics, optical sensors and environmental monitoring  |
| 29 Novel optical fibers and fiber-based devices    | 30 Advanced photonic materials and nanophotonics               |
| 31 Optoelectronic devices and integration          | 32 Light emitting and lasing                                   |
| 33 Coherent optics, ultrafast optics               | 34 Light harvesting, photovoltaics, optoelectronics in energy  |
| 35 Metamaterials and plasmonics                    | 36 Quantum electrodynamics, computing and information theory   |
| 37 Biological media, composite and random media    | 38 Plasmas, nonlinear media, fractal, chiral media             |
| 39 Constitutive relations and bianisotropic media  | 40 Moving media, relativity, field quantization, and others    |

## SUBCOMMITTEES FOR PIERS 2013 IN STOCKHOLM

The following five subcommittees have been formed for PIERS 2013 Stockholm (however, the topics of PIERS 2013 Stockholm are not limited to these areas):

- SC 1. Computational Electromagnetics, Electromagnetic Compatibility, Scattering and Electromagnetic Theory
- SC 2. Metamaterials, Plasmonics and Complex Media
- SC 3. Optics and Photonics
- SC 4. Antennas and Microwave Technologies
- SC 5. Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

## NEW FEATURE: FOCUS SESSIONS

In PIERS 2013 Stockholm, a dozen of Focus Sessions will be planned. Each focus session should be focused on a specific hot topic that must be timely and reflect the future trends or the latest scientific advances in the area. The leadership of the conference will select the topics of focus sessions and the responsible organizers. The organizers may adjust the title of the focus session to make it e.g. more specific/focused and should make the best effort to ensure the high quality of the session by inviting high-profile keynote speakers (30 min for each; 0-2 keynote speakers for each focus session) and excellent invited speakers (20 min for each), etc. Some contributed oral talks (15 min each) are encouraged, however, quality must be very well controlled by the organizers with a typical acceptance ratio of less than 50%. Each focus session will last for a half-day (with a coffee break) or a full-day (with a lunch break and two coffee breaks).

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## PAPER SUBMISSION MUST BE RECEIVED BY 20 MARCH 2013

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**Abstract Guidelines:** Authors are invited to submit a one-page abstract. The abstract limit is one page but must have at least 250 words in English. No full-length paper is required. The abstract should explain clearly the content and relevance of the proposed technical contribution. On a separate page list the following information: (1) Title of the paper, (2) Name, affiliation, and email of each author, (3) Mailing address, (4) Telephone/Fax numbers, (5) Corresponding author and Presenting author, (6) Topic or Session Organizer, if applicable, (7) State if poster presentation is preferred.

Please use On-Line-Submission (<http://piers.org>) to submit your contribution or via email ([tpc@piers.org](mailto:tpc@piers.org)) by attachments. Authors are recommended to use \*.tex, \*.doc, or \*.pdf as the file format. The abstract submission deadline is **20 March 2013** and the author pre-registration deadline is **20 May 2013**.

**Full-length Papers:** Author of an accepted abstract is invited to (but is not required to) submit a full-length paper of 4–5 pages. All full papers will be subject to a peer-review process. Only accepted and registered papers will be published in the final PIERS Proceedings and available online after the conference. Please visit PIERS website for the latest PIERS sample files. The deadline for the submission of extended papers is **30 May 2013**.

**PIERS No-Show Policy:** Please be reminded that if your paper is a no-show in oral presentation session, its full-length paper will not be included in the final PIERS proceedings.

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## PRESENTING AUTHORS MUST PRE-REGISTER BY 20 MAY 2013

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Each presenting author is limited to presenting no more than three papers in oral and poster sessions, and must pre-register by paying a **non-refundable** fee of **US\$570** before **20 May 2013**. For students with valid identification, the non-refundable pre-registration fee is **US\$300**. Registration fee will be raised to **\$680** and **\$400** for students after **20 May 2013**. Only pre-registered articles will be scheduled in the final Technical Program. Inclusion of the article in the Technical Program and PIERS Proceedings is guaranteed only after the registration of the presenting author is completed. Registration fee include admission to all technical sessions, break areas, and a copy of the draft proceedings in CD-ROM.

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Updated and detail information will be posted at <http://piers.org> and <http://emacademy.org>

	<b>MONDAY AM</b> 8:20 March 25		<b>MONDAY PM</b> 13:20 March 25		<b>TUESDAY AM</b> 8:20 March 26	<b>TUESDAY PM</b> 13:20 March 26	
<b>ROOM A</b>	1A1 - Nonlinear Propagation in Optical Systems		1P1 - Quantum Metamaterials		2A1 - Manipulating Wave with Metamaterials and Photonic Crystal 1	2P1a - Manipulating Wave with Metamaterials and Photonic Crystal 2	2P1b - Electromagnetic Theory, Analysis and Simulation in Photonics
<b>ROOM B</b>	1A2 - Extended/Unconventional Electromagnetic Theory, EHD/EMHD, and Electro-biology 1		1P2a - Extended/Unconventional Electromagnetic Theory, EHD/EMHD, and Electro-biology 2	1P2b - Application of EM Field in Medicine and in Ecological Technologies	2A2 - Biological Effects and Medical Applications of Electromagnetic Energy 1	2P2a - Biological Effects and Medical Applications of Electromagnetic Energy 2	2P2b - Medical Electromagnetics, Medical Imaging, MRI
<b>ROOM C</b>	1A3a - Wireless Network and Applications	1A3b - MIMO Systems	1P3a - Near-field Engineering, Surface-enhanced Raman Scattering and Their Applications	1P3b - Wireless Communication, Propagation Prediction	2A3 - Microwave Remote Sensing and Polarimetry, SAR, GPR	2P3a - Earth EM Environment and Radiowaves Propagation & Scattering	2P3b - Present and Future of Terahertz Science & Technology, Including Applications in Radio-sciences
<b>ROOM D</b>	1A4 - Novel Mathematical Methods in Electromagnetics		1P4 - Advanced Numerical Techniques in Electromagnetics		2A4 - Multi-scale and Multi-physics Computational Techniques	2P4 - Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications	
<b>ROOM E</b>	1A5 - Reconfigurable Antenna and Array Antenna		1P5a - Antennas for Wireless Communications	1P5b - Small Size and Low-profile Antennas	2A5 - Antenna Measurement	2P5 - Wideband and Multi-band Antennas	
<b>ROOM F</b>					2A6 - Passive Waveguide Devices Theory and Numerical Modeling	2P6 - Optics and Photonics, Fiber, Lasers, Gyrotrons	
<b>ROOM G</b>					2A7 - Resonators, Filters, Interconnects, Packaging, MMIC	2P7 - Electromagnetics of Gradient Nanostructures and Heterogeneous Media	
<b>ROOM K</b>					2A8 - Poster Session 1	2P8 - Poster Session 2	

	<b>WEDNESDAY AM</b> <b>8:20 March 27</b>	<b>WEDNESDAY PM</b> <b>13:20 March 27</b>			
<b>ROOM A</b>	3A1 - Plasmonic Nanophotonics 1 --- Experiment and Fabrication	3P1 - Plasmonic Nanophotonics 2 --- Analysis, Theory, Calculation and Simulation			
<b>ROOM B</b>	3A2 - Power Electronics	3P2a - Intelligent Electronics	3P2b - RF, Microwave and Millimeter-wave Measurements		
<b>ROOM C</b>	3A3 - EM Scattering Models and Applications	3P3 - SAR System and Signal Processing			
<b>ROOM D</b>	3A4 - Design and Simulation of Electromagnetic and Optical Devices 1	3P4a - Design and Simulation of Electromagnetic and Optical Devices 2	3P4b - Computational Electromagnetics		
<b>ROOM E</b>	3A5 - Microstrip and Printed Antenna, Antenna Theory	3P5 - Antenna and EMC			
<b>ROOM F</b>	3A6 - Electromagnetic Theory and Design on the Optical Dispersive Materials, Invisible Cloak and Photonic Crystals	3P6a - Biomedical EM Instruments, EM Condensed Materials and Imaging and Education	3P6b - Electromagnetic Modeling, Inversion and Applications		
<b>ROOM G</b>	3A7 - Microwave and Millimeter Wave Circuits and Devices, CAD				
<b>ROOM K</b>	3A8 - Poster Session 3	3P8 - Poster Session 4			