

PIERS 2015 Prague

Progress In Electromagnetics Research Symposium

Program

July 6–9, 2015
Prague, CZECH REPUBLIC

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THE ELECTROMAGNETICS ACADEMY

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

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

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Progress In Electromagnetics Research Symposium
July 6–9, 2015
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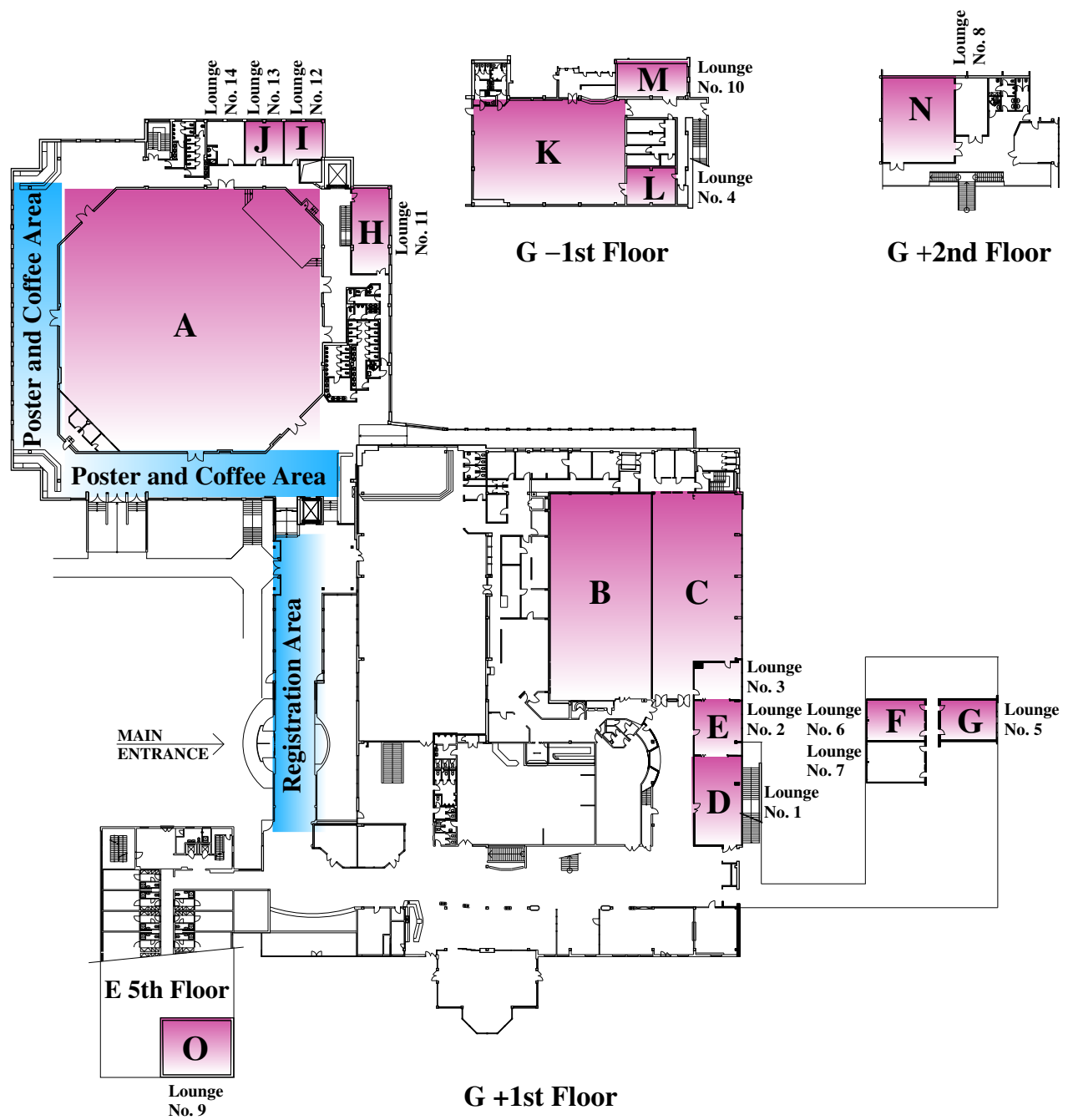
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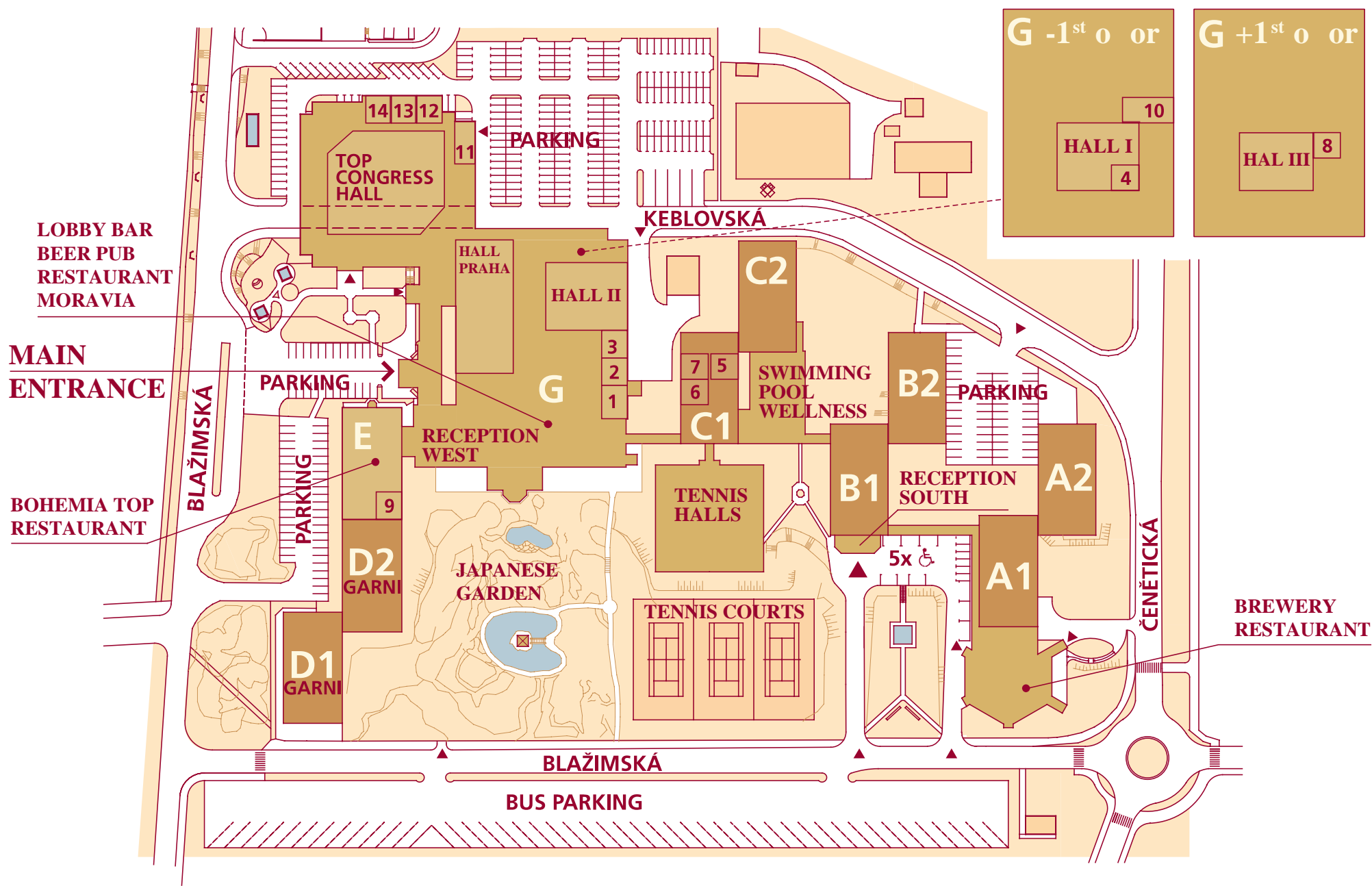
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- CST-Computer Simulation Technology AG, Germany

MAP OF CONFERENCE SITE



TOP HOTEL PRAHA



SYMPOSIUM VENUE

The 2015 Progress in Electromagnetics Research Symposium will be held in Prague during July 6–9, 2015, in the Top Hotel Praha.

REGISTRATION

The PIERS technical sessions will begin at 8:00 on Monday, July 6, 2015. You're encouraged to register during 10:00-18:00, Sunday, July 5, 2015, at the registration desk/room located in the Top Hotel Praha. Registration is also possible in the Top Hotel Praha from 08:00 to 18:00 during the Symposium, July 6–9, 2015.

The on-site registration fee is USD 680, and the reduced registration fee for a student is USD 400 (a valid student ID is required). If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration desk during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

SPECIAL EVENTS

Symposium Reception

On Sunday evening, July 5, 2015, all conference participants are invited to a welcome reception at the conference hotel. The tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception by June 20.

Symposium Banquet

On Wednesday evening, July 8, 2015, 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 60 per person. Please make reservation and pay by credit card (USD) in advance for the banquet by June 20.

PIERS ONLINE

Information on PIERS 2015 Prague and future PIERS is posted at www.piers.org.

GUIDELINE FOR PRESENTERS

Oral Presentations

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

Presenting authors should upload and test presentation files in the PIERS OFFICE no later than 12 hours before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session rooms.

- **Presentation files format:**

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

- **Report to Session Chair:**

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

- **Length of your talk:**

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

- **DO NOT change presentation sequence:**

A session Chair should be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each talk and refrain from changing paper presentation sequence.

Poster Presentations

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

One panel (about 84(W) x 120(H) cm) will be available for each poster.

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

GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English.

CURRENCY AND CREDIT CARDS

The local currency is the Czech Crown (CZK) and the exchange rate is approximately 1 USD = 25 CZK, or 1 EUR = 27 CZK. The credit cards and cash in either USD or EUR are acceptable on the PIERS registration desk. This is also the case in large shopping centers, restaurants and hotels in Prague or generally in the Czech Republic.

TAXI

Usually, a taxi is available along the roadsides, while you wave for it.

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- **Bank and Post Office**

Opening hours: 9:00 – 17:00, from Monday to Sunday.

- **Government Office**

Opening hours: 9:00 – 17:00, from Monday to Friday.

- **Store**

Opening hours: usually 8:00 to 18:00, but the large shopping center serves till 22:00, from Monday to Sunday.

ELECTRICITY

In the Czech Republic, the standard outlets provide AC of 220 V/50 Hz.

PIERS 2015 PRAGUE TECHNICAL PROGRAM

Session 1A1a

FocusSession.SC2: Planar Optics Based on Metasurfaces 1

Monday AM, July 6, 2015

Room A

Organized by Yongmin Liu, Shuang Zhang

Chaired by Shuang Zhang, Thomas Zentgraf

08:20 High Efficiency Metasurface Holography

invited

Thomas Zentgraf (University of Paderborn, Germany); Holger Muhlenbernd (University of Paderborn, Germany); Guoxing Zheng (University of Birmingham, UK); Mitchell Kenney (University of Birmingham, UK); Guixin Li (Hong Kong Baptist University, China); Shuang Zhang (University of Birmingham, UK);

08:40 Nanoantennas from the Visible to the Mid-infrared: Materials Considerations and Applications

invited

Stefan Alexander Maier (Imperial College London, UK);

09:00 Gap-plasmon Based Amplitude and Phase-gradient Metasurfaces

invited

Sergey I. Bozhevolnyi (University of Southern Denmark, Denmark);

09:20 Multiple Wavefront Shaping by Spinoptical Gradient Metasurface

invited

Erez Hasman (Technion-Israel Institute of Technology, Israel);

09:40 Wavevector Selective Metasurfaces and Tunnel Vision Filters

invited

Vasily A. Fedotov (University of Southampton, UK); Jan Wallauer (University of Freiburg, Germany); M. Walther (University of Freiburg, Germany); M. Perino (University of Southampton, UK); N. Papasimakis (University of Southampton, UK); Nikolay I. Zheludev (University of Southampton, UK);

10:00 **Coffee Break**

10:20 Novel Topological States in Photonics

invited

Marin Soljacic (Massachusetts Institute of Technology, USA);

Session 1A1b

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

Monday AM, July 6, 2015

Room A

Chaired by Hongsheng Chen

10:40 Nonlocality in Discrete Metamaterials

Maxim A. Gorlach (ITMO University, Russia); Pavel A. Belov (ITMO University, Russia);

11:00 Pure Electric and Magnetic Hotspots by Dielectric Cylindrical Dimers

Ali Mirzaei (Australian National University, Australia); Andrey E. Miroshnichenko (Australian National University, Australia);

11:20 Controlled Photonic Surface Modes in ‘Cholesteric Liquid Crystal — Phase Plate — Metal’ Structure

Maxim V. Pyatnov (Siberian Federal University, Russia); S. Ya. Vetrov (Siberian Federal University, Russia); I. V. Timofeev (Siberian Federal University, Russia);

11:40 An Efficient and Innovative Modelisation for Nanolasers

Tao Wang (Universite de Nice-Sophia Antipolis and UMR 7335 CNRS, France); G. P. Puccioni (Istituto Sistemi Complessi, CNR, Italy); Gian Luca Lippi (Universite de Nice-Sophia Antipolis, France);

Session 1A2**SC2: THz Metamaterials: Fundamentals and Applications****Monday AM, July 6, 2015****Room B**

Organized by Qiong He, Shulin Sun

Chaired by Qiong He, Shulin Sun

08:00 Electromagnetic Metamaterials for Terahertz Devices
invited

Willie J. Padilla (Duke University, USA);

08:20 Electrically Driven Terahertz Metamaterial Diffraction Modulators

Hou-Tong Chen (MPA-CINT, Los Alamos National Laboratory, USA); Antoinette J. Taylor (MPA-CINT, Los Alamos National Laboratory, USA); Nicholas Karl (Rice University, USA); Kimberly Reichel (Rice University, USA); Rajind Mendis (Rice University, USA); Daniel M. Mittleman (Rice University, USA); Igal Brener (Sandia National Laboratories, USA); Alex Benz (Sandia National Laboratories, USA); John L. Reno (Sandia National Laboratories, USA);

08:40 Full-range Gate-controlled Terahertz Phase Modulation with Graphene Metasurfaces

Ziqi Miao (Fudan University, China); Qiong Wu (Fudan University, China); Xin Li (Fudan University, China); Qiong He (Fudan University, China); Kun Ding (Fudan University, China); Zhenghua An (Fudan University, China); Yuanbo Zhang (Fudan University, China); Lei Zhou (Fudan University, China);

09:00 Photo-generated THz Metamaterial and Metasurfaces

Jaime Gomez-Rivas (Universidad Autonoma de Madrid, Spain); Giorgos Georgiou (FOM Institute AMOLF, The Netherlands); A. Bhattacharya (FOM Institute AMOLF, The Netherlands);

09:20 A Water-based Metamaterial for Broadband and Large Tuning Perfect Absorption

W. Zhang (Nanyang Technological University, Singapore); Q. H. Song (Nanyang Technological University, Singapore); L. B. Yan (Nanyang Technological University, Singapore); P. C. Wu (Nanyang Technological University, Singapore); W. M. Zhu (Nanyang Technological University, Singapore); D. T. Tsai (National Taiwan University, Taiwan); Che Ting Chan (The Hong Kong University of Science and Technology, China); Z. H. Yang (Peking University, China); R. Huang (Peking University, China); X. Zhu (Peking University, China); Federico Capasso (Harvard University, USA); Ai Qun Liu (Nanyang Technological University, Singapore);

09:40 Studies of Metamaterials with Near-field Scanning Terahertz Microscopy

Xueqian Zhang (Tianjin University, China); Yuehong Xu (Tianjin University, China); Jianqiang Gu (Tianjin University, China); Zhen Tian (Tianjin University, China); Chunmei Ouyang (Tianjin University, China); Weili Zhang (Tianjin University, China); Jianguang Han (Tianjin University, China);

10:00 Coffee Break

10:20 Heterogeneous 3D Construction of Metamaterials and Metadevices by Modular Transfer Printing

Bumki Min (KAIST, South Korea);

10:40 Active Modulation of Terahertz Wavefront

Yan Zhang (Capital Normal University, China); X. K. Wang (Capital Normal University, China); Z. W. Xie (Harbin Institute of Technology, China);

11:00 Metasurfaces for Terahertz Waves Polarization Control

Andrei V. Lavrinenko (Technical University of Denmark, Denmark); Radu Mahureau (Technical University of Denmark, Denmark); Maksim Zalkovskij (Technical University of Denmark, Denmark); S. V. Zhukovsky (ITMO University, Russia); Andrei Andryieuski (Technical University of Denmark, Denmark); Peter Uhd Jepsen (Technical University of Denmark, Denmark); D. N. Chigrin (RWTH Aachen University, Germany); Z. Y. Song (Fudan University, China); Qiong He (Fudan University, China); Lei Zhou (Fudan University, China);

11:20 Dynamic Control of Terahertz Wave with Graphene-based Metamaterial Structures

Yin Zhang (Nanjing University, China); Junming Zhao (Nanjing University, China); Bo Zhu (Nanjing University, China); Yijun Feng (Nanjing University, China);

- 11:40 Reflective Terahertz Metamaterial Wave-plates with Ultra-wide Bandwidths
Shaojie Ma (Fudan University, China); Weijie Luo (Fudan University, China); Shulin Sun (Fudan University, China); Qiong He (Fudan University, China); Lei Zhou (Fudan University, China);
- 12:00 THz Twist Polarizer Based on Supramolecular Fermat's Spiral Chiral Metamaterial
Natesan Yogesh (Shenzhen University, China); Quanguang Yu (Shenzhen University, China); Zhengbiao Ouyang (Shenzhen University, China);

Session 1A3a
SC5: Imaging, Inverse Scattering and Remote Sensing 1

Monday AM, July 6, 2015
Room C

Organized by Xiuzhu Ye, Xudong Chen

 Chaired by Xiuzhu Ye

- 08:00 A Mixed Boundary through Wall Imaging Problem
Xiuzhu Ye (Beihang University, China);
- 08:20 The Lidar Sounding of the Atmosphere in St. Petersburg
Dmitry Samulenkov (St. Petersburg State University, Russia); Maxim Sapunov (St. Petersburg State University, Russia); Irina Melnikova (St. Petersburg State University, Russia); Vladislav Donchenko (St. Petersburg State University, Russia); Anatoly Kuznetsov (Russian State Hydrometeorological University, Russia);
- 08:40 Cloud Optical Parameters Retrieved from Airborne Observations
Irina Melnikova (St. Petersburg State University, Russia); Charles K. Gatebe (NASA, USA); Anatoly Kuznetsov (Russian State Hydrometeorological University, Russia);
- 09:00 Using Remote Sensing Techniques for Monitoring Ecological Changes in Lakes: Case Study of Lake Naivasha
Benjamin Ghansah (Kwame Nkrumah University of Science and Technology, Ghana); Eric Tutu Tchao (Kwame Nkrumah University of Science and Technology, Ghana); Willie K. Ofosu (Penn State Wilkes, USA); David M. Harper (University of Leicester, UK);
- 09:20 An Experimental Method for Estimating the Bistatic Diffuse Scatter from Anechoic Chamber RAM
Simon James Berry (QinetiQ, UK); F. C. Smith (QinetiQ Plc, UK);

Session 1A3b
Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

Monday AM, July 6, 2015
Room C

 Chaired by Leung Tsang

- 09:40 A 16-Element Wideband Microwave Applicator for Breast Cancer Detection Using Thermoacoustic Imaging
Hao Nan (Stanford University, USA); Shiyu Liu (Tsinghua University, China); Nemat Dolatsha (Stanford University, USA); Amin Arbabian (Stanford University, USA);
- 10:00 **Coffee Break**
- 10:20 High Resolution Range Imaging via Model-based Compressed Sensing
Viktor Adler (Czech Technical University, Czech Republic); Jochen Moll (Goethe University Frankfurt am Main, Germany); M. Kuhnt (Goethe University Frankfurt am Main, Germany); B. Hils (Goethe University Frankfurt am Main, Germany); Viktor Krozer (Goethe University Frankfurt am Main, Germany); Karel Hoffmann (Czech Technical University, Czech Republic);
- 10:40 Fast Level Set Based Method for High Contrast Microwave Imaging
Pratik Shah (University of Southern California, USA); Mahta Moghaddam (University of Michigan, USA);
- 11:00 On the Connection between Jones Matrix and Sinclair Matrix
Thomas Dallman (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany);
- 11:20 Detection of Breast Tumors by Applying FDTD Modelling of Holographic Radar
Irina L. Alborova (Bauman Moscow State Technical University, Russia); Lesya N. Anishchenko (Bauman Moscow State Technical University, Russia);
- 11:40 Characterization of the Electromagnetic Propagation through Building Rubble by Means of Numerical Random Models
Ilaria Lucrezi (University of L'Aquila, Italy); Emidio Di Giampaolo (Universita degli Studi dell'Aquila, Italy); Piero Tognolatti (University of L'Aquila, Italy);

- 12:00 Combined Breast Microwave Imaging and Diagnosis System
Barbara L. Oliveira (National University of Ireland Galway, Ireland); Atif Shahzad (National University of Ireland Galway, Ireland); Martin O'Halloran (National University of Ireland Galway, Ireland); Raquel Cruz Conceicao (Instituto de Biofisica e Engenharia Biomedica, Universidade de Lisboa, Portugal); Martin Glavin (National University of Ireland Galway, Ireland); Edward Jones (National University of Ireland Galway, Ireland);

Session 1A4

FocusSession.SC3: Numerical Modeling of Ultrashort Laser Pulse Propagation in Transparent Materials: Micro/nanomodification, Part 1

Monday AM, July 6, 2015

Room D

Organized by Nadezhda M. Bulgakova, Vladimir P. Zhukov, Tomas Mocek

Chaired by Leonid V. Zhigilei, Nadezhda M. Bulgakova

- 08:10 Pulsed Laser Modification of Transparent Dielectrics:
 invited Dynamics of Energy Absorption and Post-excitation Evolution
N. M. Bulgakova (HiLASE Centre, Institute of Physics AS CR, Czech Republic and Institute of Thermophysics SB RAS, Russia); Vladimir P. Zhukov (Institute of Computational Technologies SB RAS, Russia); Yu. P. Meshcheryakov (Design and Technology Branch of Lavrentyev Institute of Hydrodynamics SB RAS, Russia); Tomas Mocek (HiLASE Centre, Institute of Physics ASCR, Czech Republic);
- 08:30 Self-consistent Modeling of Photoionization for Non-
 invited linear Ultrashort Pulse Propagation in Solids
Jeremy R. Gulley (Kennesaw State University, USA); Thomas E. Lanier (Kennesaw State University, USA);
- 08:50 Nonlinear Energy Deposition into Aqueous Media
 keynote by Tightly Focused Laser Pulses: Tracking of Free-electron Density, Temperature Evolution, and Hydrodynamic Phenomena in a Large Range of Laser Pulse Durations and Wavelengths
Alfred Vogel (University of Lubeck, Germany); Xiao-Xuan Liang (University of Lubeck, Germany); Sebastian Freidank (University of Lubeck, Germany); Norbert Linz (University of Lubeck, Germany);

- 09:20 Multiphoton Absorption-induced Delocalization of fs
 invited Laser Pulse Energy in Si Bulk
Eugeniy V. Zavedeev (Prokhorov General Physics Institute, RAS, Russia); Vitaly V. Kononenko (Prokhorov General Physics Institute, RAS, Russia); Vitaly I. Konov (Prokhorov General Physics Institute, RAS, Russia);

- 09:40 Nonlinear Mechanisms of Light Absorption in the
 invited Laser Processing of Transparent Materials
Irina N. Zavestovskaya (P.N. Lebedev Physical Institute of RAS, Russia);

10:00 Coffee Break

- 10:20 Numerical Realizations of the Problem of Focused
 invited Laser Beam Propagation in Transparent Materials Based on Nonlinear Maxwell's Equations
Vladimir P. Zhukov (Institute of Computational Technologies SB RAS, Russia); Nadezhda M. Bulgakova (Institute of Physics ASCR, Czech Republic and Institute of Thermophysics SB RAS, Russia); Mikhail P. Fedoruk (Novosibirsk State University, Russia);

- 10:40 Zeroth and First-order Bessel Beam Formation of
 invited Nanostructures on Thin-film Type Surfaces
Ramazan Sahin (Istanbul Technical University, Turkey); Tansu Ersoy (Istanbul Technical University, Turkey); Ergun Simsek (George Washington University, USA); Selcuk Akturk (Istanbul Technical University, Turkey);

- 11:00 Laser Energy Deposition in Glasses with Bessel Beams
 keynote
Arnaud Couairon (Ecole Polytechnique, France); V. Jukna (Ecole Polytechnique, France); S. Minardi (Friedrich-Schiller-University Jena, Germany); O. Jedrkiewicz (CNR and CNISM UdR Com, Italy); M. Selva (University of Insubria and CNISM UdR Como, Italy); M. Lamperti (University of Insubria and CNISM UdR Como, Italy); P. Di Trapani (University of Insubria and CNISM UdR Como, Italy); N. S. Shcheblanov (Lyon University, France); R. Stoian (Université de Lyon, France); Tatiana E. Itina (Lyon University, France); C. Xie (Université de Franche-Comte, France); J. Zhang (Université de Franche-Comte, France); John M. Dudley (Université de Franche-Comte, France); Francois Courvoisier (Université de Franche-Comte, France);

- 11:30 Time-resolved Modeling of Ultrafast Laser-excited
invited Semiconductors and Dielectrics
Baerbel Rethfeld (Technical University of Kaiserslautern, Germany); Anika Ramer (Technical University of Kaiserslautern, Germany); Klaus Huthmacher (Technical University of Kaiserslautern, Germany); Nils Brouwer (Technical University of Kaiserslautern, Germany);
- 11:50 Energy and Particle Propagation and Relaxation in
Laser-excited Silicon
Anika Ramer (Technical University of Kaiserslautern, Germany); Baerbel Rethfeld (Technical University of Kaiserslautern, Germany);
- 12:05 Internal Photoeffect under the Action of Ultrashort
Electromagnetic Pulses: Dependence of Pulse Duration
V. A. Astapenko (Moscow Institute of Physics and Technology, Russia); Sergey V. Sakhno (Moscow Institute of Physics and Technology, Russia);

Session 1A5

Antennas, Signals, HPEM and EMC Problems
1

Monday AM, July 6, 2015

Room E

Organized by Marek Bugaj

Chaired by Leszek Nowosielski, Marek Bugaj

- 08:00 High Definition Multimedia Interface in the Process
of Electromagnetic Infiltration
Rafal Przesmycki (Military University of Technology, Poland);
- 08:20 Analze the Impact of Discretization on the Structure
of the Simulation Result
Marek Bugaj (Military University of Technology, Poland); Jaroslaw Bugaj (Military University of Technology, Poland);
- 08:40 Directed Energy Applications to the Destruction of
Informatic Devices
Rafal Przesmycki (Military University of Technology, Poland);
- 09:00 Measurement of the Pulses Generated by the High
Power Electromagnetic Pulse Generator
Leszek Nowosielski (Military University of Technology, Poland);
- 09:20 Theoretical and Experimental Analysis of the Impact
of Conformal Surface on Parameters of Microstrip Antennas
Jaroslaw Bugaj (Military University of Technology, Poland); Marek Bugaj (Military University of Technology, Poland);

- 09:40 Analysis of Distinctive Features and Database Con-
ception for Hardware Interface of It Devices in the
Process of Their Identification Based on Radiated
Emission
Rafal Przesmycki (Military University of Technology, Poland); Marian Tadeusz Wnuk (Military University of Technology, Poland);

10:00 Coffee Break

- 10:20 The Analysis of the Radius Impact on the Properties
of Cylindrical Antenna with Coaxial Feed
Jaroslaw Bugaj (Military University of Technology, Poland); Marek Bugaj (Military University of Technology, Poland);
- 10:40 Implementation of Universal RF-shielded Enclosure
for IT Equipment Protection
Leszek Nowosielski (Military University of Technology, Poland); Marian Tadeusz Wnuk (Military University of Technology, Poland);
- 11:00 The Exposure Level of High Power Microwave Pulses
Roman Kubacki (Military University of Technology, Poland); Salim Lamari (Military University of Technology, Poland);
- 11:20 Electromagnetic Compatibility Studies of Selected
Components for Present Day Cars
Leszek Nowosielski (Military University of Technology, Poland); Marian Tadeusz Wnuk (Military University of Technology, Poland);
- 11:40 Bandwidth Enhancement of a Microstrip Patch An-
tenna Using the Metamaterial Planar Periodic Struc-
ture
Salim Lamari (Military University of Technology, Poland); Roman Kubacki (Military University of Technology, Poland); Miroslaw Czyzewski (Military University of Technology, Poland);

Session 1A6

**SC4: Complex Analysis and Convex
Optimization in Electromagnetics**

Monday AM, July 6, 2015

Room F

Organized by Mats Gustafsson, Sven Nordebo

Chaired by Mats Gustafsson, Sven Nordebo

- 08:20 Stored Energy and Convex Optimization
Mats Gustafsson (Lund University, Sweden);

- 08:40 Frozen and Slow Light Scattering in Photonic Crystals within a Transparency Window: A Fundamental Theorem
Aaron Welters (Florida Institute of Technology, USA);
- 09:00 Passive Approximation and Optimization
Sven Nordebo (Linnaeus University, Sweden); Mats Gustafsson (Lund University, Sweden); Daniel Sjöberg (Lund University, Sweden);
- 09:20 Convex Optimization for Approximations of Positive Real Functions
Daniel Sjöberg (Lund University, Sweden); Sven Nordebo (Linnaeus University, Sweden);
- 10:00 **Coffee Break**
- 10:20 Physical Bounds of Patch Antennas
Doruk Tayli (Lund University, Sweden); Mats Gustafsson (Lund University, Sweden);
- 10:40 Sum Rules and Physical Bounds on Frequency Selective Structures
Andreas Ericsson (Lund University, Sweden); Daniel Sjöberg (Lund University, Sweden);
- 11:00 On Multidimensional Passivity in Electrodynamics
B. L. G. Jonsson (KTH Royal Institute of Technology, Sweden);
- 11:20 Investigation and Comparison between Radiation
invited Center and Phase Center for Canonical Antennas
Casimir Ehrenborg (Lund University, Sweden); Jonas Friden (Ericsson Telecom AB, Sweden); Gerhard Kristensson (Lund University, Sweden);
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- Session 1A7**
Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 1
-
- Monday AM, July 6, 2015**
Room G
- Organized by Mariana Nikolova Georgieva-Grosse,
Georgi Nikolov Georgiev
- Chaired by Mariana Nikolova Georgieva-Grosse,
Georgi Nikolov Georgiev
-
- 08:00 Null Space Elimination for Double-curl Operator Using
invited Generalized Gauge Technique with Compatible Finite Element Discretization
Yan Lin Li (The University of Hong Kong, China); Sheng Sun (The University of Hong Kong, China); Weng Cho Chew (University of Illinois, USA);
- 08:20 Computing the Electric and Magnetic Green's Functions in General Gyrotropic Media
invited
Valery G. Yakhno (Dokuz Eylul University of Turkey, Turkey); Baris Cicek (Dokuz Eylul University, Turkey);
- 08:40 Diverging and Converging Beam Diffraction by a Wedge. Part I: The Multipole Expansion Approach
Michael Katsav (Tel Aviv University, Israel); Ehud Heyman (Tel Aviv University, Israel); Ludger Klinkenbusch (Christian-Albrechts-Universität zu Kiel, Germany);
- 09:00 On the Theory of Transition Radiation in the
invited Anisotropic Magneto Dielectric Plate in a Waveguide
Eduard A. Gevorgyan (Moscow State University of Economics, Statistics and Informatics, Russia);
- 09:20 Optical Soliton Perturbation with Semi-inverse Variational Principle
Anjan Biswas (Delaware State University, USA);
- 09:40 Scattering of an Obliquely Incident Electromagnetic
invited Plane Wave by an Array of Magnetized Plasma Cylinders
Vasiliy Alekseevich Es'kin (University of Nizhny Novgorod, Russia); A. V. Ivoninsky (University of Nizhny Novgorod, Russia); Alexander V. Kudrin (University of Nizhny Novgorod, Russia);
- 10:00 **Coffee Break**
- 10:20 Theorem for the $G_1(\mathbf{c}, \mathbf{n})$ Numbers
invited
Georgi Nikolov Georgiev (University of Veliko Tirnov "St. St. Cyril and Methodius", Bulgaria); Mariana Nikolova Georgieva-Grosse (Consulting and Researcher in Physics and Computer Sciences, Germany);
- 10:40 Diffraction Radiation Phenomena: New Methods for
invited Physical and Engineering Analysis
Merey S. Sautbekova (Eurasian National University, Kazakhstan); Seil S. Sautbekov (Eurasian National University, Kazakhstan); Yuriy Sirenko (L. N. Gumilyov Eurasian National University, Republic of Kazakhstan); Alexey A. Vertiy (TUBITAK-MRC, Turkey);
- 11:00 Inverse Spectral Theory and Kramers-Kronig Relations
Giovanni Franco Crosta (University of Milan-Bicocca, Italy);
- 11:20 Algebraic Regularization of Universal Functions in EM via Self-induced Hadamard Finite Parts
Alireza R. Baghai-Wadji (University of Cape Town, South Africa);

- 11:40 On the Accuracy of Method of Moments for Solution of Full 3D Vectorial Electromagnetic Forward Scattering Problem
Onan Guren (Istanbul Technical University, Turkey); Mehmet Nuri Akinci (Istanbul Technical University, Turkey); M. Cayoren (Istanbul Technical University, Turkey);
- 12:00 Accurate Determination of Surface Electric Fields for 2D Conformal Finite Difference Time Domain Simulations
Ming-Chieh Lin (Hanyang University, Korea); C. D. Zhou (Tech-X Corporation, USA);

Session 1A8

SC1: Model-order Reduction and Uncertainty Quantification

Monday AM, July 6, 2015

Room H

Organized by Romanus Dyczij-Edlinger

Chaired by Romanus Dyczij-Edlinger

- 08:20 Fast Model Order Reduction Approach to Uncertainty Quantification in Electrokinetics
Lorenzo Codecasa (Politecnico di Milano, Italy); Luca Di Rienzo (Politecnico di Milano, Italy);
- 08:40 Reduced Basis Model Reduction for Maxwell's Equations in Dispersive Media with Stochastic Coefficients
Martin W. Hess (Max Planck Institute for Dynamics of Complex Technical Systems, Germany); Peter Benner (Max Planck Institute for Dynamics of Complex Technical Systems, Germany);
- 09:00 Uncertainty Quantification for Complex RF-structures Using the State-space Concatenation Approach
Johann Heller (University of Rostock, Germany); Thomas Flisgen (University of Rostock, Germany); C. Schmidt (University of Rostock, Germany); Ursula van Rienen (Rostock University, Germany);
- 09:20 Application of Krylov-type Parametric Model Order Reduction in Efficient Uncertainty Quantification of Electro-thermal Circuit Models
Yao Yue (Max Planck Institute for Dynamics of Complex Technical Systems, Germany); Lihong Feng (Max Planck Institute for Dynamics of Complex Technical Systems, Germany); Peter Meuris (MAGWEL NV, Belgium); Wim Schoenmaker (MAGWEL NV, Belgium); Peter Benner (Max Planck Institute for Dynamics of Complex Technical Systems, Germany);

- 09:40 Meshing Technique for Efficient Macromodel Cloning in FEM Analysis of 3D Structures
Grzegorz Fotyga (Gdansk University of Technology, Poland); J. Grzybek (Gdansk University of Technology, Poland); W. Dembinski (Gdansk University of Technology, Poland); P. Bielski (Gdansk University of Technology, Poland); Krzysztof Nyka (Gdansk University of Technology, Poland);

10:00 Coffee Break

- 10:20 Circuit Understanding for Electromagnetics via the Reduced-basis Method
Valentin de la Rubia (Universidad Politecnica de Madrid, Spain);
- 10:40 Robust Shape Optimization of Accelerator Magnets
O. Lass (Technische Universitat Darmstadt, Germany); Ulrich Romer (Technische Universitat Darmstadt, Germany); S. Schops (Technische Universitat Darmstadt, Germany);
- 11:00 Analysis of Inhomogeneous Plane Wave Scattering from Periodic Metamaterials
S. Tooni (Technische Universitat Munchen, Germany); Thomas F. Eibert (Lehrstuhl fur Hochfrequenztechnik, TU Munchen, Germany); Larissa Vietzoreck (Technische Universitaet Munchen, Germany);
- 11:20 Broadband Analysis Including Beam Steering of Phased Array Antennas by Order Reduction
O. Floch (Saarland University, Germany); A. Sommer (Saarland University, Germany); Ortwin Farle (Saarland University, Germany); Romanus Dyczij-Edlinger (Saarland University, Germany);

Session 1A9

SC1: Electromagnetic Field Transformations for Measurements and Simulations

Monday AM, July 6, 2015

Room I

Organized by Thomas F. Eibert

Chaired by Thomas F. Eibert

- 08:20 Spherical-multipole Based Near-to-near and Near-to-far Field Transformations
Ludger Klinkenbusch (Christian-Albrechts-Universitat zu Kiel, Germany);

- 08:40 Comparison and Application of Different Echo Reduction Techniques in Antenna Measurement
Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain); Javier García-Gasco Trujillo (SES Engineering, Spain); Pilar González Blanco (Universidad Politécnica de Madrid, Spain); Manuel López Morales (Universidad Politécnica Madrid, Spain); Francesco Saccardi (Microwave Vision, Italy); Lars J. Foged (Microwave Vision, Italy);
- 09:00 Electromagnetic Field Transformations with Spectral Field Representations on the Ewald Sphere
Thomas F. Eibert (Lehrstuhl für Hochfrequenztechnik, TU München, Germany); Emre Kilic (Technische Universität München, Germany); C. Lopez (Technische Universität München, Germany); Raimund A. M. Mauermayer (Lehrstuhl für Hochfrequenztechnik, TU München, Germany); Ole Neitz (Lehrstuhl für Hochfrequenztechnik, TU München, Germany); Georg Schnattinger (Technische Universität München, Germany);
- 09:20 Full-sphere Radiation Pattern Measurement of 3D Antennas Using a Compact Planar Very-near-field Scanner
Kasra Payandehjoo (EMSCAN Corp., Canada); Ruska Patton (EMSCAN Corp., Canada);
- 09:40 Parametric Near-field-to-far-field Transformation by Precomputed Empirical-interpolation Patches
A. Sommer (Saarland University, Germany); O. Floch (Saarland University, Germany); Ortwine Farle (Saarland University, Germany); Romanus Dyczij-Edlinger (Saarland University, Germany);
- 10:00 **Coffee Break**
- 10:20 Electromagnetic Scattering-matrix Theories Based on Plane Waves and Complex-source Beams
Thorkild B. Hansen (Seknion Inc, USA);
- 10:40 Metamaterials for Microwave Radomes: An Overview
Ezgi Ozis (German Aerospace Center (DLR), Germany); Andrey V. Osipov (Microwaves and Radar Institute, German Aerospace Center (DLR), Germany); Thomas F. Eibert (Lehrstuhl für Hochfrequenztechnik, TU München, Germany);

Session 1A_10
FocusSession.SC3: Advances in Optical Networking

Monday AM, July 6, 2015
Room J

Organized by Jiajia Chen, Ming Xia

 Chaired by Jiajia Chen

- 08:20 Programmable Optical Signal Transmission and Processing for Flexible Optical Networks
Ming Tang (Huazhong University of Science and Technology (HUST), China); Zhenhua Feng (Huazhong University of Science and Technology, China); Ruoxu Wang (Huazhong University of Science and Technology (HUST), China); Songnian Fu (Huazhong University of Science and Technology (HUST), China); Perry Ping Shum (Nanyang Technological University, Singapore);
- 08:40 Flow Aggregation and Migration Scheme Based on Real-time Monitoring for Time-varying Traffic in Optical Networks
Yuan Wen (Shanghai Jiao Tong University, China); Wei Guo (Shanghai Jiao Tong University, China); Weisheng Hu (Shanghai Jiao Tong University, China);
- 09:00 Experimental Demonstration of 100-Gb/s TWDM-PON
Lilin Yi (Shanghai Jiao Tong University, China); Zhengxuan Li (Shanghai Jiao Tong University, China); Xiaodong Wang (Shanghai Jiao Tong University, China); Weisheng Hu (Shanghai Jiao Tong University, China);
- 09:20 Advancements in Next Generation Broadband Optical Access Networks
Cedric F. Lam (Google, USA);
- 10:00 **Coffee Break**
- 10:20 Impact of Protection to Converged Access Networks Planning in Rural Areas
Carmen Mas Machuca (Technical University Munich, Germany); Ana Munoz Diaz (Technical University Munich, Germany);

10:40 Experimental Evaluation of Noise Impairments in Un-
invited repeated Distributed Raman Amplified DP-16QAM
SSMF Links

Xiaodan Pang (Network and Transmission Laboratory, Acreo AB, Sweden); Oskars Ozolins (Network and Transmission Laboratory, Acreo AB, Sweden); Atalla E. El-Taher (Aston University, UK); Richard Schatz (Royal Institute of Technology (KTH), Sweden); Gunnar Jacobsen (Acreo Swedish ICT, Sweden); Sergei Popov (Royal Institute of Technology (KTH), Sweden); Sergey Sergeyev (Aston University, UK);

11:00 System Aspects of 400 Gigabit Ethernet Links Using
Advanced Modulation Formats

Jinlong Wei (ADVA Optical Networking SE, Germany); R. V. Penty (University of Cambridge, UK); I. H. White (University of Cambridge, UK); H. Griesser (ADVA Optical Networking SE, Campus Martinsried, Germany);

11:15 Programmable Photonics in Data Centers: Architec-
invited tures and Algorithms

Carla Raffaelli (University of Bologna, Italy);

Session 1A_11

FocusSession.SC1: Casimir Effect and Heat Transfer 1

Monday AM, July 6, 2015

Room K

Organized by Mauro Antezza, Brahim Guizal

Chaired by Mauro Antezza, Brahim Guizal

08:10 Experimental Study of Near-field Radiative Heat
keynote Transport

B. Song (University of Michigan, USA); K. Kim (University of Michigan, USA); Y. Ganjeh (University of Michigan, USA); S. Sadat (University of Michigan, USA); W. Lee (University of Michigan, USA); W. Jeong (University of Michigan, USA); D. R. Thompson (University of Michigan, USA); A. R. Fiorino (University of Michigan, USA); Victor Fernandez-Hurtado (Universidad Autonoma de Madrid, Spain); Johannes Feist (Universidad Autonoma de Madrid, Spain); Francisco J. Garcia-Vidal (Universidad Autonoma de Madrid, Spain); Juan Carlos Cuevas (Universidad Autonoma de Madrid, Spain); Pramod Reddy (University of Michigan, USA); Edgar Meyhofer (University of Michigan, USA);

08:40 Near-field Radiative Heat Transfer: Testing Fluctua-
invited tional Electrodynamics at the Nanoscale

Juan Carlos Cuevas (Universidad Autónoma de Madrid, Spain); V. Fernández-Hurtado (Universidad Autónoma de Madrid, Spain); Johannes Feist (Universidad Autonoma de Madrid, Spain); Francisco J. Garcia-Vidal (Universidad Autonoma de Madrid, Spain); B. Song (University of Michigan, USA); Y. Ganjeh (University of Michigan, USA); S. Sadat (University of Michigan, USA); D. Thompson (University of Michigan, USA); A. Fiorino (University of Michigan, USA); K. Kim (University of Michigan, USA); W. Lee (University of Michigan, USA); W. Jeong (University of Michigan, USA); Edgar Meyhofer (University of Michigan, USA); P. Reddy (University of Michigan, USA);

09:00 Optical Thermotronics

invited

Philippe Ben-Abdallah (Universite Paris-Sud 11, France); Svend-Age Biehs (Carl von Ossietzky Universität, Germany);

09:20 Radiative Heat Transfer in 2D Dirac Materials

invited

Diego Alejandro Roberto Dalvit (Theoretical Division, MS B213, Los Alamos National Laboratory, USA); P. Rodriguez-Lopez (Universite Paris-Sud, France); W.-K. Tse (Theoretical Division, MS B213, Los Alamos National Laboratory, USA);

09:40 Probing the Casimir Force with Optical Tweezers

invited

Diney S. Ether, Jr. (Instituto de Física UFRJ, Brazil); Luis Pires (Instituto de Física UFRJ, Brazil); Yareni Ayala (Instituto de Física UFRJ, Brazil); Felipe S. Da Rosa (Instituto de Física UFRJ, Brazil); Stefan Umrath (Universität Augsburg, Germany); Gert-Ludwig Ingold (Universität Augsburg, Germany); Nathan Viana (Instituto de Física UFRJ, Brazil); H. Moyses Nussenzveig (Instituto de Física UFRJ, Brazil); Paulo A. Maia Neto (Instituto de Física UFRJ, Brazil);

10:00 Coffee Break

10:20 Experimental Determination of the Thermal Depen-
invited dence of the Casimir Interaction

Ricardo S. Decca (Indiana University-Purdue University Indianapolis, USA);

- 10:40 **The Role of the Casimir-Polder Potential in the Development of Atom Chips That Incorporate Quantum Electronic Components**
invited
T. Mark Fromhold (University of Nottingham, UK); B. Kaczmarek (University of Nottingham, UK); T. E. Judd (University of Nottingham, UK); P. Kruger (University of Nottingham, UK); G. Sinuco-Leon (University of Nottingham, UK); F. Wang (University of Nottingham, UK); N. Welch (University of Nottingham, UK);
- 11:00 **Molecular Matter-wave Diffraction at Ultra-thin Gratings: The Role of the Van Der Waals Interactions**
invited
Christian Brand (University of Vienna, Austria); Michele Sclafani (University of Vienna, Austria); Christian Knobloch (University of Vienna, Austria); Yigal Lilach (Tel Aviv University, Israel); Thomas Juffmann (University of Vienna, Austria); Jani Kotakoski (University of Vienna, Austria); Clemens Mangler (University of Vienna, Austria); Andreas Winter (University of Bielefeld, Germany); Andrey Turchanin (University of Bielefeld, Germany); Jannik Meyer (University of Vienna, Austria); Ori Cheshnovsky (Tel Aviv University, Israel); Markus Arndt (University of Vienna, Austria);
- 11:20 **Weak Thermal Contact is Not Universal for Work Extraction**
keynote
H. Wilming (Freie Universitat Berlin, Germany); R. Gallego (Freie Universitat Berlin, Germany); Jens Eisert (Freie Universitat Berlin, Germany);
- 11:50 **Thermodynamics with Superconducting Circuits**
invited
Benjamin Huard (Ecole Normale Supérieure, CNRS (UMR 8551), Université P. et M. Curie, Université D. Diderot, France);

Session 1A_12

SC3: Nanophotonics Light-trapping and Photodetection. Parts I and II

Monday AM, July 6, 2015

Room L

Organized by Xiaofeng Li, Vincenzo Giannini, Qin Chen

Chaired by Xiaofeng Li, Vincenzo Giannini

- 08:00 **Semiconductor Nanowires: Emitting and Receiving Nanoantennas**
invited
D. R. Abujetas (Instituto de Estructura de la Materia, Spain); R. Paniagua-Dominguez (Instituto de Estructura de la Materia, Spain); A. D. Van Dam (FOM-Institute AMOLF, The Netherlands); G. Grzela (FOM-Institute AMOLF, The Netherlands); Jaime Gomez-Rivas (Universidad Autonoma de Madrid, Spain); Jose A. Sanchez-Gil (CSIC, Spain);
- 08:20 **Plasmonic Core-shell Nanoparticles Boosting the Power Conversion Efficiency of Dye-sensitized Solar Cells**
invited
Dangyuan Lei (The Hong Kong Polytechnic University, China);
- 08:40 **Theoretical Description of Novel Applications of Nano-plasmonics in Super-resolution Microscopy**
invited
Yonatan Sivan (Ben-Gurion University, Israel);
- 09:00 **Optical and Electrical Design of Novel Photodetectors Based on Hot-electron Collection**
Yaohui Zhan (Soochow University, China); Xiaofeng Li (Soochow University, China); Shaolong Wu (Soochow University, China); Kai Wu (Soochow University, China);
- 09:20 **Plasmonic Properties of Ion-shaped Nanoparticles**
invited
Giancarlo Rizza (Ecole Polytechnique, France);
- 09:40 **Magnetic Field Modification of Optical Magnetic Dipoles**
invited
Gaspar Armelles (Instituto de Microelectrónica de Madrid (IMM-CNM-CSIC), Spain); B. Caballero (Instituto de Microelectrónica de Madrid (CNM-CSIC), Spain); A. Cebollada (Instituto de Microelectrónica de Madrid (IMM-CNM-CSIC), Spain); Antonio Garcia-Martin (Instituto de Microelectrónica de Madrid (CNM-CSIC), Spain); D. Meneses-Rodriguez (Instituto de Microelectrónica de Madrid (CNM-CSIC), Spain);
- 10:00 **Coffee Break**
- 10:20 **Engineering of Single Nanowires for Broadband and Efficient Optical Absorption and Photoconversion**
invited
Zhenhai Yang (Soochow University, China); Aixue Shang (Soochow University, China); Shaolong Wu (Soochow University, China); Yaohui Zhan (Soochow University, China); Dangyuan Lei (The Hong Kong Polytechnic University, China); Xiaofeng Li (Soochow University, China);

- 10:40 Nanomolecular Mechanisms for Enhancing Light Capture in Silicon
Tom Markvart (University of Southampton, UK); Nick Alderman (University of Southampton, UK); Lefteris Danos (University of Lancaster, UK); Liping Fang (University of Southampton, UK); Thomas Parel (University of Southampton, UK);
- 11:00 Research and Design of Photonic Devices Based on invited Optical Tamm Plasmon
Wei Li Zhang (University of Electronic Science & Technology of China, China); Fen Wang (University of Electronic Science & Technology of China, China); Yun-Jiang Rao (University of Electronic Science and Technology of China, China);
- 11:20 Proximity Effect Assisted Absorption Enhancement in Thin Film with Locally Clustered Nanoholes
Shaolong Wu (Soochow University, China); Xiaofeng Li (Soochow University, China); Yaohui Zhan (Soochow University, China); Cheng Zhang (Soochow University, China);
- 11:40 Optical Resonance Analysis in Dielectric-film Supporting Metallic Gratings and the Infrared Perfect Optical Absorption Design
Zhiqiang Guan (Wuhan University, China); Hongxing Xu (Wuhan University, China);
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- Session 1A_13**
FocusSession.SC3: Solid-state Quantum Photonics 1
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- Monday AM, July 6, 2015**
Room M
 Organized by Luca Sapienza, Jin Liu
 Chaired by Luca Sapienza
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- 08:00 Polariton Condensates in Complex Potential Landscapes
Christian Schneider (University of Wurzburg, Germany); K. Winkler (University of Wurzburg, Germany); A. Schade (University of Wurzburg, Germany); Robert Dall (The Australian National University, Australia); M. Amthor (University of Wurzburg, Germany); Elena A. Ostrovskaya (The Australian National University, Australia); M. Kamp (University of Wurzburg, Germany); S. Hofling (Universitat Wurzburg, Germany);
- 08:15 Light-matter Interaction of a Many-body System in Solid State: Resonance Fluorescence of the Two Dimensional Electron Gas
Nathan Shammah (University of Southampton, UK); Simone De Liberato (University of Southampton, UK);
- 08:30 Probing Emitter-cavity Dressed States through Environmental Transitions
Ahsan Nazir (The University of Manchester, UK);
- 08:45 Two-color Second-order Correlations and Pulsed Resonance Fluorescence Spectrum of the Light Scattered by a Quantum Dot
 invited *Kumarasiri Konthasinghe (University of South Florida, USA); Manoj Peiris (University of South Florida, USA); Benjamin Petrak (University of South Florida, USA); Andreas Muller (University of South Florida, Florida);*
- 09:05 Decoherence of Semiconductor Quantum Dots Coupled to Micro and Nanocavities
 keynote *Jesper Mork (Technical University of Denmark, Denmark); Dara McCutcheon (Technical University of Denmark, Denmark); Anders Nysteen (Technical University of Denmark, Denmark); Niels Gregersen (Technical University of Denmark, Denmark);*
- 09:35 Nanophotonic Design for Bright Single-photon Sources Based on Single Quantum Dots
Marcelo Davanco (National Institute of Standards and Technology, USA); Jin Liu (National Institute of Standards and Technology (NIST), USA); Luca Sapienza (University of Southampton, United Kingdom); Antonio Badolato (University of Rochester, USA); Kartik Srinivasan (National Institute of Standards and Technology, USA);
- 10:00 **Coffee Break**
- 10:20 High-performance Single-quantum Dot Nanophotonic Devices through Photoluminescence Imaging
 keynote *Kartik Srinivasan (NIST, USA); Marcelo Davanco (NIST, USA); Antonio Badolato (University of Rochester, USA); Luca Sapienza (University of Southampton, United Kingdom);*
- 10:50 Advances in Quantum Dot Cavity Quantum Electrodynamics Using Photonic Crystal Structures
 invited *Satoshi Iwamoto (The University of Tokyo, Japan); Yasutomo Ota (The University of Tokyo, Japan); Shun Takahashi (The University of Tokyo, Japan); Yasuhiko Arakawa (The University of Tokyo, Japan);*
- 11:10 Engineering Collective Quantum Effects with Solid-state Nanostructures in Cavities
Erik M. Gauger (Heriot-Watt University, UK);

Session 1A_14**FocusSession.SC2: PT Symmetry, Reciprocity,
Nonlinear Phenomena****Monday AM, July 6, 2015****Room N**

Organized by Kin Hung Fung, Zheng Wang

Chaired by Kin Hung Fung

08:10 Whispering-gallery-mode Optical Resonators around
keynote an Exceptional Point

B. Peng (Washington University, USA); Sahin Kaya Ozdemir (Washington University in St. Louis, USA); Stefan Rotter (Vienna University of Technology (TU Wien), Austria); H. Yilmaz (Washington University, USA); M. Liertzer (Vienna University of Technology (TU Wien), Austria); Faraz Monifi (Washington University in St. Louis, USA); C. M. Bender (Washington University, USA); Franco Nori (University of Michigan, USA); Lan Yang (Washington University in St. Louis, USA);

08:40 Wave Propagation in the Presence of Parity-Time
invited Symmetry: Examples from Integrated Optics and Electronics

Tsampikos Kottos (Wesleyan University, USA);

09:00 Constant-intensity Waves in Non-hermitian Optical
invited Systems

Konstantinos G. Makris (Vienna University of Technology (TU Wien), Austria); Z. H. Musslimani (Florida State University, USA); A. Brandstotter (Vienna University of Technology (TU Wien), Austria); P. Ambichl (Vienna University of Technology (TU Wien), Austria); Demetri N. Christodoulides (University of Central Florida, USA); Stefan Rotter (Vienna University of Technology (TU Wien), Austria);

09:20 Non-Hermitian Supersymmetric Photonic Structures
invited

Ramy El-Ganainy (Michigan Technological University, USA);

09:40 Local Symmetry Induced Structures in Wave Scatter-
invited ing Systems

Panayotis A. Kalozoumis (Athens University, Greece); Christian Morfonios (Hamburg University, Germany); Fotios K. Diakonov (Athens University, Greece); Peter Schmelcher (Hamburg University, Germany);

10:00 **Coffee Break**

10:20 Dissipation-induced Super Scattering from *PT*-
invited synthetic Plasmonic Metafilms

Simin Feng (Naval Air Warfare Center, USA);

10:40 PT and RT Symmetries in Non-reciprocal Periodic
invited Photonic Systems

Jin Wang (Southeast University, China); Hui Yuan Dong (Nanjing University of Posts and Telecommunications, China); C. W. Ling (The Hong Kong Polytechnic University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China); Kin Hung Fung (The Hong Kong Polytechnic University, China);

11:00 Electromagnetic Scattering Properties of Topological
invited Insulators

Lixin Ge (Fudan University, China); Dezhuang Han (Chongqing University, China); Jian Zi (Fudan University, China);

11:20 Four-port THz Circulator Based on One-way Magne-
toplasmonic Cavity

Kezhi Liu (Zhejiang University, China); Sailing He (Zhejiang University, China);

11:35 Tunable Nonlinear Parity-time-symmetric Defect
Modes with an Atomic Cell

Chao Hang (East China Normal University, China); Dmitry A. Zezyulin (Universidade de Lisboa, Portugal); Vladimir V. Konotop (Universidade de Lisboa, Campo Grande, Portugal); Guoxiang Huang (East China Normal University, China);

11:50 Theoretical Study of Infinite-lifetime Guided Modes
inside the Light Cone

Xingwei Gao (Zhejiang University, China); Chia Wei Hsu (Massachusetts Institute of Technology, USA); Marin Soljacic (Massachusetts Institute of Technology, USA); Hongsheng Chen (Zhejiang University, China);

Session 1A0**Poster Session 1****Monday AM, July 6, 2015****9:00 AM - 12:00 AM****Room Poster Area**

1 Mode Suppression for Microdisk Laser with Cylindrical Metallic Nanoparticle

J. Y. Hsing (National Chung Hsing University, Taiwan); T. E. Tzeng (National Chung Hsing University, Taiwan); Tsong-Sheng Lay (National Chung Hsing University, Taiwan);

- 2 LTE Baseband DSP/FPGA for Beamspace MIMO RF Antenna
Uooyeol Yoon (Korea Advanced Institute of Science and Technology, Korea); Dang-Oh Kim (Korea Advanced Institute of Science and Technology, South Korea);
- 3 Dynamical and Stochastic Approach to Non-linear Polarization Optics
Satoshi Tuchida (Ritsumeikan University-BKC, Japan); Hiroshi Kuratsuji (Ritsumeikan University-BKC, Japan);
- 4 Calculations of Inductance and Induced EMF in a Planar Pickup Coil
Gregory A. Topasna (Virginia Military Institute, USA); Daniela M. Topasna (Virginia Military Institute, USA);
- 5 Time Delay Module Design, Simulation and Synthesis Based on FPGA for Dielectric Dispersion Logging
Changqi Yang (Xi'an Shiyou University, China); Simin Liu (Xi'an Shiyou University, China); Liuyi Yang (Xi'an Shiyou University, China); Cheng Yang (Xi'an Shiyou University, China);
- 6 Geometry and Its Physical Meaning
Sara Liyuba Vesely (I.T.B. — C.N.R., Italy); Alessandro Alberto Vesely (Via L. Anelli 13, Italy);
- 7 The Phenomenon Multiple-wavelength Plasmonic Nanoantennas with Elliptical Cylinder
Yaw-Dong Wu (National Kaohsiung University of Applied Sciences, Taiwan); Tien-Tsornng Shih (National Kaohsiung University of Applied Sciences, Taiwan); Li-Hsiang Wang (National Kaohsiung University, Taiwan); Ruo-Ping Chen (National Kaohsiung University of Applied Sciences, Taiwan);
- 8 Efficient Analysis of EM Scattering from Rotating Structures Using a Fast Iterative Physical Optics Method
Enrique Pascual Gil (AIRBUS MILITARY, Spain); Guadalupe Gutierrez (AIRBUS MILITARY, Spain); F. J. Jimenez (AIRBUS DS, Spain);
- 9 On the Impact of Dissipation on Dispersion Interactions between Two Atoms
P. Barcellona (University of Freiburg, Germany); Stefan Yoshi Buhmann (University of Freiburg, Germany);
- 10 Modeling the Scattering by Small Holes
Raffaele Solimene (Second University of Naples, Italy); Pasquale Piccolo (Seconda Università di Napoli, Italy); Rocco Pierri (Seconda Università di Napoli, Italy);
- 11 Compact Circularly Polarized RFID Tag Antenna with an Embedded L-shaped Feedline for Metallic Objects
Cheng Liu (South China Normal University, China); Zhibin He (South China Normal University, China); Hui Liu (South China Normal University (Guangzhou University Town Campus of South China Normal University), China); Yoichi Okuno (South China Normal University, China); Sailing He (Zhejiang University, China);
- 12 Microwave Dielectric Properties of BiNbO₄ Ceramics
C. S. Ferreira (University of Aveiro, Portugal); M. P. F. Graca (University of Aveiro, Portugal); T. Santos (University of Aveiro, Portugal); Luis Cadillon Costa (University of Aveiro, Portugal);
- 13 Measurement and Uncertainty Analysis of Free-space Antenna Factors of a Log-periodic Antenna with Bow-tie Element Using Time-domain and Pulse Compression Technique
Satoru Kurokawa (National Institute of Advanced Industrial Science and Technology, Japan); Masanobu Hirose (National Institute of Advanced Industrial Science and Technology, Japan); Michitaka Ameya (National Institute of Advanced Industrial Science and Technology, Japan);
- 14 Chaos Generation Utilizing Optically Square-wave-injected Semiconductor Lasers
Chen-Wei Fu (Yuan Ze University, Taiwan); Shao-Wei Peng (Yuan Ze University, Taiwan); Yu-Shan Juan (Yuan Ze University, Taiwan);
- 15 Coupling between Double Split Ring Resonators and Complementary Split Ring Resonators
Yu-Zhan Lin (National Chung Hsing University, Taiwan); Watson Kuo (National Chung Hsing University, Taiwan);
- 16 Photonic Band Structure and Field Distribution for TE Polarization. High Plasmon Concentration in the Corners of Metallic Rods of a 2D Photonic Crystal
Danny Manuel Calvo Velasco (Universidad del Valle, Colombia); Nelson Porras-Montenegro (Universidad del Valle, Colombia);
- 17 Unidirectional Nanoantenna for Second-harmonic Generation
Xiaoyan Y. Z. Xiong (The University of Hong Kong, China); Li Jun Jiang (The University of Hong Kong, China); Wei E. I. Sha (The University of Hong Kong, China); Yat-Hei Lo (The University of Hong Kong, China); Yan Lin Li (The University of Hong Kong, China);

- 18 The Dispersion Properties of Three-dimensional Magnetized Plasma Photonic Crystals as the Mixed Polarized Waves Considered
Hai Feng Zhang (Nanjing University of Aeronautics and Astronautics, China); Yi-Bing Lin (Nanjing Artillery Academy, China); Yu-Qing Chen (Nanjing University of Aeronautics and Astronautics, China); Guowen Ding (Nanjing University of Aeronautics and Astronautics, China);
- 19 Zn Concentration, Shape and Size Effects on the Band Structure of Photonic Crystals Based on Ferrofluids with $(\text{Co}_{1-x}\text{Zn}_x\text{Fe}_2\text{O}_4)$ Nanoparticles
Luz Esther Gonzalez Reyes (Universidad del Valle, Colombia); Nelson Porras-Montenegro (Universidad del Valle, Colombia);
- 20 Porphyrinic Photosensitizers for Biology and Medicine
Sergey I. Gorelov (Sokolov Clinical Hospital No. 122, Russia); Marina V. Dobrun (Sokolov Clinical Hospital No. 122, Russia); Antonina V. Dadeko (S. I. Vavilov State Optical Institute, Russia); Tatyana K. Krisko (S. I. Vavilov State Optical Institute, Russia); Tatyana D. Muravieva (S. I. Vavilov State Optical Institute, Russia); Andrey M. Starodubtsev (S. I. Vavilov State Optical Institute, Russia); Ivan M. Kislyakov (S. I. Vavilov State Optical Institute, Russia);
- 21 Analysis on the Aperture Averaging Weight Factor for Equidistant Dual-aperture Receiver
Changqi Yang (Xi'an Shiyou University, China); Simin Liu (Xi'an Shiyou University, China);
- 22 Trend Technology's Theory Model and Experiment Verification for Atmospheric Optical Scintillation
Changqi Yang (Xi'an Shiyou University, China);
- 23 Zn-diffusion 850 nm VCSEL with Stable Single Mode Operation and 21 GHz Bandwidth
Fang-I. Lai (Yuan Ze University, Taiwan); Dan-Hua Hsieh (National Chiao Tung University, Taiwan); Jin-Wei Shi (National Central University, Taiwan); Hao-Chung Kuo (National Chiao Tung University, Taiwan);
- 24 Electromagnetic Simulation of Coupled Silicon and Diamond Microdisks and Slab Waveguides in the Mid-infrared
Muhammad Rehan Chaudhry (Koc University, Turkey); M. Zeeshan Rashid (Koc University, Turkey); Yigit Uysalli (Middle East Technical University, Turkey); Adnan Kurt (Teknofil Limited, Turkey); Ulas Sabahattin Gokay (Koç University, Turkey); Ali Serpenguzel (Koc University, Turkey);
- 25 Global Simulation for Quantum Cascade Lasers Subjected to External Optical Injection
Yohei Sakasegawa (National Institute for Information and Communications Technology, Japan); Shingo Saito (National Institute for Information and Communications Technology, Japan); Norihiko Sekine (National Institute of Information and Communications Technology, Japan); Akifumi Kasamatsu (National Institute of Information and Communications Technology, Japan); Masaaki Ashida (Osaka University, Japan); Iwao Hosako (National Institute of Information and Communications Technology, Japan);
- 26 A Photonic QPSK Modulator Aiming Space Applications
Jognes Panasiewicz Junior (National Institute for Space Research, Brazil); Debora Maria Souza Morais (Aeronautics Technical Institute, Brazil); Gefeson Mendes Pacheco (Aeronautics Technical Institute, Brazil);
- 27 Ultra-porous Aluminium Oxides for GHz and THz Components
O. Stepanenko (Universite Paris Diderot, France); A. Tartari (Universite Paris Diderot, France); M. Amamra (Universite Paris 13, France); T. H. N. Nguyen (Universite Paris 13, France); M. Piat (Universite Paris Diderot, France); A. Kanaev (Universite Paris 13, France); Giuseppe Leo (Universite Paris Diderot, France);
- 28 Optoelectronic Applications of Sapphire Microspheres
Muhammad Zakwan (Koç University, Turkey); Muhammad Sohail Anwar (Koc University, Turkey); Syed Sultan Shah Bukhari (Koc University, Turkey); Ulas Sabahattin Gokay (Koç University, Turkey); Ali Serpenguzel (Koc University, Turkey);
- 29 Silicon Microspheres in Metrology
Muhammad Hamza Humayun (Koc University, Turkey); Farhan Azeem (Koc University, Turkey); Imran Khan (Koc University, Turkey); Ulas Sabahattin Gokay (Koç University, Turkey); Ali Serpenguzel (Koc University, Turkey);
- 30 A 10 Gbps, Wide Dynamic Range CMOS Optical Receiver
Sheng-Hua Lai (National Chiao-Tung University, Taiwan); Wei-Zen Chen (National Chiao-Tung University, Taiwan);
- 31 Light Out Coupling Efficiency of Top-emitting Organic Light Emitting Diode
Dong Bin Yeo (Hoseo University, Korea); Woo Young Kim (Hoseo University, Korea); Chang-Bum Moon (Hoseo University, Korea); Chul Gyu Jhun (Hoseo University, Korea);

- 32 Monolithic Integration of GaN-based Light-emitting Diodes and Metal-oxide-semiconductor Field-effect Transistors
Ya-Ju Lee (National Taiwan Normal University, Taiwan); Zu-Po Yang (National Chiao-Tung University, Taiwan); Pin-Guang Chen (National Taiwan Normal University, Taiwan); Yung-An Hsieh (National Taiwan Normal University, Taiwan); Yung-Chi Yao (National Taiwan Normal University, Taiwan); Ming-Han Liao (Department of Mechanical Engineering, Taiwan); Min-Hung Lee (National Taiwan Normal University, Taiwan); Mei-Tan Wang (Industrial Technology Research Institute (ITRI), Taiwan); Jung-Min Hwang (Industrial Technology Research Institute (ITRI), Taiwan);
- 33 Comparison of the Two Rapid Measurement Methods for Circular-cut Far-field Patterns of Elongated Base-station Antennas — Kim Method and Evans-Vilenko Method
Masanobu Hirose (National Institute of Advanced Industrial Science and Technology, Japan); Satoru Kurokawa (National Institute of Advanced Industrial Science and Technology, Japan);
- 34 Resonance in Rectangular Microstrip Structure Loaded with a Thin Omega Medium Layer in the Substrate
Rafal Lech (Gdansk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland); Wojciech Marynowski (Gdansk University of Technology, Poland); Jerzy Mazur (Gdansk University of Technology, Poland);
- 35 A Moment-method Analysis of a Thin-wire Chireix-coil Antenna
Ayotunde Abimbola Ayorinde (University of Lagos, Nigeria); Sulaiman Adeniyi Adekola (University of Lagos, Nigeria); Alex Ike Mowete (University of Lagos, Nigeria);
- 36 A Frequency Reconfigurable PIFA Design for Wireless Communication Applications
Siddik Cumhuri Basaran (Akdeniz University, Turkey); E. Dokuzlar (Akdeniz University, Turkey);
- 37 An Accurate Technique to Model the Substrate of Wearable Textile Antennas
Ghufran M. Hatem (University of Technology, Iraq); Ali J. Salim (University of Technology, Iraq); Jawad K. Ali (University of Technology, Iraq);
- 38 A CMOS I/Q Up-conversion Mixer and a Power Pre-amplifier for UHF RFID Reader Systems
Changchun Zhang (Nanjing University of Posts and Telecommunications, China); Luo-Si Gao (Nanjing University of Posts and Telecommunications, China); Cheng-Hong Dong (Nanjing University of Posts and Telecommunications, China); Yufeng Guo (Nanjing University of Posts and Telecommunications, China); Debo Wang (Nanjing University of Posts and Telecommunications, China); Yi Zhang (Nanjing University of Posts and Telecommunications, China);
- 39 A UHF RFID Reader Receiver SoC in 0.18 μm CMOS Technology
Changchun Zhang (Nanjing University of Posts and Telecommunications, China); Ying-Qi Qian (Nanjing University of Posts and Telecommunications, China); Jiang Zhao (Nanjing University of Posts and Telecommunications, China); Yi Zhang (Nanjing University of Posts and Telecommunications, China); Debo Wang (Nanjing University of Posts and Telecommunications, China); Yufeng Guo (Nanjing University of Posts and Telecommunications, China);
- 40 Compact Substrate Integrated Waveguide BPF for Wideband Communication Applications
Aya N. Alkhafaji (University of Technology, Iraq); Ali J. Salim (University of Technology, Iraq); Jawad K. Ali (University of Technology, Iraq);
- 41 Investigations of Elliptical Ferrite Coupled Line Junction
Adam Kusiek (Gdansk University of Technology, Poland); Wojciech Marynowski (Gdansk University of Technology, Poland); J. Mazur (Gdansk University of Technology, Poland);
- 42 Wave Properties of the Rectangular Waveguide Loaded with Thin Pseudochiral Medium Layer
Wojciech Marynowski (Gdansk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland); Rafal Lech (Gdansk University of Technology, Poland); Jerzy Mazur (Gdansk University of Technology, Poland);
- 43 A Diplexer with a Dual-mode Resonant Junction
Eugene Ogbodo (University of Greenwich, UK); Yi Wang (University of Greenwich, UK); Predrag B. Rapajic (University of Greenwich, UK);
- 44 A Compact Dual-band Bandstop Filter Based on Fractal Microstrip Resonators
Hayder S. Ahmed (University of Technology, Iraq); Ali J. Salim (University of Technology, Iraq); Jawad K. Ali (University of Technology, Iraq);

- 45 Development of High Stretchable Devices Material for the Wearable Electronics
Se-Hoon Park (Korea Electronics Technology Institute, Korea); *Dongsu Kim* (Korea Electronics Technology Institute, South Korea); *Jong-In Ryu* (Korea Electronics Technology Institute, Korea);
- 46 Design of Evaluation Board with a Built-in 25 Gb/s PRBS Source for Testing High-frequency Probe
Wei Wang (National Kaohsiung University of Applied Sciences, Taiwan); *Hong-Lu Lin* (National Kaohsiung University of Applied Sciences, Taiwan); *Jau-Ji Jou* (National Kaohsiung University of Applied Sciences, Taiwan); *Yaw-Dong Wu* (National Kaohsiung University of Applied Sciences, Taiwan); *Tien-Tsorng Shih* (National Kaohsiung University of Applied Sciences, Taiwan);
- 47 The Optimized Electrode between a SMPM Connector and a Microstrip for High Frequency Applications
Cheng-Ying Wu (National Kaohsiung University of Applied Sciences, Taiwan); *Hong-Lu Lin* (National Kaohsiung University of Applied Sciences, Taiwan); *Jau-Ji Jou* (National Kaohsiung University of Applied Sciences, Taiwan); *Yaw-Dong Wu* (National Kaohsiung University of Applied Sciences, Taiwan); *Tien-Tsorng Shih* (National Kaohsiung University of Applied Sciences, Taiwan);
- 48 High Frequency Performance Comparison among Three Kinds of Board to Wire Connectors
Ruei-Nian Wang (National Kaohsiung University of Applied Sciences, Taiwan); *Li-Wei Chen* (National Kaohsiung University of Applied Sciences, Taiwan); *Jau-Ji Jou* (National Kaohsiung University of Applied Sciences, Taiwan); *Yaw-Dong Wu* (National Kaohsiung University of Applied Sciences, Taiwan); *Tien-Tsorng Shih* (National Kaohsiung University of Applied Sciences, Taiwan);
- 49 Seasonal and Temporal Variation of GPS Phase Fluctuations at High Latitude under Low Solar Activity
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);
- 50 An Investigation of Equatorial Ionospheric Irregularities under Solar Maximum in the 24th Solar Cycle in Middle and East Africa Using GPS
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);
- 51 Assessment of the Forest Disturbances Rate Caused by Windthrow Using Remote Sensing Techniques
Paula Furtuna ("Babes Bolyai" University, Romania); *Ionel Haidu* (Universite de Lorraine, France); *Iulian-Horia Holobaca* ("Babes Bolyai" University, Romania); *Mircea Alexe* ("Babes Bolyai" University, Romania); *Cristina Florina Rosca* ("Babes Bolyai" University, Romania); *Danut Petrea* ("Babes Bolyai" University, Romania);
- 52 Monitoring Land Use Change in South-west Romania Using Multi-temporal Landsat Remote Sensing Imagery
Cristina Florina Rosca ("Babes Bolyai" University, Romania); *Iulian-Horia Holobaca* ("Babes Bolyai" University, Romania); *Mircea Alexe* ("Babes Bolyai" University, Romania); *Danut Petrea* ("Babes Bolyai" University, Romania); *Paula Furtuna* ("Babes Bolyai" University, Romania); *Ionel Haidu* (Universite de Lorraine, France);
- 53 Looking for a Biophysical Approach to Early Stages of Chronic Kidney Disease
Alberto Foletti (University of Applied Sciences of Southern Switzerland-SUPSI, Switzerland); *Mario Cozzolino* (University of Milan, Italy);
- 54 Steps towards a Biophysical Approach to Refractory Gynecological Infections
Ida Ferrara (Clinical Biophysics International Research Group, Switzerland); *Alberto Foletti* (University of Applied Sciences of Southern Switzerland-SUPSI, Switzerland);
- 55 The Characteristics of Current-gated Single Electron Transistors
Weichen Chien (National Chung Hsing University, Taiwan); *C. Y. Hong* (National Changhua University of Education, Taiwan); *C. S. Wu* (National Changhua University of Education, Taiwan); *Watson Kuo* (National Chung Hsing University, Taiwan);
- 56 Reliability Verification of Printed Electronics Type FPCB Used in NFC Antenna
Soon-Mi Hwang (Korea Electronics Technology Institute (KETI), Korea); *Kwan-Hun Lee* (Korea Electronics Technology Institute (KETI), Korea); *Jin-Sung Lee* (Dreamtech Co. Ltd., South Korea);
- 57 High Temperature Accelerated Test of Tower Mounted Amplifier (TMA) Module Used in 4G Communication
Soon-Mi Hwang (Korea Electronics Technology Institute (KETI), Korea); *Chul-Hee Kim* (Korea Electronics Technology Institute (KETI), Korea); *Kwan-Hun Lee* (Korea Electronics Technology Institute (KETI), Korea);

- 58 FEM Evaluation of the Novel Cardiac Defibrillation Electrode Placement
Elham Khosrowshahli (McMaster University, Canada); Aleksandar Jeremic (McMaster University, Canada);
- 59 Conductivity Estimation of Breast Cancer Using Stochastic Optimization
Aleksandar Jeremic (McMaster University, Canada); Elham Khosrowshahli (McMaster University, Canada);
- 60 2D and 3D Durable Phantoms for Verification of Capabilities of Microwave Tomography and Hyperthermia Systems
Miroslav Wiewegh (Czech Technical University in Prague, Czech Republic); Pavel Spurny (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);
- 61 Numerical Modeling of rTMS with High-resolution Head Phantoms
Maja Shuleska (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic);
- 62 Segmentation of Brain MR Images
Maja Shuleska (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);
- 63 EM Exposure System with Well Defined Dosimetry
Jan Vrba (Czech Technical University in Prague, Czech Republic); Lukas Visek (Czech Technical University in Prague, Czech Republic); Ladislav Oppl (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); Frantisek Vozeh (Charles University, Czech Republic); Jan Barcal (Charles University in Prague, Czech Republic); Luca Vannucci (Institute of Microbiology, Czech Academy of Sciences, Czech Republic);
- 64 Numerical Modeling of Dielectric Properties of Silicon Phantoms for Microwave Imaging and Hyperthermia
Pavel Spurny (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic); Miroslav Wiewegh (Czech Technical University in Prague, Czech Republic);
- 65 Tunable Polarization Rotator in Bilayered Metamaterial
Zui Tao (Southeast University, China); Xiang Wan (Southeast University, China); Bai Cao Pan (Southeast University, China); Tie Jun Cui (Southeast University, China);
- 66 Simulation and Analysis of Radio Wave Propagation Characteristics of Typical Outdoor Environment
Yong Li (Zhongxing Limited Corporation of Telecommunications, China); Feng Chen (Nanjing University of Posts and Telecommunications, China); Yuan-Jian Liu (Nanjing University of Posts and Telecommunications, China);
- 67 Mutual Coupling Evaluation within Waveguide Slotted Antennas
Giovanni Leone (Seconda Università di Napoli, Italy); Domenico Russo (Seconda Università degli Studi di Napoli, Italy);
- 68 Chaotic Low-frequency Fluctuations of the Laser Radiation Emitted by a Diode Laser Working at Currents above the Laser Threshold
Ionut-Relu Andrei (National Institute for Laser, Plasma and Radiation Physics, Romania); Andrei Baleanu (University of Bucharest, Romania); Mihail Lucian Pascu (National Institute for Laser, Plasma and Radiation Physics, Romania);
- 69 An Adaptive Spectroellipsometric Technology for the Diagnosis of Water Ecosystems
Ferdinand A. Mkrtchyan (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences, Russia); V. F. Krapivin (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences, Russia); V. V. Klimov (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences, Russia);
- 70 HIS Based Minkowski Fractal Boundary Microstrip Patch Antenna
Suman Nelaturi (National Institute of Technology Warangal, India); Nvsn Sarma (National Institute of Technology Warangal, India);

- 71 The Experimental, Frequency-selective Evaluation of the Pattern of Environmental Radiofrequency Electromagnetic Radiation in Ground and Underground Public Transport Infrastructure in Warszawa
Krzysztof Gryz (Central Institute for Labour Protection — National Research Institute (CIOP-PIB), Poland); Jolanta Karpowicz (Central Institute for Labour Protection, National Research Institute (CIOP-PIB), Poland); Wieslaw Leszko (Central Institute for Labour Protection — National Research Institute (CIOP-PIB), Poland);
- 72 Experimental Analysis by Dual Characterization of Near Field Impact on Humans Level of Occupational Exposure to 30–110 MHz Radiation
Simona Miclaus (Land Forces Academy, Romania); Jolanta Karpowicz (Central Institute for Labour Protection, National Research Institute (CIOP-PIB), Poland); Paul Bechet (Land Forces Academy, Romania);
- 73 Analysis of Properties of Electrochemical Cells Used in Power Electronics System
Roman Radvan (University of Zilina, Slovakia); Peter Cubon (University of Zilina, Slovakia);
- 74 Wideband Dual-mode Dielectric Waveguide with Applications in Millimeter-wave Interconnects and Wireless Links
Nemat Dolatsha (Stanford University, USA); Amin Arbabian (Stanford University, USA);
- 75 Some Results of Troposphere Mesoscale Fluctuation Analysis in City by Using Network of GPS-GLONASS Receivers
Vladislav E. Khutorov (Kazan Federal University, Russia); G. M. Teptin (Kazan Federal University, Russia); Olga G. Khutorova (Kazan Federal University, Russia);
- 76 Development of Wireless Power Induction Cooker Using Magnetic Induction-based Technology
Won Ho Jang (Electromagnetic Wave Technology Institute of RAPA, Korea); Seonghun Lee (Creative Innovation Center of LGE, Korea); Jeongsug Yeom (Komattech, Korea); Byungduk Min (R&D Department of Green Power, Korea); Goonyeon Kim (Electromagnetic Wave Technology Institute of RAPA, Korea); Sangho Choi (Korea Radio Promotion Association, Korea);
- 77 Weight Reduction Structure for Wireless Charging Vehicle
Hyung-Wook Shim (Korea Advanced Institute for Science and Technology, South Korea); Dang-Oh Kim (Korea Advanced Institute of Science and Technology, South Korea); Jong-Woo Kim (Korea Advanced Institute for Science and Technology, South Korea); Dong-Ho Cho (Korea Advanced Institute of Science and Technology (KAIST), Korea);
- 78 A New UWB Antenna with Unidirectional Radiation
Mingjian Li (City University of Hong Kong, China); Kwai Man Luk (City University of Hong Kong, China); Yue Zhao (City University of Hong Kong, China);
- 79 Coupling Effect of Spiral Inductors in Silicon-based Technology
Heng-Ming Hsu (National Chung-Hsing University, Taiwan); Ming-Ming Hsieh (National Chung-Hsing University, Taiwan);
- 80 Miniaturized Transmitter in Digital Modulation System with Non-constant Envelope for VHF Band
Heon-Kook Kwon (Electronics and Telecommunications Research Institute, Korea); Sung Jun Lee (Electronics and Telecommunications Research Institute, Korea); Byung-Su Kang (Electronics and Telecommunications Research Institute, Korea); Bonghyuk Park (Electronics and Telecommunications Research Institute (ETRI), South Korea);

Session 1P1
FocusSession.SC2: Nonlocal and Spatially Dispersive Electromagnetic Media

Monday PM, July 6, 2015
Room A

Organized by Yun Lai, Zhi Hong Hang

 Chaired by Yun Lai, Zhi Hong Hang

- 13:10 Nanophotonics in Material-systems of Large Sizes
keynote
Marin Soljacic (Massachusetts Institute of Technology, USA);
- 13:40 Photonic Hypercrystals
invited
Evgenii E. Narimanov (Purdue University, USA);
- 14:00 Investigation of the Permittivities of Metal Films at Nanometer Scales
invited
Haoliang Qian (University of California, USA); Yuzhe Xiao (University of California, USA); Dominic Lepage (University of California, USA); Zhaowei Liu (University of California, USA);

- 14:20 Ultra-transparency Induced by Spatial Dispersions
invited
Jie Luo (Soochow University, China); Yu Ting Yang (Soochow University, China); Weixin Lu (Soochow University, China); Zhong Qi Yao (Soochow University, China); Zhi Hong Hang (Soochow University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China); Yun Lai (Soochow University, China);
- 14:40 Dislocated Double-layer Metal Gratings as an Efficient Unidirectional Coupler
invited
Yang Shen (Sun Yat-Sen University, China); Chongjun Jin (Sun Yat-sen University, China);
- 15:00 Bridging Classical and Quantum Optics
invited
Yu Luo (Nanyang Technological University, Singapore);
- 15:20 **Coffee Break**
- 15:40 Manipulating of the Surface State between a Photonic Crystal and a Metasurface
invited
Qiang Wang (Nanjing University, China); Meng Xiao (The Hong Kong University of Science and Technology, China); Hui Liu (Nanjing University, China); Shi-Ning Zhu (Nanjing University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);
- 16:00 Probing Spatial Nonlocality Effects in Plasmonic Nanostructures with Surface-enhanced Raman Scattering Spectroscopy
invited
Dangyuan Lei (The Hong Kong Polytechnic University, China);
- 16:20 Ultrathin Planar Optical Devices with Unusual Functionalities
invited
Xianzhong Chen (University of Birmingham, UK); Dandan Wen (Heriot-Watt University, UK); Fuyong Yue (Heriot-Watt University, UK); Ming Chen (Guilin University of Electronic Technology, China);
- 16:40 Multirefringence Phenomena in Plasmonic Multilayers
invited
Aleksei A. Orlov (ITMO University, Russia); S. V. Zhukovsky (ITMO University, Russia); P. M. Voroshilov (St. Petersburg State University of Information Technologies, Mechanics and Optics, Russia); Alexander Sergeevich Shalin (Ulyanovsk Branch of the Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia); P. A. Belov (ITMO University, Russia);
- 17:00 Plasmonic Waveguide Array: Simulating Topological Photonic States and Massless Dirac Fermion
invited
Tao Li (Nanjing University, China); Yiming Pan (Nanjing University, China); Q. Q. Cheng (Nanjing University, China); B. B. Xu (Nanjing University, China); Shi-Ning Zhu (Nanjing University, China);
- 17:20 Nonlocal Effective Medium Theory and Its Relation with Zak Phase in Two-dimensional Photonic Crystals
invited
Meng Xiao (The Hong Kong University of Science and Technology, China); Xueqin Huang (The Hong Kong University of Science and Technology, China); Anan Fang (The Hong Kong University of Science and Technology, China); Z. Q. Zhang (The Hong Kong University of Science and Technology, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);
- 17:40 Conditions for Negative Refraction and Negative Refractive Index in Lossy Media
invited
Liming Ji (University of Arkansas, USA); Vasundara V. Varadan (University of Arkansas, USA);
- 18:00 Spatially Dispersive Inhomogeneous Dielectric Wire Media with Periodic Structure
invited
Jonathan Gratus (Lancaster University, UK); R. Letizia (Lancaster University, UK); Matthew Jack McCormack (Lancaster University, UK);
- 18:20 Local Field Effects and Spatial Dispersion of Dielectric Permittivity
invited
Alexey A. Tishchenko (Moscow Engineering Physics Institute (State University), Russia);
-
- Session 1P2**
SC3: Nanoscale Platforms for Molecular Sensing
-
- Monday PM, July 6, 2015**
Room B
Organized by Hyuck Choo, Monika Fleischer
Chaired by Hyuck Choo, Monika Fleischer
-
- 13:00 Recent Progress in Nanoscale Sensing Using Surface-enhanced Raman Scattering
keynote
Kenneth B. Crozier (The University of Melbourne, Australia);

- 13:30 Hot Spots of Plasmonic Nanostructures and Their Spectroscopic Potential for Molecular Probing at the Nanoscale and at the Single Molecule Level
keynote
Katrin Kneipp (Technical University of Denmark, Denmark); Harald Kneipp (Technical University of Denmark, Denmark); Janina Kneipp (Humboldt Universität zu Berlin, Germany);
- 14:00 Development of Electrically Driven Plasmonic Nanoparticles Sensors and Investigation of Their Stability
invited
Andre Dathe (Leibniz Institute of Photonic Technology (IPHT), Germany); Uwe Hubner (Institute for Physical High Technology, Germany); Mario Ziegler (Institute for Physical High Technology, Germany); Jacqueline Jatschka (Leibniz Institute of Photonic Technology (IPHT), Germany); Mattias Thiele (Leibniz Institute of Photonic Technology (IPHT), Germany); Pavel Kluiev (Leibniz Institute of Photonic Technology (IPHT), Germany); Andrea Csaki (Leibniz Institute of Photonic Technology (IPHT), Germany); Ondrej Stranik (Leibniz Institute of Photonic Technology (IPHT), Germany); Wolfgang Fritzsche (Leibniz Institute of Photonic Technology (IPHT), Germany);
- 14:20 Silicon Nanostructuring for SERS Applications and Hybrid Infrared Light Sensing Devices
invited
Vedran Derek (Ruder Boskovic Institute, Croatia); L. Mikac (Ruder Boskovic Institute, Croatia); Eric Daniel Glowacki (Johannes Kepler University Linz, Austria); N. S. Sariciftci (Johannes Kepler University Linz, Austria); C. D'Andrea (CNR IPCF, Istituto per i Processi Chimico-Fisici, Italy); P. G. Gucciardi (CNR IPCF, Istituto per i Processi Chimico-Fisici, Italy); S. Trusso (CNR IPCF, Istituto per i Processi Chimico-Fisici, Italy); A. Foti (CNR IPCF, Istituto per i Processi Chimico-Fisici, Italy); Mile Ivanda (Ruder Boskovic Institute, Croatia);
- 14:40 Surface Enhanced Raman and Fluorescence Spectroscopies
invited
Pierre-Michel Adam (Universite de Technologie de Troyes, France);
- 15:00 Core/Shell Dielectric Colloids and Metal/Dielectric Nanostructures: Multi-purpose Platforms for Advanced Diagnostics of Chemical Reactions
invited
Ivano Alessandri (University of Brescia, Italy); N. Bontempi (University of Brescia, Italy); L. Carletti (University of Brescia, Italy); C. De Angelis (University of Brescia, Italy);
- 15:20 **Coffee Break**
- 15:40 Plasmonics on Waferscale
invited
Uwe Hubner (Institute for Physical High Technology, Germany); Thomas Mayerhofer (Leibniz Institute of Photonics Technology (IPHT), Germany); Richard Knipper (Leibniz Institute of Photonics Technology (IPHT), Germany); Dana Cialla-May (Leibniz Institute of Photonics Technology (IPHT), Germany); Karina Weber (Leibniz Institute of Photonics Technology (IPHT), Germany); Jurgen Popp (Institute of Photonic Technology, Germany);
- 16:00 Transfer-printing-based Fabrication of 3-dimensional Plasmonic Superlattice Nanostructures for Surface-enhanced Raman Spectroscopy Analyses
invited
Jae Won Jeong (Korea Advanced Institute of Science and Technology (KAIST), Korea); Yeon Sik Jung (Korea Advanced Institute of Science and Technology (KAIST), Korea);
- 16:20 Silver Nanowires as Efficient Sensing Platforms
invited
Sebastian Mackowski (Nicolaus Copernicus University, Poland);
- 16:40 Linear and Non-linear Optical Properties of Bimetallic Heterodimers
invited
Anne-Laure Baudrion (Technical University of Troyes, France); Jiyong Wang (Technical University of Troyes, France); Andreas Horrer (Eberhard Karls University Tuebingen, Germany); Dominik A. Gollmer (Eberhard Karls University Tuebingen, Germany); Anke Horneber (Eberhard Karls University Tuebingen, Germany); Monika Fleischer (Eberhard Karls University Tuebingen, Germany); Dai Zhang (Eberhard Karls University Tuebingen, Germany); Pierre-Michel Adam (Universite de Technologie de Troyes, France);
- 17:00 Enhancing the Interaction of Light and Matter Using Photonic Nanostructures
invited
Stephan Goetzinger (Max Planck Institute for the Science of Light (MPL) and Friedrich Alexander University Erlangen-Nurnberg, Germany);
- 17:20 Air Quality Monitoring by Using One Dimensional Nanomaterial Based Gas Sensors
invited
Inkyu Park (Korea Advanced Institute of Science and Technology, South Korea);
- 17:40 Nanoscale Energy Transfer Sensing
invited
Jana B. Nieder (INL — International Iberian Nanotechnology Laboratory, Portugal);

- 18:00 Silver Capped Silicon Nanopillars as Surface Enhanced Raman Spectroscopy Substrates
invited *Kaiyu Wu (Technical University of Denmark, Denmark); Michael Stenbæk Schmidt (Technical University of Denmark, Denmark); Tomas Rindzevicius (Technical University of Denmark, Denmark); Anja Boisen (Technical University of Denmark, Denmark);*
- 18:20 3D Metamaterials and Plasmonic Nanostructures for Sensing Applications
invited *Minkyung Kim (Pohang University of Science and Technology (POSTECH), Korea); Junsuk Rho (Pohang University of Science and Technology (POSTECH), Korea);*

Session 1P3

FocusSession.SC5: Imaging, Inverse Scattering and Remote Sensing 2

Monday PM, July 6, 2015

Room C

Organized by Xiuzhu Ye, Xudong Chen

Chaired by Qing Huo Liu, Xiuzhu Ye

- 13:00 Source Reconstruction from Near- and Far-field Data with Antenna and Radome Applications
keynote *Mats Gustafsson (Lund University, Sweden);*
- 13:30 Reconstruction of 3D Anisotropic Magnetodielectric Objects with the Mixed Order BCGS-FFT and DBIM
keynote *Zhiru Yu (Duke University, USA); Qing Huo Liu (Duke University, USA);*
- 14:00 Efficient Imaging of Dielectric Targets Based on Contrast Source Inversion Method
invited *Si Cong Yan (Tongji University, China); Chun Xia Yang (Tongji University, China); Jian Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);*
- 14:20 Inverse Scattering Approach without Information on Incident Field Using Gradient-based Optimization Method
invited *Takashi Takenaka (Nagasaki University, Japan); Toshifumi Moriyama (Nagasaki University, Japan); Toshiyuki Tanaka (Nagasaki University, Japan); Zhi Qi Meng (Fukuoka University, Japan);*
- 14:40 Application of Domain Decomposition Techniques to Quantitative Inverse Scattering Problems
invited *Ivan Voznyuk (Aix-Marseille Universit, France); Amelie Litman (Universite Paul Cezanne Aix-Marseille III, France); Herve Tortel (Aix-Marseille Universite, France);*

- 15:00 Virtual Experiments for the Solution of Inverse Scattering Problems
invited *Martina Bevacqua (Mediterranea University of Reggio Calabria, Italy); Lorenzo Crocco (National Research Council, Italy); Loreto Di Donato (University Mediterranea of Reggio Calabria, Italy); Tommaso Isernia (Mediterranea University of Reggio Calabria, Italy);*
- 15:20 **Coffee Break**
- 15:40 On Constructing Globally Convergent Algorithms: Applications to GPR and Marine CSEM Sounding
Alex Timonov (University of South Carolina Upstate, USA);
- 15:55 Modeling of Random Media for Controlled Light Scattering
Olga Korotkova (University of Miami, USA);
- 16:10 Demonstration of Radiative and Inductive Couplings of Traveling Wave to a Phantom in a Small-bore 16.4 T MRI
Alexey Tonyushkin (Harvard Medical School, United States); Patrick Bluem (University of Colorado, United States); Dinesh Deelchand (University of Minnesota Medical School, United States); Gregor Adriany (University of Minnesota Medical School, United States); Pierre-Francois Van de Moortele (University of Minnesota Medical School, USA); Zoya Popovic (University of Colorado, USA); Andrew J. M. Kiruluta (Harvard Medical School, USA);
- 16:25 Raw Data Generation of Maritime Scenes Using MOCEM V4 and PHYS-IQ V1
Christian Cochin (DGA MI, France); Jean-Christophe Louvigne (DGA MI, France); Julien Housay (Corentin LE BARBU, France);
- 16:40 Remote Sensing of Ionospheric Disturbances Caused by Exhaust Jets of the 'Progress' Cargo Spacecraft
Vitaliy Victorovich Khakhinov (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Valentin P. Lebedev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Dmitry S. Kushnarev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Sergey S. Alsatkin (Institute of Solar-Terrestrial Physics SB RAS, Russia);

- 16:55 Two Dimensional Inverse Scattering Problems with Four Different Boundary Conditions
Xudong Chen (National University of Singapore, Singapore); Rencheng Song (National University of Singapore, Singapore); Xiuzhu Ye (Beihang University, China);
- 17:10 Numerical Simulation of Aquifer Detection Using Low Frequency Pulsed Radar
K. van den Doel (University of British Columbia, Canada); M. Robinson (Adrok Ltd., United Kingdom);

Session 1P4a

SC3: Laser Writing of Optical Waveguides and Optical Components in Novel Materials

Monday PM, July 6, 2015

Room D

Organized by Roberta Ramponi, Shane M. Eaton

Chaired by Shane M. Eaton

- 13:00 Expanding the Parameter Space in Optimizing Ultra-
 invited fast Laser Written Structures for Photonics Device Applications
Toney Teddy Fernandez (Instituto de Optica, CSIC, Spain); J. Siegel (Consejo Superior de Investigaciones Cientificas (CSIC), Spain); Javier Solis ((CSIC) National Council for Scientific Research of Spain, Spain);
- 13:20 Flexible Photonic Components in Silica Glass Fabri-
 invited cated by Ultrafast Laser Direct Writing
Sheng Huang (University of Pittsburgh, USA); Mingshan Li (University of Pittsburgh, USA); Sean M. Garner (Corning Incorporated, One Riverfront Plaza, USA); Ming-Jun Li (Corning Incorporated, One Riverfront Plaza, USA); Kevin Peng Chen (University of Pittsburgh, USA);
- 13:40 Realization of Birefringent Nanogratings in Various
 invited Glasses
Soeren Richter (Friedrich-Schiller-Universitat Jena, Germany); F. Zimmermann (Friedrich-Schiller-Universitat Jena, Germany); Andreas Tunnermann (Fraunhofer Institute for Applied Optics and Precision Engineering, Germany); Stefan Nolte (Friedrich-Schiller-Universitat Jena, Germany);
- 14:00 3D Laser Sub- μm Structuring for Novel Near- and
 invited Mid-IR Photonics: Recent Advances in SiO_2 , LiNbO_3 and YAG Processing
Airán Rodenas (Universitat Rovira i Virgili, Spain); J. Martínez (Universitat Rovira i Virgili, Spain); H. D. Nguyen (Universitat Rovira i Virgili, Spain); F. Díaz (Universitat Rovira i Virgili, Spain);

- 14:20 Femtosecond Laser Micro Fabricated Structures for
 invited Lab on Chip Applications
Surya S. K. Guduru (Politecnico di Milano, Italy); Francesco Scotognella (Politecnico di Milano, Italy); Luigino Criante (Istituto Italiano di Tecnologia, Italy); Rebeca Martinez Vazquez (Istituto di Fotonica e Nanotecnologie — CNR, Italy); Roberta Ramponi (Institute of Photonics and Nanotechnology (IFN) — CNR, Italy); Krishna Chaitanya Vishnubhatla (Istituto Italiano di Tecnologia, Italy);

- 14:40 Ultrafast Laser Plasma Implantation — A New Ap-
 invited proach to Active and Passive Integrated Optics
Gin Jose (University of Leeds, UK); Jayakrishnan Chandrappan (University of Leeds, UK); Matthew Murray (University of Leeds, UK); Tarun Kakkar (University of Leeds, UK); D. Paul Steenson (University of Leeds, UK); Animesh Jha (University of Leeds, UK);

- 15:00 Laser Fabrication in Diamond for Photonic Applica-
 invited tions
Patrick Salter (University of Oxford, UK); Bangshan Sun (University of Oxford, UK); Martin J. Booth (University of Oxford, UK);

15:20 Coffee Break

- 15:40 3D Printed Optical Components
 invited
Michael Thiel (Nanoscribe GmbH, Germany);

Session 1P4b

SC2: Manipulating Light-matter Interaction by Plasmonics 1

Monday PM, July 6, 2015

Room D

Organized by Sanshui Xiao, Jingjing Zhang

Chaired by Sanshui Xiao, Jingjing Zhang

- 16:00 Dielectric Platforms for Surface Enhanced Spectro-
 keynote copies
Stefan Alexander Maier (Imperial College London, UK);
- 16:30 Active Tuning of Light-graphene Interactions
 invited
Sanshui Xiao (Technical University of Denmark, Denmark);

- 16:50 Electron Tunneling in Plasmonic Nanogaps Explored
invited Using the Self-consistent Hydrodynamic Model
Giuseppe Toscano (Karlsruhe Institute of Technology, Germany); Alexander Kwiatkowski (Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology (KIT), Germany); Jakob Straubel (Institute of Theoretical Solid State Physics, Karlsruhe Institute of Technology (KIT), Germany); Carsten Rockstuhl (Karlsruhe Institute of Technology, Germany);
- 17:10 Quantifying the Field Enhancement Spectra of Individual Nanoantennas Using Single Quantum Dots
Jianwei Tang (Zhejiang University, China); Sailing He (Zhejiang University, China);
- 17:30 Revealing a Symmetry Class of Periodic Gratings Using Transformation Optics
invited *Matthias Kraft (Imperial College London, UK); Yu Luo (Nanyang Technological University, Singapore); John B. Pendry (Imperial College London, UK);*
- 17:50 Defect Tolerance and the Effect of Structural Inhomogeneity in Plasmonic DNA-nanoparticle Superlattices
Michael B. Ross (Northwestern University, USA); Jessie C. Ku (Northwestern University, USA); Chad A. Mirkin (Northwestern University, USA); George C. Schatz (Northwestern University, USA);
- 18:10 Sub-wavelength Magnetic Field Enhancement via Fano Coil-type Resonances
Simone Panaro (Istituto Italiano di Tecnologia, Italy); Adnan Nazir (Istituto Italiano di Tecnologia, Italy); Remo Proietti Zaccaria (Istituto Italiano di Tecnologia, Italy); Carlo Liberale (King Abdullah University of Science and Technology, Kingdom of Saudi Arabia); Francesco De Angelis (Istituto Italiano di Tecnologia, Italy); Andrea Toma (Istituto Italiano di Tecnologia, Italy);
- 18:30 Ultra-broadband Strong Absorption Enhancement in Graphene with Plasmonic Light Trapping
Feng Xiong (National University of Defense Technology, China); Xu Yang (National University of Defense Technology, China); Jianfa Zhang (National University of Defense Technology, China);
- 18:50 Plasmonic Optical Binary Storage Based on Nematic Liquid Crystal Layers
Mahmoud A. Elrabiaey (Centre for Photonics and Smart Materials, Egypt); Nihal F. F. Areed (Mansoura University, Egypt); Salah Sabry Ahmed Obayya (Centre for Photonics and Smart Materials, Egypt);

- 19:10 Quantifying Light-matter Interaction in Plasmonic Nanogaps
Shunping Zhang (Wuhan University, China); Hongxing Xu (Wuhan University, China);

Session 1P5a

Antennas, Signals, HPEM and EMC Problems 2

Monday PM, July 6, 2015

Room E

Organized by Marek Bugaj

Chaired by Leszek Nowosielski, Marek Bugaj

- 13:00 Prediction of Signal Fadings in Air Radio Communications
Leszek Nowosielski (Military University of Technology, Poland); Marian Tadeusz Wnuk (Military University of Technology, Poland);
- 13:20 The Reflectivity of the Ni-Zn Ferrite Tiles in the Microwave Frequency Range
Roman Kubacki (Military University of Technology, Poland);
- 13:40 Modelling of the Angle of Arrival Scattering Using the Von Mises Function for Compatibility Analysis
Leszek Nowosielski (Military University of Technology, Poland); Marian Tadeusz Wnuk (Military University of Technology, Poland); Jan M. Kelner (Military University of Technology, Poland); Cezary Ziolkowski (Military University of Technology, Poland);
- 14:00 Influence of the Environment on the Cross-sector Compatibility in Wireless Access System
Leszek Nowosielski (Military University of Technology, Poland); Cezary Ziolkowski (Military University of Technology, Poland); Jan M. Kelner (Military University of Technology, Poland);
- 14:20 Mobile Recorder for Electrical Activity of the Heart
Michal Bernat (Military University of Technology, Poland); Zbigniew Piotrowski (Military University of Technology, Poland);
- 14:40 Implementation of a Steganographic Algorithm in an Internet VoIP Phone
Damian Bachmat (Military University of Technology, Poland); Zbigniew Piotrowski (Military University of Technology, Poland);
- 15:00 Multimedia Filter for Data Hiding Counteraction
Zbigniew Piotrowski (Military University of Technology, Poland);
- 15:20 **Coffee Break**

Session 1P5b
Antenna Theory and Radiation 1

Monday PM, July 6, 2015

Room E

Chaired by Alkim Akyurtlu

- 15:40 Printable Interdigitated Ferroelectric Varactors for Reconfigurable Antennas
Mahdi Haghzadeh (University of Massachusetts Lowell, USA); Craig Armiento (University of Massachusetts Lowell, USA); Alkim Akyurtlu (University of Massachusetts Lowell, USA);
- 16:00 A Dualband Circularly Polarized Rectangular Dielectric Resonator Antenna with L-shaped Slots on the Ground
Yuxiang Sun (City University of Hong Kong, China); Kwok Wa Leung (City University of Hong Kong, China); Wei Wei Li (City University of Hong Kong, China);
- 16:20 Bidirectional Dielectric Resonator Antenna Using Slotted Ground Structure
Nan Yang (City University of Hong Kong, China); Kwok Wa Leung (City University of Hong Kong, China); Wei Wei Li (City University of Hong Kong, China);
- 16:40 Impact of Bending on the Performance of Circularly Polarized Wearable Antenna
Muhammad Rizwan (Tampere University of Technology, Finland); Lauri Sydanheimo (Tampere University of Technology, Finland); Leena Ukkonen (Tampere University of Technology, Finland);
- 17:00 Design and Optimization of Miniaturized Dual-band Implantable Antenna for MICS and ISM Bands
Muhammad Ali Babar Abbasi (Frederick University, Cyprus); Salman Arain (Frederick University, Cyprus); Photos Vryonides (Frederick University, Cyprus); Symeon Nikolaou (Frederick University, Cyprus);

Session 1P6
Advances in Diffraction Gratings Theories

Monday PM, July 6, 2015

Room F

Organized by Riccardo Messina, Kofi Edee

Chaired by Riccardo Messina

- 13:00 A Comparison of Numerical Modal Methods for Lamellar Gratings
Gerard Granet (Clermont Universites, Universite Blaise Pascal, France); Christos S. Lavranos (Democritus University of Thrace, Greece);
- 13:20 Hypersingularity of Transverse Electric Field at Sharp Edges: A Case Study of a Special Lamellar Grating
Lifeng Li (Tsinghua University, China);
- 13:40 Gegenbauer Polynomial Expansion Applied to Crossed Binary Gratings
Brahim Guizal (Universite de Montpellier 2, France); Kofi Edee (Clermont Université, France); J. P. Plumey (Universita Blaise Pascal, France);
- 14:00 Impact of Surface Backward Waves on Radiation Suppression and Enhancement. Periodic Interface of Metamaterial
G. Granet (Universite Blaise Pascal, France); P. Melezhib (A. Ya. Usikov Institute of Radiophysics and Electronics of National Academy of Sciences of Ukraine, Ukraine); A. Poyedinchuk (A. Ya. Usikov Institute of Radiophysics and Electronics of National Academy of Sciences of Ukraine, Ukraine); S. Sautbekov (L. N. Gumilyov Eurasian National University, Republic of Kazakhstan); Yuriy Sirenko (L. N. Gumilyov Eurasian National University, Republic of Kazakhstan); Nataliya Yashina (Institute of Radiophysics and Electronics, National Academy of Sciences of Ukraine, Ukraine);
- 14:20 Local Transformation Leading to an Efficient Fourier Modal Method for Perfectly Conducting Gratings
Agnes Maurel (CNRS, ESPCI ParisTech, France); Simon Felix (Universite du Maine, France); Jean-Francois Mercier (ENSTA ParisTech, France);
- 14:40 Vertical Mode Expansion Method for Applications in Plasmonics
Hualiang Shi (City University of Hong Kong, China); Ya Yan Lu (City University of Hong Kong, China);
- 15:00 Simulating the Linear and Nonlinear Response of 1D Nanostructures under a Focused Beam with a B-spline Modal Method
Paul Chevalier (ONERA, France); Patrick Bouchon (ONERA, France);
- 15:20 **Coffee Break**
- 15:40 Asymmetric Reciprocal Transmission through Double Metallic Gratings
Marcin Stolarek (University of Warsaw, Poland); Dmitriy Yavorskiy (University of Warsaw, Poland); Jerzy Lusakowski (Warsaw University, Poland); Carlos J. Zapata-Rodriguez (University of Valencia, Spain); Rafal Kotynski (University of Warsaw, Poland);

- 16:00 Electromagnetic Methods for Some Gratings with Extreme Opto-geometrical Parameters
Evgeny Popov (University de Provence, France); Nadege Rassem (Aix-Marseille Universite, France); Yoann Brule (Aix-Marseille Universite, France); Boris Gralak (CNRS, Aix-Marseille University, France); Guillaume Demesy (Univ Aix Marseille, France); Anne-Laure Fehrembach (Aix-Marseille Universite, France);
- 16:20 A New Approach to Diffraction in Volume Gratings and Holograms
David Brotherton-Ratcliffe (Glyndwr University, UK);
- 16:40 Curvilinear Coordinate Generalized Source Method for Corrugated Gratings with Sharp Edges
Alexey A. Shcherbakov (Moscow Institute of Physics and Technology, Russia); A. V. Tishchenko (University of Lyon, France);
- 17:00 Casimir-Lifshitz Force out of Thermal Equilibrium between Dielectric Gratings
Antonio Noto (Universite de Montpellier, France); Riccardo Messina (University of Montpellier 2, France); Brahim Guizal (Universite de Montpellier 2, France); Mauro Antezza (Universite de Montpellier, France);
- 17:20 Analytical Regularization Method for Wave Diffraction by Grating of Resonant Cylindrical Screens
Yury A. Tuchkin (Institute of Radiophysics and Electronics of National Academy of Sciences of Ukraine, Ukraine); Ali Sanli (Gebze Technical University, Turkey); Emrah Sever (Gebze Technical University, Turkey); Fatih Dikmen (Gebze Institute of Technology, Turkey);
- 13:00 Regular Coulomb Wave Function Method for Analysis of the Azimuthally Magnetized Circular Ferrite Waveguides
Mariana Nikolova Georgieva-Grosse (Consulting and Researcher in Physics and Computer Sciences, Germany); Georgi Nikolov Georgiev (University of Veliko Tirnovo "St. St. Cyril and Methodius", Bulgaria);
- 13:20 A Generalized Drude Model for Time-domain Simulations of Ferromagnetic Metals in Plasmonics
Christian Wolff (University of Technology, Sydney (UTS), Australia); Kurt Busch (Humboldt-Universität zu Berlin, Germany);
- 13:40 Undersampling to Regularize the Source Reconstruction Problem for an Electric Point Source
Saffet Gokcen Sen (Ataturk University, Turkey);
- 14:00 A Novel Computational Method for Calculating Electrostatic Capacity and Screening in Conducting Objects of Arbitrary Shape
Beatriz A. Pazmino Betancourt (NIST, USA); Jack F. Douglas (NIST, USA);
- 14:20 Sparse Tensor Approximation for Uncertainty Quantification on 2D Periodic Gratings
G. Silva (Pontificia Universidad Catolica de Chile, Chile); Carlos Jerez Hanckes (Pontificia Universidad Catolica de Chile, Chile);
- 14:40 Cascades of π Circuits Modeled by Independent Matrix Equations for Each Infinitesimal Unit
Afonso Jose Do Prado (University of Sao Paulo State, Brazil); Leonardo Da Silva Lessa (Universidade Estadual Paulista, Brazil); Rafael Cuerda Monzani (The State University of Campinas, Brazil); Luiz Fernando Bovolato (Universidade Estadual Paulista, Brazil); Jose Pissolato Filho (The State University of Campinas, Brazil); E. Assuncao (Universidade Estadual Paulista — UNESP, Brazil); M. C. M. Teixeira (Universidade Estadual Paulista — UNESP, Brazil);
- 15:00 The Exact Absorbing Conditions Method. Open Electrodynamical Structures
Merey S. Sautbekova (Eurasian National University, Kazakhstan); Seil S. Sautbekov (Eurasian National University, Kazakhstan); Yuriy Sirenko (L. N. Gumilyov Eurasian National University, Republic of Kazakhstan); Alexey A. Vertiy (TUBITAK-MRC, Turkey);

15:20 **Coffee Break**

Session 1P7

Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 2

Monday PM, July 6, 2015

Room G

Organized by Mariana Nikolova Georgieva-Grosse,
 Georgi Nikolov Georgiev

Chaired by Mariana Nikolova Georgieva-Grosse,
 Georgi Nikolov Georgiev

- 15:40 Combining Boundary Element and Reduced Basis Methods for Fast Electromagnetic Field Computations
Yating Shi (Huazhong University of Science and Technology, China); Xiuguo Chen (Huazhong University of Science and Technology, China); Chuanwei Zhang (Huazhong University of Science and Technology, China); Hao Jiang (Huazhong University of Science and Technology, China); Haiqing Wei (Huazhong University of Science and Technology, China); Shiyuan Liu (Huazhong University of Science and Technology, China);
- 16:00 Whistler Modes Guided by Enhanced Density Ducts in a Nonresonant Magnetoplasma
Oleg M. Ostafiychuk (University of Nizhny Novgorod, Russia); Vasiliy Alekseevich Es'kin (University of Nizhny Novgorod, Russia); Alexander V. Kudrin (University of Nizhny Novgorod, Russia);
- 16:20 Application and Efficient Evaluation of Half-line Source Potentials and Their Derivatives
F. Turker Celepcikay (Turgut Ozal University, Turkey); Donald R. Wilton (University of Houston, USA); David Richard Jackson (University of Houston, USA);
- 16:40 Hybrid TEM Wave Radiation from a Coaxial Waveguide with a Semi-infinite PEC Outer Cylinder and an Infinite Inner Cylinder Loaded with Partial Impedance
Kutlu Karayahsi (Okan University, Turkey); "Ismail H. Tayyar (Information Technologies Institute (ITI), TUBITAK-MRC, Turkey); Arif Dolma (Kocaeli University, Turkey);
- 17:00 One Way Speed of Light and Why Nothing Can Be Faster Than Light
Vadim N. Matveev (Homo Sapiens Publishers, Lithuania); O. V. Matvejev (Homo Sapiens Publishers, Lithuania);
- 17:20 Experimental and Numerical Analyses of Leakage Flux Distribution in Core-type Voltage Transformers
Fevzi Kentli (Marmara University, Turkey); Ismail Bozkurt (Marmara University, Turkey); Nevzat Onat (Marmara University, Turkey);

Session 1P8
SC2: Recent Advances of Metamaterials for Novel Electromagnetic and Photonic Devices 1

Monday PM, July 6, 2015
Room H

Organized by Yungui Ma, Sailing He

 Chaired by Yungui Ma, Sailing He

- 13:00 Redshifting Silver Glare: Nanoparticle Morphology and Plasmonic Resonances
Ari Sihvola (Aalto University, Finland); Pasi Yla-Ojala (Aalto University, Finland); D. C. Tzarouchis (Aalto University, Finland); O. Vartia (Aalto University, Finland); A. Seppala (Aalto University, Finland); E. Haimi (Aalto University, Finland); Tapio Ala-Nissila (Aalto University, Finland);
- 13:20 Structured Metals Transparency for Ultrabroadband Electromagnetic Waves and Acoustic Waves
Ru-Wen Peng (Nanjing University, China); Ren-Hao Fan (Nanjing University, China); Dong-Xiang Qi (Nanjing University, China); Xiao-Ping Ren (Nanjing University, China); Mu Wang (Nanjing University, China);
- 13:40 Properties of Optical Cavities Made of Metamaterials
Haitao Jiang (Tongji University, China); Yunhui Li (Tongji University, China); Hong Chen (Tongji University, China);
- 14:00 Effective Medium Approach to Compute Optical Stress
Wujiong Sun (Fudan University, China); Jack Ng (Hong Kong Baptist University, China); Lei Zhou (Fudan University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);
- 14:20 Slowing Microwaves with Deeply Subwavelength 3D Printed Metamaterial Waveguides
Nadege Kaina (ESPCI Paris Tech, France); A. Causier (CEA Saclay, IRAMIS, NIMBE, LICSEN, UMR 3685, France); M. Fink (ESPCI Paris Tech, France); Thomas Berthelot (CEA Saclay, IRAMIS, NIMBE, LICSEN, UMR 3685, France); Geoffroy Lerosey (ESPCI Paris Tech & CNRS, France);
- 14:40 Optical Gravitational Collimation and Observation of Einstein's Rings
Chong Sheng (Nanjing University, China); Rivka Bekenstein (Technion, Israel); Hui Liu (Nanjing University, China); Shi-Ning Zhu (Nanjing University, China); Mordechai Segev (Technion — Israel Institute of Technology, Israel);

- 15:00 Effective Model for Plasmonic Coupling: Theory and Experiments
Meng Qiu (Fudan University, China); Bin Xi (Fudan University, China); Shiyi Xiao (Fudan University, China); Hao Xu (Fudan University, China); Shulin Sun (Fudan University, China); Qiong He (Fudan University, China); Lei Zhou (Fudan University, China);
- 15:20 **Coffee Break**
- 15:40 Multi-layer Transmission of Spoof Surface Plasmon Polaritons
Bai Cao Pan (Southeast University, China); Zui Tao (Southeast University, China); Tie Jun Cui (Southeast University, China);
- 16:00 Electromagnetic Metamaterial Absorbers for High Temperature Applications
Wei Li (Wuhan University of Technology, China); Yi Wang (Wuhan University of Technology, China); Urcan Guler (Purdue University, USA); Wei Wang (Wuhan University of Technology, China); Tianlong Wu (Wuhan University of Technology, China); Jianguo Guan (Wuhan University of Technology, China);
- 16:20 Enhancement of Polarizabilities of Cylinders with Cylinder-slab Resonances
Meng Xiao (The Hong Kong University of Science and Technology, China); Xueqin Huang (The Hong Kong University of Science and Technology, China); Hui Liu (Nanjing University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);
- 16:40 Quantum Dot Optical Frequency Comb Laser (QD-FCL) for Simultaneous Multiple-wavelength Peak Generation
Naokatsu Yamamoto (National Institute of Information and Communications Technology, Japan); Kouichi Akahane (National Institute of Information and Communications Technology, Japan); Toshimasa Umezawa (National Institute of Information and Communications Technology, Japan); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan);
- 17:00 Broadband High Efficiency Asymmetric Transmission of Achiral Metamaterials
Jinwei Shi (Beijing Normal University, China); Dahe Liu (Beijing Normal University, China); Wenjun Fan (Beijing Normal University, China);
- 17:20 Analysis of EM Shielding Effectiveness of CNT Films Based on TEM Cell Electric and Magnetic Coupling Fields
Jungyeol Park (Soongsil University, South Korea); Jin-A Choi (Soongsil University, South Korea); Jae-Kyung Wee (Soongsil University, South Korea); In-chae Song (Soongsil University, South Korea); Soon-Il Yeo (Electronics and telecommunications Research Institute, South Korea);
- 17:40 Manipulating Electromagnetic Waves Based on Magnetic Plasmonic Gradient Metasurface
Shiyang Liu (Zhejiang Normal University, China); Huajin Chen (Fudan University, China); Zhifang Lin (Fudan University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);
- 18:00 Thermal Imaging of RF Induced Heat Loss in a Microwave Metamaterial Absorber
Kadir Ozden (Defense Sciences Institute, Turkish Military Academy Ankara, Turkey); O. Mert Yucedag (Turkish Military Academy Ankara, Turkey); Ahmet Ozer (Turkish Military Academy Ankara, Turkey); Huseyin Bayrak (Turkish Military Academy Ankara, Turkey); Halil Isik (Turkish Military Academy Ankara, Turkey); Hasan Kocer (Turkish Military Academy Ankara, Turkey);
- 18:20 Plasmonic Switches
 invited
Juerg Leuthold (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); A. Emboras (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); W. Heni (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); C. Hoessbacher (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); C. Haffner (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); Y. Salamin (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); P. Ma (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); Y. Fedoryshyn (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); Christian Hafner (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland);
- 18:40 Electromagnetically Induced Transparency Analogy of Metamaterial
Fuli Zhang (Northwestern Polytechnical University, China); Xuan He (Northwestern Polytechnical University, China); Yuancheng Fan (Northwestern Polytechnical University, China);

Session 1P9
Analog & RF Circuits and Systems for
Emerging Applications

Monday PM, July 6, 2015

Room I

Organized by Keping Wang, Yi Zhang

Chaired by Yi Zhang

- 13:00 Analog Multiplexer with an Improved High Linearity Bootstrapped Switch for Multi-channel Neural Signal Recording
Feng Yuan (Nanjing University of Posts and Telecommunications, China); Zhigong Wang (Southeast University, China); Xiao-Ying Lv (Southeast University, China); Yufeng Guo (Nanjing University of Posts and Telecommunications, China);
- 13:20 A 2 GSps 8 bit Folding & Interpolation ADC in 90 nm CMOS Technology
Yi Zhang (Nanjing University of Posts and Telecommunications, China); Qiao Meng (Southeast University, China); Debo Wang (Nanjing University of Posts and Telecommunications, China); Changchun Zhang (Nanjing University of Posts and Telecommunications, China); Yufeng Guo (Nanjing University of Posts and Telecommunications, China);
- 13:40 10 bit 100 MS/s SAR ADC with Reduced Loop Delay
Dong Li (Southeast University, China); Qiao Meng (Southeast University, China); Linfeng Wang (Southeast University, China); Yi Zhang (Nanjing University of Posts and Telecommunications, China); Wen Wei He (Southeast University, China);
- 14:00 High Speed Pipelined ADC Uses Loading-balanced Architecture
Linfeng Wang (Southeast University, China); Qiao Meng (Southeast University, China); Dong Li (Southeast University, China); Yi Zhang (Nanjing University of Posts and Telecommunications, China); Wen Wei He (Southeast University, China);
- 14:20 A 30-GHz Low Phase Noise LC VCO and Frequency Divider in 90-nm CMOS Technology
Junliang Wang (Southeast University, China); Zhigong Wang (Southeast University, China); Jian Xu (Southeast University, China); Yan Wen (Anhui University, China);
- 14:40 A 45-GHz CMOS Low-power LNA Using Active Feedback
Li Ma (Southeast University, China); Zhigong Wang (Southeast University, China); Jian Xu (Southeast University, China); Xixi Chen (Southeast University, China);
- 15:00 Microwave-rectification RFI Response in MOSFET Valid in All Operation Regions
Clovis Pouant (Universite de Montpellier II, France); Jeremy Raoult (Universite de Montpellier, France); Patrick Hoffmann (CEA, DAM, GRAMAT, France); Sylvie Jarrix (Universite de Montpellier II, France);
- 15:20 **Coffee Break**
- 15:40 A Broadband E-band Vertical Transition from Substrate Integrated Waveguide to Rectangular Waveguide
Elnaz Abaei (Escuela Superior Politécnica de Chimborazo, Ecuador); Alireza Shamsafar (Iran University of Science and Technology, Iran);
- 16:00 Development of a Radio Interferometer Operating at 12 GHz for Education and Research
Junghwan Han (Yonsei University, Korea); Bangwon Lee (Seoul National University, Korea); Bi-Ho Jang (Korea Astronomy & Space Science Institute, Korea); In-Woo Han (Korea Astronomy & Space Science Institute, Korea); Sang-Eun Jung (National Youth Space Center, Korea); Ji-Sung Ha (National Youth Space Center, Korea); Seung-Soo Hong (National Youth Space Center, Korea); Min-Ho Ka (Yonsei University, Korea Republic); Yong-Sun Park (Seoul National University, Korea);
- 16:20 A Varactor-based Tunable Microstrip Band Pass Filter
Mohamad Y. Abou Shahine (American University of Beirut, Lebanon); Mohammed Al-Husseini (American University of Beirut, Lebanon); Youssef Nasser (American University of Beirut, Lebanon); Karim Y. Kabalan (American University of Beirut, Lebanon);
- 16:40 A Simple Digital Predistortion Architecture for Beam-forming Transmitter
Yasushi Yamao (The University of Electro-Communications, Japan); Toshiki Hamanaka (The University of Electro-Communications, Japan); Yuelin Ma (The University of Electro-Communications, Japan); Koki Tanji (Samsung R & D Institute, Japan); Eiichi Ootobe (Samsung R & D Institute, Japan);
- 17:00 An Optimized Opamp-sharing in 2nd Order $\Delta\Sigma$ Modulator Based on Changing the Stages Output Capacitance Timing Strategy
Masoud Sabaghi (Nuclear Science and Technology Research Institute (NSTRI), Iran); M. Dashtbayazi (Ferdowsi University of Mashhad, Iran); S. Marjani (Nuclear Science and Technology Research Institute (NSTRI), Iran);
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- 17:20 A 4MHz-10-GHz, 10-ps/dec Dynamic Comparator Using Negative Resistance Combined with CMOS Input Pair
M. Dashtbayazi (Ferdowsi University of Mashhad, Iran); S. Marjani (Nuclear Science and Technology Research Institute (NSTRI), Iran); Masoud Sabaghi (Nuclear Science and Technology Research Institute (NSTRI), Iran);

Session 1P_10

Chiral and Nonlinear Metasurfaces

Monday PM, July 6, 2015

Room J

Organized by Ventsislav K. Valev, Nicolae-Coriolan Panoiu

Chaired by Ventsislav K. Valev, Nicolae-Coriolan Panoiu

- 13:00 Theoretical and Experimental Study of Tunneling-induced Optoelectronic Effects in Plasmonic Nanoantennas with Ultra-narrow Gaps
Ruben Esteban (Donostia International Physics Center DIPC, Spain); J. Aizpurua (Donostia International Physics Center DIPC, Spain);
- 13:20 Binary Mixtures of Chiral Gases
Carlo Presilla (Sapienza Universita di Roma, Italy); G. Jona-Lasinio (Sapienza Universita di Roma, Italy);
- 13:40 On the Application of Group Theory to Understand the Optical Response of a Chiral Nanostructured Surface
Xuezhi Zheng (KU Leuven, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Victor V. Moshchalkov (KU Leuven, Belgium);
- 14:00 Boundary Integral Operators in Linear and Nonlinear Nano-optics
Jouni Makitalo (Tampere University of Technology, Finland); Saku Suuriniemi (Tampere University of Technology, Finland); Godofredo Bautista (Tampere University of Technology, Finland); Robert Czaplicki (Tampere University of Technology, Finland); Mikko J. Huttunen (Tampere University of Technology, Finland); Martti Kauranen (Tampere University of Technology, Finland);
- 14:20 Effective Dielectric Tensor of Optically Thick Chiral Composite Layers
A. A. Shcherbakov (Moscow Institute of Physics and Technology, Russia); A. A. Ushkov (Moscow Institute of Physics and Technology, Russia); Alexandre V. Tishchenko (University of Lyon, France);

- 14:40 Phase Matching Opportunities with Hyperbolic Dispersion
C. Duncan (University of Sydney, Australia); I. Perret (University of Sydney, Australia); S. Palomba (University of Sydney, Australia); Boris T. Kuhlmeier (University of Sydney, Australia); C. Martijn de Sterke (University of Sydney, Australia); Mikhail Lapine (University of Technology Sydney, Australia);

- 15:00 A New Type of Optical Activity in a Toroidal Metamaterial

T. A. Raybould (University of Southampton, UK); Vasily A. Fedotov (University of Southampton, UK); N. Papasimakis (University of Southampton, UK); I. Youngs (DSTL, UK); W. T. Chen (National Taiwan University, Taiwan); D. P. Tsai (National Taiwan University, Taiwan); Nikolay I. Zheludev (University of Southampton, UK);

15:20 Coffee Break

- 15:40 Natural Chiral Photonic Structures: Morphology, Self-assembly and Optical Properties
Silvia Vignolini (University of Cambridge, UK);
- 16:00 Chiral Reflectors of Circularly-polarised Light in Scarab Beetles of the Genus *Chrysina*
Ewan D. Finlayson (University of Exeter, UK); Luke T. McDonald (University of Exeter, UK); Peter Vukusic (University of Exeter, UK);
- 16:20 Giant Broadband Chiral Response in Three-dimensional Shell-like Plasmonic Nanostructures
Dangyuan Lei (The Hong Kong Polytechnic University, China);
- 16:40 Surface Enhanced Raman Scattering Induced by Periodic Gratings with Random Gold Particles
Chongjun Jin (Sun Yat-Sen University, China);
- 17:00 Chiral Metasurfaces
Hyeon-Ho Jeong (Max Planck Institute for Intelligent Systems, Germany); Sahand Eslami (Max Planck Institute for Intelligent Systems, Germany); Insook Kim (Max Planck Institute for Intelligent Systems, Germany); Johannes Sachs (University of Stuttgart, Germany); Mariana Alarcon-Correa (Max Planck Institute for Intelligent Systems, Germany); Tung-Chun Lee (Max Planck Institute for Intelligent Systems, Germany); John G. Gibbs (Max Planck Institute for Intelligent Systems, Germany); Dhruv P. Singh (Max Planck Institute for Intelligent Systems, Germany); Andrew G. Mark (Max Planck Institute for Intelligent Systems, Germany); Peer Fischer (Max Planck Institute for Intelligent Systems, Germany);

- 17:20 Polariton Lasing in Hybrid Organic-inorganic Microcavity
G. Paschos (University of Crete, Greece); N. Somaschi (Institute of Electronic Structure & Laser-FORTH, Greece); G. Christmann (Institute of Electronic Structure & Laser-FORTH, Greece); D. Coles (University of Sheffield, UK); David G. Lidzey (University of Sheffield, UK); Z. Hatzopoulos (Institute of Electronic Structure & Laser-FORTH, Greece); Pavlos G. Lagoudakis (University of Southampton, UK); S. I. Tsintzos (Institute of Electronic Structure & Laser-FORTH, Greece); Pavlos G. Savvidis (Institute of Electronic Structure & Laser-FORTH, Greece);
- 17:40 Local Optical Activity in Metal Nanostructures Visualized by Near-field Circular Dichroism Microscopy
Hiroshi Okamoto (Institute for Molecular Science, Japan);

Session 1P_11

FocusSession.SC1: Casimir Effect and Heat Transfer 2

Monday PM, July 6, 2015

Room K

Organized by Mauro Antezza, Brahim Guizal

Chaired by Mauro Antezza, Brahim Guizal

- 13:00 Transport and Harvesting of Excitons Mediated by Strong Coupling
 invited *Johannes Feist (Universidad Autonoma de Madrid, Spain); Carlos Gonzalez-Ballester (Universidad Autonoma de Madrid, Spain); Esteban Moreno (Universidad Autonoma de Madrid, Spain); Francisco J. Garcia-Vidal (Universidad Autonoma de Madrid, Spain);*
- 13:20 Thermally-activated Non-local Amplification in Quantum Excitation Transport
 invited *Bruno Leggio (Universite de Montpellier, France); Riccardo Messina (University of Montpellier 2, France); Mauro Antezza (Universite de Montpellier, France);*
- 13:40 Photonic Heat Transfer and Electronic Cooling in Hybrid Superconducting Nanostructures
 invited *Herve Courtois (CNRS and Universite Grenoble Alpes, France); C. B. Winkelmann (CNRS and Universite Grenoble Alpes, France); F. W. J. Hekking (CNRS and Universite Grenoble Alpes, France);*

- 14:00 Optomechanics at Microwave Frequencies: Mechanical Resonators Coupled to Microwave Cavities and Superconducting Qubits
 invited *J.-M. Pirkkalainen (Aalto University, Finland); S. U. Cho (Aalto University, Finland); F. Massel (University of Jyväskylä, Finland); Jani Tuorila (University of Oulu, Finland); T. T. Heikkilä (University of Jyväskylä, Finland); Pertti J. Hakonen (Aalto University, Finland); Mika A. Sillanpää (Aalto University, Finland);*

- 14:20 Light-matter Interface for Probing Quantum Gases
 invited *Gabriele De Chiara (Queen's University Belfast, UK);*

- 14:40 Thermal Emission by a Subwavelength Aperture
 invited *Karl Joulain (Universite de Poitiers, France); Y. Ez-zahri (Universite de Poitiers, France); J. Drevillon (Universite de Poitiers, France);*

- 15:00 Thermal Emission of a Hyperbolic Blackbody
 invited *Svend-Age Biehs (Carl von Ossietzky Universität, Germany); Slawa Lang (Hamburg University of Technology, Germany); Alexander Yu. Petrov (Hamburg University of Technology, Germany); Manfred Eich (Hamburg University of Technology, Germany); Philippe Ben-Abdallah (Universite Paris-Sud 11, France);*

15:20 Coffee Break

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

- 16:00 Experiments on Giant Radiative Heat Flux at the Nanometer Scale
 invited *Achim Kittel (University of Oldenburg, Germany); K. Kloppstech (University of Oldenburg, Germany); N. Konne (University of Oldenburg, Germany); L. Worbes (University of Oldenburg, Germany); D. Hellmann (University of Oldenburg, Germany);*

- 16:20 Casimir Actuation of MEMS between Real Materials
 invited *George Palasantzas (University of Groningen, The Netherlands); M. Sedighi (University of Groningen, The Netherlands); W. H. Broer (University of Groningen, The Netherlands); V. B. Svetovoy (University of Groningen, The Netherlands); J. Knoester (University of Groningen, The Netherlands);*

16:40 Reducing the Casimir Force

invited

*Simon A. R. Horsley (University of Exeter, UK);
Thomas G. Philbin (University of Exeter, UK);*

17:00 Photonic Forces on Magneto-dielectric Nanoparticles at Optical Wavelengths with Random Fields. Creating Optical Analogues of Van der Waals and Casimir Interactions and Beyond: Their Control and Design through the Spectrum and Spatial Coherence

Manuel Nieto-Vesperinas (Instituto de Ciencia de Materiales de Madrid, CSIC, Spain); Juan Miguel Aunon (University of St. Andrews, Scotland);

17:20 Fluctuation Induced Effects in Nanostructures

invited

Lilia M. Woods (University of South Florida, USA);

17:40 Probing the Surface with Atoms

keynote

Ron Folman (Ben-Gurion University of the Negev, Israel);

18:10 Dispersion Interactions with Long-time Tails or Beyond Local Equilibrium

Carsten Henkel (University of Potsdam, Germany);

18:30 The Coherent Effects of the Casimir-Polder Interaction on Driven Atoms and the Quasi-resonant Van Der Waals Interaction between Non-identical Atoms

Manuel Donaire (Laboratoire Kastler-Brossel, ENS-PSL-CNRS-UPMC, France); Astrid Lambrecht (ENS-PSL Research Universities, France);

Session 1P_12
**SC1&3: Design and Simulation of
Electromagnetic and Optical Devices**

Monday PM, July 6, 2015
Room L

Organized by Shinichiro Ohnuki, Jun Shibayama

 Chaired by Shinichiro Ohnuki, Jun Shibayama

13:00 Calculation of Gain in a Lossy Medium

Takuichi Hirano (Tokyo Institute of Technology, Japan); Jiro Hirokawa (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan);

13:20 A Novel Ka-band Spatial Combiner Amplifier: Global Design and Modeling

Alberto Leggieri (Università degli Studi di Roma "Tor Vergata", Italy); Davide Passi (Università degli Studi di Roma "Tor Vergata", Italy); Franco Di Paolo (Università degli Studi di Roma "Tor Vergata", Italy); Marco Bartocci (Elettronica SpA, Italy); Antonio Tafuto (Elettronica SpA, Italy); Antonio Manna (Elettronica SpA, Italy);

13:40 Analysis of Bandpass Filters Consisting of Air Holes in Post-wall Waveguides

Ken'ichiro Yashiro (Chiba University, Japan); Ning Guan (Fujikura Ltd., Japan);

14:00 Bending-loss Improvement of Subwavelength Grating Waveguides by Using a Modified Structure

Hung-Hsuan Chen (National Sun Yat-Sen University, Taiwan); Chin-Ping Yu (National Sun Yat-Sen University, Taiwan);

14:20 Power Evaluation of a Metal Disc-shaped Terahertz Surface Wave Splitter

Jun Shibayama (Hosei University, Japan); D. Kusunoki (Hosei University, Japan); Junji Yamauchi (Hosei University, Japan); Hisamatsu Nakano (Hosei University, Japan);

14:40 Formation of One-dimensional Image by Pulsed Light Diffraction on Running Sound Wave

Victor M. Petrov (St. Petersburg State Polytechnical University, Russia); Roman Kijan (Laser Zentrum Hannover e.V., Germany);

15:00 Multi-physics Simulation for Evaluating High-density Magnetic Recording Methods

Shinichiro Ohnuki (Nihon University, Japan); Y. Takano (Nihon University, Japan); A. Kuma (Nihon University, Japan); K. Tatsuzawa (Nihon University, Japan); Y. Ashizawa (Nihon University, Japan); K. Nakagawa (Nihon University, Japan); A. Tsukamoto (Nihon University, Japan);

15:20 **Coffee Break**

15:40 Surface Plasmon Resonances in Cylindrical Periodic Nanocylinders System

Vakhtang Jandieri (Free University of Tbilisi, Republic of Georgia); Kiyotoshi Yasumoto (Fukuoka Institute of Technology, Japan); Jaromir Pistora (Technical University Ostrava, Czech Republic);

16:00 Comparative Study on Boundary Conditions for Terminating Photonic Crystal Waveguides

Zhen Hu (Hohai University, China); Ya Yan Lu (City University of Hong Kong, China);

- 16:20 Study on Polarization Splitter and Converter Using Square Lattice Elliptical-hole Core Circular-hole Hollow Fibers
Zejun Zhang (Muroran Institute of Technology, Japan); Yasuhide Tsuji (Muroran Institute of Technology, Japan); Masashi Eguchi (Chitose Institute of Science and Technology, Japan);
- 16:40 Broadband Line Imaging with Subwavelength Resolution Using Plasmonic Waveguides
Nina Podoliak (University of Southampton, United Kingdom); Peter Horak (University of Southampton, UK); Jord C. Prangsma (University of Twente, The Netherlands); Pepijn W. H. Pinkse (University of Twente, The Netherlands);
- 17:00 Surface Plasmon Resonance Sensing in the THz Regime
Jun Shibayama (Hosei University, Japan); K. Shimizu (Hosei University, Japan); Junji Yamauchi (Hosei University, Japan); H. Nakano (Hosei University, Japan);
- 17:20 RF Design of Input Cavity Structure of a Low Frequency, High Average Power IOT
Meenu Kaushik (CSIR-Central Electronics Engineering Research Institute (CEERI), India); L. M. Joshi (CSIR-Central Electronics Engineering Research Institute (CEERI), India);
- 13:55 Nitrogen-vacancy Defects in Diamond Coupled to Open Microcavities — Towards an Efficient Spin-photon Interface
Sam Johnson (University of Oxford, UK); Yu Chen Chen (University of Oxford, UK); Laiyi Weng (University of Oxford, UK); P. R. Dolan (University of Oxford, UK); A. A. P. Trichet (University of Oxford, UK); Jason M. Smith (University of Oxford, UK);
- 14:15 NV Center Dynamics in the Vicinity of a Metallic Mirror
Alexander Huck (Technical University of Denmark, Denmark); Niels I. Kristiansen (Technical University of Denmark, Denmark); Shailesh Kumar (Technical University of Denmark, Denmark); Jonas S. Neergaard-Nielsen (Technical University of Denmark, Denmark); Ulrik L. Andersen (Technical University of Denmark, Denmark);
- 14:30 Infrared Counting and Imaging at Single-photon Frontier with Superconducting Nanowires
Alessandro Casaburi (University of Glasgow, UK);
- 14:50 Experimental Demonstration of Chiral Light-matter Interaction: Towards On-chip Non-reciprocal Photonic Elements and Quantum-information Processing
Immo Sollner (University of Copenhagen, Denmark); Sahand Mahmoodian (University of Copenhagen, Denmark); Sofie Lindskov Hansen (University of Copenhagen, Denmark); Leonardo Midolo (Eindhoven University of Technology, The Netherlands); Alisa Javadi (University of Copenhagen, Denmark); Gabija Kirsanske (University of Copenhagen, Denmark); Tommaso Pregnolato (University of Copenhagen, Denmark); Haitham El-Ella (University of Copenhagen, Denmark); Eun Hye Lee (Korea Institute of Science and Technology, South Korea); Jin Dong Song (Korea Institute of Science and Technology, South Korea); Soren Stobbe (University of Copenhagen, Denmark); Peter Lodahl (University of Copenhagen, Denmark);

Session 1P_13a

FocusSession.SC3: Solid-state Quantum Photonics 2

Monday PM, July 6, 2015

Room M

Organized by Luca Sapienza, Jin Liu

Chaired by Jin Liu

- 13:20 Quantum Optics with Solid-state Spins and Photons
invited
Mete Atatüre (University of Cambridge, UK);
- 13:40 A Spin-photon Interface in the Solid State
J. Demory (CNRS, France); C. Arnold (CNRS, France); V. Loo (CNRS, France); A. Lemaitre (CNRS, France); Isabelle Sagnes (CNRS, France); M. Glazov (Ioffe Physical-Technical Institute of the RAS, Russia); O. Krebs (CNRS, France); P. Voisin (CNRS, France); Pascale Senellart (LPN/CNRS, France); Loic Lanco (CNRS, France);

15:20 **Coffee Break**

Session 1P_13b**FocusSession.SC3: High-capacity Optical Communication: Systems, Algorithms, Components 1**

Monday PM, July 6, 2015**Room M**

Organized by Sergei Popov, Sergei K. Turitsyn

Chaired by Sergei Popov

- 15:45 Tunable Narrow-linewidth Photonic Microwave Oscillators Using Optically Injected Semiconductor Lasers at Period-one Dynamics
Yu-Han Hung (National Cheng Kung University, Taiwan); Sheng-Kwang Hwang (National Cheng Kung University, Taiwan);
- 16:00 Optical Fibre Limits: An Approach Using ASE Channel Estimation
invited *Naoise Mac Suibhne (Aston University, UK); M. E. McCarthy (Aston University, UK); Son T. Le (Aston University, UK); S. Sygletos (Aston University, UK); F. M. Ferreira (Aston University, UK); A. D. Ellis (Aston University, UK);*
- 16:20 Impact of Phase Noise in High Capacity Optical Coherent Transmission Systems
invited *Gunnar Jacobsen (Acreo Swedish ICT, Sweden); Sergei Popov (Royal Institute of Technology (KTH), Sweden);*
- 16:40 Higher-order Raman Amplification for Unrepeated and Long-haul Super-channel Transmission
invited *Juan Diego Ania-Castanon (Instituto de Óptica “Daza de Valdés”, CSIC, Spain); G. Rizzelli (Instituto de Óptica “Daza de Valdés”, Spain); M. Camarasa-Gomez (Instituto de Óptica “Daza de Valdés”, Spain); D. Hernangomez-Perez (Instituto de Óptica “Daza de Valdés”, Spain);*
- 17:00 Channel Model and Lower Capacity Bound for the Transmission Based on Nonlinear Fourier Transform (Invited)
invited *Jaroslav E. Prilepsky (Aston University, UK); S. A. Derevyanko (Weizmann Institute of Science, Israel); Sergei K. Turitsyn (Aston University, UK);*
- 17:20 Transoceanic Fibre-optic System Capacity with Electrical Power Constraints
invited *Steve Desbruslais (Xtera Communications Ltd., UK);*
- 17:40 Machine Learning Approaches for Nonlinearity Mitigation and Component Characterization
invited *Darko Zibar (Technical University of Denmark, Denmark); Molly Piels (Technical University of Denmark, Denmark);*

- 18:00 Predicting System Performance — An Art or Playing the Lottery?
invited

André Richter (VPI Photonics GmbH, Germany); Hadrien Louchet (VPI Photonics GmbH, Germany);

- 18:20 Interleaving to Reduce Code Overhead in DQPSK Systems

Miu Yoong Leong (Royal Institute of Technology (KTH), Sweden); K. J. Larsen (Technical University of Denmark (DTU), Denmark); Sergei Popov (Royal Institute of Technology (KTH), Sweden); Gunnar Jacobsen (Acreo Swedish ICT, Sweden); Darko Zibar (Technical University of Denmark, Denmark); Sergey Sergeyev (Aston University, UK);

- 18:35 Polarization Sensitivity Mitigation for AM-CO-OFDMA PON Uplink Transmission

S. M. Jung (Yonsei University, Korea); K. H. Mun (Yonsei University, South Korea); Sang-Kook Han (Yonsei University, South Korea);

- 18:50 Optically Controlled Triple Notched UWB Antenna

Heba Zakaria (Ain Shams University, Egypt); Moataza Abdel-Hameed Hindy (Electronics Research Institute, Egypt); Adel El-Henawi (Ain Shams University, Egypt);

Session 1P_14a**SC3: Silicon Photonic Integration and Devices for Optical Communications and Interconnects**

Monday PM, July 6, 2015**Room N**

Organized by Lin Yang, Hon Ki Tsang

Chaired by Lin Yang, Hon Ki Tsang

13:10 Silicon Photonics at the University of Southampton
invited

David J. Thomson (University of Southampton, UK); K. Li (University of Southampton, United Kingdom); F. Y. Gardes (University of Southampton, United Kingdom); Y. Hu (University of Southampton, United Kingdom); M. Nedeljkovic (University of Southampton, United Kingdom); C. Littlejohns (University of Southampton, United Kingdom); R. Topley (University of Southampton, United Kingdom); A. Z. Khokhar (University of Southampton, United Kingdom); S. Stankovic (University of Southampton, United Kingdom); J. Soler Penades (University of Southampton, UK); C. J. Mitchell (University of Southampton, United Kingdom); S. A. Reynolds (University of Southampton, United Kingdom); Goran Z. Mashanovich (University of Southampton, UK); P. R. Wilson (University of Southampton, United Kingdom); G. T. Reed (University of Southampton, United Kingdom);

13:30 Athermal CMOS-compatible Silicon Photonics for
invited Computing and Networking Applications
S. J. Ben Yoo (University of California, Davis, USA);

13:50 Quantum Dot Lasers for Silicon Photonics
keynote
Yasuhiko Arakawa (The University of Tokyo, Japan);

14:20 Recent Advances in Carbon Nanotube Photonics on
invited Silicon Platform
A. Noury (Universite Paris 11, France); E. Duran-Valdeiglesias (Universite Paris 11, France); W. Zhang (Universite Paris 11, France); F. Sarti (University of Florence, Italy); C. Alonso-Ramos (Universite Paris 11, France); F. La China (University of Florence, Italy); H. C. Hoang (Universite Paris 11, France); X. Le Roux (Universite Paris 11, France); H. Yang (Technische Universitaet Dresden, Germany); E. Casan (Universite Paris 11, France); N. Izard (Universite Paris 11, France); A. Filoramo (CEA Saclay, IRAMIS, NIMBE (UMR 3685), LICSEN, France); V. Bezugly (Technische Universitaet Dresden, Germany); M. Gurioli (University of Florence, Italy); Laurent Vivien (Universite Paris-Sud 11, France);

14:40 Subwavelength Grating Filters in Silicon Photonics
invited
Lawrence R. Chen (McGill University, Canada);

15:00 Silicon Photonics for Data Center Networking Appli-
invited cations
Yung-Jui Chen (National Sun Yat-Sen University, Taiwan); Chun Yen Chen (National Sun Yat-Sen University, Taiwan); Cheng Yu Wang (National Sun Yat-Sen University, Taiwan);

15:20 Coffee Break

Session 1P_14b

FocusSession.SC3: Nonlinear Optics: Novel Phenomena, Materials and Applications 1

Monday PM, July 6, 2015

Room N

Organized by Gaetano Assanto, Goery Genty

Chaired by Gaetano Assanto, Goery Genty

16:00 Photonic Topological Insulators

keynote

Mordechai Segev (Technion — Israel Institute of Technology, Israel); Mikael C. Rechtsman (Technion — Israel Institute of Technology, Israel); Yonatan Plotnik (Technion — Israel Institute of Technology, Israel); Yaakov Lumer (Technion — Israel Institute of Technology, Israel); Miguel A. Bandres (Technion — Israel Institute of Technology, Israel); Julia M. Zeuner (Friedrich-Schiller-Universitat Jena, Germany); Alexander Szameit (Friedrich-Schiller-Universitat Jena, Germany);

16:30 Enhancing and Inhibiting Stimulated Brillouin Scat-
invited tering in Photonic Integrated Circuits

Benjamin J. Eggleton (University of Sydney, Australia);

16:50 Evolutionary Photonics: From Black-body Lasers to
invited Ultrafast Subwavelength Rogue Waves in Photonic Seas

Andrea Fratalocchi (KAUST University, Saudi Arabia);

17:10 Soliton Explosions in Normal Dispersion Fibre Lasers
invited

Antoine F. J. Runge (The University of Auckland, New Zealand); Neil G. R. Borderick (The University of Auckland, New Zealand); Miro Erkintalo (The University of Auckland, New Zealand);

17:30 Interplay between Raman and Plasma Effects in Gas-
invited filled Hollow-core Photonic Crystal Fibers

Fabio Biancalana (Max-Planck Institute for the Science of Light, Germany);

17:50 Multicomponent Rogue Waves

invited

Alejandro B. Aceves (Southern Methodist University, USA); Fabio Baronio (Universita degli Studi di Brescia, Italy); Matteo Conforti (Universite Lille 1, France); Antonio Degasperis (Universita di Roma La Sapienza, Italy); Benoit Frisquet (Universit  de Bourgogne, France); Bertrand Kibler (Universit  de Bourgogne, France); Sara Lombardo (Northumbria University, UK); Guy Millot (Universit  de Bourgogne, France); Philippe Morin (Universite de Bourgogne, France); Stefan Wabnitz (Universita di Brescia, Italy);

18:10 Non-instantaneous Polarization Decay in Resonant Dielectrics

invited

J. Hyti (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); M. Hofmann (Weierstrass Institute for Applied Analysis and Stochastics, Germany); S. Birkholz (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); M. Bock (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); S. K. Das (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); R. Grunwald (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); M. Hoffman (Leibniz-Universitat Hannover, Germany); T. Nagy (Leibniz-Universitat Hannover, Germany); A. Demircan (Laser-Laboratorium Gottingen, Germany); Marco Jupe (Laser Zentrum Hannover e.V., Germany); D. Ristau (Laser Zentrum Hannover, Germany); Uwe Morgner (Leibniz-Universitat Hannover, Germany); C. Bree (Weierstrass Institute for Applied Analysis and Stochastics, Germany); M. Wornner (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); T. Elsaesser (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany); Guenter Steinmeyer (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie, Germany);

13:00 F-band Millimeter-wave Signal Generation for Wireless Link Data Transmission Using On-chip Photonic Integrated Dual-wavelength Sources

Robinson Cruzoe Guzman Martinez (Universidad Carlos III de Madrid, Spain); Guillermo Carpintero del Barrio (Universidad Carlos III de Madrid, Spain); Carlos Gordon (Universidad Carlos III de Madrid, Spain); Katarzyna Lawniczak (Technical University of Eindhoven, The Netherlands); Xaveer J. M. Leijtens (Technical University of Eindhoven, The Netherlands);

13:20 Design and Simulation of Ultra-compact 25-Gbit/s Directly-modulated V-cavity Tunable Laser at 1310-nm Band

Lingxuan Lan (Zhejiang University, China); Lin Wu (Zhejiang University, China); Jian-Jun He (Zhejiang University, China);

13:40 Self-homodyne Detection in Optical Coherent Transmission Using Extracted Carrier as the Local Oscillator by Saturated SOA

K. H. Mun (Yonsei University, South Korea); S. M. Jung (Yonsei University, South Korea); Sang-Kook Han (Yonsei University, South Korea);

14:00 THz Oscillations in DNA Monomers, Dimers and Trimers

K. Lambropoulos (National and Kapodistrian University of Athens, Greece); K. Kaklamanis (National and Kapodistrian University of Athens, Greece); G. Georgiadis (National and Kapodistrian University of Athens, Greece); M. Theodorakou (National and Kapodistrian University of Athens, Greece); M. Chatzieftheriou (National and Kapodistrian University of Athens, Greece); A. Morphis (National and Kapodistrian University of Athens, Greece); M. Tassi (National and Kapodistrian University of Athens, Greece); Constantinos Simserides (National and Kapodistrian University of Athens, Greece);

14:20 Formation of Caustics by Refraction of Structured Laser Radiation in the Diffusive Layer of Liquid

Anastasia V. Vedyashkina (National Research University "Moscow Power Engineering Institute", Russia); I. L. Raskovskaya (National Research University "Moscow Power Engineering Institute", Russia); I. N. Pavlov (National Research University "Moscow Power Engineering Institute", Russia);

Session 1P_15a
Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics

Monday PM, July 6, 2015
Room O

 Chaired by Ali Serpenguzel

- 14:40 Self-organizing And Filamentary Behaviour in Broad-area Lasers
Anton V. Pakhomov (Samara State Aerospace University, Russia); Anton A. Krents (Samara State Aerospace University, Russia); Dmitry A. Anchikov (Samara State Aerospace University, Russia); Nonna E. Molevich (Samara State Aerospace University, Russia);
- 15:00 Hydrogen and Humidity Sensing Based on WGMs of Elastic Polymer Optical Microresonators
Mustafa Eryurek (Koc University, Turkey); Y. Karadag (Marmara University, Turkey); S. Anand (Koc University, Turkey); N. Kilinc (Nigde University, Turkey); Alper Kiraz (Koc University, Turkey);
- 15:20 **Coffee Break**

Session 1P_15b

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

Monday PM, July 6, 2015

Room O

Chaired by Raj Mittra

- 15:40 Electron Beam Detection by Induced Resonance in Cylindrical Cavity
Alberto Leggieri (Universita degli Studi di Roma "Tor Vergata", Italy); Davide Passi (Universita degli Studi di Roma "Tor Vergata", Italy); Franco Di Paolo (Universita degli Studi di Roma "Tor Vergata", Italy); Giuseppe Felici (S.I.T. — Sordina IORT Technologies, Italy); Alessia Ciccotelli (S.I.T. — Sordina IORT Technologies, Italy); Silvia De Stefano (S.I.T. — Sordina IORT Technologies, Italy); Filippo Marangoni (S.I.T. — Sordina IORT Technologies, Italy);
- 16:00 Low-loss Millimeter-wave Phase Shifters Based on Mechanical Reconfiguration
Pietro Romano (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Oluwaseun Araromi (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Samuel Rosset (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Julien Perruisseau-Carrier (EPFL, Switzerland); Herbert Shea (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Juan R. Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland);
- 16:20 Tunable Periodic Deflector Structure Based on Ferroelectric Materials
Roman Andreevich Platonov (Saint Petersburg Electrotechnical University "LETI", Russian Federation); A. G. Altynnikov (Saint Petersburg Electrotechnical University "LETI", Russian Federation); I. V. Kotelnikov (Saint Petersburg Electrotechnical University "LETI", Russian Federation); A. B. Kozyrev (Saint Petersburg Electrotechnical University "LETI", Russian Federation); V. N. Osadchy (Saint Petersburg Electrotechnical University "LETI", Russian Federation); Alexander G. Chernokalov (Samsung Moscow Research Center, Russia);
- 16:40 Point-to-point Radio Link Variation at E-band and Its Effect on Antenna Design
Ali Al-Rawi (Eindhoven University of Technology, The Netherlands); A. Dubok (Eindhoven University of Technology, The Netherlands); Matti H. A. J. Herben (Eindhoven University of Technology, The Netherlands); Adrianus Bernardus Smolders (Technical University of Eindhoven, The Netherlands);
- 17:00 60GHz Antenna on Metallic Nanowired Membrane Substrate
Leonardo Amorese Gallo Gomes (University of Sao Paulo, Brazil); M. V. Pelegrini (University of Sao Paulo, Brazil); P. Ferrari (Grenoble University, France); Gustavo Pamplona Rehder (University of Sao Paulo, Brazil); Ariana L. Caniato Serrano (University of Sao Paulo, Brazil);
- 17:20 Analysis of Sampling Grids for Spherical Near-field Antenna Measurements
Rasmus Cornelius (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany);
- 17:40 A Dual V-band Push-push VCO Using the 0.18 μm CMOS Process Technology
Yu-Hsin Chang (National Chung Hsing University, Taiwan); Yen-Chung Chiang (National Chung-Hsing University, Taiwan);
- 18:00 Spatial Power Combiner Technology
Davide Passi (Universita degli Studi di Roma "Tor Vergata", Italy); Alberto Leggieri (Universita degli Studi di Roma "Tor Vergata", Italy); Franco Di Paolo (Universita degli Studi di Roma "Tor Vergata", Italy); Antonio Tafuto (Elettronica SpA, Italy); Marco Bartocci (Elettronica SpA, Italy);

**Session 1P0
Poster Session 2**

Monday PM, July 6, 2015

14:00 PM - 17:00 PM

Room Poster Area

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| <p>1 Time-domain Beam Propagation Method Based on Gradient Smoothing Technique for Dispersive Materials
<i>Khaled Sami R. Atia (Centre for Photonics and Smart Materials, Egypt); Ahmed Mahmoud Heikal (Zewail City of Science and Technology, Egypt); Salah Sabry Ahmed Obayya (Centre for Photonics and Smart Materials, Egypt);</i></p> <p>2 Statistical Models of Noise Distribution in Broadband PLC Networks
<i>Abraham M. Nyete (University of Kwa-Zulu Natal, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa); Innocent E. Davidson (University of Kwa Zulu-Natal, South Africa);</i></p> <p>3 Localized Surface Plasmon Enhancement of Photoluminescence Signal from Thin Silicon Nanocrystal Film
<i>Aleksandrs Marinins (KTH Royal Institute of Technology, Sweden); Sergey A. Dyakov (Royal Institute of Technology, Sweden); Gleb S. Lobov (KTH, Sweden); Denis M. Zhigunov (Lomonosov Moscow State University, Russia); Min Yan (Royal Institute of Technology, Sweden); Sergei Popov (Royal Institute of Technology (KTH), Sweden); Min Qiu (Zhejiang University, China);</i></p> <p>4 Discovery of Ionospheric ‘Hubble’ Frequency Shifts and Impact on Gravity Wave Detection and the Age of the Universe?
<i>Michael James Underhill (Underhill Research Ltd., UK);</i></p> <p>5 High Quality InAlAs on InP for High Sensitivity Photodiodes
<i>Dmitriy Vladimirovich Dmitriev (Rzhanov Institute of Semiconductor Physics, Siberian Branch, Russian Academy of Science, Russia); A. M. Gilinsky (Rzhanov Institute of Semiconductor Physics, Siberian Branch, Russian Academy of Science, Russia); A. I. Toropov (Rzhanov Institute of Semiconductor Physics, Siberian Branch, Russian Academy of Science, Russia); E. V. Fedosenko (Rzhanov Institute of Semiconductor Physics, The Siberian Branch of the Russian Academy of Sciences, Russia); K. S. Zhuravlev (Rzhanov Institute of Semiconductor Physics, Siberian Branch, Russian Academy of Science, Russia);</i></p> | <p>6 Finite Element Analysis of Separation Force on Non-ferrous Metals Induced by Eddy Current Separator
<i>Ahmet Fenercioglu (Gaziosmanpasa University, Turkey); Hamit Barutcu (Gaziosmanpasa University, Turkey);</i></p> <p>7 An Easy Way to Obtain the Extinction Cross Section of Radiation Propagating in a Medium with Non-spherical Particles
<i>Piero Bruscaaglioni (University of Florence, Italy);</i></p> <p>8 Numerical Estimation of Muscle Conductivity in Terms of Human Body Internal Resistance
<i>Hiroo Tarao (Tampere University of Technology, Finland); Katsuaki Aga (Tampere University of Technology, Finland); Olenxandr Okun (National Technical University, Ukraine); Leena Korpinen (Tampere University of Technology, Finland);</i></p> <p>9 Quantum Friction in Different Regimes
<i>Juliane Klatt (University of Freiburg, Germany); Stefan Yoshi Buhmann (University of Freiburg, Germany); Diego Alejandro Roberto Dalvit (Theoretical Division, MS B213, Los Alamos National Laboratory, USA);</i></p> <p>10 A Necessary Condition for Application of Topological Derivative in Limited-aperture Inverse Scattering Problem
<i>C. Y. Ahn (National Institute for Mathematical Sciences, Korea); K. Jeon (National Institute for Mathematical Sciences, Korea); Y.-K. Ma (Kongju National University, Korea); Won-Kwang Park (Kookmin University, Korea);</i></p> <p>11 Subspace Migration for Imaging of Thin Electromagnetic Inhomogeneities without Shape Information
<i>Won-Kwang Park (Kookmin University, Korea);</i></p> <p>12 Analysis of Matching Media Effect on Microwave Brain Stroke Imaging via a Spherically Symmetrical Head Model
<i>Egemen Bilgin (Istanbul Technical University, Turkey); Ayca Aygun (Istanbul Technical University, Turkey); Ali Yapar (Istanbul Technical University, Turkey); Ibrahim Akduman (Istanbul Technical University, Turkey);</i></p> <p>13 Field Invariants, Amplitude Mapping, and Perfect Transmission in Media with Local Symmetries
<i>Christian Morfonios (Hamburg University, Germany); Panayotis A. Kalozoumis (Athens University, Greece); Peter Schmelcher (Hamburg University, Germany); Fotis K. Diakonou (Athens University, Greece);</i></p> |
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- 14 High Resolution Ka-band Backscattering Measurement of Deciduous and Coniferous Tree
Wei-An Chuang (National Central University, Taiwan); Hsuan Ren (National Central University, Taiwan); Kuan-Liang Chen (National Central University, Taiwan); Jhih-Syuan Huang (National Central University, Taiwan);
- 15 Investigation of Switched Reluctance Machine for EV Propulsion Unit with Torque Smoothing Strategy
Mircea Ruba (Technical University of Cluj Napoca, Romania); Daniel Fodorean (Technical University of Cluj-Napoca/Electrical Machines, Romania);
- 16 Achieving Tunable Mode Splitter and Omnidirectional Absorber by Semiconductor Photonic Crystal
Guowen Ding (Nanjing University of Aeronautics and Astronautics, China); Shaobin Liu (Nanjing University of Aeronautics and Astronautics, China); Hai Feng Zhang (Nanjing University of Aeronautics and Astronautics, China); Xiang-Kun Kong (Nanjing University of Aeronautics and Astronautics, China); Bo-Rui Bian (Nanjing University of Aeronautics and Astronautics, China); Hai-Ming Li (Nanjing University of Aeronautics and Astronautics, China);
- 17 Tunable Electromagnetically Induced Transparency Like Transmission in Graphene Metamaterials with Indirect Coupling
Guowen Ding (Nanjing University of Aeronautics and Astronautics, China); Shaobin Liu (Nanjing University of Aeronautics and Astronautics, China); Hai Feng Zhang (Nanjing University of Aeronautics and Astronautics, China); Xiang-Kun Kong (Nanjing University of Aeronautics and Astronautics, China); Bo-Rui Bian (Nanjing University of Aeronautics and Astronautics, China); Hai-Ming Li (Nanjing University of Aeronautics and Astronautics, China);
- 18 Cylindrical Metasurface Absorber Using Home Inkjet Printing System
Hyung Ki Kim (Chung-Ang University, Republic of Korea); Sungjoon Lim (Chung-Ang University, Korea);
- 19 Reversal of Microwave Propagation Nonreciprocity in Metastructures by Voltage Application under Ferromagnetic Resonance Excitation near Resonance of Dipole or Chiral Elements
Galina A. Kraftmakher (Kotelnikov Institute of Radioengineering & Electronics RAS, Russia); Valery S. Butylkin (Kotelnikov Institute of Radioengineering & Electronics RAS, Russia); Yuri N. Kazantsev (Kotelnikov Institute of Radioengineering & Electronics RAS, Russia);
- 20 Millimeter-wave Metamaterial Antenna in Standard CMOS Technology
Kazuki Hiraishi (Hokkaido University, Japan); Takehiro Kawauchi (Hokkaido University, Japan); Eiichi Sano (Hokkaido University, Japan);
- 21 3D Emission Profiles of Disk-limacon-coupled Resonators
Jakob Kreismann (Technische Universität Ilmenau, Germany); Martina Hentschel (Technische Universität Ilmenau, Germany); Stefan Sinzinger (Technische Universität Ilmenau, Germany);
- 22 Reliability Study on LED Packages Using Real-time Monitoring of Internal Quantum Efficiency
Byungjin Ma (Korea Electronics Technology Institute (KETI), Korea); Kwan-Hun Lee (Korea Electronics Technology Institute (KETI), Korea);
- 23 Performance Comparison of InGaN LEDs Containing V-and U-shaped Quantum Wells with and without Electron Blocking Layer and Emitting in the 400–500 nm Range
Abdelmajid Salhi (King Abdulaziz City for Science and Technology, Kingdom Saudi Arabia); Mohammad Alanzi (King Abdulaziz City for Science and Technology, Kingdom Saudi Arabia); Bandar Alonazi (King Abdulaziz City for Science and Technology, Kingdom Saudi Arabia);
- 24 Enhanced Group Velocity Characteristics of a ENG Cladded Metamaterial Loaded Helical Guide
Dushyant Kumar Sharma (Institute for Plasma Research, India); Surya Kumar Pathak (Institute for Plasma Research, India);
- 25 Optical Heterodyning in Microwave Photonic Receiving Channel
Victor V. Kulagin (Sternberg Astronomical Institute of Moscow State University, Russia); Vladimir Alekseevich Cherepenin (Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia); Victor V. Valuev (Kotel'nikov Institute of Radioengineering and Electronics of RAS, Russia);
- 26 Influence of Optical Fiber Dispersion on Mamyshev Type Regenerator Performance
Piyush Baypajee (Riga Technical University, Latvia); Jurgis Porins (Riga Technical University, Latvia); Andis Supe (Riga Technical University, Latvia);

- 27 Characteristics of Femtosecond Pulse in Silicon Nanowire Embedded Photonic Crystal Fiber: Variational Approach
K. Senthilnathan (VIT University, India); E. Gunasundari (VIT University, India); Abdosllam M. Abobaker (College of Electronic Technology, Libya); S. Sivabalan (VIT University, India); Kaliyaperumal Nakkeeran (University of Aberdeen, UK); P. Ramesh Babu (VIT University, India);
- 28 A Novel Improvement Technique Using a Commercially Available Phosphorescent White LED for High Speed Visible Light Transmission Systems
Nobuhiro Fujimoto (Kinki University, Japan); Daiki Nakamura (Kinki University, Japan);
- 29 Optical WDM-PON Access System with Shared Light Source
Sandis Spolitis (Riga Technical University, Latvia); Lilita Gegere (Riga Technical University, Latvia); Anita Alsevska (Riga Technical University, Latvia); Ilja Trifonovs (Riga Technical University, Latvia); Jurgis Porins (Riga Technical University, Latvia); Vjaceslavs Bobrovs (Riga Technical University, Latvia);
- 30 Estimation of EDFA Performance in 40 Gbit/s 8 Channel DWDM Transmission System
Ingrida Lavrinovica (Riga Technical University, Latvia); Jurgis Porins (Riga Technical University, Latvia); Girts Ivanovs (Riga Technical University, Latvia);
- 31 Bidirectional Radio-on-Fiber Transport Systems Using Fiber Nonlinearity and Injection Locked Technique
Wen-Shing Tsai (Ming Chi University of Technology, Taiwan); G. C. Lin (Ming Chi University of Technology, Taiwan);
- 32 Transponder and 3R Regenerator Impact on Energy per Bit and Optical Bandwidth Required for Data Transmission over 10-40-100 Gbps Mixed-line Rate WDM Links
Aleksejs Udalcovs (Riga Technical University, Latvia); Vjaceslavs Bobrovs (Riga Technical University, Latvia);
- 33 Diffraction Effects on a Dual External Cavity Tunable Laser ECTL Source
Ahmed Mohamed Fawzy (Helwan University, Egypt); Osama M. El Ghandour (Helwan University, Egypt); Hesham F. A. Hamed (El-Minia University, Egypt);
- 34 Measurement and Prediction of Non-scaling Differences between Thermal and Radiation Efficiencies of Various Antennas
Michael James Underhill (Underhill Research Ltd., UK);
- 35 A Generalized Vector-potential Integral Formulation for the Paraboloidal Reflector Antenna
Francis Olutunji Okewole (University of Lagos, Nigeria); Sulaiman Adeniyi Adekola (University of Lagos, Nigeria); Alex Ike Mowete (University of Lagos, Nigeria);
- 36 A Compact Dual-band Balanced Slot Antenna for LTE Applications
Issa T. E. Elfergani (Instituto de Telecomunicações, Portugal); Abubakar Sadiq Hussaini (Instituto de Telecomunicações, Portugal); Jonathan Rodriguez (Instituto de Telecomunicações, Portugal); Raed A. Abd-Alhameed (University of Bradford, UK);
- 37 Novel Quadrifilar Helical Antenna for RFID Applications Using Genetic Algorithms
M. O. Akinsolu (University of Bradford, UK); A. Ali (University of Bradford, UK); A. Atojoko (University of Bradford, UK); E. Ibrahim (College of Electronic Technology Bani Walid, Libya); Issa T. E. Elfergani (Instituto de Telecomunicações, Portugal); Raed A. Abd-Alhameed (University of Bradford, UK); Abubakar Sadiq Hussaini (Instituto de Telecomunicações, Portugal); James M. Noras (University of Bradford, UK); Jonathan Rodriguez (Instituto de Telecomunicações, Portugal);
- 38 Circularly Polarized Crossed Bowtie Dipole Radiator with a Half-wavelength-thick Partially Reflecting Surface
Huy Hung Tran (Ajou University, Republic of Korea); Ikmo Park (Ajou University, Republic of Korea); Hanjo Lim (Ajou University, Republic of Korea);
- 39 A Bandwidth Enhanced Compact Circularly Polarized Crossed Dipole Antenna Loaded with a Parasitic Element
Son Xuat Ta (Ajou University, Republic of Korea); Ikmo Park (Ajou University, Republic of Korea);
- 40 A Compact Tri-band Monopole Antenna with Multiple Meander Lines for WLAN and WiMAX Communication Applications
Xinbo Liu (Harbin Engineering University, China); Yingsong Li (Harbin Engineering University, China); Wenhua Yu (State College, USA);

- 41 Efficient 2D Simulation Model for the Analysis and Optimal Design of DNP-NMR Solenoid Coils
Alexandros I. Dimitriadis (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Murari Soundararajan (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Dongyoung Yoon (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Alessandro Macor (Ecole Polytechnique Federale de Lausanne (EPFL) & SWISSto12 S.A., Switzerland); Jean-Philippe Ansermet (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland);
- 42 Low-cost Implementation of a Waveguide-based Microwave Filter in Substrate Integrated Waveguide (SIW) Technology
Angela Coves Soler (Universidad Miguel Hernandez de Elche, Spain); Angel-Antonio San-Blas (Universidad Miguel Hernandez de Elche, Spain); Stephan Marini (Universidad de Alicante, Spain); German Torregrosa-Penalva (Universidad Miguel Hernandez de Elche, Spain); Enrique Bronchalo (Universidad Miguel Hernandez de Elche, Spain); Andrea Martellosio (University of Pavia, Italy);
- 43 A Broadband GaN Power Amplifier Using Thin-film Integrated Passive Device Technology
Dongsu Kim (Korea Electronics Technology Institute, South Korea); Sung Jin Ahn (Korea Electronics Technology Institute, South Korea); Jong Min Yook (Korea Electronics Technology Institute, Korea); Jong-In Ryu (Korea Electronics Technology Institute, Korea); Jong-Gwan Yook (Yonsei University, Korea); Jun-Chul Kim (Korea Electronics Technology Institute, South Korea);
- 44 Band-pass Filter Based on Magnetoelectric Composite at Electromechanical Resonance
Alexander Sergeevich Tatarenko (Novgorod State University, Russia); Roman Valer'evich Petrov (Novgorod State University, Russia); Vladimir M. Petrov (Novgorod State University, Russia); Mirza Imamovich Bichurin (Novgorod State University, Russia);
- 45 Silicon Carbide MEMS Based Tunable Resonator Filters
Boris Svilicic (University of Edinburgh, United Kingdom); E. Mastropaolo (University of Edinburgh, United Kingdom); R. Cheung (University of Edinburgh, UK);
- 46 Yagi Rectenna Application to Increase the Battery Lifetime of Sensor Nodes
Raul Fernandez-Garcia (Universitat Politecnica de Catalunya, Spain); Ignacio Gil (Universitat Politecnica de Catalunya (UPC), Spain);
- 47 A Model-free Method for Real-time High Precision Carrier Phase Observation
Tianyi Zhang (Southeast University, China); Qiao Meng (Southeast University, China); Quantao Yu (Southeast University, China); Jifei Tang (Southeast University, China); Wei Liu (Southeast University, China);
- 48 Real-time Processing Technique for Panoramic Infrared Imaging System
Gang Sun (National University of Defense Technology, China); Gang Li (National University of Defense Technology, China); Weihua Wang (National University of Defense Technology, China); Xiaolei Fan (National University of Defense Technology, China); Zengping Chen (National University of Defense Technology, China);
- 49 Monitoring for Resonant Mode of High-way System at Impulsive Impact
Shigehisa Nakamura (Kyoto University, Japan);
- 50 Examples of Electromagnetic Field Sources in an Indoor Distribution Substation
Rauno Paakkonen (Finnish Institute of Occupational Health, Finland); Marko Lundstrom (Tampereen Sähköverkko Oy, Finland); Jari Mustaparta (Turku Energia Sähköverkko Oy, Finland); Leena Korpinen (Tampere University of Technology, Finland);
- 51 Emission of Smart Meter Electric Fields (50–100 kHz) in Finland
Rauno Paakkonen (Finnish Institute of Occupational Health, Finland); Marko Lundstrom (Tampereen Sähköverkko Oy, Finland); Jari Mustaparta (Turku Energia Sähköverkko Oy, Finland); Leena Korpinen (Tampere University of Technology, Finland);
- 52 Smart Receiver for Multi-antenna Transmitters with Constellation Shaping
Paulo Montezuma (Instituto de Telecomunicações, Portugal); Sara Ribeiro (FCT Universidade Nova de Lisboa, Portugal); Mario Marques da Silva (Universidade Autonoma de Lisboa, Portugal); Rui Dinis (ISCTE/Instituto de Telecomunicações, Portugal);
- 53 Impact of Aeronautical Mobile Telemetry System on MFCN SDL Operating Co-channel in Frequency Band 1452–1492 MHz
Mindaugas Zilinskas (Communications Regulatory Authority of the Republic of Lithuania, Lithuania); Evaldas Stankevicius (Vilnius Gediminas Technical University, Lithuania); S. Oberauskas (Communications Regulatory Authority of the Republic of Lithuania, Lithuania);

- 54 The Influence of Atmospheric Radio Refractivity on the WiMAX Signal Level in the Areas of Weak Coverage
Mindaugas Zilinskas (Communications Regulatory Authority of the Republic of Lithuania, Lithuania); Milda Tamosiunaite (Semiconductor Physics Institute of Center for Physical Sciences and Technology, Lithuania); Stasys Tamosiunas (Vilnius University, Lithuania); Milda Tamosiuniene (Semiconductor Physics Institute of Center for Physical Sciences and Technology, Lithuania); Evaldas Stankevicius (Vilnius Gediminas Technical University, Lithuania);
- 55 Evaluation of LTE 700 and DVB-T Electromagnetic Compatibility in Adjacent Frequency Bands
Guntis Ancans (Riga Technical University, Latvia); Evaldas Stankevicius (Vilnius Gediminas Technical University, Lithuania); Vjaceslavs Bobrovs (Riga Technical University, Latvia); Sarunas Paulikas (Vilnius Gediminas Technical University, Lithuania);
- 56 Möbius Strip with Back-to-back CPW Transmission Line: Simulation and Microwave Characterization
M. Sabrera (University of Campinas, Brazil); Luiz Carlos Kretly (University of Campinas, Brazil);
- 57 Fabrication of a Novel Radial-firing Optical Fiber Probe Using Electric Arc-discharge Process
Seung Ho Lee (Gwangju Institute of Science and Technology, South Korea); Yong-Tak Ryu (Gwangju Institute of Science and Technology, Korea); Dong Hoon Son (Gwangju Institute of Science and Technology, South Korea); Seongmook Jeong (Gwangju Institute of Science and Technology, South Korea); Youngwoong Kim (Gwangju Institute of Science and Technology, South Korea); Seongmin Ju (Gwangju Institute of Science and Technology, South Korea); Bok Hyeon Kim (Gwangju Institute of Science and Technology, South Korea); Won-Taek Han (Gwangju Institute of Science and Technology, South Korea);
- 58 Weak Extremely Low Frequency Magnetic Field is Likely to Trigger the Frequency Dependent Activation of Motility Mechanism
Xia Wu (East China Normal University, China); Juan Du (East China Normal University, China); Weitao Song (East China Normal University, China); Sanjun Zhang (East China Normal University, China); Shude Chen (East China Normal University, China); Ruohong Xia (East China Normal University, China);
- 59 Microwave Magnetoelectric Isolator-attenuator Based on Coplanar Line
Alexander Sergeevich Tatarenko (Novgorod State University, Russia); Darya Valerievna Lavrentieva (Novgorod State University, Russia); Mirza Imamovich Bichurin (Novgorod State University, Russia); D. V. Kovalenko (Novgorod State University, Russia);
- 60 Modeling of Microwave Magnetoelectric Devices
Alexander Sergeevich Tatarenko (Novgorod State University, Russia); Mirza Imamovich Bichurin (Novgorod State University, Russia);
- 61 Equalization of EDFA Gain Spectrum and Increase of OSNR through Introducing a Hybrid Raman-EDFA Solution
Sergejs Olonkins (Riga Technical University, Latvia); Ilja Lyashuk (Riga Technical University, Latvia); Vjaceslavs Bobrovs (Riga Technical University, Latvia); Girts Ivanovs (Riga Technical University, Latvia);
- 62 Beam-footprint Detection for Non-cooperative Spaceborne/Airborne Bistatic SAR
Feifei Yan (National University of Defense Technology, China); Wenge Chang (National University of Defense Technology, China); Xiangyang Li (National University of Defense Technique, China);
- 63 Studies of the RF Energy Delivery Mechanism and Its Reformation in the Low Pressure ICP Discharge
Artur F. Piskunkov (Research Institute of Applied Mechanics and Electrodynamics of the Moscow Aviation Institute (National Research University), Russia); Valentin A. Riaby (Research Institute of Applied Mechanics and Electrodynamics of the Moscow Aviation Institute (National Research University), Russia);
- 64 Single Feed Dualband Miniaturized E-shaped/U-slot Patch Antenna
Nagendra Prasad Yadav (Nanjing University of Science and Technology, China); Malay Ranjan Tripathy (Amity University Uttar Pradesh, India);
- 65 Simulation and Study of the Effects of EM Radiations on Cantilever Beams with RF Functionality
Kshitij Chopra (Amity University, India); Preeti Singh (Amity University, India); Kritika Nigam (Amity University, India); Malay Ranjan Tripathy (Amity University, India); Sujata Pandey (Amity University, India);

- 66 Performances Evaluation of a Magnetic Gear with High Transmission Ratio Used for High Speed Applications
Daniel Fodorean (Technical University of Cluj-Napoca/Electrical Machines, Romania); Cristi Irimia (Siemens Industry Software, Romania); Paul Minciunescu (ICPE SA, Romania);
- 67 On the Direct Current Magnetic Field around the Existence of Further Analysis
Yinglei Ou (Guangdong College of Industry and Commerce, China);
- 68 Visible Light Communication between Moving Objects Using a Camera Receiver
Jiri Libich (Czech Technical University in Prague, Czech Republic); Stanislav Zvanovec (Czech Technical University in Prague, Czech Republic); Zabih Ghassemloo (Northumbria University, UK);
- 69 An Efficient Progressive Phase Distribution Consideration of Reflectarray Antennas
Muhammad Yusof Ismail (University of Tun Hussein Onn Malaysia, Malaysia); Muhammad Inam Abbasi (University of Tun Hussein Onn Malaysia, Malaysia);
- 70 Problems of Statistical Decisions for Remote Monitoring of the Environment
Ferdinant A. Mkrtchyan (V. A. Kotelnikov's Institute of Radioengineering and Electronics, Russian Academy of Sciences, Russia);
- 71 Simulation Evaluation of the IEEE 802.11ac ad-hoc Network for Voice Communication in Emergency Scenario
Jacek Jarmakiewicz (Military University of Technology, Poland); Krzysztof Maslanka (Military University of Technology, Poland); Krzysztof Parobczak (Military University of Technology, Poland);
- 72 Improvement of the Radiated Immunity Test Using a Broadband Signal
Hongsik Keum (Electromagnetic Wave Technology Institute, Korea); Gunsuk Yoo (Electromagnetic Wave Technology Institute, South Korea); Jungyu Yang (Radio Research Agency, Korea); Heung-Gyoon Ryu (Chungbuk National University, Korea);
- 73 Study of a Wide-band Strip Line Couplers' Susceptibility Based on the Number of Transmission Lines with Non-uniform Impedances
Javad Soleiman Meiguni (Semnan University, Iran); Ehsan Faalpour (Semnan University, Iran);
- 74 Fluctuations of GPS-derived Atmospheric Integral Water Vapor versus Ground Meteorological Parameters Variability
Olga G. Khutorova (Kazan Federal University, Russia); G. M. Teptin (Kazan Federal University, Russia); Vladislav E. Khutorov (Kazan Federal University, Russia); V. V. Kalinnikov (Kazan Federal University, Russia); A. A. Jurravlev (Kazan Federal University, Russia);
- 75 Steady-state Analysis of Permanent Magnet Synchronous Machine for Integrated Starter-alternator Applications
Florin Nicolae Jurca (Technical University of Cluj-Napoca, Romania); Daniel Fodorean (Technical University of Cluj-Napoca/Electrical Machines, Romania);
- 76 Prediction of Temperature and Stress in a Multi-stage Depressed Collector under Different Environmental Conditions
Vishant Gahlaut (Banasthali University, India); Sanjay Kumar Ghosh (Central Electronics Engineering Research Institute (CEERI), India);
- 77 Study on Thermal-mechanical Issues of Co-axial Interaction Cavity for High Power Gyrotron
Vishant Gahlaut (Banasthali University, India); Amitavo Roy Choudhury (CSIR-Central Electronics Engineering Research Institute (CEERI), India); Sanjay Kumar Ghosh (Central Electronics Engineering Research Institute (CEERI), India);
- 78 Investigation of Microwave Properties of Heterojunction Diodes in Ka Frequency Range Using Probe Station
Algirdas Suziedelis (Center for Physical Sciences and Technology, Lithuania); Steponas Asmontas (Semiconductor Physics Institute, Lithuania); Algis Jurgis Kundrotas (Semiconductor Physics Institute, Center for Physical Sciences and Technology, Lithuania); Jonas Gradauskas (Center for Physical Sciences and Technology, Lithuania); Andzej Lucun (Center for Physical Sciences and Technology, Lithuania); Aurimas Cerskus (Center for Physical Sciences and Technology, Lithuania); Mantas Slipaitis (Center for Physical Sciences and Technology, Lithuania); Tomas Anbindeis (Elmika Ltd., Lithuania);
- 79 Erbium-doped Fiber Laser with Distributed Feedback from a Fiber Grating Array
Xinyong Dong (Nanyang Technological University, Singapore); Junwei Yuan (China Jiliang University, China); Lei Zhu (China Jiliang University, China); Perry Ping Shum (Nanyang Technological University, Singapore); Haibin Su (Nanyang Technological University, Singapore);

Session 2A1**FocusSession.SC4: Optimal Antennas****Tuesday AM, July 7, 2015****Room A**

Organized by Mats Gustafsson, B. Lars G. Jonsson

Chaired by Mats Gustafsson, B. Lars G. Jonsson

- 08:00 Analysis of Optimized Embedded Antennas Using Radiation and Energy Storage Modes
invited Kurt Schab (*University of Illinois at Urbana-Champaign, USA*); Jennifer T. Bernhard (*University of Illinois at Urbana-Champaign, USA*);
- 08:20 A Universal Method for the Design of Antenna Arrays
invited Geyi Wen (*Nanjing University of Information Science and Technology, China*);
- 08:40 Optimal Array Antennas for Mask-constrained Shaped Beams: A Review
invited Tommaso Isernia (*Mediterranea University of Reggio Calabria, Italy*); Andrea Francesco Morabito (*University 'Mediterranea' of Reggio Calabria, Italy*);
- 09:00 Antenna Q and D/Q Bounds for Small Antennas with Electric and Magnetic Sources
invited B. L. G. Jonsson (*KTH Royal Institute of Technology, Sweden*); Mats Gustafsson (*Lund University, Sweden*);
- 09:20 Topology Optimization of Wideband Directive Antennas
invited Emadeldeen Hassan (*Umea University, Sweden*); Daniel Noreland (*Umea University, Sweden*); Robin Augustine (*Uppsala University, Sweden*); Eddie Wadbro (*Umea University, Sweden*); Martin Berggren (*Umea University, Sweden*);
- 09:40 Investigation of the Optimal Matching Impedance for Finite Array Antennas
invited Shuai Shi (*KTH Royal Institute of Technology, Sweden*); B. L. G. Jonsson (*KTH Royal Institute of Technology, Sweden*);
- 10:00 **Coffee Break**
- 10:20 Antenna Current Optimization and Optimal Antennas
tutorial nas Mats Gustafsson (*Lund University, Sweden*);

- 11:00 High Gain Printed Monopole Arrays for Wireless Applications
Mohamad Farran (*Universita degli Studi di Brescia, Italy*); S. Boscolo (*Universita degli Studi di Udine, Italy*); Daniele Modotto (*Universita degli Studi di Brescia, Italy*); Andrea Locatelli (*Universita degli Studi di Brescia, Italy*); A. D. Capobianco (*Universita degli Studi di Padova, Italy*); Michele Midrio (*Universita degli Studi di Udine, Italy*); Vittorio Ferrari (*Universita degli Studi di Brescia, Italy*);
- 11:15 Technology Advances in GNSS High Precision Positioning Antennas
invited Dmitry V. Tatarnikov (*Topcon Positioning Systems, Russia*);
- 11:35 Travelling Wave Antennas with Semitransparent Surfaces for Forming a Cutoff Pattern
invited Dmitry V. Tatarnikov (*Topcon Positioning Systems, Russia*); I. M. Chernetsky (*Topcon Positioning Systems, Russia*);
- 11:55 Parametric Analysis and Optimisation of a 8–18 GHz Quad-ridged Horn Antenna
Deniz Bolukbas (*Istanbul Okan University, Turkey*); Ali Ziya Ozer (*Electromagnetic Design and Analysis Team, Turkey*);

Session 2A2**FocusSession.SC3: Optical Properties of Resonant Dielectric and Plasmonic Nanostructures 1****Tuesday AM, July 7, 2015****Room B**

Organized by Isabelle Staude, Dragomir N. Neshev

Chaired by Isabelle Staude, Manuel Decker

- 08:05 Si Nanoparticles with Optical Resonances for Dielectric Photonics
invited Andrey B. Evlyukhin (*Laser Zentrum Hannover e.V., Germany*); Urs Zywiets (*Laser Zentrum Hannover e.V., Germany*); Carsten Reinhardt (*Laser Zentrum Hannover e.V., Germany*); Boris N. Chichkov (*Laser Zentrum Hannover e.V., Germany*);
- 08:25 Interrogating Nanoparticles with Focused Doughnuts
invited T. A. Raybould (*University of Southampton, UK*); Vasily A. Fedotov (*University of Southampton, UK*); N. Papasimakis (*University of Southampton, UK*); I. Youngs (*DSTL, UK*); Nikolay I. Zheludev (*University of Southampton, UK*);

08:45 Dielectric Mie Antennas

invited

Nicolas Bonod (Domaine Universitaire de Saint Jérôme, France);

09:05 Low Loss Non-plasmonic Nanoantennas for Surface-Enhanced Spectroscopy and Fluorescence

invited

Pablo Albella (Imperial College London, UK); M. Caldarola (Universidad de Buenos Aires, Argentina); E. Cortes (Imperial College London, UK); M. Rahmani (Imperial College London, UK); T. Roschuk (Imperial College London, UK); G. Grinblat (Universidad de Buenos Aires, Argentina); A. V. Bragas (Universidad de Buenos Aires, Argentina); S. A. Maier (Imperial College London, UK);

09:25 Magnetic and Electric Hotspots with Silicon Nanodimers

*R. M. Bakker (Data Storage Institute, A*STAR, Singapore); Dmitry Permyakov (ITMO University, Russia); Ye F. Yu (Data Storage Institute, A*STAR, Singapore); D. Markovich (ITMO University, Russia); Ramon Paniagua-Dominguez (Agency for Science, Technology and Research, Singapore); Leonard V. Gonzaga (Data Storage Institute, A*STAR, Singapore); Anton K. Samusev (ITMO University, Russia); Yuri S. Kivshar (Australian National University, Australia); Boris S. Luk'yanchuk (Agency for Science, Technology and Research, Singapore); A. I. Kuznetsov (Data Storage Institute, A*STAR (Agency for Science Technology and Research), Singapore);*

09:40 Dual and Chiral Dielectric Scatterers for Optical Activity in General Directions

invited

Ivan Fernandez-Corbaton (Karlsruhe Institute of Technology, Germany); M. Fruhnert (Karlsruhe Institute of Technology, Germany); Carsten Rockstuhl (Karlsruhe Institute of Technology, Germany);

10:00 Coffee Break

10:20 Refractory Plasmonics for Harsh Environment

keynote

U. Guler (Nano-Meta Technologies Inc., USA); J. Liu (Purdue University, USA); H. Eragamreddy (Purdue University, USA); Alexander V. Kildishev (Purdue University, USA); Alexandra Boltasseva (Purdue University, USA); Vladimir M. Shalaev (Purdue University, USA);

10:50 Measuring Chromatic Aberration in Imaging Systems Using Plasmonic Nano-particles

invited

Sylvain D. Gennaro (Imperial College London, UK); Tyler R. Roschuk (Imperial College London, UK); Stefan Alexander Maier (Imperial College London, UK); Rupert Francis Oulton (Imperial College London, UK);

11:10 A Study in Asymmetry: Resonances in Arrays of Asymmetric Disc Dimers

invited

Alastair D. Humphrey (University of Exeter, United Kingdom); Nina Meinzer (University of Exeter, United Kingdom); William L. Barnes (University of Exeter, UK);

11:30 Field Enhancement in Rhodium Tripod Stars and Dimers

Rodrigo Alcaraz de la Osa (Universidad of Cantabria, Spain); J. M. Sanz (Universidad of Cantabria, Spain); A. I. Barreda (Universidad of Cantabria, Spain); José María Saiz (Universidad de Cantabria, Spain); Francisco González (Universidad de Cantabria, Spain); H. O. Everitt (Duke University, USA); Fernando Moreno (Universidad de Cantabria, Spain);

11:45 Optical Spectroscopy Study of Colloidal Gold Nanorods

Nerea Zabala (University of the Basque Country UPV-EHU, Spain); L. Bergamini (University of the Basque Country UPV-EHU, Spain); F. J. Recio (Universidad Complutense, Spain); A. Ayuela (DIPC, Spain); A. Rivacoba (University of the Basque Country UPV/EHU, Spain); P. Crespo (Universidad Complutense, Spain); Pedro M. Echenique (University of the Basque Country UPV/EHU, Spain); A. Hernando (ADIF-CSIC-Universidad Complutense, Spain);

Session 2A3

**FocusSession.SC3: Single Photonics:
Integrated Optics for On-chip Manipulation of
Single Photons**

Tuesday AM, July 7, 2015

Room C

Organized by Eli Kapon

Chaired by Eli Kapon

- 08:00 Second-order Correlations of the Nonclassical Light
invited from a Single Quantum-dot State
Glenn S. Solomon (National Institute of Standards and Technology, & University of Maryland, USA); T. Thomay (National Institute of Standard & Technology, and University of Maryland, USA); E. B. Flagg (National Institute of Standard & Technology, and University of Maryland, USA); E. A. Goldschmidt (National Institute of Standard & Technology, and University of Maryland, USA); V. Loo (National Institute of Standard & Technology, and University of Maryland, USA); O. Gazzano (National Institute of Standard & Technology, and University of Maryland, USA); A. Migdall (National Institute of Standard & Technology, and University of Maryland, USA); S. V. Polyakov (National Institute of Standard & Technology, and University of Maryland, USA);
- 08:20 Quantum Dots in Photonic Wires: Highly Efficient
invited Single Photon Sources for Free-space and On-chip Applications
Jean-Michel Gerard (CEA/INAC/SP2M, France); Julien Claudon (CEA/INAC/SP2M, France); Petr Stepanov (CEA/INAC/SP2M, France); Mathieu Munsch (CEA/INAC/SP2M, France); Tomasz Jakubczik (CEA/INAC/SP2M, France); Emanuel Peinke (CEA/INAC/SP2M, France); Joel Bleuse (CEA/INAC/SP2M, France); Niels Gregersen (Technical University of Denmark, Denmark); Jesper Mork (Technical University of Denmark, Denmark); Xiaorun Zang (University of Bordeaux, Institut d'Optique Aquitaine, France); Philippe Lalanne (Institut d'Optique/LCFIO, France);
- 08:40 Quantum Optics in One-dimensional Photonic Reser-
invited voirs
Immo Sollner (University of Copenhagen, Denmark); Peter Lodahl (University of Copenhagen, Denmark);
- 09:00 Design and Simulations of Highly Efficient Single-
invited photon Sources
Niels Gregersen (Technical University of Denmark, Denmark); Jakob Rosenkrantz de Lasson (Technical University of Denmark, Denmark); Jesper Mork (Technical University of Denmark, Denmark);
- 09:20 Design of Slow and Fast Light Photonic Crystal
Waveguides for Single-photon Emission Using a Bloch
Mode Expansion Technique
Jakob Rosenkrantz de Lasson (Technical University of Denmark, Denmark); B. Rigal (Ecole Polytechnique Federale de Lausanne, Switzerland); Eli Kapon (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Jesper Mork (Technical University of Denmark, Denmark); Niels Gregersen (Technical University of Denmark, Denmark);
- 09:35 Tuning Solid-state Single-photon Sources into Reso-
invited nance with Each Other
Maurangelo Petruzzella (Eindhoven University of Technology, The Netherlands); T. Xia (Eindhoven University of Technology, The Netherlands); F. Pagliano (Eindhoven University of Technology, The Netherlands); S. Birindelli (Eindhoven University of Technology, The Netherlands); Leonardo Midolo (Eindhoven University of Technology, The Netherlands); Z. Zobenica (Eindhoven University of Technology, The Netherlands); L. H. Li (University of Leeds, United Kingdom); E. H. Linfield (University of Leeds, United Kingdom); Andrea Fiore (Eindhoven University of Technology, The Netherlands);
- 10:00 **Coffee Break**
- 10:20 Integration of Site-controlled Quantum Dots with
invited Photonic Crystal Cavities and Waveguides
Eli Kapon (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland);
- 10:40 Integration of Site-controlled Quantum Dots in a Pho-
tonic Molecule
Bruno Rigal (Ecole Polytechnique Federale de Lausanne, Switzerland); C. Jarlov (Ecole Polytechnique Federale de Lausanne, Switzerland); Benjamin Dwir (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Alok Rudra (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Pascal Gallo (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Milan Calic (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Alexey Lyasota (Ecole Polytechnique Federale de Lausanne, Switzerland); Eli Kapon (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland);
- 10:55 Quantum Dot Integrated in Photonics Crystal
invited Nanocavity for Single Dot Photonics
Yasuhiko Arakawa (The University of Tokyo, Japan); Yasutomo Ota (The University of Tokyo, Japan); Vincent Elfving (The University of Tokyo, Japan); Kenji Kamide (The University of Tokyo, Japan); Mark Holmes (The University of Tokyo, Japan); Satoshi Iwamoto (The University of Tokyo, Japan);

11:15 On-chip Quantum Optics Using Electrically Con-
invited tacted Quantum Dot Micropillars

P. Munnelly (Technische Universität Berlin, Germany); T. Heindel (Technische Universität Berlin, Germany); M. M. Karow (Technische Universität Berlin, Germany); E. Stock (Technische Universität Berlin, Germany); M. Kamp (University of Würzburg, Germany); S. Hofling (Universität Würzburg, Germany); C. Schneider (Universität Würzburg, Germany); Stephan Reitzenstein (Technische Universität Berlin, Germany);

11:35 Deterministic Coupling of Multiple Quantum Dots to
Selected Modes of a Photonic Crystal Cavity

Alexey Lyasota (Ecole Polytechnique Federale de Lausanne, Switzerland); C. Jarlov (Ecole Polytechnique Federale de Lausanne, Switzerland); Benjamin Dwir (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Alok Rudra (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Pascal Gallo (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland); Eli Kapon (Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland);

11:50 Hybrid Approaches for Single Photon Collection: Di-
invited amond Defect Centers on Fibers, Chips, and Polymer
Photonic Structures

Oliver Benson (Humboldt-University Berlin, Germany);

Session 2A4

SC2: Manipulating Light-matter Interaction by Plasmonics 2

Tuesday AM, July 7, 2015

Room D

Organized by Sanshui Xiao, Jingjing Zhang

Chaired by Sanshui Xiao, Jingjing Zhang

08:10 Coupling of NV Centers in Nanodiamonds to Plas-
keynote monic Waveguides

Sergey I. Bozhevolnyi (University of Southern Denmark, Denmark);

08:40 Exciton Emission from Plasmonic Metal/Organic
Multishell Semiconductor Nanowires

Masoud Kaveh (University of Cincinnati, USA); Ondrej Dyck (University of Tennessee, USA); Gerd Duscher (University of Tennessee, USA); Qiang Gao (The Australian National University, Australia); Chennupati Jagadish (The Australian National University, Australia); Hans-Peter Wagner (University of Cincinnati, USA);

09:00 Plasmonics towards the Industry: Sensing, Structural
invited Colors and Solar Light Management

Benjamin Gallinet (Ecole Polytech Fed Lausanne, Switzerland);

09:20 Theory of Localized Plasmons for Multiple Metal
Nanostructures

Masakazu Ichikawa (The University of Tokyo, Japan);

09:40 Van der Waals Interaction between Plasmonic Parti-
invited cles with Diminutive Geometric Features: A Transfor-
mation Optics Approach

Yu Luo (Nanyang Technological University, Singapore); Rong Kuo Zhao (University of California, USA); John B. Pendry (Imperial College London, UK);

10:00 **Coffee Break**

10:20 Plasmonic and Metamaterial Band Theory: Funda-
mentals and Applications

Aaswath Raman (Stanford University, USA); Won-seok Shin (Stanford University, USA); Shanhui Fan (Stanford University, USA);

10:40 Characteristics of Guided Modes in Plasmonic
Metal/Aluminumquinoline Multilayer Waveguides

Niranjala Wickremasinghe (University of Cincinnati, USA); Jonathan Thompson (University of Cincinnati, USA); Xiaosheng Wang (University of Cincinnati, USA); Heidrun Schmitzer (Xavier University, USA); Hans-Peter Wagner (University of Cincinnati, USA);

11:00 Nanoantennas with Dual-wavelength Plasmonic
Hotspots

Juan Xia (Zhejiang University, China); Sailing He (Zhejiang University, China);

11:20 Hydrodynamic Model for Nonlinear Plasmonics: From
invited Nonlinear Mode Coupling to Supercontinuum Genera-
tion

Alexey V. Krasavin (King's College London, UK); Pavel Ginzburg (King's College London, UK); Paulina Segovia (King's College London, United Kingdom); Giuseppe Marino (King's College London, United Kingdom); Gregory Wurtz (King's College London, United Kingdom); Anatoly V. Zayats (King's College London, UK);

11:40 Three Dimensional Orientation and Rotation of
Nanostructures Using Optical Torques

T. V. Raziman (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland);

- 12:00 Suppression of Light Scattering with ENZ-metamaterials
Alexander Sergeevich Shalin (Ulyanovsk Branch of the Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia); Pavel A. Belov (ITMO University, Russia); Yuri S. Kivshar (Australian National University, Australia);

Session 2A5

SC3: Ultra-thin Metal-dielectric Structured Surfaces and Thin Films for Antireflection, Light Trapping, and Perfect Absorption 1

Tuesday AM, July 7, 2015

Room E

Organized by Junpeng Guo

Chaired by Junpeng Guo, Blake S. Simpkins

- 08:20 Perfect Optical Absorption to Achieve High Efficiency of Photon-to-heat Conversion with a Multi-layered Metal/Dielectric Film Structure in the Solar Radiation Region
M. H. Liu (Fudan University, China); E. T. Hu (Fudan University, China); Y. Yao (Fudan University, China); K. Y. Zang (Fudan University, China); N. He (Waseda University, Japan); J. Li (Fudan University, China); Y. X. Zheng (Fudan University, China); S. Y. Wang (Fudan University, China); Y. M. Yang (Fudan University, China); O. Yoshie (Waseda University, Japan); Y. P. Lee (Hanyang University, South Korea); C. Z. Wang (Iowa State University, USA); D. W. Lynch (Iowa State University, USA); X. X. Liu (Nanjing University of Post and Telecommunications, China); J. J. Zheng (Nanjing University of Post and Telecommunications, China); W. Wei (Nanjing University of Post and Telecommunications, China); Liangyao Chen (Fudan University, China);
- 08:40 Guided-mode Resonant Nanophotonic Devices: Physics, Design, Fabrication, and Characterization
Robert Magnusson (University of Texas at Arlington, USA); Jae Woong Yoon (University of Texas at Arlington, USA); Manoj Niraula (University of Texas at Arlington, USA); Kyu Ji Lee (University of Texas at Arlington, USA);
- 09:00 Tunable Graphene Absorber in the Visible Region Based on Plasmonic Metamaterials
Jinfeng Zhu (Xiamen University, China); Yijun Cai (Xiamen University, China); Yanqiang Bai (Xiamen University, China); Qing Huo Liu (Duke University, USA);
- 09:20 Enhanced Linear and Nonlinear Behaviors of Graphene under Localized Surface Plasmon Resonances: Analyses with Boundary-integral Spectral Element Method
Jun Niu (Duke University, USA); Ma Luo (Wave Computation Technologies, Inc., USA); Qing Huo Liu (Duke University, USA);
- 09:40 Strong Light-matter Interaction in Nano- and Micro-scale Heterostructures
Blake S. Simpkins (Chemistry Division, Naval Research Laboratory, USA);
- 10:00 **Coffee Break**
- 10:20 THz Characterization of ITO Films on p-Si Substrates
Elliott R. Brown (Wright State University, USA); Weidong Zhang (Wright State University, USA); H. Chen (Genvac Aerospace, Inc., USA); G. T. Mearini (Teraphysics Corp., USA);
- 10:40 Nano-gap Induced Multi-resonant Metamaterials in the Visible and the Near IR
Orest J. Glembocki (US Naval Research Lab, USA); S. M. Prokes (US Naval Research Lab, USA); A. Giles (NRC Post, USA); Joshua D. Caldwell (US Naval Research Lab, USA); R. A. Flynn (US Naval Research Lab, USA); A. J. Maekinen (US Naval Research Lab, USA); N. Sharac (University of California at Irvine, USA);
- 11:00 Coupled Resonator Mediated Transmission of Light through Sub-wavelength Holes for Multispectral Imaging Applications
Walter R. Buchwald (University of Massachusetts Boston, USA); K. C. Kerby-Patel (University of Massachusetts Boston, USA);
- 11:20 Harmonic Double-resonance Cones in Hyperbolic Metamaterials
Domenico De Ceglia (National Research Council-AMRDEC, USA); Maria Antonietta Vincenti (National Research Council-AMRDEC, USA); Salvatore Campione (University of California Irvine, USA); Filippo Capolino (University of California-Irvine, USA); Joseph W. Haus (University of Dayton, USA); Michael Scalora (Charles M. Bowden Research Center, AMRDEC, RDECOM, USA);
- 11:40 MM-wave-to-THz Modulation with Graphene-oxide-silicon Etalon Structures
Weidong Zhang (Wright State University, USA); P. H. Q. Pham (University of California, USA); Elliott R. Brown (Wright State University, USA); P. J. Burke (University of California, USA); “no-breakspace (,);

Session 2A6a
SC3: Nonlinear Optical Fibers for Sensing and Signal Processing

Tuesday AM, July 7, 2015
Room F

Organized by Weiwen Zou

 Chaired by Xiaobo Xing

 08:00 Distributed Brillouin Sensing Using Plastic Optical
invited Fibers

Yosuke Mizuno (Tokyo Institute of Technology, Japan); Neisei Hayashi (Tokyo Institute of Technology, Japan); Kentaro Nakamura (Tokyo Institute of Technology, Japan);

 08:20 Advances in Optical Fiber Reflectometry for Optical
invited Access Network Diagnostics and Distributed Sensing

Xinyu Fan (Shanghai Jiao Tong University, China); Qingwen Liu (Shanghai Jiao Tong University, China); Jiangbing Du (Shanghai Jiao Tong University, China); Lin Ma (Shanghai Jiao Tong University, China); Zuyuan He (Shanghai Jiao Tong University, China);

 08:40 Photonic Arbitrary Waveform Generation Using Op-
invited tical Pulse Synthesizer and Its Applications

Ken Kashiwagi (Tokyo University of Agriculture and Technology, Japan); Takashi Kurokawa (Tokyo University of Agriculture and Technology, Japan);

 09:00 High Sensitive Ammonia Gas Sensor Based on
Graphene Coated Microfiber

Xiaohui Sun (Huazhong University of Science and Technology, China); Qizhen Sun (Huazhong University of Science and Technology, China); Si Zhu (Huazhong University of Science and Technology, China); Ye Yuan (Huazhong University of Science and Technology, China); Zhao Huang (Huazhong University of Science and Technology, China); Xin Liu (Huazhong University of Science and Technology, China); Deming Liu (Hua Zhong University of Science and Technology, China);

 09:20 High Resolution Demodulation Platform for Large
Capacity Hybrid WDM/FDM Microstructures Sens-
ing System Assisted by Tunable FP Filter

Fan Ai (Huazhong University of Science and Technology, China); Qizhen Sun (Huazhong University of Science and Technology, China); Jianwei Cheng (Huazhong University of Science and Technology, China); Deming Liu (Hua Zhong University of Science and Technology, China);

 09:40 Microfiber Resonators for Photonic Filtering and
invited Sensing

Qizhen Sun (Huazhong University of Science and Technology, China); Zhilin Xu (Huazhong University of Science and Technology, China); Weihua Jia (Huazhong University of Science and Technology, China); Haipeng Luo (Huazhong University of Science and Technology, China); Yiyang Luo (Huazhong University of Science and Technology, China); Deming Liu (Huazhong University of Science and Technology, China); Lin Zhang (Aston University, UK);

 10:00 **Coffee Break**

Session 2A6b
SC3: Ultrafast Fiber Lasers

Tuesday AM, July 7, 2015
Room F

Organized by Darren D. Hudson

 Chaired by Darren D. Hudson

 10:20 Precision Metrology with Frequency Combs over the
invited Air: Time/Frequency Transfer and Spectroscopy

Nathan R. Newbury (NIST — National Institute of Standards and Technology, USA);

 10:40 Advances in Passively Mode-locked All Normal Dis-
invited persion Fibre Lasers

Patrick G. Bowen (The University of Auckland, New Zealand); Harman Singh (The University of Auckland, New Zealand); Antoine F. J. Runge (The University of Auckland, New Zealand); Neil G. R. Borderick (The University of Auckland, New Zealand); Miro Erkintalo (The University of Auckland, New Zealand); John D. Harvey (The University of Auckland, New Zealand); Richard Provo (Auckland University/Southern Photonics Ltd., New Zealand); Claude Aguergeray (Alphanov, France);

 11:00 Thulium Doped Fibers and Components for Fiber
invited Lasers at around 2 μm

Pavel Peterka (Institute of Photonics and Electronics, The Czech Academy of Sciences, Czech Republic); Pavel Honzatko (Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic); Ivan Kasik (Institute of Photonics and Electronics, The Czech Academy of Sciences, Czech Republic); Jan Tarka (Wroclaw University of Technology, Poland); Grzegorz Sobon (Wroclaw University of Technology, Poland); Jaroslaw Sotor (Wroclaw University of Technology, Poland);

- 11:20 Stretched-pulse Operation of an All-fiber
invited Thulium/Holmium Doped Fiber Laser
Brian R. Washburn (Kansas State University, USA);
- 11:40 500 fs Pulses from a 3 μm Mode-locked Fiber Laser
T. Hu (The University of Sydney, Australia); S. D. Jackson (Macquarie University, Australia); Darren D. Hudson (The University of Sydney, Australia);
- 12:00 SiGe Nonlinear Mid-infrared Integrated Photonics
invited
Luca Carletti (University of Lyon, France); P. Ma (Australian National University, Australia); Y. Yu (Australian National University, Australia); B. Luther-Davies (Australian National University, Australia); S. Madden (Australian National University, Australia); D. Hudson (University of Sydney, Australia); D. J. Moss (Royal Melbourne Institute of Technology, Australia); M. Brun (CEA-Leti MINATEC Campus, France); S. Ortiz (CEA-Leti MINATEC Campus, France); S. Nicoletti (CEA-Leti MINATEC Campus, France); P. Labeye (CEA-Leti MINATEC Campus, France); R. Orobtchouk (University of Lyon, France); C. Monat (University of Lyon, France); Christian Grillet (University of Lyon, France);

Session 2A7

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

Tuesday AM, July 7, 2015

Room G

Organized by Mariana Nikolova Georgieva-Grosse,
Georgi Nikolov Georgiev

Chaired by Mariana Nikolova Georgieva-Grosse,
Georgi Nikolov Georgiev

- 08:00 Diverging and Converging Beam Diffraction by a
invited Wedge. Part II: Plane Wave Spectral Solutions and
Complex Ray Solutions
Michael Katsav (Tel Aviv University, Israel); Ehud Heyman (Tel Aviv University, Israel); Ludger Klinkenbusch (Christian-Albrechts-Universität zu Kiel, Germany);
- 08:20 Phase Behaviour of an Azimuthally Magnetized Two-
invited layered Ferrite-dielectric Circular Waveguide
Mariana Nikolova Georgieva-Grosse (Consulting and Researcher in Physics and Computer Sciences, Germany); Georgi Nikolov Georgiev (University of Veliko Tirnov "St. St. Cyril and Methodius", Bulgaria);

- 08:40 A Nonlinear Boundary Condition for Continuum
Models of Biomolecular Electrostatics
Jaydeep P. Bardhan (Northeastern University, USA); D. A. Tejani (Northeastern University, USA); N. S. Wieckowski (Northeastern University, USA); A. Ramaswamy (Northeastern University, USA); Matthew G. Knepley (University of Chicago, USA);
- 09:00 Metamaterials for Medical Implants to Enhance Com-
patibility with Magnetic Resonance Imaging (MRI)
Giorgio Bonmassar (Massachusetts General Hospital, USA);
- 09:20 Coherent Helical Undulator Radiation in Resistive
Waveguide
Mikayel I. Ivanyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE), Armenia); Tigran Vardanyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE), Armenia); Andranik Tsakanian (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE), Armenia); Vasili M. Tsakanov (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE), Armenia);
- 09:40 High-power Short Pulse Compression: New Methods
for Physical and Engineering Analysis
Merey S. Sautbekova (Eurasian National University, Kazakhstan); Seil S. Sautbekov (Eurasian National University, Kazakhstan); Yuriy Sirenko (L. N. Gumilyov Eurasian National University, Republic of Kazakhstan); Alexey A. Vertiy (TUBITAK-MRC, Turkey);

10:00 Coffee Break

- 10:20 Multi-objective Optimization Applied to RF and Pho-
tonic Components
Jogender Nagar (The Pennsylvania State University, United States); Douglas H. Werner (The Pennsylvania State University, USA); Pingjuan L. Werner (The Pennsylvania State University, USA);
- 10:40 Concerning the Circular- and Square-loop Antennas
Mounted over 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);
- 11:00 Effect of Phonon Confinement on the Radioelectric
Field in Compositional Superlattices
Do Tuan Long (Vietnam National University, Vietnam); Nguyen Xuan Ha (Vietnam National University, Vietnam); Nguyen Quang Bau (Hanoi National University, Vietnam);

- 11:20 Integrated Matrix-form of the Boundary Conditions for Electromagnetic Field in Anisotropic Media
Bing Zhou (The Petroleum Institute, United Arab Emirates); Graham Heinson (The University of Adelaide, Australia);
- 11:40 Influence of an Intense Electromagnetic Wave on Temperature Dependence of Magnetoconductivity and Hall Coefficient in a Compositional Semiconductor Superlattices
Nguyen Quang Bau (Hanoi National University, Vietnam); Bui Dinh Hoi (Vietnam National University, Vietnam); Nguyen Dinh Nam (Hanoi National University, Vietnam);

Session 2A8

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

Tuesday AM, July 7, 2015

Room H

Organized by Yungui Ma, Sailing He

Chaired by Yungui Ma, Sailing He

- 08:20 Optimization of Metamaterials for Microwave Devices
Benjamin Vial (Queen Mary University of London, UK); Y. Hao (Queen Mary University of London, UK);
- 08:40 Broadband Microwave Absorber Utilizing Metamaterial and Magnetic Absorbing Material
Tianlong Wu (Wuhan University of Technology, China); Wei Li (Wuhan University of Technology, China); Jin Yang (Wuhan University of Technology, China); Wei Wang (Wuhan University of Technology, China); Jianguo Guan (Wuhan University of Technology, China);
- 09:00 A Sharp Bending Device for Broadband Electromagnetic Waves
Youming Zhang (Nanyang Technological University, Singapore); Baile Zhang (Nanyang Technological University, Singapore);
- 09:20 Self-guided One-way EM Wave by Chain of Gyromagnetic Rods
Rui-Xin Wu (Nanjing University, China); Zhen Li (Nanjing University, China); Qing-Bo Li (Nanjing University, China); Yin Poo (Nanjing University, China);
- 09:40 Hyperbolic Polaritons for Near-field Optical Imaging
Lian Shen (Zhejiang University, China); Zuoqia Wang (Zhejiang University, China); Hongsheng Chen (Zhejiang University, China);

10:00 Coffee Break

- 10:20 Broadband Focusing: On-chip Demultiplexers for SPPs and Guided Modes
Tao Li (Nanjing University, China); L. Li (Nanjing University, China); Q. Q. Cheng (Nanjing University, China); Shi-Ning Zhu (Nanjing University, China);
- 10:40 Performance Comparison of Phase-corrected and Classical 1D Electromagnetic Band Gap Resonator Antennas
Basit Ali Zeb (Macquarie University, Australia); Muhammad Usman Afzal (Macquarie University, Australia); Karu P. Esselle (Macquarie University, Australia);
- 11:00 Electrical-optical Converter Using Electric-field-coupled Metamaterial Antennas on Electro-optic Modulator
Yusuf Nur Wijayanto (National Institute of Information and Communication Technology (NICT), Japan); Atsushi Kanno (National Institute of Information and Communications Technology, Japan); Sinya Nakajima (National Institute of Information and Communication Technology (NICT), Japan); Pamungkas Daud (Indonesian Institute of Sciences (LIPI), Indonesia); Dadin Mahmudin (Indonesian Institute of Sciences (LIPI), Indonesia); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan);
- 11:20 Broadband Perfect Absorption of Ultrathin Conductive Films
Sucheng Li (Soochow University, China); Weixin Lu (Soochow University, China); Bo Hou (Soochow University, China);
- 11:40 Negative Refraction of Natural Composite Based on Graphene Barium Ferrite
Karen Oganisian (Institute of Low Temperature and Structure Research, PAS, Poland); Wieslaw Strek (Institute of Low Temperature and Structure Research, PAS, Poland);

Session 2A9

Bioelectromagnetics

Tuesday AM, July 7, 2015

Room I

Organized by Carlos F. Martino

Chaired by Carlos F. Martino

- 08:00 Study of Change in Enzymatic Reaction under Radiowaves/Microwaves on Lactic Acid Dehydrogenase and Catalase at 2.1, 2.3 and 2.6 GHz
Sohni Jain (RMIT University, Australia); Vuk Vojisavljevic (Royal Melbourne Institute of Technology (RMIT) University, Australia); Elena Pirogova (Royal Melbourne Institute of Technology (RMIT) University, Australia);
- 08:20 Electromagnetic Activity of Living Cells and Cancer
Jiri Pokorny (Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic); Jan Pokorny (Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic); Jitka Kobilkova (Charles University, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic);
- 08:40 Effects of Weak 7 MHz Magnetic Fields on Reactive Oxygen Species *in vitro*
Robert J. Usselman (National Institute of Standards and Technology, USA); Pablo R. Castello (Universidad de Buenos Aires, Argentina); Carlos F. Martino (Florida Institute of Technology, USA);
- 09:00 Principles and Methods of EMF Safety Maintenance by Individual Protective Means
Igor V. Bukhtiyarov (RAMS Institute of Occupational Health, Russia); Nina B. Rubtsova (RAMS Institute of Occupational Health, Russia); Sergey Yu. Perov (RAMS Institute of Occupational Health, Russian); Olga V. Belaya (Institute of Occupational Health, Russian Federation); Tatiana A. Kravtsova (Institute of Occupational Health, Russian Federation);
- 09:20 Experimental Study of Digital Enhanced Cordless Telecommunication Devices Electromagnetic Field Possible Hazard Health Effects
Nina B. Rubtsova (RAMS Institute of Occupational Health, Russia); Sergey Yu. Perov (RAMS Institute of Occupational Health, Russian); Olga V. Belaya (Institute of Occupational Health, Russian Federation); Elena V. Bogacheva (RAMS Research Institute of Occupational Health, Russian Federation);
- 09:40 Numerical Field Calculations for Assessment of Electric Field Strength Arising in Human Body Tissues Caused by Magnetic Field Exposure
Reinhard Doebbelin (Otto-von-Guericke University of Magdeburg, Germany); Stefan Foerster (Otto-von-Guericke-University Magdeburg, Germany); Lars Middelstaedt (Otto-von-Guericke-University Magdeburg, Germany); Andreas Lindemann (Otto-von-Guericke University of Magdeburg, Germany);
- 10:00 **Coffee Break**
- 10:20 Stochastic Approach for EM Modelling of Suspended Bacterial Cells with Non-uniform Geometry and Orientation Distribution
Dominique Raully (IMEP-LAHC, UMR 5130 CNRS/INPG/UJF, France); Eric Chamberod (IUT Grenoble, Joseph Fourier University, France); Pascal Xavier (IMEP-LAHC, UMR 5130 CNRS/INPG/UJF, MINATEC, France); Jean M. F. Martins (LTHE UMR 5564, Grenoble University — CNRS INSU — G-INP IRD, France); Jean Angelidis (LEAS, France); Hakima Belbachir (HBA BIOTECH SA, France);
- 10:40 Assessment of Specific Absorption Rate and Temperature Increase in Anatomical Sheep Models due to a 3 T MRI Body Coil
Tahir Malas (Turgut Ozal University, Turkey); Hamza Erguder (Turgut Ozal University, Turkey); Samat Turdumamatov (University of Gaziantep, Turkey); Muhammed Ergul (Turgut Ozal University, Turkey); Ceylin Gamze Sunger (Turgut Ozal University, Turkey); Havva Sumeyye Turker (Turgut Ozal University, Turkey); Cagdas Oto (Ankara University, Turkey);
- 11:00 The Use of Quasi-phantom Measurements for Characterization of Vertigo Hazards Caused by Static Magnetic Fields Exposure of Magnetic Resonance Workers
Jolanta Karpowicz (Central Institute for Labour Protection, National Research Institute (CIOP-PIB), Poland);
- 11:20 Geographical Distribution of Childhood Acute Leukaemia in the Metropolitan Area of Guadalajara, Mexico and Its Correlation with the Wireless and High Voltage Network
Leonardo Soto Sumuano (University of Guadalajara, Mexico); Carlos Ruiz Chavez (University of Guadalajara, Mexico); Alberto Tlacuilo-Parra (UMAE Hospital de Pediatria CMNO, IMSS, Mexico); Roberto Garibaldi Covarrubias (UMAE Hospital de Pediatria CMNO, IMSS, Mexico); Hugo Romo Rubio (UMAE Hospital de Pediatria CMNO, IMSS, Mexico); Mijail Suarez Arredondo (UMAE Hospital de Pediatria CMNO, IMSS, Mexico); Jesus Ariaga Davila (UMAE Hospital de Pediatria CMNO, IMSS, Mexico);

- 11:40 Experimental Assessment of Influence Factors of Body Shadow Effect in Dosimetry Measurements in Indoor Enclosures
Silvia De Miguel-Bilbao (Health Institute Carlos III, Spain); Jose Roldan Madronero (Instituto de Salud Carlos III., Spain); Juan Blas Prieto (University of Valladolid, Spain); Victoria Ramos (Health Institute Carlos III, Spain);

Session 2A_10

Electromagnetic Scattering by Random Media and Rough Surfaces

Tuesday AM, July 7, 2015

Room J

Organized by Romain Ceolato

Chaired by Matthew J. Berg

- 08:20 Measuring the Optical Extinction of Aerosol Particles with Digital Holography
Matthew J. Berg (Mississippi State University, USA); Nava R. Subedi (Mississippi State University, USA); Peter A. Anderson (Mississippi State University, USA);
- 08:40 Analysis of Layered Dielectric Capped Wedge for RCS Reduction
Hulya Ozturk (Cayirova Campus, Gebze Institute of Technology, Turkey); Korkut Yegin (Ege University, Turkey);
- 09:00 A Perturbative Solution to Plane Wave Scattering from a Rough Dielectric Cylinder
Rahul Trivedi (Indian Institute of Technology Delhi, India); Uday K. Khankhoje (Indian Institute of Technology Delhi, India);
- 09:20 Multispectral Light Scattering Imaging and Multivariate Analysis of Airborne Particulates
Stephen Holler (Fordham University, USA); Charles Skelsey (Fordham University, USA); Stephen D. Fuerstenau (SDF Consulting, USA);
- 09:40 Evaluation of the Angular Spectrum of Scattered High Frequency Radio Waves in the Anisotropic Collision Magnetized Ionospheric Plasma
George Vakhtang Jandieri (Georgian Technical University, Georgia); Zhuzhuna Diasamidze (Batumi Shota Rustaveli State University, Georgia); Mzia Resan Diasamidze (Batumi State Maritime Academy, Georgia); Ioseb Aleksandr Nemsadze (Batumi Shota Rustaveli State University, Georgia);

10:00 **Coffee Break**

- 10:20 Stochastic Geometry for Electromagnetic Scattering Modeling
Gruy Frederic (Ecole Nationale Supérieure des Mines, France);
- 10:40 Plasmons and Charge Noise at Composite Surfaces
Carsten Henkel (University of Potsdam, Germany); B. Horovitz (Ben Gurion University, Israel);
- 11:00 Resonant Electromagnetic Scattering in Anisotropic Layered Media with Random Fabrication Errors
Emily A. McHenry (Louisiana State University, Louisiana);
- 11:20 Patterning Highly Oriented Pyrolytic Graphite for Efficient Broad-band Absorption
Julian Evans (Zhejiang University, China); Yao-ran Sun (Zhejiang University, China); Sailing He (Zhejiang University, China);
- 11:40 A Study of Periodic Multilayered Structure in Fractional Dimension Space and Euclidian Space
Muhammad Junaid Mughal (COMSATS Institute of Information Technology, Pakistan); Safiullah Khan Marwat (GIK Institute of Engineering Sciences and Technology, Pakistan);

Session 2A_11

FocusSession.SC1: Casimir Effect and Heat Transfer 3

Tuesday AM, July 7, 2015

Room K

Organized by Mauro Antezza, Brahim Guizal

Chaired by Mauro Antezza, Brahim Guizal

- 08:00 Quantum Thermodynamics: An Information Theoretical Viewpoint
invited Mauro Paternostro (Queen's University Belfast, UK);
- 08:20 Steady Many-body Entanglement Induced by an out of Thermal Equilibrium Environment
invited Bruno Bellomo (Université de Franche-Comté, France); Mauro Antezza (Université de Montpellier, France);
- 08:40 Tightening the Second Law of Thermodynamics for Restricted Baths
invited Karen V. Hovhannisyan (ICFO-Institut de Ciències Fotoniques, Spain); Marti Perarnau-Llobet (ICFO-Institut de Ciències Fotoniques, Spain); Paul Skrzypczyk (ICFO-Institut de Ciències Fotoniques, Spain);

- 09:00 Finite Temperature Reservoir Engineering and Entanglement Dynamics
invited *S. Fedortchenko (Universite Paris Diderot, France); T. Coudreau (Universite Paris Diderot, France); Perola Milman (Universite Paris Diderot, France); A. Keller (Universite Paris-Sud 11, France);*
- 09:20 The Best Quantum Thermoelectric at Finite Power Output
invited *Robert S. Whitney (Universite Grenoble 1 and CNRS, France);*
- 09:40 Non-adiabaticity and Irreversible Entropy Production
invited *Francesco Plastina (Universita'della Calabria, Italy);*
- 10:00 **Coffee Break**
- 10:20 Critical Casimir Forces
tutorial *S. Dietrich (Max Planck Institut fur Intelligente Systeme, Germany);*
- 11:00 Critical Casimir Forces & Many-body Effects
invited *Andrea Gambassi (SISSA — International School for Advanced Studies and INFN, Italy);*
- 11:20 Photonic Control of Thermal Emission for Radiative Cooling
invited *Aaswath Raman (Stanford University, USA); Linxiao Zhu (Stanford University, USA); Shanhui Fan (Stanford University, USA);*
- 11:40 Heat Transfer and Thermodynamics of Thermal Radiation in the Near and Far Fields
invited *Gang Chen (Massachusetts Institute of Technology, USA); Vazrik Chiloyan (Massachusetts Institute of Technology, USA); Poetro L. Sambegoro (Massachusetts Institute of Technology, USA); Jonathan K. Tong (Massachusetts Institute of Technology, USA); Yi Huang (Massachusetts Institute of Technology, USA); Wei-Chun Hsu (Massachusetts Institute of Technology, USA); Svetlana V. Boriskina (Massachusetts Institute of Technology, USA);*
- 08:00 Double-layered Frequency Selective Surface with Quasi-elliptic Bandstop Filtering Response
Hui Jiang (Nanjing University of Posts and Telecommunications, China); Bo Li (Nanjing University of Posts and Telecommunications, China); Zhongxiang Shen (Nanyang Technological University, Singapore); Yiming Tang (Nanjing University of Posts and Telecommunications, China);
- 08:20 Some Novel Applications of Frequency Selective Surfaces (FSSs)
Raj Mittra (The Pennsylvania State University, USA);
- 08:40 An Active Mono-layer Phase Switched Screen
Jonathan M. Rigelsford (The University of Sheffield, United Kingdom); Radhwan J. Mahmoud (The University of Sheffield, United Kingdom);
- 09:00 A Multilayer Meander Line Structure for Dual Band Orthogonal Circular Polarization Selectivity
Daniel Sjöberg (Lund University, Sweden);
- 09:20 A New Frequency Selective Surface Geometry Design at the Unlicensed 2.4 GHz and 5.8 GHz ISM Bands
Mesut Kartal (Istanbul Technical University, Turkey); Bora Doken (Istanbul Technical University, Turkey);
- 09:40 In-building Propagation Control Using Passive Elements Installed in a Corridor
Christopher J. Davenport (The University of Sheffield, United Kingdom); Jonathan M. Rigelsford (The University of Sheffield, United Kingdom);
- 10:00 **Coffee Break**

Session 2A_12b
FocusSession.SC5: SAR Systems and Technology

Tuesday AM, July 7, 2015
Room L

Organized by Kun-Shan Chen

Chaired by Kun-Shan Chen

Session 2A_12a
SC4: Novel Frequency Selective Structures

Tuesday AM, July 7, 2015
Room L

Organized by Zhongxiang Shen, Jonathan M. Rigelsford

Chaired by Zhongxiang Shen, Jonathan M. Rigelsford

- 10:20 Radar Response of Soil Moisture from ALOS-2 SAR
invited *Yuan Liu (UdS, CNRS, France); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Science, China); Zhao-Liang Li (University of Strasbourg, France); Yu Liu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China);*

10:40 Electronic Counter-countermeasures in Bistatic
invited Radars

Faran Awais Butt (University of Management and Technology (UMT), Pakistan); Ijaz Haider Naqvi (Lahore University of Management Sciences (LUMS), Pakistan); Madiha Jalil (University of Engineering and Technology (UET), Pakistan);

11:00 Polarimetric SAR Simulations of Bare Soil and Veg-
invited etated Surfaces Using Scattering and Coherency Matrix from 3-D Numerical Solutions of Maxwell Equation (NMM3D)

Tien-Hao Liao (University of Washington, USA); Kuan-Liang Chen (National Central University, Taiwan); Leung Tsang (University of Michigan, USA); Hsuan Ren (National Central University, Taiwan);

11:20 Towards a Fully Coherent Snowpack Scattering Model
invited Based on Numerical Simulation of Maxwell's Equation Using Bicontinuous Media and Half Space Green's Function

Shurun Tan (University of Michigan, USA); Xiaolan Xu (Jet Propulsion Laboratory, USA); Leung Tsang (University of Michigan, USA);

Session 2A_13a

FocusSession.SC3: High-capacity Optical Communication: Systems, Algorithms, Components 2

Tuesday AM, July 7, 2015

Room M

Organized by Sergei Popov, Sergei K. Turitsyn

Chaired by Sergei Popov

08:05 All-optical Mitigation of Non-linear Gain in SOA
Cristiano De Mello Gallep (University of Campinas, Brazil); Peterson Rocha (University of Campinas, Brazil); Evandro Conforti (University of Campinas, Brazil);

08:20 The Nonlinear Fiber-optic Channel: Modeling and
invited Achievable Information Rate

Enrico Forestieri (TeCIP Institute, Scuola Superiore Sant'Anna, Italy); Marco Secondini (TeCIP Institute, Scuola Superiore Sant'Anna, Italy);

08:40 Flex-grid All-optical Interconnect Supporting Trans-
invited parent Multi-hop Connection in Data Centers

Yuan Yuan Hong (Zhejiang University, China); Xuezhi Hong (South China Normal University, China); Sailing He (Zhejiang University, China); Jiajia Chen (KTH Royal Institute of Technology, Sweden);

Session 2A_13b

SC3: Near-field Optics: Light-matter Interaction Inside a Wavelength Volume 1

Tuesday AM, July 7, 2015

Room M

Organized by Sergei Popov

Chaired by Sergei Popov

09:00 Strong Quadrupole Light-molecule Interaction and the Dipole-quadrupole Theory of Surface Enhanced Spectroscopy

V. P. Chelibanov (State University of Information Technologies, Mechanics and Optics, Russia); Aleksey Mikhailovich Polubotko (A.F. Ioffe Physico-Technical Institute, Russian Academy of Sciences, Russia);

09:20 Femtosecond-scale Polarization Fluctuations of Light Measured by Two-photon Absorption

Andriy Shevchenko (Aalto University, Finland); Matthieu Roussey (University of Eastern Finland, Finland); Ari T. Friberg (University of Eastern Finland, Finland); Tero Setälä (University of Eastern Finland, Finland);

09:40 Ultrasensitive Label-free Biosensor Based on Photonic Crystal Surface Waves: A Tool to Study Dynamics of Receptor-ligand Interactions with Living Bacteria and Cells

Ekaterina Rostova (Swiss Federal Institute of Technology Lausanne (EPFL), Suisse); Sergey K. Sekatskii (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Giovanni Dietler (Ecole Polytechnique Fédérale de Lausanne, Switzerland);

10:00 **Coffee Break**

10:20 Nanoplasmonics for Control over Localized Emission
invited and Heat Generation

Stefan A. Maier (Imperial College London, UK);

10:40 Near Field Investigation of Bloch Surface Based Plat-
invited form for 2D Integrated Optics

Richa Dubey (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Elsie Barakat (Swiss Federal Institute of Technology in Lausanne (EPFL), Switzerland); Hans Peter Herzig (Swiss Federal Institute of Technology in Lausanne (EPFL), Switzerland);

- 11:00 3-nm-resolution Optical Imaging Based on Plasmonically-excited Near-field to Near-field Coupling and Scanning Optical Microscopy
Toshihiko Nakata (Yokohama Research Laboratory, Hitachi, Ltd., Japan); Takehiro Tachizaki (Tokai University, Japan);
- 11:20 Interaction of Optical Beams with Spatially Dispersive Optical Nanomaterials
Andriy Shevchenko (Aalto University, Finland); Ville Kivijarvi (Aalto University, Finland); Markus Nyman (Aalto University, Finland); Patrick Grahn (Aalto University, Finland); Alex Karila (Aalto University, Finland); Matti Kaivola (Aalto University, Finland);

Session 2A_14

FocusSession.SC3: Nonlinear Optics: Novel Phenomena, Materials and Applications 2

Tuesday AM, July 7, 2015

Room N

Organized by Gaetano Assanto, Goery Genty

Chaired by Gaetano Assanto

- 08:00 Twin-beam Optical Parametric Generation and Cascaded Processes in Hexagonally Poled Nonlinear Lattices
Katia Gallo (KTH — Royal Institute of Technology, Sweden); Martin Levenius (KTH — Royal Institute of Technology, Sweden); Matteo Conforti (Universite Lille 1, France);
- 08:20 Optical Properties of Chalcogenide Microstructured Optical Fibers
Johann Troles (Universite de Rennes 1, France); Laurent Brilland (Perfos R&D, Platform of Photonics Bretagne, France); Celine Caillaud (Universite de Rennes 1, France); David Mechin (Perfos R&D, Platform of Photonics Bretagne, France); Jean-Luc Adam (Universite de Rennes 1, France); Gilles Renversez (Aix Marseille Universite, France);
- 08:40 Playing Billiard in Laser Micro-cavities: A Test-bed for Semi-classical Physics
Joseph Zyss (Ecole Normale Supérieure de Cachan, France); Clement Lafargue (Ecole Normale Supérieure de Cachan, France); Stefan Bittner (Ecole Normale Supérieure de Cachan, France); Melanie Lebental (Ecole Normale Supérieure de Cachan, France);
- 09:10 Liquid Crystals for Nonlinear Optics with Femtosecond CW Lasers
Iam-Choon Khoo (Pennsylvania State University, USA);

- 09:40 Nonlinear Optical Imaging with Unconventional Light Fields
Godofredo Bautista (Tampere University of Technology, Finland); Mikko J. Huttunen (Tampere University of Technology, Finland); Jouni Makitalo (Tampere University of Technology, Finland); Martti Kaukkanen (Tampere University of Technology, Finland);
- 10:00 **Coffee Break**
- 10:20 Beam Bistability in Nematic Soft Matter
A. Piccardi (University "Roma Tre", Italy); A. Alberucci (University "Roma Tre", Italy); N. Kravets (University "Roma Tre", Italy); O. Buchnev (University of Southampton, UK); M. Kaczmarek (University of Southampton, UK); Gaetano Assanto (University "Roma Tre", Italy);
- 10:40 Enhanced Nonlinear Interaction in a Silicon Microcavity under Coherent Control
Samuel Serna (Universite Paris-Sud 11, France); Jeremy Oden (Universite Paris-Sud 11, France); Marc Hanna (Universite Paris-Sud 11, France); Charles Caer (Universite Paris-Sud 11, France); Xavier Le Roux (Universite Paris-Sud 11, France); Christophe Sauvan (Universite Paris-Sud 11, France); Philippe Delaye (Universite Paris-Sud 11, France); Eric Cassan (Universite Paris-Sud 11, France); Nicolas Dubreuil (Universite Paris-Sud 11, France);
- 10:55 Integrating Single Photon Sources and High-efficiency, Low Dark Count Single Photon Detectors Using Photonic Crystal Microcavities in Silicon-on-insulator Waveguides
Ellen Schelew (University of British Columbia, Canada); Mohsen K. Akhlaghi (University of British Columbia, Canada); Jeffrey Francis Young (University of British Columbia, Canada);
- 11:15 First-principle Models of Light-matter Interactions for Large-scale Computer Simulations in Extreme Nonlinear Optics
Miroslav Kolesik (The University of Arizona, USA);
- 11:35 Instabilities and Rogue Waves in Optics
Goery Genty (Tampere University of Technology, Finland);

Session 2A_15a
Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory

Tuesday AM, July 7, 2015
Room O

 Chaired by Weng Cho Chew

- 08:20 Effective Lennard-Jones Parameters for CO₂-CO₂ Dispersion Interactions in Water and near Amorphous Silica-water Interfaces
Priyadarshini Thiyam (Royal Institute of Technology, Sweden); Oleksandr I. Mal'yi (University of Oslo, Norway); Clas Persson (Royal Institute of Technology, Sweden); Stefan Yoshi Buhmann (University of Freiburg, Germany); Drew F. Parsons (Murdoch University, Australia); Mathias Bostrom (University of Oslo, Norway);
- 08:40 The C-method as an Initial Value Problem: Application to Multilayer Gratings
Cihui Pan (Laboratoire LATMOS, France); Richard Dusseaux (Universite de Versailles, France); Nahid Emad (Laboratoire PRISM, France);
- 09:00 Efficient Numerical Solution for Time-domain Volume Integral Equations
Jian Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);
- 09:20 Analysis of EM Emission Characteristics by Arbitrarily Oriented Microstrip Lines Based on TEM Cell Electric and Magnetic Coupling Fields
Jungyeol Park (Soongsil University, South Korea); Jin-A. Choi (Soongsil University, South Korea); Jae-Kyung Wee (Soongsil University, South Korea); In-Chae Song (Soongsil University, South Korea); Boogyoun Kim (Soongsil University, Korea); Hyok Lee (Korea Automotive Technology Institute, Korea); Seung-Real Ryu (Korea Automotive Technology Institute, Korea);
- 09:40 Algebraic Function Approximation for Eigenvalue Problem in Rectangular Waveguide Partially Filled with Transversely Magnetized Ferrite
Oguzhan Demiryurek (Kocaeli University, Turkey); Namik Yener (Kocaeli University, Turkey);
- 10:00 **Coffee Break**

- 10:20 The Transmittance of Electromagnetic Waves and Field Correlations in Multilayered Microspheres with Quasi-periodic Structures
Maricruz Najera Villeda (Universidad Autonoma del Estado de Morelos, Mexico); Gennadiy Burlak (Autonomous State University of Morelos, Mexico);
- 10:40 Evaluation of Power Transistors Figure of Merit for Hard Switching Commutation Mode through Experimental Analysis
Michal Frivaldsky (University of Zilina, Slovak Republic); Pavol Spanik (University of Zilina, Slovak Republic); Boris Kozacek (University of Zilina, Slovak Republic); Marek Piri (University of Zilina, Slovak Republic);

Session 2A0
Poster Session 3

Tuesday AM, July 7, 2015
9:00 AM - 12:00 AM
Room Poster Area

- 1 A Hybrid Trefftz Finite Element Analysis of Eigenmodes Propagating in a Holey Fiber
Yoshihito Morita (Muroran Institute of Technology, Japan); Shingo Sato (Muroran Institute of Technology, Japan); Koji Hasegawa (Muroran Institute of Technology, Japan);
- 2 Using Microwave Radiation for Porcelain Tableware Sintering
Tiago André César dos Santos (University of Aveiro, NIF: 501.461.108, Portugal); L. Henriet (Technological Center for Ceramic and Glass Industries, Portugal); V. A. F. Costa (University of Aveiro, Portugal); Luis Cadillon Costa (University of Aveiro, Portugal);
- 3 Design of Complex Metal-dielectric Diffraction Gratings
Alexander Lerer (Southern Federal University, Russia); Stepan Vyhlička (ELI-Beamlines, Czech Republic); Galina Kalinchenko (ELI Beamlines, Czech Republic); Daniel Kramer (ELI Beamlines, Czech Republic); Bedrich Rus (ELI Beamlines, Czech Republic);
- 4 Comparative Study of Different Dielectric Function Fitting Model for Gold, Silver, Copper, Aluminum in Visible Bandwidth by Using PSO
Dong Liu (Southwest Jiaotong University, China); Krzysztof A. Michalski (Texas A&M University, USA);

- 5 In Re Electric Switching Sense of Microwave Magnetic Field Rotation near Varactor-loaded Dipole Excited by a Plane Wave
Valery S. Butylkin (Kotelnikov Institute of Radioengineering & Electronics RAS, Russia); Galina A. Kraftmakher (Kotelnikov Institute of Radioengineering & Electronics RAS, Russia); Yuri N. Kazantsev (Kotelnikov Institute of Radioengineering & Electronics RAS, Russia);
- 6 Analysis of EMG Waves from a Pulse Source
Radim Kadlec (Brno University of Technology, Czech Republic); Dusan Nespor (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Eva Gescheidtova (Brno University of Technology, Czech Republic);
- 7 Propagation of Fluorescence Radiation through μ -capillary Holes of Glass Micro-channel Plate
Mikhail Mazuritskiy (Physics Department of Southern Federal University, Russia); Alexander Lerer (Southern Federal University, Russia); Alexander Ezoutsov (Physics Department of Southern Federal University, Russia); Galina Kalinchenko (ELI Beamlines, Czech Republic);
- 8 Diffraction by Arbitrary-angled Dielectric Wedges: Closed Form High-Frequency Solutions
Marcello Frongillo (University of Salerno, Italy); Gianluca Gennarelli (National Research Council, Italy); Giovanni Riccio (University of Salerno, Italy);
- 9 Analysis and Design of a Wideband Low Phase Noise LC VCO
Xuemei Lei (Inner Mongolia University, China); Jianxin Zhang (Inner Mongolia University, China); Jing Shi (Inner Mongolia University, China);
- 10 Visualization of Electromagnetic Environment in Magnetic Confinement Fusion Test Facilities
Yoshitsugu Kamimura (Utsunomiya University, Japan); S. Nakayama (Utsunomiya University, Japan); M. Tanaka (National Institute for Fusion Science, Japan);
- 11 Adaptive Beam-forming Optimization Based Hybrid PSOGSA Algorithm for Smart Antennas Systems
Ahmed Magdy Mohamed (Helwan University, Egypt); Osama M. El-Ghandour (Helwan University, Egypt); Hesham F. A. Hamed (Minia University, Egypt);
- 12 Semiconductor Temperature Tunable Metamaterial for Terahertz Applications
Kirill L. Koshelev (Saint-Petersburg State Polytechnical University, Russia); Andrey A. Bogdanov (ITMO University, Russia);
- 13 One-way Helical Electromagnetic Wave Propagation Supported by Magnetized Plasma
Biao Yang (University of Birmingham, United Kingdom); Mark Lawrence (University of Birmingham, United Kingdom); Wenlong Gao (University of Birmingham, United Kingdom); Qing-Hua Guo (University of Birmingham, United Kingdom); Shuang Zhang (University of Birmingham, UK);
- 14 The Properties of Surface Plasmon Polaritons at Linearly Graded Interfaces
Dalibor Blazek (VSB — Technical University of Ostrava, Czech Republic); Michael Cada (Dalhousie University, Canada); Jaromir Pistora (Technical University Ostrava, Czech Republic);
- 15 Noise Spectroscopy Tests in the Analysis of Materials and Periodic Material Structures
Zoltan Szabo (Brno University of Technology, Czech Republic); Petr Drexler (Brno University of Technology, Czech Republic); Jan Seginak (Brno University of Technology, Czech Republic); Dusan Nespor (Brno University of Technology, Czech Republic); Miloslav Steinbauer (Brno University of Technology, Czech Republic); Petr Marcon (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic);
- 16 Supercontinuum Generation in a Silicon Nanowire Embedded Photonic Crystal Fiber
E. Gunasundari (VIT University, India); Abdosllam M. Abobaker (Collage of Electronic Technology, Libya); K. Senthilnathan (VIT University, India); S. Sivabalan (VIT University, India); Kaliyaperumal Nakkeeran (University of Aberdeen, UK); P. Ramesh Babu (VIT University, India);
- 17 Temperature Dependence of the Equilibrium Distance in Plane-parallel Thin Films at Thermal Equilibrium
Victoria Estesio Carrizo (Consejo Superior de Investigaciones Cientificas, Spain); Sol Carretero-Palacios (Consejo Superior de Investigaciones Cientificas, Spain); Hernan Miguez (Spanish National Research Council, Spain);
- 18 Dispersion Characteristics of Zinc Oxide Nanorods Organized in Two-dimensional Uniform Arrays
Alexander M. Lerer (Southern Federal University, Russia); Pavel Evgenjevich Timoshenko (Southern Federal University, Russia); Galina A. Kalinchenko (ELI Beamlines, Czech Republic); Evgeny M. Kaidashhev (Southern Federal University, Russia); Alexey Sergeevich Puzanov (Southern Federal University, Russia);

- 19 Dynamical Evolution of the Laser Linewidth at Switch-on
G. P. Puccioni (Istituto Sistemi Complessi, CNR, Italy); N. Dokhane (University M'Hamed Bougara, Algeria); Gian Luca Lippi (Universite de Nice-Sophia Antipolis, France);
- 20 Free-running Semiconductor Laser Dynamics: The Role of the Phase Instability
L. Gil (Institut Non Lineaire de Nice, France); Gian Luca Lippi (Universite de Nice-Sophia Antipolis, France);
- 21 Terahertz Photoluminescence of Lithium Doped Silicon at Band-to-band Optical Excitation
A. V. Andrianov (A. F. Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Russia); Alexey O. Zakharin (A. F. Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Russia); R. Kh. Zhukavin (Institute of Physics of Microstructures, RAS, Russia); V. N. Shastin (Institute of Physics of Microstructures, RAS, Russia); N. V. Abrosimov (Leibniz Institute for Crystal Growth, Germany);
- 22 The Effect of UV Laser Irradiation and Thermal Treatment on the Luminescent Properties of Silver-containing Glasses
V. S. Leonteva (ITMO University, Russia); D. A. Klyukin (ITMO University, Russia); A. I. Sidorov (ITMO University, Russia); A. I. Ignatiev (ITMO University, Russia); Nikolay V. Nikonov (Saint-Petersburg University of Information Technologies, Mechanics, and Optics, Russia);
- 23 Transmission Properties of THz Silicon Photonic Crystal Fiber
Abdosllam M. Abobaker (Collage of Electronic Technology, Libya); E. Gunasundari (VIT University, India); K. Senthilnathan (VIT University, India); S. Sivabalan (VIT University, India); Kaliyaperumal Nakkeeran (University of Aberdeen, UK); P. Ramesh Babu (VIT University, India);
- 24 Minimally Invasive W-band Microwave Imaging
No-Weon Kang (Korea Research Institute of Standards and Science, South Korea); Young-Pyo Hong (Korea Research Institute of Standards and Science, Korea); Dong-Joon Lee (Korea Research Institute of Standards and Science, Korea);
- 25 Phase-stabilized Microwave Imaging Using Dual Electro-optic Probes
Young-Pyo Hong (Korea Research Institute of Standards and Science, Korea); No-Weon Kang (Korea Research Institute of Standards and Science, South Korea); Dong-Joon Lee (Korea Research Institute of Standards and Science, Korea);
- 26 Field-calibrated Electro-optic W-band Power Sensor
Dong-Joon Lee (Korea Research Institute of Standards and Science, Korea); Yong-Pyo Hong (Korea Research Institute of Standards and Science, Korea); No-Weon Kang (Korea Research Institute of Standards and Science, South Korea); Jae-Yong Kwon (Korea Research Institute of Standards and Science, South Korea);
- 27 Broadband Tunable Terahertz Metamaterial with Photoinduced Vanadium Dioxide Film
Shen Qiao (University of Electronic Science and Technology of China, China); Yaxin Zhang (University of Electronic Science and Technology of China, China);
- 28 Generation Method for Bandwidth-limited Terahertz Pulses by Spectral Synthesis of Optical Comb Generated by a MZM-based Flat Comb Generator
Isao Morohashi (National Institute of Information and Communications Technology, Japan); Takahide Sakamoto (National Institute of Information and Communications Technology (NICT), Japan); Norihiko Sekine (National Institute of Information and Communications Technology, Japan); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan); Akifumi Kasamatsu (National Institute of Information and Communications Technology, Japan); Iwao Hosako (National Institute of Information and Communications Technology, Japan);
- 29 Collapse of Nonlinear Terahertz Pulses in n -InSb
Christian Castrejon-Martinez (Autonomous University of State Morelos (UAEM), Mexico); Volodymyr V. Grimalsky (Autonomous University of State Morelos (UAEM), Mexico); Svetlana V. Koshevaya (Autonomous University of State Morelos (UAEM), Mexico); Jesus Escobedo-Alatorre (Autonomous University of State Morelos (UAEM), Mexico);

- 30 A Novel Dual-band Dielectric Resonator Antenna for WLAN Applications
Jwo-Shiun Sun (National Taipei University of Technology, Taiwan); Chi-Yeh Kan (National Taipei University of Technology, Taiwan); Hung-Wen Liu (National Taipei University of Technology, Taiwan); Guan-Pu Pan (National Taipei University of Technology, Taiwan); Tsung-Lin Li (National Taipei University of Technology, Taiwan);
- 31 Triple-band MIMO Antenna with Proximity Coupling Radiators
Jwo-Shiun Sun (National Taipei University of Technology, Taiwan); Chi-Yeh Kang (National Taipei University of Technology, Taiwan); Han-Sheng Fang (National Taipei University of Technology, Taiwan); Po-Yen Lin (National Taipei University of Technology, Taiwan); Ching-Song Chuang (Lunghwa University of Science and Technology, Taiwan);
- 32 A Planar Dual-band Antenna for WLAN MIMO Application
Li Ju Chen (National Sun Yat-Sen University, Taiwan); Ken-Huang Lin (National Sun Yat-Sen University, Taiwan);
- 33 Resonant Antenna Design Employing Equivalent Circuit Mode
Cheng-Nan Hu (Oriental Institute of Technology, Taiwan); Siam-Chen Huang (Oriental Institute of Technology, Taiwan); Jhih-Neng Yang (Oriental Institute of Technology, Taiwan); Jen-Kai Hong (Oriental Institute of Technology, Taiwan);
- 34 Flexible PIFA Antenna Design for Wireless Sensor Networks in Wearable Healthcare Applications
Ignacio Gil (Universitat Politecnica de Catalunya (UPC), Spain); Raul Fernandez-Garcia (Universitat Politecnica de Catalunya, Spain);
- 35 Dual-band Printed Antenna for WLAN Applications
Lanchao Zhang (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China); Yingsong Li (Harbin Engineering University, China);
- 36 Compact Reconfigurable Antenna Design Based on Variable Capacitive Loading
Youngkyu Kim (Soonchunhyang University, Republic of Korea); Seok-Jae Lee (Soonchunhyang University, Republic of Korea); Jongsik Lim (Soonchunhyang University, Republic of Korea); Dal Ahn (Soonchunhyang University, Republic of Korea); Jin-Ho Ahn (Hoseo University, Republic of Korea); Seung-Hwan Lee (Electronic Telecommunication Research Institute, Republic of Korea); Sang-Min Han (Soonchunhyang University, Republic of Korea);
- 37 Unequal Power Divider Using Series RC Circuit for Improved Isolation
Young Kim (Kumoh National Institute of Technology, Korea); Seokhyun Sim (Kumoh National Institute of Technology, Korea); Youngchul Yoon (Catholic Kwandong University, Korea);
- 38 Microwave Amplifier Design for Solid State Radar Transceivers at X-band
Timothea J. Korfiati (National and Kapodistrian University of Athens, Greece); Evangelia A. Karagianni (Hellenic Naval Academy, Greece); Christos N. Vazouras (Hellenic Naval Academy, Greece); Christina C. Lessi (National and Kapodistrian University of Athens, Greece); Nikolaos K. Uzunoglu (National Technical University of Athens, Greece);
- 39 Microwave Dielectric Properties of $(\text{Bi}_{1-x}\text{Eu}_x)\text{NbO}_4$ Ceramics
Susana Margarida Costa De Almeida Devesa (University of Aveiro, Portugal); M. P. F. Graca (University of Aveiro, Portugal); Luis Cadillon Costa (University of Aveiro, Portugal);
- 40 THz Generation of Bloch Oscillators from SiC Structures due to Strong Electric Fields
Vladimir I. Sankin (Ioffe Physical Technical Institute, Russia); A. V. Andrianov (A. F. Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Russia); A. G. Petrov (Ioffe Physical Technical Institute, Russia); S. S. Nagalyuk (Ioffe Physical Technical Institute, Russia); P. P. Shkrebiy (Ioffe Physical Technical Institute, Russia); Alexey O. Zakharin (A. F. Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Russia);
- 41 Electromagnetic Emission Analysis of a Multiband EMI Filter Based on Sub-wavelength Resonators
J. M. Ruiz (Escuela Universitaria Salesiana de Sarriá, Spain); Ignacio Gil (Universitat Politecnica de Catalunya (UPC), Spain); Marta Morata (Escuela Universitaria Salesiana de Sarriá, Spain);
- 42 Overhead and Cable Transmission Lines Magnetic Fields: Standardization, Estimation, and Design
Nina B. Rubtsova (FSBSI "Research Institute of Occupational Health", Russia); A. Yu. Tokarskij (JSC Federal Network Company Branch "Main Power Networks of the Center", Russian Federation);
- 43 Electromagnetic Compatibility of Contactless Power Transfer Modeled in FEM Analysis Software
Radek Fajtl (Czech Technical University in Prague, Czech Republic); Karel Buhr (Czech Technical University in Prague, Czech Republic);

- 44 Parallel Imaging Based on Multicore DSP for FMCW SAR
Chengfei Gu (National University of Defense Technology, China); Wenge Chang (National University of Defense Technology, China); Xiangyang Li (National University of Defense Technology, China);
- 45 Monitoring of Buoyancy Effects to Structures by Tsunami Water after Heavy Seismic Shocks
Shigehisa Nakamura (Kyoto University, Japan);
- 46 Monitoring of Orographic Patterns in Relation to Tsunami Earthquake
Shigehisa Nakamura (Kyoto University, Japan);
- 47 Reconstruction Algorithm through Laplacian Image in X-Ray Differential Phase-Contrast Computed Tomography
Tetsuya Yuasa (Yamagata University, Japan); Naoki Sunaguchi (Gunma University, Japan); Masami Ando (Tokyo University of Science, Japan);
- 48 An Efficient Approach of Lengthening Battery Age and Working Hours through Redistributing Battery Packs
L. Chen (Shanghai Institute of Technology, China); X. H. Feng (Shanghai Institute of Technology, China); G. C. Wan (Tongji University, China); Mei Song Tong (Tongji University, China);
- 49 An Accurate Estimation for the State of Health of Lithium-ion Batteries by Using Fuzzy Logic System
L. Chen (Shanghai Institute of Technology, China); F. Q. Xiong (Shanghai Institute of Technology, China); G. C. Wan (Tongji University, China); Mei Song Tong (Tongji University, China);
- 50 Estimation of Equivalent Model Parameters for LiFeO_4 Batteries Based on Particle Swarm Optimization
L. Chen (Shanghai Institute of Technology, China); T. Geng (Shanghai Institute of Technology, China); Q. Zhang (Shanghai Institute of Technology, China); Guochun Wan (Tongji University, China); C. H. Jiang (Tongji University, China); Mei Song Tong (Tongji University, China);
- 51 Noncoherent Detection for Multi-hop Amplify-and-forward-based Multi-branch Cooperative Diversity Systems
Minghe Mao (Hohai University, China); Ning Cao (Hohai University, China); Yunfei Chen (Warwick University, UK); Haobing Chu (UBC Okanagan, Canada);
- 52 A New Design of High-speed Decimal Direct Digital Frequency Synthesizer
Guochun Wan (Tongji University, China); Gui Zhu Yin (Tongji University, China); Jie Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);
- 53 Coverage Impact for Data Traffic Profiling in WCDMA Networks
Karolis Zvinys (Vilnius Gediminas Technical University, Lithuania); Darius Gursnys (Vilnius Gediminas Technical University, Lithuania); Evaldas Stankevicius (Vilnius Gediminas Technical University, Lithuania);
- 54 A Nyström-based Approach for Solving Time-domain Magnetic Field Integral Equation
Wen Jie Chen (Tongji University, China); Guochun Wan (Tongji University, China); Jie Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);
- 55 A Hybrid Scheme for Solving Transient Electromagnetic Problems with Conductors
Wen Jie Chen (Tongji University, China); Guochun Wan (Tongji University, China); Jie Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);
- 56 Influences of High Relative Humidity on Extremely Low Frequency Electric Field Measurements
Leena Korpinen (Tampere University of Technology, Finland); Hiroo Tarao (Tampere University of Technology, Finland); Rauno Paakkonen (Finnish Institute of Occupational Health, Finland); Oleksandr Okun (National Technical University "Kharkov Polytechnic Institute", Ukraine); Lauri Sydanheimo (Tampere University of Technology, Finland);
- 57 Examples of Variation in Measured ELF Electric Fields under 400 kV Power Lines
Leena Korpinen (Tampere University of Technology, Finland); Rauno Paakkonen (Finnish Institute of Occupational Health, Finland); Hiroo Tarao (Tampere University of Technology, Finland); Oleksandr Okun (National Technical University "Kharkov Polytechnic Institute", Ukraine); Lauri Sydanheimo (Tampere University of Technology, Finland);
- 58 Possible Methods for Limiting Exposure to the Electric Fields of High Voltage Power Lines on Active Implantable Medical Devices in the Human Body
Oleksandr Okun (National Technical University "Kharkov Polytechnic Institute", Ukraine); Leena Korpinen (Tampere University of Technology, Finland); Lauri Sydanheimo (Tampere University of Technology, Finland);

- 59 Negative Permeability from Random Particle Composites
Shahid Hussain (QinetiQ Limited, UK);
- 60 Programmable Fiber-based in-band OSNR Monitoring for Flexgrid Coherent Optical Communication System
Ruoxu Wang (Huazhong University of Science and Technology (HUST), China); Liangjun Zhang (Huazhong University of Science and Technology, China); Ming Tang (Huazhong University of Science and Technology (HUST), China); Zhenhua Feng (Huazhong University of Science and Technology, China); Rui Lin (Huazhong University of Science and Technology, China); Songnian Fu (Huazhong University of Science and Technology (HUST), China); Perry Ping Shum (Nanyang Technological University, Singapore);
- 61 The Study of Structure (XRD) and Optics (PL) and Magnetism (SQUID and ESR) Based on Undoped GaMnN Grown by MBE
J. W. Lee (Dongguk University, Republic of Korea); Yoon Shon (Dongguk University, Republic of Korea); N. G. Subramaniam (Dongguk University, Republic of Korea); T. W. Kang (Dongguk University, Republic of Korea); C. S. Park (Hanyang University, Republic of Korea); E. K. Kim (Hanyang University, Republic of Korea); Jin Dong Song (Korea Institute of Science and Technology, South Korea); H. C. Koo (Korea Institute of Science and Technology, Republic of Korea);
- 62 Laser Sensor for Monitoring Methane Emission in the Arctic Permafrost
Aleksandr S. Grishkanich (National Research University of Informational Technologies, Mechanics and Optics, Russia); S. V. Kascheev (National Research University of Informational Technologies, Mechanics and Optics, Russia); V. V. Elizarov (National Research University of Informational Technologies, Mechanics and Optics, Russia); I. S. Sidorov (University of Eastern Finland, Finland); A. P. Zhevlakov (National Research University of Informational Technologies, Mechanics and Optics, Russia);
- 63 Dual Source Railway Vehicles
Tomas Lelek (University of Pardubice, Czech Republic); Vladimir Schejbal (University of Pardubice, Czech Republic); Ondrej Sadilek (University of Pardubice, Czech Republic);
- 64 Design of Slot Planar Applicator for Local Thermotherapy
Jaroslav Vorlicek (Czech Technical University, Czech Republic); Ladislav Oppl (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 65 Array of Spiral Applicators for Local Thermotherapy
Jaroslav Vorlicek (Czech Technical University, Czech Republic); Ladislav Oppl (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 66 Development of Applicator for Microwave Hyperthermia System for Treatment of Mice
David Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); Miroslav Wiewegh (Czech Technical University in Prague, Czech Republic); Milan Bursik (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 67 Numerical Study of System Requirements for Microwave Hyperthermia Treatment of Breast
David Vrba (Czech Technical University in Prague, Czech Republic); Ondrej Fiser (Czech Technical University in Prague, Czech Republic); Ilja Merunka (Czech Technical University in Prague, Czech Republic); Matej Polacek (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic);
- 68 A Miniaturized Single Balanced Mixer for UWB Applications
Wahab Mohyuddin (Kyungpook National University, South Korea); Dong Sik Woo (Kyungpook National University, South Korea); Byung Gil Choi (Kyungpook National University, South Korea); Hyun Chul Choi (Kyungpook National University, South Korea); Kang Wook Kim (Kyungpook National University, South Korea);
- 69 A Broadband Equiangular Spiral Antenna for UWB Ground Penetrating Radar (GPR) Applications
Dong Sik Woo (Kyungpook National University, South Korea); Wahab Mohyuddin (Kyungpook National University, South Korea); Sung Kyun Kim (Kyungpook National University, South Korea); Hyun Chul Choi (Kyungpook National University, South Korea); Kang Wook Kim (Kyungpook National University, South Korea);

- 70 Simulation on Power Handling Enhancement for the Ohmic Contact RF MEMS Switch with Micro-spring Structure
Zhuhaio Gong (Tsinghua University, China); Huiliang Liu (Tsinghua University, China); Zewen Liu (Tsinghua University, China);
- 71 Evaluation of Electromagnetic Interference Emitted from Compact Fluorescent Lamps According to CISPR-15
Atalay Kocakusak (Akdeniz University, Turkey); Mehmet Cakir (Akdeniz University, Turkey); Samet Yalcin (Suleyman Demirel University, Turkey); Sukru Ozen (Akdeniz University, Turkey); Selcuk Helhel (Akdeniz University, Turkey);
- 72 Analysis of the SMOS, MODIS and GCOM-W1 Data during the Growing Season in the Southern Part of the Western Siberia
P. P. Bobrov (Omsk State Pedagogical University, Russia); Anastasiya Sergeevna Lapina (Omsk State Pedagogical University, Russia); Alexandr Sergeevich Yashchenko (Kirensky Institute of Physics, Siberian Branch, Russian Academy of Sciences, Russia);
- 73 Low Profile Decoupled Antenna System Based on High Impedance Surface
Alexander P. Volkov (Moscow Aviation Institute, Russia); A. Yu. Grinev (Moscow Aviation Institute, Russia); A. P. Kurochkin (JSC Vega Radio Engineering Corporation, Russia);
- 74 A Spread Spectrum Clock Generator Using Discontinuous Modulation Technique for Reduction of Time Interval Errors
Taiming Piao (Soongsil University, Korea); Jae-Kyung Wee (Soongsil University, Korea); In-Chae Song (Soongsil University, Korea); Boogyoun Kim (Soongsil University, Korea);
- 75 Multi-wavelength Erbium-doped Fiber Laser Based on Distributed Rayleigh Scattering Feedback
Lulu Wang (China Jiliang University, China); Xinyong Dong (Nanyang Technological University, Singapore); Perry Ping Shum (Nanyang Technological University, Singapore); Haibin Su (Nanyang Technological University, Singapore);
- 76 Analysis of the Induction Motor Drive Predictive Control Method and Its Comparison with the Fundamental Direct Torque Control Method
Jiri Lettl (Czech Technical University in Prague, Czech Republic); Pavel Karlovsky (Czech Technical University in Prague, Czech Republic);
- 77 Effect of Neutral Grounding Methods on the Earth Fault Characteristics
Abdallah R. Al-Zyoud (Albalqa Applied University, Jordan); Abdullah Alwadie (Najran University, Saudi Arabia); A. Elmitwally (Najran University, Saudi Arabia); Abdallah Basheer (National Electrical Power Company, Jordan);
- 78 Wheel Speed Measurement of Traction Locomotive under Wheel Slip Conditions
Ondrej Zoubek (Czech Technical University in Prague, Czech Republic); P. Pichlik (Czech Technical University in Prague, Czech Republic); Jiri Zdenek (Czech Technical University in Prague, Czech Republic);
- 79 Electric Vehicle Drive Control Based on GPS and GSM Path Parameters
Tomas Haubert (Czech Technical University in Prague, Czech Republic); Zdenek Cerovsky (Czech Technical University in Prague, Czech Republic); Pavel Mindl (Czech Technical University in Prague, Czech Republic); P. Mnuk (Czech Technical University in Prague, Czech Republic);
- 80 A Novel Ultrathin CdS/CdTe Solar Cell with Conversion Efficiency of 31.2% for Nano-area Application
Masoud Sabaghi (Nuclear Science and Technology Research Institute (NSTRI), Iran); A. Majdabadi (Nuclear Science and Technology Research Institute (NSTRI), Iran); Saeed Khosroabadi (Imam Reza International University, Iran); S. Marjani (Nuclear Science and Technology Research Institute (NSTRI), Iran);

Session 2P1
FocusSession.SC2: Planar Optics Based on Metasurfaces 2

Tuesday PM, July 7, 2015
Room A

Organized by Yongmin Liu, Shuang Zhang

Chaired by Shuang Zhang, Shulin Sun

- 13:10 Metasurfaces' Solutions for Polarization Spectroscopy, keynote Optical Activity, Colored Phase Holograms and Compact Nano-cavities
Vladimir M. Shalaev (Purdue University, USA); Amr M. Shaltout (Purdue University, USA); Jingjing Liu (Purdue University, USA); Sajid Choudhury (Purdue University, USA); Alexandra Boltasseva (Purdue University, USA); Alexander V. Kildishev (Purdue University, USA);

- 13:40 Controlling the Polarization State of Light with
invited Metastructures
Mu Wang (Nanjing University, China); Shang-Chi Jiang (Nanjing University, China); Xiang Xiong (Nanjing University, China); Ren-Hao Fan (Nanjing University, China); Ru-Wen Peng (Nanjing University, China);
- 14:00 Manipulating Surface Waves by Metasurfaces
invited
Luigi La Spada (University of London, UK); Yang Hao (Queen Mary University of London, UK);
- 14:20 Extremely Confined Gap Surface-plasmon Modes in
invited Metallic Metasurfaces Probed by Electron Energy-loss Spectroscopy (EELS)
Nicolas Stenger (Technical University of Denmark, Denmark);
- 14:40 Highly Efficient Decoupling-free Surface Plasmon
invited Meta-couplers
Wujiong Sun (Fudan University, China); Qiong He (Fudan University, China); Shulin Sun (Fudan University, China); Lei Zhou (Fudan University, China);
- 15:00 Meta-line and Meta-surface for Cloaking
invited
Hong Chen Chu (Soochow University, China); Jie Luo (Soochow University, China); Yun Lai (Soochow University, China);
- 15:20 **Coffee Break**
- 15:40 Few-layer Metasurfaces for High Efficiency Linear Po-
invited larization Conversion and toward Planar Flat Optics
Hou-Tong Chen (MPA-CINT, Los Alamos National Laboratory, USA); Nathaniel K. Grady (Los Alamos National Laboratory, USA); Jane E. Heyes (Los Alamos National Laboratory, USA); Dibakar Roy Chowdhury (Los Alamos National Laboratory, USA); Yong Zeng (Los Alamos National Laboratory, USA); Matthew T. Reiten (Los Alamos National Laboratory, USA); Abul K. Azad (MPA-CINT, Los Alamos National Laboratory, USA); Diego Alejandro Roberto Dalvit (Los Alamos National Laboratory, USA); Antoinette J. Taylor (MPA-CINT, Los Alamos National Laboratory, USA);
- 16:00 High-performance Reflective Focusing of Terahertz Beams Using Holographic Metasurfaces
Sergey Alexandrovich Kuznetsov (Novosibirsk State University, Russia); M. A. Astafev (Novosibirsk State University, Russia); Miguel Beruete (Universidad Pública de Navarra, Spain); Miguel Navarro-Cia (Imperial College London, UK);
- 16:15 Plasmonic Metalens Lithography Far beyond the Near
invited Field Diffraction Limit
Xiangang Luo (Institute of Optics and Electronics, Chinese Academy of Sciences, China); Changtao Wang (Institute of Optics and Electronics, Chinese Academy of Sciences, China); Zeyu Zhao (Institute of Optics and Electronics, Chinese Academy of Sciences, China); Yanqin Wang (Institute of Optics and Electronics, Chinese Academy of Sciences, China); Na Yao (Institute of Optics and Electronics, Chinese Academy of Sciences, China); Ping Gao (Institute of Optics and Electronics, Chinese Academy of Sciences, China); Yunfei Luo (Institute of Optics and Electronics, Chinese Academy of Sciences, China);
- 16:35 Transparent Conducting Oxides as Plasmonic Com-
invited ponent in Near Infrared
J. Kim (Purdue University, USA); N. Kinsey (Purdue University, USA); A. Dutta (Purdue University, USA); M. Ferrera (Purdue University, USA); C. De Vault (Purdue University, USA); I. Kitamura (Purdue University, USA); Alexander V. Kildishev (Purdue University, USA); Vladimir M. Shalaev (Purdue University, USA); Alexandra Boltasseva (Purdue University, USA);
- 16:55 Photonic Spin Hall Effect with Nearly 100% Efficiency
invited
Weijie Luo (Fudan University, China); Shiyi Xiao (Fudan University, China); Qiong He (Fudan University, China); Shulin Sun (Fudan University, China); Lei Zhou (Fudan University, China);
- 17:15 Control of Ultrafast Coherent Nonlinear Response of
invited Plasmonic Metasurfaces
Giovanni Sartorello (King's College London, UK); Nicolas Olivier (King's College London, UK); Jingjing Zhang (Technical University of Denmark, Denmark); Weisheng Yue (King Abdullah University of Science and Technology, Saudi Arabia); Alexey V. Krasavin (King's College London, UK); Pavel Ginzburg (King's College London, UK); Gregory Wurtz (King's College London, UK); Anatoly V. Zayats (King's College London, UK);

- 17:35 Polarization Measurement Method Based on Metasurface
invited face

Dandan Wen (Heriot-Watt University, UK); Fuyong Yue (Heriot-Watt University, UK); Santosh Kumar (Heriot-Watt University, UK); Yong Ma (Heriot-Watt University, UK); Ming Chen (Guilin University of Electronic Technology, China); Ximing Ren (Heriot-Watt University, UK); Peter E. Kremer (Heriot-Watt University, UK); Brain D. Gerardot (Heriot-Watt University, UK); Mohammad R. Taghizadeh (Heriot Watt University, UK); Gerald S. Buller (Heriot Watt University, UK); Xianzhong Chen (University of Birmingham, UK);

- 17:55 Waveform-selective Metasurfaces to Distinguish Different Waves at the Same Frequency

Hiroki Wakatsuchi (Nagoya Institute of Technology, Japan);

Session 2P2a
Nonlinear Plasmonics

Tuesday PM, July 7, 2015

Room B

Organized by Alpan Bek

Chaired by Alpan Bek

- 13:20 Optimization of Second Harmonic Generation in Plasmonic Nanostructures by Mode Matching

Gabriel David Bernasconi (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland); Jeremy Butet (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland);

- 13:40 Linear and Nonlinear Spectral Signatures of Surface Plasmon Polaritons

Sergey A. Ponomarenko (Dalhousie University, Canada); L. Wang (Dalhousie University, Canada); F. Che (Dalhousie University, Canada);

- 14:00 Metallic Nanocones as Nonlinear Optical Point Light Sources

Monika Fleischer (Eberhard Karls University Tuebingen, Germany); Dominik A. Gollmer (Eberhard Karls University Tuebingen, Germany); Philipp Reichenbach (Technische Universität Dresden, Germany); Anke Horneber (Eberhard Karls University Tuebingen, Germany); Andreas Hille (Technische Universität Dresden, Germany); Josip Mihaljevic (Eberhard Karls University Tuebingen, Germany); Christian Schafer (Eberhard Karls University Tuebingen, Germany); Alfred J. Meixner (Eberhard-Karls-University Tuebingen, Germany); Dai Zhang (Eberhard Karls University Tuebingen, Germany); Dieter P. Kern (Eberhard Karls University Tuebingen, Germany); Lukas M. Eng (Technische Universität Dresden, Germany);

- 14:20 Nonlinear Conversion of Continuous Wave Light by Fano Resonant All-plasmonic and Molecular-plasmonic Hybrid Nanostructures

Musa Kurtulus Abak (Middle East Technical University, Turkey); Bilge Can Yildiz Karakul (Middle East Technical University, Turkey); Mehmet Emre Tasgin (Hacettepe University, Turkey); Ljiljana Fruk (Karlsruhe Institute of Technology, Germany); Marco Lazzarino (CNR-IOM, Area Science Park, Italy); Alpan Bek (Middle East Technical University, Turkey);

- 14:40 Resonantly Enhanced Nonlinear Toroidal Moments in Plasmonic Metamaterials

Daniel Timbrell (University College London, United Kingdom); Nuno Braz (University College London, United Kingdom); Martin Weismann (University College London, United Kingdom); Paul A. Warburton (University College London, United Kingdom); Nicolae-Coriolan Panoiu (University College London, UK);

- 15:00 Surface Polaritons in a Negative-index Metamaterial with Active Raman Gain

Chaohua Tan (East China Normal University, China); Guoxiang Huang (East China Normal University, China);

- 15:20 **Coffee Break**

Session 2P2b
FocusSession.SC2: Plasmonic Nanolasing

Tuesday PM, July 7, 2015

Room B

Organized by Ortwin Hess

Chaired by Ortwin Hess

15:40 Plasmonic Stopped-light Nanolasing

keynote

Ortwin Hess (Imperial College London, United Kingdom);

16:10 Metal Nanoantennas: Nonlinear Response and Enhanced Light-matter Interaction

invited

Rudolf Bratschitsch (University of Münster, Germany);

16:30 Ultrafast Plasmonic Lasers at the Surface Plasmon Frequency

invited

Themistoklis P. H. Sidiropoulos (Imperial College London, UK); Robert Roder (University of Jena, Germany); Sebastian Geburt (University of Jena, Germany); Ortwin Hess (Imperial College London, United Kingdom); Stefan Alexander Maier (Imperial College London, UK); Carsten Ronning (University of Jena, Germany); Rupert F. Oulton (Imperial College London, United Kingdom);

16:50 Investigation of Superradiant Surface Plasmon Mode Generated in Ag Slit Array/InGaAsP at Room Temperature

Kwang Jun Ahn (Ajou University, Korea); Seung-Hyun Kim (Chungnam National University, Korea); Ki-Ju Yee (Chungnam National University, Korea);

17:05 Influence of Gold Nanoparticles on the Lasing Properties of Rh6G-PMMA Material

Elena Vasileva (KTH Royal Institute of Technology, Sweden); Aleksandrs Marinins (KTH Royal Institute of Technology, Sweden); Fei Ye (KTH Royal Institute of Technology, Sweden); Sergei Popov (Royal Institute of Technology (KTH), Sweden); Muhammet Toprak (KTH Royal Institute of Technology, Sweden);

17:20 Magneto-optical Intensity Effects in Active Magneto-plasmonic Structures

Olga Borovkova (Russian Quantum Center, Russia); Andrey N. Kalish (Russian Quantum Center, Russia); Petr Vetoshko (Russian Quantum Center, Russia); Vladimir I. Belotelov (Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia); Igor I. Syvorotka (Institute of Materials, SRC "Carat", Ukraine); Igor M. Syvorotka (Institute of Materials, SRC "Carat", Ukraine); A. Luchechko (Ivan Franko National University of Lviv, Ukraine);

17:35 Classical Spaser

Vladimir G. Bordo (University of Southern Denmark, Denmark);

Session 2P3

SC3: Advanced Optofluidics: Optical Control and Photonics in Microfluidics

Tuesday PM, July 7, 2015

Room C

Organized by Francesco Simoni

Chaired by Francesco Simoni

13:00 Chiral Optofluidics

invited

R. J. Hernandez (CNR-IMIP, Italy); A. Mazzulla (CNR-IMIP, Italy); P. Pagliusi (CNR-IMIP, Italy); C. Provenzano (University of Calabria, Italy); Maria G. Donato (CNR-IPCF, Italy); O. Marago (CNR-IPCF, Italy); D. Kasyanyuk (Institute of Physics, National Academy of Sciences of Ukraine, Ukraine); Y. Reznikov (Institute of Physics, National Academy of Sciences of Ukraine, Ukraine); Gabriella Cipparrone (University of Calabria, Italy);

13:20 Optofluidics for Energy Applications

invited

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

13:40 Optofluidic Nanoparticle and Biomolecule Manipulation and Sorting

invited

Ai Qun Liu (Nanyang Technological University, Singapore);

14:00 Light-induced Bulk Flows

invited

Jean-Pierre Delville (Université of Bordeaux, France); Hamza Chraïbi (Université of Bordeaux, France); David Riviere (Université of Bordeaux, France); Ulysse Delabre (Université of Bordeaux, France);

14:20 Liquid Crystal Photonics

invited

Igor Musevic (Jozef Stefan Institute, Slovenia);

14:40 Organic Dye DFB Laser Sensor Arrays for Image Reflectometry

invited

Christoph Vannahme (Technical University of Denmark, Denmark); Kristian Tolbol Sorensen (Technical University of Denmark, Denmark); Petur Gordon Hermannsson (Technical University of Denmark, Denmark); Martin Dufva (Technical University of Denmark, Denmark); Anders Kristensen (Technical University of Denmark, Denmark);

15:00 Light at Work: Optical Delivery, Sorting and Self-assembly of Microobjects
invited

Pavel Zemanek (Institute of Scientific Instruments of the ASCR, v.v.i., Czech Republic); Oto Brzobohaty (Institute of Scientific Instruments of the ASCR, v.v.i., Czech Republic); P. Jakl (Institute of Scientific Instruments of the ASCR, v.v.i., Czech Republic); L. Chvatal (Institute of Scientific Instruments of the ASCR, v.v.i., Czech Republic); S. Simpson (Institute of Scientific Instruments of the ASCR, v.v.i., Czech Republic); M. Siler (Institute of Scientific Instruments of the ASCR, v.v.i., Czech Republic);

15:20 **Coffee Break**

15:40 A Nanophotonic Platform for High-throughput Precision Single Biomolecule Manipulation
invited

Michelle D. Wang (Cornell University, USA);

16:00 Localized Fluorescence Enhancement with Gold-coated Microtools
invited

Pál Ormos (Institute of Biophysics, Biological Research Centre, Hungary); Badri L. Aekbote (Institute of Biophysics, Biological Research Centre, Hungary); Gaszton Vizsnyiczai (Institute of Biophysics, Biological Research Centre, Hungary); Lóránd Kelemen (Institute of Biophysics, Biological Research Centre, Hungary);

16:20 Lab on a Chip Integrated Light Source: The Femtolaser Direct Writing Design for a New Fabrication Route
invited

S. Lo Turco (Istituto Italiano di Tecnologia, Italy); S. Bonfadini (Istituto Italiano di Tecnologia, Italy); Roberta Ramponi (Institute of Photonics and Nanotechnology (IFN) — CNR, Italy); Daniele E. Lucchetta (Università Politecnica delle Marche, Italy); P. Spegni (Università Politecnica delle Marche, Italy); Francesco Simoni (Università Politecnica delle Marche, Italy); Luigino Criante (Istituto Italiano di Tecnologia, Italy);

16:40 Optofluidic Platforms for Miniaturized Biomedical Analysis Systems
invited

Christian Karnutsch (Karlsruhe University of Applied Sciences, Germany); Christoph Prokop (University of Applied Sciences Karlsruhe, Germany); Crispin Szydzik (RMIT University, Australia); Khashayar Khoshmanesh (RMIT University, Australia); Arnan Mitchell (RMIT University, Australia);

17:00 Optofluidic Devices and Platforms for Sensing Applications
invited

Genni Testa (Consiglio Nazionale delle Ricerche (IREA-CNR), Italy); Gianluca Persichetti (Consiglio Nazionale delle Ricerche (IREA-CNR), Italy); Immacolata Angelica Grimaldii (Consiglio Nazionale delle Ricerche (IREA-CNR), Italy); Romeo Bernini (Consiglio Nazionale delle Ricerche (IREA-CNR), Italy);

17:20 A Tunable Nano-optofluidic Polymer Filter Based on Guided-mode Resonance

Guohui Xiao (Sun Yat-sen University, China); Chongjun Jin (Sun Yat-sen University, China);

17:40 Single Microbial Cell Manipulation in a Three Dimensional Microfluidic Chip

Anusha Keloth (Heriot Watt University, UK); Lynn Paterson (Heriot Watt University, UK); Gerard H. Markx (Heriot-Watt University, UK); Ajoy K. Kar (Heriot Watt University, UK);

18:00 Light Moves Macro-objects

Daniele E. Lucchetta (Università Politecnica delle Marche, Italy); Francesco Simoni (Università Politecnica delle Marche, Italy); L. Nucara (Scuola Superiore Sant'Anna, Italy); R. Castagna (Università Politecnica delle Marche, Italy);

Session 2P4

FocusSession.SC2&3: Scalable and Hierarchical Nanofabrication for Deep Sub-wavelength Nanophotonics

Tuesday PM, July 7, 2015

Room D

Organized by Junsuk Rho, Laura Na Liu

Chaired by Junsuk Rho

13:00 Atomic Layer Lithography for High-throughput Fabrication of Sub-10-nm Plasmonic Gap Arrays
invited

Xiaoshu Chen (University of Minnesota, USA); Hyeong-Ryeol Park (University of Minnesota, USA); Daehan Yoo (University of Minnesota, USA); Sang-Hyun Oh (University of Minnesota, USA);

13:20 Plasmonic Optical Transformer as Scanning Probe Microscopy: Status and Perspectives
invited

Aleksandr Polyakov (Molecular Foundry, LBNL, USA); Mauro Melli (Molecular Foundry, LBNL, USA); Wei Bao (Molecular Foundry, LBNL, USA); Alexander Weber-Bargioni (Molecular Foundry, LBNL, USA); P. James Schuck (Molecular Foundry, LBNL, USA); Stefano Cabrini (Molecular Foundry, LBNL, USA);

13:40 Quantum-dot Plasmonics

keynote

David J. Norris (ETH Zurich, Switzerland);

14:10 DNA-based Functional Plasmonic Particle Assemblies

keynote

Tim Liedl (Ludwig-Maximilians-University of Munich, Germany);

14:40 Crystal Growth Methods as a Tool for Manufacturing Metamaterials and Plasmonic Materials

invited

Dorota A. Pawlak (Institute of Electronic Materials Technology (ITME), Poland); M. Gajc (Institute of Electronic Materials Technology (ITME), Poland); K. Sadecka (Institute of Electronic Materials Technology (ITME), Poland); P. Osewski (Institute of Electronic Materials Technology (ITME), Poland); A. Klos (Institute of Electronic Materials Technology (ITME), Poland); Emilija Petronijevic (Sapienza Università di Roma, Italy); Alessandro Belardini (Università di Roma, La Sapienza, Italy); Grigore Leahu (Università di Roma, La Sapienza, Italy); Concita Sibilia (Università di Roma, La Sapienza, Italy);

15:00 Nanofabrication Approaches for Plasmonic Nanoscale Design

invited

Simon Dickreuter (Institute for Applied Physics, Germany); Emre Gurdal (Institute for Applied Physics, Germany); Dominik A. Gollmer (Eberhard Karls University Tuebingen, Germany); Andreas Horrer (Eberhard Karls University Tuebingen, Germany); Dieter P. Kern (Eberhard Karls University Tuebingen, Germany); Monika Fleischer (Eberhard Karls University Tuebingen, Germany);

15:20 Coffee Break

15:40 Fabrication of Three-dimensional Metamaterials

invited

Takuo Tanaka (RIKEN, Japan);

16:00 Three-dimensionally Structured Optical Metamaterials via Holographic Lithography and Eutectic Solidification

invited

Paul V. Braun (University of Illinois at Urbana-Champaign, USA);

16:20 Wafer-scale 3D Nanofabrication for Sub-wavelength Nanophotonics

invited

Peer Fischer (Max Planck Institute for Intelligent Systems, Germany);

16:40 Nanofabrication of 3 Dimensional Taper Structures for Nanofocusing Purposes

invited

Junlong Kou (California Institute of Technology, USA); Zheng Li (California Institute of Technology, USA); Hyuck Choo (California Institute of Technology, USA);

17:00 Extremely Long Nanochannel Arrays Realized by PnP

invited

Junyong Park (KAIST, Republic of Korea); Changui Ahn (KAIST, Republic of Korea); Kisun Kim (KAIST, Republic of Korea); Jerome K. Hyun (KAIST, Republic of Korea); Seokwoo Jeon (KAIST, Republic of Korea);

17:20 Scalability of 3D Micro-printing: Issues in Diffraction Limited Parallel Writing

invited

Erik Waller (University of Kaiserslautern, Germany); Georg Von Freymann (University of Kaiserslautern, Germany);

17:40 Formulating Nanostructures to More Scalable and Functional Architectures via Assembling Hierarchical Hybrids and Adopting Continuous Nanomanufacturing Methods

invited

Jong G. Ok (Seoul National University of Science and Technology, Korea);

18:00 High-contrast Sensing Using Hyperbolic Metamaterials and Plasmonic Cavity Resonators

invited

Henri J. Lezec (National Institute of Standards and Technology, USA); Ting Xu (National Institute of Standards and Technology, USA); Amit K. Agrawal (National Institute of Standards and Technology, USA); Wenqi Zhu (National Institute of Standards and Technology, USA);

18:20 Fabrication of a Nanoscale Plasmonic Fishnet Structure for the Enhancement of Absorption in Thin Film Solar Cells

*Sayan Seal (University of Arkansas, USA); Vinay Budhraj (University of Arkansas, USA); Liming Ji (University of Arkansas, USA); Vasundhara V. Varadan (University of Arkansas, USA);***Session 2P5a****Light Carrying Orbital Angular Momentum: Theory and Applications****Tuesday PM, July 7, 2015****Room E**

Organized by Jamal Berakdar

Chaired by Jamal Berakdar

13:00 Magneto-optics with Light Carrying Orbital Angular Momentum

invited

Thomas Bose (University of York, UK); Roy W. Chantrell (University of York, UK); Jamal Berakdar (Martin Luther University of Halle-Wittenberg, Germany);

- 13:20 Illumination of Optical Vortices Forms Chiral Nanos-
invited structures
Takashi Omatsu (Chiba University, Japan);
- 13:40 Highly Efficient Torque Extraction from Light Using
a Bilayer Structure
Xiao Li (Hong Kong Baptist University, China); Jun Chen (Hong Kong Baptist University, China); Liyong Cui (Hong Kong Baptist University, China); Neng Wang (Fudan University, China); Zhifang Lin (Fudan University, China); Jack Ng (The Hong Kong University of Science and Technology, China);
- 14:00 Extreme Nonlinear Optical Processes with Beams
invited Carrying Orbital Angular Momentum
C. Kern (2Abbe Center of Photonics Friedrich-Schiller-University Jena, Germany); M. Zurch (2Abbe Center of Photonics Friedrich-Schiller-University Jena, Germany); Peter Hansinger (2Abbe Center of Photonics Friedrich-Schiller-University Jena, Germany); A. Dreischuh (Sofia University, Bulgaria); Christian Spielmann (2Abbe Center of Photonics Friedrich-Schiller-University Jena, Germany);
- 14:20 Space-time Mapping of Variable Vortex Pulses
Martin Bock (Max-Born-Institute for Nonlinear Optics and Short-Pulse Spectroscopy, Germany); Thomas Elsaesser (Max-Born-Institute for Nonlinear Optics and Short-Pulse Spectroscopy, Germany); Ruediger Grunwald (Max-Born-Institute for Nonlinear Optics and Short-Pulse Spectroscopy, Germany);
- 14:40 Generation of Twisted Light via Metallic Nanospirals
invited
Alexander Sprafke (Martin-Luther-University Halle-Wittenberg, Germany); R. Kamrla (Martin-Luther-University Halle-Wittenberg, Germany); R. B. Wehrspohn (Martin-Luther-University Halle-Wittenberg, Germany); Jamal Berakdar (Martin Luther University of Halle-Wittenberg, Germany);
- 15:00 Nonlinear Vortex Light Beams Resistant to Dissipation
Miguel A. Porras (Universidad Politecnica de Madrid, Spain); Carlos Ruiz-Jimenez (Technical University of Madrid, Spain);
- 15:20 **Coffee Break**
- 15:40 Controlling Atomic Transparency with Structured
invited Light
Sonja Franke-Arnold (University of Glasgow, UK); N. Radwell (University of Glasgow, UK); T. W. Clark (University of Glasgow, UK); B. Piccirillo (Universita di Napoli Federico II, Italy); Stephen M. Barnett (University of Glasgow, UK);
- 16:00 Spontaneous Formation of Square Optical Vortex Lattice in a Transverse Section of Broad-area Laser
Anton A. Krents (Samara State Aerospace University, Russia); Anton V. Pakhomov (Samara State Aerospace University, Russia); Dmitry A. Anchikov (Samara State Aerospace University, Russia); Nonna E. Molevich (Samara State Aerospace University, Russia);
- 16:20 Superpositions of Three-dimensional Diffraction-free Asymmetrical Bessel Beams
Alexey A. Kovalev (Samara State Aerospace University, Image Processing Systems Institute of the Russian Academy of Science, Russia); Victor V. Kotlyar (Image Processing Systems Institute of the Russian Academy of Sciences, Russia); Alexey P. Porfirev (Image Processing Systems Institute of the Russian Academy of Sciences, Russia);

Session 2P5b

SC3: Ultra-thin Metal-dielectric Structured Surfaces and Thin Films for Antireflection, Light Trapping, and Perfect Absorption 2

Tuesday PM, July 7, 2015

Room E

Organized by Junpeng Guo

Chaired by Junpeng Guo, Blake S. Simpkins

- 16:40 Metasurface Optical Antireflection Coating
Boyang Zhang (University of Alabama in Huntsville, USA); Joshua R. Hendrickson (Air Force Research Laboratory, USA); Nima Nader (Air Force Research Laboratory, USA); Hou-Tong Chen (MPA-CINT, Los Alamos National Laboratory, USA); Junpeng Guo (University of Alabama in Huntsville, USA);
- 17:00 Structured Conductive Zinc Oxide for Mid-IR Perfect Light Trapping
Joshua R. Hendrickson (Air Force Research Laboratory, USA); Shivashankar R. Vangala (Air Force Research Laboratory, USA); Nima Nader (Air Force Research Laboratory, USA); Kevin D. Leedy (Air Force Research Laboratory, USA); Junpeng Guo (University of Alabama in Huntsville, USA); Justin W. Cleary (Air Force Research Laboratory, USA);

- 17:20 Broadband Metamaterial Absorber Based on Multiple Resonances of Fundamental and Second Harmonics
Chang Long (Wuhan University of Technology, China); Sheng Yin (Wuhan University of Technology, China); Wei Li (Wuhan University of Technology, China); Wei Wang (Wuhan University of Technology, China); Jianguo Guan (Wuhan University of Technology, China);

- 17:40 Thin Film Dielectric Gradient Optical Structures for Space Photonics
O. Volpian (Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russia); Anatoly I. Kuzmichev (National Technical University of Ukraine "Kiev Polytechnical Institute", Ukraine); Georgiy A. Ermakov (Federal State Unitary Enterprise, Russian Federation); Yuri A. Obod (Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation); N. Silin (Far Eastern Federal University, Russia); Sergey V. Shkatula (Scientific-Manufacturing Enterprise "Fotron-Auto Ltd.", Russian Federation);

Session 2P6a

SC3: Semiconductor Nanowires: Novel Optical and Electrical Properties Enabling Energy Harvesting and Sensing Applications

Tuesday PM, July 7, 2015

Room F

Organized by Simarjeet Singh Saini

- 13:20 Harnessing the Nano-optics of Silicon and Germanium
invited Nanowires for Color and Multispectral Imaging
Kenneth B. Crozier (The University of Melbourne, Australia);
- 13:40 Semiconductor Nanowires: New Opportunities for
invited Light Trapping and Surface Enhanced Raman Scattering
Ivano Alessandri (University of Brescia, Italy);
- 14:00 Nanophotonics in III-V Nanowire Arrays
invited
Nicklas Anttu (Lund University, Sweden);
- 14:20 Strain Engineering in GaN Nanowires and Applica-
invited tions in Photonics
Chu-Hsiang Teng (University of Michigan, USA); Lei Zhang (University of Michigan, USA); Brandon Demory (University of Michigan, USA); Tyler Hill (University of Michigan, USA); Hui Deng (University of Michigan, USA); P. C. Ku (University of Michigan, USA);

- 14:40 From Subband Structure to Single Electron Devices
invited in Semiconductor Nanowires

Jonathan Baugh (University of Waterloo, Canada); Gregory Holloway (University of Waterloo, Canada);

- 15:20 **Coffee Break**

Session 2P6b

Translational and Clinical Research towards Microwave Medical Imaging (MiMed)

Tuesday PM, July 7, 2015

Room F

Organized by Raquel Cruz Conceicao, Martin O'Halloran

Chaired by Raquel Cruz Conceicao

- 15:40 Dielectric Parameters Estimation Using Global Optimization Techniques
Ilja Merunka (Czech Technical University in Prague, Czech Republic); Ondrej Fiser (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 16:00 Analysis and Evaluation of Waveguide Methods to Measure the Dielectric Properties of Biological Materials
Lourdes Farrugia (University of Malta, Malta); P. Schembri Wismayer (University of Malta, Malta); L. Zammit Mangion (University of Malta, Malta); Charles V. Sammut (University of Malta, Malta);
- 16:20 Easy-to-produce Stable-in-time 3D-printed Breast Phantoms for Microwave Imaging
Nadine Joachimowicz (Université Paris-Diderot, CentraleSupélec, France); Olivier Meyer (UPMC Université Paris 06, CentraleSupélec, France); Christophe Conessa (CNRS, CentraleSupélec, France); Bernard Duchene (CNRS, CentraleSupélec, Université Paris-Sud, France); Olivier Dubrunfaut (UPMC Université Paris 06, CentraleSupélec, France); Michel Police (UPMC Université Paris 06, CentraleSupélec, France);
- 16:40 3-D Microwave Scanner for Biomedical Applications: A Preliminary Prototype
Antonio Cuccaro (Seconda Università di Napoli, Italy); Adriana Brancaccio (Seconda Università di Napoli, Italy); B. Basile (B. & B. Sas, Italy); Max J. Ammann (Dublin Institute of Technology, Ireland); Raffaele Solimene (Second University of Naples, Italy); Giuseppe Ruvio (Dublin Institute of Technology, Ireland);

- 17:00 UWB Waveguide Breast Tumor Detection System Based on Delay and Sum Reconstruction Algorithm
Ondrej Fiser (Czech Technical University in Prague, Czech Republic); Ilja Merunka (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 17:20 Angular Separation Constraints in Cylindrical Multi-static UWB Radar Imaging
Daniel Flores-Tapia (University of Manitoba, Canada); Diego Rodriguez Herrera (University of Manitoba, Canada); Stephen Pistorius (University of Manitoba, Canada);
- 17:40 Microwave Imaging of the Breast: Investigating Tumour Response with Classification
Raquel Cruz Conceicao (Universidade de Lisboa, Portugal); Dallan Byrne (University of Bristol, United Kingdom); J. A. Noble (University of Oxford, UK); Ian Craddock (University of Bristol, UK);
- 14:40 Permittivity Reconstruction of a Diaphragm in a Rectangular Waveguide: Unique Solvability of Benchmark Inverse Problems
Yury V. Shestopalov (University of Gävle, Sweden); Yury G. Smirnov (Penza State University, Russia); Ekaterina D. Derevyanchuk (Penza State University, Russia);
- 15:00 The Application of Non-linear Dynamics Methods for Radar Target Identification
Frederic J. Rachford (Naval Research Laboratory, USA); Thomas L. Carroll (Naval Research Laboratory, USA);
- 15:20 **Coffee Break**
- 15:40 Verification of Computational Model of Transmission Coefficients of Waveguide Filters
Pavel Tomasek (Tomas Bata University in Zlin, Czech Republic); Yury V. Shestopalov (University of Gävle, Sweden);

Session 2P7

SC1: Novel Mathematical Methods in Electromagnetics

Tuesday PM, July 7, 2015

Room G

Organized by Yury V. Shestopalov, Kazuya Kobayashi

Chaired by Yury V. Shestopalov, Kazuya Kobayashi

- 13:00 Axiomatics of the Blondel-Park Transformation
Giovanni Franco Crosta (University of Milan-Bicocca, Italy); G. Chen (Texas A & M University, USA);
- 13:20 Nonlinear Goubau Line: Numerical Study of TE-polarized Waves
Eugene Yu. Smol'kin (Penza State University, Russia); Yury V. Shestopalov (University of Gävle, Sweden);
- 13:40 Numerical Path-integration Computation of the Capacity and Electric Polarizability Tensor of Complex-shaped Particles
Jack F. Douglas (NIST, USA);
- 14:00 Unified Description of Chirped Gaussian Pulse Propagation of Arbitrary Initial Width in a Multiple Resonance Lorentz Medium
Constantinos M. Balitsis (Hellenic Telecommunications and Post Commission, Greece);
- 14:20 Block LU Preconditioner for the Electric Field Integral Equation
Stanislav L. Stavtsev (Institute of Numerical Mathematics, Russian Academy of Sciences, Russia);
- 16:00 Computations Related to Nanoparticle Characterization and Nanocomposite Property Estimation
Fernando Vargas-Lara (NIST, USA); Jack F. Douglas (NIST, USA);
- 16:20 Exponential Regularization of EM Dyadic Green's Functions via Green's Function-induced Dirac δ -functions
Alireza R. Baghai-Wadji (University of Cape Town, South Africa);
- 16:40 Superresolution Based on the Methods of Extrapolation
Boris A. Lagovsky (Moscow State Institute of Radio Engineering and Automation (Technical University), Russia); Alexander B. Samokhin (Moscow State Institute of Radio Engineering, Electronics and Automatics, Russia); Yury V. Shestopalov (University of Gävle, Sweden);
- 17:00 Analysis of Quasi-circular Polarization in Near Field of Smart Shelf RFID Antenna Radiation
Andrey S. Andrenko (SYSU-CMU Shunde International Joint Research Institute, China);
- 17:20 CICT: A Novel Framework for Biomedical and Bio-engineering Application
Rodolfo A. Fiorini (Politecnico di Milano University, Italy);

- 17:40 Multichannel Filter Banks and Their Implementation Using Computers with a Parallel Structure
D. I. Kaplun (Saint Petersburg Electrotechnical University "LETI", Russian Federation); Dmitry M. Klionskiy (Saint Petersburg Electrotechnical University "LETI", Russian Federation); A. S. Voznesenskiy (Saint Petersburg Electrotechnical University "LETI", Russian Federation); V. V. Gulyanskiy (Saint Petersburg Electrotechnical University "LETI", Russian Federation);
- 18:00 Regularization of Ill-conditioned Numerical Scheme of an Analytical Formulation: Scattering by Circularly Layered Cylinders
Emrah Sever (Gebze Technical University, Turkey); Fatih Dikmen (Gebze Institute of Technology, Turkey); Farhad Mazlumi (Civil Aviation Technology College, Iran); Yury A. Tuchkin (Institute of Radiophysics and Electronics of National Academy of Sciences of Ukraine, Ukraine);
- 13:40 Change of Mode Separation for Two-mode Laser with Semiconductor Quantum Dots
Kouichi Akahane (National Institute of Information and Communications Technology, Japan); Naokatsu Yamamoto (National Institute of Information and Communications Technology, Japan); Atsushi Kanno (National Institute of Information and Communications Technology, Japan); Toshimasa Umezawa (National Institute of Information and Communications Technology, Japan); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan);
- 14:00 Energy Transfer Processes and Scintillation Performance of Ce^{3+} -doped Multicomponent Garnets
Vladimir Babin (Institute of Physics AS CR, Czech Republic); K. Bartosiewicz (Institute of Physics AS CR, Czech Republic); K. Kamada (Tohoku University, Japan); A. Yoshikawa (Tohoku University, Japan); Martin Nikl (Institute of Physics AS CR, Czech Republic);

Session 2P8a
Luminescent Materials and Devices

Tuesday PM, July 7, 2015
Room H

Organized by Cees Ronda

 Chaired by Cees Ronda

- 13:00 Colloidal Quantum Dots and Semiconductor Heteronanocrystals: New Luminescent Materials with Tailored Optical Properties
Celso De Mello Donega (Utrecht University, The Netherlands);
- 13:20 On the Route to Metal-free Phosphors
Adrian Kremer (University of Namur (UNamur), Belgium); Barbara Ventura (Consiglio Nazionale delle Ricerche (CNR), Italy); Nicola Armaroli (Consiglio Nazionale delle Ricerche (CNR), Italy); Andrea Barbiere (Consiglio Nazionale delle Ricerche (CNR), Italy); Davide Bonifazi (University of Namur (UNamur), Belgium);
- 14:20 Challenges in Materials for Medical Imaging
Cees Ronda (Philips Research, The Netherlands); Vashilii Khanin (Philips Group Innovation Research, The Netherlands); Herfried Wiczorek (Philips Group Innovation Research, The Netherlands); Piotr Rodnyi (St. Petersburg State Polytechnic University, Russia);
- 14:40 Correlation of Luminescence Decay and Thermoluminescence of Zinc Oxide Ceramics
Kirill A. Chernenko (Saint-Petersburg State Polytechnic University, Russia); L. Grigorjeva (University of Latvia, Latvia); A. Zolotarjovs (University of Latvia, Latvia); E. I. Gorokhova (Research and Technological Institute of Optical Materials All-Russia Scientific Center "S.I. Vavilov State Optical Institute", Russia); P. A. Rodnyi (Saint-Petersburg State Polytechnic University, Russia);
- 15:00 Enormously Long-wavelength Luminescence of SrS:Ce
Dagmara Kulesza (University of Wrocław, Poland); Karolina Fiaczyk (University of Wrocław, Poland); Aneta Wiatrowska (High Tech Campus 04, The Netherlands); Eugeniusz Zych (University of Wrocław, Poland);
- 15:20 **Coffee Break**

Session 2P8b
**FocusSession.SC3&4: Microwave Photonics
for Wireless Spectrum Management 1**

Tuesday PM, July 7, 2015
Room H

Organized by David Marpaung, Maurizio Burla

 Chaired by David Marpaung, Maurizio Burla

15:40 Integrated Spectral Shapers in Silicon Photonics for
invited Generating Chirped Microwave Pulses Based on Op-
tical Spectral Shaping and Wavelength-to-time Map-
ping
Lawrence R. Chen (McGill University, Canada);

16:00 Engineered Optical Parametric Processes for Wide-
invited band RF Analyzer and Pulse Generation
*Camille-Sophie Bres (Ecole Polytechnique Federale
Lausanne, Switzerland);*

16:20 The Path towards 100 Gbit/s Wireless Communica-
keynote tions

Juerg Leuthold (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); R. Bonjour (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); S. A. Gebrewold (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); S. Dash (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); W. Heni (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); C. Hoessbacher (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); C. Haffner (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); Y. Salamin (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); B. Bauerle (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); A. Josten (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); P. Ma (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); P. Leuchtmann (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); Y. Fedoryshyn (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); D. Hillerkuss (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland); Christian Hafner (Institute of Electromagnetic Fields (IEF), ETH Zurich, Switzerland);

16:50 Broadband Microwave Signal Acquisition by
invited Photonics-assisted Compressive Sampling
*Hongwei Chen (Tsinghua University, China);
Qiang Guo (Tsinghua University, China);
Minghua Chen (Tsinghua University, China);
Shizhong Xie (Tsinghua University, China);*

17:10 Recent Advances in On-chip Stimulated Brillouin
invited Scattering Based Microwave Photonic Signal Process-
ing

Ravi Pant (Indian Institute of Science Education and Research (IISER) Trivandru, India); David Marpaung (University of Sydney, Australia); Benjamin J. Eggleton (University of Sydney, Australia);

17:30 On-chip Microwave Signal Processing Platforms
invited Based on Silicon Photonics Technologies

Maurizio Burla (Institut National de la Recherche Scientifique — Energie, Matériaux et Télécommunications (INRS-EMT), Canada); Jose Azana (Institut National de la Recherche Scientifique — Energie, Matériaux et Télécommunications (INRS-EMT), Canada);

17:50 Microwave Photonics Techniques Supporting Flexible
invited Wireless Communications Links

Simon Rommel (Technical University of Denmark, Denmark); Lucas Cavalcante (Technical University of Denmark, Denmark); Juan Jose Vegas Olmos (Technical University of Denmark, Denmark); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark);

18:10 Instantaneous Microwave Frequency Measurement
invited System Using On-chip Nonlinear Optics

David Marpaung (University of Sydney, Australia);

Session 2P9
**SC1: Time and Frequency Domain Modeling
Techniques for Waveguides and Cables**

Tuesday PM, July 7, 2015
Room I

Organized by Sven Nordebo, Martin Stumpf

 Chaired by Sven Nordebo, Martin Stumpf

13:20 Modeling of Coaxial Feed Topologies

Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Xuezhi Zheng (KU Leuven, Belgium); Victor V. Moshchalkov (KU Leuven, Belgium);

13:40 Pulsed EM Field Propagation in Cylindrically Lay-
ered Structures

Martin Stumpf (Brno University of Technology, The Czech Republic); Sven Nordebo (Linnaeus University, Sweden);

- 14:00 Wiener-Hopf Analysis of TM Wave Reflection by a Step Discontinuity on the Junction of Two Coaxial Waveguides with Perfectly Conducting and Impedance Walls
Gokhan Cinar (Gebze Institute of Technology, Cayirova Campus, Turkey); S. Aksimsek (Istanbul Kultur University, Turkey); Borje Nilsson (Linnaeus University, Sweden); Sven Nordebo (Linnaeus University, Sweden); Ozge Yanaz Cinar (Gebze Institute of Technology, Turkey);
- 14:20 Determination of Normalized Electric Eigenfields in Microwave Cavities with Corners
Johan Helsing (Lund University, Sweden); Anders Karlsson (Lund University, Sweden);
- 14:40 Analysis of Multipactor Effect in Parallel-plate and Rectangular Waveguides
Andres Berenguer (Universidad Miguel Hernandez de Elche, Spain); Angela Coves Soler (Universidad Miguel Hernandez de Elche, Spain); Enrique Bronchalo (Universidad Miguel Hernandez de Elche, Spain); Benito Gimeno Martinez (Universidad de Valencia, Spain); Vicente E. Boria (Universidad Politecnica de Valencia, Spain);
- 15:00 Power Line Noise Measurements and Statistical Modelling in the Time Domain
Abraham M. Nyete (University of Kwa-Zulu Natal, South Africa); Thomas Joachim Odhiambo Afullo (University of Kwa-Zulu Natal (UKZN), South Africa); Innocent E. Davidson (University of Kwa Zulu-Natal, South Africa);
- 15:20 **Coffee Break**
- 15:40 Analytical Study of Large-scale Current Commutation Processes in Multiply-connected Transmission-line Networks
Dierk Bormann (ABB AB — Corporate Research, Sweden);
- 16:00 Estimation of Electromagnetic Parameters of Cable Steel
Yevhen Ivanenko (Linnaeus University, Sweden); Sven Nordebo (Linnaeus University, Sweden);
- 16:20 Periodic Green's Dyadics for Helical Current Distributions
Sven Nordebo (Linnaeus University, Sweden); Y. Ivanenko (Linnaeus University, Sweden);
- 16:40 On Shape Reconstruction in Waveguide Like Structures
Martin Karl Norgren (KTH Royal Institute of Technology, Sweden); Mariana Frid Dalarsson (KTH Royal Institute of Technology, Sweden);
- 17:00 An Improved Form of Bessel Functions for Accurately Simulating Higher Order Modes in a Cylindrical Waveguide
Ming-Chieh Lin (Hanyang University, Korea);
- 17:20 The Novel Mixed Spectral Element Method for Waveguide Problems
Na Liu (Xiamen University, China); Qing Huo Liu (Duke University, USA);

Session 2P_10a**Wireless Power Transmission and Harvesting****Tuesday PM, July 7, 2015****Room J**

Organized by Jan Kracek, Alessandra Costanzo

Chaired by Jan Kracek

- 13:20 A High Efficiency WPT System Using Helix Antennas
Bar Dubovski (HIT — Holon Institute Technology, Israel); Motti Haridim (HIT — Holon Institute Technology, Israel);
- 13:40 Wireless Transmission of Electromagnetic Energy Based on a Time Reversal Approach for Indoor Applications
Rony Ibrahim (Universite INSA Lyon, France); Bruno Allard (Universite de Lyon, France); Arnaud Breard (CNRS-SUPELEC, Universite Paris Sud 11, France); Julien Huillery (Universite de Lyon, France); Christian Vollaie (Ecole Centrale de Lyon, France); Damien Voyer (Universite de Lyon, France); Youssef Zaatar (Lebanese University, Lebanon);
- 14:00 High Efficiency RF Energy Harvesting from Electromagnetic Waves of Digital Terrestrial Television
Jiro Ida (Kanazawa Institute of Technology, Japan); Masanari Mabuchi (Kanazawa Institute of Technology, Japan); Yuta Kunori (Kanazawa Institute of Technology, Japan); Hiroshi Miyagoshi (Kanazawa Institute of Technology, Japan); Keisuke Noguchi (Kanazawa Institute of Technology, Japan); Kenji Itoh (Kanazawa Institute of Technology, Japan);
- 14:20 Use Case Analysis of Wiegand-based Energy Harvester in Mechanical Sensing Devices
Ralf Zentgraf (University of Applied Sciences Aschaffenburg, Germany); Ulrich Bochtler (University of Applied Sciences Aschaffenburg, Germany);
- 14:40 Optimal Operating Frequency for Wirelessly Powered Implanted Systems
Vamsi Talla (University of Washington, USA); Benjamin H. Waters (University of Washington, USA); Joshua R. Smith (University of Washington, USA);

15:00 Wireless Power Transmission by Enlarging the Near Field Calculation of the Transition from Far to Near Field

Konstantin Meyl (Furtwangen University, Germany);

15:20 **Coffee Break**

Session 2P_10b

SC4: Electromagnetic Energy

Tuesday PM, July 7, 2015

Room J

Organized by Mats Gustafsson, Miloslav Capek

Chaired by Mats Gustafsson, Miloslav Capek

15:40 Causal Natural Modes, Retro-causal Natural Modes and Minimum Radiation Modes

Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Xuezhong Zheng (KU Leuven, Belgium); Victor V. Moshchalkov (KU Leuven, Belgium);

16:00 Stored Electromagnetic Energy in Bi-isotropic Media
Casimir Ehrenborg (Lund University, Sweden); Mats Gustafsson (Lund University, Sweden);

16:20 On the Properties of Stored Electromagnetic Energy
Miloslav Capek (Czech Technical University in Prague, Czech Republic); Lukas Jelinek (Czech Technical University in Prague, Czech Republic);

16:40 A Surface Integral Expression for the Electromagnetic Energy in a Microwave Cavity
Johan Helsing (Lund University, Sweden); Anders Karlsson (Lund University, Sweden);

17:00 Estimating Antenna Q -factor from the MoM Impedance Matrix
Doruk Tayli (Lund University, Sweden); Mats Gustafsson (Lund University, Sweden);

Session 2P_11

FocusSession.SC1: Casimir Effect and Heat Transfer 4

Tuesday PM, July 7, 2015

Room K

Organized by Mauro Antezza, Brahim Guizal

Chaired by Mauro Antezza, Brahim Guizal

13:00 Three-body Momentum and Energy Transfer out of Thermal Equilibrium

Riccardo Messina (University of Montpellier 2, France); Mauro Antezza (Universite de Montpellier, France);

13:20 Near Field Heat Transfer Mediated by External Magnetic Fields

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

13:40 Mesoscopic Transport of Heat in Trapped-ion Crystals

M. Bruderer (Universitat Ulm, Germany); A. Bermudez (Instituto de Fisica Fundamental, IFF-CSIC, Spain); Martin B. Plenio (Universitat Ulm, Germany);

14:00 Controllable van der Waals Interaction in a 1D Waveguide Geometry

Stefan Scheel (University of Rostock, Germany); Harald R. Haakh (Max-Planck-Institute for the Science of Light, Germany);

14:20 Aspects of Nonlinear Response in Fluctuational Electrodynamics

Matthias Kruger (University of Stuttgart & Max Planck Institute for Intelligent Systems, Germany);

14:40 Casimir-Polder Potential of Spheres and Discs and Its Impact on the Poisson Spot

J. Hemmerich (University of Freiburg, Germany); M. Konne (University of Freiburg, Germany); Stefan Yoshi Buhmann (University of Freiburg, Germany);

15:00 Tunable Casimir-like Interactions in Bosonic Ultracold Atoms

E. Compagno (University College London, UK); Gabriele De Chiara (Queen's University Belfast, UK); D. G. Angelakis (Technical University of Crete, Greece); G. Massimo Palma (Universita degli Studi di Palermo, Italy);

15:20 **Coffee Break**

15:40 Casimir Momentum in Complex Media

Bart A. Van Tiggelen (Universite Grenoble 1/CNRS, France); G. L. J. A. Rikken (CNRS/INSA/UJF Grenoble 1/UPS, France); M. Donaire (Universite Grenoble 1/CNRS, France);

16:00 Vacuum Field Energy Densities and Casimir-Polder Forces near a Fluctuating Boundary

F. Armata (Imperial College London, United Kingdom); Salvatore Butera (Heriot-Watt University, United Kingdom); Roberto Passante (Universita degli Studi di Palermo and CNISM, Italy);

- 16:20 Resonant and Dispersion Interactions between Uniformly Accelerated Atoms
invited *M. Lattuca (Universita degli Studi di Palermo and CNISM, Italy); J. Marino (TU Dresden, Germany); A. Noto (Universita degli Studi di Palermo and CNISM, Italy); Roberto Passante (Universita degli Studi di Palermo and CNISM, Italy); Lucia Rizzuto (Universita degli Studi di Palermo and CNISM, Italy); Salvatore Spagnolo (Universita degli Studi di Palermo, Italy);*
- 16:40 Small Self-contained Quantum Thermal Machines
invited *Jonatan Bohr Brask (Universite de Geneve, Switzerland);*
- 17:00 Thermodynamics of the Quantum Measurement Process
invited *Philipp Kammerlander (Institute for Theoretical Physics, ETH Zurich, Switzerland); Janet Anders (University of Exeter, UK);*
- 17:20 Information Thermodynamics in a Hybrid Optomechanical System
invited *Cyril Elouard (Institut Néel, CNRS, France); Maxime Richard (Institut Néel, CNRS, France); Alexia Auffeves (Institut Neel, CNRS, Université Joseph Fourier, France);*
- 17:40 Casimir Force within an Inhomogeneous Medium
invited *Fanglin Bao (Zhejiang University, China); Sailing He (Zhejiang University, China);*
- 18:00 Singular Evanescent Waves in Moving Media
invited *Yu Guo (University of Alberta, Canada); Zubin Jacob (University of Alberta, Canada);*
- 18:20 Nanolevitation Phenomena in Real Plane-parallel Systems Mediated by Gravity and Casimir Forces at Thermal Equilibrium
invited *Sol Carretero-Palacios (Consejo Superior de Investigaciones Científicas, Spain); Victoria Esteso Carrizo (Consejo Superior de Investigaciones Científicas, Spain); Hernan Miguez (Spanish National Research Council, Spain);*

Session 2P_12**Small Antenna Design, Analysis and Miniaturization Techniques****Tuesday PM, July 7, 2015****Room L**

Organized by Yingsong Li, Raj Mittra

Chaired by Yingsong Li, Raj Mittra

- 13:00 Tunable and Reconfigurable Frequency Rejection Circular Slot Antenna for UWB Communication Applications
Yingsong Li (Harbin Engineering University, China); Raj Mittra (The Pennsylvania State University, USA);
- 13:20 A Triple Band-notched UWB Antenna by Using an Arc-shaped Slot and a U-shaped Resonator Techniques
Yuan Yuan Kong (Harbin Engineering University, China); Yingsong Li (Harbin Engineering University, China); Wenhua Yu (State College, USA);
- 13:40 Design of a High Isolation Dual-band MIMO Antenna for WLAN and WIMAX Applications
Lanchao Zhang (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China); Yingsong Li (Harbin Engineering University, China);
- 14:00 A Compact Dual Band-notched UWB Band-pass Filter by Using a Stub and a Folded Stepped Impedance Resonator
Yanyan Wang (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China); Yingsong Li (Harbin Engineering University, China);
- 14:20 A Compact Ultra-wideband Band-pass Filter Integrated with Dual Tunable Notch Bands
Shumiao Hao (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China); Lanchao Zhang (Harbin Engineering University, China); Yingsong Li (Harbin Engineering University, China);
- 14:40 Miniaturized Tag Antennas with Artificial Magnetic Conductor for UHF RFID On-body Applications
Chien-Wen Chiu (National Ilan University, Taiwan); Cheng-Yan Yang (National Ilan University, Taiwan);
- 15:00 A Compact VHF Antenna for Smart Meters
Paul Record (Heriot-Watt University, UK); Kom-san Kanjanasit (Heriot Watt University, UK);

15:20 Coffee Break

- 15:40 The Performance Improvement of Printed Inverted-F Antennas Using the Slot Mesh on Ground Plane
Yao-Chiang Kan (Yuan Ze University, Taiwan);
- 16:00 Sierpinski Fractal Monopole Antenna for Wireless Applications
Zachariah C. Alex (Vellore Institute of Technology University, India); Krishnan Shambavi (Vellore Institute of Technology University, India);
- 16:20 A Miniaturized Metamaterial Inspired Hexaband Antenna for GSM, GPS-L1, WLAN and WiMAX Applications
Bharath Raj (Vishveshwarya Technological University, India); G. S. Karthikeya (Vishveshwarya Technological University, India); K. Ullas (Vishveshwarya Technological University, India); Sanjji N. Manjunath (Vishveshwarya Technological University, India); C. Vindhya (Vishveshwarya Technological University, India);
- 16:40 Quad Band Split Koch Snowflake Antenna for LTE/WLAN/WiMAX Applications
K. Ullas (Vishveshwarya Technological University, India); G. S. Karthikeya (Vishveshwarya Technological University, India); Bharath Raj (Vishveshwarya Technological University, India); Sanjji N. Manjunath (Vishveshwarya Technological University, India); C. Vindhya (Vishveshwarya Technological University, India);
- 17:00 Miniaturized Multiband Antenna with Modified Splitting Resonator for WLAN/WiMAX Applications
C. Vindhya (Vishveshwarya Technological University, India); G. S. Karthikeya (Vishveshwarya Technological University, India); Sanjji N. Manjunath (Vishveshwarya Technological University, India); K. Ullas (Vishveshwarya Technological University, India); Bharath Raj (Vishveshwarya Technological University, India);
- 17:20 Research on Dual Bandpass of Wide Stopband Filter with Tunable Center Frequency
Zhao-Qing Sun (Harbin Engineering University, China); Yong-Sheng Zhao (Harbin Engineering University, China); Han-Lin Duan (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China);
- 17:40 A Very Small Triangular Shaped Printed Monopole Antenna for Bluetooth/WLAN and UWB Applications
Praveen Vummadisetty Naidu (Symbiosis International University and ARDE, India); Akshay Malhotra (Symbiosis International University, India);
- 18:00 Effect of Slow Wave Structures on Scan Angles in Microstrip Leaky-wave Antennas
Saeid Mohammadpour Jaghargh (Semnan University, Iran); Pejman Rezaei (Semnan University, Iran); Javad Soleiman Meiguni (Semnan University, Iran);

Session 2P.13a

SC3: Near-field Optics: Light-matter Interaction Inside a Wavelength Volume 2

Tuesday PM, July 7, 2015

Room M

Organized by Sergei Popov

Chaired by Sergei Popov

- 13:00 Red-shift between Near- and Far-field Electric Intensity Peaks
Alex J. Yuffa (US Army Research Laboratory, USA); Gordon Videen (Army Research Laboratory, USA);
- 13:20 Scanning Near-field Optical Spectroscopy of Semipolar InGaN/GaN Single Quantum Wells
Mounir Mensi (KTH Royal Institute of Technology, Sweden); Ruslan Ivanov (KTH Royal Institute of Technology, Sweden); Saulius Marcinkevicius (KTH Royal Institute of Technology, Sweden);
- 13:40 Generation of 1D High-frequency Interference Patterns of Evanescent Waves Using All-dielectric Photonic Crystals
Evgeni A. Bezus (Image Processing Systems Institute of the Russian Academy of Sciences, Russia); E. A. Kadomina (Image Processing Systems Institute of the Russian Academy of Sciences, Russia); Leonid Leonidovich Doskolovich (Image Processing Systems Institute of the Russian Academy of Sciences, Russia);
- 14:00 Polarisation Imaging Reveals Near-field Properties of Materials
Peter Torok (Imperial College London, UK); Carlos A. Macias-Romero (Imperial College London, UK); Matthew R. Foreman (Imperial College London, UK);
- 14:20 Structure-mediated Nano-biophotonics
Jesper Gluckstad (Technical University of Denmark, Denmark); Mark Villangca (Technical University of Denmark, Denmark); Andrew Banas (Technical University of Denmark, Denmark); Darwin Palima (Technical University of Denmark, Denmark);

14:40 Cascaded Field Enhancement in a Multi-scale
invited Nanoparticle-in-cavity Plasmonic Nanoantenna Array
Boosted by Fano Resonance
*Benfeng Bai (Tsinghua University, China); Zhen-
dong Zhu (Tsinghua University, China);*

15:00 Demonstration of Unusual Nanoantenna Array Modes
through Direct Reconstruction of the Near-field Signal
*Ivan S. Sinev (ITMO University, Russia);
P. M. Voroshilov (St. Petersburg State Univer-
sity of Information Technologies, Mechanics and
Optics, Russia); I. S. Mukhin (ITMO Univer-
sity, Russia); A. I. Denisyuk (ITMO University,
Russia); M. E. Guzhva (ITMO University, Rus-
sia); A. K. Samusev (ITMO University, Rus-
sia); P. A. Belov (ITMO University, Russia);
C. R. Simovski (St. Petersburg Institute of Fine
Mechanics and Optics, Russia);*

15:20 **Coffee Break**

15:40 On the Effective Volume of Mie Resonators
*Xavier Zambrana-Puyalto (Aix-Marseille Universit,
France); N. Bonod (Aix-Marseille Universit, France);*

Session 2P_13b
FocusSession.SC3: Technologies for On-chip
Optical Networking

Tuesday PM, July 7, 2015

Room M

Organized by Yeshaiahu Shaya Fainman

Chaired by Yeshaiahu Shaya Fainman

16:00 Imaging with Multimode Fibers
invited *Demetri Psaltis (Ecole Polytechnique Federale de Lau-
sanne (EPFL), Switzerland);*

16:20 Fiber Lasers and Electro-optic Polymer/Si Waveguide
invited Modulators and Their Applications
Nasser Peyghambarian (University of Arizona, USA);

16:40 Spectral Engineering with Tunable Photonic
invited Molecules
*Mario C. M. M. Souza (Universidade Estadual de
Campinas, Brazil); Luis A. M. Barea (Federal Uni-
versity of Sao Carlos, Brazil); Newton C. Frateschi
(Universidade Estadual de Campinas, Brazil);*

17:00 Si Photonics for Exascale Computing
invited *Paul S. Davids (Sandia National Laboratories, USA);*

17:20 Photonics as a More-than-Moore Device Technology
invited within Sub-100 nm SOI CMOS

*Milos A. Popovic (University of Colorado Boulder,
USA); Mark T. Wade (University of Colorado Boul-
der, USA); Jason S. Orcutt (Massachusetts Institute
of Technology, USA); Jeffrey M. Shainline (University
of Colorado, USA); C. Sun (University of California
Berkeley, USA); Michael Georgas (Massachusetts In-
stitute of Technology, USA); Benjamin Moss (Mas-
sachusetts Institute of Technology, USA); F. Pa-
vanello (University of Colorado at Boulder, USA);
J. Notaros (University of Colorado Boulder, USA);
L. Alloatti (Massachusetts Institute of Technology,
USA); R. Kumar (University of Colorado Boulder,
USA); Yu-Hsin Chen (University of California Berke-
ley, USA); Amir H. Atabaki (Massachusetts Institute
of Technology, USA); J. Leu (Massachusetts Insti-
tute of Technology, USA); Vladimir Stojanovic (Mas-
sachusetts Institute of Technology, USA); R. J. Ram
(Massachusetts Institute of Technology, USA);*

17:40 Developing a Poly Silicon Photonic Platform on Bulk
invited CMOS

*Amir H. Atabaki (Massachusetts Institute of Technol-
ogy, USA); C. Sun (Massachusetts Institute of Tech-
nology, USA); Michael Georgas (Massachusetts In-
stitute of Technology, USA); Jason S. Orcutt (Mas-
sachusetts Institute of Technology, USA); F. Pa-
vanello (University of Colorado at Boulder, USA);
L. Alloatti (Massachusetts Institute of Technology,
USA); B. R. Moss (Massachusetts Institute of Tech-
nology, USA); Y.-H. Chen (Massachusetts Institute
of Technology, USA); J. Shainline (University of Col-
orado at Boulder, USA); M. Wade (University of Col-
orado at Boulder, USA); K. Mehta (Massachusetts In-
stitute of Technology, USA); K. Nammari (Univer-
sity of Colorado at Boulder, USA); Erman Timur-
dogan (Massachusetts Institute of Technology, USA);
D. Miller (Micron Technology, USA); O. Tehar-Zahav
(Micron Technology, USA); Z. Sternberg (Micron
Technology, USA); J. C. Leu (Massachusetts Insti-
tute of Technology, USA); J. Chong (Massachusetts
Institute of Technology, USA); R. Bafrali (Micron
Technology, USA); G. Sandhu (Micron Technology,
USA); M. Watts (Massachusetts Institute of Tech-
nology, USA); R. Meade (Micron Technology, USA);
M. A. Popovic (University of Colorado at Boulder,
USA); V. Stojanovic (Massachusetts Institute of Tech-
nology, USA); R. J. Ram (Massachusetts Institute of
Technology, USA);*

- 18:00 Polarized Metal/Semiconductor Sources Based on
invited Confined Tamm Plasmons
Clementine Symonds (Universite de Lyon, France); G. Lheureux (Universite de Lyon, France); S. Azzini (Universite de Lyon, France); A. Lemaitre (CNRS, France); Pascale Senellart (LPN/CNRS, France); Jean-Jacques Greffet (Ecole Centrale Paris, France); C. Sauvan (University Paris-Sud, France); Joel Bellessa (Universite de Lyon, France);
- 18:20 Metal-coated Patch Nanolaser Resonators Coupled
invited with a Waveguide
Qian Ding (University of California, San Diego, USA); Amit Mizrahi (University of California, San Diego, USA); Yeshiahu Shaya Fainman (University of California at San Diego, USA); Vitaliy Lomakin (University of California, San Diego, USA);
- 18:40 Nanoscale Engineering Optical Nonlinearities and Na-
invited noemitters
Yeshiahu Fainman (University of California at San Diego, USA);

Session 2P_14

SC3: Optical Microcavities and Waveguides 1

Tuesday PM, July 7, 2015

Room N

Organized by Ali Serpenguzel, Sahin Kaya Ozdemir

Chaired by Ali Serpenguzel, Sahin Kaya Ozdemir

- 13:00 Real Time Single Nano-particle Detection and Sizing
invited thru Whispering Gallery Micro-global Positioning
David Keng (NYU Polytechnic School of Engineering, USA); Stephen Arnold (NYU Polytechnic School of Engineering, USA);
- 13:20 Spectral Correlation in Coupled Random Lasers
invited
Antonio Consoli (Instituto de Ciencia de Materiales de Madrid-ICMM (CSIC), Madrid); Ceferino Lopez Fernandez (Instituto de Ciencia de Materiales de Madrid (CSIC), Spain);

- 13:40 Exceptional Points and Loss-induced Lasing in Cou-
invited pled Micro-disk Lasers
Stefan Rotter (Vienna University of Technology (TU Wien), Austria); M. Liertzer (Vienna University of Technology (TU Wien), Austria); M. Brandstetter (Vienna University of Technology (TU Wien), Austria); Christoph Deutsch (Vienna University of Technology (TU Wien), Austria); G. Strasser (Vienna University of Technology (TU Wien), Austria); K. Unterrainer (Innsbruck University, Austria); B. Peng (Washington University, USA); Sahin Kaya Ozdemir (Washington University, USA); H. Yilmaz (Washington University, USA); Faraz Monifi (Washington University, USA); C. M. Bender (Washington University, USA); Franco Nori (Advanced Science Institute, RIKEN, Japan); Lan Yang (Washington University, USA);

- 14:00 Silicon Microresonators: How to Give a New Twist to
invited Silicon Photonics
Martino Bernard (Fondazione Bruno Kessler, Italy); Massimo Borghi (University of Trento, Italy); Davide Gandolfi (University of Trento, Italy); Mher Ghulinyan (Fondazione Bruno Kessler, Italy); Romain Guider (University of Trento, Italy); Mattia Mancinelli (University of Trento, Italy); Georg Pucker (Fondazione Bruno Kessler, Italy); Fernando Ramiro-Manzano (University of Trento, Italy); Alyn Samusenko (Fondazione Bruno Kessler, Italy); Fabio Turri (University of Trento, Italy); Lorenzo Pavesi (University of Trento, Italy);

- 14:20 Fiberized Novel Wavelength-scale Planar Waveguides
invited
Xian Feng (University of Southampton, UK); Jindan Shi (University of Southampton, UK); Peter Horak (University of Southampton, UK); Francesco Polletti (University of Southampton, UK);

- 14:40 Coupling between Photonic Microcavity and Plas-
invited monic Nanocavity
Keiji Sasaki (Hokkaido University, Japan);
- 15:00 Bioinspired Soft Photonics
invited
Melik C. Demirel (Pennsylvania State University, USA);

15:20 Coffee Break

- 15:40 **Optofluidic Lasers Based on Biological Gain Media**
invited **Suspended in Liquid Droplet Microcavities**
Alexandr Jonas (Istanbul Technical University, Turkey); Mehdi Aas (Koc University, Turkey); Yasin Karadag (Koc University, Turkey); Selen Manioglu (Koc University, Turkey); Suman Anand (Koc University, Turkey); David McGloin (University of Dundee, UK); Halil Bayraktar (Koc University, Turkey); Alper Kiraz (Koc University, Turkey);
- 16:00 **Whispering-gallery Mode Resonators Based on Liquid**
invited **Droplets**
Gianluca Gagliardi (Istituto Nazionale di Ottica (INO), Italy);
- 16:20 **Design, Fabrication, and Evaluation of a Polymer**
Mach-Zehnder Electro-optic Modulator
Xinjie Song (The University of Auckland, New Zealand); Rainer Leonhardt (The University of Auckland, New Zealand); Stuart Gerald Murdoch (The University of Auckland, New Zealand);
- 16:40 **Simple Waveguide-QED-based Photonic Quantum**
Gates
Yuuki Tokunaga (NTT Secure Platform Laboratories, Japan); Kazuki Koshino (Tokyo Medical and Dental University, Japan);
- 17:00 **Directional Emission from Chaotic Microdisk Lasers**
and the Role of Boundary Imperfections
Jakob Kreismann (Technische Universität Ilmenau, Germany); Kazuhiro Kubo (Technische Universität Ilmenau, Germany); Pia Stockschrader (Technische Universität Ilmenau, Germany); Martina Hentschel (Technische Universität Ilmenau, Germany);
- 17:20 **Spherical Microresonators Coated with a High Refrac-**
tive Index Coating for Different Applications
Davor Ristic (Institut Ruder Boskovic, Croatia); Andrea Chiappini (IFN, CNR CSMFO Lab., Italy); Hrvoje Gebavi (Institut Ruder Boskovic, Croatia); Vedran Derek (Ruder Boskovic Institutes, Croatia); Anna Lukowiak (Institute of Low Temperature and Structure Research, PAS, Poland); Rogeria Rocha Goncalves (Universidade de Sao Paulo, Brazil); Stefano Pelli (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); Gualtiero Nunzi Conti (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); Mile Ivanda (Ruder Boskovic Institute, Croatia); Giancarlo C. Righini (Piazza del Viminale 1, Italy); Gilles Cibiel (Centre National d'Etudes Spatiales (CNES), France); Maurizio Ferrari (Museo Storico della Fisica e Centro Studi e Ricerche "Enrico Fermi", Italy);

- 17:40 **Wave-inspired Corrections for an Efficient Ray-optical**
Description of Micro-optics Devices
Pia Stockschrader (Technische Universität Ilmenau, Germany); Jakob Kreismann (Technische Universität Ilmenau, Germany); Martina Hentschel (Technische Universität Ilmenau, Germany);
- 18:00 **Modulation of Nanolaser Output for Information En-**
coding
Tao Wang (Universite de Nice-Sophia Antipolis and UMR 7335 CNRS, France); G. P. Puccioni (Istituto Sistemi Complessi, CNR, Italy); Gian Luca Lippi (Universite de Nice-Sophia Antipolis, France);
- 18:20 **Fano Resonances of a Silicon Microsphere on a Silica**
Optical Fiber
Ulaş Sabahattin Gökay (Koç University, Turkey); Muhammad Zakwan (Koç University, Turkey); Abdullah Demir (JDSU Corporation, USA); Ali Serpenguzel (Koç University, Turkey);

Session 2P0
Poster Session 4

Tuesday PM, July 7, 2015
14:00 PM - 17:00 PM
Room Poster Area

- 1 **Study on Magnetic Shielding Effect versus Metal**
Thickness and Aperture Size of Metal Case
Soichiro Yahagi (Aoyama Gakuin University, Japan); Ryosuke Suga (Aoyama Gakuin University, Japan); Tomoki Uwano (Aoyama Gakuin University, Japan); Osamu Hashimoto (Aoyama Gakuin University, Japan);
- 2 **Development of Radar Sensor for Intelligent Building**
Energy Systems
Tae-Yun Lee (Yonsei University, Korea); Vladimir Skvortsov (Yonsei University, Korea); Junghwan Han (Yonsei University, Korea); Min-Ho Ka (Yonsei University, Korea Republic);
- 3 **Improvement of Standard EM Fields Distribution in**
4-port TEM Cell with Slit-structured Septum
Sung Woong Choi (Electronics and Telecommunications Research Institute (ETRI), Korea); Sang Bong Jeon (Electronics and Telecommunications Research Institute (ETRI), Korea); Heung Mook Kim (Electronics and Telecommunications Research Institute (ETRI), Korea);

- 4 Measurement of Electromagnetic Radiated Field for Magnetic Resonance Wireless Power Transmission System
Sang Bong Jeon (*Electronics and Telecommunications Research Institute (ETRI), Korea*); Jong-Hwa Kwon (*Electronics and Telecommunications Research Institute, South Korea*); In-Kui Cho (*Electronics and Telecommunications Research Institute, South Korea*); Jung-Ick Moon (*Electronics and Telecommunications Research Institute, South Korea*); Seong-Min Kim (*Electronics and Telecommunications Research Institute, South Korea*); Sung Woong Choi (*Electronics and Telecommunications Research Institute (ETRI), Korea*);
- 5 Study on Evaluation of Composite Electromagnetic Wave Absorber Made of Sendust Particles Dispersed in Polystyrene Resin
Takumi Kubota (*Doshisha University, Japan*); Kenji Sakai (*Doshisha University, Japan*); Yuuki Sato (*Doshisha University, Japan*); Shinzo Yoshikado (*Doshisha University, Japan*);
- 6 Nonlinear Plasmonic Converters for Solar Cell Applications
Musa Kurtulus Abak (*Middle East Technical University, Turkey*); Bilge Can Yildiz Karakul (*Middle East Technical University, Turkey*); Yusuf Kasap (*Middle East Technical University, Turkey*); Ildar Salakhutdinov (*Columbia University, USA*); Alpan Bek (*Middle East Technical University, Turkey*);
- 7 Simulations of Metamaterial Structures for Enhancement of Radiation Absorption in Long Infrared
Mihai Kusko (*National Institute for Research and Development in Microtechnologies IMT-Bucharest, Romania*); Cristian Kusko (*National Institute for Research and Development in Microtechnologies IMT-Bucharest, Romania*); Costin Onofrei (*"Politehnica" University from Bucharest, Romania*);
- 8 A Short Note on the Optimization of Halbach Arrays Used as Magnetic Springs
Daniel Månsson (*Royal Institute of Technology (KTH), Sweden*);
- 9 Integral Formulation of Rectangular Chirowaveguides Based on Green's Equations
Maria J. Nunez-Trigueros (*Universidad de Murcia, Spain*); Gregorio J. Molina-Cuberos (*Universidad de Murcia, Spain*); Jose Margineda (*Universidad de Murcia, Spain*); Juan Munoz (*Universidad de Murcia, Spain*); Angel J. Garcia-Collado (*Universidad Catolica San Antonio, Spain*); Oscar Fernandez (*Universidad de Cantabria, Spain*); Alvaro Gomez (*Universidad de Cantabria, Spain*);
- 10 Propagation of EM Fields through a Rotating Circular Hollow Dielectric Cylinder: Numerical Simulation in 2Ds
Mingtsu Ho (*WuFeng University, Taiwan*); Hui-Hung Lin (*WuFeng University, Taiwan*); Tsaoan Chang (*WuFeng University, Taiwan*);
- 11 A Computational Model of Heat Spreader Sheet for Electromagnetic Shielding and Heat Spread
Jin-Sup Kim (*Korea Electronics Technology Institute, Republic of Korea*); Jong-Kyu Kim (*Korea Electronics Technology Institute, Korea*);
- 12 Rapid High-accuracy Modeling Simulation Method for Full Trajectory of the Ballistic Missile
Jianhua Wu (*National University of Defense Technology, China*); Gang Li (*National University of Defense Technology, China*); Jian Chen (*National University of Defense Technology, China*); Shi You Xu (*National University of Defense Technology, China*); Zeng Ping Chen (*National University of Defense Technology, China*);
- 13 Electromagnetic Forces in the Complex-octonion Curved Space
Zi-Hua Weng (*Xiamen University, China*);
- 14 Electromagnetic Force on Charged Objects with the Angular Velocity
Zi-Hua Weng (*Xiamen University, China*);
- 15 Power Spectrum Method for the Processing of the DNA in the Genome Sequencing
Martin Valla (*Brno University of Technology, Czech Republic*); Eva Gescheidtova (*Brno University of Technology, Czech Republic*); Pavel Fiala (*Brno University of Technology, Czech Republic*);
- 16 Electrically Tunable Spin Polarization in Silicene
Son-Hsien Chen (*University of Taipei, Taiwan*);
- 17 Lorentz-like Transformations for the Velocity and Acceleration
Zi-Hua Weng (*Xiamen University, China*);
- 18 Realization of a Compact High Speed Mass Storage System
Haishan Tian (*National University of Defense Technology, China*); Wenge Chang (*National University of Defense Technology, China*); Xiangyang Li (*National University of Defense Technique, China*);
- 19 Development of Intelligent Electronic Fence System
Jin-Sup Kim (*Korea Electronics Technology Institute, Republic of Korea*);

- 20 Analyzing Five-layer Planar Optical Waveguides with Kerr-type Nonlinear Metamaterial Guiding Films
Yaw-Dong Wu (National Kaohsiung University of Applied Sciences, Taiwan); *Ming-Hsiung Cheng* (National Kaohsiung University of Applied Sciences, Taiwan); *Tien-Tsorng Shih* (National Kaohsiung University of Applied Sciences, Taiwan);
- 21 Z-scan Determination of the Nonlinear Optical Properties of Assembled Gold-nanoparticle Films
Tsong-Ru Tsai (National Taiwan Ocean University, Taiwan); *Ming-Chan Shieh* (National Taiwan Ocean University, Taiwan); *I-Chi Ni* (National Dong Hwa University, Taiwan); *Shien-Der Tzeng* (National Dong Hwa University, Taiwan);
- 22 Plasmons Generation at a Lossy Interface with Induced Anisotropy
Jaromir Pistora (Technical University Ostrava, Czech Republic); *Tibor Fordos* (Technical University Ostrava, Czech Republic); *Michal Lesnak* (VSB — Technical University of Ostrava, Czech Republic); *Marek Kolencik* (Technical University Ostrava, Czech Republic);
- 23 Permittivity of Thin Quantum Dot Film with Local Field Effects
M. N. Anokhin (National Research Nuclear University “MEPhI”, Russia); *Alexey A. Tishchenko* (Moscow Engineering Physics Institute (State University), Russia); *M. N. Strikhanov* (National Research Nuclear University “MEPhI”, Russia);
- 24 Dielectric Properties and Solvothermal Synthesis of Nanocrystalline TiO₂ in Toluene with Surfactant
Jong-Ho Park (Chinju National University of Education, Korea);
- 25 Optical Properties of Poly-3-hexylthiophene Crystalline Nanofibers Oriented by the Electric Poling Procedure
Gleb Lobov (KTH, Sweden); *Yichen Zhao* (KTH, Sweden); *Aleksandrs Marinins* (KTH Royal Institute of Technology, Sweden); *Sergei Popov* (Royal Institute of Technology (KTH), Sweden); *Muhammet Toprak* (KTH Royal Institute of Technology, Sweden);
- 26 New Design of All-optical Flip-flop Device Based on Multimode Interference Photonic Crystal Waveguides
Yaw-Dong Wu (National Kaohsiung University of Applied Sciences, Taiwan); *Jui-Hong Hsu* (National Kaohsiung University of Applied Sciences, Taiwan); *Hsiu-Chuan Huang* (National Kaohsiung University of Applied Sciences, Taiwan); *Tien-Tsorng Shih* (National Kaohsiung University of Applied Sciences, Taiwan);
- 27 Ultrashort Pulse Generation in Tapered Photonic Crystal Fiber at 400 nm
A. Manimegalai (VIT University, India); *E. Gunasundari* (VIT University, India); *Abdollah M. Abobaker* (College of Electronic Technology, Libya); *K. Senthilnathan* (VIT University, India); *S. Sivabalan* (VIT University, India); *Kaliyaperumal Nakkeeran* (University of Aberdeen, UK); *P. Ramesh Babu* (VIT University, India);
- 28 Electrical Field Energy Oscillation near the Photonic Structure Faces
Vyacheslav A. Trofimov (Lomonosov Moscow State University, Russia); *Elena S. Komarova* (Lomonosov Moscow State University, Russia); *Alexey S. Barykin* (Lomonosov Moscow State University, Russia); *Mikhail V. Fedotov* (Lomonosov Moscow State University, Russia);
- 29 Accuracy of Waveguide Mode Solver Based on Boundary Integral Equations
Julien Vincent (Office National d’Etudes et de Recherches Aerospatiales (ONERA), France); *A. Calvez* (Universite de Rennes 1, France); *Ronan Perrussel* (Universite de Toulouse, France); *Jean-Rene Poirier* (Universite de Toulouse, France);
- 30 A Method of ISAR Sequences Quality Assessment for Aerospace Target
Gang Li (National University of Defense Technology, China); *Qingkai Hou* (National University of Defense Technology, China); *Shi You Xu* (National University of Defense Technology, China); *Zeng Ping Chen* (National University of Defense Technology, China);
- 31 Compensation for System Distortion Using Low Signal-to-noise-ratio Echo from Spherical Satellite
Jianzhi Lin (National University of Defense Technology, China); *Weixing Li* (National University of Defense Technology, China); *Weihua Wang* (National University of Defense Technology, China); *Gang Li* (National University of Defense Technology, China); *Zeng Ping Chen* (National University of Defense Technology, China);
- 32 Enhanced Efficiency of Second Harmonic Generation with Twelve-fold Photonic Quasi-crystal Fiber in Telecommunication Band
Ritapa Bhattacharjee (VIT University, India); *Abdollah M. Abobaker* (College of Electronic Technology, Libya); *K. Senthilnathan* (VIT University, India); *S. Sivabalan* (VIT University, India); *Kaliyaperumal Nakkeeran* (University of Aberdeen, UK); *P. Ramesh Babu* (VIT University, India);

- 33 Few-cycle Pulse Generation Using Solid-core Photonic Quasi-crystal Fiber
K. Senthilnathan (VIT University, India); M. S. Aruna Gandhi (VIT University, India); S. Sivabalan (VIT University, India); P. Ramesh Babu (VIT University, India); Abdosllam M. Abobaker (College of Electronic Technology, Libya); Kaliyaperumal Nakkeeran (University of Aberdeen, UK);
- 34 Overcoming Bandwidth Limitation of LED by Using Multilevel Differential PAM in VLC
S. H. Yang (Yonsei University, Korea); D. H. Kwon (Yonsei University, Korea); Sang-Kook Han (Yonsei University, South Korea);
- 35 Photo-induced Electrical Instability in Transparent Electronics
Jun-Young Jeon (Kwangwoon University, Korea); Tae-Jun Ha (Kwangwoon University, Korea);
- 36 Split-step Time-domain Analysis of Optical Code Division Multiple Access En/Decoder Composed of Ring Resonator Waveguides
Youngchul Chung (Kwangwoon University, South Korea);
- 37 Dependence of Radio Frequency Magnetron Sputter-deposited ZnO-SnO₂ Thin Films on Substrate Temperature
Ik-Jae Lee (Pohang University of Science and Technology, South Korea); Hoju Kang (Pohang University of Science and Technology, South Korea); Nark-Eon Sung (Pohang University of Science and Technology, South Korea);
- 38 Design Procedure for 2D Slotted Waveguide Antenna with Inclined Coupling Slots for Sidelobe Level Control
Hilal M. El Misilmani (American University of Beirut, Lebanon); Mohammed Al-Husseini (American University of Beirut, Lebanon); Karim Y. Kabalan (American University of Beirut, Lebanon);
- 39 Tripolarization Antenna for DSRC Applications
Sumin Yun (Seoul National University, Korea); Sangwook Nam (Seoul National University, Korea);
- 40 Wide Bandwidth Compact Size Meander Antenna for the 800 MHz LTE Band
Sanghoon Park (Korea Electronics Technology Institute, Korea); Ki-Jin Kim (Korea Adv. Inst. Sci. & Technol., South Korea); Kwang Ho Ahn (Korea Electronics Technology Institute, South Korea); Koon-Tae Kim (Korea Electronics Technology Institute, South Korea); Sehwan Choi (Korea Electronics Technology Institute, South Korea);
- 41 Cavity-backed and Shorted Microstrip Patch Antenna for On-body Systems
Sehwan Choi (Korea Electronics Technology Institute, Republic of Korea); Ho-Jun Lee (Korea Electronics Technology Institute, Korea);
- 42 Frequency Invariant Beamforming under Bandpass Sampling Based on Convex Optimization
Lijie Fan (National University of Defense Technology, China); Biao Tian (National University of Defense Technology, China); Shi You Xu (National University of Defense Technology, China); Zeng Ping Chen (National University of Defense Technology, China);
- 43 A Novel InP Based Planar PIN Diode
Hao Sun (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Lingyun Li (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Qilian Zhang (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Huifeng Ding (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Likun Ai (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Rui Tong (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Rong Qian (Shanghai Institute of Microsystem & Information Technology of Chinese Academy of Sciences, China); Xiao-Wei Sun (Shanghai Institute of Microsystems and Information Technique, Chinese Academy of Science, China);
- 44 Switched Phase Shifter for Load Modulation of QPSK Signal
Sehwan Choi (Korea Electronics Technology Institute, South Korea); Jin-Sup Kim (Korea Electronics Technology Institute, Republic of Korea); Jae-Young Lee (Korea Electronics Technology Institute, Korea);
- 45 Compact Waveguide Load with Thin Film Resistor
ManSeok Uhm (Electronics and Telecommunications Research Institute, South Korea); Hongyeal Lee (Electronics and Telecommunications Research Institute, Korea); Changsoo Kwak (Electronics and Telecommunications Research Institute, Korea); Sohyeun Yun (Electronics and Telecommunications Research Institute, Korea); In-Bok Yom (Electronics and Telecommunications Research Institute, Korea);

- 46 Channel Equilibration in Wideband Digital Array Radar Test-bed
Weixing Li (National University of Defense Technology, China); Jianzhi Lin (National University of Defense Technology, China); Weihua Wang (National University of Defense Technology, China); Biao Tian (National University of Defense Technology, China); Zeng Ping Chen (National University of Defense Technology, China);
- 47 An Ultra Low-power and Low-noise VCO Using Transformer Coupled Dual LC Tanks Topology
Tzu-Yun Chou (National Central University, Taiwan); Kuan-Hsiu Chien (National Central University, Taiwan); Hwann-Kaeo Chiou (National Central University, Taiwan);
- 48 A Reconfigurable Bandpass to Bandstop Filter Using PIN Diodes Based on the Square Ring Resonator
Salman Arain (Frederick University, Cyprus); Muhammad Ali Babar Abbasi (Frederick University, Cyprus); Symeon Nikolaou (Frederick University, Cyprus); Photos Vryonides (Frederick University, Cyprus);
- 49 Metallic Grating-dielectric-metal Microcavities for Far-infrared Narrowband Absorption
Pei-Kang Chung (National Chiao Tung University, Taiwan); Shun-Tung Yen (National Chiao Tung University, Taiwan);
- 50 Analysis of Substrate-defected Coplanar Waveguide of EBG
Lingyun Li (Shanghai Institute of Micro-system and Information Technology, CAS, China); Tianyu Pen (Shanghai Institute of Micro-system and Information Technology, CAS, China); Hao Sun (Shanghai Institute of Microsystem and Information Technology, CAS, China); Qilian Zhang (Shanghai Institute of Micro-system and Information Technology, CAS, China); Hui Feng Ding (Shanghai Institute of Micro-system and Information Technology, CAS, China); Xiao-Wei Sun (The Institute of Microsystems and Information Technique, Chinese Academy of Science, China);
- 51 Power Electronics for an Energy Harvesting Concept Applied to Magnetic Resonance Tomography
Lars Middelstaedt (Otto-von-Guericke-University Magdeburg, Germany); Stefan Foerster (Otto-von-Guericke-University Magdeburg, Germany); Reinhard Doebbelin (Otto-von-Guericke University of Magdeburg, Germany); Andreas Lindemann (Otto-von-Guericke University of Magdeburg, Germany);
- 52 Fast Time-domain Imaging for One-stationary Bistatic Forward-looking SAR
Hongtu Xie (National University of Defense Technology, China); Dao Xiang An (National University of Defense Technology, China); Xiaotao Huang (National University of Defense Technology, China); Zhimin Zhou (National University of Defense Technology, China);
- 53 Rapid Echo Simulation for One-stationary Bistatic SAR Based on FFT and Subaperture Processing
Hongtu Xie (National University of Defense Technology, China); Dao Xiang An (National University of Defense Technology, China); Xiaotao Huang (National University of Defense Technology, China); Zhi-Min Zhou (National University of Defense Technology, China);
- 54 NDT Imaging Method for Detection of Surface and inside Defect Using Secondary Harmonic Signal of TMR Sensor
Keiji Tsukada (Okayama University, Japan); Keisyu Shiga (Okayama University, Japan); Yuya Tsukamoto (Okayama University, Japan); Takuya Yasugi (Okayama University, Japan); Kenji Sakai (Okayama University, Japan); Toshihiko Kiwa (Okayama University, Japan);
- 55 Iterative K-means Clustering Based Fast Hybrid Segmentation Method for Biomedical Optical Images
Seungbae Ji (Korea University, Republic of Korea); Seung-Beom Yu (Korea University, Republic of Korea); Jae-Ho Han (Korea University, Korea);
- 56 Static Magnetic Fields Improve Proliferation of Osteoblast-like Cells Cultured on the Poly-L-lactide Discs
Wei Fang Lee (Taipei Medical University, Taiwan); Ya-Hui Chan (Taipei Medical University, Taiwan); Chun-Chen Lai (Taipei Medical University, Taiwan); Sheng-Wei Feng (Taipei Medical University, Taiwan);
- 57 Effects of Static Magnetic Fields on the Growth of Dental Pulp Stem Cells
Yu-Chi Chang (Taipei Medical University, Taiwan); Wei-Zhen Lew (Taipei Medical University, Taiwan); Kuo-Ning Ho (Taipei Medical University, Taiwan); Sheng-Wei Feng (Taipei Medical University, Taiwan);
- 58 Impact of Static Magnetic Fields on the Microscopic Changes of Dental Pulp Stem Cells
Pei-Yu Tsai (Taipei Medical University, Taiwan); Ching-Hua Su (Taipei Medical University, Taiwan); Chia-Chen Hsu (Taipei Medical University-Shuang Ho Hospital, Taiwan); Sheng-Wei Feng (Taipei Medical University, Taiwan);

- 59 7 Tesla Magnetic Resonance Imaging Does Not Induce DNA Double-strand Breaks in Isolated Human Lymphocytes
Mahsa Fatahi (Otto-von-Guericke-University Magdeburg, Germany); Annika Reddig (Otto-von-Guericke-University Magdeburg, Germany); Bjorn Friebe (Otto-von-Guericke-University Magdeburg, Germany); Karina Guttek (Otto-von-Guericke-University Magdeburg, Germany); Roland Hartig (Otto-von-Guericke-University Magdeburg, Germany); Frank Godenschweger (Otto-von-Guericke-University Magdeburg, Germany); Dirk Roggenbuck (Medipan GmbH, Germany); Jens Rieke (Otto-von-Guericke-University Magdeburg, Germany); Dirk Reinhold (Otto-von-Guericke-University Magdeburg, Germany); Oliver Speck (Otto-von-Guericke-University Magdeburg, Germany);
- 60 Shielding and Mitigations of the Magnetic Fields Generated by the Underground Power Cables
Niyazi Il (Akdeniz University, Turkey); Sukru Ozen (Akdeniz University, Turkey); Mehmet Cakir (Akdeniz University, Turkey); H. Feza Carlak (Akdeniz University, Turkey);
- 61 Occupational Exposure Assessment of Power Frequency Magnetic Field in 154/31.5 kV Electric Power Substation in Turkey
Sukru Ozen (Akdeniz University, Turkey); Selcuk Helhel (Akdeniz University, Turkey); H. Feza Carlak (Akdeniz University, Turkey);
- 62 Effect of Renewable Energy Sources to the Stability of the Low Voltage Distribution Networks
Zoltan Szabo (Brno University of Technology, Czech Republic); Frantisek Zezulka (Brno University of Technology, Czech Republic); Zdenek Roubal (Brno University of Technology, Czech Republic); Petr Marcon (Brno University of Technology, Czech Republic); O. Sajdl (Brno University of Technology, Czech Republic); I. Vesely (Brno University of Technology, Czech Republic);
- 63 Sensor Design and Data Transfer in a Smart Grid
Zdenek Roubal (Brno University of Technology, Czech Republic); Petr Marcon (Brno University of Technology, Czech Republic); Zoltan Szabo (Brno University of Technology, Czech Republic); Ondrej Sajdl (Brno University of Technology, Czech Republic); Ivo Vesely (Brno University of Technology, Czech Republic); Frantisek Zezulka (Brno University of Technology, Czech Republic);
- 64 A Novel Design of the Wearable Antenna
Cheng-Nan Hu (Oriental Institute of Technology, Taiwan); Jhih-Neng Yang (Oriental Institute of Technology, Taiwan); Siam-Chen Huang (Oriental Institute of Technology, Taiwan); Ju-Chun Lin (Oriental Institute of Technology, Taiwan);
- 65 Low-complexity Design of an 8×8 Modulation Configurable K-best MIMO Detector
Muh-Tian Shiue (National Central University, Taiwan); Syu-Siang Long (National Central University, Taiwan);
- 66 Analysis and Construction of Static Inverter with Multi-windings Transformer for High Power Voltage Source
Jacek Michal Grochowalski (West Pomeranian University of Technology, Poland); Zbigniew Frackiewicz (West Pomeranian University of Technology, Poland);
- 67 Modelling and Analysis of an Electro-optical System with an Off-quadrature Biased Modulator
Debora Maria Souza Morais (Aeronautics Technical Institute, Brazil); Jognes Panasiewicz Junior (National Institute for Space Research, Brazil); Gefeson Mendes Pacheco (Aeronautics Technical Institute, Brazil);
- 68 Studies on the Photoluminescence of a Novel Europium (III) Complex in Solution
Meng Shi (Qufu Normal University, China); Xinxin Meng (Shandong Provincial Key Laboratory of Laser Polarization and Information Technology, China); Fufang Su (Qufu Normal University, China); Zongbao Li (Tongren University, China); Xiaobo Xing (South China Normal University, China);
- 69 Numerical Study of Electrically-induced Physiotherapy: Influence of Working Frequency and Electrode Type on Temperature Distribution
Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic); Matous Lorenc (Czech Technical University in Prague, Czech Republic);
- 70 The Bone Regeneration Effect of 3D Printed Ferromagnetic Magnetite-based Polylactide Composite Bone Screw
Haw-Ming Huang (Taipei Medical University, Taiwan); Jy-Jiunn Tzeng (Taipei Medical University, Taiwan); Ya-Hui Chan (Taipei Medical University, Taiwan); Chien-Fang Tseng (Taipei Medical University, Taiwan);

- 71 The Gene Expression of Dental Pulp Stem Cells Due to 0.4 T SMF Treatment
Yen-Lan Chang (Taipei Medical University, Taiwan); Wei-Zhen Lew (Taipei Medical University, Taiwan); Yuh-Yuan Shiau (National Taiwan University, Taiwan); Haw-Ming Huang (Taipei Medical University, Taiwan);
- 72 Increases Cryopreservation Efficiency of Stem Cells Using Static Magnetic Field
Kan-Shin Fan (En-Chu-Kong Hospital, Taiwan); Chun-Yen Lin (Taipei Medical University, Taiwan); Haw-Ming Huang (Taipei Medical University, Taiwan); Jen-Chang Yang (Taipei Medical University, Taiwan);
- 73 Metamaterial Terahertz Bandpass Filters: A Comparison between Metallic and Graphene-based Structures
M. Bana Kermani (University of Tabriz, Iran); M. Khodaei (University of Tabriz, Iran); Amin Nasiri (University College of NabiAkram, Iran); Hamed Baghban (University of Tabriz, Iran);
- 74 Hardware-software Complex for Monitoring the Earth Ionosphere
Vladimir M. Smirnov (Fryazino Branch, Kotelnikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences, Russia); E. V. Smirnova (Kotelnikov Institute of Radio Engineering and Electronics of RAS, Russia); Yu. Ya. Ruzhin (IZMIRAN, Russia); S. I. Tynyankin (Innovative Science and Technology Center, Russia); V. N. Skobelkin (Innovative Science and Technology Center, Russia);
- 75 Continuous Wireless Monitoring and Wireless Power Transfer for Leadless Pacemaker Systems
Rupam Kumar Das (University of Ulsan, South Korea); Dong Sik Woo (Kyungpook National University, South Korea); Hyoungsuk Yoo (University of Ulsan, South Korea);
- 76 Some Effects of Specific Interest on the Brain of Children with Autism Spectrum Disorder (ASD): A Functional Near-infrared Spectroscopy Study
Huilin Zhu (South China Normal University (SCNU), China); Yuebo Fan (Guangzhou Rehabilitation and Research Center for Children with ASD, China); Xinge Li (South China Normal University (SCNU), China); Dan Huang (Guangzhou Rehabilitation and Research Center for Children with ASD, China); Huan Guo (South China Normal University (SCNU), China); Sailing He (Zhejiang University, China);
- 77 Broadband Cross Polarization Converter Formed by Twisted F-shaped Chiral Metamaterial
Dushyant Kumar Sharma (Institute for Plasma Research, India); Surya Kumar Pathak (Institute for Plasma Research, India);
- 78 Effect of Frequent Degree of Deceiving on the Pre-frontal Cortical Response to Deception: A Functional Near-infrared Spectroscopy (fNIRS) Study
Huilin Zhu (South China Normal University (SCNU), China); Yuebo Fan (Guangzhou Rehabilitation and Research Center for Children with ASD, China); Xinge Li (South China Normal University (SCNU), China); Dan Huang (Guangzhou Rehabilitation and Research Center for Children with ASD, China); Huan Guo (South China Normal University (SCNU), China); Sailing He (Zhejiang University, China);

Session 3A1
SC2: Thermal and Acoustic Metamaterials

Wednesday AM, July 8, 2015
Room A

Organized by Baile Zhang, Nicholas X. Fang

Chaired by Baile Zhang

- 08:00 Phononic Metamaterials: Past, Present and Future Challenges
invited *Johan Christensen (Technical University of Denmark, Denmark);*
- 08:20 Elastic Wave Propagation in Soft Matter Materials
invited *Stephan Rudykh (Technion-Israel Institute of Technology, Israel);*
- 08:40 Single Negative Metamaterials Take on Negative Indices Owing to Multiple Scattering: Demonstration with an Acoustic Super-lens
invited *Nadege Kaina (ESPCI Paris Tech, France); Fabrice Lemoult (ESPCI ParisTech, France); Mathias Fink (ESPCI Paris Tech and CNRS, France); Geoffroy Lerosey (ESPCI Paris Tech & CNRS, France);*
- 09:00 Sound Absorption by a Structure with Straight Rectangular Pores Loaded by Periodically Distributed Detuned Resonators
invited *Jean-Philippe Groby (Université du Maine, France); R. Pommier (Université du Maine, France); Yves Aurégan (Université du Maine, France);*

- 09:20 Boundary Layer Effects on Acoustic Transmission
invited through Narrow Slit-cavities
Gareth P. Ward (University of Exeter, United Kingdom); Ruth K. Lovelock (University of Exeter, United Kingdom); Alasdair R J. Murray (University of Exeter, United Kingdom); Alastair P. Hibbins (University of Exeter, UK); J. Roy Sambles (University of Exeter, United Kingdom); John D. Smith (Def Sci & Technol Lab, UK);
- 09:40 Fick's Second Law Transformed for Cloaking in Mass
invited Diffusion
T. M. Puvirajesinghe (Aix-Marseille Universite, France); Sebastien Guenneau (Aix-Marseille Universite, France);
- 10:00 **Coffee Break**
- 10:20 Topological Acoustics
invited
Zhaoju Yang (Nanyang Technological University, Singapore); Baile Zhang (Nanyang Technological University, Singapore);
- 10:40 Phonon Tunneling Times of Semiconductor Heterostructures with Different Tunneling Channels
Diosdado Villegas (Benemerita Universidad Autonoma de Puebla, Mexico); Jesus Arriaga (Universidad Autonoma de Puebla, Mexico); Fernando De Leon-Perez (Centro Universitario de la Defensa de Zaragoza, Spain); Rolando Perez-Alvarez (Universidad Autónoma del Estado de Morelos, México);
- 11:00 Fabrication of Large Area Metamaterials for Acoustic Attenuation
Sung Ho Lee (Kyungpook National University, South Korea); Ji Hoon Lee (Kyungpook National University, South Korea); Jeong Hyeon Lee (Kyungpook National University, South Korea); Hoon Eui Jeong (Ulsan National Institute of Science and Technology, South Korea); Jun-Ho Choi (Pukyong National University, South Korea); Moon Kyu Kwak (Kyungpook National University, South Korea);
- 11:20 Airborne Acoustic Transmission through Compound Arrays of Subwavelength Slits
Gareth P. Ward (University of Exeter, UK); Alastair P. Hibbins (University of Exeter, UK); J. Roy Sambles (University of Exeter, UK);
- 11:40 Superdimensional Metamaterial Resonators
Yaroslav Kurylev (University College London, UK);

Session 3A2**SC2&3: Manipulating and Control of Light-matter Interactions with 2D Materials and Meta-Materials**

Wednesday AM, July 8, 2015**Room B**

Organized by Tony Low, Volker J. Sorger

Chaired by Tony Low, Volker J. Sorger

- 08:00 Graphene Plasmonics and Beyond
invited
Tony Low (University of Minnesota, USA);
- 08:20 Strong Absorption in a 2D Materials-based Spiral
invited Nanocavity
Mohammad H. Tahersima (The George Washington University, USA); Volker J. Sorger (The George Washington University, USA);
- 08:40 Hyperbolic Media
invited
Zubin Jacob (University of Alberta, Canada);
- 09:00 Metamaterials for Solar Energy Conversion and Chiral Sensors
invited
Vivian Ferry (University of Minnesota, USA);
- 09:20 Exact Solution for the Reflectivity of Grapheme at Nonzero Temperature over the Wide-band Frequency Range
Victor M. Petrov (St. Petersburg Polytechnical University, Russia); Michael Bordag (Institute for Theoretical Physics, Germany); Galina Klimchitskaya (St.-Petersburg Politechnical University, Russia); Vladimir Mostepanenko (St.-Petersburg Politechnical University, Russia);
- 09:40 Active 2D Material-based Nanophotonic Devices for
invited Optical Interconnects
Ren-Jye Shiue (Massachusetts Institute of Technology, USA); Yuanda Gao (Columbia University, USA); Cheng Peng (Massachusetts Institute of Technology, USA); Dmitri Efetov (Massachusetts Institute of Technology, USA); James Hone (Columbia University, USA); Dirk Englund (Massachusetts Institute of Technology, USA);
- 10:00 **Coffee Break**
- 10:20 A Numerically Stable Model of Eccentrically Metamaterial Coated Wire Antenna
Emrah Sever (Gebze Institute of Technology, Turkey); Fatih Dikmen (Gebze Institute of Technology, Turkey); Cumali Sabah (Middle East Technical University-Northern Cyprus Campus, Turkey);

- 10:40 Probing Graphene-nanoparticle Interactions via Hot Carrier Dynamics
Adam M. Gilbertson (Imperial College London, UK); Yan Francescato (Imperial College London, UK); Viktoryia Shautsova (Imperial College London, UK); Vincenzo Giannini (Imperial College London, UK); Stefan Alexander Maier (Imperial College London, UK); Lesley F. Cohen (Imperial College London, UK); Rupert F. Oulton (Imperial College London, UK);
- 11:00 Faraday Rotation in Periodic Graphene Structures
 invited *Luis Martin-Moreno (Universidad de Zaragoza, Spain); T. M. Slipchenko (CSIC-Universidad de Zaragoza, Spain); Alexey Yu. Nikitin (CIC nanoGUNE Consolider, Spain);*
- 11:20 Perfect Extinction of Terahertz Waves in Monolayer Graphene over 2-nm-wide Coaxial Apertures
 invited *Hyeong-Ryeol Park (University of Minnesota, USA); Seon Namgung (University of Minnesota, United States); Xiaoshu Chen (University of Minnesota, USA); Nathan C. Lindquist (Bethel University, United States); Vincenzo Giannini (Imperial College London, UK); Yan Francescato (Imperial College London, UK); Stefan Alexander Maier (Imperial College London, UK); Sang-Hyun Oh (University of Minnesota, USA);*
- 11:40 Photothermal Microbubbles-assisted Optofluidic Control
Jiapeng Zheng (South China Normal University, China); Kezhang Shi (South China Normal University, China); Jianxin Yang (South China Normal University, China); Xijun Li (South China Normal University, China); Meng Shi (Qufu Normal University, China); Sailing He (Zhejiang University, China); Xiaobo Xing (South China Normal University, China);
- 12:00 Modified Periodic Method of Moments for the Analysis and Design of Metasurfaces Consisting of 2D Materials
 invited *Arya Fallahi (DESY-Center for Free-Electron Laser Science, Germany);*
- 12:20 Nano-resolving the Optical and Electronic Properties of Graphene Encapsulated in Boron Nitride
 invited *Mark Brian Lundberg (The Institute of Photonic Sciences, Spain);*

Session 3A3
SC3: Silicon Photonics — Novel Materials, Hybrid Integration, Sensors and Nonlinear Devices

Wednesday AM, July 8, 2015
Room C

Organized by Antonio La Porta, Liu Liu

 Chaired by Liu Liu

- 08:20 Experimental Measurement of Nonlinear Phenomena in Silicon Waveguides
Samuel Serna (Université Paris-Sud 11, France); Weiwei Zhang (Université Paris-Sud 11, France); Xavier Le Roux (Université Paris-Sud 11, France); Laurent Vivien (Université Paris-Sud 11, France); Nicolas Dubreuil (Université Paris-Sud 11, France); Eric Cassan (Université Paris-Sud 11, France);
- 08:40 Nonlinear Optimization of Slot Si Waveguides: Effective Mode Area vs **FOM_{TPA}**
Weiwei Zhang (Université Paris-Sud 11, France); Samuel Serna (Université Paris-Sud 11, France); Nicolas Dubreuil (Université Paris-Sud 11, France); Eric Cassan (Université Paris-Sud 11, France);
- 09:00 Challenges for Silicon Photonics Based Mid Board Modules to Achieve High Data Rate Transmissions
 invited *Benjamin Blampey (University of Grenoble Alpes, France); Stephane Bernabe (University Grenoble Alpes, France); K. Rida (University Grenoble Alpes, France); O. Castany (University Grenoble Alpes, France); A. Myko (University Grenoble Alpes, France); Christophe Kopp (University Grenoble Alpes, France);*
- 09:20 Impact of Nonlinear Loss on Stimulated Brillouin Scattering in Silicon Waveguides
Christian Wolff (University of Technology, Sydney (UTS), Australia); M. J. Steel (Centre for Ultrahigh bandwidth Devices for Optical Systems (CUDOS), Australia); B. J. Eggleton (University of Technology, Sydney (UTS), Australia); Christopher G. Poulton (University of Technology Sydney, Australia);
- 09:40 Silicon Photonics Integrated Devices for Low Cost End-user Bidirectional Transmission in Passive Optical Networks: The FABULOUS European Project
 invited *Guido Giuliani (University of Pavia, Italy);*
- 10:00 **Coffee Break**

- 10:20 Advanced Building Blocks in Thick Silicon on Insulator Technology: Echelle Grating Multiplexers and Reflective Multimode Interference Couplers
invited *Pascual Munoz (Universitat Politecnica de Valencia, Spain); Jose David Domenech (Universitat Politecnica de Valencia, Spain); Javier S. Fandino (Universitat Politecnica de Valencia, Spain); R. Banos (Universitat Politecnica de Valencia, Spain); Bernardo Gargallo (Universitat Politecnica de Valencia, Spain);*
- 10:40 Silicon Optical Routers for Photonic Networks-on-Chip
invited *Lin Yang (Institute of Semiconductors, Chinese Academy of Sciences, China); Yuhao Xia (Institute of Semiconductors, Chinese Academy of Sciences, China); Hao Jia (Institute of Semiconductors, Chinese Academy of Sciences, China); Qiaoshan Chen (Institute of Semiconductors, Chinese Academy of Sciences, China); Fanfan Zhang (Institute of Semiconductors, Chinese Academy of Sciences, China);*
- 11:00 Optical Properties of 2D Materials on Silicon and Silicon Nitride Waveguides
invited *Hon Ki Tsang (The Chinese University of Hong Kong, China); Z. Cheng (The Chinese University of Hong Kong, China); L. H. Liu (The Chinese University of Hong Kong, China); J. Wang (The Chinese University of Hong Kong, China); K. Xu (The Chinese University of Hong Kong, China); X. Wan (The Chinese University of Hong Kong, China); B. Q. Zhu (The Chinese University of Hong Kong, China); C. Shu (The Chinese University of Hong Kong, China); J. B. Xu (The Chinese University of Hong Kong, China);*
- 11:20 Femtosecond Modulations Based on Periodic Patterns of Excited Free-carriers in Semiconductors
Yonatan Sivan (Ben-Gurion University, Israel); G. Ctistis (University of Twente, The Netherlands); Allard P. Mosk (University of Twente, The Netherlands);
- 08:00 Laser-induced Thermomechanical Processes around Metal Nanoparticles in a Transparent Medium
invited *Alexey N. Volkov (University of Alabama, USA);*
- 08:20 Effect of Laser Field Enhancement on Collision Frequencies and Absorption during Ultra-short Laser Interactions with Dielectric Materials
invited *Tatiana E. Itina (Lyon University, France); A. Rudenko (Lyon University, France); Jean-Philippe Colombier (Lyon University, France); N. S. Shcheblanov (Lyon University, France);*
- 08:40 Femtosecond Laser Irradiation of Fused Silica with a Nanometric Inhomogeneity
Anton Rudenko (Lyon University, France); Jean-Philippe Colombier (Lyon University, France); Tatiana E. Itina (Lyon University, France);
- 08:55 Femtosecond Laser Material Alteration by Means of Micro- and Nano-particles
invited *Nikita Bityurin (Institute of Applied Physics RAS, Russia); A. Pikulin (Institute of Applied Physics RAS, Russia); A. A. Smirnov (Institute of Applied Physics RAS, Russia);*
- 09:15 Advantages of Contact Arrays of Spheroidal Particles for Femtosecond-laser Micro- and Nanoprocessing of Materials
Alexander Pikulin (Institute of Applied Physics RAS, Russia); N. Mitin (Institute of Applied Physics RAS, Russia); Nikita Bityurin (Institute of Applied Physics RAS, Russia);
- 09:30 Comparison of Kinetic and Continuum Models for Simulations of Laser-induced Plasma Plumes
Alexey N. Volkov (University of Alabama, USA); G. Silverstein (University of Alabama, USA); O. Ranjbar (University of Alabama, USA);
- 10:00 **Coffee Break**
- 10:20 Computer Modeling of Material Modification by Short Laser Pulses and Optically-induced Surface Acoustic Waves
keynote *Leonid V. Zhigilei (University of Virginia, USA); Chengping Wu (University of Virginia, USA); Maxim V. Shugaev (University of Virginia, USA); Vladimir Yu. Zaitsev (University of Virginia, USA);*
- 10:50 Nonlinear Absorption of Femtosecond Pulses in Fused Silica and Inscription of Refractive Index Periodic Structures in Silica Fibers
invited *Alexandr V. Dostovalov (Institute of Automation and Electroetry SB RAS, Russia); A. A. Wolf (Institute of Automation and Electroetry SB RAS, Russia); Vladimir Mezentsev (Aston University, UK); Andrey G. Okhrimchuk (Fiber Optics Research Center RAS, Russia); S. A. Babin (Institute of Automation and Electroetry SB RAS, Russia);*

Session 3A4

FocusSession.SC3: Numerical Modeling of Ultrashort Laser Pulse Propagation in Transparent Materials: Micro/nanomodification, Part 2

Wednesday AM, July 8, 2015

Room D

Organized by Nadezhda M. Bulgakova, Vladimir P. Zhukov, Tomas Mocek

Chaired by Jeremy R. Gulley, Sergey I. Kudryashov

- 11:10 Investigation of Instabilities in Femtosecond Laser Irradiated Semiconductors Using Numerical Modeling and Dispersion Relations
Thibault J.-Y. Derrien (Institute of Physics, Academy of Science of the Czech Republic, Czech Republic);
- 11:30 Temperature Relaxation after Modulated Absorption of Femtosecond Laser Pulses in Dielectrics: Possible Impact on LIPSS Formation
Yoann Levy (Institute of Physics ASCR, Czech Republic); Nadezhda M. Bulgakova (HiLASE Centre, Institute of Physics ASCR, Czech Republic and Institute of Thermophysics SB RAS, Russia); Evgeny Gurevich (Ruhr-University Bochum, Germany); Tomas Mocek (HiLASE Centre, Institute of Physics ASCR, Czech Republic);

Session 3A5

Electromagnetic Models and Applications in Remote Sensing

Wednesday AM, July 8, 2015

Room E

Organized by Hong Tat Ewe, Yang Du

Chaired by Hong Tat Ewe

- 08:00 Study of Orientational Effects in Magnetic Induction Tomography (MIT) Using a Weakly Coupled Finite Elements (FE) Solver
Wuliang Yin (University of Manchester, UK); Anthony J. Peyton (University of Manchester, UK);
- 08:20 A Formulation for Predicting the Asymptotical Magnetic Polarization Tensors for Complex-shaped Samples Using the Boundary Element Method
M. Y. Lu (University of Manchester, UK); Wuliang Yin (University of Manchester, UK); Anthony J. Peyton (University of Manchester, UK);
- 08:40 Retrieval of Land Surface Temperature from Landsat 8 Thermal Infrared Sensor in Heihe River Basin
Xiaoying Ouyang (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China);
- 09:00 Model Initialization and Inversion for Geophysical Retrieval Based on Time Series Optimization of AMSR-E X-band Data
Steven K. Chan (California Institute of Technology, USA); Eni Gerald Njoku (California Institute of Technology, USA); Mariko Burgin (California Institute of Technology, USA);
- 09:20 Effect of the Rock/Water/Air Interaction on the Complex Dielectric Permittivity and Electromagnetic Waves Attenuation in Water-saturated Sandstones
P. P. Bobrov (Omsk State Pedagogical University, Russia); Anastasiya Sergeevna Lapina (Omsk State Pedagogical University, Russia); Andrey V. Repin (Omsk State Pedagogical University, Russia);
- 09:40 The Electrical Characteristics of the Rocks with Different Texture
P. P. Bobrov (Omsk State Pedagogical University, Russia); Alexandr Sergeevich Yashchenko (Kirensky Institute of Physics, Siberian Branch, Russian Academy of Sciences, Russia); O. V. Rodionova (Omsk State Pedagogical University, Russia); Andrey V. Repin (Omsk State Pedagogical University, Russia); Anastasiya Sergeevna Lapina (Omsk State Pedagogical University, Russia);
- 10:00 **Coffee Break**
- 10:20 Modeling of Microwave Backscattering from Rice Crops Based on Radiative Transfer Theory and Antenna Array Concept
Yu Liu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China); Kun-Shan Chen (Institute of Remote Sensing and Digital Earth, Chinese Academy of Science, China); Zhao-Liang Li (Institute of Agricultural Resources and Regional Planning, Chinese Academy of Agricultural Sciences, China);
- 10:40 An Inverse Model for Sea Ice Thickness Retrieval Using Simulated Annealing
Yu Jen Lee (Universiti Tunku Abdul Rahman, Malaysia); Kee Choon Yeong (Universiti Tunku Abdul Rahman, Malaysia); Hong Tat Ewe (Universiti Tunku Abdul Rahman, Malaysia);
- 11:00 Adaptive Boundary Approach for EMF Exposure Assessment in Broadband Measurements
Dragan Kljajic (University of Novi Sad, Serbia); Nikola Djuric (University of Novi Sad, Serbia); Karolina Kasas-Lazetic (University of Novi Sad, Serbia); Danka Antic (University of Novi Sad, Serbia);

- 11:20 Topographic Effect on the Canopy Reflectance
Weiliang Fan (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China); Qin-Huo Liu (Institute of Remote Sensing Application, Chinese Academy of Sciences, China); Jing Li (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China); Gaofei Yin (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China); Yelu Zeng (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China); Baodong Xu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China);
- 11:40 A Study of Scattering of Scatterers Using Equivalence Principle Algorithm
Chan-Fai Lum (Universiti Tunku Abdul Rahman, Malaysia); Fu Xin (University of Hong Kong, China); Hong Tat Ewe (Universiti Tunku Abdul Rahman, Malaysia); Li Jun Jiang (The University of Hong Kong, China);
- 12:00 Numerical Analysis of Electromagnetic Scattering from Rough Surfaces Using an Optimized Monte Carlo Procedure
Guangdi Yang (Zhejiang University, China); Yang Du (Zhejiang University, China);
-
- Session 3A6**
SC3: Fiber Optic Sensors
-
- Wednesday AM, July 8, 2015**
Room F
 Organized by Kentaro Nakamura
 Chaired by Yosuke Mizuno
-
- 08:40 Ultra-sensitive Near-infrared Fiber-optic CO₂ Sensors
Xinyuan Chong (Oregon State University, USA); Ki-Joong Kim (Oregon State University, USA); Paul R. Ohodnicki (United States Department of Energy, USA); Chih-Hung Chang (Oregon State University, USA); Alan X. Wang (Oregon State University, USA);
- 09:00 Development of a Six-dof Fiber Bragg Grating Force-torque Sensor for Minimally Invasive Robotic Surgery
Cheol Kim (Kyungpook National University, South Korea); Chan-Hee Lee (Kyungpook National University, South Korea); Seong-Min Yun (Kyungpook National University, South Korea);
- 09:20 In-line Fiber Filters Using Tapered Flat-clad Fiber
Jian-Wei Zheng (National United University, Taiwan); Shih-Hsin Lo (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 09:40 High Sensitivity Index Sensor Based on Core-cladding Modes Interferences in Hollow Core Fiber
Shih-Hsin Lo (National United University, Taiwan); Jian-Wei Zheng (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 10:00 **Coffee Break**
- 10:20 Surface Plasmon Resonance Excitation in Metal-clad Single-mode Optical Fiber through the Tunneling of Fundamental Mode Across the Fiber Cladding
Yuri N. Kul'chin (Institute for Automation and Control Processes, FEB, RAS, Russia); Oleg B. Vitrik (Far Eastern Federal University, Russia); Anton V. Dyshlyuk (Far Eastern Federal University, Russia);
- 10:40 High Sensitivity Vibration Sensor Using Monolithic Micro Michelson Fiber Interferometer
Chia-Lung Tsai (Lienda, Taiwan); Jhih-He Jhang (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 11:00 Flow Rate Sensing Based on Monolithic Fiber Michelson Interferometer
Kuan-Yu Lou (National United University, Taiwan); Shih-Hsin Lo (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 11:20 Micro Non-contact Profilometer Using Integrated Fiber Michelson Interferometer
Jhih-He Jhang (National United University, Taiwan); Yu-Lin Tseng (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 11:40 Micro Fiber Accelerometer Based on Multibeam Michelson Interferometer
Yu-Lin Tseng (National United University, Taiwan); Jhih-He Jhang (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);

Session 3A7a**SC3: Non-reciprocal and Topological Features
in Photonic Systems**

Wednesday AM, July 8, 2015**Room G**Organized by Mohammad Hafezi, Sebastian
HofferberthChaired by Mohammad Hafezi

- 08:00 Generating Non-reciprocal Phases in Photonic Systems
Benjamin J. Eggleton (University of Sydney, Australia); Enbang Li (University of Wollongong, Australia);
- 08:20 Topological Photonics Quasicrystals
Miguel A. Bandres (Technion — Israel Institute of Technology, Israel); Mikael C. Rechtsman (Technion — Israel Institute of Technology, Israel); Mordechai Segev (Technion — Israel Institute of Technology, Israel);
- 08:40 Measuring Topological Invariants in Photonic Systems
Sunil Mittal (NIST/University of Maryland, USA); Sriram Ganeshan (NIST/University of Maryland, USA); Jingyun Fan (NIST/University of Maryland, USA); Abolhassan Vaezi (Cornell University, USA); Mohammad Hafezi (University of Maryland, USA);
- 09:00 Realizing One-way Negative Refraction in Magneto-optical Photonic Crystal by Both Parity and Time-reversal Symmetry Breaking
Yan-Feng Chen (Nanjing University, China); Cheng He (Nanjing University, China); Yin Poo (Nanjing University, China); Rui-Xin Wu (Nanjing University, China);
- 09:20 Chiral Interaction of Light and Matter in Confined
keynote Geometries
Arno Rauschenbeutel (Vienna University of Technology, Germany);
- 09:50 Non-Hermitian Topological Photonics
Steffen Weimann (Friedrich-Schiller-Universitat Jena, Germany); Julia M. Zeuner (Friedrich-Schiller-Universitat Jena, Germany); M. Kremer (Friedrich-Schiller-Universitat Jena, Germany); Mikael C. Rechtsman (Technion — Israel Institute of Technology, Israel); K. G. Makris (Princeton University, USA); Y. Plotnik (Technion — Israel Institute of Technology, Israel); Y. Lumer (Technion — Israel Institute of Technology, Israel); M. S. Rudner (The Niels Bohr International Academy, Niels Bohr Institute, Denmark); Mordechai Segev (Technion — Israel Institute of Technology, Israel); Alexander Szameit (Friedrich-Schiller-Universitat Jena, Germany);

10:00 Coffee Break

- 10:20 Unidirectional Spontaneous Emission in Waveguides with Tailored Photonic Spin-orbit Coupling
Soren Stobbe (University of Copenhagen, Denmark); Peter Lodahl (University of Copenhagen, Denmark);
- 10:40 Surface Impedance and Bulk Zak Phase Correspondence in Two Dimensional Photonic Crystals
Meng Xiao (The Hong Kong University of Science and Technology, China); Xueqin Huang (The Hong Kong University of Science and Technology, China); Zhi Hong Hang (Soochow University, China); Z. Q. Zhang (The Hong Kong University of Science and Technology, China); Che Ting Chan (The Hong Kong University of Science and Technology, China);

Session 3A7b**SC3: Strong Light-matter Coupling and
Strongly Interacting Photons 1**

Wednesday AM, July 8, 2015**Room G**Organized by Mohammad Hafezi, Sebastian
HofferberthChaired by Mohammad Hafezi

- 11:00 Single Molecules Coherently Coupled to a Dielectric
keynote Nanoguide
Vahid Sandoghdar (Max-Planck-Institute for the Science of Light, Germany);
- 11:30 Using Dressed-state Resonance Fluorescence from a Single (In,Ga)As/GaAs Quantum Dot for Alkali Atomic Vapor Spectroscopy
S. M. Ulrich (Universitat Stuttgart, Germany); R. Low (Universitat Stuttgart, Germany); Peter Michler (Universitat Stuttgart, Germany);
- 11:50 Nonlinear Optics with Coupled Polariton Modes
S. R. K. Rodriguez (LPN/CNRS, France); A. Amo (LPN/CNRS, France); Isabelle Sagnes (LPN/CNRS, France); E. Galopin (LPN/CNRS, France); Aristide Lemaitre (LPN/CNRS, France); Jacqueline Bloch (LPN/CNRS, France);

- 12:10 Single Photon Generation and Non-linearity with a Semiconductor Quantum Dot
Valerian Giesz (CNRS, France); Niccolo Somaschi (CNRS, France); Lorenzo De Santis (CNRS, France); Simone Luca Portalupi (CNRS, France); Justin Demory (CNRS, France); Christophe Arnold (CNRS, France); Olivier Gazzano (CNRS, France); Anna Nowak (CNRS, France); Aristide Lemaitre (CNRS, France); Isabelle Sagnes (CNRS, France); Loïc Lanco (CNRS, France); Pascale Senellart (LPN/CNRS, France);

Session 3A8a

Medical Electromagnetics, Biological Effects, Bioimaging

Wednesday AM, July 8, 2015

Room H

Chaired by Shinsuke Nakayama

- 08:20 Nanoparticle-assisted Stimulated Emission Depletion (STED) Microscopy, Theory and Experimental Demonstration
Yonatan Sivan (Ben-Gurion University, Israel); Y. Sonnefraud (Institut Neel, France); H. Sinclair (Imperial College London, UK); M. Foreman (Max Planck Institute for the Science of Light, Germany); Chris Dunsby (Imperial College London, UK); M. Neil (Imperial College London, UK); P. French (Imperial College London, UK); Stefan A. Maier (Imperial College London, UK);
- 08:40 The Wedding of Bioelectromagnetic and Biochemistry: Bridging a Molecule and Its Own Electromagnetic Information
Alberto Foletti (University of Applied Sciences of Southern Switzerland-SUPSI, Switzerland); Mario Ledda (Istituto di Neurobiologia e Medicina Molecolare, C.N.R., Italy); Settimio Grimaldi (Institute of Neurobiology and Molecular Medicine (INMM), National Research Council (CNR), Italy); Antonella Lisi (Istituto di Neurobiologia e Medicina Molecolare, CNR, Italy);
- 09:00 Oversensing and Undersensing of Implantable Cardiac Medical Devices Exposed to EMI
Ivan Luigi Spano (University of Cagliari, Italy); Alessandro Serpi (Università di Cagliari, Italy); M. Tomasi (University of Cagliari, Italy); Ignazio Marongiu (University of Cagliari, Italy); Gianluca Gatto (University of Cagliari, Italy);

- 09:20 Biomagnetic Fields of Propagating Electric Activity in Functional Syncytia Measured Using Amorphous Metal Magnetic Sensor
Shinsuke Nakayama (Nagoya University, Japan); Tsuyoshi Uchiyama (Nagoya University, Japan);
- 09:40 Performance Evaluation of Dipole versus Modified Bow-Tie in Annular Phased Array Applicators
Pegah Takook (Chalmers University of Technology, Sweden); Hana Dobsicek Trefna (Chalmers University of Technology, Sweden); Andreas Fhager (Chalmers University of Technology, Sweden); Mikael Persson (Chalmers University of Technology, Sweden);

10:00 **Coffee Break**

Session 3A8b

FocusSession.SC3&4: Microwave Photonics for Wireless Spectrum Management 2

Wednesday AM, July 8, 2015

Room H

Organized by David Marpaung, Maurizio Burla

Chaired by David Marpaung, Maurizio Burla

- 10:20 RF-photonic 2D/3D Integrated Circuits for Arbitrary Waveform Generation and Detection in Temporal, Spectral, and Spatial Domains
S. J. Ben Yoo (University of California, Davis, USA);
- 10:40 Software-defined Integrated Microwave Photonics for Radio Access Networks
Daniel Perez (Universitat Politècnica de Valencia, Spain); Ivana Gasulla (Universitat Politècnica de Valencia, Spain); Jose Capmany Franco (Instituto de Telecomunicaciones y Aplicaciones Multimedia, Spain);
- 11:10 Application of Multicore Fibers to Microwave Photonics
Ivana Gasulla (Universitat Politècnica de Valencia, Spain); Sergi Garcia (Universitat Politècnica de Valencia, Spain);
- 11:30 Electro-optic Dual-comb Interferometry
Vicente Duran (Chalmers University of Technology, Sweden); Santiago Tainta (Universidad Pública de Navarra, Spain); Victor Torres-Company (Chalmers University of Technology, Sweden);
- 11:50 Ultrahigh-speed Photonically-enabled Compressive Microwave Spectrum Sensing
Mark A. Foster (Johns Hopkins University, USA);

Session 3A9**Density Functional Theory and Its Applications to Nanomaterials****Wednesday AM, July 8, 2015****Room I**

Organized by Jeng-Da Chai

Chaired by Jeng-Da Chai

- 08:00 Thermally-assisted-occupation Density Functional Theory (TAO-DFT)
invited *Jeng-Da Chai (National Taiwan University, Taiwan);*
- 08:20 Ensemble Formalism of the Orbital-free Density Functional Theory
invited *Agnes Nagy (University of Debrecen, Hungary);*
- 08:40 Plasmon Excitations in Na Nanoparticles and Graphene Studied by Time-dependent Density Functional Calculations
invited *Guang-Yu Guo (National Taiwan University, Taiwan);*
- 09:00 First-principles Simulation of Real-time Electronic Dynamics on Surfaces of Materials
invited *Rulin Wang (Beijing Computational Science Research Center, China); Dong Hou (University of Science and Technology of China, China); Xiao Zheng (University of Science and Technology of China, China);*
- 09:20 Application of Density Functional Theory Combined with Lippmann-Schwinger Equation to Thermoelectric Properties in Atomic/Molecular Junctions from First Principles
invited *Yu-Chang Chen (National Chiao Tung University, Taiwan);*
- 09:40 Exchange-correlation Functionals from the Strongly-interacting Limit of DFT
invited *Francesc Malet Giralt (Vrije Universiteit Amsterdam, The Netherlands); A. Mirtschink (Vrije Universiteit Amsterdam, The Netherlands); Christian B. Mendl (Technische Universitat Munchen, Germany); J. Cremon (Lund University, Sweden); S. M. Reimann (Lund University, Sweden); P. Gori-Giorgi (Vrije Universiteit Amsterdam, The Netherlands);*
- 10:00 **Coffee Break**
- 10:20 Spin-polarized Transport through Single-molecule Magnetic Junctions
invited *Chao-Cheng Kaun (Acad Sinica, Taiwan);*
- 10:40 Theoretical Investigations on Band Gaps of Extended Systems
invited *Takao Tsuneda (University of Yamanashi, Japan);*

- 11:00 The Effect of Nitrogen-doping and Mechanical Strain on the Enhanced Visible Light Absorption of Anatase TiO₂
invited *Chin-Lung Kuo (National Taiwan University, Taiwan);*
- 11:20 Simulating Nuclear Quantum Effects on the Fly with DFT
invited *Jian Liu (Peking University, China);*
- 11:40 Application of Graphene Dopants to Anodes of Dye-sensitized Solar Cells
invited *Yu-Chao Wang (National Chi Nan University, Taiwan); Chun-Pei Cho (National Chi Nan University, Taiwan);*

Session 3A_10**SC5: Inverse Scattering Methods and Applications for NDE****Wednesday AM, July 8, 2015****Room J**

Organized by Takashi Takenaka, Federico Viani

Chaired by Martin Karl Norgren, Toshifumi Moriyama

- 08:20 Microwave Tomography Technique for Concrete Diagnosis
Zhi Qi Meng (Fukuoka University, Japan);
- 08:40 DC Impedance Tomography in Anisotropic Media
Stewart Greenhalgh (Institute of Geophysics, ETH Zürich, Switzerland); Tim Wiese (Santos Ltd., Australia); Bing Zhou (The Petroleum Institute, United Arab Emirates); Mark Greenhalgh (Thumping Geophysics, Australia); Laurent Marescot (Risk Management Solutions, Switzerland);
- 09:00 Non-contact Measurements of Power-line Currents Using the External Magnetic Field
Fatemeh Ghasemifard (KTH Royal Institute of Technology, Sweden); Markus Johansson (KTH Royal Institute of Technology, Sweden); Martin Karl Norgren (KTH Royal Institute of Technology, Sweden);
- 09:20 Auto-focused Imaging of a Moving Target Using an Ultra-wideband Array Radar
Takuya Sakamoto (Kyoto University, Japan); Toru Sato (Kyoto University, Japan); Pascal J. Aubry (Delft University of Technology, The Netherlands); Alexander Georgiev Yarovoy (Delft University of Technology, the Netherlands);

- 09:40 Gradient-based Inverse Scattering Approach Using Only Total Electric Field Data
Toshifumi Moriyama (Nagasaki University, Japan); Toshiyuki Tanaka (Nagasaki University, Japan); Takashi Takenaka (Nagasaki University, Japan);

10:00 **Coffee Break**

- 10:20 The Hollow Detection in the Concrete Wall Using 2D-FBTS Method from Real Data
Toshiyuki Tanaka (Nagasaki University, Japan); Yuki Tanaka (Nagasaki University, Japan); Toshifumi Moriyama (Nagasaki University, Japan); Takashi Takenaka (Nagasaki University, Japan);

- 10:40 Exploiting a Sparsity Enhanced Microwave Imaging Approach for Non-destructive Evaluation
Martina Bevacqua (Mediterranea University of Reggio Calabria, Italy); Lorenzo Crocco (National Research Council, Italy); Loreto Di Donato (University Mediterranea of Reggio Calabria, Italy); Tommaso Isernia (Mediterranea University of Reggio Calabria, Italy);

- 11:00 Near-subsurface Imaging with a Single Frequency Scanner
Christelle Eyraud (Universite Paul Cezanne Aix-Marseille III, France); Amelie Litman (Universite Paul Cezanne Aix-Marseille III, France); Herve Tortel (Aix-Marseille Universite, France); M. Sobrero (Aix-Marseille Universite, France); F. Daout (IUT/UFR SITEC Ville d'Avray, France);

- 11:20 Microwave Imaging of Dispersive Scatterers Using Vectorial Lagrange Multipliers
Theseus G. Papadopoulos (Aristotle University of Thessaloniki, Greece); Theodoros I. Kosmanis (Alexander Technological Educational Institute of Thessaloniki, Greece); Ioannis T. Rekanos (Aristotle University of Thessaloniki, Greece);

- 11:40 A Non Destructive Planar Biosensor for Breast Cancer Screening
Nabila Aouabdia (UPMC University Paris 06, France); Nour-Eddine Belhadj-Tahar (UPMC University Paris 06, France); Georges Alquie (UPMC University Paris 06, France); Farida Hobar (Constantine University, Algeria);

Session 3A_11

SC1: Computational Techniques in Electromagnetics and Applications 1

Wednesday AM, July 8, 2015

Room K

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Yoichi Okuno, Akira Komiyama

- 08:10 Analysis of Radiation from X-band Slotted-waveguide Antenna Arrays Using the Parallel DDA-FE-BI-MLFMA
Xu-Min Sun (Beijing Institute of Technology, China); Ming-Lin Yang (Beijing Institute of Technology, China); Xin-Qing Sheng (Beijing Institute of Technology, China);

- 08:30 Scattering of a Gaussian Beam by an Ellipsoidal Particle with Vectorial Complex Ray Model
Kuanfang Ren (Universite et INSA de Rouen, France);

- 08:50 Sesquicentennial Year of Maxwell's Equations and keynote Computational Electromagnetics
Weng Cho Chew (University of Illinois, USA);

- 09:20 Scattering of a Cylindrical Wave by the End-face of an Ordered Waveguide System
Akira Komiyama (Osaka Electro-Communication University, Japan);

- 09:40 Computation of Spheroidal Micro-organisms Cross Sections Using the Aperiodic Fourier Modal Method
Mira Abboud (Clermont Université, France); Gerard Granet (Clermont Universites, Universite Blaise Pascal, France); Kofi Edee (Clermont Uniniversité, France); Jean François Cornet (Clermont Université, France); Jérémie Dauchet (Clermont Université, France);

10:00 **Coffee Break**

- 10:20 A Couple of Topics in Numerical Analysis of Diffraction by a Metal Grating Using Yasuura's Method of Modal Expansion
Toyonori Matsuda (Kumamoto National College of Technology, Japan); Xun Xu (Kyushu Sangyo University, Japan); Yoichi Okuno (South China Normal University, China);

- 10:40 Dispersion Characteristic Analysis of Open Cylindrical Waveguide and Its Metallic Closed Model
Pelin Kelebekler (Kocaeli University, Turkey); Namik Yener (Kocaeli University, Turkey);

- 11:00 Rigorous Coupled-wave Analysis of Plane-wave Scattering from Defected Lamellar Grating in Conical Mounting
Koki Watanabe (Fukuoka Institute of Technology, Japan);
- 11:20 Three Dimensional Electromagnetic Simulations of Complex Scenes with FDTD Based Hybridization Method
Julien Vincent (Office National d'Etudes et de Recherches Aerospatiales (ONERA), France); Pierre Borderies (Office National d'Etudes et de Recherches Aerospatiales (ONERA), France); Vincent Gobin (DEMR, ONERA, France); Jean-Rene Poirier (Université de Toulouse, France);
- 11:40 An Efficient Sinc-Collocation Domain Decomposition Method for Optical Waveguides Analysis
A. A. El-Mohsen (Centre for Photonics and Smart Materials, Egypt); Ahmed Mahmoud Heikal (Zewail City of Science and Technology, Egypt); Salah Sabry Ahmed Obayya (Centre for Photonics and Smart Materials, Egypt);
- 09:00 A Practical Approach to Measuring Propagation Channel in the Spherical Vector Wave Domain
Yang Miao (Tokyo Institute of Technology, Japan); Andres Alayon Glazunov (Chalmers University of Technology, Sweden); Katsuyuki Haneda (Aalto University, Finland); Jun-Ichi Takada (Tokyo Institute of Technology, Japan);
- 09:20 Challenges of Radio Propagation Measurements for 5G Systems
Sana Salous (Durham University, UK);
- 09:40 Double Broadband Balun Structure Using CRLH TL for Differential Excitation of Dual-polarized Self-grounded Bow-tie Antenna
Sadegh Mansouri Moghaddam (Chalmers University of Technology, Sweden); John Kvarnstrand (Bluetest AB, Sweden); Andres Alayon Glazunov (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden);

10:00 **Coffee Break**

Session 3A_12
SC4: Antenna-Channel Interactions and Wireless Propagation Channels

Wednesday AM, July 8, 2015

Room L

Organized by Andres Alayon Glazunov

Chaired by Andres Alayon Glazunov

- 08:00 Research on Ka Rough Ocean Surface Channel Modeling Based on Stochastic Processes
Xiaodong Cao (Harbin Engineering University, China); Xiaojun Wang (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China);
- 08:20 WLAN Based Indoor Locating Systems Enhanced by Ultrasonic Sensors; Hybrid Indoor Locater Systems (HILOS)
Selcuk Helhel (Akdeniz University, Turkey); Atalay Kocakusak (Akdeniz University, Turkey); Yalcin Albayrak (Akdeniz University, Turkey); Sukru Ozen (Akdeniz University, Turkey);
- 08:40 New Intuitive Metrics for Diversity Performance Evaluation of Multi-element Antenna Systems
Vasileios C. Papamichael (Wireless Systems Performance (WiSPer), Greece); Petros Karadimas (University of Bedfordshire, UK);
- 10:20 Capacity Analysis for On-body Communications in an Indoor Environment
Carla Oliveira (University of Lisbon, Portugal); L. M. Correia (University of Lisbon, Portugal);
- 10:40 Spatial Probability of Detection Distribution as a Performance Measure of ZF Massive MIMO
Andres Alayon Glazunov (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden);
- 11:00 Research on Random Wireless Channel of Radio Indicator for Mariners
Tao Jiang (Harbin Engineering University, China); Xiaodong Cao (Harbin Engineering University, China); Xiaojun Wang (Harbin Engineering University, China);
- 11:20 Feasibility Study of Emulating Extended Spatial Channel Models in a Multi-probe MIMO OTA Antenna Test Setup
Md Suzan Miah (Aalto University, Finland); Afroza Khatun (Aalto University, Finland); Katsuyuki Haneda (Aalto University, Finland);

Session 3A_13**FocusSession.SC3&2: Disordered Photonics 1****Wednesday AM, July 8, 2015****Room M**

Organized by Pedro David Garcia

Chaired by Riccardo Sapienza

08:00 Random Optical Media for Third Generation Photovoltaics
keynote

Hernan Miguez (Spanish National Research Council, Spain);

08:30 Innovative Materials and Methods for Disorder Photonics
keynote

Alvaro Blanco (Instituto de Ciencia de Materiales de Madrid ICMM-CSIC, Spain); Ceferino Lopez Fernandez (Instituto de Ciencia de Materiales de Madrid (CSIC), Spain);

09:00 Adaptive and Nonlinear Optics in the Transverse Localization Regime

Marco Leonetti (Istituto Italiano di Tecnologia, Italia); Salman Karbasi (University of California, San Diego, USA); Arash Mafi (University of New Mexico, USA); Claudio Conti (University "La Sapienza", Italy);

09:15 Disorder in Nature: Optimisation of Light Scattering in Beetles
invited

Matteo Burrelli (University of Florence, Italy); Lorenzo Cortese (European Laboratory for Non-linear Spectroscopy (LENS), Italy); Diederik S. Wiersma (University of Florence, Italy); Silvia Vignolini (University of Cambridge, UK);

09:35 Hyperuniform Disordered Photonic Structures
invited

Marian Florescu (University of Surrey, UK);

10:00 **Coffee Break**

10:20 Direct and Inverse Ceramic Photonic Glasses

Pavel N. Dyachenko (Hamburg University of Technology, Germany); Elisabeth W. Leib (University of Hamburg, Germany); Jefferson J. Do Rosario (Hamburg University of Technology, Germany); Alexander Yu. Petrov (Hamburg University of Technology, Germany); Roman Kubrin (Hamburg University of Technology, Germany); Gerold A. Schneider (Hamburg University of Technology, Germany); Horst Weller (University of Hamburg, Germany); Tobias Vossmeier (University of Hamburg, Germany); Manfred Eich (Hamburg University of Technology, Germany);

10:35 Statistical Physics of Multimode Ordered and Disordered Lasers

Fabrizio Antenucci (Universita di Roma "La Sapienza", Italy); Andrea Crisanti (Universita di Roma "La Sapienza", Italy); M. Ibanez Berganza (Universita di Roma "La Sapienza", Italy); L. Leuzzi (Universita di Roma "La Sapienza", Italy);

10:50 Invariance Property of Wave Scattering through Disordered Media

R. Pierrat (ESPCI ParisTech, France); P. Ambichl (Vienna University of Technology (TU Wien), Austria); Sylvain Gigan (Université Pierre et Marie Curie, France); A. Haber (Vienna University of Technology (TU Wien), Austria); Remi Carminati (ESPCI, France); Stefan Rotter (Vienna University of Technology (TU Wien), Austria);

11:05 Wavelength-scale Localization with Heavy Photons

Remi Faggiani (University of Bordeaux, Institut d'Optique Aquitaine, France); Alexandre Baron (University of Bordeaux, Institut d'Optique Aquitaine, France); Xiaorun Zang (University of Bordeaux, Institut d'Optique Aquitaine, France); Loic Lalouat (University of Bourgogne, France); Sebastien A. Schulz (University of St Andrews, UK); Kevin Vynck (University of Bordeaux, Institut d'Optique Aquitaine, France); Bryan O'Regan (University of St Andrews, UK); Benoit Cluzel (Institut Carnot de Bourgogne (ICB — UMR CNRS 5209), France); Frederique de Fornel (CNRS, France); Thomas F. Krauss (University of York, UK); Philippe Lalanne (Institut d'Optique/LCFIO, France);

11:20 Polaritonic Behavior of Quantum Scatterers in a Nanoguide

Harald R. Haakh (Max-Planck-Institute for the Science of Light, Germany); Sanli Faez (University of Leiden, The Netherlands); Vahid Sandoghdar (Max-Planck-Institute for the Science of Light, Germany);

11:35 Impact of Anderson Localization on the Light-matter Interaction in Low-dimensional Photonic Nanostructures
invited

Soren Stobbe (University of Copenhagen, Denmark);

11:55 Lasing in Plasmonic Periodic, Aperiodic, and Disordered Systems

A. Hinke Schokker (FOM Institute AMOLF, The Netherlands); Clara I. Osorio (FOM Institute AMOLF, The Netherlands); A. Femius Koenderink (FOM Institute AMOLF, The Netherlands);

Session 3A_14**SC3: Optical Microcavities and Waveguides 2****Wednesday AM, July 8, 2015****Room N**

Organized by Ali Serpenguzel, Sahin Kaya Ozdemir

Chaired by Ali Serpenguzel, Sahin Kaya Ozdemir

08:00 New Directions for High- Q Optical Micro Cavities
invited

Kerry J. Vahala (California Institute of Technology, USA);

08:20 Applications of Second Order Microring Resonators
invited

Carmen Vazquez (Universidad Carlos III Madrid, Spain);

08:40 Coupling-tuned Silicon Ring Resonators for Optical
invited Modulation and Microwave Phase Shift

Linjie Zhou (Shanghai Jiao Tong University, China); Rui Yang (Shanghai Jiao Tong University, China); Haike Zhu (Shanghai Jiao Tong University, China); Yanyang Zhou (Shanghai Jiao Tong University, China); Jianping Chen (Shanghai Jiao Tong University, China);

09:00 Silicon Nitride Waveguides for Plasmon Optical Trap-
invited ping and Sensing Applications

Ozdal Boyraz (University of California-Irvine, USA); Qiancheng Zhao (University of California-Irvine, USA); Caner Guclu (University of California-Irvine, USA); Filippo Capolino (University of California-Irvine, USA); Regina Ragan (University of California-Irvine, USA);

09:20 Whispering Gallery Mode Biosensing: An Approach
invited to Simultaneous Multiplexed Detection

Stephen Holler (Fordham University, USA); John Murray (Fordham University, USA);

09:40 Optical Kerr Switching and COMB Generation in a
invited Silica Whispering Gallery Mode Microcavity

Takasumi Tanabe (Keio University, Japan);

10:00 **Coffee Break**

10:20 Whispering Gallery Mode Microbubble Resonators
invited

Sile Nic Chormaic (Okinawa Institute of Science and Technology Graduate University, Japan);

10:40 Femtosecond Laser Inscription of 3D Optical Wave-
invited guides in Glasses, Polymers and Crystals

Shane M. Eaton (Politecnico di Milano, Italy); Vibhav Bharadwaj (Center for Nano Science and Technology, Istituto Italiano di Tecnologia (CNST-IIT), Italy); Roberta Ramponi (Institute of Photonics and Nanotechnology (IFN) — CNR, Italy);

11:00 Lasing and Applications of Flexible Optical Micro-
invited resonators

Handong Sun (Nanyang Technological University, Singapore);

11:20 Meandering Waveguide Distributed Feedback Light-
wave Elements: Phasor Diagram Analysis

Ceren B. Dag (Istanbul Technical University, Turkey); Mehmet A. Anil (Istanbul Technical University, Turkey); Ali Serpenguzel (Koc University, Turkey);

Session 3A0**Poster Session 5****Wednesday AM, July 8, 2015****9:00 AM - 12:00 AM****Room Poster Area**

1 FDTD Simulation of a Cylindrical Waveguide Using
Longitudinal Current Distribution as an Excitation
Scheme

Dimitrios V. Peponis (National and Kapodistrian University of Athens, Greece); George P. Latsas (National and Kapodistrian University of Athens, Greece); Zisis C. Ioannidis (National and Kapodistrian University of Athens, Greece); Ioannis G. Tigelis (University of Athens, Greece);

2 High Precision Range Measurement Processor Design
with Low Complexity for FMCW Radar Systems

Eugin Hyun (DGIST, South Korea); J. H. Lee (DGIST, South Korea);

3 Schur Complement Based Method of Moments So-
lution for 2D Scattering Problem from Mixed
Dielectric-conductor Targets

Mehmet Nuri Akinici (Istanbul Technical University, Turkey); M. Cayoren (Istanbul Technical University, Turkey);

4 Dynamic Speckle Laser Technique for the Character-
ization of Electrotechnical-porcelain

F. J. Salguero (UNLP, Argentina); G. Bertolini (Universidad Nacional de La Plata, Argentina); C. I. Cabello (UNLP, Argentina); E. Grumel (UNLP, Argentina); Marcelo Trivi (Universidad Nacional de La Plata, Argentina); G. Barbera (UNLP, Argentina);

- 5 Random Electromagnetic Interferometry Method Applied to Aluminosilicates Analysis
R. D. Mojica-Sepulveda (CEQUINOR, (CONICET La Plata-UNLP), Argentina); L. J. Mendoza-Herrera (UNLP, Argentina); E. Grumel (UNLP, Argentina); D. B. Soria (CEQUINOR, (CONICET La Plata-UNLP), Argentina); C. I. Cabello (UNLP, Argentina); Marcelo Trivi (Universidad Nacional de La Plata, Argentina);
- 6 Modeling of Electromagnetic Scattering from Simplified Leaf Structures by Using Spherical Wave Expansion
Paul Jason Co (Tokyo Institute of Technology, Japan); Jun-Ichi Takada (Tokyo Institute of Technology, Japan);
- 7 Behaviour of Conformal Conical Frequency Selective Surfaces
Giovanni Leone (Seconda Università di Napoli, Italy); Francesco Mattiello (Seconda Università di Napoli, Italy); Giuseppe Ruvio (Dublin Institute of Technology, Ireland); Rocco Pierri (Seconda Università di Napoli, Italy);
- 8 Time Domain Transient Analysis for Ellipsoidal and Hyperbolic Reflector Antennas
Shih-Chung Tuan (Oriental Institute of Technology, Taiwan); Hsi-Tseng Chou (Yuan Ze University, Taiwan);
- 9 A Time Domain Analytic Solution to Predict the Transient Radiation for Phased Periodic Array
Shih-Chung Tuan (Oriental Institute of Technology, Taiwan); Hsi-Tseng Chou (Yuan Ze University, Taiwan);
- 10 Analytical Study on Transmission Characteristics of MSL with Dielectric Adhesive-backed NSS
Yusuke Tomizuka (National Institute of Technology, Kisarazu College, Japan); Genki Ichihara (National Institute of Technology, Kisarazu College, Japan); Masafumi Setsu (National Institute of Technology, Kisarazu College, Japan); Takanobu Ohno (Kisarazu National College of Technology, Japan); Kosei Tanii (National Institute of Technology, Kisarazu College, Japan); Masahiro Uehara (National Institute of Technology, Kisarazu College, Japan);
- 11 Ferroelectrics in RF and MW Adaptive (Electronically Tuned) Matching Circuits
Roman Andreevich Platonov (Saint Petersburg Electrotechnical University "LETI", Russian Federation); I. V. Kotelnikov (Saint Petersburg Electrotechnical University "LETI", Russian Federation); V. N. Osadchy (Saint Petersburg Electrotechnical University "LETI", Russian Federation); D. M. Kosmin (Saint Petersburg Electrotechnical University "LETI", Russian Federation); A. D. Kanareykin (Euclid TechLabs, LLC, USA); E. A. Nenasheva (OOO Ceramica, Russian Federation); Andrei Borisovich Kozyrev (Saint-Petersburg State Electrotechnical University (LETI), Russia);
- 12 Local Field Effects for Left-handed Planar Metamaterials
O. V. Porvatkina (National Research Nuclear University "MEPhI", Russia); Alexey A. Tishchenko (Moscow Engineering Physics Institute (State University), Russia); M. N. Strikhanov (National Research Nuclear University MEPhI, Russia);
- 13 Total Internal Reflection as a Technique for Study of Surface Optical Characteristics of Left-handed Materials
Anastasiya M. Feshchenko (National Research Nuclear University MEPhI, Russia); Alexey A. Tishchenko (Moscow Engineering Physics Institute (State University), Russia); M. N. Strikhanov (National Research Nuclear University MEPhI, Russia);
- 14 Evaluation of a Buckypaper's Electromagnetic Shielding Efficiency in X Band
N. Curreli (University of Cagliari, Italy); C. Puddu (University of Cagliari, Italy); G. Muntoni (University of Cagliari, Italy); M. Simone (University of Cagliari, Italy); Alessandro Fanti (University of Cagliari, Italy);
- 15 Waveform Measurement of Ultra-high Repetition Mode-locked Pulses Generated from a Silica Toroid Microcavity
Zhelun Chen (Keio University, Japan); Takuma Nagano (Keio University, Japan); Yusuke Okabe (Keio University, Japan); Tomoya Kobatake (Keio University, Japan); Takasumi Tanabe (Keio University, Japan);

- 16 Fundamental Mode Cutoff Filter for Highly Sensitive Fiber Strain Sensing Applications
Yu-Cheng Li (National United University, Taiwan); Wen-Chuang Lin (National United University, Taiwan); Kuan-Yu Lou (National United University, Taiwan); Jhih-He Jhang (National United University, Taiwan); Yu-Lin Tseng (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 17 Photon-Avalanche-Like Nonlinear Excitation and Optical Low-Energy Ultrafast Switching in Solids
Evgeny Yu. Perlin (ITMO University, Russia); Andrey V. Ivanov (ITMO University, Russia);
- 18 Secondary Instabilities of Steady Stationary Solution in Wide-aperture Lasers with Negative Detuning
Dmitry A. Anchikov (Samara State Aerospace University, Russia); Anton V. Pakhomov (Samara State Aerospace University, Russia); Anton A. Krents (Samara State Aerospace University, Russia); Nonna E. Molevich (Samara State Aerospace University, Russia);
- 19 Radiofrequency Impedance Spectroscopy of Active Optical Fiber Heating under Laser Generation and Amplification Conditions
Renat I. Shaidullin (Moscow Institute of Physics and Technology, Russia); Ilya A. Zaytsev (Kotel'nikov IRE of RAS, Russia); Oleg A. Ryabushkin (Moscow Institute of Physics and Technology, Russia);
- 20 Cerenkov Radiation in Presence of Squeezed Electromagnetic Vacuum
Peter A. Meleshenko (Voronezh State University, Russia); Hang T. T. Nguyen (Vietnam National University — Ho Chi Minh City, Vietnam); Vladimir A. Gorlov (Zhukovsky-Gagarin Air Force Academy, Russia); Mikhail E. Semenov (Zhukovsky-Gagarin Air Force Academy, Russia); Alexander F. Klinskikh (Voronezh State University, Russia);
- 21 Frequency Characterization of Planar Resonators by THz Josephson Spectroscopy
Alexander Snezhko (Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russian Federation); Oleg Volkov (Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russian Federation); Vladimir N. Gubankov (Kotel'nikov Institute of Radio Engineering and Electronics of Russian Academy of Sciences, Russian Federation); Irina Gundareva (Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russian Federation); Yuriy Y. Divin (Kotel'nikov Institute of Radio Engineering and Electronics of Russian Academy of Sciences, Russian Federation); Valery Pavlovsky (Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russian Federation); Vadim Pokalyakin (Kotel'nikov Institute of Radio Engineering and Electronics of RAS, Russian Federation);
- 22 Stronger Nanoscale EM and BEM Solutions by CICT Phased Generators
Rodolfo A. Fiorini (Politecnico di Milano, Italy);
- 23 Dynamical Model of Elastic-plastic Hysteresis in Fullerenes Film
Boris M. Darinsky (Voronezh State University, Russia); Mikhail E. Semenov (Zhukovsky-Gagarin Air Force Academy, Russia); Andrey M. Semenov (Voronezh State University, Russia); Peter A. Meleshenko (Voronezh State University, Russia);
- 24 Binary Collision with Energetic Ions of Carbon Nanotubes
Diyar Bajalan (student, Austria);
- 25 Applications of Carbon Nanotubes and Other Nanomagnetic Nanowires
Diyar Bajalan (student, Austria);
- 26 In-line Fiber Anemometer Based on Strain Sensing in Stretched Abrupt-tapered Fiber
Yu-Cheng Li (National United University, Taiwan); Jheng-Jyun Wang (National United University, Taiwan); Wen-Chuang Lin (National United University, Taiwan); Nan-Kuang Chen (National United University, Taiwan);
- 27 Conception of Radiofrequency-optical Fiber-scanning Modulation Spectroscopy
Oleg A. Ryabushkin (Moscow Institute of Physics and Technology, Russia); Dmitrii Protasenya (Moscow Institute of Physics and Technology (State University), Russia);
- 28 Radiofrequency Calorimetry of High-power Laser Radiation
Oleg A. Ryabushkin (Moscow Institute of Physics and Technology, Russia); Aleskey Viktorovich Konyashkin (Moscow Institute of Physics and Technology, Russia);

- 29 Separating the Field Radiated by Two Rectilinear Sources
Andrea Natale (Seconda Università di Napoli, Italy); M. A. Maisto (Seconda Università di Napoli, Italy); Raffaele Solimene (Second University of Naples, Italy); Giovanni Leone (Seconda Università di Napoli, Italy); Rocco Pierri (Seconda Università di Napoli, Italy);
- 30 A Bowtie Antenna Using a Broadband Microstrip to CPS Transition Balun
Haeng-Sook Ro (ETRI (Electronics and Telecommunications Research Institute), Korea); Yong-Seok Choi (ETRI (Electronic & Telecommunications Research Institute), Korea);
- 31 Two Elements MIMO Antenna for a WLAN System
Hui Liu (South China Normal University, China); Cheng Liu (South China Normal University, China); Binjie Wang (South China Normal University, China); Qibin Deng (South China Normal University, China); Youhuan Guo (Guangdong Peizheng College, China);
- 32 A Printed Inverted-F MIMO Antenna for WiFi Applications
Cheng Liu (South China Normal University, China); Hui Liu (Guangdong Peizheng College; South China Normal University, China); Binjie Wang (South China Normal University, China); Zhibing He (South China Normal University, China); Sailing He (Zhejiang University, China);
- 33 Design and Analysis of a Phased-MIMO Array Antenna with Frequency Diversity
Nour El-Din Ismail (Alexandria University, Egypt); Sherif Hanafy Mahmoud (Alexandria University, Egypt); Ahmed Hamed (Alexandria University, Egypt); Alaa El-Din Sayed Hafez (Alexandria University, Egypt);
- 34 A Simple Monopole Slot Antenna with High Band-notch Characteristics for Ultra-wideband Communication Applications
Yingsong Li (Harbin Engineering University, China); Zhuqun Zhai (Institute of Systems, China); Wenxing Li (Harbin Engineering University, China); Si Li (Harbin Engineering University, China);
- 35 Dual-band Microstrip Antenna with Defected Ground Structure for WLAN Application
Wen-Chung Liu (National Formosa University, Taiwan); Ya-Yun Shih (National Formosa University, Taiwan); Chao-Ming Wu (National Formosa University, Taiwan);
- 36 Implementation of an Inverted-F Antenna with Improved Bandwidth
Jong-In Ryu (Korea Electronics Technology Institute, Korea); Dongsu Kim (Korea Electronics Technology Institute, South Korea); Jun-Chul Kim (Korea Electronics Technology Institute, South Korea); Jong Chul Park (Korea Electronics Technology Institute, South Korea);
- 37 Isolation Improvement for Two Planar Dual-band Antenna Elements Placed Perpendicularly
Yu-Feng Shih (Tamkang University, Taiwan); Ching-Lieh Li (Tamkang University, Taiwan);
- 38 Design of a Compact Planar Spiral Antenna for Sensor Network
Ju-Derk Park (Electronics and Telecommunications Research Institute, Korea); Byeong-Cheol Choi (Electronics and Telecommunications Research Institute, Korea);
- 39 Design of Wideband Multi-way Power Divider with the Modified Impedance Transformer
Ching-Wen Tang (National Chung Cheng University, Taiwan); Wei-Min Chuang (National Chung Cheng University, Taiwan);
- 40 Design for Ultra Wideband Filter Using Open- and Short-ended Stepped Impedance Resonators and Coupled Lines by Genetic Algorithm
Masafumi Setsu (National Institute of Technology, Kisarazu College, Japan); Genki Ichihara (National Institute of Technology, Kisarazu College, Japan); Yusuke Tomizuka (National Institute of Technology, Kisarazu College, Japan); Takano Ohno (Kisarazu National College of Technology, Japan); Kosei Tanii (National Institute of Technology, Kisarazu College, Japan); Masahiro Uehara (National Institute of Technology, Kisarazu College, Japan);
- 41 Novel Module Including a Waveguide for 40 GHz High-gain Amplifier Applications
Young Chul Lee (Mokpo National Maritime University (MMU), Korea); Amran Bin Hj Naemat (Telecom Malaysia Research & Development (TMR&D), Malaysia); Zulkifli Bin Ambak (Telecom Malaysia Research & Development (TMR&D), Malaysia);
- 42 A Wideband Microstrip Line-to-waveguide Transition on LCP for 70 and 80 GHz-band Applications
Young Chul Lee (Mokpo National Maritime University (MMU), Korea);
- 43 Coaxial-line Structured SMT Pad for LTCC SiP Applications
Young Chul Lee (Mokpo National Maritime University (MMU), Korea);

- 44 Reduction of Uncertainties of Resonant Properties for Permittivity Measurements by Considering Incompleteness of TRL Calibration Kit
Yuto Kato (National Institute of Advanced Industrial Science and Technology, Japan); Masahiro Horibe (National Institute of Advanced Industrial Science and Technology (AIST), Japan);
- 45 Plasma Density Measurement Using Mutual Impedance Technique on the Jupiter Mission JUICE: The MIME Instrument
Jean Louis Rauch (Centre National de la Recherche Scientifique, CNRS, France); P. Henri (3A av. de la Recherche Scientifique, France); Jean-Pierre Lebreton (Universite d'Orleans, France); O. Le Duff (LPC2E, France); F. Colin (LPC2E, France); D. Lagoutte (LPC2E, France);
- 46 InISAR Imaging of Dechirp Data under Squint Model
Biao Tian (National University of Defense Technology, China); Gang Li (National University of Defense Technology, China); Shi You Xu (National University of Defense Technology, China); Zeng Ping Chen (National University of Defense Technology, China);
- 47 Moving Radar Target Detection Using an Improved OFDM Chirp Waveform Scheme
Jiahua Zhu (National University of Defense Technology, China); Pengzheng Lei (National University of Defense Technology, China); Chongyi Fan (National University of Defense Technology, China); Xiaotao Huang (National University of Defense Technology, China); Zhimin Zhou (National University of Defense Technology, China);
- 48 Methods and Experiments for the Sensing and Evaluation of Ionosphere Changes and Their Impact on the Human Organism
Michael Hanzelka (Brno University of Technology, Czech Republic); Jiri Dan (Masaryk University, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Martin Friedl (Brno University of Technology, Czech Republic); Vladan Holcner (University of Defence, Czech Republic);
- 49 The Parameters of a Special High Voltage Function Generator
Petr Marcon (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Miloslav Steinbauer (Brno University of Technology, Czech Republic); Petr Drexler (Brno University of Technology, Czech Republic);
- 50 Measurement of Tissue Cultures of Early Somatic Embryos of Norway spruce
Eliska Vlachova Hutova (Brno University of Technology, Czech Republic); Radim Korinek (Brno University of Technology, Czech Republic); Karel Bartusek (Institute of Scientific Instruments of the ASCR, Czech Republic); L. Havel (Brno University of Technology, Czech Republic); Petr Drexler (Brno University of Technology, Czech Republic);
- 51 Comparison Study of Layered Homogeneous Models with Detailed Human Tissue Models for Through-body Communications
Muhammad Ali Babar Abbasi (Frederick University, Cyprus); Dimitris Philippou (Frederick University, Cyprus); Symeon Nikolaou (Frederick University, Cyprus);
- 52 Analysis on SAR Values of Commercial Mobile Phones
Ae-Kyoung Lee (Electronics and Telecommunications Research Institute, South Korea); Seon-Eui Hong (Electronics and Telecommunications Research Institute, South Korea); Jong-Hwa Kwon (Electronics and Telecommunications Research Institute, South Korea);
- 53 Fabrication of a Nano-magnetic Biodegradable Composite for Medical Applications
Che-Tong Lin (Taipei Medical University, Taiwan); Ting-Lin Wu (Taipei Medical University, Taiwan); Horng-Mo Lee (Central Taiwan University of Science and Technology, Taiwan); Haw-Ming Huang (Taipei Medical University, Taiwan);
- 54 Parameter Identification of PMSM Nonlinear Part
Ivo Vesely (Brno University of Technology, Czech Republic); Michal Sir (Brno University of Technology, Czech Republic);
- 55 Simulation of Circulation Module
Frantisek Solc (Brno University of Technology, Czech Republic); Ivo Vesely (Brno University of Technology, Czech Republic); Frantisek Zezulka (Brno University of Technology, Czech Republic);
- 56 Design of Dual Band Monopole Antenna with Considering Human Body Effect for Wearable Device Applications
Ho-Jun Lee (Korea Electronics Technology Institute, Korea); Jin-Myung Kim (ACE Technologies Co., Ltd., Korea);

- 57 High Gain and Low Noise Brain-Machine-Interface (BMI) SoC and Module for Dry Contact Electrode
Sanghoon Park (Korea Electronics Technology Institute, Korea); Ki-Jin Kim (Korea Adv. Inst. Sci. & Technol., South Korea); Kwang Ho Ahn (Korea Electronics Technology Institute, South Korea); Jin-Sup Kim (Korea Electronics Technology Institute, Republic of Korea);
- 58 Analysis of Light Absorbance on the Effects of Low Frequency Magnetic Fields on Cell Proliferation
Modesto Sosa Aquino (University of Guanajuato, Campus Leon, Mexico); T. Cordova-Fraga (University of Guanajuato, Campus Leon, Mexico); A. Martinez-Longoria (University of Guanajuato, Campus Leon, Mexico); A. Horta-Rangel (University of Guanajuato, Campus Guanajuato, Mexico); J. C. Villagomez (University of Guanajuato, Campus Guanajuato, Mexico); M. Sabanero (University of Guanajuato, Campus Guanajuato, Mexico); R. Monroy-Torres (University of Guanajuato, Campus Leon, Mexico); N. Padilla-Raygoza (University of Guanajuato, Campus Celaya-Salvatierra, Mexico);
- 59 IMA for a Mobile Phone Using the Coupling Method
Ho-Jun Lee (Korea Electronics Technology Institute, Korea); Jin-Myung Kim (ACE Technologies Co., Ltd., Korea);
- 60 An Efficiency of Broadcast Mechanisms Based on Cluster Heads in Dependence on Clustering Algorithm Type
Wojciech Bednarczyk (Military University of Technology, Poland); Jerzy Dolowski (Military University of Technology, Poland); Jaroslaw Michalak (Military University of Technology, Poland);
- 61 Restoration of Antenna Patterns Using Iterative Method
Jinhwan Koh (Gyeongsang National University, South Korea); Fan Fan (Gyeongsang National University, Korea);
- 62 Wave Packet Propagation of Guided Optical Modes in a Thin Left-handed Film near a Frequency of Zero Power Flux
Dmitry A. Konkin (Tomsk State University of Control Systems and Radioelectronics, Russia); Rudol'ph V. Litvinov (Tomsk State University of Control Systems and Radioelectronics, Russia); Alexander A. Shibelgut (Tomsk State University of Control Systems and Radioelectronics, Russia);
- 63 Unconventional Relaxation in Metal-dielectric Iron Boron Nitride Nanoceramics in the Radiofrequency Range
Karen Oganisian (Institute of Low Temperature and Structure Research, PAS, Poland); Pawel Gluchowski (Institute of Low Temperature and Structure Research, PAS, Poland); Andrzej Vogt (Wroclaw University, Poland); Wieslaw Strek (Institute of Low Temperature and Structure Research, PAS, Poland);
- 64 Lasing Emission by Side-pumped Emulsion Droplets in Pendant Positions
Mihai Boni (National Institute for Laser, Plasma and Radiation Physics, Romania); Ionut-Relu Andrei (National Institute for Laser, Plasma and Radiation Physics, Romania); Viorel Nastasa (National Institute for Laser, Plasma and Radiation Physics, Romania); Angela Staicu (National Institute for Laser, Plasma and Radiation Physics, Romania); Mihail Lucian Pascu (National Institute for Laser, Plasma and Radiation Physics, Romania);
- 65 The Time Approach to Analysis of the Probing Radiation and Electromagnetic Fields, Scattered by Rough Objects
Valery I. Mandrosov (Moscow Institute of Physics and Technology, Russia);
- 66 Correlated-electron Emission in Nonsequential Double Ionization of Ar Atoms by Intense Laser Fields
Jingtao Zhang (Shanghai Normal University, China);
- 67 Mutual Coupling between Parasitic Elements of Split Ring Resonator on Antenna
Dang-Oh Kim (Korea Advanced Institute of Science and Technology, South Korea); Uooyeol Yoon (Korea Advanced Institute of Science and Technology, Korea);
- 68 Near-field Imagery with Bow-tie Antenna Probes at 60 GHz
Laurent Chusseau (Universite Montpellier, France); Rachid Omarouayache (Universite Montpellier, France); Pierre Payet (Universite Montpellier, France); Jeremy Raoult (Universite de Montpellier, France);

- 69 An Formation Algorithm of the Synthetic Aperture in an Automotive Radar with Use of the MUSIC Algorithm
Zhargal T. Erdyneev (Tomsk State University of Control Systems and Radioelectronics, Russia); Gleb O. Manokhin (Tomsk State University of Control Systems and Radioelectronics, Russia); Elena Pavlovna Voroshilina (Research Institute of Radiotechnical Systems, Russia); Eugeny V. Rogozhnikov (Tomsk State University of Control Systems and Radioelectronics, Russia); Andrey A. Geltser (Tomsk State University of Control Systems and Radioelectronics, Russia); Alexander A. Shibelgut (Tomsk State University of Control Systems and Radioelectronics, Russia);
- 70 Bioradar in Study of Low-power Radio Frequency Radiation Influence on Sleep of Laboratory Animals
Lesya N. Anishchenko (Bauman Moscow State Technical University, Russia); Ekaterina Gaysina (Bauman Moscow State Technical University, Russia); Irina L. Alborova (Bauman Moscow State Technical University, Russia);
- 71 Specific Absorption Rates in Women of Three Different Body Types Exposed to EM Waves from 30 MHz to 6 GHz
Tomoaki Nagaoka (National Institute of Information and Communications Technology, Japan); Soichi Watanabe (National Institute of Information and Communications Technology, Japan);
- 72 Resonant Micro-strip Lines Analog to Electromagnetically Induced Transparency
Ben Yi Wang (Zhejiang Industry & Trade Vocational College, China); Teh-Chau Liau (NTUST, Taiwan); Jian Qi Shen (Zhejiang University, China); Shun-feng Su (NTUST, Taiwan);
- 73 Measurement of Complex Permittivity of Warping Thick Film Using Cylindrical Cavity Resonator
Genki Ichihara (National Institute of Technology, Kisarazu College, Japan); Yusuke Tomizuka (National Institute of Technology, Kisarazu College, Japan); Masafumi Setsu (National Institute of Technology, Kisarazu College, Japan); Takanobu Ohno (Kisarazu National College of Technology, Japan); Kosei Tani (National Institute of Technology, Kisarazu College, Japan); Masahiro Uehara (National Institute of Technology, Kisarazu College, Japan);
- 74 Improved Concept of Numerical Modeling of Dielectric Properties of Emulsions: Error Reduction Caused by Droplets Close to or Crossing Boundaries of Constant Electric Potential
Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);
- 75 Numerical Modeling of Dielectric Properties of Blood-glucose Solutions
Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); Pavel Spurny (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);
- 76 Design and Fabrication of a Low-profile mmWave Antenna Solution for the 5G Cellular Handsets
Byung-Su Kang (Electronics and Telecommunications Research Institute, Korea); Heon Kook Kwon (Electronics and Telecommunications Research Institute, Korea); Dongho Kim (Sejong University, Korea);
- 77 Broadband Slotted Bow-tie Antennas for Terahertz Resonant Tunnelling Diode Based Oscillators
Khalid Hamed Alharbi (University of Glasgow, UK); Afesomah Ofiare (University of Glasgow, UK); Jue Wang (University of Glasgow, UK); Monageng Kgwadi (University of Glasgow, UK); Ata Khalid (University of Glasgow, UK); Edward Wasige (University of Glasgow, UK);
- 78 On-wafer 2D Characterization Technique for Quasi-Yagi Antenna for G-band Applications
Khalid Hamed Alharbi (University of Glasgow, UK); Afesomah Ofiare (University of Glasgow, UK); Jue Wang (University of Glasgow, UK); Ata Khalid (University of Glasgow, UK); David Robert Sime Cumming (University of Glasgow, UK); Edward Wasige (University of Glasgow, UK);

Session 3P1
FocusSession.SC2: Transformation Optics

Wednesday PM, July 8, 2015
Room C

Organized by Hongsheng Chen, Yu Luo

Chaired by Hongsheng Chen, Yu Luo

- 13:10 **Metamaterials and Transformation Optics for Single-photon Emitters**
keynote
Vladimir M. Shalaev (Purdue University, USA); M. Y. Shalaginov (Purdue University, USA); N. Kinsey (Purdue University, USA); Paul R. West (Purdue University, USA); M. Ferrera (Purdue University, USA); Alexander V. Kildishev (Purdue University, USA); Alexandra Boltasseva (Purdue University, USA);
- 13:40 **Omnidirectional Light Concentrators-absorbers — How to Make Their Core Flat?**
invited
Alexander V. Kildishev (Purdue University, USA); Ludmila J. Prokopeva (Birck Nanotechnology Center, USA);
- 14:00 **Farfield Sub-wavelength Imaging with Compact Dielectric Lens**
invited
Jingjing Zhang (Technical University of Denmark, Denmark);
- 14:20 **A Wide-angle Broadband Polarizer Based on a Field Transformation Approach**
invited
Junming Zhao (Nanjing University, China); Yang Hao (Queen Mary University of London, UK); Yijun Feng (Nanjing University, China);
- 14:40 **Design Metasurface from Transformation Optics**
invited
Yadong Xu (Soochow University, China); Yangyang Fu (Soochow University, China); Huanyang Chen (Soochow University, China);
- 15:00 **Transformation Optics and EELS in Plasmonics**
invited
Matthias Kraft (Imperial College London, UK); Yu Luo (Nanyang Technological University, Singapore); John B. Pendry (Imperial College London, UK);
- 15:20 **Coffee Break**
- 15:40 **Passive and Active Devices for Spoof Surface Plasmon Polaritons in the Microwave Frequency**
keynote
Tie Jun Cui (Southeast University, China);
- 16:10 **Transformation Optics with Spatially Dispersive Electromagnetic Media**
invited
Jie Luo (Soochow University, China); Yu Ting Yang (Soochow University, China); Zhi Hong Hang (Soochow University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China); Yun Lai (Soochow University, China);
- 16:30 **Manipulating Microwaves Using Metamaterials and Metasurfaces**
invited
Alastair P. Hibbins (University of Exeter, UK); Rhiannon C. Mitchell-Thomas (University of Exeter, UK); Joseph A. Dockrey (University of Exeter, United Kingdom); Laura Parke (University of Exeter, United Kingdom); Simon A. R. Horsley (University of Exeter, UK); Ian R. Hooper (University of Exeter, UK); Benjamin Woods (University of Exeter, United Kingdom); J. Roy Sambles (University of Exeter, United Kingdom);
- 16:50 **Realization of Invisible Cloaking for Multiphysics**
invited
Yichao Liu (Zhejiang University, China); Jianfei Zhu (Zhejiang University, China); Wei Jiang (Zhejiang University, China); Yungui Ma (Zhejiang University, China);
- 17:10 **Transformation Cloaks for Surface Electromagnetic Waves**
invited
Hongyi Xu (Nanyang Technological University, Singapore); Xu Su (Zhejiang University, China); Handong Sun (Nanyang Technological University, Singapore); Hongsheng Chen (Zhejiang University, China); Baile Zhang (Nanyang Technological University, Singapore);
- 17:30 **Generalized Refractive Index for Transformation Optics and beyond**
invited
Martin W. McCall (Imperial College of Science, Technology and Medicine, UK); Paul Kinsler (Imperial College of Science, Technology and Medicine, UK); D. Topf (Imperial College London, UK);
- 17:50 **A Revisit to Transformation Optics: A Precise Or Approximated Method?**
Jin Hu (Beijing Institute of Technology, China);
- 18:05 **Analogue Transformations and Their Application to Optics**
invited
Carlos Garcia-Meca (Universidad Politécnica de Valencia, Spain);
- 18:25 **Toroidal Dipole Induced Scattering Transparency of Nanoparticles**
invited
Wei Liu (National University of Defense Technology, China);
- 18:45 **Using Complex Coordinates to Understand Reflection**
invited
Simon A. R. Horsley (University of Exeter, UK);

Session 3P2
**FocusSession.SC3: Optical Properties of
Resonant Dielectric and Plasmonic
Nanostructures 2**

Wednesday PM, July 8, 2015
Room B

Organized by Isabelle Staude, Dragomir N. Neshev

 Chaired by Isabelle Staude, Rupert Francis Oulton

 13:00 All-dielectric Huygens' Metasurfaces and Their Appli-
invited cations in Wave-shaping

Manuel Decker (Australian National University, Australia); Isabelle Staude (Australian National University, Australia); Matthias Falkner (Friedrich-Schiller-Universität Jena, Germany); Jason Dominguez (Center for Integrated Nanotechnologies, USA); Dragomir N. Neshev (Australian National University, Australia); Igal Brener (Sandia National Laboratories, USA); Thomas Pertsch (Friedrich-Schiller-Universität, Germany); Yuri S. Kivshar (Australian National University, Australia);

 13:20 Electrodynamics of Cylinders with Radial Anisotropy
Henrik Kettunen (University of Helsinki, Finland); H. Wallen (Aalto University, Finland); Ari Sihvola (Aalto University School of Electrical Engineering, Finland);

 13:35 Optimum Forward Light Scattering with High Refrac-
keynote tive Index Nanoparticles

Boris S. Luk'yanchuk (Agency for Science, Technology and Research, Singapore); Nikolai V. Voshchinnikov (St Petersburg University, Russia); Ramon Paniagua-Dominguez (Agency for Science, Technology and Research, Singapore); Arseniy I. Kuznetsov (Agency for Science, Technology and Research, Singapore);

 14:05 Optical Magnetism and Active Devices from All Di-
invited electric Metasurfaces

Igal Brener (Sandia National Laboratories, USA);

 14:25 Probing Magnetic and Electric Optical Responses of
Silicon Nanoparticles

*Dmitry Permyakov (ITMO University, Russia); Ivan S. Sinev (ITMO University, Russia); D. Markovich (ITMO University, Russia); P. Ginzburg (ITMO University, Russia); Anton K. Samusev (ITMO University, Russia); P. Belov (ITMO University, Russia); V. Valuckas (Data Storage Institute, A*STAR (Agency for Science Technology and Research), Singapore); A. I. Kuznetsov (Data Storage Institute, A*STAR (Agency for Science Technology and Research), Singapore); Boris S. Luk'yanchuk (Agency for Science, Technology and Research, Singapore); Andrey E. Miroshnichenko (Australian National University, Australia); Dragomir N. Neshev (Australian National University, Australia); Yuri S. Kivshar (Australian National University, Australia);*

 14:40 Nonlinear Optics of Dielectric Nanoparticles and
invited Metasurfaces Assisted by Magnetic Mie-type Resonances

Maxim R. Shcherbakov (Lomonosov Moscow State University, Russia); Dragomir N. Neshev (Australian National University, Australia); Ben Hopkins (Australian National University, Australia); A. S. Shorokhov (Lomonosov Moscow State University, Russia); Isabelle Staude (Australian National University, Australia); E. V. Melik-Gaykazyan (Lomonosov Moscow State University, Russia); Manuel Decker (Australian National University, Australia); Alexander A. Ezhov (Lomonosov Moscow State University, Russia); Andrey E. Miroshnichenko (Australian National University, Australia); Igal Brener (Sandia National Laboratories, USA); Andrey A. Fedyanin (Lomonosov Moscow State University, Russia); Yuri S. Kivshar (Australian National University, Australia);

 15:00 Resonant Lithium Niobate Nanostructures for Non-
invited linear Frequency Conversion

Frank Setzpfandt (Friedrich-Schiller-Universität Jena, Germany); Reinhard Geiss (Friedrich-Schiller-Universität, Germany); Severine Diziain (Friedrich-Schiller-Universität Jena, Germany); Sina Saravi (Friedrich-Schiller-Universität Jena, Germany); Thomas Pertsch (Friedrich-Schiller-Universität, Germany);

 15:20 **Coffee Break**

- 15:40 Integrated Nanophotonic Components Enabled by Alternative Materials
invited *N. Kinsey (Purdue University, USA); M. Ferrera (Purdue University, USA); C. DeVault (Purdue University, USA); J. Kim (Purdue University, USA); Alexander V. Kildishev (Purdue University, USA); Vladimir M. Shalaev (Purdue University, USA); Alexandra Boltasseva (Purdue University, USA);*
- 16:00 Plasmon-exciton Coupling in Stacked 2D Perovskite Semiconductors
David Leipold (Technische Universitat Ilmenau, Germany); Wendy Niu (University of Cambridge, UK); Lindsey Anne Ibbotson (University of Cambridge, UK); G. Vijaya Prakash (Indian Institute of Technology Delhi, India); Jeremy J. Baumberg (University of Cambridge, UK); E. Runge (Technische Universitat Ilmenau, Germany);
- 16:15 Forward-backward Light Emission Symmetry Breaking with Localized and Collective Magnetoelectric Resonances in Arrays of Pyramid-shaped Aluminum Nanoantennas
invited *S. R. K. Rodriguez (LPN/CNRS, France); Felipe Bernal Arango (FOM Institute AMOLF, The Netherlands); T. P. Steinbusch (FOM Institute AMOLF, The Netherlands); M. A. Verschuuren (Philips Research Laboratories, The Netherlands); A. Femius Koenderink (FOM Institute AMOLF, The Netherlands); Jaime Gomez-Rivas (Universidad Autonoma de Madrid, Spain);*
- 16:35 Plasmonic Fano-like Resonances and Their Near-field Properties in Finite Arrays of Metal Particles
Said Bakhti (Universite Jean-Monnet, Universite de Lyon, CNRS, France); Nathalie Destouches (Universite Jean-Monnet, Universite de Lyon, CNRS, France); Alexandre V. Tishchenko (Universite Jean Monnet, France);
- 16:50 Nanoscale Form Dictates Mesoscale Function in Plasmonic DNA-nanoparticle Superlattices
Michael B. Ross (Northwestern University, USA); Jessie C. Ku (Northwestern University, USA); Victoria M. Vaccarezza (Northwestern University, USA); Chad A. Mirkin (Northwestern University, USA); George C. Schatz (Northwestern University, USA);

- 17:05 Nonlinear Traffic Control Across Waveguides
invited *Mikhail Lapine (University of Technology Sydney, Australia); Alexey P. Slobozhanyuk (Australian National University, Australia); Ilya V. Shadrivov (Australian National University, Australia); David A. Powell (Australian National University, Australia); Ross C. McPhedran (University of Sydney, Australia); Yuri S. Kivshar (Australian National University, Australia);*
- 17:25 Retrieving the Polarizability Tensor of Wire Media
Jacob Ben Yakar (Tel Aviv University, Israel); Parry Chen (Ben-Gurion University, Israel); Yonatan Sivan (Ben-Gurion University, Israel); David J. Bergman (Tel Aviv University, Israel);

Session 3P3a

SC1: Computational Techniques in Electromagnetics and Applications 2

Wednesday PM, July 8, 2015

Room E

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Tsuneki Yamasaki, Koki Watanabe

- 13:00 An Intelligent Platform for Effective Management of Time-consuming Electromagnetic Simulation Problems
Andreas P. Kapsalis (National Technical University of Athens, Greece); Panagiotis K. Gkonis (National Technical University of Athens, Greece); Constantinos L. Zekios (Democritus University of Thrace, Greece); Dimitra I. Kaklamani (National Technical University of Athens, Greece); Iakovos S. Venieris (National Technical University of Athens, Greece); George A. Kyriacou (Democritus University of Thrace, Greece);
- 13:20 Two-dimensional Spatial Frequency Technique for Calculating Electromagnetic Scattering from Large Objects
Dayalan Prajith Kasilingam (University of Massachusetts Dartmouth, USA); Anthony Fascia (University of Massachusetts Dartmouth, USA);
- 13:40 A Conformal FDTD Model for Anisotropic Dielectric Interfaces in the GPU-accelerated PIC Code Neptune
Simon J. Cooke (US Naval Research Laboratory, USA); George Stantchev (Naval Research Laboratory, USA); Thomas Antonsen, Jr. (University of Maryland, USA);

- 14:00 Energy Distribution of Waveguides with Air-hole Dielectric Cylinder Outside of the Defect Layers
Ryosuke Ozaki (Nihon University, Japan); Tsuneki Yamasaki (Nihon University, Japan);
- 14:20 Development of ADI-FDTD Methods with Dispersion-Relation-Preserving Features
Theodoros T. Zygididis (University of Western Macedonia, Greece); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki, Greece); Theodoros D. Tsi-boukis (Aristotle University of Thessaloniki, Greece);
- 14:40 Polarimetric and Phased Array Weather Radar Observations Using Optimized Pulse Compression Waveforms
James M. Kurdzo (University of Oklahoma, USA); Robert D. Palmer (University of Oklahoma, USA); Boon Leng Cheong (Univ Oklahoma, USA);
- 15:00 Transparent Cathode Virtual Cathode Oscillator
Seyed Morad-Ali Hashemi (Sharif University of Technology, Iran); Erfan Zabeh (Sharif University of Technology, Iran); Ali Pirmoradi (Sharif University of Technology, Iran);
- 15:20 **Coffee Break**
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- Session 3P3b**
Computational Electromagnetics, Hybrid Methods
-
- Wednesday PM, July 8, 2015**
Room E
Chaired by Weng Cho Chew, Rongshan Qin
-
- 15:40 Optimization of General Microwave Passive Circuits Based on Zero-pole Technique
Natalia Leszczynska (Gdansk University of Technology, Poland); Adam Lamecki (Gdansk University of Technology, Poland); M. Mrozowski (Gdansk University of Technology, Poland);
- 16:00 Large Scale Characteristic Mode Analysis with Multilevel Fast Multipole Algorithm
Q. I. Dai (University of Illinois at Urbana-Champaign, USA); H. Gan (University of Illinois at Urbana-Champaign, USA); Weng Cho Chew (University of Illinois, USA);
- 16:20 Efficient Calculating the High Frequency Scattered Fields from the Fock Currents of 3-D Convex Scatterers with the Incremental Length Diffraction Coefficients Technique
Yu Mao Wu (Fudan University, China); Weng Cho Chew (University of Illinois, USA); Ya-Qiu Jin (Fudan University, China); Tie Jun Cui (Southeast University, China); Li Jun Jiang (The University of Hong Kong, China);
- 16:40 A Variational Method to Solve Maxwell's Equations in Singular Axisymmetric Domains with Arbitrary Data
Franck Assous (40700 Ariel and Bar-Ilan University, Israel); I. Raichik (Bar-Ilan University, Israel);
- 17:00 Semi-analytical Modeling of Single Loop Inductive RF Sensors Used to Sense and Locate Inclusions in Dielectric Media
Mengze Wang (Universite Paris Sud, France); Pierre-Yves Joubert (Universite de Paris-Sud, France); S. Serfaty (ENS Cachan, France); Thierry Bore (ENS Cachan, France); Dominique Placko (ENS Cachan, France);
- 17:20 Quasi-modes in Segmented Waveguides
Guillaume Demesy (Aix-Marseille Universite, France); André Nicolet (Aix-Marseille Universite, France); Frédéric Zolla (Aix-Marseille Universite, France);
- 17:40 Chaos Control in Virtual Cathode Oscillator by Cathode Structural Optimization
Seyed Morad-Ali Hashemi (Sharif University of Technology, Iran); Ali Pirmoradi (Sharif University of Technology, Iran); Erfan Zabeh (Sharif University of Technology, Iran);
- 18:00 Rigorous Optimizations of Three-dimensional Antenna Arrays Using Full-wave Simulations
C. Onol (Middle East Technical University, Turkey); O. Gokce (Middle East Technical University, Turkey); H. Boyaci (Middle East Technical University, Turkey); Ozgur Ergul (Middle East Technical University, Turkey);
- 18:20 On the Electric-current-driven Microstructural Evolution
Rongshan Qin (The Open University, UK);
- 18:40 Structural Analysis of the Signal Beam Pattern in the Optical Free-space Channels
T. I. Arsenyan (Moscow M. V. Lomonosov State University, Russia); A. M. Zotov (Moscow M. V. Lomonosov State University, Russia); Maxim V. Pisklin (Moscow M. V. Lomonosov State University, Russia); Natalia A. Soukhareva (Moscow M. V. Lomonosov State University, Russia);

Session 3P4**Analysis and Simulation of Waves in Complex Media****Wednesday PM, July 8, 2015****Room D**

Organized by Igor Tsukerman

Chaired by Ya Yan Lu, Igor Tsukerman

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- 13:00 Light Enpolarization and Depolarization: Bulk and Surface Scattering
Gabriel Soriano (Aix-Marseille Universite, France); Myriam Zerrad (Universite Paul Cezanne, France); Xavier Orlik (ONERA, France); A. Ghabbach (Aix-Marseille Universite, France); S. Liukaityte (Aix-Marseille Universite, France); J. Dupont (ONERA, France); Claude Amra (Universite Paul Cezanne, France);
- 13:20 Surface Integral Equation for Plasmonic Media: Near-field, Scattering and Forces
T. V. Raziman (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland); Eric C. Le Ru (Victoria Univ Wellington, New Zealand); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland);
- 13:40 Numerical Modeling of Light/Matter Interaction at the Nanoscale with a High Order Finite Element Type Time-domain Solver
Stephane Lanteri (INRIA Sophia Antipolis, France); Claire Scheid (University of Nice-Sophia Antipolis, France); Jonathan Viquerat (INRIA Sophia Antipolis, France);
- 14:00 Homogenization of Periodic Electromagnetic Structures: An Uncertainty Principle
Igor Tsukerman (The University of Akron, USA); Vadim A. Markel (University of Pennsylvania, USA);
- 14:20 High-order Trefftz Absorbing Conditions for Wave Problems
Igor Tsukerman (The University of Akron, USA); Ralf Hiptmair (Seminar of Applied Mathematics, Switzerland);
- 14:40 Modeling of a Slab Photonic Crystal with a One-dimensional Multilayer Mirror with Given Dispersive and Spectral Characteristics
Mikhail Libman (Moscow State University, Russia); Nikita Kondratyev (Russian Quantum Center, Russia);
- 15:00 Nonlinear Standing Waves on a Periodic Array of Circular Cylinders
Lijun Yuan (Chongqing Technology and Business University, China); Ya Yan Lu (City University of Hong Kong, China);
- 15:20 **Coffee Break**
- 15:40 A Space-time Discontinuous Galerkin Trefftz Method
Fritz Kretzschmar (TU Darmstadt, Germany); Sascha M. Schnepf (ETH Zurich, Switzerland); H. Egger (TU Darmstadt, Germany); Igor Tsukerman (The University of Akron, USA); Thomas Weiland (Technische Universitat Darmstadt, Germany);
- 16:00 The Sommerfeld Halfspace Problem Redux: Alternative Field Representations, Role of Zenneck and Surface Plasmon Waves
Krzysztof A. Michalski (Texas A&M University, USA); Juan R. Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland);
- 16:20 Propagation of Electromagnetic Wave Packet in a Dispersive Anisotropic Metamaterial
Jie-Luen Wu (National Chung-Shan Institute of Science and Technology, Taiwan); Pi-Gang Luan (National Central University, Taiwan);
- 16:40 Electromagnetic Field Distributions in Stratified Structures
Huai-Yu Wang (Tsinghua University, China); Chao Li (Sun Yat-sen University, China);
- 17:00 Transmission of EM Waves through Very Dry Reinforced Concrete
Thierry E. Gilles (Ecole Royale Militaire, Laboratoire d'Electromagnetisme Applique (LEMA), Belgium); Ghilkrist Afomasse (Ecole Royale Militaire, Laboratoire d'Electromagnetisme Applique (LEMA), Belgium);
- 17:20 A Dynamic Transmission Line, Temporal Photonic Crystals, and Wave Vector Gaps
Jose Roberto Reyes Ayona (Instituto Nacional de Astrofisica Optica y Electronica, Mexico); Peter Halevi (Instituto Nacional de Astrofisica Optica y Electronica, Mexico);
- 17:40 Sub-band Gap Light Harvesting in Random Porous Materials
Paolo Bettotti (University of Trento, Italy); Fabrizio Sgrignuoli (University of Florence, Italy);
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Session 3P5
**SC3&4: Photonic-Electronic Integration for
Millimeter and Terahertz Wave Generation,
Detection and Applications**

Wednesday PM, July 8, 2015
Room O

Organized by Guillermo Carpintero del Barrio, Tadao Nagatsuma

 Chaired by Guillermo Carpintero del Barrio, Tadao Nagatsuma

- 13:00 Effect of Material Properties on Transmission through Metallic Hole Arrays at Terahertz Frequencies
Renu Bhadresha (Veermata Jijabai Technological Institute, India); Nisha P. Sarwade (Veermata Jijabai Technological Institute, India); Arnab Pattanayak (Indian Institute of Technology, India); Sidhart P. Duttagupta (Indian Institute of Technology Bombay, India);
- 13:20 Terahertz Generation from DAST Depending on Chirp of Pump Pulses Amplified by Double-clad Yb-doped Fiber Amplifier
Junichi Hamazaki (National Institute of Information and Communications Technology, Japan); Norihiko Sekine (National Institute of Information and Communications Technology, Japan); Akifumi Kasamatsu (National Institute of Information and Communications Technology, Japan); Iwao Hosako (National Institute of Information and Communications Technology, Japan);
- 13:40 Photonic-based Millimeter Wave Wireless Link
Sungil Kim (Electronics and Telecommunications Research Institute, Korea);
- 14:00 50-Gbit/s Wireless Transmission over 20 Meters at 300 GHz
Tadao Nagatsuma (Osaka University, Japan); Kazuki Oogimoto (Osaka University, Japan); Yusuke Minamikata (Osaka University, Japan); Jeffrey L. Hesler (University of Virginia, USA);
- 14:20 Photonic Integrated Circuits for mmW Systems
invited *Juan Jose Vegas Olmos (Technical University of Denmark, Denmark); M. J. R. Heck (Aarhus University, Denmark); Idelfonso Tafur Monroy (Technical University of Denmark, Denmark);*

 14:40 Millimeter and Terahertz Wave Generation with a
invited Photonic Integrated Source Using an on-chip Colliding Pulse Mode Locked Laser Diode and Arrayed Waveguide Grating Optical Filter

Carlos Gordon Gallegos (Universidad Carlos III de Madrid, Spain); Robinson Guzman (Universidad Carlos III de Madrid, Spain); Xaveer J. M. Leijtens (Eindhoven University of Technology, The Netherlands); Guillermo Carpintero del Barrio (Universidad Carlos III de Madrid, Spain);

 15:00 Photonic Integration Solutions Enabling Coherent
invited Millimeter Wave and THz Systems

Cyril C. Renaud (University College London, UK);
15:20 Coffee Break

 15:40 Photonic Integrated Circuits for Generation and De-
invited tection of Coherent CW THz Radiation

Thorsten Goebel (Fraunhofer Heinrich Hertz Institute, Germany); Michael Theurer (Fraunhofer Heinrich-Hertz-Institute, Germany); Dennis Stanze (Fraunhofer Heinrich-Hertz-Institute, Germany); Francisco M. Soares (Fraunhofer Heinrich-Hertz-Institute, Germany); Martin Schell (Fraunhofer Heinrich-Hertz-Institute, Germany);

 16:00 Plasmonic Terahertz Emitters and Detectors for Sens-
invited ing and Wireless Communications

Taiichi Otsuji (Tohoku University, Japan); Akira Satou (Tohoku University, Japan); Stephane Boubanga-Tombet (Tohoku University, Japan); Takayuki Watanabe (Tohoku University, Japan); Guillaume Ducournau (Universite de Lille, France); Yahya Moubarak Meziani (Salamanca University, Spain); Wojciech Knap (Universite Montpellier 2, France); Vyacheslav V. Popov (Kotelnikov Institute of Radio Engineering and Electronics, Russia);

 16:20 Terahertz-wave Integrated Circuits Based on Pho-
invited tonic Crystals

Kazuisao Tsuruda (Osaka University, Japan); Masayuki Fujita (Osaka University, Japan); Asako Suminokura (Osaka University, Japan); Masahiro Yata (Osaka University, Japan); Toshikazu Mukai (Sensing Technology R&D Project, ROHM Co., Ltd., Japan); Tadao Nagatsuma (Osaka University, Japan);

 16:40 Stable and High Dynamic Range CW Terahertz Spec-
invited troscopy System

Ho-Jin Song (NTT Corporation, Japan); Jae-Young Kim (NTT Corps., Japan); Hidetaka Hishi (NTT Corporation, Japan); Hiroshi Fukuda (NTT, Japan); Katsuhiko Ajito (NTT Corporation, Japan);

- 17:00 Implementation of Photonics in High-performance,
invited Zero-change SOI CMOS: From Design to Back-end
Integration
Amir H. Atabaki (Massachusetts Institute of Technology, USA); C. Sun (Massachusetts Institute of Technology, USA); Michael Georgas (Massachusetts Institute of Technology, USA); Jason S. Orcutt (Massachusetts Institute of Technology, USA); F. Pavanello (University of Colorado at Boulder, USA); L. Alloatti (Massachusetts Institute of Technology, USA); B. R. Moss (Massachusetts Institute of Technology, USA); Y.-H. Chen (Massachusetts Institute of Technology, USA); J. Shainline (University of Colorado at Boulder, USA); M. Wade (University of Colorado at Boulder, USA); K. Mehta (Massachusetts Institute of Technology, USA); K. Nammari (University of Colorado at Boulder, USA); Erman Timurdogan (Massachusetts Institute of Technology, USA); D. Miller (Micron Technology, USA); O. Tehar-Zahav (Micron Technology, USA); Z. Sternberg (Micron Technology, USA); J. C. Leu (Massachusetts Institute of Technology, USA); J. Chong (Massachusetts Institute of Technology, USA); R. Bafrali (Micron Technology, USA); G. Sandhu (Micron Technology, USA); M. Watts (Massachusetts Institute of Technology, USA); R. Meade (Micron Technology, USA); M. A. Popovic (University of Colorado at Boulder, USA); V. Stojanovic (Massachusetts Institute of Technology, USA); R. J. Ram (Massachusetts Institute of Technology, USA);

Session 3P6a

**SC3: Novel Electromagnetic Simulation,
Components, and Design for the THz Region**

Wednesday PM, July 8, 2015

Room F

Organized by Elliott R. Brown

Chaired by Elliott R. Brown

- 13:00 Computation and Analysis of Terahertz Wire Grid Polarizer Self-resonance Using Transmission Line Theory
John S. Cetnar (Air Force Research Laboratory, USA); Elliott R. Brown (Wright State University, USA);
- 13:20 Analysis for Improving the Radiation Behavior for THz Devices
Luis-Enrique Garcia Munoz (Universidad Carlos III de Madrid, Spain); Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Sergio Llorente-Romano (Universidad Carlos III de Madrid, Spain); Magdalena Salazar-Palma (Carlos III University of Madrid, Spain); G. Carpintero-del Barrio (Universidad Carlos III de Madrid, Spain); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain);
- 13:40 Full System Model for Terahertz Generation by Optical Rectification
Koustuban Ravi (Massachusetts Institute of Technology, USA); Damian N. Schimpf (DESY, Germany); Wenqian R. Huang (Massachusetts Institute of Technology, USA); Sergio Carbajo (DESY, Germany); Emilio A. Nanni (Massachusetts Institute of Technology, USA); Franz X. Kartner (Deutsches Elektronen-Synchrotron DESY, Germany);
- 14:00 Design Challenges for Electro-optic Tuning of Amplitude and Phase in THz Region
Robert G. Lindquist (University of Alabama in Huntsville, USA); Abubaker Tareki (University of Alabama in Huntsville, USA); Daniele Lo Forti (University of Alabama in Huntsville, USA); Wonkyu Kim (University of Alabama in Huntsville, USA); Junpeng Guo (University of Alabama in Huntsville, USA);
- 14:20 Simulation and Design of a Heterogeneously Integrated III-V/Silicon Dual-wavelength Laser
Yingchen Wu (Zhejiang University, China); Jian-Jun He (Zhejiang University, China);
- 14:40 Terahertz Metasurface Antireflection Coatings
Hou-Tong Chen (MPA-CINT, Los Alamos National Laboratory, USA); Li Huang (Harbin Institute of Technology, China);
- 15:00 The Optimisation and Analysis of Multi-moded Feed Horn Structures at Terahertz Frequencies
Darragh McCarthy (Maynooth University, Ireland); Neil Trappe (National University of Ireland, Maynooth, Ireland); J. Anthony Murphy (Maynooth University, Ireland); Marcin Lukasz Gradziel (Maynooth University, Ireland); Creidhe O'Sullivan (National University of Ireland, Maynooth, Ireland); Stephen Doherty (National University of Ireland, Maynooth, Ireland);
- 15:20 **Coffee Break**

- 15:40 Simultaneous Generation of Terahertz and X-ray Radiation with Ultrashort Femtosecond Laser Pulses in Nano-cluster Medium
Alexei V. Balakin (M. V. Lomonosov Moscow State University, Russia); A. V. Borodin (M. V. Lomonosov Moscow State University, Russia); M. S. Dzhidzhoev (M. V. Lomonosov Moscow State University, Russia); M. G. Evdokimov (M. V. Lomonosov Moscow State University, Russia); M. N. Esaulkov (Institute on Laser and Information Technologies of the Russian Academy of Sciences, Russia); I. A. Zhvaniya (M. V. Lomonosov Moscow State University, Russia); N. A. Kuzechkin (Institute on Laser and Information Technologies of the Russian Academy of Sciences, Russia); A. Yu. Sidorov (M. V. Lomonosov Moscow State University, Russia); P. M. Solyankin (M. V. Lomonosov Moscow State University, Russia); A. P. Shkurinov (M. V. Lomonosov Moscow State University, Russia);

Session 3P6b

Microwave Photonics, THz Technology

Wednesday PM, July 8, 2015

Room F

Chaired by Atsushi Kanno

- 16:00 Electromagnetic Properties of Ultrathin Quadrifilar Spirals and Their Complementary Structures
Nina Meinzer (University of Exeter, United Kingdom); Alastair P. Hibbins (University of Exeter, UK); J. Roy Sambles (University of Exeter, United Kingdom);
- 16:20 Optical Frequency-interleaving Full-duplex Technique for Fiber-optic Transmission of Millimeter-wave-band Frequency-modulated Continuous-wave Downlink Signal and 10-Gb/s On-off-keying Uplink Signal
Toshiaki Kuri (National Institute of Information and Communications Technology, Japan); Atsushi Kanno (National Institute of Information and Communications Technology, Japan); T. Kawanishi (National Institute of Information and Communications Technology, Japan);
- 16:40 2D and 3D Modeling of Electro-optic Effect in Whispering Gallery Mode Optical Microresonators
Nikolay Pavlov (Moscow Institute of Physics and Technology, Russia); Nikita Kondratyev (Russian Quantum Center, Russia); M. L. Gorodetsky (Russian Quantum Center, Russia);

- 17:00 Optical FM-CW Signal Generation for a Terahertz Radar System by Higher-order Optical Modulation
Atsushi Kanno (National Institute of Information and Communications Technology, Japan); Norihiko Sekine (National Institute of Information and Communications Technology, Japan); Yoshinori Uzawa (National Institute of Information and Communications Technology, Japan); Iwao Hosako (National Institute of Information and Communications Technology, Japan); Tetsuya Kawanishi (National Institute of Information and Communications Technology, Japan);
- 17:20 Long-life Microwave Lighting
Vladimir A. Danilychev (Quantum Technologies, USA);

Session 3P7

SC3: Strong Light-matter Coupling and Strongly Interacting Photons 2

Wednesday PM, July 8, 2015

Room G

Organized by Mohammad Hafezi, Sebastian Hofferberth

Chaired by Mohammad Hafezi

- 13:10 Quantum Engineering of Light with an Intracavity Rydberg Gas
Erwan Bimbarb (CNRS, Universite Paris-Sud, France); Rajiv Boddeda (CNRS, Universite Paris-Sud, France); Andrey Grankin (CNRS, Universite Paris-Sud, France); Nicolas Vitrant (CNRS, Universite Paris-Sud, France); Florence Nogrette (CNRS, Universite Paris-Sud, France); Valentina Parigi (CNRS, Universite Paris-Sud, France); Imam Usmani (CNRS/Universite Paris-Sud, France); Jovica Stanojevic (CNRS, Universite Paris-Sud, France); Philippe Grangier (CNRS, Universite Paris-Sud, France); Armand Delavalle (Jeunes Equipes de l'Institut de Physique du College de France, CNRS, France); Quentin Lavigne (Jeunes Equipes de l'Institut de Physique du College de France, CNRS, France); Kilian Muller (Jeunes Equipes de l'Institut de Physique du College de France, CNRS, France); Alexei Ourjountsev (Jeunes Equipes de l'Institut de Physique du College de France, CNRS, France);

- 13:30 Few-body Physics of Strongly Interacting Photons in a Rydberg Medium
Michael J. Gullans (NIST/University of Maryland, College Park, USA); Mohammad F. Maghrebi (NIST/University of Maryland, College Park, USA); A. V. Gorshkov (NIST/University of Maryland, College Park, USA); P. Bienias (University of Stuttgart, Germany); Hans Peter Buechler (University of Stuttgart, Germany); S. Choi (Harvard University, USA); O. Firstenberg (Harvard University, USA); M. D. Lukin (Harvard University, USA); I. Martin (Argonne National Laboratory, USA);
- 13:50 Strongly Interacting Rydberg Atoms in Hot Vapours
Robert Low (Universitat Stuttgart, Germany);
- 14:10 Spontaneous Phase Coherence of a Statistically Flickering Bose-Einstein Condensate of Light
Julian Schmitt (University of Bonn, Germany); Tobias Damm (University of Bonn, Germany); David Dung (University of Bonn, Germany); Christian Wahl (University of Bonn, Germany); Frank Vewinger (University of Bonn, Germany); Jan Klaers (Institut für Quantenelektronik, ETH Zurich, Switzerland); Martin Weitz (University of Bonn, Germany);
- 14:30 Strongly Interacting Rydberg Slow Light Polaritons
 keynote
Hans Peter Buechler (University of Stuttgart, Germany);
- 15:00 Probing Nanofiber-trapped Atomic Ensembles at the Quantum Level
Jurgen Appel (University of Copenhagen, Denmark); J.-B. Beguin (University of Copenhagen, Denmark); Heidi L. Sorensen (University of Copenhagen, Denmark); S. L. Christensen (University of Copenhagen, Denmark); E. Bookjans (University of Copenhagen, Denmark); K. Kluge (University of Copenhagen, Denmark); I. Iakoupov (University of Copenhagen, Denmark); A. Sorensen (University of Copenhagen, Denmark); J. H. Muller (University of Copenhagen, Denmark); E. S. Polzik (University of Copenhagen, Denmark);
- 15:20 **Coffee Break**
- 15:40 Cold Atoms Coupled to Photonic Crystals: A Platform for Non-local Non-linear Optics
James S. Douglas (ICFO-Institut de Ciències Fotoniques, Spain); T. Caneva (ICFO-Institut de Ciències Fotoniques, Spain); D. E. Chang (ICFO-Institut de Ciències Fotoniques, Spain);
- 16:00 Single Molecules as Bright & Narrow-band Single Photon Sources
Mohammad Rezaei (University of Stuttgart, Germany); Wilhelm Kiefer (University of Stuttgart, Germany); Jorg Wrachtrup (University of Stuttgart, Germany); Ilja Gerhardt (University of Stuttgart, Germany);
- 16:20 Exciton-polariton Interactions in 0D Confinement
Thomas Fink (Institute of Quantum Electronics, ETH Zurich, Switzerland); Christian Schneider (Universität Würzburg, Germany); Sven Hoesfling (Universität Würzburg, Germany); Atac Imamoglu (Institute of Quantum Electronics, ETH Zurich, Switzerland);
- 16:40 Quantum Nonlinear Optics in Interacting Rydberg Gases
 keynote
Thomas Pohl (Max Planck Institute for the Physics of Complex Systems, Germany);
- 17:00 Photonic Quantum Gates via Rydberg States of Atoms in Microwave Resonators and Waveguides
David Petrosyan (Foundation for Research and Technology — Hellas, Greece);
- 17:20 Bistability in a Strongly Driven Rydberg Gas
N. Sibalic (Durham University, UK); C. G. Wade (Durham University, UK); Thomas Pohl (Max Planck Institute for the Physics of Complex Systems, Germany); C. S. Adams (Durham University, UK); Kevin J. Weatherill (Durham University, UK);
- 17:40 Achieving Single-photon Nonlinearities with an Intracavity Rydberg Medium
Imam Usmani (CNRS/Université Paris-Sud, France); R. Boddeda (CNRS/Université Paris-Sud, France); E. Bimbard (CNRS/Université Paris-Sud, France); A. Grankin (CNRS/Université Paris-Sud, France); E. Brion (CNRS/Université Paris-Sud/ENS-Cachan, France); A. Ourjoumtsev (CNRS/Université Paris-Sud, France); P. Grangier (CNRS/Université Paris-Sud, France);
- 18:00 Strongly Interacting Rydberg Polaritons in Optical Cavities
Ariel Sommer (University of Chicago, USA); Nathan Schine (University of Chicago, USA); Ningyuan Jia (University of Chicago, USA); Albert Ryou (University of Chicago, USA); Alex Georgakopoulos (University of Chicago, USA); Jonathan Simon (University of Chicago, USA);
- 18:20 Cavity Design and Mode Analysis in Woodpile Based Three-dimensional Photonic Crystals
Xu Zheng (University of Bristol, UK); Ying-Lung Daniel Ho (University of Bristol, UK); L. Chen (University of Bristol, UK); Mike P. C. Taverne (University of Bristol, UK); J. G. Rarity (University of Bristol, UK);

Session 3P8a
**SC2: Active, Tunable and Nonlinear
Metamaterials 1**

Wednesday PM, July 8, 2015
Room H

Organized by Ilya V. Shadrivov, Mikhail Lapine

 Chaired by Mikhail Lapine

- 13:00 Dynamic Digital Metamaterials for Single Pixel Imaging Systems
Willie J. Padilla (Duke University, USA);
- 13:20 Unlocking the Potential of Liquid Crystals as a Functional Component of Active Metamaterials
Vasily A. Fedotov (University of Southampton, UK); O. Buchnev (University of Southampton, UK); Jan Wallauer (University of Freiburg, Germany); N. Podoliak (University of Southampton, United Kingdom); M. Kaczmarek (University of Southampton, UK); M. Walther (University of Freiburg, Germany); Nikolay I. Zheludev (University of Southampton, UK);
- 13:40 Voltage-tunable Hybrid Plasmonic Nanostructures
Maxim V. Gorkunov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); S. P. Palto (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); M. I. Barnik (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); V. V. Artemov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); N. M. Shtykov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); A. R. Geivandov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); S. G. Yudin (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia);
- 14:00 Multi-stability and Switching in Superconducting Metamaterials
P. Jung (Karlsruhe Institute of Technology, Germany); S. Butz (Karlsruhe Institute of Technology, Germany); Alexey V. Ustinov (Karlsruhe Institute of Technology, Germany);
- 14:20 A Tunable Flat Lens via Meta-fluidic-materials
Ai Qun Liu (Nanyang Technological University, Singapore); Din Ping Tsai (National Taiwan University, Taiwan); Nikolay I. Zheludev (University of Southampton, UK); Federico Capasso (Harvard University, USA);

- 14:40 Optical Tuning of Ultra-thin, Flexible Terahertz Metamaterials with Embedded Silicon
M. A. Hoeh (University of Kaiserslautern, Germany); J. Neu (University of Kaiserslautern, Germany); K. M. Schmitt (University of Kaiserslautern, Germany); Marco Rahm (University of Kaiserslautern, Germany);
- 15:00 Reconfigurable Optical Metamaterial Composed of Nanoparticles with Magnetic Inclusions
Oleksandr Zhuromskyy (Friedrich-Alexander University of Erlangen-Nurnberg, Germany); R. Klupp Taylor (Friedrich-Alexander University of Erlangen-Nurnberg, Germany); W. Lobaz (Institute of Macromolecular Chemistry, Czech Republic); W. Peukert (Friedrich-Alexander University of Erlangen-Nurnberg, Germany); U. Peschel (University of Jena, Germany);

 15:20 Coffee Break

Session 3P8b
**SC3: Nano-photonic Devices for Optical
Interconnects and Optical Sensing**

Wednesday PM, July 8, 2015
Room H

Organized by Alan X. Wang

 Chaired by Alan X. Wang

- 15:40 SOI Slot Photonic Crystal Cavities on SiO₂ from $\lambda = 1.3 \mu\text{m}$ to $1.6 \mu\text{m}$ with Q/V Factors Beyond 800000
T.-H.-C. Hoang (Université Paris-Sud, France); Weiwei Zhang (Université Paris-Sud 11, France); Samuel Serna (Université Paris-Sud 11, France); Charles Caer (Université Paris-Sud 11, France); Xavier Le Roux (Université Paris-Sud 11, France); Laurent Vivien (Université Paris-Sud 11, France); Eric Cassan (Université Paris-Sud 11, France);
- 16:00 Compact 60 GHz Hybrid Integrated Photoreceiver Module with $1.5\text{-}\mu\text{m}$ InAs Quantum Dot SOA
Toshimasa Umezawa (National Institute of Information and Communications Technology, Japan); Kouichi Akahane (National Institute of Information and Communications Technology, Japan); N. Yamamoto (National Institute of Information and Communications Technology, Japan); Atsushi Kanno (National Institute of Information and Communications Technology, Japan); T. Kawanishi (National Institute of Information and Communications Technology, Japan);

- 16:20 Review of Electro-Optic Polymer Nano-Photonic Devices for On-chip Optical Interconnects
Alan X. Wang (Oregon State University, USA); Ray T. Chen (University of Texas at Austin, USA); Alex K. Y. Jen (University of Washington, USA);
- 16:40 Intracellular Molecular Detection by Light Localization Using Graded Plasmonic Nanoapertures
Wonju Lee (Yonsei University, Republic of Korea); Taehwang Son (Yonsei University, Republic of Korea); Donghyun Kim (Yonsei University, South Korea); Eunji Sim (Yonsei University, Republic of Korea);
- 17:00 Enhancement of SPR-sensor Sensitivity in Magnetophotonic Plasmonic Heterostructures
Daria O. Ignatyeva (Lomonosov Moscow State University, Russia); Sergey K. Sekatskii (Ecole Polytechnique Federale de Lausanne, Switzerland); Andrey N. Kalish (Russian Quantum Center, Russia); Vladimir I. Belotelov (Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia);
- 17:20 Super-period Nanograting Surface Plasmon Resonance Spectrometer Biosensor
Junpeng Guo (University of Alabama in Huntsville, USA); Hong Guo (University of Alabama in Huntsville, USA); Xueli Tian (University of Alabama in Huntsville, USA);
- 17:40 Bio-enabled SERS Sensors for Ultra-sensitive Immuno-assay Detection
Jing Yang (Oregon State University, USA); Le Zheng (Oregon State University, USA); Fanghui Ren (Oregon State University, USA); Gregory L. Rorrer (Oregon State University, USA); Alan X. Wang (Oregon State University, USA);
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- Session 3P9a**
Applied Electromagnetics for Smart Cities
-
- Wednesday PM, July 8, 2015**
Room I
 Organized by Jonathan M. Rigelsford, Pavel Pechac
 Chaired by Jonathan M. Rigelsford
-
- 13:00 Wireless Friendly and Energy Efficient Buildings (WiFEEB)
Jonathan M. Rigelsford (The University of Sheffield, United Kingdom); K. L. Ford (The University of Sheffield, UK); T. Yu (The University of Sheffield, United Kingdom); Z. Lai (The University of Sheffield, United Kingdom); R. Shiram (The University of Sheffield, United Kingdom.); Pavel Valtr (Czech Technical University in Prague, Czech Republic); Jialai Weng (The University of Sheffield, UK); Y. Wang (The University of Sheffield, United Kingdom); Andrea Vallecchi (The University of Sheffield, United Kingdom); H. Altan (The University of Sheffield, United Kingdom); H. Song (The University of Sheffield, United Kingdom); J. Zhang (The University of Sheffield, United Kingdom); J. Wu (The University of Sheffield, United Kingdom); Michal Cerveny (Czech Technical University, Czech Republic); W. Zhao (The University of Sheffield, United Kingdom); Ludek Subrt (Czech Technical University, Czech Republic); Y. Alharbi (The University of Sheffield, United Kingdom); Christopher J. Davenport (The University of Sheffield, United Kingdom); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Richard J. Langley (University of Sheffield, UK);
- 13:20 Recycling Radio Waves with Smart Walls
Matthieu Dupre (ESPCI Paris Tech & CNRS, France); Nadege Kaina (ESPCI Paris Tech, France); Geoffroy Lerosey (ESPCI Paris Tech & CNRS, France); Mathias Fink (ESPCI Paris Tech and CNRS, France);
- 13:40 An Inductive Frequency Selective Surface for Use in Secure Facilities
Michal Cerveny (Czech Technical University, Czech Republic); Jonathan M. Rigelsford (The University of Sheffield, United Kingdom);
- 14:00 A Simulation Based Distributed MIMO Network Optimisation Using Channel Map
Jialai Weng (The University of Sheffield, UK); Jonathan M. Rigelsford (The University of Sheffield, United Kingdom); J. Zhang (The University of Sheffield, UK);
- 14:20 An Introduction to Physical-layer Security for Wireless Smart Cities
Matthew A. Bourke (The University of Sheffield, United Kingdom); Kenneth Lee Ford (The University of Sheffield, UK); Mohammed Benaissa (The University of Sheffield, UK); Jonathan M. Rigelsford (The University of Sheffield, United Kingdom);

- 14:40 Selected Aspects of RF Signal Propagation in Buildings
Pavel Valtr (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Ondrej Moravek (Czech Technical University in Prague, Czech Republic); Milan Prihoda (Czech Technical University in Prague, Czech Republic); Kenneth Lee Ford (The University of Sheffield, UK); Jonathan M. Rigelsford (The University of Sheffield, United Kingdom); Richard J. Langley (University of Sheffield, UK);
- 15:00 Realization of a Flexible Technological Demonstrator for HF Sky-wave Data Links
Anna Lisa Saverino (University of Pisa, Italy); Amerigo Capria (CNIT (National InterUniversity Consortium for Telecommunication), Italy); Fabrizio Berizzi (University of Pisa, Italy);
- 15:20 **Coffee Break**
- 16:40 GPU-accelerated Stochastic-FDTD Study of Lightning-induced EM Fields over Non-deterministic Terrains
Georgios G. Pyrialakos (Aristotle University of Thessaloniki, Greece); Theodoros T. Zygidis (University of Western Macedonia, Greece); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki, Greece); Theodoros D. Tsiboukis (Aristotle University of Thessaloniki, Greece);
- 17:00 Embedding Anisotropic Carbon Fibre Composite Thin Layers in TLM Simulations
Xuesong Meng (The University of Nottingham, UK); Phillip Donald Sewell (The University of Nottingham, UK); Ana Vukovic (The University of Nottingham, UK); Trevor Mark Benson (The University of Nottingham, UK);
- 17:20 On the Limits of Numerical Modelling of Electromagnetic Field Coupling through Small Apertures
Gazmend Mavraj (Hamburg University of Technology, Germany); Frank Gronwald (Hamburg University of Technology, Germany);
- 17:40 Electromagnetic Near Field Injection Model on Integrated Circuit
Rachid Omarouayache (Universite Montpellier, France); Jeremy Raoult (Universite de Montpellier, France); Pierre Payet (Universite Montpellier, France); Laurent Chusseau (Universite Montpellier, France); Bertrand Vrignon (Freescale Semiconductor, France); Adrien Doridant (Freescale Semiconductor, France); Alexandre Boyer (LAAS-CNRS, France);

Session 3P9b
SC1: Electromagnetic Modelling Methods for EMC Problems

Wednesday PM, July 8, 2015
Room I

Organized by Frank Gronwald

 Chaired by Frank Gronwald

- 15:40 Reciprocity-based Applications of the Time-domain Contour Integral Method
Martin Stumpf (Brno University of Technology, The Czech Republic);
- 16:00 Numerical Modeling of Reverberation Chambers: The Cavity Green's Function Boundary Element Method in Comparison to Other State-of-the-art Algorithms
M. E. Gruber (Technische Universitat Munchen, Germany); Thomas F. Eibert (Technische Universitat Munchen, Germany);
- 16:20 A Hybrid Computational-statistical Approach to Calculating Electromagnetic Coupling in Complex Environments
Thomas Antonsen (University of Maryland, USA); Gabriele Gradoni (University of Maryland, USA); Edward Ott (University of Maryland, USA); Steven M. Anlage (University of Maryland, USA);

Session 3P.10a
Scattering, Diffraction, and Inverse Scattering

Wednesday PM, July 8, 2015
Room J

 Chaired by Jose-Victor Rodriguez

- 13:20 Bound States in the Continuum: Interference Way to Trap Electromagnetic Waves in Open Resonators
Almas F. Sadreev (L. V. Kirensky Institute of Physics, Russia);
- 13:40 Mode-matching Analysis of TEM Wave Reflection by a Junction of Perfectly Conducting and Impedance Coaxial Waveguides
Ozge Yanaz Cinar (Gebze Institute of Technology, Turkey); Gokhan Cinar (Gebze Institute of Technology, Cayirova Campus, Turkey); Sinan Aksimsek (Istanbul Kultur University, Turkey);

- 14:00 On the Type of Wave-incidence in Multiple-cylinder Diffraction Analysis at 60 and 100 GHz
Jose-Victor Rodriguez (Universidad Politecnica de Cartagena, Spain); Juan Pascual-Garcia (Universidad Politecnica de Cartagena, Spain); Maria-Teresa Martinez-Ingles (Universidad Politecnica de Cartagena, Spain); Jose-Maria Molina-Garcia-Pardo (Technical University of Cartagena (UPCT), Spain); Leandro Juan-Llacer (Technical University of Cartagena (UPCT), Spain);
- 14:20 On the Importance of Double Bounce Diffuse Scattering in Indoor Wireless Channels
Juan Pascual-Garcia (Universidad Politecnica de Cartagena, Spain); Jose-Maria Molina-Garcia-Pardo (Technical University of Cartagena (UPCT), Spain); Jose-Victor Rodriguez (Universidad Politecnica de Cartagena, Spain); Maria-Teresa Martinez-Ingles (Universidad Politecnica de Cartagena, Spain); Leandro Juan-Llacer (Technical University of Cartagena (UPCT), Spain);
- 14:40 Determination of Optimal Pairs of Radii of Dielectric Samples for Complex Permittivity Measurement of Dispersive Materials
Roman Kushnin (Riga Technical University, Latvia); Janis Semenjako (Riga Technical University, Latvia); Tatjana Solovjova (Riga Technical University, Latvia);
- 15:00 Method of Measuring the Dielectric Constant of Grain in Granaries Using Electromagnetic Antennas
Leidong Yang (Institute of Remote Sensing and Digital Earth, China Academy of Science, China); Bing-fang Wu (Institute of Remote Sensing and Digital Earth, China Academy of Science, China); Fang-ming Wu (Institute of Remote Sensing and Digital Earth, China Academy of Science, China);
- 15:20 **Coffee Break**
-
- Session 3P_10b**
Inverse Scattering, Imaging and Applications
-
- Wednesday PM, July 8, 2015**
Room J
 Organized by Rocco Pierri, Raffaele Solimene
 Chaired by Raffaele Solimene
-
- 15:40 On the Possibility of Water Detection under Asphalt Layer Using Microwave Radar System
Alexander V. Brovko (Saratov State Technical University, Russia);
- 16:00 Detection of Discontinuities in the Samples of Changing Sizes with ANN-based Technique
Alexander V. Brovko (Saratov State Technical University, Russia);
- 16:20 Explicit Discretization Schemes for Linear Sampling and Factorization Methods
Mehmet Nuri Akinici (Istanbul Technical University, Turkey); M. Cayoren (Istanbul Technical University, Turkey);
- 16:40 The Scaled Gradient Projection Method: An Application to Nonconvex Optimization
Marco Prato (Universita di Modena e Reggio Emilia, Italy); A. La Camera (Universita di Genova, Italy); S. Bonettini (Universita di Ferrara, Italy); M. Berttero (Universita di Genova, Italy);
- 17:00 Inverse Source in a Multipath Environment
Antonio Cuccaro (Seconda Universita di Napoli, Italy); Raffaele Solimene (Second University of Naples, Italy); Rocco Pierri (Seconda Universita di Napoli, Italy);
- 17:20 Quantitative Imaging in an Aspect-limited/transmission Configuration: Incorporation of Antennas Radiation Pattern
Christelle Eyraud (Universite Paul Cezanne Aix-Marseille III, France); Amelie Litman (Universite Paul Cezanne Aix-Marseille III, France); S. Nounouh (Aix-Marseille Universite, France); Herve Tortel (Aix-Marseille Universite, France);
- 17:40 Frequency and Polarization Diversity in through-the-wall Breath Detection
A. Narbudowicz (RWTH Aachen University, Germany); Max J. Ammann (Dublin Institute of Technology, Ireland); Giuseppe Ruvo (Dublin Institute of Technology, Ireland); Angela Dell'Aversano (Seconda Universita di Napoli, Italy); Raffaele Solimene (Second University of Naples, Italy);
- 18:00 Waveforms for SAR Imaging in Dispersive Material
Natalie A. Cartwright (State University of New York at New Paltz, USA);

Session 3P_11
SC2&3: Optoelectronics and Photonics of Graphene and Two-dimensional Materials

Wednesday PM, July 8, 2015

Room K

Organized by Giulio Cerullo, Costantino De Angelis
 Chaired by Costantino De Angelis

13:00 Graphene Photonics and Optoelectronics

keynote

Andrea C. Ferrari (University of Cambridge, UK);

13:30 Graphene Based Optical Modulators

invited

*Vito Sorianello (CNIT, Italy); Michele Midrio (Università degli Studi di Udine, Italy); Marco Romagnoli (CNIT, Italy);*13:50 Valley and Spin Dynamics in Monolayer MoS₂

invited

*Stefano Dal Conte (Politecnico di Milano, Italy); Federico Bottegoni (Politecnico di Milano, Italy); Eva Arianna Aurelia Pogna (Politecnico di Milano, Italy); Stefano Ambrogio (Politecnico di Milano, Italy); D. De Fazio (University of Cambridge, UK); A. Lombardo (University of Cambridge, UK); M. Bruna (University of Cambridge, UK); I. Bargigia (Istituto Italiano di Tecnologia, Italy); Cosimo D'Andrea (Politecnico di Milano, Italy); A. C. Ferrari (University of Cambridge, UK); F. Ciccacci (Politecnico di Milano, Italy); G. Cerullo (Politecnico di Milano, Italy); Marco Finazzi (Politecnico di Milano, Italy);*14:10 Charge Photogeneration in Few-layer MoS₂

invited

Tetiana Borzda (Jozef Stefan Institute, Slovenia); Christoph Gadermaier (Jozef Stefan Institute, Slovenia); Peter Topolovsek (Jozef Stefan Institute, Slovenia); Milos Borovsak (Jozef Stefan Institute, Slovenia); Tomaz Mertelj (Jozef Stefan Institute, Slovenia); N. Vujicic (Jozef Stefan Institute, Slovenia); G. Cerullo (Politecnico di Milano, Italy); Daniele Viola (Politecnico di Milano, Italy); C. Manzoni (Politecnico di Milano, Italy); Eva Arianna Aurelia Pogna (Politecnico di Milano, Italy); D. Brida (University of Konstanz, Germany); M. R. Antognazza (Italian Institute of Technology, Italy); G. Lanzani (Politecnico di Milano, Italy); F. Scotognella (Politecnico di Milano, Italy); Dragan Mihailovic (Jozef Stefan Institute, Slovenia);

14:30 Negative Dynamic Conductivity in Pumped Graphene Layers "Decorated" with Quantum Dots

Maxim Ryzhii (The University of Aizu, Japan); Dmitry Svintsov (Moscow Institute of Physics and Technology, Russia); Taiichi Otsuji (Tohoku University, Japan); V. Ryzhii (Tohoku University, Japan); Vladimir Mitin (University at Buffalo, The State University of New York, USA);

14:50 Graphene Nanophotonics

keynote

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

15:20 Coffee Break

15:40 Third Harmonic Generation and Saturable Absorption in Graphene

invited

Sergey A. Mikhailov (University of Augsburg, Germany); N. A. Savostianova (University of Augsburg, Germany);

16:00 Design and Analysis of Tunable Photonic Devices Based on the Co-integration of Graphene and Dielectric Waveguides

invited

Andrea Locatelli (Università degli Studi di Brescia, Italy); Costantino De Angelis (Università degli Studi di Brescia, Italy);

16:20 Enhanced Nonlinear Interactions in Graphene-based Photonic Structures

invited

Domenico De Ceglia (National Research Council-AMRDEC, USA); Maria Antonietta Vincenti (National Research Council-AMRDEC, USA); Marco Grande (Politecnico di Bari, Italy); A. D'Orazio (Politecnico di Bari, Italy); M. Scalora (AMSRD-AMR-WS-ST, RDECOM, USA);

16:40 Modeling Graphene Based Couplers and Arrays

invited

Alejandro B. Aceves (Southern Methodist University, USA);

17:00 Discrete Solitons in Graphene-based Metamaterials

invited

Yuliy V. Bludov (Universidade do Minho, Portugal); Daria A. Smirnova (Australian National University, Australia); Yuri S. Kivshar (Australian National University, Australia); N. M. R. Peres (Universidade do Minho, Portugal); M. V. Vasilevskiy (Universidade do Minho, Portugal);

17:20 Dyakonov-like Plasmonic Localized Waves on Graphene Metasurfaces

invited

Ivan V. Iorsh (ITMO University, Russia); I. Trushkov (ITMO University, Russia); O. Yermakov (ITMO University, Russia); A. Ovcharenko (ITMO University, Russia); Andrey A. Bogdanov (ITMO University, Russia); P. A. Belov (ITMO University, Russia); Yuri S. Kivshar (Australian National University, Australia);

17:40 Analysis of Graphene Plasmonic Waveguides and Switching Components via a Finite Element Formulation with Surface Conductivity

I. Demirtzioglou (Aristotle University of Thessaloniki, Greece); Traianos V. Yioultsis (Aristotle University of Thessaloniki, Greece);

- 18:00 Graphene Plasmonics for Light Trapping and Absorption Engineering
Jianfa Zhang (National University of Defense Technology, China); Zhihong Zhu (National University of Defense Technology, China); Wei Liu (National University of Defense Technology, China); Xiaodong Yuan (National University of Defense Technology, China); Shiqiao Qin (National University of Defense Technology, China);
- 18:20 Propagation of Quasi-TEM Waves in a Graphene Parallel Plate Waveguide Involving Discontinuities
Sinan Aksimsek (Istanbul Kultur University, Turkey);
- 18:40 Surface Corrugations Influence Nonstationary Processes in Monolayer Graphene, 2 Examples
Natalie E. Firsova (Russian Academy of Sciences, Russia);
- 14:20 Long Range Induction between Josephson Junction Arrays via Microwave Photon Emission and Absorption
Wei-Chen Chien (National Chung Hsing University, Taiwan); Cheng-An Jiang (National Chang-Hua University of Education, Taiwan); Jia-Yu Hong (National Chang-Hua University of Education, Taiwan); Yung-Fu Chen (National Central University, Taiwan); Cen-Shawn Wu (National Chang-Hua University of Education, Taiwan); Hiroshi Shimada (University of Electro-Communications, Japan); Watson Kuo (National Chung Hsing University, Taiwan);
- 14:40 Multi Band Metamaterial Based Bowtie Antenna for Wireless Applications
Rajesh Kumar (Amity University, India); Malay Ranjan Tripathy (Amity University, India); Daniel Ronnow (University of Gavle, Sweden);

Session 3P_12

Antennas and RF Devices Based on Superconductors and Other Advanced Materials

Wednesday PM, July 8, 2015

Room L

Organized by Malay Ranjan Tripathy, Daniel Ronnow
 Chaired by Daniel Ronnow, Malay Ranjan Tripathy

- 13:20 Reconfigurable Antenna Design
Yahya Salameh Hassan Khraisat (Al-Balqa' Applied University/Al-Huson University College, Jordan); Ahmad H. N. Qubaia (Al-Balqa' Applied University/Al-Huson University College, Jordan);
- 13:40 A Utility Maximization Approach to MAC Layer Channel Access and Forwarding
Sunil Kumar (Amity University, India); Priya Ranjan (Amity University, India); Malay Ranjan Tripathy (Amity University, India);
- 14:00 Superconducting Receive-only 7 Tesla Antennas for High Resolution Magnetic Resonance Imaging
Jarek Wosik (University of Houston, USA); Krzysztof Nesteruk (Institute of Physics of Polish Academy of Sciences, Poland); Kuang Qin (University of Houston, USA); Tan I-Chih (The University of Texas Health Science Center, USA); Kurt Bockhorst (University of Texas Health Science Center, USA); Ponnada A. Narayana (University of Texas Health Science Center, USA);
- 15:00 Effect on Lefthandedness from SRR Rotational Disorder
Daniel Ronnow (University of Gavle, Sweden); M. Shahbazali (University of Gavle, Sweden); W. Baki (University of Gavle, Sweden); Malay Ranjan Tripathy (Amity University, India);
- 15:20 Coffee Break
- 15:40 Bandpass-to-allstop Switchable Filter with Broadband Harmonics Suppression
Phirun Kim (Chonbuk National University, Republic of Korea); Junhyung Jeong (Chonbuk National University, Republic of Korea); Girdhari Chaudhary (Chonbuk National University, Republic of Korea); Yongchae Jeong (Chonbuk National University, Republic of Korea); Jongsik Lim (Soonchunhyang University, Republic of Korea);
- 16:00 Design and Analysis of Metafractal Antenna for Wireless Applications
Malay Ranjan Tripathy (Amity University, India); Rajesh Kumar (Amity University, India); Daniel Ronnow (University of Gavle, Sweden);
- 16:20 Low Power WSN and Cloud Infrastructure for Remote Lake Water Quality Monitoring
Shailendra Singh (Yuktix Technologies, India); Priya Ranjan (Amity University, India); Rajeev Jha (Yuktix Technologies, India); Malay Ranjan Tripathy (Amity University, India);

- 16:40 Microwave Characterization of Normal and Superconducting States of Superconducting Flexible Tapes on Metal Substrate; Dielectric Resonator Technique
Jarek Wosik (University of Houston, USA); Jerzy Krupka (Warsaw University of Technology, Poland); Kuang Qin (University of Houston, USA); Eduard Galstyan (University of Houston, USA); Venkat Selvamanickam (University of Houston, USA);
- 17:00 Gravure Printing Flexible Passive UHF RFID Dipole Tag Antenna Based on Chemically Modified Graphene Ink
Lei Huang (Shanghai Normal University, China); Jiankun Zhang (Shanghai Normal University, China); Ziyang Zeng (Shanghai Normal University, China); Lu Chen (Shanghai Normal University, China); Quanhong Chang (Shanghai Normal University, China); Qi Chen (Shanghai Normal University, China); Wangzhou Shi (Shanghai Normal University, China);
- 17:20 Coplanar Waveguide Fed Coplanar Patch Antenna for Nanorectifiers at 2.45 GHz
Arun Kumar Singh (PEC University of Technology, India); Shahrir R. Kasjoo (Universiti Malaysia Perlis, Malaysia); Aimin M. Song (University of Manchester, UK);
- 17:40 UWB Antenna with Optically Controlled Notches
Nagwa S. Abd El-Hamed (Minia University, Egypt); Moataza Abdel-Hameed Hindy (Electronics Research Institute, Egypt); Hesham F. A. Hamed (El-Minia University, Egypt);
- 13:00 Realization of a Topological Anderson Insulator
invited
Simon Stutzer (Friedrich-Schiller-University, Germany); Mikael C. Rechtsman (Technion — Israel Institute of Technology, Israel); Yonatan Plotnik (Technion — Israel Institute of Technology, Israel); Yaakov Lumer (Technion — Israel Institute of Technology, Israel); Julia M. Zeuner (Friedrich-Schiller-Universität Jena, Germany); Stefan Nolte (Friedrich-Schiller-Universität Jena, Germany); Mordechai Segev (Technion — Israel Institute of Technology, Israel); Alexander Szameit (Friedrich-Schiller-Universität Jena, Germany);
- 13:20 The Beetle's White Album: How White Beetles Optimize Multiple Scattering of Light
Lorenzo Cortese (University of Florence, Italy); L. Pattelli (University of Florence, Italy); F. Utel (University of Florence, Italy); Silvia Vignolini (University of Cambridge, UK); Matteo Burrelli (University of Florence, Italy); M. Kolle (Massachusetts Institute of Technology, USA); Peter Vukusic (University of Exeter, UK); U. Steiner (University of Freiburg, Switzerland); Diederik S. Wiersma (University of Florence, Italy);
- 13:40 Coupling between Disordered Photonic Structure and DBT Molecules: Possible Chain of Hybrid Modes
Fabrizio Sgrignuoli (University of Florence, Italy); Giacomo Mazzamuto (University of Florence, Italy); Costanza Toninelli (Univ Trent, Italy);
- 14:00 Photonic Band Gaps in Disordered Materials: Stealthy Hyperuniformity Versus Local Ordering
Luis S. Froufe-Perez (University of Fribourg, Switzerland); Pablo F. Damasceno (University of Michigan, USA); Michael Engel (University of Michigan, USA); Nicolas Muller (University of Fribourg, Switzerland); Jakub Haberkowicz (University of Science and Technology, Poland); Sharon C. Glotzer (University of Michigan, USA); Frank Scheffold (University of Fribourg, Switzerland);
- 14:20 Dynamics of Strong and Weak Localization of Light in a Correlated 2D Photonic Disorder
Julien Armijo (Universidad de Chile, Chile); Raphael Allio (Universidad de Chile, Chile); Laurent Sanchez-Palencia (University Paris Sud 11, France);
- 14:40 Uni-directional Photonic Modes Due to Strong Random Scattering
Klaus Ziegler (University of Augsburg, Germany);

Session 3P_13a

FocusSession.SC3&2: Disordered Photonics 2

Wednesday PM, July 8, 2015

Room M

Organized by Pedro David Garcia

Chaired by Silvia Vignolini

15:00 Biocompatible Random Lasing

invited

S. Caixeiro (King's College London, United Kingdom); M. Gaio (King's College London, United Kingdom); M. Peruzzo (King's College London, United Kingdom); M. Castro-Lopez (King's College London, United Kingdom); B. Marelli (Tufts University, USA); F. Omenetto (Tufts University, USA); Riccardo Sapienza (King's College London, United Kingdom);

15:20 Coffee Break

Session 3P_13b
Laser Nanofabrication, Characterization and Physical Properties 1

Wednesday PM, July 8, 2015
Room M

Organized by Sergey I. Kudryashov

Chaired by Sergey I. Kudryashov, Sergey Makarov

15:40 Interpulse and Inrapulse Optical Feedback during Femtosecond Laser Surface Nanostructuring: Experimental Study and Numerical Modeling

Sergey V. Makarov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Andrey A. Ionin (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Sergey I. Kudryashov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia);

16:00 Classical Theory of Surface Plasmon Polaritons at the Interface between Two Absorbing Materials

Thibault J.-Y. Derrien (Institute of Physics, Academy of Science of the Czech Republic, Czech Republic); Nadezhda M. Bulgakova (Institute of Physics ASCR, Czech Republic and Institute of Thermophysics SB RAS, Russia); Jorg Kruger (BAM Federal Institute for Materials Research and Testing, Germany); Jorn Bonse (BAM Federal Institute for Materials Research and Testing, Germany);

16:20 Nanostructure Formation by Quasi-1D Plasmon Excitation

Christian Patzek (Max-Born-Institute for Nonlinear Optics and Short-Pulse Spectroscopy, Germany); Ruediger Grunwald (Max-Born-Institute for Nonlinear Optics and Short-Pulse Spectroscopy, Germany);

16:40 Normal and Abnormal Nanoripples Produced on Materials Surfaces by Ultrashort Laser Pulses

Sergey I. Kudryashov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Andrey A. Ionin (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Sergey V. Makarov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Wolfgang Husinsky (Vienna University of Technology, Austria);

17:00 Waveguiding Metallic Photonic Crystals Produced by Plasmon-driven Self-organization

Nathalie Destouches (Universite Jean-Monnet, Universite de Lyon, CNRS, France); Zeming Liu (Universite Jean-Monnet, Universite de Lyon, CNRS, France); Guy Vitrant (IMEP-LAHC, France); Yaya Lefkir (Universite Jean-Monnet, Universite de Lyon, CNRS, France); Stephanie Reynaud (Universite de Lyon, France);

17:20 Femtosecond LIPSS Formation on Complex Multilayer Target

Olga Varlamova (Brandenburg University of Technology (BTU) Cottbus, Germany); Markus Ratzke (Brandenburg University of Technology (BTU) Cottbus, Germany); Jurgen Reif (Brandenburg University of Technology Cottbus, Germany);

17:40 100-nm-periodic Surface Structures upon Femtosecond Laser Irradiation of Silicon in Water: Experiment and Theory

Thibault J.-Y. Derrien (Institute of Physics, Academy of Science of the Czech Republic, Czech Republic); R. Koter (BAM Bundesanstalt fur Materialforschung und-prüfung, Germany); Jorg Kruger (BAM Federal Institute for Materials Research and Testing, Germany); S. Hohm (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie (MBI), Germany); A. Rosenfeld (Max-Born-Institut fur Nichtlineare Optik und Kurzzeitspektroskopie (MBI), Germany); Jorn Bonse (BAM Federal Institute for Materials Research and Testing, Germany);

18:00 Ablation Threshold and Nanostructuring of Laser Irradiated Diamond

Boyan Obreshkov (Institute for Nuclear Research and Nuclear Energy, Bulgaria); T. Apostolova (Institute for Nuclear Research and Nuclear Energy, Bulgaria); A. A. Ionin (Lebedev Physical Institute, Russia); S. I. Kudryashov (Lebedev Physical Institute, Russia); S. V. Makarov (Lebedev Physical Institute, Russia); D. A. Zayarny (Lebedev Physical Institute, Russia);

- 18:20 On-chip Laser-written Photonic Circuits for Quantum Applications
Armando Perez-Leija (Friedrich-Schiller-Universität Jena, Germany); Markus Grafe (Friedrich-Schiller-Universität Jena, Germany); Rene Heilmann (Friedrich-Schiller-Universität Jena, Germany); Alexander Szameit (Friedrich-Schiller-Universität Jena, Germany);

Session 3P_14

SC3: Optical Microcavities and Waveguides 3

Wednesday PM, July 8, 2015

Room N

Organized by Ali Serpenguzel, Sahin Kaya Ozdemir

Chaired by Ali Serpenguzel, Sahin Kaya Ozdemir

- 13:00 Coupling Single Molecules to a Fabry-Perot Cavity
 invited with Ultrasmall Mode Volume
Vahid Sandoghdar (Max-Planck-Institute for the Science of Light, Germany);
- 13:20 Crystalline WGM Resonators on the Road from R&D
 invited to Photonics Products
Vladimir Ilchenko (OEwaves Inc., USA); Andrey B. Matsko (OEwaves Inc., USA); Lute Maleki (OEwaves Inc., USA);
- 13:40 Small Refractive Index, High Performance: Magnesium Fluoride Whispering Gallery Mode Sensors
 invited
Florian Sedlmeir (Max Planck Institute for the Science of Light, Germany); R. Zeltner (Max Planck Institute for the Science of Light, Germany); G. Leuchs (Max Planck Institute for the Science of Light, Germany); Harald G. L. Schwefel (Max Planck Institute for the Science of Light, Germany);
- 14:00 Oscillatory Lateral Coupling in a Waveguide-microdisk-resonator System
 invited
Fang Bo (Nankai University, China); Sahin Kaya Ozdemir (Washington University in St. Louis, USA); Faraz Monifi (Washington University in St. Louis, USA); Guoquan Zhang (Nankai University, China); Jingjun Xu (Nankai University, China); Lan Yang (Washington University in St. Louis, USA);

14:20 Ring Resonator Based Silicon Photonic Devices

invited

David J. Thomson (University of Southampton, UK); B. Troia (Politecnico di Bari, Italy); M. Nedeljkovic (University of Southampton, United Kingdom); F. Y. Gardes (University of Southampton, United Kingdom); J. Soler Penades (University of Southampton, UK); A. Z. Khokhar (University of Southampton, United Kingdom); J.-M. Fedeli (CEA LETI, France); V. M. N. Passaro (Politecnico di Bari, Italy); Goran Z. Mashanovich (University of Southampton, UK); G. T. Reed (University of Southampton, United Kingdom);

14:40 Spatial and Temporal Control of Cavities

invited

Emre Yuce (University of Twente, The Netherlands); J. Lian (University of Twente, The Netherlands); S. Sokolov (University of Twente, The Netherlands); Henri Thyrestrup (University of Twente, The Netherlands); Georgios Ctistis (University of Twente, The Netherlands); E. Peinke (CEA/INAC/SP2M, France); Julien Claudon (CEA/INAC/SP2M, France); S. Combrie (Thales Research and Technology, France); Alfredo De Rossi (Thales Research and Technology, France); Jean-Michel Gerard (CEA/INAC/SP2M, France); Allard P. Mosk (University of Twente, The Netherlands); Willem L. Vos (University of Twente, The Netherlands);

15:00 Whispering Gallery Mode Microresonators for Sensing

invited

Stefano Pelli (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); A. Barucci (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); F. Baldini (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); S. Berneschi (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); F. Cosi (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); A. Cosci (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); D. Farnesi (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); A. Giannetti (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); Gualtiero Nunzi Conti (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); Silvia Soria (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); S. Tombelli (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); C. Trono (Istituto di Fisica Applicata "Nello Carrara", C.N.R., Italy); Maurizio Ferrari (Museo Storico della Fisica e Centro Studi e Ricerche "Enrico Fermi", Italy); D. Ristic (Institut Ruder Boskovic, Croatia); Giancarlo C. Righini (Piazza del Viminale 1, Italy);

15:20 Coffee Break

- 15:40 Coupling, Controlling, and Processing Non-transversal Photons with a Single Atom
invited Arno Rauschenbeutel (*Vienna University of Technology, Germany*);
- 16:00 Micro-optical Wall Shear Stress Sensor for Fluid Mechanics Applications
invited Ulas Kemal Ayaz (*German University in Cairo, Germany*); Tindaro Ioppolo (*Southern Methodist University, USA*); Volkan Otugen (*Southern Methodist University, USA*);
- 16:20 Quantum Operations Based on Waveguide Nonlinear Optical Materials
invited Takashi Yamamoto (*Osaka University, Japan*);
- 16:40 Silicon Optical Matrix Processor for Parallel Computing
invited Lin Yang (*Institute of Semiconductors, Chinese Academy of Sciences, China*); Lei Zhang (*Institute of Semiconductors, Chinese Academy of Sciences, China*); Hao Jia (*Institute of Semiconductors, Chinese Academy of Sciences, China*); Jianfeng Ding (*Institute of Semiconductors, Chinese Academy of Sciences, China*);
- 17:00 Efficient Optical Fiber Coupling to Whispering Gallery Modes of Optically Manipulated Emulsion Microdroplets
invited Suman Anand (*Koc University, Turkey*); Mustafa Eryurek (*Koc University, Turkey*); Y. Karadag (*Marmara University, Turkey*); Ali Serpenguzel (*Koc University, Turkey*); Alper Kiraz (*Koc University, Turkey*);
- 17:20 Optical Resonances in Quantum Plasmonics
invited Mark S. Tame (*University of KwaZulu-Natal, South Africa*);
- 17:40 Sapphire Microspheres as Photonic Biosensors
invited Mohammed Sharif Murib (*Hasselt University, Belgium*); Weng Siang Yeap (*Hasselt University, Belgium*); Daan Martens (*Ghent University-IMEC, Belgium*); Luc Michiels (*Hasselt University, Belgium*); Michael J. Schöning (*Aachen University of Applied Sciences, Germany*); Ward De Ceuninck (*Hasselt University, Belgium*); Ken Haenen (*Hasselt University, Belgium*); Peter Bienstman (*Ghent University, Belgium*); Ali Serpenguzel (*Koc University, Turkey*); Patrick Wagner (*Katholieke Universiteit Leuven, Belgium*);
- 18:00 Sensitivity Enhancement of FRET-based Biosensors Using Amplified Stimulated Emission
invited Mehdi Aas (*Koc University, Turkey*); Qiushu Chen (*University of Michigan, USA*); Alexandr Jonas (*Istanbul Technical University, Turkey*); Alper Kiraz (*Koc University, Turkey*); Xudong Fan (*University of Michigan, USA*);
- 18:20 Operating Speed Extension of SOA External Modulator Using Microring Resonator
Zoe V. Rizou (*Democritus University of Thrace, Greece*); Kyriakos E. Zoiros (*Democritus University of Thrace, Greece*); Thanassis Houbavlis (*Democritus University of Thrace, Greece*);
- 18:40 Developing Microwave Photonic Temperature Sensors
Arec Jamgochian (*National Institute of Standards and Technology, USA*); John Quintavalle (*National Institute of Standards and Technology, USA*); Alejandra Torres-Diaz (*National Institute of Standards and Technology, USA*); James Filla (*National Institute of Standards and Technology, USA*); Gregory F. Strouse (*National Institute of Standards and Technology, USA*); Zeeshan Ahmed (*National Institute of Standards and Technology, USA*);

Session 3P0
Poster Session 6

Wednesday PM, July 8, 2015
14:00 PM - 17:00 PM
Room Poster Area

- 1 Magnetic Storms at High Latitudes and Slips in GPS Operating
Victor Ivanovich Zakharov (*Lomonosov Moscow State University, Russia*); Yury Vladimirovich Yasyukevich (*Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia*); M. A. Titova (*IZMIRAN, Russia*);
- 2 Characteristics of HF Radio Waves Propagation along Subauroral and Mid-latitude Paths over Eastern Siberia during Magnetoactive Period in February 2014
Vladimir Ivanovich Kurkin (*Institute of Solar-Terrestrial Physics SB RAS, Russia*); N. M. Polekh (*Institute of Solar-Terrestrial Physics SD RAS, Russia*); Sergey N. Ponomarchuk (*Institute of Solar-Terrestrial Physics SB RAS, Russia*); A. V. Podlesnyi (*Institute of Solar-Terrestrial Physics SB RAS, Russia*); N. A. Zolotukhina (*Institute of Solar-Terrestrial Physics SB RAS, Russia*); E. B. Romanova (*Institute of Solar-Terrestrial Physics SD RAS, Russia*);

- 3 Comparative Analysis of Geomagnetic Field and GPS-TEC Variations for Middle-latitude and Arctic Regions
Ilya K. Edemskiy (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia); Nataly P. Perevalova (ISTP SB RAS, Russia); Anna S. Polyakova (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Olga V. Timofeeva (Irkutsk State University, Russia); Darya D. Katshevtseva (Irkutsk State University, Russia);
- 4 TEC Response to Geomagnetic Storms and Solar Flares as Observed with SBAS L1/L5 Signals
Gregory A. Kurbatov (M. V. Lomonosov Moscow State University, Russia); Vyacheslav Evgenievich Kunitsyn (Moscow State University, Russia); Artem M. Padokhin (M. V. Lomonosov Moscow State University, Russia); Yury Vladimirovich Yasyukevich (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia);
- 5 Acoustic-gravity Waves in Space Generated by Near-ground and Volume Sources
Elena S. Andreeva (Faculty of Physics, M. V. Lomonosov Moscow State University, Russia); Vyacheslav Evgenievich Kunitsyn (Faculty of Physics, Lomonosov Moscow State University, Russia); Ivan A. Nesterov (Moscow State University, Russia); Artem M. Vorontsov (M.V.Lomonosov Moscow State University, Russia);
- 6 Testing NmF2 Data from UV SSUSI Measurements with Global Ionospheric Maps and Satellite Radio Tomography at Mid and High Latitudes
Gregory A. Kurbatov (M. V. Lomonosov Moscow State University, Russia); Elena S. Andreeva (M. V. Lomonosov Moscow State University, Russia); Svetlana A. Kalashnikova (M. V. Lomonosov Moscow State University, Russia); Vyacheslav Evgenievich Kunitsyn (Moscow State University, Russia); I. A. Nesterov (M. V. Lomonosov Moscow State University, Russia); Artem M. Padokhin (M. V. Lomonosov Moscow State University, Russia); Yulia S. Tumanova (Lomonosov Moscow State University, Russia);
- 7 Adaptation of IRI-2012 Model for Estimation of IAR Harmonic Structure
Alexandr S. Potapov (Institute of Solar-Terrestrial Physics SB RAS, Russia); T. N. Polyushkina (Institute of Solar-Terrestrial Physics SB RAS, Russia); Alexey V. Oinats (Institute of Solar-Terrestrial Physics SB RAS, Russia); Tero Raita (Sodankyla Geophysical Observatory, Finland); B. Tsegmed (Institute of Solar-Terrestrial Physics SB RAS, Russia);
- 8 Comparison of Polar, Sub-polar and Mid-latitude Ionospheric Variability Using Ionosonde and SuperDARN Data
Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics SD RAS, Russia); Alexey V. Oinats (Institute of Solar-Terrestrial Physics SB RAS, Russia); N. Nishitani (Nagoya University, Japan);
- 9 Geomagnetic Effects on GNSS Measurements
I. V. Bezler (Institute of Solar-Terrestrial Physics, SB RAS, Russia); A. B. Ishin (Institute of Solar-Terrestrial Physics, SB RAS, Russia); E. V. Konetskaya (Institute of Solar-Terrestrial Physics, SB RAS, Russia); Andrey V. Kulizhsky (Irkutsk State University, Russia); M. V. Tinin (Irkutsk State University, Russia); S. V. Voeykov (Institute of Solar-Terrestrial Physics, SB RAS, Russia);
- 10 Diffraction Effects in Electromagnetic Probing of Atmosphere and Ionosphere
Andrey V. Kulizhsky (Irkutsk State University, Russia); M. V. Tinin (Irkutsk State University, Russia);
- 11 High-resolution Wave Field Processing for Diagnostics of Inhomogeneous Media
Sergei I. Knizhin (Irkutsk State University, Russia); M. V. Tinin (Irkutsk State University, Russia); Andrey V. Kulizhsky (Irkutsk State University, Russia);
- 12 Investigation of Nanoantennas Using Surface Integral Equations and the Multilevel Fast Multipole Algorithm
B. Karaosmanoglu (Middle East Technical University, Turkey); U. M. Gur (Middle East Technical University, Turkey); Ozgur Ergul (Middle East Technical University, Turkey);
- 13 Weigert-effect in the Recording Media on the Base of the Polarization-sensitive Compositions
Valentina Shaverdova (Georgian Technical University, Georgia); Svetlana Petrova (Georgian Technical University, Georgia); Lado Tarasashvili (Georgian Technical University, Georgia); Anna Purtseladze (Georgian Technical University, Georgia); Nino Obolasvili (Georgian Technical University, Georgia);

- 14 Investigation of the Free-space Propagation Operator Eigenfunctions in the Near-field Diffraction
Mikhail S. Kirilenko (Samara State Aerospace University, Russia); Valery V. Pribylov (Samara State Aerospace University, Russia); Svetlana N. Khonina (Samara State Aerospace University, Russia);
- 15 Shielding Effectiveness in Coaxial Cable Connectors in Ultra High Frequency — UHF — 1 GHz to 3 GHz
Kenedy Marconi Geraldo Dos Santos (UFBA — Federal University of Bahia, Brazil); Marcela Silva Novo (UFBA — Federal University of Bahia, Brazil); Glauco Fontgalland (UFCG — Federal University of Campina Grande, Brazil); Marcelo Bender Perotoni (UFABC — Federal University of ABC, Brazil); Caio Luminatti Andrade (SENAI — CIMATEC, Brazil);
- 16 On The Anti-correlation between Degree of Entanglement and Polarization for Biphoton States
Hang T. T. Nguyen (Vietnam National University — Ho Chi Minh City, Vietnam); Peter A. Meleshenko (Voronezh State University, Russia); Vladimir A. Gorlov (Zhukovsky-Gagarin Air Force Academy, Russia); Mikhail E. Semenov (Zhukovsky-Gagarin Air Force Academy, Russia); Alexander F. Klinskikh (Voronezh State University, Russia);
- 17 T-matrix Formulation of the Linear Sampling Method
Gregory Samelsohn (Shamoon College of Engineering, Israel); Kobi Aflalo (Shamoon College of Engineering, Israel);
- 18 Radon Tomography of Forward-scattering Objects
Gregory Samelsohn (Shamoon College of Engineering, Israel); Eliya Ben-Avraham (Shamoon College of Engineering, Israel);
- 19 Focusing Properties of Walsh Zone Plates: Experimental Implementation with a Liquid-crystal Display
Walter D. Furlan (Universitat de València, Spain); V. Ferrando (Universitat de València, Spain); F. Giménez (Universidad Politècnica de València, Spain); Juan A. Monsoriu (Universidad Politècnica de València, Spain);
- 20 Experimental Study on Low-profile of Multi-layer Noise Suppression Sheet Using Periodic Metal Film
Kyota Otsuka (The University of Electro-Communications, Japan); Takano Ohno (Kisarazu National College of Technology, Japan); Kosei Tanii (National Institute of Technology, Kisarazu College, Japan);
- 21 Losses Reduction in Composite Chiral Metamaterials
Oscar Fernandez (Universidad de Cantabria, Spain); Alvaro Gomez (Universidad de Cantabria, Spain); Angel Vegas (Universidad de Cantabria, Spain); Gregorio J. Molina-Cuberos (Universidad de Murcia, Spain); Angel J. Garcia-Collado (Universidad Catolica San Antonio, Spain);
- 22 Diffraction by a Nano-hole in a Two-dimensional Plasmonic Layer
Norman J. Morgenstern Horing (Stevens Institute of Technology, USA); Desire Miessein (Stevens Institute of Technology, USA); Godfrey Gumbs (City University of New York, USA);
- 23 Photodynamic Properties of a C₆₀ Organosol
Ivan M. Kislyakov (S. I. Vavilov State Optical Institute, Russia); Inna M. Belousova (ITMO University, Russia); Anna V. Volkova (St. Petersburg State University, Russia); Nadezhda G. Gogoleva (S. I. Vavilov State Optical Institute, Russia); Valery M. Kiselev (S. I. Vavilov State Optical Institute, Russia); Tatyana K. Krisko (S. I. Vavilov State Optical Institute, Russia);
- 24 Non-linear Optical and Luminescent Properties of PbS Materials Stabilized by High-molecular Polyvinylpyrrolidone
Inna M. Belousova (ITMO University, Russia); Sergey K. Evstropiev (ITMO University, Russia); Ivan M. Kislyakov (S. I. Vavilov State Optical Institute, Russia); Anastasia S. Panfutova (ITMO University, Russia); Anton A. Ryzhov (ITMO University, Russia);
- 25 Semipolar InN Growth on LaAlO₃(112) Substrate by Metal Organic Molecular Beam Epitaxy
Fang-I. Lai (Yuan Ze University, Taiwan); Shou-Yi Kuo (Chang Gung University, Taiwan);
- 26 Optical Method for Investigation of the Parameters of the Thin Film
M. Bolshakov (South Ural State University, Russia); Natalia D. Kundikova (South Ural State University, Russia); Ivan Popkov (South Ural State University, Russian Federation);
- 27 Luminescence Evolution of Co-evaporated Cu(In,Ga)Se₂ Films
Fang-I. Lai (Yuan Ze University, Taiwan); Shou-Yi Kuo (Chang Gung University, Taiwan);
- 28 Patterned Nano Magnetic structures
Diyar Bajalan (student, Austria);

- 29 Design of Double Cladding Photonic Crystal Fibers with Low-loss and Broad Dispersion
Na Wang (Lanzhou University of Technology, China); Shanglin Hou (Lanzhou University of Technology, China); Yanjun Liu (Lanzhou University of Technology, China); Jingli Lei (Lanzhou University of Technology, China); Suoping Li (Lanzhou University of Technology, China); Wenyu Zhang (Lanzhou University of Technology, China);
- 30 Investigation on Reflection of Brillouin Dynamic Grating in Single Mode Optical Fibers
Junfeng Li (Lanzhou University of Technology, China); Shanglin Hou (Lanzhou University of Technology, China); Wenyu Zhang (Lanzhou University of Technology, China); Yanjun Liu (Lanzhou University of Technology, China); Jingli Lei (Lanzhou University of Technology, China); Suoping Li (Lanzhou University of Technology, China);
- 31 Enhanced Femtosecond Optical Pulses Compression in Highly Nonlinear Photonic Crystal Fibers at 850 nm
Qiling Wu (Lanzhou University of Technology, China); Shanglin Hou (Lanzhou University of Technology, China); Yanjun Liu (Lanzhou University of Technology, China); Jingli Lei (Lanzhou University of Technology, China); Suoping Li (Lanzhou University of Technology, China); Wenyu Zhang (Lanzhou University of Technology, China);
- 32 A Universal Optical Network Unit for Hybrid TDM-PON and WDM-PON Transport Systems
Ching-Hung Chang (National Taipei University of Technology, China); Liang-Shuo Tu (National Chiayi University, Taiwan); Meng-Chun Tseng (National Chiayi University, Taiwan);
- 33 Sub-micron Particle Detection Using a Spatial Light Modulator Based on Fluorescent Imaging
Serap Altay Arpali (Cankaya University, Turkey); Caglar Arpali (Cankaya University, Turkey);
- 34 Analogy between the Ising Model and the Polarization Switching of Vertical-cavity Surface-emitting Lasers
Tsu-Chiang Yen (National Sun Yat-sen University, Taiwan); Yueh-Chen Li (National Sun Yat-sen University, Taiwan); Yu-Heng Wu (National Sun Yat-sen University, Taiwan);
- 35 Electromagnetic Modeling of Antenna Array Based on Circular Carbon Nanotubes Bundle
Mourad Aidi (National Engineering School of Tunis, Tunisia); Taoufik Aguilu (Universite de Tunis El Tunis, Tunisia);
- 36 Radiative Heat Transfer in the Extreme Near-field
Victor Fernandez-Hurtado (Universidad Autonoma de Madrid, Spain); K. Kim (University of Michigan, USA); B. Song (University of Michigan, USA); W. Lee (University of Michigan, USA); W. Jeong (University of Michigan, USA); Johannes Feist (Universidad Autonoma de Madrid, Spain); Francisco J. Garcia-Vidal (Universidad Autonoma de Madrid, Spain); Juan Carlos Cuevas (Universidad Autonoma de Madrid, Spain); Edgar Meyhofer (University of Michigan, USA); Pramod Reddy (University of Michigan, USA);
- 37 A Compact Printed Spiral FM Antenna
Abraham Loutridis (Dublin Institute of Technology, Ireland); Kansheng Yang (Dublin Institute of Technology, Ireland); Matthias John (Dublin Institute of Technology, Ireland); Max J. Ammann (Dublin Institute of Technology, Ireland);
- 38 A Wideband Matching Technique for Polarization Versatile Applications
A. G. Koutinos (Democritus University of Thrace, Greece); Giorgos A. Ioannopoulos (Democritus University of Thrace, Greece); Michael T. Chrysosmallis (Democritus University of Thrace, Greece); George A. Kyriacou (Democritus University of Thrace, Greece);
- 39 Design and Implementation of a Planar Slot Antenna for SSR
Maziar Hedayati (Iran University of Science and Technology, Iran); Gholamreza Askari (Isfahan University of Technology (IUT), Iran); Parisa Moslemi (Isfahan University of Technology, Iran); Hamid Mirmohammad Sadeghi (Isfahan University of Technology (IUT), Iran);
- 40 Design And Analysis of Uniplanar Compact Electromagnetic Bandgap Structures
Shivam Gautam (Delhi Technological University, India); Komalbir Kaur (Delhi Technological University, India); N. S. Raghava (Delhi Technological University, India); Asok De (NIT Patna, India);
- 41 Novel Wideband Quadrature Hybrid Coupler with Tunable Power Dividing Ratio
Hongtao Li (South China University of Technology, China); Honglin Zhang (South China University of Technology, China); Bin-Jie Hu (South China University of Technology, China); Xiao-Dong Wei (South China University of Technology, China); Wei-Sen Zeng (Guangdong University of Technology, China);

- 42 A Wide Stopband Filter with Source-load Coupling Technique
Kwok-Keung Chong (National Kaoshiung Marine University, Taiwan); Ching-Jui Wu (National Kaoshiung Marine University, Taiwan); Feng-Lin Jenq (National Kaoshiung Marine University, Taiwan); Hong-Yu Jhuang (National Kaoshiung Marine University, Taiwan); Shih-Fong Chao (National Kaoshiung Marine University, Taiwan);
- 43 Analysis and Implementation of a Dual Mode Cavity Band Pass Filter
Zohre Pourgholamhossein (Isfahan University of Technology (IUT), Iran); Fattah Talaei (Isfahan University of Technology (IUT), Iran); Gholamreza Askari (Isfahan University of Technology (IUT), Iran); Hamid Mirmohammad Sadeghi (Isfahan University of Technology (IUT), Iran);
- 44 Propagation of Electromagnetic Waves in Cylindrical Three-layers Waveguide with Metamaterial Layer
Vladimir A. Meshcheryakov (Tomsk State University, Russia); Victor A. Zhuravlev (Tomsk State University, Russia);
- 45 A Broad-band End Launch Double Ridge Waveguide to Coaxial Transition Using LPDA
Maziar Hedayati (Iran University of Science and Technology, Iran); Mohsen Abdolahi (Isfahan University of Technology (IUT), Iran); Hamid Mirmohammad Sadeghi (Isfahan University of Technology (IUT), Iran); Parisa Moslemi (Isfahan University of Technology, Iran); Gholamreza Askari (Isfahan University of Technology (IUT), Iran);
- 46 3D ISAR Imaging of Realistic Target Model Based on General Purpose EM Simulators
Seok Kim (Yonsei University, Korea); Konstantin Nikitin (Yonsei University, South Korea); Inchan Paek (Samsung Thales, Inc., South Korea); Min-Ho Ka (Yonsei University, Korea Republic);
- 47 A Comparison of SAR Imaging Performance between Matching Filter and Compressed Sensing
Gang Wang (Beihang University, China); Ze Yu (Beihang University, China); Peng Xiao (BeiHang University, China);
- 48 Micro-motion Target Detection Based on Wall Envelope Alignment in Through-the-wall Ultra-wideband Radar
Lei Qiu (National University of Defense Technology, China); Tian Jin (National University of Defense Technology, China); Bi Ying Lu (National University of Defense Technology, China); Zhimin Zhou (National University of Defense Technology, NUDT, China);
- 49 Analysis of a Polycarbonate RFID Tag for Blood Chain Tracking
G. Boi (University of Cagliari, Italy); R. Secci (University of Cagliari, Italy); S. Casu (University of Cagliari, Italy); Alessandro Fanti (University of Cagliari, Italy); Giuseppe Mazzarella (University of Cagliari, Italy);
- 50 EM Level Evaluation in Hospital Indoor Environment
G. Boi (University of Cagliari, Italy); S. Casu (University of Cagliari, Italy); Alessandro Fanti (University of Cagliari, Italy); G. Gatto (University of Cagliari, Italy); Giuseppe Mazzarella (University of Cagliari, Italy); S. Pisu (University of Cagliari, Italy); P. F. Orru (University of Cagliari, Italy); I. Spano (University of Cagliari, Italy); E. Tanzi (University of Cagliari, Italy); F. Zedda (University of Cagliari, Italy);
- 51 Comparison of Optimization Methods for Background Rejection in High Resolution UWB ISAR Imaging
Se-Yeon Jeon (Yonsei University, Korea); Sumin Kim (Yonsei University, Korea); Tae-Yun Lee (Yonsei University, Korea); Jiwoong Yu (Yonsei University, South Korea); Min-Ho Ka (Yonsei University, Korea Republic);
- 52 Response of Oscillator Model of Cardiac Conduction System on Modulated Electromagnetic Radiation
Elena Ryzhii (University of Aizu, Japan); Maxim Ryzhii (The University of Aizu, Japan);
- 53 Measurement of Electromagnetic Activity of Living Cells
Jiri Pokorny (Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic); Jan Pokorny (Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic);
- 54 28 GHz Delay Spread Measurement Using a Broad-band Channel Sounder in Small Urban City
YoungKeun Yoon (Electronics and Telecommunications Research Institute, South Korea); Jong Ho Kim (Electronics and Telecommunications Research Institute, South Korea); Myoung Don Kim (Electronics and Telecommunications Research Institute, South Korea); Young Jun Chong (Electronics and Telecommunications Research Institute, South Korea); Myoung Sun Song (Electronics and Telecommunications Research Institute, South Korea);

- 55 Minimum Sum Algorithm Decoder for LDPC Nonregular Parity Check Matrix in BPSK System
Yi Hua Chen (Oriental Institute of Technology, Taiwan); Jue Hsuan Hsiao (Institute of Information and Communication Engineering, Taiwan); Zong Yi Saio (Institute of Information and Communication Engineering, Taiwan); Hua Ting Syu (Institute of Information and Communication Engineering, Taiwan);
- 56 Asymptotic Analysis of Scattering from Transmitarray for Near Field Focused
Shih-Chung Tuan (Oriental Institute of Technology, Taiwan); Hsi-Tseng Chou (Yuan Ze University, Taiwan);
- 57 Didactic Simulations in Electromagnetics
Khalid Salmi (University Mohamed Premier, Morocco); Joao Luiz Afonso (University of Minho, Portugal); Hamid Magrez (CRMEF, Morocco); Abdelhak Ziygat (Mohammed First University, Morocco);
- 58 Perfect Light Absorption in Ultra-thin Silicon Films on Aluminum and Optical Color Filters
Seyed Sadreddin Mirshafieyan (University of Alabama in Huntsville, USA); Junpeng Guo (University of Alabama in Huntsville, USA);
- 59 Investigation on Rudimentary Geometries of Dielectric Resonator Antenna
Jitendra Kumar (Birla Institute of Technology and Science, India); Navneet Gupta (Birla Institute of Technology and Science, India);
- 60 Features Processing Lidar Signals in the GHz Frequency Range
Aleksandr S. Grishkanich (National Research University of Informational Technologies, Mechanics and Optics, Russia); S. V. Kascheev (National Research University of Informational Technologies, Mechanics and Optics, Russia); V. V. Elizarov (National Research University of Informational Technologies, Mechanics and Optics, Russia); A. P. Zhevlakov (National Research University of Informational Technologies, Mechanics and Optics, Russia);
- 61 Oil and Gas Prospecting by High Resolution Raman Lidar
Aleksandr S. Grishkanich (National Research University of Informational Technologies, Mechanics and Optics, Russia); S. V. Kascheev (National Research University of Informational Technologies, Mechanics and Optics, Russia); V. V. Elizarov (National Research University of Informational Technologies, Mechanics and Optics, Russia); I. S. Sidorov (University of Eastern Finland, Finland); A. A. Il'inskiy (All Russia Petroleum Research Exploration Institute, Russia); A. P. Zhevlakov (National Research University of Informational Technologies, Mechanics and Optics, Russia);
- 62 Two-sided Inverted F Antenna with LTE, GSM, WLAN, WiMax Frequency Bands for Mobile Phones
Churng-Jou Tsai (Kun Shan University, Taiwan); Bing-Yan Sie (Kun Shan University, Taiwan);
- 63 Analysis of the Imaging Realization of Frequency Modulated Continuous Wave Circular SAR
Gaowei Jia (National University of Defense Technology, China); Wenge Chang (National University of Defense Technology, China); Ruibin Tu (National University of Defense Technology, China);
- 64 A New Sidelobe Reduction Method for Circular SAR
Gaowei Jia (National University of Defense Technology, China); Wenge Chang (National University of Defense Technology, China); Ruibin Tu (National University of Defense Technology, China);
- 65 Terabit WSDM Optical Access Network Using Multi-core Fibers and Advanced Modulation Formats
Zhenhua Feng (Huazhong University of Science and Technology, China); Borui Li (Huazhong University of Science and Technology, China); Ruoxu Wang (Huazhong University of Science and Technology (HUST), China); Rui Lin (Huazhong University of Science and Technology, China); Ming Tang (Huazhong University of Science and Technology (HUST), China); Zhilin Xu (Huazhong University of Science and Technology, China); Songnian Fu (Huazhong University of Science and Technology (HUST), China); Weijun Tong (Yangtze Optical Fibre and Cable Company Ltd. (YOFC), China); Shuang Liu (Huazhong University of Science and Technology, China); Perry Ping Shum (Nanyang Technological University, Singapore);

- 66 Progress in Developing Fabrics Coated with Nanoparticles as Radar Absorbing Materials
A. Teber (*University of Connecticut, USA*); H. Kavas (*Medeniyet University, Turkey*); A. Baykal (*University of Fatih, Turkey*); B. Aktas (*Gebze Technical University, Turkey*); I. Unver (*Gebze Technical University, Turkey*); Rajeev Bansal (*University of Connecticut, USA*);
- 67 Numerical Simulation on the Self-assembled Structures of Colloidal Particles through Magnetic Dipole-dipole Interactions
Chunwei Liu (*KU Leuven, Belgium*); Zhi Sun (*TU Delft, The Netherlands*); Shuigen Huang (*KU Leuven, Belgium*); Bart Blanpain (*Katholieke Universiteit Leuven, Belgium*); Muzing Guo (*Katholieke Universiteit Leuven, Belgium*);
- 68 Ultra Weak Photon Emission from Yeast Cells Can Be Modulated by Antioxidants
Katerina Cervinkova (*Czech Technical University in Prague, Czech Republic*); Michaela Nerudova (*Czech Technical University in Prague, Czech Republic*); Jiri Hasek (*Academy of Sciences of the Czech Republic, Czech Republic*); Michal Cifra (*Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic*);
- 69 RF Dynamics of Mode-locked Intracavity Frequency Doubled Laser
Anton V. Kovalev (*ITMO University, Russia*); Vadim M. Polyakov (*ITMO University, Russia*);
- 70 Microwave Absorption of Electromechanical Nanoresonators
Ondrej Krivosudsky (*Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic*); Michal Cifra (*Institute of Photonics and Electronics, Academy of Sciences of the Czech Republic, Czech Republic*);
- 71 Self-similar Dynamics in Free Space Optics
Nan Gao (*Institute of Microelectronics of Chinese Academy of Sciences, China*); Changqing Xie (*Institute of Microelectronics, Chinese Academy of Sciences, China*);
- 72 Analytical Study of Electromagnetic Wave Behaviour in FCC Lattice Periodic Material with Constant Dielectric: Bloch Theorem of Maxwell's Equation
Emmanuel Ifeanyi Ugwu (*Ebonyi State University, Nigeria*); Idu H. Kevin (*Ebonyi State University, Nigeria*); John U. Okwo (*Ebonyi State University, Nigeria*);
- 73 Size Reduction of Magnetic Resonance Coils for Wide Wireless Power Transfer Applications
In-Kui Cho (*Electronics and Telecommunications Research Institute, South of Korea*); Jung-Ick Moon (*Electronics and Telecommunications Research Institute, South of Korea*); Seong-Min Kim (*Electronics and Telecommunications Research Institute, South of Korea*); Jae-Hun Yun (*Electronics and Telecommunications Research Institute, South of Korea*); Woo-Jin Byun (*Electronics and Telecommunications Research Institute, South Korea*);
- 74 Near-field Analysis in Wireless Power Transfer Using Magnetic Dipole
Jung-Ick Moon (*Electronics and Telecommunications Research Institute, South of Korea*); In-Kui Cho (*Electronics and Telecommunications Research Institute, South of Korea*); Seong-Min Kim (*Electronics and Telecommunications Research Institute, South of Korea*); Jae-Hun Yun (*Electronics and Telecommunications Research Institute, South of Korea*); Woo-Jin Byun (*Electronics and Telecommunications Research Institute, South Korea*);
- 75 Design of 60 W Charging Circuit for Wireless Charging System Using Magnetic Resonance Method
Seong-Min Kim (*Electronics and Telecommunications Research Institute, South of Korea*); Jung-Ick Moon (*Electronics and Telecommunications Research Institute, South of Korea*); In-Kui Cho (*Electronics and Telecommunications Research Institute, South of Korea*); Jae-Hun Yun (*Electronics and Telecommunications Research Institute, South of Korea*); Woo-Jin Byun (*Electronics and Telecommunications Research Institute, South Korea*);
- 76 Photonic Integrated Circuits for Electro-optic Microwave Frequency Multiplication and Frequency Translation: Spurious Harmonics Suppression by Design
Ramon Maldonado-Basilio (*University of Ottawa, Canada*); Trevor J. Hall (*University of Ottawa, Canada*);
- 77 Design of a Printed Antenna for Mobile Terminals
Hui Liu (*South China Normal University (Guangzhou University Town Campus of South China Normal University), China*); Youhuan Guo (*Guangdong Peizheng College, China*); Ping Yu (*Guangdong Peizheng College, China*); Xueman Wu (*Guangdong Peizheng College, China*);

- 78 A Wideband Circularly Polarized Antenna with Wilkinson Feed Network for Worldwide UHF Band RFID Reader
Bingjie Wang (South China Normal University, China); Zhibin He (South China Normal University, China); Hui Liu (South China Normal University (Guangzhou University Town Campus of South China Normal University), China); Yoichi Okuno (South China Normal University, China); Sailing He (Zhejiang University, China);
- 79 A Small Printed Antenna for Bluetooth Wireless Communication
Hui Liu (South China Normal University (Guangzhou University Town Campus of South China Normal University), China); Bingjie Wang (South China Normal University, China); Cheng Liu (South China Normal University, China); Zhibin He (South China Normal University, China); Sailing He (Zhejiang University, China);
- 80 Measurement of the Dielectric Properties of Micaeous Minerals Using Scattering Parameters
Ivson Ferreira Dos Anjos (Federal University of Paraiba, Brazil); Silvio Ernesto Barbin (University of Sao Paulo, Brazil);
- 08:40 Stimulated Brillouin Scattering: Limitations and Possibilities in Integrated Optical Waveguides
C. Wolff (University of Technology Sydney, Australia); M. J. Steel (Macquarie University, Australia); Benjamin J. Eggleton (University of Sydney, Australia); Christopher G. Poulton (University of Technology Sydney, Australia);
- 09:00 Femtosecond Magneto-optic Kerr Effect in Magneto-plasmonic Crystals
Maxim R. Shcherbakov (Lomonosov Moscow State University, Russia); P. P. Vabishchevich (Lomonosov Moscow State University, Russia); A. Yu. Frolov (Lomonosov Moscow State University, Russia); T. V. Dolgova (Lomonosov Moscow State University, Russia); Andrey A. Fedyanin (Lomonosov Moscow State University, Russia);
- 09:20 Three-wave Frequency Mixing in Stacks of Binary Nonlinear Dielectric and Semiconductor Layers
Alexander G. Schuchinsky (The Queens University of Belfast, UK);
- 09:40 Characterization of Chiral Nanostructured Plasmonic Surfaces with Second Harmonic Generation
Ventsislav K. Valev (University of Bath, UK);

10:00 **Coffee Break**

Session 4A1
SC2: Active, Tunable and Nonlinear
Metamaterials 2

Thursday AM, July 9, 2015

Room A

Organized by Ilya V. Shadrivov, Mikhail Lapine

Chaired by Mikhail Lapine

- 08:00 Active Tuning of Silicon Nanodisk Metasurfaces
Jürgen Sautter (Australian National University, Australia); Isabelle Staude (Australian National University, Australia); Manuel Decker (Australian National University, Australia); Evgenia Rusak (Australian National University, Australia); Dragomir N. Neshev (Australian National University, Australia); Igal Brener (Sandia National Laboratories, USA); Yuri S. Kivshar (Australian National University, Australia);
- 08:20 Tunable Multilayer Graphene Metamaterials for Terahertz/Infrared Waveguide Modulators
Irina Khromova (University Colledge London, UK); Andrei Andryieuski (Technical University of Denmark, Denmark); Andrei V. Lavrinenko (Technical University of Denmark, Denmark);
- 10:20 Ultrafast Kerr Nonlinearities in Multimodal Plasmonic Metamaterials: Elliptic, Hyperbolic and Epsilon-near-zero Regimes
Silvia Peruch (King's College London, United Kingdom); Andres D. Neira (King's College London, United Kingdom); Gregory Wurtz (King's College London, United Kingdom); Anatoly V. Zayats (King's College London, UK);
- 10:40 Wavefront Shaping in Cavities: Waves Trapped in a Box with Tailored Boundaries
Matthieu Dupre (ESPCI Paris Tech & CNRS, France); M. P. Del Hougne (ESPCI Paris Tech & CNRS, France); Mathias Fink (ESPCI Paris Tech and CNRS, France); Fabrice Lemoult (Institut Langevin, France); Geoffroy Lerosey (ESPCI Paris Tech & CNRS, France);
- 11:00 Magnetic Field Controlled Microwave Hybrid Oscillations in Composite Resonator Dielectric-weak Ferromagnet
Maksym A. Popov (Taras Shevchenko National University of Kyiv, Ukraine); Igor V. Zavislyak (Taras Shevchenko National University of Kyiv, Ukraine); M. B. Strugatsky (Taurida National University, Russia); S. V. Yagupov (Taurida National University, Russia); Gopalan Srinivasan (Oakland University, USA);

- 11:20 Imaging Coherent Response of a Superconducting Metasurface
Alexander S. Averkin (National University of Science and Technology (MISIS), Russia); Alexander Zhuravel (National Academy of Science of Ukraine, Ukraine); P. Jung (Karlsruhe Institute of Technology, Germany); N. Maleeva (National University of Science and Technology (MISIS), Russia); V. P. Koshelets (Kotel'nikov Institute of Radio Engineering and Electronics, Russia); L. V. Filippenko (Kotel'nikov Institute of Radio Engineering and Electronics, Russia); A. Karpov (National University of Science and Technology (MISIS), Russia); Alexey V. Ustinov (Karlsruhe Institute of Technology, Germany);
- 11:40 Nonlinear and Tunable Left-handed Transmission Line for Communication Circuits
Alexander B. Kozyrev (University of Wisconsin-Madison, USA);

Session 4A2

Laser Nanofabrication, Characterization and Physical Properties 2

Thursday AM, July 9, 2015

Room B

Organized by Sergey I. Kudryashov

Chaired by Sergey I. Kudryashov, Nail A. Inogamov

- 08:00 Hydrodynamic Instabilities of Thin Au and Ag Films Induced by Tightly Focused Femtosecond and Nanosecond Laser Pulses
Aleksandr A. Kuchmizhak (Institute of Automation and Control Processes, Far Eastern Branch, Russian Academy of Science, Russia); O. B. Vitrik (Institute of Automation and Control Processes, Far Eastern Branch, Russian Academy of Science, Russia); Yu. N. Kulchin (Institute of Automation and Control Processes, Far Eastern Branch, Russian Academy of Science, Russia); S. I. Kudryashov (P. N. Lebedev Physical Institute, Russian Academy of Science, Russia); S. V. Makarov (ITMO University, Russia);
- 08:20 Three Dimensional Ablation Flow Produced by Ultra-short Laser Pulse from Perfectly Flat Target
Nail A. Inogamov (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia); V. V. Zhakhovsky (All-Russia Research Institute of Automatics, Russian Federation); V. A. Khokhlov (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia);

- 08:40 Evaporative Effects during Nanoscale Laser Ablation of Materials Surfaces Driven by Ultrashort Laser Pulses
Sergey I. Kudryashov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Andrey A. Ionin (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Sergey V. Makarov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Sergey A. Uryupin (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Sergey G. Bezhanov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Andrey Kanavin (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Vladimir I. Emelyanov (Moscow State University, Russia);
- 09:00 On Different Regimes of Condensed Matter Ablation Depending on Intensity and Duration of Absorbed Electromagnetic Pulses
Vladimir I. Mazhukin (M. V. Keldysh Institute of Applied Mathematics, RAS, Russia); A. A. Samokhin (A. M. Prokhorov General Physics Institute, RAS, Russia); A. V. Shapranov (M. V. Keldysh Institute of Applied Mathematics, RAS, Russia); M. M. Demin (M. V. Keldysh Institute of Applied Mathematics, RAS, Russia); P. A. Pivovarov (A. M. Prokhorov General Physics Institute, RAS, Russia);
- 09:20 Femtosecond Laser Ablation of Thin Films on Substrate
Nail A. Inogamov (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia); V. A. Khokhlov (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia); V. V. Zhakhovsky (All-Russia Research Institute of Automatics, Russian Federation); Yu. V. Petrov (L. D. Landau Institute for Theoretical Physics of Russian Academy of Sciences, Russian Federation, Russia); K. V. Khishchenko (Joint Institute for High Temperatures of Russian Academy of Sciences, Russian Federation); S. I. Anisimov (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia);

09:40 All-laser Fabrication of Metallic Nanoantenna with Planar Lens for Surface Plasmon Polaritons
Sergey Makarov (ITMO University, Russia); Andrey A. Ionin (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Sergey I. Kudryashov (P. N. Lebedev Physical Institute, Russian Academy of Sciences, Russia); Aleksandr A. Kuchmizhak (Institute of Automation and Control Processes, Far Eastern Branch, Russian Academy of Science, Russia);

10:00 **Coffee Break**

10:20 Characterisation of Polymeric Rod-connected Diamond Photonic Crystal Templates at Near-infrared Range
Lifeng Chen (University of Bristol, UK); Mike P. C. Taverne (University of Bristol, UK); X. Zheng (University of Bristol, UK); Chung-Che Huang (University of Southampton, United Kingdom); M. L. Garcia (University of Bristol, United Kingdom); Y.-L. D. Ho (University of Bristol, United Kingdom); Dan Hewak (University of Southampton, UK); J. G. Rarity (University of Bristol, UK);

10:40 Simulation of Intense Laser Irradiation of Silicon and Diamond
Tzveta Apostolova (Institute for Nuclear Research and Nuclear Energy, Bulgaria); Boyan Obreshkov (Institute for Nuclear Research and Nuclear Energy, Bulgaria);

11:00 Formation and Properties of 3D Metamaterial Composites Fabricated Using Nanometer Scale Laser Lithography
S. M. Prokes (US Naval Research Lab, USA); F. K. Perkins (US Naval Research Lab, USA); O. J. Glembocki (US Naval Research Lab, USA); Thomas Larrabee (NRC post doctoral Fellow, USA);

11:20 Two-temperature Heat Conductivity of Gold
Yu. V. Petrov (L. D. Landau Institute for Theoretical Physics of Russian Academy of Sciences, Russian Federation, Russia); Nail A. Inogamov (Landau Institute for Theoretical Physics, Russian Academy of Sciences, Russia); K. P. Migdal (All-Russia Research Institute of Automatics, ROSATOM, Russian Federation, Russia);

11:40 Mode Analysis and Far Field Characteristics of Metallic Coated Circular Subwavelength Laser
Chu-Cai Guo (National University of Defense Technology, China); Zhihong Zhu (National University of Defense Technology, China); Ken Liu (National University of Defense Technology, China); Xiao-Dong Yuan (National University of Defense Technology, China);

Session 4A3

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

Thursday AM, July 9, 2015

Room C

Organized by Eva Gescheidtova

Chaired by Petr Marcon

08:00 Detection of Faulty Sensors in Array Antenna Using Nature Inspired Darwinian Particle Swarm Optimization Algorithm

Shafqat Ullah Khan (ISRA University, Pakistan); Ijaz Mansoor Qureshi (Air University, Pakistan); Fawad Zaman (International Islamic University, Pakistan); Bilal Shoaib (IIU, Pakistan); Liaqat Ali (University of Science & Technology Bannu, Pakistan);

08:20 Correction for the Non-constancy of Speed of Light in Vacuum for Different Galilean Reference Systems (Part I)

Namik Yener (Kocaeli University, Turkey);

08:40 Correction for the Non-constancy of Speed of Light in Vacuum for Different Galilean Reference Systems (Part II)

Namik Yener (Kocaeli University, Turkey);

09:00 Calculations Concerning the Variable Size of Protons and Other Nuclei

Konstantin Meyl (Furtwangen University, Germany);

09:20 Dissipative Magnetorotational Instability: Wavelength Asymptotic Saturation

Francisco Eugenio Mendonca Da Silveira (Universidade Federal do ABC, Brazil);

- 09:40 The Efficiency of a Hydrogen Circuit in a Smart Grid
Petr Marcon (Brno University of Technology, Czech Republic); Zoltan Szabo (Brno University of Technology, Czech Republic); Zdenek Roubal (Brno University of Technology, Czech Republic); Frantisek Zezulka (Brno University of Technology, Czech Republic); Ivo Vesely (Brno University of Technology, Czech Republic);
- 10:00 **Coffee Break**
- 10:20 Advanced Methods of UHF EM Diagnostic of Discharge Activity in High Voltage Transformers Dielectric
Petr Drexler (Brno University of Technology, Czech Republic); Martin Cap (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Miloslav Steinbauer (Brno University of Technology, Czech Republic); Milos Kaska (TES, Czech Republic); Lubomir Kocis (EGU HV Laboratory, Czech Republic);
- 10:40 Numerical Model and Analysis of a Graphene Periodic Structure
Petr Drexler (Brno University of Technology, Czech Republic); Pavel Fiala (Brno University of Technology, Czech Republic); Dusan Nespore (Brno University of Technology, Czech Republic); Miloslav Steinbauer (Brno University of Technology, Czech Republic); Tomas Kriz (Brno University of Technology, Czech Republic); Martin Friedl (Brno University of Technology, Czech Republic);
- 11:00 Magnetic Field Shaping with Quasi-Periodic Resonators
Dusan Nespore (Brno University of Technology, Czech Republic); Petr Drexler (Brno University of Technology, Czech Republic);
- 11:20 Control of Breath Simulator
Ivo Vesely (Brno University of Technology, Czech Republic); Frantisek Solc (Brno University of Technology, Czech Republic); Frantisek Zezulka (Brno University of Technology, Czech Republic);
- 08:20 Future Ultra-low Latency Flexible and Programmable All-optical Interconnect Architectures for High-capacity Datacentre Networking
invited Emilio Hugues-Salas (University of Bristol, UK);
- 08:40 Golomb Ruler Sequences Optimization for FWM Crosstalk Reduction: Multi-population Hybrid Flower Pollination Algorithm
Prince Jain (PEC University of Technology, India); Shonak Bansal (PEC University of Technology, India); Arun Kumar Singh (PEC University of Technology, India); Neena Gupta (PEC University of Technology, India);
- 09:00 Photonic Microwave Amplification for Radio-over-Fiber Links Utilizing Semiconductor Lasers at Stable Locking Dynamics
Kun-Lin Hsieh (National Cheng Kung University, Taiwan); Sheng-Kwang Hwang (National Cheng Kung University, Taiwan);
- 09:20 100-Gb/s Point-to-point Solutions for Long-reach Passive Optical Networks in Sparse Rural and Urban Areas
Elias Giacomidis (Aston University, UK); Giuseppe Talli (University College Cork (UCC), Ireland); Naoise Mac Suibhne (Aston University, UK); Son T. Le (Aston University, UK); Nick J. Doran (Aston University, UK); David B. Payne (Aston University, UK);
- 09:40 Photonic Microwave Generation and Stabilization Using Semiconductor Lasers at Period-one Dynamics
Kai-Hung Lo (National Cheng Kung University, Taiwan); Sheng-Kwang Hwang (National Cheng Kung University, Taiwan);
- 10:00 **Coffee Break**
- 10:20 IMDD Formats for High-speed Data Center Interconnect Applications up to 80 km
invited H. Griesser (ADVA Optical Networking SE, Campus Martinsried, Germany); A. Dochhan (ADVA Optical Networking SE, Germany); N. Eiselt (ADVA Optical Networking SE, Germany); Jinlong Wei (ADVA Optical Networking SE, Germany); J.-P. Elbers (ADVA Optical Networking SE, Campus Martinsried, Germany);

Session 4A4

Advanced Photonic Systems for Datacommunications

Thursday AM, July 9, 2015

Room D

Organized by Jinlong Wei

Chaired by Jinlong Wei, Emilio Hugues-Salas

- 10:40 Numerical Analysis of Artificial Neural Network and Volterra-based Nonlinear Equalizers for Coherent Optical OFDM
Elias Giacomidis (Aston University, UK); Jinlong Wei (ADVA Optical Networking SE, Germany); Mutsam A. Jarajreh (Fahad Bin Sultan University, Kingdom of Saudi Arabia); Son T. Le (Aston University, UK); Paul A. Haigh (University of Bristol, UK); Jan Bohata (Czech Technical University in Prague, Czech Republic); Andreas Perentos (Aston University, UK); Sofien Mhatli (EPT Université de Carthage, Tunisia); Mohammad Ghanbarisabagh (Multimedia University, Malaysia); Ivan Aldaya (Instituto Tecnológico y de Estudios Superiores de Monterrey, Mexico); Nick J. Doran (Aston University, UK);
- 11:00 Quantum-dot Semiconductor Optical Amplifiers: Novel Technique for Gain Management and Noise Suppression
Hamed Baghban (University of Tabriz, Iran); Amir Hashemloo (University of Tabriz, Iran);
- 09:00 Elimination of Undesirable Transients in Direct Torque Control of Induction Motor
Pavel Brandstetter (VSB — Technical University of Ostrava, Czech Republic); Martin Kuchar (VSB — Technical University of Ostrava, Czech Republic); Jiri Hajovsky (VSB — Technical University of Ostrava, Czech Republic); Tomas Verner (VSB — Technical University of Ostrava, Czech Republic);
- 09:20 Compensation of Disturbed Load Currents Using Active Power Filter and Generalized Non-active Power Theory
Jiri Lettl (Czech Technical University in Prague, Czech Republic); Petr Simek (Czech Technical University in Prague, Czech Republic); Viktor Valouch (Czech Technical University in Prague, Czech Republic);
- 09:40 Combined Magnetic Bearing
Jan Vitner (Czech Technical University in Prague, Czech Republic); Jiri Pavelka (Czech Technical University in Prague, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic);

Session 4A5
Power Electronics 1

Thursday AM, July 9, 2015

Room E

Organized by Jiri Lettl

Chaired by Jiri Lettl

- 08:00 Parameters Identification of Controlled Systems with Electrical Drives Using Genetic Algorithms
Pavel Brandstetter (VSB — Technical University of Ostrava, Czech Republic); Jiri Hajovsky (VSB — Technical University of Ostrava, Czech Republic); Martin Kuchar (VSB — Technical University of Ostrava, Czech Republic);
- 08:20 Model of Voltage Source Inverter for Estimation Methods with Observers
Pavel Brandstetter (VSB — Technical University of Ostrava, Czech Republic); Jiri Hajovsky (VSB — Technical University of Ostrava, Czech Republic); Ondrej Petrtyl (VSB — Technical University of Ostrava, Czech Republic); Radek Sulak (VSB — Technical University of Ostrava, Czech Republic);
- 08:40 Model of Power Electronics Used for Electric Vehicles Contactless Charging
Michal Kosik (CVUT, Czech Republic); Radek Fajtl (CVUT, Czech Republic); Karel Buhr (CVUT, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic);
- 10:00 **Coffee Break**
- 10:20 Induction Motor Drive Predictive Control Method Analysis and Comparison with Fundamental Direct Torque Control Method
Jiri Lettl (Czech Technical University in Prague, Czech Republic); Pavel Karlovsky (Czech Technical University in Prague, Czech Republic);
- 10:40 Electric Vehicle Control Based on GPS and GSM Path Parameters
Tomas Haubert (Czech Technical University in Prague, Czech Republic); Pavel Mindl (Czech Technical University in Prague, Czech Republic); Zdenek Cerovsky (Czech Technical University in Prague, Czech Republic); Pavel Mruk (Czech Technical University in Prague, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic);
- 11:00 Railway Traction Vehicle Longitudinal Velocity Estimation by Kalman Filter
Petr Pichlik (Czech Technical University in Prague, Czech Republic); Ondrej Zoubek (Czech Technical University in Prague, Czech Republic); Jiri Zdenek (Czech Technical University in Prague, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic);

11:20 Analysis of the Electromagnetic Field of Electric Machines Based on Object-oriented Design Principles
Vladyslav Pliugin (National Technical University "Kharkiv Polytechnic University", Ukraine); Larisa Shilkova (National Technical University "Kharkiv Polytechnic University", Ukraine); Jiri Lettl (Czech Technical University in Prague, Czech Republic); Karel Buhr (Czech Technical University in Prague, Czech Republic); Radek Fajtl (Czech Technical University in Prague, Czech Republic);

11:40 Locomotive Wheel Speed Measurement under Wheel Slip Conditions
Ondrej Zoubek (Czech Technical University in Prague, Czech Republic); Petr Pichlik (Czech Technical University in Prague, Czech Republic); Jiri Zdenek (Czech Technical University in Prague, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic);

Session 4A6

Electromagnetic Probing of Atmosphere and Ionosphere in Arctic Region 1

Thursday AM, July 9, 2015

Room F

Organized by Vyacheslav Evgenievich Kunitsyn

Chaired by Vyacheslav Evgenievich Kunitsyn,
 Vladimir Ivanovich Kurkin

08:00 Ionosphere Response to Stratospheric Circulation in High-midlatitudes

Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Vladimir Ivanovich Kurkin (Institute of Solar-Terrestrial Physics SB RAS, Russia); Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics SB RAS, Russia); Marina A. Chernigovskaya (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Anastasiya Yu. Belinskaya (Geophysical Survey SB RAS, Russia); Svetlana A. Grigorieva (Institute of Geophysics UB RAS, Russia); Alexander E. Stepanov (Institute of Cosmophysical Research and Aeronomy SB RAS, Russia); Vasily V. Bychkov (Institute of Cosmophysical Researches and Radio Wave Propagation EB RAS, Russia); Valery A. Panchenko (Pushkov Institute of Terrestrial Magnetism Ionosphere and Radio Wave Propagation, Russia); Nina A. Korenkova (West Department of Pushkov Institute of Terrestrial Magnetism, Kaliningrad); Vladimir S. Leschenko (West Department of Pushkov Institute of Terrestrial Magnetism, Kaliningrad);

08:20 The Possibility for Full Profile Incoherent Scatter Data Processing on the Base of the Simplex-processor Algorithm

Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); G. A. Zhrebtsov (Institute of Solar-Terrestrial Physics, SB RAS, Russia); A. L. Voronov (Institute of Solar-Terrestrial Physics, SB RAS, Russia); Denis S. Khabituev (Institute of Solar Terrestrial Physics, Russia);

08:40 Analysis of Speed and Acceleration of GPS/GLONASS Phase in the Polar Ionosphere

Vladislav V. Demyanov (Irkutsk State Railway Transport Engineering University, Russia); Yury Vladimirovich Yasyukevich (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia); Tatyana V. Kashkina (Irkutsk State Railway Transport Engineering University, Russia);

09:00 Estimation of GPS/GLONASS Differential Code Biases and Their Long-time Variations

Yury Vladimirovich Yasyukevich (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia); Anna A. Mylnikova (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia); Vyacheslav Evgenievich Kunitsyn (Moscow State University, Russia); Artem M. Padokhin (M. V. Lomonosov Moscow State University, Russia);

- 09:20 Variations of O⁺/H⁺ Transition Height over East Siberia from Joint Analysis of Irkutsk Incoherent Scatter Data and GPS Total Electron Content
Denis S. Khabituiev (Institute of Solar Terrestrial Physics, Russia); Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia);
- 09:40 The Study of the Ionospheric Dynamics during Strong Sudden Stratospheric Warmings in the Russia's Arctic Region
Anna S. Polyakova (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Marina A. Chernigovskaya (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Anna A. Mylnikova (Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences, Russia);
- 10:00 **Coffee Break**
- 10:20 The Stratosphere Jet Stream Effects in High-latitude Ionosphere according to Vertical Radio Sounding Data
Marina A. Chernigovskaya (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Boris G. Shpynev (Institute of Solar-Terrestrial Physics of Siberian Branch of Russian Academy of Sciences, Russia); Konstantin G. Ratovsky (Institute of Solar-Terrestrial Physics SB RAS, Russia); Alexander E. Stepanov (Institute of Cosmophysical Research and Aeronomy SB RAS, Russia);
- 10:40 Simulation of HF Ground Backscatter Measured by the Ekaterinburg SuperDARN Radar. Comparison with Observations
Alexey V. Oinats (Institute of Solar-Terrestrial Physics SB RAS, Russia); Konstantin A. Kutelev (Institute of Solar-Terrestrial Physics SB RAS, Russia); Vladimir Ivanovich Kurkin (Institute of Solar-Terrestrial Physics SB RAS, Russia);
- 11:00 Correction of the Ekaterinburg SuperDARN Data Mapping Using Ionospheric Vertical Sounding
Alexey V. Oinats (Institute of Solar-Terrestrial Physics SB RAS, Russia); K. A. Kutelev (Institute of Solar-Terrestrial Physics SB RAS, Russia); Oleg I. Berngardt (Institute of Solar-Terrestrial Physics SB RAS, Russia); Vladimir Ivanovich Kurkin (Institute of Solar-Terrestrial Physics SB RAS, Russia);
- 11:20 Space Weather Variations and Corpuscular Ionization
E. S. Andreeva (M. V. Lomonosov Moscow State University, Russia); Vyacheslav Evgenievich Kunitsyn (Moscow State University, Russia); E. D. Tereshchenko (Polar Geophysical Institute RAS, Russia); M. A. Kozharin (M. V. Lomonosov Moscow State University, Russia); M. O. Nazarenko (M. V. Lomonosov Moscow State University, Russia);
- 11:40 Arctic Ionosphere Imaging and GNSS Tomography
Vyacheslav Evgenievich Kunitsyn (M. V. Lomonosov Moscow State University, Russia); E. S. Andreeva (M. V. Lomonosov Moscow State University, Russia); I. V. Mazaeva (M. V. Lomonosov Moscow State University, Russia); M. O. Nazarenko (M. V. Lomonosov Moscow State University, Russia); I. A. Nesterov (M. V. Lomonosov Moscow State University, Russia); Yulia S. Tumanova (M. V. Lomonosov Moscow State University, Russia);
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- Session 4A7**
Applications of EM Field in Biomedical Technique
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- Thursday AM, July 9, 2015**
Room G
Organized by David Vrba
Chaired by David Vrba
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- 08:20 Identification of Abnormal Blood Cells Using Scattering of a Focused Laser Beam by a Cluster
Hany. L. S. Ibrahim (Telecom Egypt Company, Egypt); Elsayed Esam M. Khaled (Assiut University, Egypt); Ahmed Elsayed Esam M. Khaled (Assiut University, Egypt);
- 08:40 Emergence of a Traveling Wave Regime on an Unmodified Clinical 3T MRI
Alexey A. Tonyushkin (Harvard Medical School, United States); Norman B. Konyer (Imaging Research Centre, Canada); Michael D. Noseworthy (Imaging Research Centre, Canada); Andrew J. M. Kiruluta (Harvard University, USA);
- 09:00 Waveguide Hyperthermia Applicator with Circular Polarisation
Ilja Merunka (Czech Technical University in Prague, Czech Republic); Ondrej Fiser (Czech Technical University in Prague, Czech Republic); Lucie Vojackova (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);

- 09:20 Study of Hot Spots by Oncological Patients with Metal Implants in Head and Neck Region
Ondrej Fiser (Czech Technical University in Prague, Czech Republic); Ilja Merunka (Czech Technical University in Prague, Czech Republic); Lucie Vojackova (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 09:40 A Couple of Methods for Power Focusing of Vector Fields in Non-homogenous Media
Domenica A. M. Iero (Universita Mediterranea di Reggio Calabria, Italy); L. Crocco (Institute for Electromagnetic Sensing of the Environment, Italy); Tommaso Isernia (Mediterranea University of Reggio Calabria, Italy);
- 10:00 **Coffee Break**
- 10:20 Biological Signals Transmitted by a Resonant L-C oscillator; Transmission Controlled by Measuring the Growth of Plants
Konstantin Meyl (Furtwangen University, Germany); Heide Schnabl (Universitat Bonn, Germany);
- 10:40 Novel Microwave Applicators Inspired by Metamaterials for Hyperthermia Treatment of Cancer
David Vrba (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); Paul R. Stauffer (Thomas Jefferson University, USA);
- 11:00 Phased Arrays Pre-treatment Evaluation in Antitumoral Hyperthermia
Piero Tognolatti (University of L'Aquila, Italy); Fernando Bardati (University of "Tor Vergata", Italy);
- 11:20 Complex Permittivity Measurement in Hyperthermia Treatment Planning
Jaroslav Vorlicek (Czech Technical University, Czech Republic); Ladislav Oppl (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic);
- 11:40 Feasibility Study of Microwave Interstitial Applicator Array for Treatment Pancreatic Cancer
Lucie Vojackova (Czech Technical University in Prague, Czech Republic); Jan Vrba (Czech Technical University in Prague, Czech Republic); Ondrej Fiser (Czech Technical University in Prague, Czech Republic); Ilja Merunka (Czech Technical University in Prague, Czech Republic); Katerina Cervinkova (Czech Technical University in Prague, Czech Republic);

Session 4A8
Microstrip Antennas and Defected Ground Structure (DGS) Filters

Thursday AM, July 9, 2015
Room H

Organized by Ahmed Boutejdar

 Chaired by Yongchae Jeong

- 08:00 A Microstrip Line with Additional Capacitive and Inductive Effects Loaded
Jongsik Lim (Soonchunhyang University, Republic of Korea); Kyunghoon Kwon (Soonchunhyang University, Republic of Korea); Seungwook Lee (Chonbuk National University, Republic of Korea); Seok-Jae Lee (Soonchunhyang University, Republic of Korea); Sang-Min Han (Soonchunhyang University, Republic of Korea); Dal Ahn (Soonchunhyang University, Republic of Korea); Yongchae Jeong (Chonbuk National University, Republic of Korea);
- 08:20 Applications of Artificial Magnetic Conductors to the Innovative Design of Various RFID Tag Antennas
Dongho Kim (Sejong University, Korea);
- 08:40 Design of the Wide-tuning-range Notch Filter with Wide Constant Absolute Bandwidth
Ching-Wen Tang (National Chung Cheng University, Taiwan); Wei-Min Chuang (National Chung Cheng University, Taiwan);
- 09:00 A Simple Tunable Filter Antenna Design with No Bias Lines
Mohammed Al-Husseini (American University of Beirut, Lebanon); Karim Y. Kabalan (American University of Beirut, Lebanon); Ali El-Hajj (American University of Beirut, Lebanon);
- 09:20 Investigation of Slotted EBG Structures on the Ground Plane of Golden Spiral Antenna
Bhaskar Harsha (Vishveshwarya Technological University, India); G. S. Karthikeya (Vishveshwarya Technological University, India); Praveenkumar Patil Kedar (Vishveshwarya Technological University, India); Gowda N. G. Monish (Vishveshwarya Technological University, India);
- 09:40 Sierpinski Gasket Fractals Implemented as Electromagnetic Band Gap (EBG) Structures on a Multiband Antenna for WLAN/WiMAX Applications
Praveenkumar Patil Kedar (Vishveshwarya Technological University, India); G. S. Karthikeya (Vishveshwarya Technological University, India); Gowda N. G. Monish (Vishveshwarya Technological University, India); Bhaskar Harsha (Vishveshwarya Technological University, India);

10:00 Coffee Break

10:20 Improvement in Planar Array Antenna Performance by Using Center-fed Coaxial-to-SIW Transition and UC-EBG Structure for 60 GHz Wireless Communication

Ehsan Ghahramani (K. N. Toosi University of Technology, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran); Mahmood Karami (Khajeh Nasir Toosi University of Technology (KNTU), Iran); Behzad Boroomandisorkhabi (K. N. Toosi University of Technology, Iran);

10:40 S-band Proximity Coupled Patch Antenna Based on TiN/Ag Multilayer Material

Manuel A. Yarleque Medina (Pontificia Universidad Catolica del Peru, Seccion Telecomunicaciones, Peru); Rafael Cerna (Pontificia Universidad Catolica del Peru, Peru); Jose Ampuero (Universidad Nacional de Ingenieria, Peru); Arturo Talledo (Universidad Nacional de Ingenieria, Peru); Karin Paucar (Universidad Nacional de Ingenieria, Peru);

11:00 Analysis of High Gain Dual Beam Pentagonal Patch Antenna Array

R. Anand (Amrita Center for Wireless Networks and Applications, India); Jesmi Alphonsa Jose (Amrita Center for Wireless Networks and Applications, India); Sreedevi K. Menon (Amrita School of Engineering, India); Anju M. Kaimal (Amrita Center for Wireless Networks and Applications, India);

11:20 Bandpass Filters with Mixed Hairpin and Patch Resonators

Yi Wang (University of Greenwich, UK); Eugene Ogodo (University of Greenwich, UK); Predrag B. Rapajic (University of Greenwich, UK);

11:40 Effect of Complementary Split-ring Resonators on Beam Scanning in the CRLH-leaky Wave Antennas Based on Split-ring Resonators and Slotline

Saeid Mohammadpour Jaghargh (Semnan University, Iran); Pejman Rezaei (Semnan University, Iran); Javad Soleiman Meiguni (Semnan University, Iran);

Session 4A9a**Casimir and Other Quantum Effects****Thursday AM, July 9, 2015****Room I**

Chaired by Roberto Passante, Stefan Scheel

08:20 The Near-field Radiative Heat Transfer for Doped Si-Ge Multi-layered Metamaterials Supporting Surface Plasmon Polaritons

Yang Bai (Harbin Institute of Technology, China); Yongyuan Jiang (Harbin Institute of Technology, China);

08:40 Contribution of Non-local Effects to the Casimir Forces

Yan Francescato (Imperial College London, UK); Vincenzo Giannini (Imperial College London, UK);

09:00 Radiative Heat Transfer through Nanometer-size Gaps

Victor Fernandez-Hurtado (Universidad Autonoma de Madrid, Spain); K. Kim (University of Michigan, USA); B. Song (University of Michigan, USA); W. Lee (University of Michigan, USA); W. Jeong (University of Michigan, USA); Johannes Feist (Universidad Autonoma de Madrid, Spain); Francisco J. Garcia-Vidal (Universidad Autonoma de Madrid, Spain); Juan Carlos Cuevas (Universidad Autonoma de Madrid, Spain); Edgar Meyhofer (University of Michigan, USA); P. Reddy (University of Michigan, USA);

09:20 Casimir Interaction between Atoms in Motion: From Unruh Effect to Ginzburg Radiation

Jamir Marino (Institute of Theoretical Physics, Germany); A. Noto (University of Palermo, Italy); Roberto Passante (Universita degli Studi di Palermo and CNISM, Italy); Alessio Recati (Universita di Trento, Italy); Iacopo Carusotto (Universita di Trento, Italy);

09:40 Casimir-Polder Interaction between Rydberg Atoms and a Photonic Crystal Fibre

Wijnand Hendrik Broer (Universitat Rostock, Germany); Stefan Scheel (University of Rostock, Germany);

10:00 Coffee Break**Session 4A_10****Resonators, Filters, Transmission Lines****Thursday AM, July 9, 2015****Room J**

Chaired by Shinichi Tanaka, Toshikazu Sekine

08:00 Simultaneous Approximation Method of Attenuation and Group Delay Characteristics for Coupled Resonators Filter

Toshiki Matsubara (Gifu University, Japan); Toshikazu Sekine (Gifu University, Japan); Yasuhiro Takahashi (Gifu University, Japan);

- 08:20 A Compact Band Pass Filter with Wide Stop-band in LGA Package by Low-temperature Co-fired Ceramic
Li Ju Chen (National Sun Yat-Sen University, Taiwan); Ken-Huang Lin (National Sun Yat-Sen University, Taiwan);
- 08:40 Heuristic Circuit Transformation Based on Left-handed Filter and Right-handed Filter
Kosei Tani (National Institute of Technology, Kisarazu College, Japan); Koji Wada (The University of Electro-Communications, Japan); Takanobu Ohno (Kisarazu National College of Technology, Japan);
- 09:00 A Compact Tunable Dual-band Bandpass Filter Using Varactor-loaded Step-impedance Resonators
Xiang Zhang (Chinese Academy of Sciences, University of Science and Technology of China, China); Chang Chen (Chinese Academy of Sciences, University of Science and Technology of China, China); Mingkang Li (Chinese Academy of Sciences, University of Science and Technology of China, China); Lingyun Zhou (Chinese Academy of Sciences, University of Science and Technology of China, China); Bin Liu (Chinese Academy of Sciences, University of Science and Technology of China, China);
- 09:20 Concentric Open End Rings Resonator Filter
Mahmood Karami (Iran University of Science and Technology (IUST), Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran); Mahdi Oliaei (K. N. Toosi University of Technology, Iran);
- 09:40 Conductor Loss Evaluation of Thin Microstrip Line with Various Copper Roughnesses
Ryosuke Suga (Aoyama Gakuin University, Japan); Tatsuya Suzuki (Aoyama Gakuin University, Japan); Tomoki Uwano (Aoyama Gakuin University, Japan); Yasumasa Akatsuka (Nippon Kayaku Co. Ltd., Japan); Kazuhiko Ishii (Nippon Kayaku Co. Ltd., Japan); Osamu Hashimoto (Aoyama Gakuin University, Japan);
- 10:00 **Coffee Break**
- 10:20 Composite Right-/left-handed Transmission Line Stub Resonator with Improved Out-of-band Rejection Characteristics
Kengo Saito (Shibaura Institute of Technology, Japan); Shinichi Tanaka (Shibaura Institute of Technology, Japan);
- 10:40 Effect of Bending on RF Performance of Ink-jet Printed Microstrip Line on Flexible Substrate
Yeonsu Lee (Chonbuk National University, Korea); Sung-Min Sim (Chonbuk National University, Korea); Kwon-Yong Shin (Korea Institute of Industrial Technology, Korea); Sang-Ho Lee (Korea Institute of Industrial Technology, Korea); Jung-Mu Kim (Chonbuk National University, South Korea);
- 11:00 Fabrication of Silver Ink-jet Printed Microstrip Line on Polyimide Substrate
Sung-Min Sim (Chonbuk National University, Korea); Yeonsu Lee (Chonbuk National University, Korea); Kwon-Yong Shin (Korea Institute of Industrial Technology, Korea); Sang-Ho Lee (Korea Institute of Industrial Technology, Korea); Jung-Mu Kim (Chonbuk National University, South Korea);
- 11:20 Coupled Line Power Divider with Multiple-pole Negative Group Delay Characteristics
Girdhari Chaudhary (Chonbuk National University, Republic of Korea); Seungho Jeong (Chonbuk National University, Republic Of Korea); Phirun Kim (Chonbuk National University, Republic of Korea); Yongchae Jeong (Chonbuk National University, Republic of Korea);
- 11:40 An Estimation Method for 2-port S -parameters Using Cable or Jig with Leakage Couplings
Shinji Ohno (Gifu University, Japan); Toshikazu Sekine (Gifu University, Japan); Yasuhiro Takahashi (Gifu University, Japan);
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- Session 4P1**
Metamaterials and Plasmonics
-
- Thursday PM, July 9, 2015**
Room A
Chaired by Aaron Ho-Pui Ho
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- 13:00 Spheres and Circles with Radial Anisotropy: Unexpected Scattering Properties
Ari Sihvola (Aalto University School of Electrical Engineering, Finland); Henrik Kettunen (University of Helsinki, Finland); Henrik Wallen (Aalto University, Finland);
- 13:20 Ultra Thin Metamaterial Absorbers for Short Millimeter Wave Bolometers: Multiparametric Optimization and Practical Implementation
Sergey Alexandrovich Kuznetsov (Novosibirsk State University, Russia); Andrey Georgievich Paulish (Novosibirsk State University, Russia);

- 13:40 Left-handed Transmission Lines Equivalent Circuit Model Based on **ABCD** Matrices
Ursula Martinez-Iranzo (Universitat Autònoma de Barcelona, Spain); Bahareh Moradi (Universitat Autònoma de Barcelona, Spain); Joan Jose Garcia-Garcia (Universitat Autònoma de Barcelona, Spain);
- 14:00 Unusual Percolation Threshold of Electromagnetic Waves
Jie Luo (Soochow University, China); Zhi Hong Hang (Soochow University, China); Che Ting Chan (The Hong Kong University of Science and Technology, China); Yun Lai (Soochow University, China);
- 14:20 Chiral Localized Plasmon Resonances Leading to Extreme Optical Chirality
Alexey V. Kondratov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia); Maxim V. Gorkunov (A. V. Shubnikov Institute of Crystallography, Russian Academy of Sciences, Russia);
- 14:40 Magneto-optical Effects Optimal for Observation of the in-plane Magnetization of the Magnetoplasmonic Crystals
Andrey N. Kalish (Russian Quantum Center, Russia); Vladimir I. Belotelov (Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia); Anatoliy K. Zvezdin (Prokhorov General Physics Institute of the Russian Academy of Sciences, Russia);
- 15:00 The Role of Mechanisms Responsible for the Extraordinary Transmission through Sub-wavelength Periodic Arrays
Jan Fiala (Czech Technical University in Prague, Czech Republic); Ivan Richter (Czech Technical University in Prague, Czech Republic);
- 15:20 **Coffee Break**
- 15:40 On the Characteristics of Spoof Surface Plasmons (SSP) in the High Frequency Limit
Sayak Bhattacharya (Indian Institute of Technology Delhi, India); Kushal Shah (Indian Institute of Technology Delhi, India);
- 16:00 Design of a Low Loss Silicon Based Hybrid Dielectric-loaded Plasmonic Waveguide and a Compact, High Performance Optical Resonator
Cheng-Hung Hsieh (National Tsing Hua University, Taiwan); Chien-Ming Kuo (National Tsing Hua University, Taiwan); Min-Jyun Huang (National Tsing Hua University, Taiwan); Yu-Ting Chu (National Tsing Hua University, Taiwan); Keh-Chyang Leou (National Tsing-Hua University, Taiwan);
- 16:20 Plasmonic Optical Tweezers Based on Random Metallic Nano-islands
Zhiwen Kang (The Chinese University of Hong Kong, China); Jiajie Chen (The Chinese University of Hong Kong, China); Haixi Zhang (The Chinese University of Hong Kong, China); Aaron Ho-Pui Ho (The Chinese University of Hong Kong, China);
- 16:40 UV Plasmonic Performance of Ga, Mg and Al. Influence of Growing Oxide Shell
Dolores Ortiz Marquez (University of Cantabria, Spain); J. M. Sanz (Universidad of Cantabria, Spain); Jose Maria Saiz (Universidad de Cantabria, Spain); Francisco Gonzalez (Universidad de Cantabria, Spain); Fernando Moreno (Universidad de Cantabria, Spain);
- 17:00 Effective Medium Theory for Metamaterials beyond the Long-wavelength Limit
Shiwei Tang (Fudan University, China); Baocheng Zhu (Fudan University, China); Qiong He (Fudan University, China); Shulin Sun (Fudan University, China); Yongfeng Mei (Fudan University, China); Lei Zhou (Fudan University, China);
- 17:20 Ultrathin Metasurfaces with Ultrahigh Cross-polarization Conversion Efficiency
Cheng-Wei Qiu (National University of Singapore, Singapore); Xu Min Ding (Harbin Institute of Technology, China); Kuang Zhang (Harbin Institute of Technology, China); Lei Zhang (National University of Singapore, Singapore); Qun Wu (Harbin Institute of Technology, China); Fei Qin (National University of Singapore, Singapore);
- 17:40 New Applications for Zero-index Metamaterials
Yangyang Fu (Soochow University, China); Aichen Chen (Soochow University, China); Yadong Xu (Soochow University, China); Huanyang Chen (Soochow University, China);
- 18:00 Effective Surface Conductivity and Absorption Enhancement of Graphene Meta-surface
Yuancheng Fan (Northwestern Polytechnical University, China); Fuli Zhang (Northwestern Polytechnical University, China);
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- Session 4P2a**
Coherent Optics, Laser Beam, Beam Propagation
-
- Thursday PM, July 9, 2015**
Room B
 Chaired by Jeffery H. Shapiro
-

- 13:00 Nonclassical Light Propagation through Atmospheric Turbulence
Jeffrey H. Shapiro (Massachusetts Institute of Technology, USA);
- 13:20 High Harmonic Generation in the Undulators for Free Electron Lasers
Konstantin V. Zhukovsky (M. V. Lomonosov Moscow State University, Russia);
- 13:40 Coherent Synchrotron Radiation and Self Amplified Spontaneous Emission Free Electron Lasers (SASE-FEL)
Konstantin Zhukovsky (M. V. Lomonosov Moscow State University, Russia);
- 14:00 Investigation the Possibility of Obtaining Spiral Light Beams with Adjustable Parameters
Natalia D. Kundikova (South Ural State University, Russia); Yu. Miklyaev (South Ural State University, Russia); Ivan Popkov (South Ural State University, Russian Federation); Anastasia Popkova (South Ural State University, Russia);
- 14:20 Structured Laser Radiation in Optical Inhomogeneous Media Refractography
Bronyus S. Rinkevichyus (Moscow Power Engineering Institute, Russia); I. L. Raskovskaya (National Research University "Moscow Power Engineering Institute", Russia); A. V. Tolkachev (NRU "MPEI", Russia); Anastasia V. Vedyashkina (National Research University "Moscow Power Engineering Institute", Russia);
- 14:40 Controlling the Lasing Threshold in Two-dimensional Photonic Crystals with Gain
Sotiris Droulias (Institute of Electronic Structure and Laser, FORTH, Greece); Peng Zhang (Iowa State University, USA); Thomas Koschny (Institute of Electronic Structure and Laser (IESL), Greece); Costas M. Soukoulis (Iowa State University, USA);
- 15:00 Investigation of Kinetic Processes of a Diode-pumped Alkali Laser
Guofei An (Southwest Institute of Technical Physics, China); You Wang (Southwest Institute of Technical Physics, China); Juhong Han (Southwest Institute of Technical Physics, China); He Cai (Southwest Institute of Technical Physics, China); Wei Zhang (Southwest Institute of Technical Physics, China); Liangping Xue (Southwest Institute of Technical Physics, China); Hongyuan Wang (Southwest Institute of Technical Physics, China); Zhigang Jiang (Southwest Institute of Technical Physics, China); Jie Zhou (Southwest Institute of Technical Physics, China); Ming Gao (Southwest Institute of Technical Physics, China);

15:20 **Coffee Break**

Session 4P2b
Optical Fiber, Sensing, Optical Devices

Thursday PM, July 9, 2015

Room B

Chaired by Won-Taek Han

- 15:40 Radiofrequency Impedance Spectroscopy for Measurement of Optical Power of Scattered Radiation in Non-linear Crystal
Oleg A. Ryabushkin (Moscow Institute of Physics and Technology, Russia); Aleskey Viktorovich Konyashkin (Moscow Institute of Physics and Technology, Russia); Artem Sergeevich Demkin (NTO "IRE-Polus", Russia);
- 16:00 The Effect of Iron Nano-inclusions in Multilayered Integrated Optical Waveguides
Isabelle G. De Moraes (Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil); Anderson Oliveira Silva (Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil); Maria Aparecida G. Martinez (Centro Federal de Educação Tecnológica Celso Suckow da Fonseca, Brazil); Maria Thereza M. R. Giraldi (Instituto Militar de Engenharia — IME, Brazil);
- 16:20 Radiation-resistant Temperature Sensor Based on Fiber Bragg Grating Inscribed Specialty Optical Fiber
Seongmin Ju (Gwangju Institute of Science and Technology, South Korea); Youngwoong Kim (Gwangju Institute of Science and Technology, South Korea); Seongmook Jeong (Gwangju Institute of Science and Technology, South Korea); Jong-Yeol Kim (Korea Atomic Energy Research Institute, Korea); Nam-Ho Lee (Korea Atomic Energy Research Institute, Korea); Hyun-Kyu Jung (Korea Atomic Energy Research Institute, Korea); Won-Taek Han (Gwangju Institute of Science and Technology, South Korea);

- 16:40 Effect of Gamma-ray Pre-irradiation on Radiation Response of Photonic Crystal Fiber with Fluorine Doped Silica Core

Youngwoong Kim (Gwangju Institute of Science and Technology, South Korea); Seongmin Ju (Gwangju Institute of Science and Technology, South Korea); Seongmook Jeong (Gwangju Institute of Science and Technology, South Korea); Youngmin Kim (Gwangju Institute of Science and Technology, South Korea); Seung Ho Lee (Gwangju Institute of Science and Technology, South Korea); Dong Hoon Son (Gwangju Institute of Science and Technology, South Korea); Won-Taek Han (Gwangju Institute of Science and Technology, South Korea);

- 17:00 Various Microbubbles Generation by Light Excited Graphene Oxide Heater

Jiapeng Zheng (South China Normal University, China); Kezhang Shi (South China Normal University, China); Jianxin Yang (South China Normal University, China); Xijun Li (South China Normal University, China); Meng Shi (Qufu Normal University, China); Xiang Cai (Guangdong Polytechnic, China); Sailing He (Zhejiang University, China); Xiaobo Xing (South China Normal University, China);

- 17:20 A High Survivability Mesh Topology FBG Based Optical Sensing System with SDN Controlling

Jhih-Heng Yan (National Tsing Hua University, Taiwan); Wei-Cheng Chen (National Tsing Hua University, Taiwan); You-Wei Chen (National Tsing Hua University, Taiwan); Kai-Ming Feng (National Tsing Hua University, Taiwan); Chung-Yu Wu (National Tsing Hua University, Taiwan);

- 17:40 Direct Writing of Fiber Bragg Gratings through Polyimide Coating by Femtosecond Laser Pulses at the Wavelength of 1026 nm

Alexandr V. Dostovalov (Institute of Automation and Electroetry SB RAS, Russia); A. A. Wolf (Institute of Automation and Electroetry SB RAS, Russia); S. A. Babin (Institute of Automation and Electroetry SB RAS, Russia);

- 18:00 A Novel Demodulation Scheme for Fiber Sensor Based on Chaotic Fiber Laser

Lingzhen Yang (Taiyuan University of Technology, China); Jun Zhang (Taiyuan University of Technology, China);

Session 4P3

Plasmas, Composite Media, Waves and Media

Thursday PM, July 9, 2015

Room C

Chaired by Zheng-Wen Li

- 13:00 A Relativistic Self-consistent Model for Studying Enhancement of Child-Langmuir Limit Due to Counterstreaming Ions

Ming-Chieh Lin (Hanyang University, Korea); J. P. Verboncoeur (Michigan State University, USA);

- 13:20 Octuplet of Direction Indicators with Distinct Spatio-temporal Symmetries

Jiri Hlinka (Institute of Physics, Czech Academy of Sciences, Czech Republic);

- 13:40 Full Graphitization of Amorphous Carbon by Microwave Heating with Catalyst

Taewon Kim (Pohang University of Science and Technology (POSTECH), South Korea); Jaegun Lee (Pohang University of Science and Technology (POSTECH), South Korea); Kun-Hong Lee (Pohang University of Science and Technology (POSTECH), South Korea);

- 14:00 Determination of the Parameters of Composites with Magnetic Particles from the Study of the Spectra of Ferromagnetic Resonance in the Microwave Frequency Range

Victor A. Zhuravlev (Tomsk State University, Russia); Vladimir A. Meshcheryakov (Tomsk State University, Russia); Elena P. Lilenko (Tomsk State University, Russia);

- 14:20 Microwave Absorption Properties of Foam Glass Material Modified by Adding Ilmenite Concentrate

Olga V. Kazmina (National Research Tomsk Polytechnic University, Russia); Valentin I. Suslyayev (Tomsk State University, Russia); Maria A. Dushkina (National Research Tomsk Polytechnic University, Russia); Victor A. Zhuravlev (Tomsk State University, Russia); Kirill V. Dorozhkin (Tomsk State University, Russia);

- 14:40 Significantly Improved Absorption Properties at Microwave Bands for Multi-layer Hexaferrite Thick Film Composites

Zheng-Wen Li (National University of Singapore, Singapore); Zhihong Yang (National University of Singapore, Singapore);

- 15:00 Low-frequency Electromagnetic Bands in Metallic Lattices

Kang Wang (CNRS/Universite Paris-Sud, France);

15:20 **Coffee Break**

15:40 Heat Transfer between Anisotropic Nanoparticles
Roberta Incardone (Max-Planck-Institut für Intelligente Systeme, Germany); Matthias Kruger (University of Stuttgart & Max Planck Institute for Intelligent Systems, Germany);

16:00 Nonlinear Optical Phenomena in Iron Oxide Containing Magnetic Nanocolloids
Andrei Prokofiev (St.-Petersburg Polytechnical University, Russia); Victor M. Petrov (St. Petersburg State Polytechnical University, Russia); Ivan Pleshakov (St. Petersburg State Polytechnical University, Russia); Alexander V. Shamrai (St.-Petersburg Polytechnical University, Russia);

16:20 Dielectric Characteristics of As-prepared Carbon Black-epoxy Nanocomposites in Medium Frequency Range
Rahim Jan (National University of Sciences and Technology, Pakistan); Amir Habib (National University of Sciences and Technology, Pakistan); Zafar Mohammad Khan (Institute of Space Technology, Pakistan); Mohammad Bilal Khan (National University of Sciences and Technology, Pakistan);

Session 4P4**Remote Sensing, Radar, Imaging****Thursday PM, July 9, 2015****Room D**

Chaired by Rachid Talhi, Yi-Long Lu

13:00 Effects of Target Reflectivity on the Reflected Laser Pulse for Range Estimation
Sing Yee Chua (Monash University Malaysia, Malaysia); Xin Wang (Monash University Malaysia, Malaysia); Ningqun Guo (Monash University Malaysia, Malaysia); Ching Seong Tan (Multimedia University, Malaysia); Tong Yuen Chai (Universiti Tunku Abdul Rahman, Malaysia);

13:20 From Markovian Jump Processes to Ionospheric Waves Disturbances
Rachid Talhi (University of Tours, France);

13:40 Spatio-temporal Visual Saliency for Adaptive Weather Sensing
David Schwartzman (University of Oklahoma, USA); Tian-You Yu (University of Oklahoma, USA); Sebastian M. Torres (NWS/Oklahoma University, USA);

14:00 Impacts of a Gap-filling Radar in a Mountainous Area: Case of Lobo Overlook, Colorado

Boon Leng Cheong (University of Oklahoma, USA); Pierre E. Kirstetter (University of Oklahoma, USA); T. Y. Yu (University of Oklahoma, USA); J. Busto (Colorado Water Conservation Board, USA); T. Speeze (Colorado Water Conservation Board, USA); J. Dennis (Rio Grande County Emergency Management, USA);

14:20 A Novel Approach to Counter the Low Observable Characteristic of Stealthy Targets by Analyzing the Radar Cross Section

Faran Awais Butt (University of Management and Technology (UMT), Pakistan); Ijaz Haider Naqvi (Syed Babar Ali School of Science and Engineering (SSE), Pakistan); Ali Imram Najam (National Engineering and Scientific Commission (NESCOM), Pakistan);

14:40 Ultra Short and High Voltage Pulse Shaping for Atom Probe Tomography Improvement

Lu Zhao (University of Rouen, France); A. Normand (Universite de Rouen, France); F. Delaroche (Universite de Rouen, France); Blaise Ravelo (Institut de Recherche en Systemes Electroniques Embarques (IRSEEM), France); F. Vurpillot (Universite de Rouen, France);

15:00 An Amplitude Based on Vital Sign Monitoring Using Impulse-radio UWB Radar

Jiwoong Yu (Yonsei University, South Korea); J. Matuzas (Geozondas JSC, Lithuania); Tae-Yun Lee (Yonsei University, Korea); Min-Ho Ka (Yonsei University, Korea Republic);

15:20 **Coffee Break**

15:40 Analysis of Micro-Doppler Characteristics of Human Activity Using Hilbert-Huang Transform Analysis

Ram M. Narayanan (The Pennsylvania State University, USA);

16:00 Measurements and Analysis of the Doppler Signatures of Rotating Targets by the Hilbert Huang Transform

Mickael Bruno (Cranfield University, United Kingdom); Alessio Balleri (Cranfield University, United Kingdom); Clayton Stewart (University College London, United Kingdom);

16:20 Waveform Diversity for Ultra-wideband Ground Penetrating Radar Imaging

Delphine H. N. Marpaung (Nanyang Technological University, Singapore); Yi-Long Lu (Nanyang Technological University, Singapore);

- 16:40 On the Coneigenvalue Decomposition of Sinclair Matrices
Thomas Dallman (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany);
- 17:00 3D Polarimetric Imaging of Complicated Surfaces
Alex J. Yuffa (US Army Research Laboratory, United States); Kristan P. Gurton (US Army Research Laboratory, United States); Gorden Videen (Army Research Laboratory, USA);

Session 4P5a
Power Electronics 2

Thursday PM, July 9, 2015

Room E

Organized by Jiri Lettl

Chaired by Jiri Lettl

- 13:20 Current Control of the Matrix Converter Fed Induction Motor Drive
Jiri Lettl (Czech Technical University in Prague, Czech Republic); Jan Bauer (Czech Technical University in Prague, Czech Republic); Stanislav Fligl (Czech Technical University in Prague, Czech Republic);
- 13:40 Physical Meaning of an Induction Machine Dynamic Model
Stanislav Fligl (Czech Technical University in Prague, Czech Republic); Jan Bauer (Czech Technical University in Prague, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic);
- 14:00 Control Strategy of Grid Connected Converter under Unbalanced Conditions
Jiri Lettl (Czech Technical University in Prague, Czech Republic); Martin Bejvl (Czech Technical University in Prague, Czech Republic); Viktor Valouch (Czech Technical University in Prague, Czech Republic);
- 14:20 Windowing Effect on Electromagnetic Interference and Efficiency at Using Pulse Width Modulation Techniques
Tomas Lelek (University of Pardubice, Czech Republic); Vaclav Lench (University of Pardubice, Czech Republic); Jiri Lettl (Czech Technical University in Prague, Czech Republic); Ondrej Sadilek (University of Pardubice, Czech Republic); Vladimir Schejbal (University of Pardubice, Czech Republic); Petr Sykora (University of Pardubice, Czech Republic);

- 14:40 Analysis of Multi-resonant Circuitin Overloading States
Juraj Koscelnik (University of Zilina, Slovakia); Branislav Dobrucky (University of Zilina, Slovakia); Michal Frivaldsky (University of Zilina, Slovak Republic); Michal Prazenica (University of Zilina, Slovakia);
- 15:00 Mutual Inductance of Two Helical Coils — Theory, Calculation, Verification
Michal Frivaldsky (University of Zilina, Slovak Republic); Pavol Spanik (University of Zilina, Slovak Republic); Marek Piri (University of Zilina, Slovak Republic); Viliam Jaros (University of Zilina, Slovak Republic);

15:20 **Coffee Break**

Session 4P5b
EM Field Based Industrial Technologies

Thursday PM, July 9, 2015

Room E

Organized by Jan Vrba, Jr.

Chaired by Jan Vrba, Jr.

- 15:40 Application of Meta-materials in the Ports of Conveyor Belt Microwave Heating Systems
Alexander V. Brovko (Saratov State Technical University, Russia);
- 16:00 Detection of Wood Decay by Microwaves
Hana Dobsicek Trefna (Chalmers University of Technology, Sweden); Yinan Yu (Chalmers University of Technology, Sweden); Thomas McKelvey (Chalmers University of Technology, Sweden);
- 16:20 Enhance the Protection Capability of Intentional Electromagnetic Interference with Inductive Gas Discharge Tube
Chien-Fu Shih (Chang Gung University, Taiwan); Liann-Be Chang (Chang Gung University, Taiwan); Tung-Wuu Huang (Chang Gung University, Taiwan); Jhang-Hsing Hsieh (Ming Chi University, Taiwan); Ping-Yu Kuei (National Defense University, Taiwan); Chu-Yeh Tien (National Defense University, Taiwan);
- 16:40 Numerical Simulation of Droplet Motion Induced by High Power Electromagnetic Field: Estimation of Errors Induced by Using Phase Field and Level Set Methods
Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);

- 17:00 Visualization of Exposure in Industrial and Medical Applications
Jan Vrba (Czech Technical University in Prague, Czech Republic); Ladislav Oppl (Czech Technical University in Prague, Czech Republic); Jan Vrba, Jr. (Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague, Czech Republic);
- 17:20 Demonstration of Multi-beam Microwave Heating Based on the Wave Confinement of Hexagonal Photonic Crystal Multilayered Cavity
Natesan Yogesh (Shenzhen University, China); Quanguang Yu (Shenzhen University, China); Zhengbiao Ouyang (Shenzhen University, China);
- 14:40 Using Antenna Diversity to Improve Wake-up Range and Probability
Timo Kumberg (University of Freiburg, Germany); R. Tannhauser (University of Freiburg, Germany); L. M. Reindl (University of Freiburg, Germany);
- 15:00 Interference Aware Iterative Receiver Performance for the Uplink of LTE-A
Carlos Reis (Instituto de Telecomunicações, Portugal); Nuno Souto (ISCTE, Portugal); Americo Correia (Instituto de Telecomunicações, Portugal); Mario Marques da Silva (Universidade Autônoma de Lisboa, Portugal);
- 15:20 **Coffee Break**
- 15:40 Physical Layer Security Scheme Based on Power Efficient Multi-antenna Transmitter
Paulo Montezuma (Instituto de Telecomunicações, Portugal); Rui Dinis (ISCTE/Instituto de Telecomunicações, Portugal); Mario Marques da Silva (Universidade Autônoma de Lisboa, Portugal);
- 16:00 Experimental Characterization of In Vivo Radio Channel at MICS and ISM Bands
Aya Fekry Abdelaziz (Cairo University, Egypt); Qammer Hussain Abbasi (Texas A&M University, Qatar); A. Fatih Demir (University of South Florida, USA); Khalid A. Qaraqe (Texas A&M University at Qatar, Qatar); Erchin Serpedin (Texas A&M University, USA); Huseyin Arslan (University of South Florida, USA);
- 16:20 Performance of Ultra-wideband Body-centric Wireless Networks
Zied Bouida (Texas A&M University, Qatar); Marwa Qaraqe (Texas A&M University, USA); Qammer Hussain Abbasi (Texas A&M University, Qatar); Mohamed Abdallah (Texas A&M University, Qatar); Erchin Serpedin (Texas A&M University, USA);
- 16:40 Measurements and Simulations of Electric Fields Emitted from LTE Femtocells inside a Building Office
Hsing-Yi Chen (Yuan Ze University, Taiwan); Shu-Huan Wen (Yuan Ze University, Taiwan);

Session 4P6
RF and Wireless Communication
Thursday PM, July 9, 2015
Room F

 Chaired by Mario Marques da Silva, Hsing-Yi Chen

- 13:00 Design and Implementation of a Reliable Wireless Real-time Home Automation System Based on Arduino Uno Single-board Microcontroller
Iman I. M. Abu Sulayman (Taif University, Kingdom of Saudi Arabia); Sami H. A. Almalki (Taif University, Kingdom of Saudi Arabia); Mohamed S. Soliman (Taif University, Kingdom of Saudi Arabia);
- 13:20 Correlation Characteristics for an Event/Sports Center at 3.2 GHz
Alejandro Aragon-Zavala (Tecnológico de Monterrey, Campus Querétaro, Mexico); Vladan Jevremovic (iB-wave Solutions, Inc., USA); Ali Jemmali (iBwave Solutions, Inc., Canada);
- 13:40 Hidden Markov Models Based Channel Status Prediction for Cognitive Radio Networks
Wojciech Bednarczyk (Military University of Technology, Poland); Piotr Gajewski (Military University of Technology, Poland);
- 14:00 Modified Lowest ID Algorithm for Practical Wireless Clustered Network
Wojciech Bednarczyk (Military University of Technology, Poland); Jerzy Dolowski (Military University of Technology, Poland); Jaroslaw Michalak (Military University of Technology, Poland);
- 14:20 Application of DRTM to Aircraft Landing System
Junichi Honda (Electronic Navigation Research Institute, Japan);

Session 4P7a
Microwave and Millimeter Wave Circuits and Devices, CAD
Thursday PM, July 9, 2015
Room G

 Chaired by Chien-Nan Kuo

- 13:20 Meshing Noise in Parametric Analysis of Passive Components with 3D FEM
Adam Lamecki (Gdansk University of Technology, Poland); L. Balewski (Gdansk University of Technology, Poland); M. Mrozowski (Gdansk University of Technology, Poland);
- 13:40 280 GHz Signal Sensor Design Using Subharmoinc Mixing in 40 nm CMOS Technology
Tzu-Chao Yan (National Chiao-Tung University, Taiwan); Chun-Hsing Li (National Central University, Taiwan); Chien-Nan Kuo (National Chiao-Tung University, Taiwan);
- 14:00 On-Wafer Calibration Technique with Fixed Probe Positions for Production Tests of Radio Frequency Integrated Circuits
Chien-Chang Huang (Yuan Ze University, Taiwan); Wei-Che Lin (Yuan Ze University, Taiwan);
- 14:20 A High-Q Linear CMOS Digitally Controlled Accumulation-mode Varactor Array for Multiband RF Circuits
Sanggil Kim (Chonbuk National University, Korea); Donggu Im (Chonbuk National University, Korea);
- 14:40 A V-band Balanced MMIC Power Amplifier
Sheheera Ismail (The University of Manchester, UK); Shokrollah Karimian (The University of Manchester, UK); Robin Sloan (The University of Manchester, UK);
- 15:20 **Coffee Break**
- 13:20 F/S Ratio Improvement of Directional Bow-tie Antenna with Parasitic Elements
Kazuki Kanai (Aoyama Gakuin University, Japan); Masaki Nagasawa (Aoyama Gakuin University, Japan); Ryosuke Suga (Aoyama Gakuin University, Japan); Takenori Yasuzumi (Toshiba Corporation, Japan); Tomoki Uwano (Aoyama Gakuin University, Japan); Osamu Hashimoto (Aoyama Gakuin University, Japan); Yukihisa Hasegawa (Toshiba Corporation, Japan);
- 13:40 Ultra-wideband Butler Matrix Fed MIMO Antennas
Fanourios E. Fakoukakis (Democritus University of Thrace, Greece); Tzihat Empliouk (Democritus University of Thrace, Greece); Christos I. Kolitidas (Democritus University of Thrace, Greece); Giorgos A. Ioannopoulos (Democritus University of Thrace, Greece); George A. Kyriacou (Democritus University of Thrace, Greece);
- 14:00 CRLH Waveguide Based Ka-band Beam-steering Leaky-wave Antenna for Radar Application
Qingshan Yang (Center for Space Science and Applied Research, Chinese Academy of Sciences, China); Xiaowen Zhao (Center for Space Science and Applied Research, Chinese Academy of Sciences, China); Yunhua Zhang (The Key Laboratory of Microwave Remote Sensing, Chinese Academy of Sciences, China);
- 14:20 Performance Analysis of Directive UWB Antennas as Reflector Feeds
Hazel Kara (Yildiz Technical University, Turkey); Nurhan Turker Tokan (Yildiz Technical University, Turkey);
- 14:40 Comparative Study on Stability of Total Gain and Input Impedance of Side Fed Bifilar Helix Antenna for Large Fixed Size Ground Plane
Muhammad Ahmad (COMSATS Institute of Information Technology, Pakistan); Muhammad Tayyab Azim (Satellite Research and Development Centre, Pakistan); Muhammad Amin (Institute of Space Technology, Pakistan); Usman Ahmed (COMSATS Institute of Information Technology, Pakistan);
- 15:00 Aperture Coupled Microstrip Antenna with Three Resonants
Mohsen Jafari Chashmi (Shahid Beheshti University (SBU), Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran); Hadi Ghobadi (Khaje Nasir Toosi University of Technology (KNTU), Iran); Mahdi Oliaei (K. N. Toosi University of Technology, Iran); Esfandiar Mehrshahi (Shahid Beheshti University, Iran);

Session 4P8

Antenna Theory and Radiation 2

Thursday PM, July 9, 2015

Room H

Chaired by Andrea Francesco Morabito

- 13:00 Optimal Focusing by Means of Convex Programming: A Review
Tommaso Isernia (Mediterranea University of Reggio Calabria, Italy); Domenica A. M. Iero (Università Mediterranea di Reggio Calabria, Italy); Andrea Francesco Morabito (University 'Mediterranea' of Reggio Calabria, Italy);
- 15:20 **Coffee Break**

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- 15:40 Planar Dielectric Lens Antennas as Reflector Feeds
Fikret Tokan (Yildiz Technical University, Turkey);
- 16:00 Design, Simulation, and Fabrication of Low-cost Inkjet Antennas
C. Onol (Middle East Technical University, Turkey); T. Ciftci (Middle East Technical University, Turkey); S. Kucuk (Middle East Technical University, Turkey); B. Karaosmanoglu (Middle East Technical University, Turkey); Ozgur Ergul (Middle East Technical University, Turkey);
- 16:20 Design of Integrated Triple Band Notched for Ultra-wide Band Microstrip Antenna
Yahya Salameh Hassan Khraisat (Al-Balqa' Applied University/Al-Huson University College, Jordan);
- 16:40 Pattern Reconfigurable Antenna Using Non-uniform Serpentine Flexure Based RF-MEMS Switches
Ashish Kumar Sharma (Birla Institute of Technology and Science Pilani, India); Navneet Gupta (Birla Institute of Technology and Science Pilani, India);
- 17:00 Compact Band Notched UWB Filter Based on Open-load Stub
Xuemei Zheng (Harbin Engineering University, China); Yanyan Wang (Harbin Engineering University, China); Tao Jiang (Harbin Engineering University, China);
- 17:20 Metamaterial Inspired Compact Antenna for UWB and GPS Applications
Sanjji N Manjunath (Visvesvarya Technological University, India); G. S. Karthikeya (Visvesvaraya Technological University, India); Bharath Raj (Vishveshwarya Technological University, India); Ullas K (Vishveshwarya Technological University, India); C. Vindhya (Vishveshwarya Technological University, India);
- 17:40 A Low-profile Wideband RFID Tag Antenna Attached to Metallic Surfaces
Yun Jing Zhang (Tongji University, China); Guochun Wan (Tongji University, China); Jian Zhang (Tongji University, China); Mei Song Tong (Tongji University, China);
- 18:00 A Long Range UHF RFID Tag for Metallic Objects
Manoel Vitório Barbin (ICT in Focus — Studies and Projects Co., Brazil); Michel Daoud Yacoub (University of Campinas, Brazil); Silvio Ernesto Barbin (University of Sao Paulo, Brazil);
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	MONDAY AM 8:00 July 6		MONDAY PM 13:00 July 6		TUESDAY AM 8:00 July 7		TUESDAY PM 13:00 July 7	
ROOM A	1A1a - Planar Optics Based on Metasurfaces 1	1A1b - Oral Presentations for Best Student Paper Awards - Metamaterials, Plasmonics	1P1 - Nonlocal and Spatially Dispersive Electromagnetic Media		2A1 - Optimal Antennas		2P1 - Planar Optics based on Metasurfaces 2	
ROOM B	1A2 - THz Metamaterials: Fundamentals and Applications		1P2 - Nanoscale Platforms for Molecular Sensing		2A2 - Optical Properties of Resonant Dielectric and Plasmonic Nanostructures 1		2P2a - Nonlinear Plasmonics	2P2b - Plasmonic Nanolasing
ROOM C	1A3a - Imaging, Inverse Scattering and Remote Sensing 1	1A3b - Oral Presentations for Best Student Paper Awards - -- Remote Sensing, etc.	1P3 - Imaging, Inverse Scattering and Remote Sensing 2		2A3 - Single Photonics: Integrated Optics for On-chip Manipulation of Single Photons		2P3 - Advanced Optofluidics: Optical Control and Photonics in Microfluidics	
ROOM D	1A4 - Numerical Modeling of Ultrashort Laser Pulse Propagation in Transparent Materials: Micro/nanomodification, Part 1		1P4a - Laser Writing of Optical Waveguides and Optical Components in Novel Materials	1P4b - Manipulating Light-matter Interaction by Plasmonics 1	2A4 - Manipulating Light-matter Interaction by Plasmonics 2		2P4 - Scalable and Hierarchical Nanofabrication for Deep Sub-wavelength Nanophotonics	
ROOM E	1A5 - Antennas, Signals, HPEM and EMC Problems 1		1P5a - Antennas, Signals, HPEM and EMC Problems 2	1P5b - Antenna Theory and Radiation 1	2A5 - Ultra-thin Metal-dielectric Structured Surfaces and Thin Films for Antireflection, Light Trapping, and Perfect Absorption 1		2P5a - Light Carrying Orbital Angular Momentum: Theory and Applications	2P5b - Ultra-thin Metal-dielectric Structured Surfaces and Thin Films 2
ROOM F	1A6 - Complex Analysis and Convex Optimization in Electromagnetics		1P6 - Advances in Diffraction Gratings Theories		2A6a - Nonlinear Optical Fibers for Sensing and Signal Processing	2A6b - Ultrafast Fiber Lasers	2P6a - Semiconductor Nanowires: Novel Optical and Electrical Properties	2P6b - Translational and Clinical Research towards Microwave Medical Imaging
ROOM G	1A7 - Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 1		1P7 - Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 2		2A7 - Advanced Mathematical and Computational Methods in Electromagnetic Theory and Their Applications 3		2P7 - Novel Mathematical Methods in Electromagnetics	
ROOM H	1A8 - Model-order Reduction and Uncertainty Quantification		1P8 - Recent Advances of Metamaterials for Novel Electromagnetic and Photonic Devices 1		2A8 - Recent Advances of Metamaterials for Novel Electromagnetic and Photonic Devices 2		2P8a - Luminescent Materials and Devices	2P8b - Microwave Photonics for Wireless Spectrum Management 1

	MONDAY AM 8:00 July 6	MONDAY PM 13:00 July 6	TUESDAY AM 8:00 July 7	TUESDAY PM 13:00 July 7
ROOM I	1A9 - Electromagnetic Field Transformations for Measurements and Simulations	1P9 - Analog & RF Circuits and Systems for Emerging Applications	2A9 - Bioelectromagnetics	2P9 - Time and Frequency Domain Modeling Techniques for Waveguides and Cables
ROOM J	1A10 - Advances in Optical Networking	1P10 - Chiral and Nonlinear Metasurfaces	2A10 - Electromagnetic Scattering by Random Media and Rough Surfaces	2P10a - Wireless Power Transmission and Harvesting 2P10b - Electromagnetic Energy
ROOM K	1A11 - Casimir Effect and Heat Transfer 1	1P11 - Casimir Effect and Heat Transfer 2	2A11 - Casimir Effect and Heat Transfer 3	2P11 - Casimir Effect and Heat Transfer 4
ROOM L	1A12 - Nanophotonics Light-trapping and Photodetection. Parts I and II	1P12 - Design and Simulation of Electromagnetic and Optical Devices	2A12a - Novel Frequency Selective Structures 2A12b - SAR Systems and Technology	2P12 - Small Antenna Design, Analysis and Miniaturization Techniques
ROOM M	1A13 - Solid-state Quantum Photonics 1	1P13a - Solid-state Quantum Photonics 2 1P13b - High-capacity Optical Communication: Systems, Algorithms, Components 1	2A13a - High-capacity Optical Communication: Systems, Algorithms, Components 2 2A13b - Near-field Optics: Light-matter Interaction Inside a Wavelength Volume 1	2P13a - Near-field Optics: Light-matter Interaction Inside a Wavelength Volume 2 2P13b - Technologies for On-chip Optical Networking
ROOM N	1A14 - PT Symmetry, Reciprocity, Nonlinear Phenomena	1P14a - Silicon Photonic Integration and Devices for Optical Communications and Interconnects 1P14b - Nonlinear Optics: Novel Phenomena, Materials and Applications 1	2A14 - Nonlinear Optics: Novel Phenomena, Materials and Applications 2	2P14 - Optical Microcavities and Waveguides 1
ROOM O		1P15a - Oral Presentations for Best Student Paper Awards - -- Optics and Photonics 1P15b - Oral Presentations for Best Student Paper Awards - -- Antennas and Microwave Technologies	2A15a - Oral Presentations for Best Student Paper Awards - -- SC1: CEM, EMC, Scattering & EM Theory	
ROOM Poster Area	1A0 - Poster Session 1	1P0 - Poster Session 2	2A0 - Poster Session 3	2P0 - Poster Session 4

	WEDNESDAY AM 8:00 July 8		WEDNESDAY PM 13:00 July 8		THURSDAY AM 8:00 July 9	THURSDAY PM 13:00 July 9	
ROOM A	3A1 - Thermal and Acoustic Metamaterials				4A1 - Active, Tunable and Nonlinear Metamaterials 2	4P1 - Metamaterials and Plasmonics	
ROOM B	3A2 - Manipulating and Control of Light-matter Interactions with 2D Materials and Meta-Materials		3P2 - Optical Properties of Resonant Dielectric and Plasmonic Nanostructures 2		4A2 - Laser Nanofabrication, Characterization and Physical Properties 2	4P2a - Coherent Optics, Laser Beam, Beam Propagation	4P2b - Optical Fiber, Sensing, Optical Devices
ROOM C	3A3 - Silicon Photonics --- Novel Materials, Hybrid Integration, Sensors and Nonlinear Devices		3P1 - Transformation Optics		4A3 - Extended/Unconventional Electromagnetic Theory, EHD/EMHD, and Electro-biology	4P3 - Plasmas, Composite Media, Waves and Media	
ROOM D	3A4 - Numerical Modeling of Ultrashort Laser Pulse Propagation in Transparent Materials: Micro/nanomodification, Part 2		3P4 - Analysis and Simulation of Waves in Complex Media		4A4 - Advanced Photonic Systems for Datacommunications	4P4 - Remote Sensing, Radar, Imaging	
ROOM E	3A5 - Electromagnetic Models and Applications in Remote Sensing		3P3a - Computational Techniques in Electromagnetics and Applications 2	3P3b - Computational Electromagnetics, Hybrid Methods	4A5 - Power Electronics 1	4P5a - Power Electronics 2	4P5b - EM Field Based Industrial Technologies
ROOM F	3A6 - Fiber Optic Sensors		3P6a - Novel EM Simulation, Components, and Design for the THz Region	3P6b - Microwave Photonics, THz Technology	4A6 - Electromagnetic Probing of Atmosphere and Ionosphere in Arctic Region 1	4P6 - RF and Wireless Communication	
ROOM G	3A7a - Non-reciprocal and Topological Features in Photonic Systems	3A7b - Strong Light-matter Coupling and Strongly Interacting Photons 1	3P7 - Strong Light-matter Coupling and Strongly Interacting Photons 2		4A7 - Applications of EM Field in Biomedical Technique	4P7a - Microwave and Millimeter Wave Circuits and Devices, CAD	
ROOM H	3A8a - Medical Electromagnetics, Biological Effects, Bioimaging	3A8b - Microwave Photonics for Wireless Spectrum Management 2	3P8a - Active, Tunable and Nonlinear Metamaterials 1	3P8b - Nano-photonic Devices for Optical Interconnects and Optical Sensing	4A8 - Microstrip Antennas and Defected Ground Structure (DGS) Filters	4P8 - Antenna Theory and Radiation 2	

	WEDNESDAY AM 8:00 July 8	WEDNESDAY PM 13:00 July 8		THURSDAY AM 8:00 July 9	THURSDAY PM 13:00 July 9	
ROOM I	3A9 - Density Functional Theory and Its Applications to Nanomaterials	3P9a - Applied Electromagnetics for Smart Cities	3P9b - Electromagnetic Modelling Methods for EMC Problems	4A9a - Casimir and Other Quantum Effects		
ROOM J	3A10 - Inverse Scattering Methods and Applications for NDE	3P10a - Scattering, Diffraction, and Inverse Scattering	3P10b - Inverse Scattering, Imaging and Applications	4A10 - Resonators, Filters, Transmission Lines		
ROOM K	3A11 - Computational Techniques in Electromagnetics and Applications 1	3P11 - Optoelectronics and Photonics of Graphene and Two-dimensional Materials				
ROOM L	3A12 - Antenna-Channel Interactions and Wireless Propagation Channels	3P12 - Antennas and RF Devices Based on Superconductors and Other Advanced Materials				
ROOM M	3A13 - Disordered Photonics 1	3P13a - Disordered Photonics 2	3P13b - Laser Nanofabrication, Characterization and Physical Properties 1			
ROOM N	3A14 - Optical Microcavities and Waveguides 2	3P14 - Optical Microcavities and Waveguides 3				
ROOM O		3P5 - Photonic-Electronic Integration for Millimeter and Terahertz Wave Generation, Detection and Applications				
ROOM Poster Area	3A0 - Poster Session 5	3P0 - Poster Session 6				