PIERS 2017 Singapore

Progress In Electromagnetics Research Symposium

Program

November 19–22, 2017
SINGAPORE

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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.

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

PIERS Founding Chair:

Jin Au Kong, MIT, USA

President of The Electromagnetics Academy:

Professor Leung Tsang, University of Michigan, USA

JOURNAL: PROGRESS IN ELECTROMAGNETICS RESEARCH

Progress In Electromagnetics Research (PIER) publishes peer-reviewed original and comprehensive articles on all aspects of electromagnetic theory and applications. This is an open access, on-line journal PIER (E-ISSN 1559-8985). It has been first published as a monograph series on Electromagnetic Waves (ISSN 1070-4698) in 1989. It is freely available to all readers via the Internet.

PIER is a non-profit organization.

WWW.JPIER.ORG

Contact Email: work@jpier.org

Founding Editor in Chief:

Jin Au Kong, MIT, USA

Editors in Chief:

Professor Weng Cho Chew, University of Illinois at Urbana-Champaign, USA
Professor Sailing He, Royal Institute of Technology, SWEDEN; JORCEP, Zhejiang University, CHINA

Progress In Electromagnetics Research Symposium
November 19–22, 2017
SINGAPORE

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Simon Yueh, Jet Propulsion Laboratory

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M. J. Zhang
Q. Zhang
L. J. Zhou

SYMPOSIUM VENUE

The 2017 Progress in Electromagnetics Research Symposium will be held in Singapore during November 19–22, 2017, at Nanyang Technological University (NTU) (Address: 50 Nanyang Ave, Singapore 639798).

REGISTRATION

The PIERS technical sessions will begin at 09:00 on Sunday, November 19, 2017. You may come to register during 15:00-18:00 on Saturday, November 18, 2017, and during 08:00-18:00 on Sunday, November 19, 2017, at the registration counter opposite Admin Building, Nanyang Technological University (NTU). Registration is also available from 08:30 to 17:00 during the symposium, November 20–22, 2017.

The on-site registration fee is USD 690, and the reduced registration fee for a student is USD 450 (a valid student ID is required). Please be reminded that the on-site payments will be collected in Singapore Dollars. If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration counter during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

SPECIAL EVENTS

Symposium Reception

On Sunday evening, November 19, 2017, all conference participants are invited to a welcome reception at Sky Deck, Level 2 of North Spine. The reception tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception by November 1.

Symposium Banquet

On Tuesday evening, November 21, 2017, symposium banquet is planned for PIERS participants and their guests. A limited number of banquet tickets will be available. For all participants, the price is USD 80 per person. Please make reservation and pay by credit card (USD) in advance for the banquet by November 1.

PIERS ONLINE

Information on PIERS 2017 Singapore 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 half day before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the 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 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.
- **NO picture request:**
  When such a request is made by the presenter, the session chair and session helpers will do their best to ensure that no pictures will be taken at the presentation.

Poster Presentations

Presenters should 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 9:00–13:00 and 14:00–18:00, and all presenters are suggested to be present at least during 11:00–11:20 and 16:00–16:20.

One panel area of $23.4''$ (W) $\times$ $33.1''$ (H) or 594 mm (W) $\times$ 841 mm (H) 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 Singapore Dollar (SGD) and the exchange rate is 1 USD for about 1.4 SGD. Credit cards and cash are acceptable for payments. International credit cards are acceptable in most shops, restaurants etc..

TAX AND TIP

Please do not tip a waiter/waitress or a taxi driver and other persons who provide regular service. All advertised merchandise prices normally include tax.

TAXI

Usually, a taxi is available along the roadsides (while you wave for it) or right in front of a hotel. You may also call to book a taxi: (65) 6552 1111, 6555 3333, 6555 8888 or use taxi/uber booking apps.

BUSINESS OPENING HOURS

- **Post Office**
  Opening hours: usually 08:30 – 17:00, from Monday to Friday.
- **Bank**
  Opening hours: usually 09:00 – 16:00, from Monday to Friday.
- **Store**
  Opening hours: usually 10:00 – 21:00, from Monday to Sunday. There are 24 h service shops also.
- **Public Transportation**
  Operating hours: generally 05:30 – 23:30

ELECTRICITY

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

EMERGENCY CONTACT

Police: 999. Ambulance/Fire: 995

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- IEEE Geoscience and Remote Sensing Society
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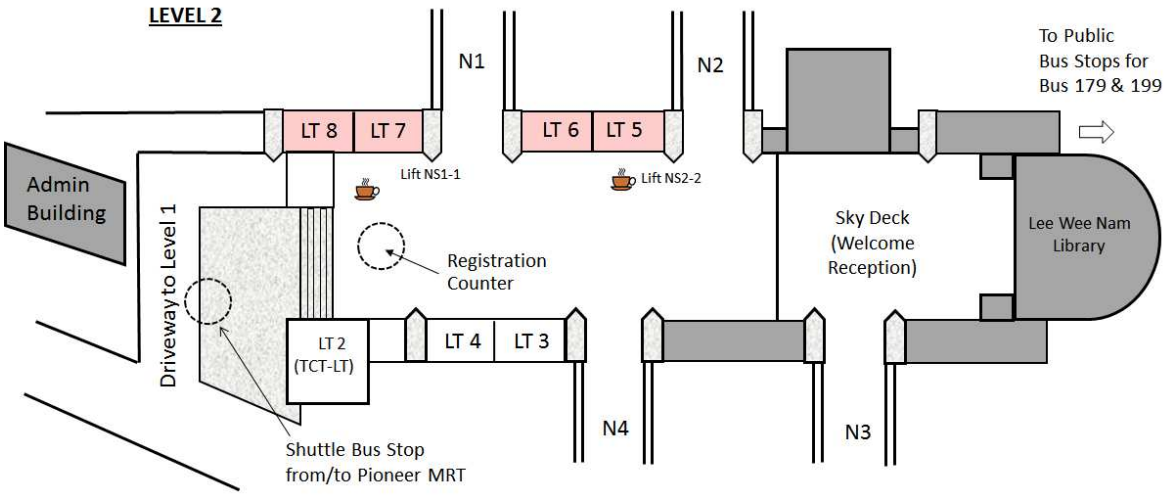
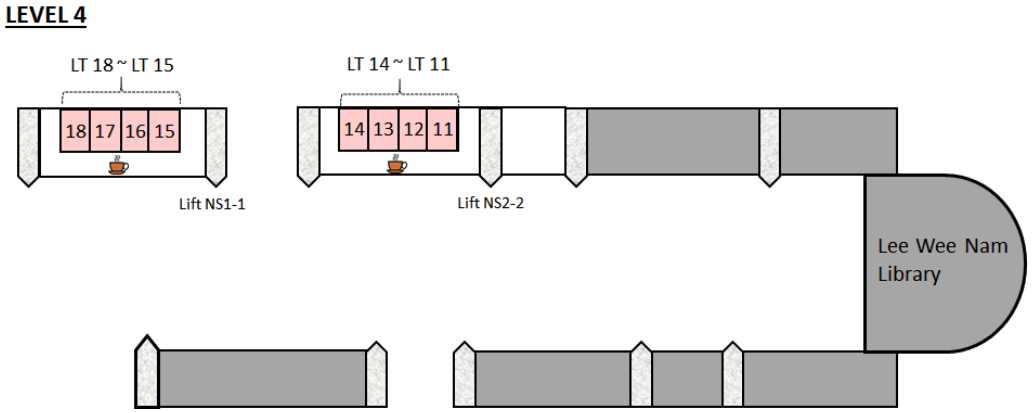
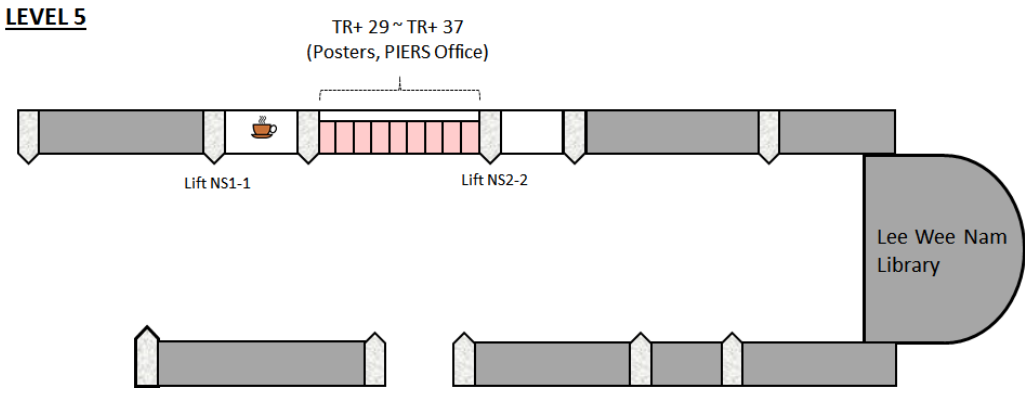
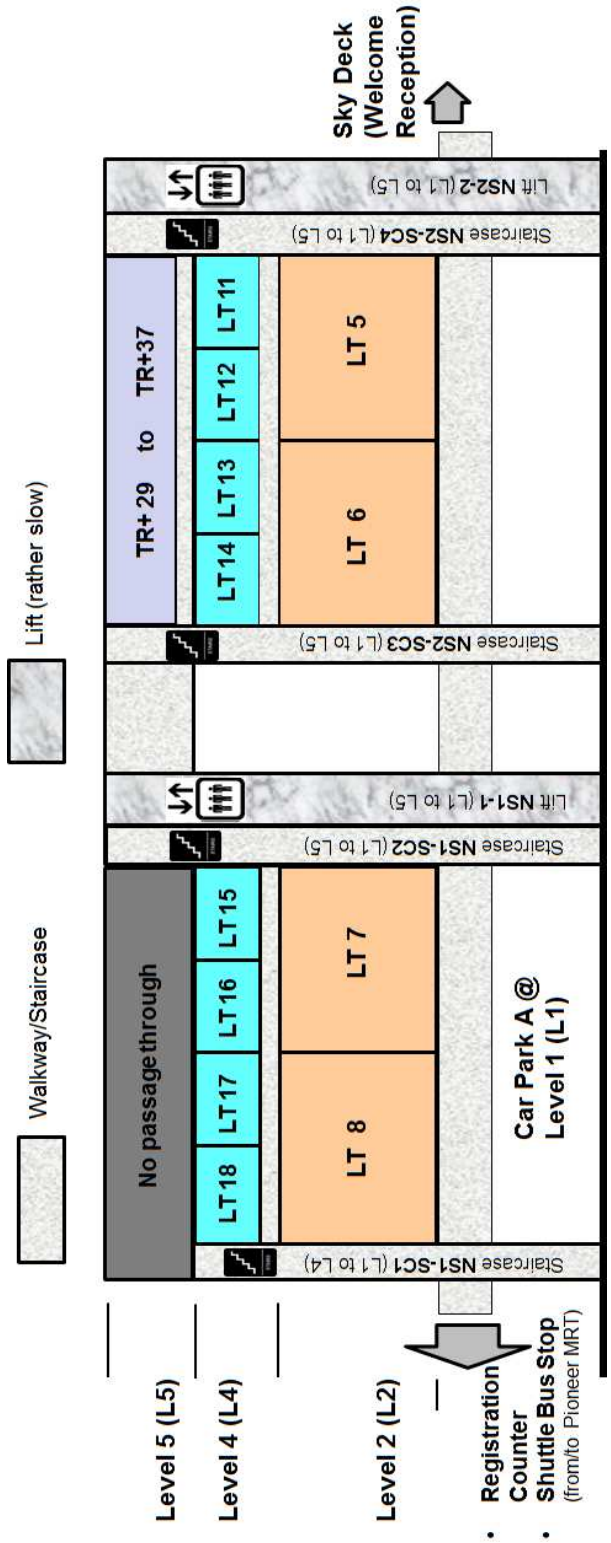
- The Electromagnetics Academy

MAP OF CONFERENCE SITE

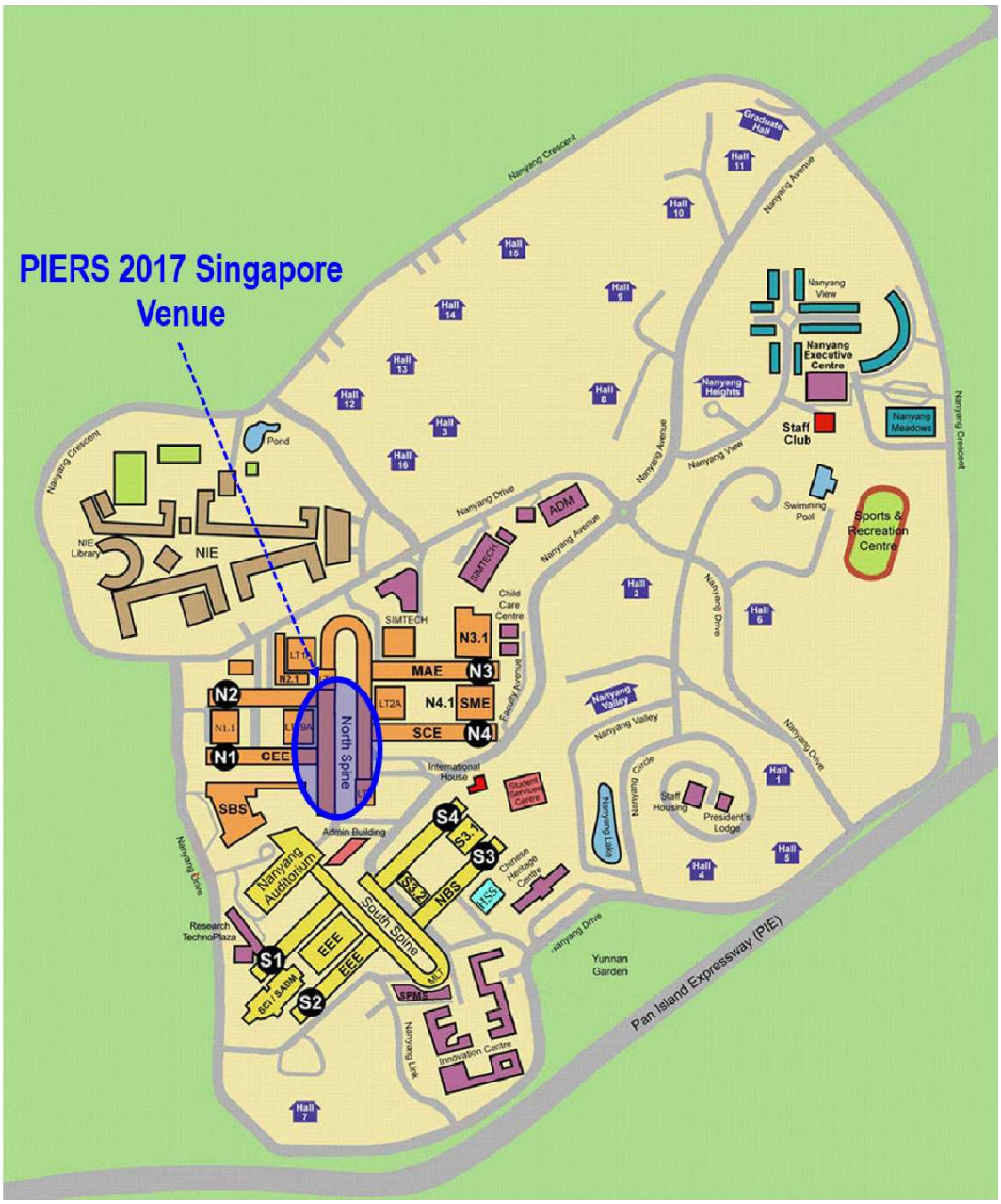







Sky Deck (Welcome Reception)
Lift NS2-2 (L1 to L5)
Staircase NS2-SC4 (L1 to L5)
TR+ 29 to TR+37
LT 14
LT 13
LT 12
LT 11
LT 6
LT 5
Staircase NS2-SC3 (L1 to L5)
Lift NS1-1 (L1 to L5)
Staircase NS1-SC2 (L1 to L5)
Lift (rather slow)
Walkway/Staircase
No passage through
LT 18
LT 17
LT 16
LT 15
LT 8
LT 7
Car Park A @ Level 1 (L1)
Staircase NS1-SC1 (L1 to L4)
Level 5 (L5)
Level 4 (L4)
Level 2 (L2)
Registration Counter
Shuttle Bus Stop (from/to Pioneer MRT)

NTU CAMPUS MAP



http://maps.ntu.edu.sg/maps

ARRIVAL GUIDE

Directions from Hotel to NTU Conference Site

Conference site address: NTU, 50 Nanyang Ave, Singapore 639798

1. From Nanyang Executive Centre (NEC) to Conference Site

   - Directions by foot only
     - Walk from NEC directly to conference site (refer to NTU Campus Map).
   - Directions by shuttle bus
     - Walk 5 min from NEC to Canteen 2 (Food Court 2) bus stop
     - Take free NTU shuttle bus Campus Rider and alight at TCT LT (opposite NTU Admin building).

2. From Genting Hotel Jurong to NTU Conference Site

   - Directions by taxi
     - It is 9 km from Genting Hotel Jurong to NTU conference site and takes about 11 min (if no traffic)
     - You may tell the taxi driver "NTU Admin Building" (opposite PIERS registration counter)
     - Or, you may give the postal code or complete address above.
   - Directions by MRT train (about 30 minutes)
     - Walk 5 min from Genting Hotel Jurong to Jurong East MRT Station
     - Take train to Pioneer MRT Station
     - From Pioneer MRT station, turn right via Exit B, walk down the stairs to bus stop (number 22529)
     - Take free NTU shuttle bus Campus Rider and alight at TCT LT (opposite NTU Admin building).

Directions from Airport to Hotel

1. From Changi airport to Nanyang Executive Centre (NEC)
   Address: 60 Nanyang View, Singapore 639673. Tel: (65) 67906699 / 67906697

   - Directions by taxi
     - It is 42 km from Changi airport to Nanyang Executive Center, and takes about 45 minutes.
   - Directions by MRT train (about 1 hour 40 minutes)
     - Take train to Tanah Merah MRT Station
     - Transfer to west bound train and alight at Pioneer MRT Station
     - From Pioneer MRT station, turn right via Exit B, walk down the stairs to bus stop (number 22529)
     - Take free NTU shuttle bus Campus Rider, alight at Canteen 2 (Food Court 2) bus stop
     - Walk 5 min from Canteen 2 (Food Court 2) bus stop to NEC
     - Alternatively from Pioneer MRT station, take taxi directly to NEC.

2. From Changi airport to Genting Hotel Jurong
   Address: 2 Town Hall Link, Singapore 608516. Tel: (65) 65778888

   - Directions by taxi
     - It is 35 km from Changi airport to Genting Hotel Jurong, and takes about 35 minutes.
   - Directions by MRT train (about 1 hour 15 minutes)
     - Take train to Tanah Merah MRT Station
     - Transfer to west bound train and alight at Jurong East MRT Station
     - Proceed to Exit E. The hotel is just 5-minute walk away.

PIERS 2017 SINGAPORE TECHNICAL PROGRAM

Session 0A1
FocusSession.SC3: Advanced Materials and Devices for Optical and Mechanical Applications 1

Sunday AM, November 19, 2017

Room LT5

Organized by Atsushi Shishido, Marina Grenzer

Chaired by Marina Grenzer, Atsushi Shishido

09:00 Invited — Light-melt Adhesive Based on a Columnar Liquid Crystal
Shohei Saito (*Kyoto University*);

09:20 Invited — Light-direct Movement of Liquid Crystal and Polymer Composite Materials
Haifeng Yu (*Peking University*);

09:40 Invited — Photoinduced Solid-liquid Phase Transition and Crawling Motion of Azobenzene Crystals on a Glass Surface
Yasuo Norikane (*National Institute of Advanced Industrial Science and Technology (AIST)*);

10:00 Invited — Amphiphilic P4VP-*b*-PMA(Az) Block Copolymer Films Bearing High Aspect Ratio Cylindrical Domains
Aihua Chen (*Beihang University*);

10:20 Invited — Biomimetic, Self-regulating Liquid-crystal Elastomer Photoactuators
Owies M. Wani (*Tampere University of Technology*); *Hao Zeng* (*Tampere University of Technology*); *Arri Priimagi* (*Tampere University of Technology*);

10:40 Invited — Photoinduced Molecular Alignment Control for Photonic and Mechanical Applications
Atsushi Shishido (*Tokyo Institute of Technology*);

11:00 **Coffee Break**

11:20 Keynote — Laser Induced Lattice Distortion of Blue Phase Liquid Crystal for High Efficiency and High Resolution Real Time and Storage Holography
Iam-Choon Khoo (*Pennsylvania State University*); *Tsung-Jui Ho* (*Pennsylvania State University*); *Chun-Wei Chen* (*Pennsylvania State University*);

11:50 Invited — Giant Photomechanical Stress in Glassy Azobenzene-containing Materials
Vladimir Toshchevikov (*Leibniz Institute of Polymer Research, Theory of Polymers*); *Jaroslav Ilnytskyi* (*Institute for Condensed Matter Physics, National Academy of Sciences of Ukraine*); *Marina Grenzer* (*Leibniz-Institut für Polymerforschung Dresden*);

12:10 Invited — Liquid Crystal and Polymer Technologies for Optoelectronic Tunable and Switching Devices
Rita Asquini (*University of Rome La Sapienza*); *Luca Civita* (*University of Rome La Sapienza*); *Luca Martini* (*University of Rome La Sapienza*); *Mauro Di Domenico* (*Sapienza University of Rome*); *Antonio d'Alessandro* (*University of Rome La Sapienza*);

12:30 — Photo-induced Bending Behavior of Post-crosslinked Liquid Crystalline Polymer/Polyurethane Blend Films
Xinlei Pang (*Fudan University*); *Bo Xu* (*Fudan University*); *Xin Qing* (*Fudan University*); *Jia Wei* (*Fudan University*); *Yanlei Yu* (*Fudan University*);

12:45 — High Voltage GaN-based Power Devices on Free-standing Wafer
Xinke Liu (*Shenzhen University*); *Ke Xu* (*Suzhou Institute of Nano-Tech and Nano-Bionics (SINANO), CAS*); *Jin-Ping Ao* (*Tokushima University*);

Session 0A2
FocusSession.SC3: Liquid Crystal Photonics 1

Sunday AM, November 19, 2017

Room LT6

Organized by Tsung-Hsien Lin, Yan-Qing Lu

Chaired by Tsung-Hsien Lin, Yan-Qing Lu

09:00 Keynote — Control of Haze Value Using a Liquid Crystal Phase Grating Device for Window Display Applications
Tae-Hoon Yoon (*Pusan National University*); *Tae-Hoon Choi* (*Pusan National University*);

09:30 Free-space, 1000's-period, Tunable 1D Photonic Crystal for Femtoseconds-milliseconds Photonics
Invited
Chun-Wei Chen (*Pennsylvania State University*); *Iam-Choon Khoo* (*Pennsylvania State University*); *Tsung-Hsien Lin* (*National Sun Yat-Sen University*);

09:50 Composite Colloidal Liquid Crystals
Invited
Julian Evans (*Zhejiang University*); *Chenxi Li* (*Zhejiang University*); *Tingbiao Guo* (*Zhejiang University*); *Sailing He* (*Zhejiang University*);

10:10 External-voltage-free Dielectrophoresis Effect on Liquid Crystal Microdroplets
Invited
Sheng-Kuang Wu (*National Cheng Kung University*); *Ting-Shan Mo* (*Kun Shan University of Technology*); *Jia-De Lin* (*National Cheng Kung University*); *Chia-Rong Lee* (*National Cheng Kung University*);

10:30 Optical Peoperties of Choresteric Liquid Crystal and Application for THz Photonics Therein
Invited
Chao-Kuei Lee (*National Sun-Yat-Sen University*); *Chun-Ta Wang* (*National Sun Yat-sen University*); *Tsung-Hsien Lin* (*National Sun Yat-Sen University*);

11:00 **Coffee Break**

11:20 A Tunable Liquid Crystal Lens with a Spatially-distributed Permittivity Layer
Invited
Hung-Chun Lin (*National Chiao Tung University*); *Hao-Ren Lo* (*National Chiao Tung University*); *Yi-Hsin Lin* (*National Chiao Tung University*);

11:40 Control of Orientation and Structures of Liquid Crystals through a Photodynamically Reconfigurable Azodendrimer
Invited
Satoshi Aya (*RIKEN Center for Emergent Matter Science (CEMS)*); *Osamu Haba* (*Yamagata University*); *Koichiro Yonetake* (*Yamagata University*); *Fumito Araoka* (*RIKEN Center for Emergent Matter Science (CEMS)*);

12:00 Optically Driven Broadband Mid-infrared Polarization Rotator Based on TNLCs
Invited
Shen-Ping Chiang (*National Sun Yat-sen University*); *Chun-Ta Wang* (*National Sun Yat-sen University*); *Jui-Yu Lai* (*National Tsing Hua University*); *Hung-Chang Jau* (*National Sun Yat-sen University*); *Shang-Da Yang* (*National Tsing Hua University*); *Tsung-Hsien Lin* (*National Sun Yat-Sen University*);

12:20 Photo-aligned Semiconducting Nano Rods in Liquid Crystal Polymers for Display and Photonic Application
Invited
Abhishek Kumar Srivastava (*Hong Kong University of Science and Technology*);

12:40 Theoretical Analysis and Experimental Demonstration on the Power Stability of Non-mechanical Beam Steering Using Liquid Crystal Spatial Light Modulator
Invited
Xiangru Wang (*University of Electronic Science and Technology of China*); *Ziqiang Huang* (*University of Electronic Science and Technology of China*); *Qinggui Tan* (*National Key Laboratory of Science and Technology on Space Microwave*); *Qi Qiu* (*University of Electronic Science and Technology of China*);

Session 0A3
SC2: Microwave and THz Plasmonic Metamaterials 1

Sunday AM, November 19, 2017

Room LT7

Organized by Baile Zhang, Ranjan Singh

Chaired by Baile Zhang

09:00 Embedding Grayscale Images into Terahertz Metasurfaces
Invited
Ashish Chanana (*University of Utah*); *Andrew Paulsen* (*University of Utah*); *Ajay Nahata* (*University of Utah*);

09:20 Three-dimensional Metamaterials from Terahertz to Visible Frequencies
Invited
Junsuk Rho (*Pohang University of Science and Technology (POSTECH)*);

09:40 All-dielectric Metasurfaces for Terahertz Absorption
Invited
Ilya V. Shadrivov (*Australian National University*); *Michael A. Cole* (*The Australian National University*); *David A. Powell* (*Australian National University*); *Xinyu Liu* (*Duke University*); *Kebin Fan* (*Duke University*); *Willie J. Padilla* (*Duke University*);

10:00 Tune the Polarization of Terahertz Waves Using Subwavelength Metallic Gratings
Invited
Ren-Hao Fan (*Nanjing University*); *Ru-Wen Peng* (*Nanjing University*); *Mu Wang* (*Nanjing University*);

10:20 Recent Advances in Electrodynamics in Fractional Dimensions: Theory and Applications
Invited
Muhammad Zubair (*Singapore University of Technology and Design (SUTD)*); *Ricky L. K. Ang* (*Singapore University of Technology and Design*);

11:00 **Coffee Break**

11:20 Realization of Complementary Medium Using Photonic Crystals
Tao Xu (*Soochow University*); *Zhi Hong Hang* (*Soochow University*);

11:40 Surface-wave Photonic Crystals
Zhen Gao (*Nanyang Technological University*); *Zhaoju Yang* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*);

12:00 Terahertz Wave Propagation at Near-zero Refractive Regimes of Bi-layer Metamaterial
Ramalingam Meena (*University of Madras (Guindy Campus)*); *C. Venkateswaran* (*University of Madras (Guindy Campus)*); *Natesan Yogesh* (*University of Madras (Guindy Campus)*);

12:20 Ultra-thin Metasurface Microwave Flat Lens
Invited
Abul K. Azad (*MPA-CINT, Los Alamos National Laboratory*); *Hou-Tong Chen* (*Los Alamos National Laboratory*); *Antoinette J. Taylor* (*MPA-CINT, Los Alamos National Laboratory*);

Session 0A4
High-performance Antennas for Millimeter-wave and THz Applications

Sunday AM, November 19, 2017

Room LT8

Organized by Sanming Hu, Hong Fu Meng

Chaired by Sanming Hu, Hong Fu Meng

09:00 A Wideband Substrate Integrated Planar Array Antenna with Flat-top Beam Pattern
Teng Li (*Southeast University*); *Wen-Bin Dou* (*Southeast University*);

09:20 A 94 GHz Planar Horn Array with Specific Pattern for Evaluation of Probe-fed Antenna Measurement Setup
Shang Cheng Kong (*Southeast University*); *Sanming Hu* (*Southeast University*);

09:40 Millimeter-wave Planar Folded Reflectarray for 5G Communication and Power Combination
Yizhu Shen (*Southeast University*); *Jiawei Yang* (*Southeast University*); *Wen-Bin Dou* (*Southeast University*); *Sanming Hu* (*Southeast University*);

10:00 Covered Rhomb Antenna Based on Reduced Losses
Jinjing Ren (*University of Ulm*); *Wolfgang Menzel* (*University of Ulm*);

10:20 High-performance Reflector Antenna in Terahertz Band
Hong Fu Meng (*Southeast University*); *Sanming Hu* (*Southeast University*); *Wen-Bin Dou* (*Southeast University*);

11:00 **Coffee Break**

11:20 Low Profile Oversized Rectangular Waveguide Planar Antenna Fed with Quasi-TEM Wave in Ka Band
Tian-Ling Zhang (*Xidian University*); *Lei Chen* (*Xidian University*); *Chao Guo* (*Xidian University*); *Zhaoming Zhang* (*Xidian University*);

11:40 Bandpass Frequency Selective Surface Based on Back-to-Back Cascaded Patch Resonator
Yan Li (*Beijing Institute of Technology*); *Cheng Jin* (*Beijing Institute of Technology*); *Yunjie Li* (*Beijing Institute of Technology*); *Yuming Wu* (*Beijing Institute of Technology*); *Meiguo Gao* (*Beijing Institute of Technology*);

12:00 An Novel Ultra-thin Triple-band Polarization-insensitive Compact Metamaterial Absorber
Ping Gao (*Southeast University*); *Wen-Bin Dou* (*Southeast University*); *Lu Ye* (*Southeast University*);

Session 0A5
Plasmonic Nanophotonics 1

Sunday AM, November 19, 2017

Room LT11

Organized by Yung-Chiang Lan, Din Ping Tsai

Chaired by Din Ping Tsai, Yung-Chiang Lan

09:00 Optical Force Densities and Curvature Induced Electrostatic Forces of Nanoparticle Systems
Invited
Kun Ding (*The Hong Kong University of Science and Technology*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*);

09:20 Coherent Information Processing on Metasurfaces at 40 Gbit/s and Beyond
Invited
Eric Plum (*University of Southampton*); *Maria Papaioannou* (*University of Southampton*); *Angelos Xomalis* (*University of Southampton*); *Artemios Karvounis* (*University of Southampton*); *Venkatram Nalla* (*Nanyang Technological University*); *Iosif Demirtzioglou* (*University of Southampton*); *Yongmin Jung* (*University of Southampton*); *Kevin Francis MacDonald* (*University of Southampton*); *Cosimo Lacava* (*University of Southampton*); *Periklis Petropoulos* (*University of Southampton*); *David J. Richardson* (*University of Southampton*); *Nikolay I. Zheludev* (*University of Southampton*);

09:40 Manipulating Coupling Coefficients and Simulating Massless Dirac Fermion in Plasmonic Waveguide Array
Invited
B. B. Xu (*Nanjing University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

10:00 Not-so-extraordinary Transmission through an Array
Invited of Nano-holes in a Metal Film
Davide Piccinotti (*University of Southampton*); *Behrad Gholipour* (*University of Southampton*); *Jin Yao* (*University of Southampton*); *Kevin Francis MacDonald* (*University of Southampton*); *Brian E. Hayden* (*University of Southampton*); *Nikolay I. Zheludev* (*University of Southampton*);

10:20 On Pure Magnetic Resonances in Plasmonic Systems
Invited
Chen Yan (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *X. Wang* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *T. V. Raziman* (*Swiss Federal Institute of Technology Lausanne (EPFL)*); *Olivier J. F. Martin* (*Swiss Federal Institute of Technology Lausanne (EPFL)*);

10:40 Subwavelength Color Printing with Plasmonic and
Invited All-dielectric Nanoantennas
Junichi Takahara (*Osaka University*); *Yusuke Nagasaki* (*Osaka University*); *Masashi Suzuki* (*Osaka University*);

11:00 **Coffee Break**

11:20 Dispersion in Metasurfaces: Challenges or Benefits
Invited
Yang Li (*National University of Singapore*); *Xiangang Luo* (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Minghui Hong* (*National University of Singapore*);

11:40 New Approaches to Tip-enhanced Raman Spec-
Invited troscopy
Ryo Kato (*Osaka University*); *Takayuki Umakoshi* (*Osaka University*); *Prabhat Verma* (*Osaka University*);

12:00 High-NA Silicon Nitride Metalens for Unpolarized
Invited Visible Light
Zhi-Bin Fan (*Sun Yat-Sen University*); *Zeng-Kai Shao* (*Sun Yat-sen University*); *Ming-Yuan Xie* (*Sun Yat-Sen University*); *Fu Li Zhao* (*Sun Yat-sen University*); *Yujie Chen* (*Sun Yat-sen University*); *Siyuan Yu* (*Sun Yat-sen University*); *Jian-Wen Dong* (*Sun Yat-Sen University*);

12:20 Fabrication of Al Nanowires Based on Anodic Porous
Invited Alumina and Its Plasmonic Properties
Toshiaki Kondo (*Tokyo Metropolitan University*); *Takashi Yanagishita* (*Tokyo Metropolitan University*); *Hideki Masuda* (*Tokyo Metropolitan University*);

Session 0A6
Resonators, Filters, Interconnects, Packaging, MMIC

Sunday AM, November 19, 2017

Room LT12

Chaired by Boping Wu

09:00 Applications of THz Band Gyrotrons at IAP RAS: Current State and Prospects
Alexander I. Tsvetkov (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Grigory G. Denisov* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Anton S. Sedov* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Andrey P. Fokin* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Mikhail Yu Glyavin* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Maxim A. Koshelev* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Alexander V. Vodopyanov* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*);

09:20 Development of THz Gyrotron with Improved Parameters in IAP RAS
Mikhail Yu Glyavin (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Andrey N. Kuftin* (*Institute of Applied Physics RAS*); *Vladimir N. Manuilov* (*Institute of Applied Physics RAS*); *Anton S. Sedov* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*); *Vladimir E. Zapevalov* (*Institute of Applied Physics RAS*); *Alexander I. Tsvetkov* (*Federal State Budgetary Scientific Institution "Federal Research Center The Institute of Applied Physics of the Russian Academy of Sciences"*);

09:40 Analysis of Propagation Delay for Bundled SWCNT and Bundled MWCNT in Global VLSI Interconnects
Manoj Kumar Majumder (*International Institute of Information Technology*);

10:00 Broadband Asymmetric High Isolation Directional Coupler Using Quadrature Mode Suppression
Debapratim Ghosh (*Indian Institute of Technology Bombay*); *Girish Kumar* (*Indian Institute of Technology Bombay*);

10:20 Improved Bandwidth Four Branch Microstrip Coupler Using Lumped and Distributed Elements
Debapratim Ghosh (*Indian Institute of Technology Bombay*); *Vinay B. Narayane* (*Indian Institute of Technology Bombay*); *Girish Kumar* (*Indian Institute of Technology Bombay*);

11:00 **Coffee Break**

11:20 Package Passive Equalizer Design for High Speed Compensation on SerDes Interface
Boping Wu (*Intel Corporation*);

11:40 Crosstalk-centric Designing Using Graphene Based Multi-line Bus Architecture
Manoj Kumar Majumder (*International Institute of Information Technology*); *Brajesh Kumar Kaushik* (*Indian Institute of Technology Roorkee*);

12:00 Investigation of a Compact Mesoband High Power Microwave Source
Yuwei Wang (*National University of Defense Technology*); *Dongqun Chen* (*National University of Defense Technology*); *Jiande Zhang* (*National University of Defense Technology*); *Jin-Chuan Ju* (*National University of Defense Technology*); *Xingjun Ge* (*National University of Defense Technology*); *Lishan Zhao* (*National University of Defense Technology*);

12:20 Overview of X-band Relativistic Triaxial Klystron Amplifier Research at the National University of Defense Technology
Jin-Chuan Ju (*National University of Defense Technology*); *Wei Zhang* (*National University of Defense Technology*); *Xingjun Ge* (*National University of Defense Technology*); *Yuwei Wang* (*National University of Defense Technology*); *Lishan Zhao* (*National University of Defense Technology*); *Jun Zhang* (*National University of Defense Technology*);

Session 0A7
SC5: Theoretical Models and Applications in Microwave Remote Sensing

Sunday AM, November 19, 2017

Room LT13

Organized by Hong Tat Ewe, Hean-Teik Chuah

Chaired by Hong Tat Ewe

09:00 PolSAR Image Classification Using Generalized Scattering Models
Himanshu Maurya (*Indian Institute of Technology Roorkee*); *Rajib Kumar Panigrahi* (*Indian Institute of Technology Roorkee*);

09:20 Development of an Empirical Model for Microwave Backscatters of Rough Sea Surfaces
Taekyeong Jin (*Hongik University*); *Sin-Myoung Park* (*Hongik University*); *Yisok Oh* (*Hongik University*);

09:40 Wave Measurement with S Band Doppler Radar in China
Zezong Chen (*Wuhan University*); *Fei Xie* (*Wuhan University*); *Chen Zhao* (*Wuhan University*); *Peixian Chen* (*Wuhan University*);

10:00 A Study on Leaf Area Index and SAR Image of Oil Palm with Entropy Decomposition and Deep Learning Classification
Chia Ming Toh (*Universiti Tunku Abdul Rahman*); *Hong Tat Ewe* (*Universiti Tunku Abdul Rahman*); *S. H. Tey* (*Applied Agriculture Resources Shd. Bhd. (AARSB)*); *Y. H. Tay* (*Universiti Tunku Abdul Rahman*);

10:20 Computationally Fast and Efficient Model-based Decomposition Method for PolSAR Data Interpretation
Himanshu Maurya (*Indian Institute of Technology Roorkee*); *Rajib Kumar Panigrahi* (*Indian Institute of Technology Roorkee*);

11:00 **Coffee Break**

11:20 An Efficient Analytical-numerical Algorithm for Computation of Scattering from a PEC Object Buried under Rough Surface
Li-Xin Guo (*Xidian University*); *Hong-Jie He* (*Xidian University*);

11:40 DMRT Models of Multiple Scattering for Co-/Cross-polarized Radar Backscatter for Multi Terrestrial Snowpacks from Small to Large SWE at X- and Ku-bands
Weihui Gu (*University of Michigan*); *Shurun Tan* (*University of Michigan*); *Jiyue Zhu* (*University of Michigan*); *Leung Tsang* (*University of Michigan*);

12:00 Scattering of Lossy Dielectric Surfaces in Full Wave Simulation of Maxwell's Equations with Dense Grid and Neighborhood Impedance Boundary Conditions
Tai Qiao (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Shurun Tan* (*University of Michigan*);

12:20 The Effect of Charged Particles on Radar Remote Sensing in Sand/Dust Storm
Jun Zhou (*Lanzhou University*); *Xuqiang Dou* (*Lanzhou University*); *Li Xie* (*Lanzhou University*);

Session 0A8
SC5: SAR Scattering and Imaging

Sunday AM, November 19, 2017

Room LT14

Organized by Kun-Shan Chen

Chaired by Kun-Shan Chen

09:00 Simulation of SAR Imaging: A Full-wave Approach
Chiung-Shen Ku (*Institute of Remote Sensing and Digital Earth, CAS*); *Kun-Shan Chen* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Science*); *Pao-Chi Chang* (*National Central University*); *Yang-Lang Chang* (*National Taipei University of Technology*);

09:20 An Iterative Refined Filter for SAR Interferometric Noise
Tingting Li (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Kun-Shan Chen* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

09:40 Moon-based Synthetic Aperture Radar Imaging by Mutual Coherence Function
Zhen Xu (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Science*); *Rui Jiang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Kun-Shan Chen* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Huadong Guo* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

10:00 Geometrical Characteristics Based Building Height Extraction from VHR SAR Imagery
Jinxing Chen (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Bo Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Fan Wu* (*Institute of Remote Sensing and Digital Earth, CAS*);

10:20 Classification of Chinese GaoFen-3 Fully-polarimetric SAR Images: Initial Results
Lu Xu (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*);

11:00 **Coffee Break**

11:20 Building Area Extraction Using Chinese Gaofen-3 SAR Image with the Support of TanDEM-X DEM and SRTM
Han Cao (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Lu Xu* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*);

11:40 Frequency Dispersive FDTD Analysis of Digital Pulse Radiation toward the Fetus in Pregnant Woman
Tuya Wuren (*Kurume National College of Technology*); *K. Yoshimura* (*Hiroshima University*); *Masafumi Fujii* (*University of Toyama*);

12:00 Gaofen-3 Sea Ice Detection Based on Deep Learning
Jinxin Li (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Shigang Wang* (*Jilin University*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*); *Yuanyuan Wang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

12:20 SAR Image Change Detection Method Based on Shearlet Transform
Yan Zhang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Shigang Wang* (*Jilin University*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Fan Wu* (*Institute of Remote Sensing and Digital Earth, CAS*); *Meng Liu* (*Center for Earth Observation and Digital Earth, CAS*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*); *Yuanyuan Wang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

12:40 Impact of Rotation on the Polarimetric Signature of the Double Bounces and Alternatives
Laetitia Thirion-Lefevre (*SONDRA/SUPELEC*); *Regis Guinvarc'h* (*Centrale Supelec*); *D. K. Atwood* (*Michigan Tech Research Institute*);

Session 0A9
Advanced Numerical Techniques in Computational Electromagnetics

Sunday AM, November 19, 2017

Room LT15

Organized by Mei Song Tong

Chaired by Mei Song Tong

09:00 Low-frequency Breakdown of the Potential Integral Equations and Its Remedy
Ugur Meric Gur (*Middle East Technical University*); *Ozgur Ergul* (*Middle East Technical University*);

09:20 A Direct Multi-scale Integral Formulation of Computational Electromagnetics
Derek Y. C. Chan (*University of Melbourne*); *Evert Klaseboer* (*Institute of High Performance Computing*); *Qiang Sun* (*University of Melbourne*);

09:40 Scattering of Pulses in the Time Domain Using Surface Integral and Fourier Transform Methods
Evert Klaseboer (*Institute of High Performance Computing*); *Qiang Sun* (*University of Melbourne*); *Derek Y. C. Chan* (*University of Melbourne*);

10:00 A Two-dimensional Leapfrog Node-based Radial Point Interpolation Meshless Method for Modeling Nonmagnetized Plasma
Junfeng Wang (*University of Electronic Science and Technology of China*); *Zhizhang (David) Chen* (*Dalhousie University*); *Yang Wu* (*University of Electronic Science and Technology of China*); *Jinyan Li* (*University of Electronic Science and Technology of China*); *Huapeng Zhao* (*University of Electronic Science and Technology of China*);

10:20 A Novel Algorithm for Electromagnetic Problems in Time and Frequency Domains
Di Wu (*Nihon University*); *Takashi Yamaguchi* (*Tokyo Metropolitan Industrial Technology Research Institute*); *Shinichiro Ohnuki* (*Nihon University*);

11:00 **Coffee Break**

11:20 A Novel Diagonalization in Two-dimensional Fast Multipole Algorithm Based on Discrete Fourier Transform
L. L. Meng (*University of Illinois at Urbana-Champaign*); *M. Hidayetoglu* (*University of Illinois at Urbana-Champaign*); *T. Xia* (*University of Illinois at Urbana-Champaign*); *Weng Cho Chew* (*University of Illinois*); *Wei E. I. Sha* (*The University of Hong Kong*); *L. J. Jiang* (*The University of Hong Kong*);

11:40 Low-rank Based FEM-MoM Method for Analyzing Electromagnetic Scattering Problems in Half-space
Ting Wan (*Nanjing University of Posts and Telecommunications*); *Benliu Tang* (*Nanjing University of Posts and Telecommunications*); *Mengzhe Li* (*Nanjing University of Posts and Telecommunications*);

12:00 On Some Identities for Integral Operators in Computational Electromagnetics
Rui Nan Chang (*Tongji University*); *Qing He* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

12:20 Matlab Simulation of Nonlinear Electrical Networks via Volterra Series Expansion and Multidimensional NILT
Lubomir Brancik (*Brno University of Technology*); *Nawfal Al-Zubaidi R-Smith* (*Brno University of Technology*); *Filip Zaplata* (*Brno University of Technology*);

12:40 GPU Acceleration of FEM Code for Solving Electromagnetic Problems
Adam Dziekonski (*Gdansk University of Technology*); *Michal Piotr Mrozowski* (*Technical University of Gdansk*);

Session 0A10
High Power Microwave and EMC Problems 1

Sunday AM, November 19, 2017

Room LT16

Organized by Rafal Przesmycki, Leszek Nowosielski

Chaired by Leszek Nowosielski, Marian Tadeusz Wnuk

09:00 Analysis of Methods for Determining Distinctive Features for PC Hardware Interfaces Based on Radiated Emissions
Rafal Przesmycki (*Military University of Technology*); *Marian Tadeusz Wnuk* (*Military University of Technology*);

09:20 RS232 Interface in the Process of Electromagnetic Infiltration
Rafal Przesmycki (*Military University of Technology*);

09:40 Measurement Uncertainty of Shielding Effectiveness
Leszek Nowosielski (*Military University of Technology*); *Jaroslaw Michalak* (*Military University of Technology*);

10:00 Classification of the Electromagnetic Effects of Information Devices during High Power Microwave Exposing
Rafal Przesmycki (*Military University of Technology*);

10:20 Simulation of HPM DS 110 Generator Antenna Reflector Modification
Marek Bugaj (*Military University of Technology*); *Marian Tadeusz Wnuk* (*Military University of Technology*);

11:00 **Coffee Break**

11:20 Shielding Effectiveness Required for IT Equipment Enclosures
Leszek Nowosielski (*Military University of Technology*); *Jaroslaw Michalak* (*Military University of Technology*);

11:40 Analysis of HPM Pulse with Use of Data Base
Marek Bugaj (*Military University of Technology*); *Rafal Przesmycki* (*Military University of Technology*);

12:00 RF Circuits Commutator for EMC Laboratories
Leszek Nowosielski (*Military University of Technology*); *Michal Nowosielski* (*Medical University of Warsaw*);

12:20 Analysis of Electromagnetic Compatibility during the Liberation of Car Airbag
Rafal Przesmycki (*Military University of Technology*); *Marian Tadeusz Wnuk* (*Military University of Technology*); *Marek Bugaj* (*Military University of Technology*);

12:40 Car Microstrip GPS Antenna
Marian Tadeusz Wnuk (*Military University of Technology*); *Leszek Nowosielski* (*Military University of Technology*);

Session 0A11
SC3: Optical Field Manipulation and Its Applications

Sunday AM, November 19, 2017

Room LT17

Organized by Shenhe Fu, Jian Wang

09:00 The Mechanical Effect of Photonic Spin-orbit Interaction on a Metallic Nano Helix
Jun Chen (*Shanxi University*); *Shubo Wang* (*The Hong Kong University of Science and Technology*); *Jack Tsz Fai Ng* (*HKBU Institute of Research and Continuing Education*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*);

09:20 Multiplexed Holography by Scattering of Surface Plasmons and Guided Modes
Ji Chen (*Nanjing University*); *Chenchen Zhao* (*Soochow University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

09:40 Functional Plasmonic Colour Printing
Jiancai Xue (*Sun Yat-Sen University*); *Zhang-Kai Zhou* (*Sun Yat-Sen University*); *Xue-Hua Wang* (*Sun Yat-Sen University*);

10:00 Photonic Integrated Devices to Generate Optical Vortices
Xue Feng (*Tsinghua University*); *Peng Zhao* (*Tsinghua University*); *Xuesi Zhao* (*Tsinghua University*); *Yidong Huang* (*Tsinghua University*);

10:20 High Dimensional Linear Optical Transformation Based on Orbital Angular Momentum
Peng Zhao (*Tsinghua University*); *Xuesi Zhao* (*Tsinghua University*); *Xue Feng* (*Tsinghua University*); *Yidong Huang* (*Tsinghua University*);

11:00 **Coffee Break**

11:20 Exploiting Tunable Optical Responses of Metallic Nanostructures with Optical Field Manipulation
Fajun Xiao (*Northwestern Polytechnical University*); *Jianlin Zhao* (*Northwestern Polytechnical University*);

11:40 Diffractive Optics for OAM-mode Division Multiplexing
Filippo Romanato (*Department of Physics and Astronomy 'G. Galilei'*); *G. Ruffato* (*Department of Physics and Astronomy 'G. Galilei'*); *Michele Massari* (*Department of Physics and Astronomy 'G. Galilei'*);

12:20 Meta-gratings with Near-unitary Diffraction Efficiencies towards Achromatic and Multifunctional Optical Components
Zi-Lan Deng (*Jinan University*); *Xiangping Li* (*Jinan University*); *Guo Ping Wang* (*Shenzhen University*);

12:40 Controlling Cherenkov Radiation Emission through Self-accelerating Wave-packets
Yi Hu (*Nankai University*); *Zhili Li* (*Nankai University*); *Benjamin Wetzel* (*INRS-EMT*); *Roberto Morandotti* (*Institute National de la Recherche Scientifique*); *Zhigang Chen* (*San Francisco State University*); *Jingjun Xu* (*Nankai University*);

Session 0A12
Recent Advances in MIMO and Smart Antenna Systems, Physical Layer Encryption, Waveform Design and Rate Control on Dynamic Networks in Communication

Sunday AM, November 19, 2017

Room LT18

Organized by Malay Ranjan Tripathy, Zhongxiang Shen

Chaired by Malay Ranjan Tripathy, Zhongxiang Shen

09:00 A Novel Compact Two Element MIMO Antenna with Pie Shaped Slot Structure for Dual Band Applications
Nirdosh (*Amity University*); *Ashna Kakkar* (*Amity University*); *Malay Ranjan Tripathy* (*Amity University Uttar Pradesh*); *Arun Kumar Singh* (*Amity University*);

09:20 Design and Analysis of Slotted Antenna Array for 5G Application
Ashna Kakkar (*Amity University*); *Nirdosh* (*Amity University*); *Malay Ranjan Tripathy* (*Amity University*); *Arun Kumar Singh* (*Amity University*);

09:40 A Low Complexity Resource Allocation Algorithm for OFDMA Based WLAN System with Fairness and QoS Guarantee
Chaozhu Zhang (*Harbin Engineering University*); *Dongmei Yin* (*Harbin Engineering University*);

10:00 Performance Analysis of **2** × **2** MIMO Antenna with Meta-material for Ultra-wideband Applications
Rajesh Kumar (*Amity University*); *Sarika* (*Amity University Uttar Pradesh*); *Malay Ranjan Tripathy* (*Amity University*); *Daniel Ronnow* (*University of Gavle*);

10:20 3-D Band-stop FSS for X-band and Ku-band
Sarika (*Amity University Uttar Pradesh*); *Rajesh Kumar* (*Amity University*); *Malay Ranjan Tripathy* (*Amity University Uttar Pradesh*); *Daniel Ronnow* (*University of Gavle*);

10:40 Wave Form Design for Massive MIMO Systems and Applications
Malay Ranjan Tripathy (*Amity University Uttar Pradesh*); *Priya Ranjan* (*Amity University Uttar Pradesh*);

11:00 **Coffee Break**

11:20 Design of RF Transceiver for Controlling Multiple Frequency and Phase Using RC Circuit
Ankur Kohli (*Amity University*); *Kamal Nayan Chaturvedi* (*Amity University*); *Mukul Varshney* (*Amity University*); *Manjula Vijh* (*Amity University Uttar Pradesh*); *Sujata Pandey* (*Amity University*);

11:40 Compact Dual-polarized MIMO Antenna for UWB Applications
Hong-Yan Tang (*University of Electronic Science and Technology of China (UESTC)*); *Runmiao Wu* (*University of Electronic Science and Technology of China*); *Chao Yu* (*University of Electronic Science and Technology of China*); *Jian Zhang* (*University of Electronic Science and Technology of China*); *Xiaotong Wang* (*University of Electronic Science and Technology of China (UESTC)*);

12:00 A Microstrip-fed Cavity-backed Slot Antenna with Tapered Ridges
Weihua Tan (*Nanyang Technological University*); *Zhongxiang Shen* (*Nanyang Technological University*);

12:20 Seven Element Wideband Planar Log-periodic Antenna for TVWS Base Station
Arun Kumar Singh (*Amity University*); *Hemant Kumar* (*Indian Institute of Technology Bombay*); *Girish Kumar* (*Indian Institute of Technology Bombay*); *Malay Ranjan Tripathy* (*Amity University Uttar Pradesh*);

12:40 A Compact Four Element MIMO Slot Antenna for Ultra-wideband Application
Nirdosh (*Amity University*); *Ashna Kakkar* (*Amity University*); *Malay Ranjan Tripathy* (*Amity University Uttar Pradesh*);

Session 0A0
Poster Session 1

Sunday AM, November 19, 2017

9:00 AM - 13:00 PM

Room TR+29 - TR+36

1 RT-TDDFT Study of Charge Oscillations in B-DNA Monomers and Dimers
M. Tassi (*National and Kapodistrian University of Athens*); *A. Morphis* (*National and Kapodistrian University of Athens*); *K. Lambropoulos* (*National and Kapodistrian University of Athens*); *Constantinos Simserides* (*National and Kapodistrian University of Athens*);

2 Solving Magnetohydrodynamic Free Convection Problems in Complex-shaped Cavities by the R-functions Method
Mikhail A. Basarab (*Bauman Moscow State Technical University*); *Oleg V. Kravchenko* (*Bauman Moscow State Technical University*);

3 Numerical Calculation for Asynchronous Magnetic Coupling
Kaikai Zhou (*Dalian Jiaotong University*); *Zhi Yuan* (*Dalian Jiaotong University*); *Peng Wang* (*Dalian Jiaotong University*); *Yanjun Ge* (*Dalian Jiaotong University*);

4 The Research of Pre-processing VDIF Data in FPGA
Jiangying Gan (*(Shanghai Astronomical Observatory, Chinese Academy of Science*); *Zhijun Xu* (*Shanghai Astronomical Observatory, Chinese Academy of Science*);

5 Evanescent Waves Released and Maxwell-Fredholm Equations
Juan Manuel Velazquez Arcos (*Universidad Autonoma Metropolitana*); *J. Granados-Samaniego* (*Universidad Autonoma Metropolitana*); *C. A. Vargas* (*Universidad Autonoma Metropolitana*);

6 FPGA Acceleration for VLBI Hardware Correlator
Zhijun Xu (*Shanghai Astronomical Observatory, Chinese Academy of Science*); *Jiangying Gan* (*(Shanghai Astronomical Observatory, Chinese Academy of Science*);

7 A Numerical Model of the Spiral Gradient Magnetic Field in Selected Water Samples
Pavel Fiala (*Brno University of Technology*); *Karel Bartusek* (*Institute of Scientific Instruments of the ASCR*); *Tibor Bachorec* (*Brno University of Technology*); *Premysl Dohnal* (*Brno University of Technology*);

8 Parameter Estimation of LFM Signal Intercepted by a Dual-channel Synchronous Nyquist Folding Ultra-wideband Receiver
Tao Li (*National University of Defense Technology*); *Qian Zhu* (*National University of Defense Technology*); *Zengping Chen* (*National University of Defense Technology*);

9 Mm-wave Intra-vehicular Channel: Time Varying K-factor, Influence of Road Quality and Car Velocity
Jiri Blumenstein (*Brno University of Technology*); *Ales Prokes* (*Brno University of Technology*); *Josef Vychodil* (*Brno University of Technology*); *Martin Pospisil* (*Brno University of Technology*); *Tomas Mikulasek* (*Brno University of Technology*);

10 Time-domain A-EFIE Solution Based on Nyström Scheme with MOD Approach
Jian Zhang (*Tongji University*); *Chun Xia Yang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

11 An Improved Frequency Scaling Algorithm for Airborne TOPS Mode
Yifu Guan (*National University of Defense Technology*); *Wenge Chang* (*National University of Defense Technology*); *Xiangyang Li* (*National University of Defense Technology*);

12 A Novel Accessional Phase Compensation Method for InISAR Imaging under Squint Mode
Wenzhen Wu (*National University of Defense Technology*); *Shiyou Xu* (*National University of Defense Technology*); *Jiangwei Zou* (*National University of Defense Technology*); *Zengping Chen* (*National University of Defense Technology*);

13 An Autofocus Method for One-stationary Bistatic Synthetic Aperture Radar Imaging
Dao Xiang An (*National University of Defense Technology*); *Leping Chen* (*National University of Defense Technology*); *Xiaotao Huang* (*National University of Defense Technology*);

14 A New Kind of SAR Signal Sparse Sampling Method Based on Co-prime Array
Bing Han (*Beihang University*); *Pengbo Wang* (*Bei Hang University*); *Yue Fang* (*Beihang University*); *Baobin Ma* (*Beihang University*);

15 Analysis of Propagation Characteristic of MF Band Radio Waves Observed by S-310-40 Sounding Rocket in the Ionosphere at Nightt
Daiki Oka (*Toyama Prefectural University*); *Keigo Ishisaka* (*Toyama Prefectural University*); *Takumi Abe* (*JAXA/ISAS*); *Atsushi Kumamoto* (*Tohoku University*);

16 Imaging of Maritime Rotation Targets in Spaceborne SAR Image
Lei Yu (*Beihang University*); *Chun-Sheng Li* (*Beijing University of Aeronautics and Astronautics*); *Pengbo Wang* (*Bei Hang University*); *Yue Fang* (*Beihang University*);

17 Electromagnetic Scattering Characteristics from Time-varing Foam Sea Surface by VRT and M-G Model
Wei Liu (*Xidian University*); *K. K. Li* (*Xidian University*); *Lixin Guo* (*Xidian University*);

18 Doppler Spectrum for Composite Scattering of Time-evolved Ship-generated Waves
Wei Luo (*Chongqing University of Posts and Telecommunications*); *Yuqi Yang* (*Chongqing University of Posts and Telecommunications*); *Bo Yin* (*Chongqing University of Post and Telecommunications*);

19 Active Cancellation Stealth Technology Analysis and Verification in Experiment
Yang Bai (*Science and Technology on Electromagnetic Scattering Laboratory*); *Ying Xu* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xiao Wei* (*Communication University of China*); *Ming Lyu* (*Beihang University*);

20 A Novel Method for Weak Target Detection under Strong Jamming
Min Guo (*National University of Defense Technology*); *Wenzhen Wu* (*National University of Defense Technology*); *Zhanshan Sun* (*National University of Defense Technology*); *Yun-Qi Fu* (*National University of Defense Technology*);

21 A Low Profile Antenna on an EBG Substrate with Considering Human Body Effect
Ho-Jun Lee (*Korea Electronics Technology Institute*); *In Su Yeom* (*Korea Electronics Technology Institute*);

22 Recovery in Flavor Compounds and Catechins from Tea Leaves by Microwave Heating Technology
Makiko Abe (*Kyushu Institute of Technology*); *Misaki Hirano* (*Kyushu Institute of Technology*); *Fujiko Aoki* (*Kyushu Institute of Technology*); *Mohammad Asif Mirdad* (*Kyushu Institute of Technology*); *Shokichi Ohuchi* (*Kyushu Institute of Technology*);

23 Equivalent Circuit Model Perspective on Coupled Inverted-L Antenna Design
Cheng-Nan Hu (*Oriental Institute of Technology*); *Jeng-Kai Hong* (*Oriental Institute of Technology*);

24 An Antenna System to Avoid False Operation for Shoplifting Prevention at 920 MHz
Tomoki Sakogawa (*Kure National College of Technology*); *Katsuyoshi Aoki* (*Kure National College of Technology*); *Futoshi Kuroki* (*Kure National College of Technology*);

25 Analysis of Orbital Angular Momentum Electromagnetic Wave Propagation Based on Circular Antenna Array
Yuqi Yang (*Chongqing University of Posts and Telecommunications*); *Wei Luo* (*Chongqing University of Posts and Telecommunications*);

26 Design of a Dual-band Feedhorn for S/X-band VLBI Observations
Moon-Hee Chung (*Korea Astronomy and Space Science Institute*); *Do-Heung Je* (*Korea Astronomy and Space Science Institute*);

27 Design of a **4** $\times$ **4** Low Profile Continuous Transverse Stub Antenna Array
Q. C. You (*Ningbo University*); *Yunlong Lu* (*Ningbo University*); *G. M. Xu* (*Ningbo University*); *Ji Fu Huang* (*Ningbo University*);

28 Slot Antenna Array for Anticollision Radar with Low Sidelobe
L. T. Qin (*Ningbo University*); *Yunlong Lu* (*Ningbo University*); *G. M. Xu* (*Ningbo University*); *Q. C. You* (*Ningbo University*); *Ji Fu Huang* (*Ningbo University*);

29 Slot Antenna Backed by a Quarter Cylindrical Cavity Fed from the Front Side and Its Application to an RFID Tag
Hitoshi Shimasaki (*Kyoto Institute of Technology*); *Y. Ishii* (*Kyoto Institute of Technology*); *M. Morimoto* (*Kyoto Institute of Technology*);

30 Design of a Compact Broadband Planar Spiral Antenna Backed by an Absorbing Cavity
Le Zuo (*University of Electronic Science and Technology of China*); *Jin Pan* (*University of Electronic Science and Technology of China*);

31 Double U-slots Stacked Patch Antenna with Copper Plate and Air Gap for Wireless LAN Applications
Hassan Nornikman (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. Abdulmalek* (*University of Wollongong in Dubai*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hasliza Binti A. Rahim* (*Universiti Malaysia Perlis (UniMAP)*); *O. Al-Khatib* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Ping Jack Soh* (*Universiti Malaysia Perlis (UniMAP)*); *M. K. A. Zakaria* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. A. M. Nik Amri* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. Rosli* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Z. Kamal* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hamizan Bin Abu Bakar* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

32 Optimal Design of One-dimension Ultra-wideband Sparse Array for Suppression of Grating Lobes by Employing Particle Swarm Optimization
Yong-Wei Zhong (*Fudan University*); *Guo-Min Yang* (*Fudan University*); *Y. Liu* (*Fudan University*); *Lirong Zheng* (*Fudan University*);

33 Novel Planar and Printed Directive Antenna with Asymmetrically Feed Configuration
Yu-Jen Chi (*Tamkang University*); *Bo-Yuan Hsu* (*Tamkang University*);

34 Simulation of Meandered Uniplanar Printed Antenna for Multiband Applications
Praveen Vummadisetty Naidu (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Arvind Kumar* (*Kautilya Institute of Technology and Engineering*); *Vinay Kumar* (*Defence Institute of Advanced Technology (Deemed University)*);

35 Microstrip Patch Antenna Array for Defect Detection on HV Insulators
Jialong Xu (*State Grid Zhejiang Electric Power Company*); *Jungang Yin* (*National Astronomical Observatories of Chinese Academy of Sciences*); *Hua Xu* (*State Grid Zhejiang Electric Power Company*); *Kang Wan* (*Hunan University*); *Jian Yang* (*Chalmers University of Technology*);

36 Research on Broadband High Efficiency Microstrip Monopole Antenna
Yuhao Feng (*University of Arizona*); *Junqiang Wu* (*University of Arizona*); *Hao Xin* (*University of Arizona*);

37 Broadband Multimode 3 dB Coupler Based on Symmetrically Coupled Waveguides and Sub-wavelength Gratings
Jialin Yan (*Zhejiang University*); *Kaixuan Chen* (*Zhejiang University*); *Liu Liu* (*South China Normal University*); *Sailing He* (*Zhejiang University*);

38 Design of a Suspended Stripline Bandpass Filter with Wideband Harmonic Suppression
Ju Sung Park (*Kyungpook National University*); *Sung Kyun Kim* (*Kyungpook National University*); *Gwan Hee Lee* (*Kyungpook National University*); *Hyun Chul Choi* (*Kyungpook National University*); *Kang Wook Kim* (*Kyungpook National University*);

39 A 93-GHz Beam Switched Grid Array Antenna on PCB
Mei Sun (*Institute for Infocomm Research (I2R)*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Nasimuddin* (*Institute for Infocomm & Research, A-STAR*); *Zhining Chen* (*National University of Singapore*);

40 Wide-stopband Compact Pseudo-interdigital over Coupled Bandpass Filter with SIR and Open-stub Structure
Ja-Hao Chen (*Feng-Chia University*); *Shih-Yi Yuan* (*Feng-Chia University*); *Shi-Rong Liou* (*Feng-Chia University*);

41 Design of a Wideband Passive Planar Duplexer
Aiying Zhao (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Guoqing Fan* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Shibin Zhang* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*);

42 Harmonic and Intermodulation Performance of a Radio-frequency Plasma Capacitor
Muhammad Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals*);

43 Design of Propagation Testnode for LoRa Based Wireless Underground Sensor Networks
Xue-Fen Wan (*North China Institute of Science and Technology*); *Yi Yang* (*Donghua University*); *Xingjing Du* (*North China Institute of Science and Technology*); *Muhammad Sohail Sardar* (*Donghua University*);

44 Research on RF Signal Reconstruction and Parameter Estimation Algorithm Based on Compressed Sensing
Chunjie Zhang (*Harbin Engineering University*); *Dongbin Hao* (*Harbin Engineering University*); *Shanshuang Li* (*Harbin Engineering University*);

45 A Novel Electromagnetic Bandgap Structure for Wideband SSN Suppression in High-speed PCB
F. H. Zhang (*Fudan University*); *Ping-Ping Ding* (*Fudan University*); *D. Tao* (*Fudan University*);

46 A Study on the Design and Validation of Reverberation Chamber
Dong-Uk Sim (*Electronics and Telecommunications Research Institute*); *Sang Il Kwak* (*Electronics and Telecommunications Research Institute (ETRI)*); *Jong-Hwa Kwon* (*Electronics and Telecommunications Research Institute*); *Seong-Ook Park* (*Korea Advanced Institute of Science and Technology*);

47 Design of Shielding Enclosure to Protect Security Devices
Stanislav Kovar (*Tomas Bata University in Zlin*); *Vaclav Mach* (*Tomas Bata University in Zlin*); *Jan Valouch* (*Tomas Bata University in Zlin*); *Milan Adamek* (*Tomas Bata University in Zlin*);

48 A Generalized UWB Microstrip-to-CPS Transition
Gwan Hee Lee (*Kyungpook National University*); *Wahab Mohyuddin* (*Kyungpook National University*); *Dong Sik Woo* (*Kyungpook National University*); *Kang Wook Kim* (*Kyungpook National University*); *Hyun Chul Choi* (*Kyungpook National University*);

49 On the Performance Analysis of Selection Combining in an OFDM-based BPSK PLC System with Impulsive Noise
Steven O. Awino (*University of KwaZulu Natal*); *Thomas Joachim Odhiambo Afullo* (*University of KwaZulu-Natal (UKZN)*); *Peter O. Akuon* (*University of Kwa-Zulu Natal (UKZN)*);

50 Coupling Coefficient Analysis for a WPT System Using a 3D Spiral Resonator
Tatsuya Yoshikawa (*Ryukoku University*); *Yangjun Zhang* (*Ryukoku University*);

51 Design of Chipless RFID Tag Based on Surface Acoustic Wave
Hao Hui Su (*Tongji University*); *Jian Zhang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

52 Fabrication of Large-area and Long-range Ordered Nanostructures Using Template-assisted Nanosphere Self-assembly Method
Junxing Yang (*South China Normal University*); *Zhipeng Hu* (*South China Normal University*); *Yuan Zhang* (*South China Normal University*);

53 A Novel Design of Broadband and Low-loss Left-handed Metamaterial Based on Cross Line
Xu Pan (*Anhui University*); *Minquan Li* (*Anhui University*); *Shandong Wang* (*Anhui University*); *Yongguang Zhou* (*Anhui University*); *Xuanxuan Li* (*Anhui University*); *Chunchun Shen* (*Anhui University*);

54 Linear Polarization Rotator Based on Dichroic Plate
Dong Hwi Kim (*Kyungpook National University*); *Ju Sung Park* (*Kyungpook National University*); *Gwan Hee Lee* (*Kyungpook National University*); *Hyun Chul Choi* (*Kyungpook National University*); *Kang Wook Kim* (*Kyungpook National University*);

55 Mie Resonance-based Structural Color Printing with Full Color Spectrum
Jaehyuk Jang (*Pohang University of Science and Technology (POSTECH)*); *Duc Minh Nguyen* (*Pohang University of Science and Technology (POSTECH)*); *Heonyeong Jeong* (*Pohang University of Science and Technology (POSTECH)*); *Niloufar Raeis-Hosseini* (*Pohang University of Science and Technology (POSTECH)*); *Dasol Lee* (*Pohang University of Science and Technology (POSTECH)*); *Gwanho Yoon* (*Pohang University of Science and Technology (POSTECH)*); *Minkyung Kim* (*Pohang University of Science and Technology (POSTECH)*); *Trevon Badloe* (*Pohang University of Science and Technology (POSTECH)*); *Junsuk Rho* (*Pohang University of Science and Technology (POSTECH)*);

56 Tight Focusing of Circularly Polarized Laser Light by Amplitude Zone Plate with Chromium Rings
Victor V. Kotlyar (*Image Processing Systems Institute of the Russian Academy of Sciences*); *Sergey S. Stafeev* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of Russian Academy of Scienc*); *Anton G. Nalimov* (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of Russian Academy of Scienc*); *Maria V. Kotlyar* (*Samara National Research University*); *Liam O'Faolain* (*School of Physics and Astronomy of the University of St. Andrews*); *Elena Sergeevna Kozlova* (*Samara National Research University*);

57 Research on Corrosion Detection Technique Based on Reflectance Spectrum Analysis from Metal Surface
Heetaek Cho (*Chosun University*); *Ok Rak Lim* (*Chosun University*); *Kyu Hyuk Lee* (*Chosun University*); *HeeJin Jang* (*Chosun University*); *Tae-Jung Ahn* (*Chosun University*);

58 Self-steering Partially Coherent Beams
Yahong Chen (*Soochow University*); *Yangjian Cai* (*Soochow University*);

59 Magnetic Properties of Nanoparticles Prepared from α-Fe Target by Laser Ablation in Liquids
Mark M. Nosan (*Immanuel Kant Baltic Federal University*); *Aleksandr S. Omelyanchik* (*Immanuel Kant Baltic Federal University*); *Ilia G. Samusev* (*Immanuel Kant Baltic Federal University*); *Natalya M. Myslitskaya* (*Immanuel Kant Baltic Federal University*); *Rodion Y. Borkunov* (*Immanuel Kant Baltic Federal University*); *I. I. Lyatun* (*Immanuel Kant Baltic Federal University*); *Valeria V. Rodionova* (*Immanuel Kant Baltic Federal University*); *Valery V. Bryukhanov* (*Immanuel Kant Baltic Federal University*);

60 Design and Performance Evaluation of FBG-based Temperature Sensors Network
Sandis Spolitis (*Riga Technical University*); *Ilja Lyashuk* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

61 Polarized Single Photon Source for 1.55-μm Quantum Communication
Si Shen (*University of Electronic Science and Technology*); *Rui-Bo Jin* (*Wuhan Institute of Technology*); *Mukha Hadi* (*University of Electronic Science and Technology*); *Xiumin Xie* (*Southwest Institute of Technical Physics*); *Hai-Zhi Song* (*University of Electronic Science and Technology of China*);

Session 0P1
FocusSession.SC3: Advanced Materials and Devices for Optical and Mechanical Applications 2

Sunday PM, November 19, 2017

Room LT5

Organized by Atsushi Shishido, Marina Grenzer

Chaired by Osamu Tsutsumi, Iam-Choon Khoo

14:00 Invited Photodeformable Liquid Crystal Polymers and the Application in Microliquid Transport
Jia Wei (*Fudan University*); *Jiu-An Lv* (*Fudan University*); *Yuyun Liu* (*Fudan University*); *Yanlei Yu* (*Fudan University*);

14:20 Invited Photochromism and Mechanical Performance of Diarylethene Single Crystals
Masakazu Morimoto (*Rikkyo University*);

14:40 Invited Dynamic Crystals for Optomechanical Actuation
Pance Naumov (*New York University Abu Dhabi*);

15:00 Invited Superelastic Deformation of Organic Crystals
Satoshi Takamizawa (*Yokohama City University*);

15:20 Invited Soft and Chemical Robots
Shingo Maeda (*Shibaura Institute of Technology*);

16:00 **Coffee Break**

16:20 Keynote Giant Amplification of Fluorescence Switching in Nanoparticles by Photochromism
Keitaro Nakatani (*Universite Paris-Saclay*); *Remi Metivier* (*Universite Paris-Saclay*); *Stephane Maisonneuve* (*Universite Paris-Saclay*); *Juan Xie* (*Universite Paris-Saclay*); *Pei Yu* (*Universite Paris-Saclay*); *Jia Su* (*Universite Paris-Saclay*); *Tuyoshi Fukaminato* (*Kumamoto University*);

16:50 Invited Stimuli-responsive Solid-state Luminescent Properties of Flexible "Element-blocks" with Group 13 Elements
Kazuo Tanaka (*Kyoto University*); *Yoshiki Chujo* (*Kyoto University*);

17:10 Invited Aggregation-induced Emission from Liquid Crystals Controlled by Nano-structure of Material
Osamu Tsutsumi (*Ritsumeikan University*); *Preeyanuch Anukul* (*Ritsumeikan University*); *Osama M. Younis* (*Ritsumeikan University*); *Fumika Mitsuhashi* (*Ritsumeikan University*); *Namami Nakata* (*Ritsumeikan University*); *Kaho Sakamoto* (*Ritsumeikan University*);

17:30 Invited Marangoni Effect for Light Energy Conversion into Mechanical Work
Francesco Simoni (*Universita Politecnica delle Marche*); *Daniele Eugenio Lucchetta* (*Universita Politecnica delle Marche*); *L. Nucara* (*Scuola Superiore Sant'Anna*); *M. Rippa* (*Istituto di Scienze Applicate e Sistemi Intelligenti "E. Caianiello", ISASI, CNR*); *Lucia Petti* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*); *Riccardo Castagna* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*);

17:50 Invited Nanostructuring of Photomobile Composite Polymer Film Surfaces
Riccardo Castagna (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*); *M. Rippa* (*Istituto di Scienze Applicate e Sistemi Intelligenti "E. Caianiello", ISASI, CNR*); *Giuseppe Nenna* (*ENEA, SSPT-PROMAS-NANO*); *Francesco Simoni* (*Universita Politecnica delle Marche*); *Daniele Eugenio Lucchetta* (*Universita Politecnica delle Marche*); *L. Nucara* (*Scuola Superiore Sant'Anna*); *Lucedio Greci* (*Universita Politecnica delle Marche*); *Lucia Petti* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*);

18:10 Invited A Silk-azobenzene Composite for Optical Control of Diffractive Structures
Cesare Paolo Umeton (*University of Calabria*); *Giovanna Palermo* (*University of Calabria*); *Luca Barberi* (*University of Calabria*); *Giovanni Perotto* (*University of Calabria*); *Roberto Caputo* (*University of Calabria*); *Luciano De Sio* (*Universita della Calabria*); *Fiorenzo G. Omenetto* (*University of Calabria*);

Session 0P2a
FocusSession.SC3: Liquid Crystal Photonics 2

Sunday PM, November 19, 2017

Room LT6

Organized by Tsung-Hsien Lin, Yan-Qing Lu

Chaired by Tae-Hoon Yoon

14:00 Invited The Twist-bend Nematic Phase of Achiral Bent-core Liquid Crystals
Dong Chen (*University of Colorado*); *J. H. Porada* (*University of Colorado*); *J. B. Hooper* (*The University of Utah*); *A. Klittnick* (*University of Colorado*); *Y. Shen* (*University of Colorado*); *M. R. Tuchband* (*University of Colorado*); *E. Korblova* (*University of Colorado*); *D. Bedrov* (*The University of Utah*); *D. M. Walba* (*University of Colorado*); *Matthew A. Glaser* (*University of Colorado*); *J. E. Maclennan* (*University of Colorado*); *Noel A. Clark* (*University of Colorado*);

14:20 Invited Optical Field Modulation Realized via Liquid Crystal Photoalignment Technology
Bing-Yan Wei (*Northwestern Polytechnical University*); *Peng Chen* (*Nanjing University*); *Wei Hu* (*Nanjing University*); *Yan-Qing Lu* (*Nanjing University*); *Jian-Lin Zhao* (*Northwestern Polytechnical University*);

14:40 Arbitrary Beam Steering System by Pphotomechanically Bendable Cholesteric Liquid Crystal Films
Cheng-Chang Li (*National Sun Yat-Sen University*); *Chun-Wei Chen* (*Pennsylvania State University*); *Hung-Yuan Lin* (*National Sun Yat-Sen University*); *Chu-Kuan Yu* (*National Sun Yat-Sen University*); *Hung-Chang Jau* (*National Sun Yat-sen University*); *Jiu-An Lv* (*Fudan University*); *Xin Qing* (*Fudan University*); *Ching-Fu Lin* (*National Sun Yat-Sen University*); *Chiao-Yu Cheng* (*National Sun Yat-Sen University*); *Cheng Yu Wang* (*National Sun Yat-Sen University*); *Jia Wei* (*Fudan University*); *Yanlei Yu* (*Fudan University*); *Tsung-Hsien Lin* (*National Sun Yat-Sen University*);

15:00 Invited Superwettability Effect on the Fabrication and Applications of Colloidal Crystals
Jingxia Wang (*Technical Institute of Physics and Chemistry, Chinese Academy of Sciences*);

15:20 Invited Fabrication of Self-assemble Photonic Crystal with High-reflectivity Film
Dan Luo (*South University of Science and Technology of China*);

16:00 **Coffee Break**

Session 0P2b
Oral Presentations for Best Student Paper Awards — SC4: Antennas and Microwave Technologies

Sunday PM, November 19, 2017

Room LT6

Chaired by Yue-Ping Zhang

16:20 An Alternating Iterative Hybrid Beamforming Method for Millimeter Wave Large-scale Antenna Arrays
Xiaoyu Bai (*Northeastern University*); *Fulai Liu* (*Northeastern University at Qinhuangdao*); *Ruiyan Du* (*Northeastern University at Qinhuangdao*);

16:40 Design and Analysis of Conformal Antennas for Smart Watch
S. Sayah (*Antonine University*); *Remi M. Sarkis* (*TICKET Laboratory*);

17:00 High Peak Power UWB-RFID Transmitter Tag for Long Range Applications
Md. Arif Hussain Ansari (*Nanyang Technological University*); *Manmohan Sharma* (*Nanyang Technological University*); *Choi Look Law* (*Nanyang Technology University*);

17:20 A 20.2–57.1 GHz Inductor-less Divide-by-4 Divider Chain
Xiang Yi (*Nanyang Technological University*); *Zhipeng Liang* (*Nanyang Technological University*); *Chirn Chye Boon* (*Nanyang Technological University*);

17:40 A Broadband Third-order Antenna-filter-antenna Based Frequency Selective Surface at High Oblique Angle of Incidence
Rana Sadaf Anwar (*University of Science and Technology*); *Yuan Wei* (*Beihang University*); *Huansheng Ning* (*University of Science and Technology*);

18:00 Power Transfer $\boldsymbol{kQ}$ View on Parallel-faced Square Spiral Coils
Shinji Abe (*Toyohashi University of Technology*); *R. Baba* (*Toyohashi University of Technology*); *Naoki Sakai* (*Toyohashi University of Technology*); *T. Ohira* (*Toyohashi University of Technology*);

18:20 Design of a Compact Self-coupled Resonator and Dual-band Bandpass Filter in 0.13-μm CMOS Technology for Millimetre-wave Application
Meriam Gay Bautista (*University of Technology Sydney*); *Eryk Dutkiewicz* (*University of Technology Sydney*); *Yang Yang* (*University of Technology Sydney*);

Session 0P3a
SC2: Microwave and THz Plasmonic Metamaterials 2

Sunday PM, November 19, 2017

Room LT7

Organized by Baile Zhang, Ranjan Singh

Chaired by Baile Zhang

14:00 A Broadband and High Efficiency Linear and Circular Cross-polarization Converter
Kun Song (*Northwestern Polytechnical University*); *Zhaoxian Su* (*Northwestern Polytechnical University*); *Khagendra Bhattarai* (*University of South Florida*); *Yahong Liu* (*Northwestern Polytechnical University*); *Jiangfeng Zhou* (*University of South Florida*);

14:20 Performance Enhancement of End-fire Bow-tie Antenna by Using Zero Index Metamaterial
Shaza El-Nady (*Electronics Research Institute (ERI)*); *Hany Mahmoud Zamel* (*Electronics Research Institute*); *Moataza Hendy* (*Electronics Research Institute (ERI)*); *Ahmed Attiya* (*Electronics Research Institute (ERI)*); *Abdel Halim A. Zekry* (*Ain-Shams University*);

14:40 A Novel Diode Switchable Dual Band/Single Band Metamaterial Absorber
V. A. Libi Mol (*Cochin University of Science and Technology*); *Chandroth Karuvandi Aanandan* (*Cochin University of Science and Technology*);

15:00 A High-efficiency Long-pulse Relativistic Backward-wave Oscillator with Coaxial Extractor
Xingjun Ge (*National University of Defense Technology*); *Jin-Chuan Ju* (*National University of Defense Technology*); *Lishan Zhao* (*National University of Defense Technology*); *Jun Zhang* (*National University of Defense Technology*); *Jianhua Yang* (*National University of Defence Technology*);

Session 0P3b
FocusSession.SC2: Novel Materials and Designs for Absorption of Wave Energy 1

Sunday PM, November 19, 2017

Room LT7

Organized by Yun Lai, Bo Hou

Chaired by Yun Lai, Bo Hou

15:20 Invited Large Area, Low-cost Broadband Plasmonic Absorber for Mid-infrared Atmospheric Transparency Window
Weiwei Yu (*Shanghai Institute of Technical Physics, Chinese Academy of Science*); *Hao Xu* (*Shanghai Institute of Technical Physics, Chinese Academy of Science*); *Xin Chen* (*Shanghai Institute of Technical Physics, Chinese Academy of Science*); *Yan Sun* (*Shanghai Institute of Technical Physics, Chinese Academy of Science*); *Jiaming Hao* (*Shanghai Institute of Technical Physics, CAS*); *Ning Dai* (*Shanghai Institute of Technical Physics, CAS*);

15:40 Invited Nanoscale Metal-dielectric Photonic Crystal Devices
Xiaoyong Hu (*Peking University*); *Feifan Wang* (*Peking University*);

16:00 **Coffee Break**

16:20 Keynote Solar Light-trapping and Absorption in Thin-film Photonic Crystals: Prospects for World-record Solar-cell Efficiency
Sajeev John (*University of Toronto*);

16:50 Invited Observing the Transient Buildup of Metamaterial Superabsorber in the Time Domain
Chao Qian (*Zhejiang University*); *Bin Zheng* (*Zhejiang University*); *Huaping Wang* (*Zhejiang University*); *Lian Shen* (*Zhejiang University*); *Xiao Lin* (*Zhejiang University*); *Zhiwei Xu* (*Zhejiang University*); *Hongsheng Chen* (*Zhejiang University*);

17:10 Tailored Superabsorption in the Visible Region with Excitonic Thin Films (Invited)
Young Chul Jun (*Ulsan National Institute of Science and Technology*);

17:30 Causally Optimal Sound-absorbing Structures (Invited)
Min Yang (*Hong Kong University of Science and Technology*); *Shuyu Chen* (*Acoustic Metamaterials Group Ltd.*); *Caixing Fu* (*HKUST*); *Ping Sheng* (*Hong Kong University of Science and Technology*);

17:50 Study of Single Layer Radar Absorber Material (RAM) Based on Coconut Shell Activated Carbon
Yohandri (*Universitas Negeri Padang*); *Debi Rianto* (*Universitas Negeri Padang*); *Ananda Putra* (*Universitas Negeri Padang*);

Session 0P4
RFID, Wearable Antenna, and Metamaterials Antenna

Sunday PM, November 19, 2017

Room LT8

Chaired by Eng Hock Lim

14:00 Compact Folded Patch Antenna for UHF RFID
Wai-Hau Ng (*Universiti Tunku Abdul Rahman*); *Eng Hock Lim* (*Universiti Tunku Abdul Rahman*); *Boon Kuan Chung* (*Universiti Tunku Abdul Rahman*);

14:20 Beam Scanning Antenna Array for UHF RFID Application in Metal Environment
Hua Zhu (*Beijing University of Posts and Telecommunications*); *Xiuping Li* (*Beijing University of Posts and Telecommunications*); *Weiwei Feng* (*Beijing University of Posts and Telecommunications*); *Jia Song* (*Beijing University of Posts and Telecommunications*); *Quanping Li* (*Beijing University of Posts and Telecommunications*);

14:40 UHF RFID Dipole Tag with Modified Multi-fractal Cantor Arms for Broadband Operation
Manju Abraham (*Mahatma Gandhi University Regional Center*); *A. R. Parvathy* (*Mahatma Gandhi University Regional Center*); *Thomaskutty Mathew* (*Mahatma Gandhi University Regional Center*); *Jibish Mathew* (*Prajyoti Niketan College*);

15:00 Multiresonator-based Chipless RFID System for Low-cost Application
Jia Song (*Beijing University of Posts and Telecommunications*); *Xiuping Li* (*Beijing University of Posts and Telecommunications*); *Hua Zhu* (*Beijing University of Posts and Telecommunications*);

15:20 A 2.45 GHz Transparent Antenna for Wearable Smart Glasses
Haider K. Raad (*Xavier University*); *Casey White* (*Deposition Sciences, Inc.*); *Heidrun Schmitzer* (*Xavier University*); *Dennis Tierney* (*Xavier University*); *Ayman Issac Abbosh* (*University of Arkansas at Little Rock*); *Ali I. Hammoodi* (*University of Arkansas at Little Rock*);

16:00 **Coffee Break**

16:20 Investigation of Uniaxial Dielectric Anisotropy of Textile Fabrics and Its Influence over the Wearable Antennas' Behaviour
Plamen I. Dankov (*Sofia University "St. Kliment Ohridski"*); *Maria I. Tsatsova* (*RaySat BG Ltd., Gilat Satellite Networks*); *Valda P. Levcheva* (*University of Sofia*);

16:40 Miniaturized Metamaterial Based Antenna for 2.6 GHz WiMAX Applications
V. G. Ajay (*M. G. University Regional Centre*); *A. R. Parvathy* (*Mahatma Gandhi University Regional Center*); *Thomaskutty Mathew* (*Mahatma Gandhi University Regional Center*);

Session 0P5a
Plasmonic Nanophotonics 2

Sunday PM, November 19, 2017

Room LT11

Organized by Yung-Chiang Lan, Din Ping Tsai

Chaired by Yung-Chiang Lan, Din Ping Tsai

14:00 Reflection and Transmission of Surface Plasmons at the Interface of Two Plasmonic Systems (Invited)
Fuxin Guan (*Fudan university*); *Shaojie Ma* (*Fudann University*); *Zhening Fang* (*Fudan university*); *Baocheng Zhu* (*Fudan University*); *Xin Li* (*Fudan University*); *Qiong He* (*Fudan University*); *Shulin Sun* (*Fudan University*); *Lei Zhou* (*Fudan University*);

14:20 Optimization of Conical Plasmonic Waveguide Generatrix for Surface Plasmon Focusing (Invited)
Egor S. Manuylovich (*Moscow Institute of Physics and Technology (State University)*); *Pavel A. Golovinsky* (*Voronezh State Architecture and Engineering University*); *Valeriy A. Astapenko* (*Moscow Institute of Physics and Technology*);

14:40 Enhanced Lasing Performance in Hybrid Layer Configurations of Organic-inorganic Metal-halide Perovskites
Invited
Tsung Sheng Kao (*National Chiao Tung University*); *Yu-Heng Hong* (*National Chiao Tung University*); *Guan-Yu Chen* (*National Chiao Tung University*); *Kuo-Bin Hong* (*National Chiao Tung University*); *Fang-Chung Chen* (*National Chiao Tung University*); *Tien-Chang Lu* (*National Chiao Tung University*);

15:00 Surface Plasmons and Localized Surface Plasmons Enhanced Smith-Purcell Radiation on Metallic Grating
Invited
Yung-Chiang Lan (*National Cheng Kung University*); *Hsin-Yu Kuo* (*National Cheng Kung University*); *Tzu Cheng Kuang* (*National Cheng Kung University*); *Yi Chieh Lai* (*National Taiwan University*); *Bo Han Cheng* (*Academia Sinica*); *Din Ping Tsai* (*Academia Sinica*);

15:20 Ultrathin Metasurface Based on Thin Film Interference
Invited
Cheng Hung Chu (*National Taiwan University*); *Hui-Hsin Hsiao* (*National Taiwan University*); *Hisang-Chu Wang* (*National Taiwan University*); *Pin Chieh Wu* (*National Taiwan University*); *Jia-Wern Chen* (*National Taiwan University*); *Yi-Chieh Lai* (*National Cheng Kung University*); *Din Ping Tsai* (*Academia Sinica*);

16:00 **Coffee Break**

Session 0P5b
SC4: Advanced Antenna Technologies for 5G

Sunday PM, November 19, 2017

Room LT11

Organized by Lei Wang, Qi Wu

Chaired by Lei Wang

16:20 Planar Reconfigurable Multi-beam SIW Horn Array for 5G
Lei Wang (*KTH Royal Institute of Technology*);

16:40 High-gain Transmitarray Antenna with Third Order Meta-frequency Selective Surfaces
F. H. Zhang (*Fudan University*); *Guo-Min Yang* (*Fudan University*);

17:00 Design of **2** × **2** MIMO Microstrip Antenna Rectangular Patch Array for 5G Wireless Communication Network
Yusnita Rahayu (*Universitas Riau*); *Ivan Rafli Mustofa* (*Universitas Riau*);

17:20 Dual Mode Circularly Polarised Patch Antenna Exited by Dual Mode Defected Ground Square Ring Resonator
Chuanyun Wang (*East China Jiaotong University*); *Haiwen Liu* (*Xi'an Jiaotong University*); *Pin Wen* (*East China Jiaotong University*); *Xiao-Yan Zhang* (*East China Jiaotong University*);

17:40 Sinusoidal Modulated SIW Half-mode Back-to-back Leaky-wave Antenna Array
Qingbi Liao (*KTH Royal Institute of Technology*); *Oscar Quevedo-Teruel* (*KTH Royal Institute of Technology*); *Lei Wang* (*KTH Royal Institute of Technology*);

Session 0P6
FocusSession.SC1: Electromagnetic Waves in Complex Nanostructures

Sunday PM, November 19, 2017

Room LT12

Organized by Yidong Chong, Igor Tsukerman

Chaired by Yidong Chong

14:00 Equilibrium and Non-equilibrium Atom-Surface Interactions: Material Models and Computations
Keynote
Kurt Busch (*Max-Born Institute for Nonlinear Optics and Short Pulse Spectroscopy*);

14:30 Aperiodic Nanolaser
Invited
Seul-Ki Moon (*Kongju National University*); *Kwang-Yong Jeong* (*KAIST*); *Heeso Noh* (*Kookmin University*); *Jin-Kyu Yang* (*Kongju National University*);

14:50 The Flame-slab Method for Electromagnetic Wave Scattering in Slab Structures
Invited
Shampy Mansha (*Nanyang Technological University*); *Yidong Chong* (*Nanyang Technological University*); *Igor Tsukerman* (*The University of Akron*);

15:10 Modal Analysis of Wave Propagation in Dispersive Media
Invited
Boris Gralak (*CNRS, Aix-Marseille University*); *Mohamed I. Abdelrahman* (*CNRS, Aix-Marseille University*);

15:30 Metamaterials with a 'Twist'
Keynote
Che Ting Chan (*The Hong Kong University of Science and Technology*);

16:00 **Coffee Break**

16:20 Parity-time-symmetric Topological Photonics
Wange Song (*Nanjing University*); *Chen Chen* (*Nanjing University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

16:35 Invited Wafer-scale Hyperlens for High-throughput Biological Imaging
Junsuk Rho (*Pohang University of Science and Technology (POSTECH)*);

16:55 Invited Physics of Strong Optical Activity in Chiral Metamaterials
Ilya V. Shadrivov (*Australian National University*); *Michael A. Cole* (*The Australian National University*); *Wen-Chen Chen* (*Computer Simulation Technology (CST)*); *Mingkai Liu* (*Australian National University*); *Sergey S. Kruk* (*Australian National University*); *Willie J. Padilla* (*Duke University*); *David A. Powell* (*Australian National University*);

17:15 Topological Bound States in the Continuum in Dielectric Arrays
E. N. Bulgakov (*MF Reshetnev Siberian State University of Science and Technology*); *Dmitrii N. Maksimov* (*MF Reshetnev Siberian State University of Science and Technology*);

17:30 How to Increase Scattering by Decreasing Dielectric Mass? Core-shell Approach
Ari Sihvola (*Aalto University*); *Dimitrios C. Tzarouchis* (*Aalto University*);

17:45 Inverse Moth Eye Nanostructures with Enhanced Antireflection and Contamination-resistance
Zhaolu Diao (*University of Heidelberg*); *J. P. Spatz* (*University of Heidelberg*);

Session 0P7
FocusSession.SC5: Microwave Remote Sensing of Ocean

Sunday PM, November 19, 2017

Room LT13

Organized by Xiaofeng Li, Simon H. Yueh

Chaired by Xiaofeng Li, Simon H. Yueh

14:00 Investigation of Bistatic Radar Scattering from Sea Surfaces with the Advanced Integral Equation Model
Xiao Feng Yang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Yanlei Du* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Yongwei Liu* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Kun-Shan Chen* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

14:20 Ocean Roughness Measurements with L- and S-band Signals of Opportunity (SoOp) Reflectometry
Han Zhang (*Purdue University*); *James L. Garrison* (*Purdue University*); *Derek M. Burrage* (*Naval Research Laboratory, Stennis Space Center*); *Soon Chye Ho* (*Purdue University*);

14:40 Performance Prediction for Coastal Altimetry Using Wideband Signals of Opportunity
Soon Chye Ho (*Purdue University*); *Rashmi Shah* (*California Institute of Technology*); *James Garrison* (*Purdue University*); *Priscilla N. Mohammed* (*NASA Goddard Space Flight Center*); *Jeffrey R. Piepmeier* (*NASA Goddard Space Flight Center*); *Adam Schoenwald* (*NASA Goddard Space Flight Center*); *Randeep Pann* (*Morgan State University*); *Asmita Korde-Patel* (*NASA Goddard Space Flight Center*); *Damon Bradley* (*NASA Goddard Space Flight Center*);

15:00 SCATSAT Data Quality and Initial Results
Alexander G. Fore (*California Institute of Technology*); *Bryan W. Stiles* (*California Institute of Technology*); *Ernesto Rodriguez* (*California Institute of Technology*);

15:20 Coupled Nature of Winds and Ocean Surface Waves Inside Tropical Cyclones and Implications on Spaceborne Monitoring
Paul A. Hwang (*Naval Research Laboratory*); *Yalin Fan* (*Naval Research Laboratory*);

16:00 **Coffee Break**

16:20 Wave-induced Doppler Shift of Ka-band Radar Signal Backscattered from the Sea Surface
Yury Yu Yurovsky (*FSBSI Marine Hydrophysical Institute RAS*); *S. A. Grodsky* (*University of Maryland*); *Vladimir N. Kudryavtsev* (*FSBSI Marine Hydrophysical Institute RAS*); *Bertrand Chapron* (*Institut Francais de Recherche pour l'Exploitation de la Merr*);

16:40 SAR Observations of Organized Large Eddies over the Somali Current
Michael J. Caruso (*University of Miami*); *Ralph C. Foster* (*University of Washington*); *Hans C. Graber* (*University of Miami*);

17:00 Application Sentinel-1 SAR Data for Ocean Research and Operation
Xiaofeng Li (*National Oceanic and Atmospheric Administration (NOAA)*);

17:20 SAR Imaging of Oceanic and Atmospheric Gravity Waves
Xiaofeng Li (*National Oceanic and Atmospheric Administration (NOAA)*);

17:40 Enabling the Next Generation of Salinity, Sea Surface Temperature and Wind Measurements from Space: Instrument Challenges
Sidharth Misra (*California Institute of Technology*); *Shannon Brown* (*California Institute of Technology*); *Simon H. Yueh* (*NASA Jet Propulsion Laboratory, California Institute of Technology*); *Tony Lee* (*California Institute of Technology*);

18:00 A Next Generation Spaceborne Ocean State Observatory: Surface Salinity, Temperature and Ocean Winds from Equator to Pole
Shannon Brown (*California Institute of Technology*); *Sidharth Misra* (*California Institute of Technology*); *Simon H. Yueh* (*California Institute of Technology*); *Tony Lee* (*California Institute of Technology*);

Session 0P8
SC5: Sensor Development and Application

Sunday PM, November 19, 2017

Room LT14

Organized by Hean-Teik Chuah, Voon Chet Koo

Chaired by Hong Tat Ewe, Voon Chet Koo

14:00 Design of 17 GHz Ground Based Synthetic Aperture Radar (GBSAR) for Deformation Monitoring
William Hii How Hsin (*Multimedia University*); *Voon Chet Koo* (*Multimedia University*);

14:20 Optimization of Fast Hadamard Deconvolution Implementation for ARM CPU Based M-sequence UWB Radar Sensor Node
Milos Drutarovsky (*Technical University of Kosice*); *Dusan Kocur* (*Technical University of Kosice*);

14:40 Development of Interfacing System for Ground-based SAR
Rahmad Arif Syafrindo (*Universitas Negeri Padang*); *Yohandri Azwir* (*Universitas Negeri Padang*); *Asrizal* (*Universitas Negeri Padang*);

15:00 Research on Calibration, Validation and Retrievals on FY-3D MWHTS
Jieying He (*National Space Science Center, Chinese Academy of Sciences*); *Shengwei Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

15:20 An Improved Point Cloud Registration Three-Stage (3S) Method Using RGB-D Camera
Xin Ping Khoo (*Multimedia University (MMU) Malacca*); *Voon Chet Koo* (*Multimedia University*); *Lee Yeng Ong* (*Multimedia University (MMU) Malacca*); *Chot Hun Lim* (*Multimedia University*);

16:00 **Coffee Break**

16:40 Surface Profile Monitoring Using Ground-based Synthetic Aperture Radar (GBSAR) System
Chee-Siong Lim (*Multimedia University*); *Voon Chet Koo* (*Multimedia University*); *Yee Kit Chan* (*Multimedia University*);

17:00 Design and Development of FPGA-based FFT Coprocessor for Synthetic Aperture Radar (SAR)
Yung Chong Lee (*Multimedia University*); *Voon Chet Koo* (*Multimedia University*); *Yee Kit Chan* (*Multimedia University*);

Session 0P9
Advanced Solution Methods for Modeling Complex EM Problems

Sunday PM, November 19, 2017

Room LT15

Organized by Zi-Liang Liu, Chao-Fu Wang

Chaired by Zi-Liang Liu

14:00 Reduction of Surface to Line Integrals in Matrix Elements for Arbitrarily Oriented Surface Elements: The Vector Green Function
Elizabeth Bleszynski (*Monopole Research, Thousand Oaks*); *Marek Bleszynski* (*Monopole Research, Thousand Oaks*); *Thomas Jaroszewicz* (*Monopole Research, Thousand Oaks*);

14:20 Characteristic Mode Based Impedance Bandwidth Analysis for Optimal Feed Location
Sai Ho Yeung (*National University of Singapore*); *Chao-Fu Wang* (*National University of Singapore*);

14:40 Hybrid High Frequency Methods for Modeling of EM Scattering from Electrically Large and Complex Objects in Half-space
Chun Yun Kee (*National University of Singapore*); *Zi-Liang Liu* (*National University of Singapore*); *Chao-Fu Wang* (*National University of Singapore*);

15:00 Sub-domain Adaptive Integral Method — Physical Optics for Modeling Multiple Antennas Installed on Large-scale Platforms
Zi-Liang Liu (*National University of Singapore*); *Chao-Fu Wang* (*National University of Singapore*);

15:20 Electromagnetic Scattering from Target above Finite Illuminated Surface in an Infinite Environment
Yiwen Wei (*National University of Singapore*); *Chao-Fu Wang* (*National University of Singapore*); *Chun Yun Kee* (*National University of Singapore*); *Tse-Tong Chia* (*National University of Singapore*);

15:40 Analysis of EM Scattering Characteristic with a Novel Field-only Boundary Integral Formulation and Non-conformal Discretization
Guangshang Cheng (*National University of Singapore*); *Chao-Fu Wang* (*National University of Singapore*); *Evert Klaseboer* (*Institute of High Performance Computing*); *Boo Cheong Khoo* (*National University of Singapore*);

16:00 **Coffee Break**

Session 0P10a
High Power Microwave and EMC Problems 2

Sunday PM, November 19, 2017

Room LT16

Organized by Rafal Przesmycki, Leszek Nowosielski

Chaired by Leszek Nowosielski, Marian Tadeusz Wnuk

14:00 Analysis of the Effect of YEE Cell Size on the Results of Calculation of Antenna Parameters and Characteristics Using FDTD Method
Marek Bugaj (*Military University of Technology*); *Jaroslaw Bugaj* (*Military University of Technology*);

14:20 Effect of Emitter Antenna Pattern on Angular Dispersion of Received Signals in Urban Areas
Jan M. Kelner (*Military University of Technology*); *Cezary Ziolkowski* (*Military University of Technology*); *Leszek Nowosielski* (*Military University of Technology*);

14:40 EMC Evaluation with Consideration of Transmitting and Receiving Antenna Patterns in Multipath Propagation Environment
Cezary Ziolkowski (*Military University of Technology*); *Jan M. Kelner* (*Military University of Technology*); *Leszek Nowosielski* (*Military University of Technology*);

15:00 Comparison of Empirical and Geometric Modeling Angular Scattering of Radio Waves under Multipath Propagation Conditionsv
Jan M. Kelner (*Military University of Technology*); *Cezary Ziolkowski* (*Military University of Technology*); *Leszek Nowosielski* (*Military University of Technology*);

16:00 **Coffee Break**

Session 0P10b
Imaging and Super-resolution Techniques for Biomedical Imaging Problems

Sunday PM, November 19, 2017

Room LT16

Organized by Krishna Agarwal

Chaired by Krishna Agarwal

16:20 Rotation-based Image Reconstruction by Using ART Algorithm in Microwave Imaging
Rian Gilang Prabowo (*Universitas Indonesia*); *Ria Aprilliyani* (*Universitas Indonesia*); *Basari* (*Universitas Indonesia*);

16:40 Comparison Analysis between SART and ART Algorithm for Microwave Imaging
Ria Aprilliyani (*Universitas Indonesia*); *Rian Gilang Prabowo* (*Universitas Indonesia*); *Basari* (*Universitas Indonesia*);

17:00 An Improvement on Binocular Indirect Ophthalmoscopy for Diabetic Retinopathy
Sinha Kaustubh (*PESIT — Bangalore South Campus*); *B. Kala* (*PESIT — Bangalore South Campus*); *T. E. Ashraya Nayaka* (*Dr. Agarwal's Eye Hospital*); *Ahmed Noha* (*PESIT — Bangalore South Campus*);

17:20 Terahertz Far-field Subwavelength Imaging by Frequency Scanning
Tie-Jun Huang (*Peking University*); *Heng-He Tang* (*Peking University*); *Jiang-Yu Liu* (*Peking University*); *Pu-Kun Liu* (*Peking University*);

17:40 Computational Nanoscopy Using Multiple Signal Classification Algorithm (MUSICAL) for Fluorescence Imaging
Krishna Agarwal (*UiT-The Arctic University of Norway*); *Biswajoy Ghosh* (*Indian Institute of Technology Kharagpur*); *Deanna L. Wolfson* (*UiT-The Arctic University of Norway*); *Cristina Ionica Oie* (*UiT-The Arctic University of Norway*); *Jyotirmoy Chatterjee* (*Indian Institute of Technology Kharagpur*); *Balpreet Singh Ahluwalia* (*UiT-The Arctic University of Norway*);

18:00 Multi-color Nanoscopy of Live-cell Processes in ***E. Coli*** Bacteria Using Musical
Ida Sundvor Opstad (*UiT — The Arctic University of Norway*); *Soren Abel* (*UiT — The Arctic University of Norway*); *Balpreet Singh Ahluwalia* (*UiT — The Arctic University of Norway*); *Krishna Agarwal* (*UiT — The Arctic University of Norway*);

Session 0P11a
Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory

Sunday PM, November 19, 2017

Room LT17

Chaired by Kazuya Kobayashi

14:00 Self-consistent Numerical Model for Simulation of Wave Propagation through Plasma Layer
Vladimir Bekasov (*St. Petersburg State University*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Stepan I. Eliseev* (*St. Petersburg State University*); *Anatoly A. Kudryavtsev* (*St. Petersburg State University*);

14:20 Study on Response Characteristics of Multi-conductor Transmission Lines in Noisy Environment
Nan Chen (*Nanjing Normal University*); *Wei Yan* (*Nanjing Normal University*); *Ming Tu* (*Nanjing Normal University*); *Enrong Wang* (*Nanjing Normal University*); *Yang Zhao* (*Nanjing Normal University*); *Zhang Jian* (*Tsinghua University*);

14:40 Optimal Design and Simulation of Combined Reluctance-induction Electromagnetic Launcher
Baomi Jing (*Anhui University*); *Tongqing Liao* (*Anhui University*); *Tiezhen Jiang* (*Anhui University*); *Lan Chen* (*Anhui University*); *Xuesong Jia* (*Anhui University*);

15:00 A Study on the Mechanism of Hazards of High Intensity Radiated Field to Fuel Based on Multi-physics Field
Xiaoyao Feng (*Beihang University*); *Fei Dai* (*Beihang University*); *Xinkai Fu* (*Beihang University*);

15:20 Simulation of Three-phase Motor Drive System with Bearing Discharge Process
Fei Fan (*Nanyang Technological University*); *Kye Yak See* (*Nanyang Technological University*); *Joseph Kiran Banda* (*Nanyang Technological University*); *Xiong Liu* (*Rolls-Royce Singapore Pte. Ltd.*); *Amit Kumar Gupta* (*Rolls-Royce Singapore Pte. Ltd.*);

16:00 **Coffee Break**

Session 0P11b
Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics

Sunday PM, November 19, 2017

Room LT17

Chaired by Sailing He

16:20 Far-field to Near-field Investigation of Thermal Radiation Emitted by a Single Optical Nanoantenna
Claire Li (*Institut Langevin*); *Valentina Krachmalnicoff* (*Institut Langevin*); *Patrick Bouchon* (*ONERA*); *Julien Jaeck* (*ONERA*); *Nathalie Bardou* (*C2N*); *Riad Haidar* (*ONERA*); *Yannick De Wilde* (*Institut Langevin*);

16:40 Room Temperature Strong Coupling of Monolayer WS_2 with Gold Nanoantennae
Lin Liu (*Nanyang Technological University*); *Landobasa Y. M. Tobing* (*Nanyang Technological University*); *Jinchao Tong* (*Nanyang Technological University*); *Daohua Zhang* (*Nanyang Technological University*); *Francisco J. Garcia-Vidal* (*Universidad Autonoma de Madrid*); *Yu Luo* (*Nanyang Technological University*);

17:00 Directed Pinning of Moving Water Drops on Photoresponsive Liquid Crystal Mat
Yuyun Liu (*Fudan University*); *Jia Wei* (*Fudan University*); *Yanlei Yu* (*Fudan University*);

17:20 Image Reconstruction Using Single-pixel Color Ghost Imaging
Yin Xiao (*The Hong Kong Polytechnic University*); *Wen Chen* (*The Hong Kong Polytechnic University*);

17:40 Foundry-fabricated DFB Laser with Waveguide Crossing for Self-heterodyne Terahertz Spectrometer
Mu-Chieh Lo (*Universidad Carlos III de Madrid*); *Robinson Cruzoe Guzman Martinez* (*Universidad Carlos III de Madrid*); *Muhsin Ali* (*Universidad Carlos III de Madrid*); *Shintaro Hisatake* (*Osaka University*); *Tadao Nagatsuma* (*Osaka University*); *Guillermo Carpintero del Barrio* (*Universidad Carlos III de Madrid*);

18:00 Heterogeneously Integrated III-V-on-silicon Microspiral Disk Lasers for Optical Interconnects
Kaiyi Wu (*The Hong Kong University of Science and Technology*); *Bo Xue Tan* (*The Hong Kong University of Science and Technology*); *Yu Zhang* (*University of California Davis*); *Andrew Wing On Poon* (*The Hong Kong University of Science and Technology*);

18:20 Tunable Localized Surface Plasmon Resonance of Subwavelength Cu/SiO_2/Al Plasmonic Antenna
Mohamed Yousef Hassan (*Nanyang Technological University*); *S. R. Gollu* (*Nanyang Technological University*); *Diing Shenp Ang* (*Nanyang Technological University*);

Session 0P12
Antennas for Radar Applications

Sunday PM, November 19, 2017

Room LT18

Organized by Vijay Kumar

Chaired by Dusan Kocur, Eko Tjipto Rahardjo

14:00 An Omni-directional Elliptical Ring Dielectric Resonator Antenna Excited with C-shaped Feed for Wideband Applications
Md. Muzammil Sani (*Indian Institute of Technology (Indian School of Mines)*); *Rakesh Chowdhury* (*Indian Institute of Technology (Indian School of Mines)*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

14:20 A 1.2 GHz Bandwidth Digital Backend for Pulsar Observation
Wei Liu (*Southeast University*); *Qiao Meng* (*Southeast University*); *Jin-Lin Han* (*National Astronomical Observatories, Chinese Academy of Sciences*); *Chen Wang* (*National Astronomical Observatories, Chinese Academy of Sciences*); *Tianyi Zhang* (*Southeast University*); *Xiaowan Dong* (*National Astronomical Observatories, Chinese Academy of Sciences*);

14:40 Transient Near Field Radiation Pattern of an Ultra-wideband Antenna above Moist Soil Used in the Detection of Buried Anti-personal Mine
Vijayakumar Solaiselvam (*Indian Institute of Science*); *Joy Thomas Meledath* (*Indian Institute of Science*);

15:00 Electrically Short Antenna with Ground-coupling Measurement for M-sequence Ground Penetrating Radar
Martin Pecovsky (*Technical University of Kosice*); *Juergen Sachs* (*Ilmenau University of Technology*); *Pavol Galajda* (*Technical University of Kosice*); *Stanislav Slovak* (*Technical University of Kosice*); *Dusan Kocur* (*Technical University of Kosice*);

15:20 Design of Broadband Phased Array Antenna at X-band
Wensong Wang (*Nanyang Technological University*); *Zilian Qu* (*Nanyang Technological University*); *Zhongxiang Shen* (*Nanyang Technological University*); *Liheng Lou* (*Nanyang Technological University*); *Kai Tang* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

15:40 Fixed Frequency Electronically Beam Steering Microstrip Comb Line Antenna
Manisha Kahar (*Indian Institute of Technology*); *Ravi Shaw* (*Indian Institute of Technology Kharagpur*); *Mrinal Kanti Mandal* (*Indian Institute of Technology Kharagpur*);

16:00 **Coffee Break**

16:20 Design of a Small Size Biquad-UWB-patch-antenna and Signal Processing for Detecting Respiration of Trapped Victims
Di Shi (*Albert-Ludwigs-University Freiburg*); *Taimur Aftab* (*Albert-Ludwigs-University Freiburg*); *Adnan Yousaf* (*Albert-Ludwigs-University Freiburg*); *Leonhard Reindl* (*Albert-Ludwigs-University Freiburg*);

16:40 Design of a MIMO Dielectric Resonator Antenna with Air Gap for X-band Applications
Kamili Jagadeesh Babu (*SACET*); *Bandi Kiran Kumar* (*SACET*); *Subba Rao Boddu* (*SACET*); *Kalva Sri Rama Krishna* (*V.R Siddhartha Engineering*);

17:00 Microstrip Periodic Leaky Wave Antenna Using Defected Ground Structure
Ravi Shaw (*Indian Institute of Technology*); *Mrinal Kanti Mandal* (*Indian Institute of Technology*); *Manisha Kahar* (*Indian Institute of Technology*);

17:20 Design of Narrow Wall Slotted Waveguide Antenna for X-band Application
Moh. Amanta K. S. Lubis (*Universitas Indonesia*); *Catur Apriono* (*Universitas Indonesia*); *Fitri Yuli Zulkifli* (*University of Indonesia*); *Eko Tjipto Rahardjo* (*Universitas Indonesia*);

17:40 The Radiation Characteristics of the Vivaldi Antenna Located on a Cylindrical Surface
A. V. Gevorkyan (*Southern Federal University*); *Yury Vladimirovich Yukhanov* (*Southern Federal University*); *Tatyana Yurievna Privalova* (*Southern Federal University*);

18:00 Gain Improvement for Conventional Rectangular Horn Antenna with Additional Two-layer Wire Medium Structure
Saran Kampeephat (*Rajamangala University of Technology Isan*); *Paowphattra Kamphikul* (*Suranaree University of Technology*); *Rangsan Wongsan* (*Suranaree University of Technology*);

Session 0P0
Poster Session 2

Sunday PM, November 19, 2017
14:00 PM - 18:00 PM
Room TR+29 - TR+36

1 Uniform Heating of Food in Microwave Oven with Two Input Ports by Using Input Power of Different Frequency
Keisuke Ejiri (*National Institute of Technology, Kisarazu College*); *Hiroki Sato* (*National Institute of Technology, Kisarazu College*); *Yugo Uchida* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*Kisarazu National College of Technology*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Masahiro Uehara* (*National Institute of Technology, Kisarazu College*); *Arokiaswami Alphones* (*Nanyang Technological University*);

2 Loss Optimization of Asynchronous Magnetic Coupling Base on Finite Elements Method
Yanjun Ge (*Dalian Jiaotong University*); *Zhi Yuan* (*Dalian Jiaotong University*); *Peng Wang* (*Dalian Jiaotong University*); *Kaikai Zhou* (*Dalian Jiaotong University*); *Junyue Yang* (*Dalian Jiaotong University*);

3 Research on Extremely Low Frequency Magnetic Signal Detection and Fundamental Frequency Estimation Algorithm
Yao Fan (*Chinese Academy of Sciences*);

4 Design of Closely Spaced Dipole Array Based on Characteristic Modes
Tomas Lonsky (*Czech Technical University in Prague*); *Pavel Hazdra* (*Czech Technical University in Prague*); *Jan Kracek* (*Czech Technical University in Prague*);

5 A Miniaturized Frequency Selective Radome with Wide Absorption Response above X-band
Hamza Ahmad (*National University of Sciences and Technology (NUST)*); *Muhammad Umar Khan* (*National University of Sciences and Technology (NUST)*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST)*); *Rashid Ahmad Bhatti* (*Information and Communications University (ICU)*);

6 On the Waveguide Mode Singularities in Small Perturbation Solution of EM Scattering from Multi-layer Random Rough Surfaces with Fluctuating Permittivities
Mohammadreza Sanamzadeh (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Shurun Tan* (*University of Michigan*); *Joel T. Johnson* (*The Ohio State University*);

7 Model Calculations for VLBI Hardware Correlator at SHAO
Jiangying Gan (*(Shanghai Astronomical Observatory, Chinese Academy of Science*); *Zhijun Xu* (*Shanghai Astronomical Observatory, Chinese Academy of Science*);

8 Synthesis and Characterization of Cocoa Pods Waste Carbon for Radar Absorber Material
Nova Satria (*Universitas Negeri Padang*); *Yohandri* (*Universitas Negeri Padang*); *Ananda Putra* (*Universitas Negeri Padang*);

9 Using a Multiscale Toroidal Element to Model a Hydrogen Atom
Pavel Fiala (*Brno University of Technology*); *P. Werner* (*Brno University of Technology*); *Pavel Osmera* (*Brno University of Technology*); *Premysl Dohnal* (*Brno University of Technology*);

10 Parameter Estimation of Polynomial Phase Signal Based on Particle Swarm Optimization
Qian Zhu (*National University of Defense Technology*); *Tao Li* (*National University of Defense Technology*); *Qinglong Bao* (*National University of Defense Technology*); *Zengping Chen* (*National University of Defense Technology*);

11 Performance Analysis of Airborne TOPS Mode
Yifu Guan (*National University of Defense Technology*); *Wenge Chang* (*National University of Defense Technology*); *Xiangyang Li* (*National University of Defense Technology*);

12 Analysis of Vessels in GF-3 Quad-polarimetic SAR Image
Fan Wu (*Institute of Remote Sensing and Digital Earth, CAS*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Bo Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*);

13 A Novel Phase Compensation Method for ISAR Imaging Based on Genetic Algorithm
Binbin Wang (*National University of Defense Technology*); *Shiyou Xu* (*National University of Defense Technology*); *Jiangwei Zou* (*National University of Defense Technology*); *Wenzhen Wu* (*National University of Defense Technology*); *Zengping Chen* (*National University of Defense Technology*);

14 Superpixel-based Segmentation for Multi-temporal PolSAR Images
Junliang Bao (*Tsinghua University*); *Junjun Yin* (*Tsinghua University*); *Jian Yang* (*Tsinghua University*);

15 Development of Monostatic Antenna System for W-band FMCW Radar
Toshiaki Takano (*Chiba University*);

16 Analytical Model of Laser Absorption on Rough Metal Surface: A Fractal Electrodynamics Approach
Muhammad Zubair (*Singapore University of Technology and Design (SUTD)*); *Y. S. Ang* (*Singapore University of Technology and Design (SUTD)*); *Ricky L. K. Ang* (*Singapore University of Technology and Design (SUTD)*);

17 A New Bistatic RCS Measurement Calibration Method Based on the Primary Scattering Mechanism of Metal Sphere
Ming Lv (*Beihang University*); *Chao Gao* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yang Bai* (*Science and Technology on Electromagnetic Scattering Laboratory*);

19 Monitoring for Seismic Source on a Crust Interfaces as a Fault
Shigehisa Nakamura (*Kyoto University*);

20 A 2D Visualization Algorithm for a Single-element Doppler Blood Flow Velocity Sensor Data
Mikhail A. Basarab (*Bauman Moscow State Technical University*); *Natalia S. Konnova* (*Bauman Moscow State Technical University*); *Dmitrii D. Matsievskii* (*Institute of General Pathology and Pathophysiology*); *Dmitrii A. Basarab* (*St. Ioasaf's Belgorod Regional Hospital*);

21 Development of Microwave-assisted Sterilization Technology
Kenshi Haraguchi (*Kyushu Institute of Technology*); *Tatsuki Hirasaka* (*Kyushu Institute of Technology*); *Akira Watanabe* (*Kyushu Institute of Technology*); *Fujiko Aoki* (*Kyushu Institute of Technology*); *Makoto Kodama* (*Vessel Inc*); *Shokichi Ohuchi* (*Kyushu Institute of Technology*);

22 Experimental Demonstration of Superdirectivity in Circularly Polarized Linear Arrays of Electrically Small Self-resonant Elements
Oleksiy S. Kim (*Technical University of Denmark*);

23 Wide-flared Corrugated Horn Designed for the SKA Dish
Biao Du (*The 54th Research Institute of China Electronic Technology Corporation*); *Ze-Yu Meng* (*The 54th Research Institute of CETC*); *Lei Xie* (*The 54th Research Institute of CETC*); *Yang Wu* (*The 54th Research Institute of China Electronic Technology Corporation*);

24 A Novel IOT Antennas Design and Measurement
Kekun Chang (*National Taipei University of Technology*); *Jwo-Shiun Sun* (*National Taipei University of Technology*); *Guan-Yu Chen* (*National Taipei University of Technology*);

25 An Electrically Small Induction Excited Antenna for Near-field Communications and Wireless Power Transfer
Wenshen Zhou (*Singapore University of Technology and Design*); *Omkar* (*Singapore University of Technology and Design*); *Peng Yang* (*University of Electronic Science and Technology of China (UESTC)*); *Wen Wei Yu* (*Chiba University*); *Shao Ying Huang* (*Singapore University of Technology and Design*);

26 A Dual-band Subharmonic Mixer with High RF-IF Isolation
Kumari Pushpa (*National Institute of Technology Patna*); *Priyanka Mondal* (*National Institute of Technology Patna*); *Abinash Singh* (*Indian Institute of Technology Kharagpur*);

27 Co-planar Waveguide (CPW) Slotted Bow-tie Antenna with Band-notch Using Polygon-shaped Branches Structure
Mohamed Fareq Abdul Malek (*University of Wollongong in Dubai (UOWD)*); *Hassan Nornikman* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *O. Al-Khatib* (*University of Wollongong in Dubai (UOWD)*); *N. Abdulaziz* (*University of Wollongong in Dubai (UOWD)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hazliza A. Rahim* (*Universiti Malaysia Perlis (UniMAP)*); *M. S. Mustapha* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. M. D. Mohamad Muslihat* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *S. B. York* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *S. H. Mohd Yusof* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. S. M. Nazim* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

28 Co-planar Waveguide (CPW) Patch Antenna with Octagonal-shaped Ring for WiMAX Application
Hassan Nornikman (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamed Fareq Abdul Malek* (*University of Wollongong in Dubai*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *O. Al-Khatib* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *H. A. Rahim* (*Universiti Malaysia Perlis*); *A. A. A. Md Daud* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *L. Y. Yee* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. A. Z. Mohd Tahir* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *W. L. Yoong* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. F. Rosdin* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *H. A. Bakar* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

29 Frequency-scanned Antenna Array Based on Continuous Transverse Stub
Y. You (*Ningbo University*); *Yunlong Lu* (*Ningbo University*); *G. M. Xu* (*Ningbo University*); *Q. C. You* (*Ningbo University*); *Ji Fu Huang* (*Ningbo University*);

30 Design and Performance Analysis of an Ultra-wideband Monopole Microstrip Patch Antenna with Enhanced Bandwidth and Single Band-notched Characteristics
Meshal A. S. Al-zahrani (*Taif University*); *Osama I. S. Al-qahtani* (*Taif University*); *Fahad D. M. Al-sheheri* (*Taif University*); *Ahmed S. M. Qarhosh* (*Taif University*); *Abdulaziz M. Al-zahrani* (*Taif University*); *Mohamed S. Soliman* (*Taif University*);

31 Miniaturized Tapered Meandered Dual Band Dipole Antenna for WiFi 2.4/5.8 GHz Application
Ahmed Shafqat (*National University of Sciences and Technology (NUST)*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST)*);

32 A Compact Design of Switched Line Phase Shifter for a Microstrip Phased Array Antenna
Rudra L. Timsina (*University of New Hampshire*); *Richard A. Messner* (*University of New Hampshire*); *Jean L. Kubwimana* (*University of New Hampshire*);

33 Microstrip-fed Circular Ring Slot Antenna with Wideband Harmonic Suppression
Chow-Yen-Desmond Sim (*Feng Chia University*); *Chih-Chiang Chen* (*Feng Chia University*); *Jin-Sen Chen* (*Cheng Shiu University*); *Sheng-Yang Huang* (*Feng Chia University*);

34 Printed Traveling Wave Antenna with Vertical Transition for Wireless Communications
Chairunnisa (*Institut Teknologi Bandung*); *Edry Trisondra* (*Institut Teknologi Bandung*); *Alvita Maurizka* (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

35 Size Reduction BPF Design Using Substrate Integrated Waveguide Cavity
Muhammad Mimsyad (*National Yunlin University of Science and Technology*); *Cheng-You Hou* (*National Changhua University of Education*); *Chung-I G. Hsu* (*National Yunlin University of Science and Technology*); *Min-Hua Ho* (*National Changhua University of Education*);

36 A 24-GHz CMOS Transmitter Front-end for Vital Signal Monitoring Radar System
Bohun Shin (*Pusan National University*); *Changyeol Kim* (*Pusan National University*); *Sungchul Bae* (*Pusan National University*); *Hyunwon Moon* (*Daegu University*); *Ilku Nam* (*Pusan National University*);

37 Design of a Substrate Integrated Transition from Microstrip-to-Suspended Stripline
Wahab Mohyuddin (*Kyungpook National University*); *Ju Ho Lee* (*Kyungpook National University*); *Muhammad Sajjad Ahmad* (*BlueWaveTel Co., Ltd*); *Hyun Chul Choi* (*Kyungpook National University*); *Kang Wook Kim* (*Kyungpook National University*);

38 Application of Tilt Integral Derivative Filter for Load Frequency Control of Three Area Interconnecetd System
Dillip Kumar Mishra (*IIIT*); *Tapas K. Panigrahi* (*IIIT*); *Prakask Kumar Ray* (*NTU*); *Asit Mohanty* (*CET*);

39 Passive RFID Tag with Multiple Resonators for Object Tracking
S. Aiswarya (*Amrita University*); *M. Ranjith* (*Amrita University*); *Sreedevi K. Menon* (*Amrita University*);

40 Design of a Defected-Ground-Structure Coupler with Tunable Power Dividing Ratio
C.-S. Zhou (*China Electronic Technology Group Corporation NO.36 Institute*); *Xiao-Guo Huang* (*China Electronic Technology Group Corporation No. 36 Institute*);

41 Washing Reliability of Painted, Embroidered, and Electro-textile Wearable RFID Tags
Maxime Guibert (*University of Montpellier*); *Alexandre Massicart* (*University of Montpellier*); *Xiaochen Chen* (*Tampere University of Technology*); *Han He* (*Tampere University of Technology*); *Jeremie Torres* (*University of Montpellier*); *Leena Ukkonen* (*Tampere University of Technology*); *Johanna Virkki* (*Tampere University of Technology*);

42 A 12th-order Active RC Bandpass Filter for Synthetic Aperture Radar Receiver
Kai Tang (*Nanyang Technological University*); *Ying Zhang* (*Nanyang Technological University*); *Bo Chen* (*Nanyang Technological University*); *Liheng Lou* (*Nanyang Technological University*); *Ting Guo* (*Nanyang Technological University*); *Wensong Wang* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

43 Experimental Study on Relationship between Noise Suppression Effect and Shape of Metal Films Placed on NSS
Yugo Uchida (*National Institute of Technology, Kisarazu College*); *Keisuke Ejiri* (*National Institute of Technology, Kisarazu College*); *Hiroki Sato* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*Kisarazu National College of Technology*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Masahiro Uehara* (*National Institute of Technology, Kisarazu College*); *Arokiaswami Alphones* (*Nanyang Technological University*);

44 Improvement on Magnetic Shielding Performance of Metal Plate with Apertures
Yoshihito Otoi (*Aoyama Gakuin University*); *Ryosuke Suga* (*Aoyama Gakuin University*); *Tomoki Uwano* (*Aoyama Gakuin University*); *Osamu Hashimoto* (*Aoyama Gakuin University*);

45 Electromagnetic Compatibility of Raspberry PI Development Platform in Near and Far-field
Vaclav Mach (*Tomas Bata University in Zlin*); *Stanislav Kovar* (*Tomas Bata University in Zlin*); *Jan Valouch* (*Tomas Bata University in Zlin*); *Milan Adamek* (*Tomas Bata University in Zlin*); *Rui Miguel Soares Silva* (*Campus do Instituto Politecnico de Beja*);

46 A Study on Estimation Accuracy of Thin Sample's Complex Permittivity Determined by Reflection and Transmission Coefficient Using Coaxial Line Method
Hiroki Sato (*National Institute of Technology, Kisarazu College*); *Keisuke Ejiri* (*National Institute of Technology, Kisarazu College*); *Yugo Uchida* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*Kisarazu National College of Technology*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Masahiro Uehara* (*National Institute of Technology, Kisarazu College*); *Arokiaswami Alphones* (*Nanyang Technological University*);

47 Graded Index Substrate Integrated Waveguide (GRINSIW) Based Directional Coupler with Complementary Split Ring Resonators for Bandpass Filtering Response
Karthik Thothathri Chandrasekaran (*Nanyang Technological University*); *Arokiaswami Alphones* (*Nanyang Technological University*); *Muhammad Faeyz Karim* (*Nanyang Technological University*); *Nasimuddin* (*ASTAR*);

48 Design of 2.45 GHz Microwave Wireless Power Transfer System for Battery Charging Applications
Kangrong Li (*Nanyang Technological University*); *Kye Yak See* (*Nanyang Technological University*); *Wee Jin Koh* (*DSO National Laboratories*); *Junwu Zhang* (*Nanyang Technological University*);

49 An Acquisition and Processing Method for the Key Parameters of Electromagnetic Relays
Jia Xin Wan (*East China Normal University*); *Ke Xue* (*Tongji University*); *Yi Chen* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

50 An Efficient Image Feature Extraction Approach Based on Discrete Information Coding Matrix Algorithm
Chuang Gao (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

51 Gain Enhancement of Low Profile Cavity Backed Spiral Antenna at Low Frequencies
Ziauddin Sheikh (*National University of science and Technology*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST)*);

52 Design of a High-gain Strain Sensor for Monitoring Structural Health Based on Passive UHF RFID
Guo Chun Wan (*Tongji University*); *Ke Xue* (*Tongji University*); *Ling Yi Tang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

53 Design of Double Bowtie Ring Shaped Slot Nanoantenna and Their Absorption Properties
Yuanyuan Liu (*East China Jiaotong University*); *Guang Xiong* (*East China Jiaotong University*); *Lu Zhu* (*East China Jiaotong University*); *Chaozheng Yue* (*East China Jiaotong University*);

54 Effect of Resistivity of ITO Thin Film When Used in Transparent Checkerboard Surfaces for RCS Reduction
Neelakantam V. Venkatarayalu (*Singapore Institute of Technology*); *W. W. Lee* (*University of Glasgow*); *D. Tan* (*University of Glasgow*); *C. B. Soh* (*Singapore Institute of Technology*);

55 Exciting Plasmonic Modes of Metallic Nanostructures Loaded on Silicon Waveguides Surface
Zhipeng Hu (*South China Normal University*); *Junxing Yang* (*South China Normal University*); *Liu Liu* (*South China Normal University*); *Yuan Zhang* (*South China Normal University*);

56 Orbital Angular Momentum of a Gaussian Beam without Optical Vortices Produced by Cylindrical Lenses
Victor V. Kotlyar (*Image Processing Systems Institute of the Russian Academy of Sciences*); *Alexey A. Kovalev* (*Samara State Aerospace University, Image Processing Systems Institute of the Russian Academy of Science*); *Elena Sergeevna Kozlova* (*Samara National Research University*);

57 Research on Metal Surface Corrosion Detection Technique Using Optical Coherence Tomography Technology
Ok Rak Lim (*Chosun University*); *Heetaek Cho* (*Chosun University*); *Yu-Gyeong Chae* (*Chosun University*); *Seungrag Lee* (*Chosun University*); *Kyu Hyuk Lee* (*Chosun University*); *HeeJin Jang* (*Chosun University*); *Tae-Jung Ahn* (*Chosun University*);

58 UV-transmission Glass Tube Packaging for Special Polymer-coated FBG Based UV Sensor
Gyeong-Seo Seo (*Chosun University*); *Tae-Jung Ahn* (*Chosun University*);

59 Simulation and Theoretical Analysis of a Photoconductive Vacuum Microelectronic Device
Jun Dai (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*); *Xing-Yun Zhang* (*Beihang University*);

60 Microwave Conductivity of Multilayer Graphene
Hee-Jo Lee (*Daegu University*);

61 Comparison of Power Efficiency and Signal Regeneration Impact in the SLR DWDM Transmission Systems with Different Spectral Band
Deniss Pavlovs (*Riga Technical University*); *Rolands Parts* (*Riga Technical University*); *Dzhamanshalov Muratbeck* (*Kazakh National Technical Research University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

62 Enhancement of Gain with Coplanar Isosceles Triangular Patch Antenna for Dual-band Applications
Pasumarthi Amala Vijaya Sri (*K L University*); *G. Srikanth* (*K L University*); *B. Vamsi Krishna* (*K L University*); *K. Kousalya* (*K L University*); *S. Rama Lavanya* (*K L University*); *K. Ooha* (*K L University*); *K. Y. Srinivas* (*K L University*); *Ketavath Kumar Naik* (*K L University*);

Session 1A1
SC3: Modeling, Numerical Simulation and Theory in Optics and Photonics 1

Monday AM, November 20, 2017

Room LT5

Organized by Jun Shibayama, Yasuhide Tsuji

Chaired by Jun Shibayama, Yasuhide Tsuji

09:00 Numerical Simulation of the Open Ring Resonators with Non-axially-symmetrical Reflecting Surfaces
Alina V. Gorelaya (*Saint Petersburg Electrotechnical University "LETI"*); *Yuri V. Filatov* (*St.-Petersburg Electrotechnical University*); *Egor V. Shalymov* (*St.-Petersburg Electrotechnical University*); *Vladimir Yu. Venediktov* (*St.-Petersburg Electrotechnical University and St.-Petersburg State University*);

09:20 Analysis of Incident Angle Dependence of Light Sensitivity in SOI Photodiode with Gold Line-and-space Grating
Hiroaki Satoh (*Shizuoka University*); *Hiroshi Inokawa* (*Shizuoka University*);

09:40 Design of Polarization Splitter Based on High-birefringence Photonic Crystal Fiber with Double-hole Unit Core
Zejun Zhang (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*); *Masashi Eguchi* (*Chitose Institute of Science and Technology*); *Chun-Ping Chen* (*Kanagawa University*);

10:00 Topology Optimization Using Time Domain Beam Propagation Method for Design of Optical Waveguide Devices
Akito Iguchi (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*); *Takashi Yasui* (*Kitami Institute of Technology*); *Koichi Hirayama* (*Kitami Institute of Technology*);

10:20 Computation of Differential Mode Group Delay in a Few Mode Optical Fiber from Transcendental Equations by the Automatic Differentiation and the Sakurai-Sugiura Method
Naoya Mizukami (*Muroran Institute of Technology*); *Shingo Sato* (*Muroran Institure of Technology*); *Koji Hasegawa* (*Muroran Institute of Technology*);

11:00 **Coffee Break**

11:20 Self-injection Locking of Laser Diode to an Optical Microresonator
A. V. Cherenkov (*Lomonosov Moscow State University*); *N. M. Kondratiev* (*Russian Quantum Center*); *V. E. Lobanov* (*Russian Quantum Center*); *Michael L. Gorodetsky* (*Russian Quantum Center*);

11:40 Numerical Simulation of Cylindrical Microcavity Lasers for Active Photonic Systems
Ryohei Uemura (*Nihon University*); *Shinichiro Ohnuki* (*Nihon University*);

12:00 S-shaped Non-paraxial Corrections to General Astigmatic Beams
Xing Liu (*Tsinghua University*); *Kevin Cassou* (*Universite Paris-Sud*); *Wenhui Huang* (*Tsinghua University*); *Aurelien Martin* (*Universite Paris-Sud*); *Chuanxiang Tang* (*Tsinghua University*); *Lixin Yan* (*Tsinghua University*); *Fabian Zomer* (*Universite Paris 11*);

12:20 Polarization Rotator Independent of Incident Plane of Polarization Using a Rectangular Hole Array
Junji Yamauchi (*Hosei University*); *Daiki Shimamura* (*Hosei University*); *H. Nakano* (*Hosei University*);

Session 1A2a
FocusSession.SC3: Label-free Optical Nanobiosensors for Bio-diagnostics, Environmental Monitoring and Food Safety

Monday AM, November 20, 2017

Room LT6

Organized by Lucia Petti, Riccardo Castagna

Chaired by Riccardo Castagna

09:00 Invited SPR Cavities on Optical Fiber End-facets and Applications in Biomolecule and Ultrasound Sensing
Tian Yang (*Shanghai Jiao Tong University*); *Xiaolong He* (*Xu Yuan Biotechnology Company*); *Xin Zhou* (*Shanghai Jiao Tong University*); *Zeyu Lei* (*Shanghai Jiao Tong University*); *Jie Yang* (*Xu Yuan Biotechnology Company*); *Yalin Wang* (*Xu Yuan Biotechnology Company*); *De Cai* (*Shanghai Jiao Tong University*); *Sung-Liang Chen* (*Shanghai Jiao Tong University*); *Xueding Wang* (*University of Michigan*);

09:20 Invited Multifunctional Optofluidic Platform for Bio-applications
Luigino Criante (*Istituto Italiano di Tecnologia*);

09:40 Highly-sensitive Infrared and Terahertz Sensing with Hyperbolic Metamaterial Absorbers (Invited)
Yuehui Lu (*Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences*); *Lina Jiao* (*Ningbo University*); *Qi Liu* (*Ningbo University*); *Xianpeng Zhang* (*Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences*); *Hua Xu* (*Ningbo University*); *Weijie Song* (*Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences*);

10:00 Label-free Sensitive Detection of Bacteriophages on Engineered Plasmonic Nanostructures (Invited)
Massimo Rippa (*Istituto di Scienze Applicate e Sistemi Intelligenti "E. Caianiello", ISASI, CNR*); *Riccardo Castagna* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*); *Giorgia Borriello* (*Istituto Zooprofilattico Sperimentale del Mezzogiorno*); *Jun Zhou* (*Ningbo University*); *Joseph Zyss* (*Ecole Normale Superieure de Cachan*); *Lucia Petti* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*);

10:20 Scanning Probe Microscopy at Microwave and Near-Infrared Wavelengths for Biology Applications (Invited)
Andrea Di Donato (*Universita Politecnica delle Marche*); *Davide Mencarelli* (*Polytechnic University of Marche*); *Luca Pierantoni* (*Polytechnic University of Marche*); *M. Stocchi* (*Polytechnic University of Marche*); *M. Farina* (*Polytechnic University of Marche*);

11:00 **Coffee Break**

Session 1A2b
Memorial Session for Professor Kenneth K. Mei

Monday AM, November 20, 2017

Room LT6

Organized by Andreas C. Cangellaris, Wei Hong

Chaired by Andreas C. Cangellaris, Wei Hong

11:20 Multilevel Green's Function Interpolation Method Developed at City University of Hong Kong — A Tribute to the Late Professor Kenneth K. Mei
Chi Hou Chan (*City University of Hongkong*);

11:40 Simplicity is Power: Professor Kenneth K. Mei's Pursuit of Elegant Solutions to Challenging Electromagnetic Field Problems and Its Lasting Impact
Andreas C. Cangellaris (*University of Illinois at Urbana-Champaign*);

12:00 New Boundary Differential Equations
Geyi Wen (*Nanjing University of Information Science and Technology*);

12:20 Discrete Exterior Calculus Implementation for Generalized-Lorenz Gauged A-Φ Formulation
Shu Chen (*University of Illinois at Urbana-Champaign*); *Weng Cho Chew* (*University of Illinois*);

12:40 Time-domain Finite Element Analysis in Electromagnetics: A Tribute to Professor Kenneth K. Mei
Chao-Fu Wang (*National University of Singapore*); *Jian-Ming Jin* (*University of Illinois at Urbana-Champaign*);

Session 1A3
FocusSession.SC2: Novel Materials and Designs for Absorption of Wave Energy 2

Monday AM, November 20, 2017

Room LT7

Organized by Yun Lai, Bo Hou

Chaired by Yun Lai, Bo Hou

09:00 Light Manipulation with Plasmonic Metasurfaces and Meta-devices (Keynote)
Shuming Wang (*Nanjing University*); *Hui-Hsin Hsiao* (*National Taiwan University*); *Yi Chieh Lai* (*National Taiwan University*); *Pin Chieh Wu* (*Research Center for Applied Sciences*); *Cheng Hung Chu* (*Research Center for Applied Sciences*); *Mu-Ku Chen* (*National Taiwan University*); *Jia-Wern Chen* (*National Taiwan University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*); *Din Ping Tsai* (*Academia Sinica*);

09:30 Enhanced Graphene-plasmon Interaction in Groove-structured Metasurface for Optical Modulator (Invited)
Yulin Wang (*Nanjing University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*);

09:50 Hybrid Polariton Bands in Organic-dye-doped Nanostructures (Invited)
Ru-Wen Peng (*Nanjing University*); *Kun Zhang* (*Nanjing University*); *Wen-Bo Shi* (*Nanjing University*); *Yue Xu* (*Nanjing University*); *Ren-Hao Fan* (*Nanjing University*); *Mu Wang* (*Nanjing University*);

10:10 Wide-angle Perfect Absorber Based on Dispersionless Edge Modes (Invited)
Haitao Jiang (*Tongji University*); *Feng Wu* (*Tongji University*); *Chunhua Xue* (*Tongji University*); *Hong Chen* (*Tongji University*);

11:00 **Coffee Break**

11:20 Bio-inspired Broadband Microwave Metasurface Absorber
Invited
Shubo Wang (*The Hong Kong University of Science and Technology*); *Che Ting Chan* (*The Hong Kong University of Science and Technology*);

11:40 Flat Optical Metasurfaces for Feasible Applications
Invited
Shuming Wang (*Nanjing University*); *Hui-Hsin Hsiao* (*National Taiwan University*); *Yi-Chieh Lai* (*National Cheng Kung University*); *Pin Chieh Wu* (*National Taiwan University*); *Cheng Hung Chu* (*National Taiwan University*); *Mu-Ku Chen* (*National Taiwan University*); *Jia-Wern Chen* (*National Taiwan University*); *Tsung Lin Chung* (*National Taiwan University*); *Ren Jie Lin* (*National Taiwan University*); *Yu Han Chen* (*National Taiwan University*); *Tao Li* (*Nanjing University*); *Shi-Ning Zhu* (*Nanjing University*); *Din Ping Tsai* (*Academia Sinica*);

12:00 Observation of Valley-contrasting Physics in All-dielectric Photonic Crystals
Invited
Xiao-Dong Chen (*Sun Yat-Sen University*); *Wei-Min Deng* (*Sun Yat-Sen University*); *Jin-Cheng Lu* (*Sun Yat-Sen University*); *Fu-Long Shi* (*Sun Yat-Sen University*); *Jian-Wen Dong* (*Sun Yat-Sen University*);

12:20 Energy Transport of Localized Designer Surface Plasmons
Invited
Fei Gao (*Nanyang Technological University*); *Zhen Gao* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*);

Session 1A4
Novel Frequency Selective Structures

Monday AM, November 20, 2017
Room LT8
Organized by Zhongxiang Shen
Chaired by Zhongxiang Shen

09:00 Absorptive Frequency Selective Structure with Reflection Band
Hao Huang (*Nanyang Technological University*); *Zhongxiang Shen* (*Nanyang Technological University*); *Ahmed Abdelmottaleb Omar* (*Nanyang Technological University*);

09:20 Design of a Single-slab Low-profile Frequency Selective Surface
Ali Lalbakhsh (*Macquarie University*); *Karu P. Esselle* (*Macquarie University*); *Stephanie L. Smith* (*CSIRO (Commonwealth Scientific and Industrial Research Organisation)*);

09:40 A Fast Design Procedure for Quadrature Reflection Phase
Ali Lalbakhsh (*Macquarie University*); *Muhammad Usman Afzal* (*Macquarie University*); *Karu P. Esselle* (*Macquarie University*); *Stephanie L. Smith* (*CSIRO (Commonwealth Scientific and Industrial Research Organisation)*);

10:00 Accurate Equivalent Circuit Model for a Single-layer Double-sided Square Loop Frequency Selective Surface
Wahab Mohyuddin (*Kyungpook National University*); *Dong Hwi Kim* (*Kyungpook National University*); *Dong Sik Woo* (*Kyungwoon University*); *Hyun Chul Choi* (*Kyungpook National University*); *Kang Wook Kim* (*Kyungpook National University*);

11:00 **Coffee Break**

11:20 Equivalent Circuit Model Analysis of Loop Frequency Selective Surfaces
Baraa F. Al-Azzawi (*The University of Sheffield*); *Jonathan M. Rigelsford* (*The University of Sheffield*); *Richard J. Langley* (*University of Sheffield*);

11:40 An Equivalent Circuit Model for Active or Degradable Frequency Selective Surfaces
Baraa F. Al-Azzawi (*The University of Sheffield*); *Richard J. Langley* (*University of Sheffield*); *Jonathan M. Rigelsford* (*The University of Sheffield*);

12:00 Phase-corrected $\boldsymbol{H}$-plane Horn Antenna Based on Corrugated Substrate Integrated Waveguide
Haiyan Jin (*University of Electronic Science and Technology of China*); *Yuliang Zhou* (*University of Electronic Science and Technology of China*); *Yuanhua Sun* (*University of Electronic Science and Technology*); *Yongmao Huang* (*University of Electronic Science and Technology of China*);

Session 1A5
FocusSession.SC3: Photonic Nanostructures for Enhancing Light-matter Interaction 1

Monday AM, November 20, 2017
Room LT11
Organized by Chia Chen Hsu, Ngoc Diep Lai
Chaired by Chia Chen Hsu, Jeffrey F. Young

09:00 Emerging Materials for Plasmonics
Invited
Jerome Plain (*University of Technology of Troyes and CNRS*);

09:20 Plasmon-enhanced Free-radical Photopolymerization
Invited
Olivier Soppera (*Universite de Haute-Alsace*);

09:40 Circular Polarized Emission from Achiral Quantum
Invited Dots via Resonant Coupling with a Chiral Metasurface
Zeng Wang (*Nanyang Technological University*); *Yue Wang* (*Nanyang Technological University*); *Giorgio Adamo* (*Nanyanag Technological University*); *Jinghua Teng* (*Institute of Materials Research and Engineering*); *Handong Sun* (*Nanyang Technological University*);

10:00 Strong Light-matter Coupling in All-inorganic Per-
Invited ovskite Crystals: Room Temperature Exciton Polariton Lasing
Qihua Xiong (*Nanyang Technological University*);

10:20 New Avenues for Light-matter Interaction: Parity-
Invited time Symmetry and Non-ergodic Behaviour of Gain-loss Transducer Arrays
Henri Benisty (*Universite Paris Saclay*); *Anatole Lupu* (*Universite Paris Saclay*); *Vladimir V. Konotop* (*Universidade de Lisboa*);

10:40 Analysis of the Fluorescence Dipole Structure for Sin-
Invited gle CdSe/CdS Nanoplatelets
Fu Feng (*Sorbonne Universites*); *Loan Thu N'Guyen* (*Sorbonne Universites*); *Michel Nasilowski* (*Univ. Paris VI*); *Brice Nadal* (*Univ. Paris VI*); *Benoit Dubertret* (*Univ. Paris VI*); *Laurent Coolen* (*Sorbonne Universites*); *Agnes Maitre* (*Sorbonne Universites*);

11:00 **Coffee Break**

11:20 Self-consistent Numerical Modeling of Radiatively
Invited Damped Lorentz Oscillators in Complex Dielectric Environments
Jeffrey F. Young (*University of British Columbia*); *Ellen Schelew* (*University of British Columbia*); *James Pond* (*Lumerical Solutions, Inc.*); *Rong-Chun Ge* (*Queen's University*); *Stephen Hughes* (*Queen's University*);

11:40 Cavity Resonator Integrated Grating Filters Fabri-
Invited cated by Soft-mold Nanoimprint Lithography
S. Auge (*Universite de Toulouse*); *S. Pelloquin* (*Universite de Toulouse*); *J. B. Doucet* (*Universite de Toulouse*); *A. Lauvergne* (*Universite de Toulouse*); *E. Daran* (*Universite de Toulouse*); *A. Monmayrant* (*Universite de Toulouse*); *Olivier Gauthier-Lafaye* (*Universite de Toulouse*);

12:00 Numerical Modeling of Hypersonic Phonon Generation in Nanoscale Photonic Waveguides
Xiao-Xing Su (*Beijing Jiaotong University*); *Xiao-Shuang Li* (*Beijing Jiaotong University*); *Hongyangyang Shi* (*National University of Singapore*); *Heow Pueh Lee* (*National University of Singapore*);

12:15 Fabrication and Functions of Liquid Crystalline Mi-
Invited crocapsules
Yoshiaki Uchida (*Osaka University*);

Session 1A6a
Oral Presentations for Best Student Paper Awards — SC2: Metamaterials, Plasmonics and Complex Media

Monday AM, November 20, 2017

Room LT12

Chaired by Baile Zhang

09:00 Design and Analysis of Checkerboard Surface for RCS Reduction in X-band
D. Tan (*University of Glasgow*); *Neelakantam V. Venkatarayalu* (*Singapore Institute of Technology*);

09:20 Influence of Wave Absorbing Material on Shielding Effect of the Neckline of Electromagnetic Shielding Clothing
Ying Su (*Zhongyuan University of Technology*); *Xiuchen Wang* (*Zhongyuan University of Technology*); *Jiajia Duan* (*Zhongyuan University of Technology*); *Zhe Liu* (*Zhongyuan University of Technology*);

09:40 Tunable Plasmon-induced Transparentcy in Bilayer Graphene Metamaterials
Jiang-Yu Liu (*Peking University*); *Tie-Jun Huang* (*Peking University*); *Pu-Kun Liu* (*Peking University*);

10:00 Surface Plasmon Bragg Grating Using Hybrid Metal Insulator Metal Plasmonic Waveguide
Prateeksha Sharma (*Indian Institute of Information Technology, Design & Manufacturing*); *Kumar Vishwakarma Dinesh* (*PDPM Indian Institute of Information Technology, Design & Manufacturing*);

10:20 A Compact SIW Based Filtering Power Divider with Improved Selectivity Using CSRR
Dilip Kumar Choudhary (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

11:00 **Coffee Break**

Session 1A6b
Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

Monday AM, November 20, 2017

Room LT12

Chaired by Krishna Agarwal

11:20 A Low-field Portable Magnetic Resonance Imaging System for Head Imaging
Zhi Hua Ren (*Singapore University of Technology and Design*); *Sergei Obruchkov* (*Victoria University of Wellington*); *Dongwei Lu* (*University of Electronic Science and Technology of China*); *Robin Dykstra* (*Victoria University of Wellington*); *Shao Ying Huang* (*Singapore University of Technology and Design*);

11:40 Ultra-Wideband Wireless Sensors for Robot Vision in Industrial Environments
Stanislav Slovak (*Technical University of Kosice*); *P. Galajda* (*Technical University of Kosice*); *Maria Svecova* (*Technical University*); *Martin Pecovsky* (*Technical University of Kosice*); *M. Kmec* (*Ilmenau University of Technology*);

12:00 Angle of Arrival Estimation with Improved Accuracy Using the Mean IQ-value Method in a Rician Fading Channel
Daishi Iwamoto (*Toyama University*); *Kazuhiro Honda* (*Toyama University*); *Koichi Ogawa* (*Toyama University*);

12:20 Invited Electrical Impedance Tomography with Multiplicative Regularization
Ke Zhang (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*); *Aria Abubakar* (*Schlumberger Houston Formation Evaluation*);

12:40 Precession Period Estimation Using Sinusoidal Frequency Modulated Fourier-Bessel Series Expansion
Li Sun (*Air Force Engineering University*); *Qi-Fang He* (*Air Force Engineering University*); *Linghua Su* (*Air Force Engineering University*); *Yong-Zhao Lin* (*Air Force Engineering University*);

Session 1A7
FocusSession.SC5: Microwave Remote Sensing of Soil Moisture

Monday AM, November 20, 2017

Room LT13

Organized by Steven K. Chan, Rajat Bindlish

Chaired by Steven K. Chan

09:00 Scattering of Extended Cylinders Based on Numerical Maxwell Model of 3D (NMM3D) for Vegetation Effects in Microwave Remote Sensing of Soil Moisture
Huanting Huang (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Eni Gerald Njoku* (*California Institute of Technology*); *Andreas Colliander* (*California Institute of Technology*); *Kung-Hau Ding* (*Air Force Research Laboratory, Wright-Patterson AFB*); *Tien-Hao Liao* (*California Institute of Technology*);

09:20 Inversion of the Permittivities for a Double Bounce Mechanism
Francois Doyelle (*Universite Paris Sud*); *Orian Coudere* (*Centrale Supelec*); *Laetitia Thirion-Lefevre* (*SONDRA/SUPELEC*); *Regis Guinvarc'h* (*Centrale Supelec*);

09:40 Quantification of Uncertainty in Radar Backscatter Due to Variable Soil Moisture
Uday K. Khankhoje (*Indian Institute of Technology Delhi*);

10:00 An Improved Dual Channel Algorithm for Passive Soil Moisture Retrieval Soil Moisture Active Passive (SMAP) Mission
Steven K. Chan (*NASA Jet Propulsion Laboratory, California Institute of Technology*);

10:20 Utilization of Full Wave Vegetation and Ground Simulations of 3-D Maxwell Equations in Soil Moisture Retrieval
Andreas Colliander (*California Institute of Technology*); *Eni Gerald Njoku* (*California Institute of Technology*); *Huanting Huang* (*University of Michigan*); *Leung Tsang* (*University of Michigan*);

10:40 Evaluation of Surface Roughness Parameterization Schemes for L-band Soil Moisture Retrieval
Tianjie Zhao (*Jointly Sponsored by Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Bin Peng* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Jian-Cheng Shi* (*Institute of Remote Sensing Applications, Chinese Academy of Sciences*); *Tianxing Wang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Arnaud Mialon* (*CESBIO*); *Yann H. Kerr* (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO (CNRS/IRD/CNES/UPS))*);

11:00 **Coffee Break**

11:20 Combined SMAP and SMOS Observations to Build an Enhanced Soil Moisture Data
Rajat Bindlish (*NASA Goddard Space Flight Center*); *Thomas J. Jackson* (*USDA ARS Hydrology and Remote Sensing Laboratory*); *Steven K. Chan* (*NASA Jet Propulsion Laboratory, California Institute of Technology*); *Andreas Colliander* (*California Institute of Technology*); *Yann H. Kerr* (*Centre d'Etudes Spatiales de la BIOsphere (CESBIO (CNRS/IRD/CNES/UPS))*);

11:40 On Penetration Depth for Soil Moisture Retrieval
Shaoning Lv (*University of Twente*); *Yijian Zeng* (*University of Twente*); *Jun Wen* (*Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences*); *Xin Wang* (*Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences*); *Zhongbo Su* (*University of Twente*);

12:00 High-resolution Enhanced Product Based on SMAP Active-passive Approach and Sentinel 1A-1B SAR Data
Narendra Narayan Das (*Water and Carbon Cycle Group*); *Dara Entekhabi* (*Massachusetts Institute of Technology*); *Seungbum Kim* (*Water and Carbon Cycle Group*); *Thomas Jagdhuber* (*Microwaves and Radar Institute*); *R. Scott Dunbar* (*Water and Carbon Cycle Group*); *Andreas Colliander* (*California Institute of Technology*); *Simon H. Yueh* (*NASA Jet Propulsion Laboratory, California Institute of Technology*);

12:20 Ground-based Microwave Active and Passive Observations in a Tibetan Meadow Ecosystem
Donghai Zheng (*University of Twente*); *Jan Hofste* (*University of Twente*); *Xin Wang* (*Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences*); *Jun Wen* (*Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences*); *Zuoliang Wang* (*Northwest Institute of Eco-Environment and Resources, Chinese Academy of Sciences*); *Rogier Van der Velde* (*University of Twente*); *Yijian Zeng* (*University of Twente*); *Mike Schwank* (*Gamma Remote Sensing AG*); *Paolo Ferrazzoli* (*Universita di Roma Tor Vergata*); *Zhongbo Su* (*University of Twente*);

12:40 A Theory of Recursive Kernel RX Anomaly Detection Algorithm for Hyperspectral Imagery
Chunhui Zhao (*Harbin Engineering University*); *Weiwei Deng* (*Harbin Engineering University*);

Session 1A8
FocusSession.SC5: Inverse Problems for Scientific, Industrial and Biomedical Applications 1

Monday AM, November 20, 2017

Room LT14

Organized by Cheng-Gang Xie, Xudong Chen

Chaired by Cheng-Gang Xie, Xudong Chen

09:00 Invited Multiple Signal Classification: From Millimeter Resolution to Nanometer Resolution
Krishna Agarwal (*National University of Singapore*);

09:20 A Signal Processing Method for Noise Cancellation of Electromagnetic Environment by Introducing Power State Variables
Akira Ikuta (*Prefectural University of Hiroshima*); *Hisako Orimoto* (*Hiroshima National College of Maritime Technology*);

09:40 Invited Investigation the Gas-solids Flow Hydrodynamic Characteristics in Fluidized Beds by Process Tomography
Haigang Wang (*Institute of Engineering Thermophysics, Chinese Academy of Sciences*); *Jiamin Ye* (*Institute of Engineering Thermophysics, Chinese Academy of Sciences*); *Wuqiang Yang* (*University of Manchester*);

10:00 Invited A Fast Inversion Method for Inverse Scattering with Inhomogeneous Background
Kuiwen Xu (*Hangzhou Dianzi University*); *Yu Zhong* (*A*STAR*);

10:20 Frequency Optimization in Multi-frequency-difference Invited MIT for Intracranial Hemorrhage Detection
Zhili Xiao (*Tianjin University*); *Chao Tan* (*Tianjin University*); *Feng Dong* (*Tianjin University*);

11:00 **Coffee Break**

11:20 A High Robust Image Reconstruction for EIT with Invited Multi-scale Geometric Constraint
Wang Yu (*Tianjin University*); *Shangjie Ren* (*Tianjin University*); *Feng Dong* (*Tianjin University*);

11:40 Identification of Initial Local Pathologic Changes in Invited Liver by EIT
Qinhui Wang (*Tianjin University*); *Shangjie Ren* (*Tianjin University*); *Feng Dong* (*Tianjin University*);

12:00 Conjugate Gradient Method Applied to Inverse Scat- Invited tering with No Prior Information on Incident Field
Rui Yang (*South China Normal University*); *Zhi Qi Meng* (*Fukuoka University*); *Takashi Takenaka* (*Nagasaki University*);

12:20 Nonlinear Reconstruction for Electrical Capacitance Invited Tomography Using Shortcut D-bar Method
Jiayu Zhao (*Beihang University*); *Zhang Cao* (*Beihang University*); *Lijun Xu* (*Beihang University*);

12:40 Fast Demodulation of Multi-frequency Signals for Electrical Impedance Tomography
Shijie Sun (*Beihang University*); *Jiangtao Sun* (*Beihang University*); *Zhang Cao* (*Beihang University*); *Lijun Xu* (*Beihang University*);

Session 1A9
Novel Mathematical Methods in Electromagnetics

Monday AM, November 20, 2017

Room LT15

Organized by Yury V. Shestopalov, Kazuya Kobayashi

Chaired by Yury V. Shestopalov, Kazuya Kobayashi

09:00 Numerical Method for Electromagnetic Wave Propagation Problem in a Cylindrical Anisotropic Inhomogeneous Waveguide with Longitudinal Magnetization
Eugene Smolkin (*Penza State University*); *Maxim Snegur* (*Penza State University*); *Yury V. Shestopalov* (*University of Gavle*);

09:20 Maximum-sensitivity Method for Minimizing Uncertainty in the Measurements of Permittivity of a Cylindrical Dielectric Sample in a Rectangular Waveguide
Roman Kushnin (*Riga Technical University*); *Janis Semenjako* (*Riga Technical University*); *Yury V. Shestopalov* (*University of Gavle*);

09:40 Electrostatic Properties of Heterogeneous Medium with Inclusion of Fractal Geometry
S. Athalye (*Singapore University of Technology and Design (SUTD)*); *Y. W. Low* (*Singapore University of Technology and Design (SUTD)*); *Y. S. Ang* (*Singapore University of Technology and Design (SUTD)*); *Muhammad Zubair* (*Singapore University of Technology and Design (SUTD)*); *Ricky L. K. Ang* (*Singapore University of Technology and Design*);

10:00 Mutual Inductance of Thick Coils for Arbitrary Relative Orientation and Position
John Thomas Conway (*University of Agder*);

10:20 Novel Implicit Method for Faster Modeling of Low Frequency EM Problems in the Time Domain
John J. Ottusch (*HRL Laboratories, LLC*); *John L. Visher* (*HRL Laboratories, LLC*);

11:00 **Coffee Break**

11:20 Planning and Processing of Measurements in a Waveguide Aimed at Determination of Permittivity of Dielectric Inclusion
E. A. Sheina (*Lomonosov Moscow State University*); *Yury V. Shestopalov* (*University of Gavle*); *Aleksander P. Smirnov* (*M. V. Lomonosov Moscow State University*);

11:40 The Average of Perturbed EM-waves of the First Order, Depolarized in Propagation through Continuous Random Media
Yukihisa Nanbu (*National Institute of Technology, Sasebo College*); *Mitsuo Tateiba* (*Kyushu University*);

12:00 Application of Harmonic Wavelets to Processing Oscillating Hydroacoustic Signals
Dmitry M. Klionskiy (*Saint Petersburg Electrotechnical University "LETI"*); *Dmitrii I. Kaplun* (*SPbETU "LETI"*); *V. V. Gulvanskii* (*SPbETU "LETI"*); *D. V. Bogaevskiy* (*SPbETU "LETI"*); *S. A. Romanov* (*SPbETU "LETI"*); *S. V. Kalincev* (*Polotsk State University*);

12:20 A Parabolic Equation in the Time Domain
Mikhail Sergeyevich Mikhailov (*National Research University "Moscow Power Engineering Institute"*); *Aleksey Aleksandrovich Komarov* (*National Research University "Moscow Power Engineering Institute"*);

12:40 Resonances and Different Recording Times on Electromagnetic Scalar and Vector Potentials
Juan Manuel Velazquez Arcos (*Universidad Autonoma Metropolitana*); *J. Granados-Samaniego* (*Universidad Autonoma Metropolitana*); *C. A. Vargas* (*Universidad Autonoma Metropolitana*);

Session 1A10
Advances in RFID

Monday AM, November 20, 2017

Room LT16

Organized by Smail Tedjini, Xianming Qing

Chaired by Smail Tedjini, Xianming Qing

09:00 Invited Compact Cavity Resonators in Substrate Integrated Waveguide (SIW) Technology for RFID Applications
Maurizio Bozzi (*University of Pavia*); *Nicolo Delmonte* (*University of Pavia*); *Lorenzo Silvestri* (*University of Pavia*); *Cristiano Tomassoni* (*University of Perugia*); *Luca Perregrini* (*University of Pavia*);

09:20 Miniature 3D Wire Antenna for RFID UHF Reader Using Genetic Algorithm
Fateh Benmahmoud (*Grenoble Alpes University*); *Pierre Lemaitre-Auger* (*Grenoble Alpes University*); *Smail Tedjini* (*Grenoble INP/LCIS*);

09:40 Embroidered Passive UHF RFID Tag on Flexible 3D Printed Substrate
Muhammad Rizwan (*Tampere University of Technology*); *Maxime Guibert* (*University of Montpellier*); *Alexandre Massicart* (*University of Montpellier*); *Jeremie Torres* (*University of Montpellier*); *Lauri Sydanheimo* (*Tampere University of Technology*); *Leena Ukkonen* (*Tampere University of Technology*); *Toni Bjorninen* (*Tampere University of Technology*); *Johanna Virkki* (*Tampere University of Technology*);

10:00 Comparison of E-textile Dipole and Folded Dipole Antennas for Wearable Passive UHF RFID Tags
Xiaochen Chen (*Tampere University of Technology*); *Leena Ukkonen* (*Tampere University of Technology*); *Toni Bjorninen* (*Tampere University of Technology*); *Johanna Virkki* (*Tampere University of Technology*);

10:20 A Directional, Low-profile Zero-Phase-Shift-Line (ZPSL) Loop Antenna for UHF Near-field RFID Applications
Yunjia Zeng (*Institute for Infocomm Research*); *Xianming Qing* (*Institute for Infocomm Research*); *Zhining Chen* (*National University of Singapore*);

11:00 **Coffee Break**

11:20 Comparison among Different Feed Network Topologies for Sequential Rotated Antenna Array
Daniele Inserra (*University of Electronic Science and Technology of China*); *Wei Hu* (*University of Electronic Science and Technology of China*); *Guangjun Wen* (*University of Electronic Science and Technology of China*); *Ping Wang* (*Chongqing University of Posts and Telecommunications*);

11:40 Wideband Circularly Polarized UHF RFID Reader Antenna
Nasimuddin (*Institute for Infocomm & Research, A-STAR*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Zhining Chen* (*National University of Singapore*);

12:00 Design and Characterization of Chipless RFID Sensors
Filippo Costa (*University of Pisa — CNIT*); *Simone Genovesi* (*University of Pisa — CNIT*); *Michele Borgese* (*University of Pisa*); *Alessio Dicandia* (*University of Pisa*); *Giuliano Manara* (*University of Pisa*); *Smail Tedjini* (*Grenoble INP/LCIS*); *Etienne Perret* (*University Grenoble-Alpes*); *David Girbau* (*Universitat Rovira i Virgili*); *Antonio Lazaro* (*Universitat Rovira i Virgili (URV)*); *Ramon Villarino* (*Universitat Rovira i Virgili (URV)*);

Session 1A11
5G Communication Electromagnetic Issues

Monday AM, November 20, 2017

Room LT17

Organized by Er Ping Li, Andreas C. Cangellaris

Chaired by Er Ping Li, Andreas C. Cangellaris

09:00 Fully-automatic Object Detection Vehicle with Object Following Characteristic Based on Multi-antenna Bluetooth Low Energy Telematics System
Wei-Ting Tsai (*National Taiwan University*); *Yu-Yao Chen* (*National Taiwan University*); *Chong-Yi Liou* (*National Taiwan University*); *Kuo-Giun Ning* (*National Taiwan University*); *Zhao-Lun Tsai* (*National Taiwan University*); *Shau-Gang Mao* (*National Taipei University of Technology*);

09:20 Advanced Interconnect and Antenna-in-package Design for Millimeter-wave 5G Communications
Boping Wu (*Intel Corporation*);

09:40 5G and Beyond Communication Electromagnetic Compatibility
Er Ping Li (*Zhejiang University-UIUC Institute*); *Li Da* (*Zhejiang University-UIUC Institute*); *Tiian-Wu Li* (*Zhejiang University-UIUC Institute*);

10:00 Optimization of Coil Geometry Using Strongly Coupled Magnetic Resonance at 13.56 MHz ISM Band
Jason C. Muring (*University of San Carlos*); *Alberto S. Banacia* (*University of San Carlos*);

11:00 **Coffee Break**

11:20 Nonuniform Lossy Transmission Lines with Fractional-order Elements Using NILT Method
Nawfal Al-Zubaidi R-Smith (*Brno University of Technology*); *Lubomir Brancik* (*Brno University of Technology*);

11:40 Implementation of Threshold Crossing Algorithm for Beamforming Controller System
Yonathan Raka Pradana (*Universitas Indonesia*); *Fitri Yuli Zulkifli* (*University of Indonesia*);

Session 1A12
Recent Technology on Circularly Polarized Antennas

Monday AM, November 20, 2017

Room LT18

Organized by Takeshi Fukusako

Chaired by Takeshi Fukusako, Yong-Mei Pan

09:00 Broadband Circularly Polarized Patch Antenna Using Meandered Probe and Artificial Ground Structure
Takeshi Fukusako (*Kumamoto University*); *Yujiro Kai* (*Kumamoto University*);

09:20 Wideband Circularly Polarized Filtering Antenna Based on Metasurface
Bing Jie Xiang (*Sun Yat-sen University*); *Shao Yong Zheng* (*Sun Yat-sen University*);

09:40 Broadband Conversion Refrectarray into Circular Polarization Constructed by Arbitrarily Shaped Elements
Hiroki Yamada (*Doshisha University*); *Hiroyuki Deguchi* (*Doshisha University*); *Mikio Tsuji* (*Doshisha University*);

10:00 Wideband Circularly Polarized Dielectric Resonator Antenna
Mei-Di Yang (*South China University of Technology*); *Wan-Jun Yang* (*South China University of Technology*); *Yong-Mei Pan* (*South China University of Technology*);

10:20 A Printed Low-profile Antenna with Circularly Polarized Radiation
Kittima Lertsakwimarn (*King Mongkut's Institute of Technology Ladkrabang*); *Takeshi Fukusako* (*Kumamoto University*);

10:40 A Wideband Circularly Polarized DRA Excited with Meandered-line Inductor for Wi-MAX/LTE2500 Applications
Rajkishor Kumar (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Dilip Kumar Choudhary* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Reshma Singh* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

11:00 **Coffee Break**

11:20 Experimental Study on Nonlinear Characteristics of a DBM Integrated Circularly Polarized Microstrip Antenna
Nishiyama Eisuke (*Saga University*); *T. Ino* (*Saga University*); *Ichihiko Toyoda* (*Saga University*);

11:40 Miniaturization of Microstrip Antenna
Seung-Real Ryu (*Agency for Defense Development*); *Chong-Hwan Park* (*Chungnam National University*); *Dong-Su Choi* (*Chungnam National University*); *Jong Myung Woo* (*Chungnam National University*);

12:00 Circularly Polarized Dual Band Quad U-slot PIFA Antennas with Novel Switchable Bandgap Surfaces for GNSS
Gregory John Durnan (*NXP Semiconductors*);

12:20 Circularly Polarized Bidirectional S-shaped Slot Antenna for UHF RFID Reader
Pisit Janpangngern (*King Mongkut's Institute of Technology Ladkrabang*); *Bancha Luadang* (*Rajamangala University of Technology Rattanakosin*); *Sitthichai Dentri* (*National Science and Technology Development Agency*); *Chuwong Phongcharoenpanich* (*King Mongkut's Institute of Technology*);

12:40 Total Array Pattern Characteristics of Coplanar Vivaldi Antenna in $\boldsymbol{E}$-plane with Different Element Width for S and C Band Application
Nurhayati (*Institut Teknologi Sepuluh Nopember*); *Gamantyo Hendrantoro* (*Institut Teknologi Sepuluh Nopember*); *Eko Setijadi* (*Institut Teknologi Sepuluh Nopember (ITS), ITS Sukolilo Campus*);

Session 1A0
Poster Session 3

Monday AM, November 20, 2017

9:00 AM - 13:00 PM

Room TR+29 - TR+36

1 Eigenmode Analysis of a Tube Dielectric Waveguide with a Diamond-shaped Core
T. Aso (*Hosei University*); *Ryusei Sakaeyama* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

2 Research on Levitation-rotation Starting Control System of Bearingless Induction Motor
Junyue Yang (*Dalian Jiaotong University*); *Yanjun Ge* (*Dalian Jiaotong University*); *Kaikai Zhou* (*Dalian Jiaotong University*); *Peng Wang* (*Dalian Jiaotong University*);

3 Numerical and Experimental Study on Electrostatic Properties of 3D Printed Fractal Capacitors
Y. W. Low (*Singapore University of Technology and Design (SUTD)*); *S. Athalye* (*Singapore University of Technology and Design (SUTD)*); *Y. S. Ang* (*Singapore University of Technology and Design (SUTD)*); *Muhammad Zubair* (*Singapore University of Technology and Design (SUTD)*); *Ricky L. K. Ang* (*Singapore University of Technology and Design (SUTD)*);

4 Molecular Mechanism of Extra-efficient Separation of Essential Oil from Various Plants by Microwave Assisted Distillation
Mohammad Asif Mirdad (*Kyushu Institute of Technology*); *Fujiko Aoki* (*Kyushu Institute of Technology*); *Shokichi Ohuchi* (*Kyushu Institute of Technology*);

5 Infinite Speed of Energy Transport and a Note on the Speed of Light in Vacuum Revisited
Namik Yener (*Kocaeli University*);

6 Wave Propagation in Non-Maxwellian Plasma
Chengxun Yuan (*Harbin Institute of Technology*); *Bekasov Vladimir* (*St. Petersburg State University*); *Anatoly A. Kudryavtsev* (*St. Petersburg State University*);

7 Target Classification and Recognition Based on Micro-doppler Radar Signatures
Wenchao Li (*National University of Defense Technology*); *Boli Xiong* (*National University of Defense Technology*); *Gangyao Kuang* (*National University of Defense Technology*);

8 Study on the Large-scanning-angle Airborne TOPS Mode
Yifu Guan (*National University of Defense Technology*); *Wenge Chang* (*National University of Defense Technology*); *Xiangyang Li* (*National University of Defense Technology*);

10 Study on Phase Calibration for TomoSAR by Using at Reference Surfaces with Known Altitude
Masanori Gocho (*Niigata University*); *H. Yamada* (*Niigata University*); *Yoshio Yamaguchi* (*Niigata University*); *Ryoichi Sato* (*Niigata University*);

11 Analytical Simulation of Scattering from Two-dimensional Mixed Swell and Wind Wave
Ding Nie (*Xidian University*); *Min Zhang* (*Xidian University*);

13 Polarimetric Contrast-based Change Detector for Compact Polarimetric SAR
Junjun Yin (*Tsinghua University*); *Jian Yang* (*Tsinghua University*);

14 Correlating Satellite Cloud Cover with Sky Cameras
Shilpa Manandhar (*Nanyang Technological University Singapore*); *Soumyabrata Dev* (*Nanyang Technological University Singapore*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Yu Song Meng* (*Agency for Science, Technology and Research (A*STAR)*);

15 Estimation of Sea Surface Short-wave Spectra from Co-polarized Radar Backscattering Cross-section
V. N. Kudryavtsev (*FSBSI Marine Hydrophysical Institute RAS*); *Yury Yu Yurovsky* (*FSBSI Marine Hydrophysical Institute RAS*); *M. V. Yurovskaya* (*FSBSI Marine Hydrophysical Institute RAS*); *Bertrand Chapron* (*Institut Francais de Recherche pour l'Exploitation de la Merr*);

16 Direct Determination of Laguerre-Gauss Vortex Beams' Topological Charges by Aperture Diffraction Pattern
Jiao Wang (*Xi'an University of Technology*); *Xi-Zheng Ke* (*Xi'an University of Technology*); *Ming-Jun Wang* (*Xianyang Normal College*); *Zhen-Kun Tan* (*Xi'an University of Technology*);

17 Improved Compressive Sensing of Microwave Induced Thermo-acoustic Tomography for Breast Tumor Detection
Shuangli Liu (*University of Electronic Science and Technology of China*); *Yanxi Lu* (*University of Electronic Science and Technology of China*); *Xiaozhang Zhu* (*University of Electronic Science and Technology of China*); *Zhiqin Zhao* (*University of Electronic Science and Technology of China*);

18 Multi-parameter Based Glucose Detection by Photoacoustic
Ruochong Zhang (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*); *Zilian Qu* (*Nanyang Technological University*);

19 A Novel O-ring Antenna Design and Measurement
Kuo-Liang Wu (*National Taipei University of Technology*); *Jwo-Shiun Sun* (*National Taipei University of Technology*); *Guan-Yu Chen* (*National Taipei University of Technology*);

20 Gain Enhancement for Wideband End-fire Antenna Design with Artificial Material Structures
Yuanhua Sun (*University of Electronic Science and Technology*); *Haiyan Jin* (*University of Electronic Science and Technology of China*); *Yong Mao Huang* (*University of Electronic Science and Technology of China*); *Yuliang Zhou* (*University of Electronic Science and Technology of China*);

21 Antenna Gain Enhancement Using Holographic Impedance Modulated Surface
Jian Zhang (*University of Electronic Technology of China*);

22 Compact Monopole Antenna with Metamaterial Ground Plane
L. Meenu (*Amrita University*); *S. Aiswarya* (*Amrita University*); *Sreedevi K. Menon* (*Amrita University*);

23 Comparative Analysis of Different Defected Waveguide Structures towards Monopole Antenna
Shu Jia Chin (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hamizan Bin Abu Bakar* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

24 Holographic Design of Arbitrary Multi-beam Leaky-wave Antennas
Xavier Artiga (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC/CERCA)*); *Fermin Mira* (*Centre Tecnologic de Telecomunicacions de Catalunya (CTTC/CERCA)*);

25 Design of a Low-voltage COMS Mixer with Improved Linearity
J. Gou (*No.36 Research Institute of China Electronic Technology Group Corporation*); *X.-Y. Xu* (*No.36 Research Institute of China Electronic Technology Group Corporation*); *Xiao-Guo Huang* (*No.36 Research Institute of China Electronic Technology Group Corporation*);

26 General Condition to Achieve Negative Group Delay Transmission in Coupled Resonator Structure
Haiyan Jin (*University of Electronic Science and Technology of China*); *Yuliang Zhou* (*University of Electronic Science and Technology of China*); *Yong Mao Huang* (*University of Electronic Science and Technology of China*); *Shuai Ding* (*University of Electronic Science and Technology of China*);

27 The Breakdown Voltage in the Open-base Transistor at a Different Width of Base Region
Jinrong Feng (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Tao Jin* (*Southwest Jiaotong University*);

28 Implementation of a Ramp Generator with Schmitt Trigger Circuit for PWM Modulator Applications
Min-Chin Lee (*Orient Institute of Technology*); *Yi-Chiuan Chen* (*Orient Institute of Technology*);

29 An Equivalent Circuit Model for a Compact OLRR Based Notch Filter
Jolly Rajendran (*Amrita University*); *Sreedevi K. Menon* (*Amrita University*);

30 Design of a Widebad Differential Power Divider Using Wideband 90° Phase Shifter
Xiao-Guo Huang (*No.36 Research Institute of China Electronic Technology Group Corporation*); *Jin-Qi Zhang* (*No.36 Research Institute of China Electronic Technology Group Corporation*);

31 Compact Band Pass Filter Using Triangular Open Loop Resonator
Betsy George (*Amrita University*); *Nair S. Bhuvana* (*Amrita Center for Wireless Networks and Applications*); *Sreedevi K. Menon* (*Amrita University*);

32 Size-miniaturized Bandpass Filter Made of Folded Stepped-impedance Resonators with Adjacent and Nonadjacent Coupling for Selectivity Enhancement
Xiaohong Rao (*Chongqing Chuanyi Software Co., Ltd.*); *Tao Huang* (*University of Electronic Science and Technology of China*); *Yong Mao Huang* (*University of Electronic Science and Technology of China*); *Haiyan Jin* (*University of Electronic Science and Technology of China*);

33 Investigation of Electromagnetic Compatibility between DVB-T/T2 and LTE 700 for Co-channel Case
Guntis Ancans (*Riga Technical University*); *Evaldas Stankevicius* (*Vilnius Gediminas Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

34 A 1 GHz Direct Digital Frequency Synthesizer in 65 nm CMOS
Ting Guo (*Nanyang Technological University*); *Yisheng Wang* (*Singapore University of Technology and Design*); *Kai Tang* (*Nanyang Technological University*); *Liheng Lou* (*Nanyang Technological University*); *Bo Chen* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

35 A Wideband, Low-power Frequency Synthesizer for FMCW Phased Array Radar in 65 nm CMOS
Liheng Lou (*Nanyang Technological University*); *Kai Tang* (*Nanyang Technological University*); *Ting Guo* (*Nanyang Technological University*); *Bo Chen* (*Nanyang Technological University*); *Wensong Wang* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

36 Distributed Spectrum Monitoring System Based on RSSI Optimization Algorithm
Zhenjia Chen (*Hainan University*); *Yonghui Zhang* (*Hainan University*);

37 A New Functional Model for Wireless Communication Class-AB Solid-state Bipolar Power Amplifiers and Its Applications: Part II Predistorion Circuit
Muhammad Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals*); *Abdullah M. T. Abuelmaatti* (*31 Longbridge Road*);

38 Proposal on Circuit Model of AC/Coaxial Adapter Using for AMN Calibration
Ryosuke Tani (*Aoyama Gakuin University and NICT*); *Ifong Wu* (*NICT*); *Kaoru Gotoh* (*NICT*); *Yasushi Matsumoto* (*NICT*); *Shinobu Ishigami* (*National Institute of Information and Communications Technology*); *Ryosuke Suga* (*Aoyama Gakuin University*); *Osamu Hashimoto* (*Aoyama Gakuin University*);

39 Propagation Modeling of Mountain with Flourishing Forest for Landslide Prognostication Using MF-band
Kousei Kumahara (*National Institute of Technology*); *Futoshi Kuroki* (*Kure National College of Technology*); *Masanori Eguchi* (*Fuzzy Logic Systems Institute*); *Takeshi Yamakawa* (*Fuzzy Logic Systems Institute*);

40 A Novel Tunable True Time Delay Line Based on Distributed Schottky
Lingyun Li (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*); *Tianyu Pen* (*Shanghai Institute of Microsystem and Information Technology, CAS*); *Hao Sun* (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*); *Rui Tong* (*Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences*);

41 TRL Calibration Kits Made of Dielectric Material for Accurate Characterization of Dielectric Waveguide
Yuto Kato (*National Institute of Advanced Industrial Science and Technology*); *Masahiro Horibe* (*National Institute of Advanced Industrial Science and Technology*);

42 Coil Design Considerations for Electromagnetic Field Enhancement in Thermoacoustic Detection of Rail
Zilian Qu (*Nanyang Technological University*); *Wensong Wang* (*Nanyang Technological University*); *Zhongyuan Fang* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

43 Person-specific Link Geometry for Inductive Charging of Implanted Medical Devices
Konstantin Olegovich Gurov (*National Research University of Electronic Technology*); *Arseny Anatolevich Danilov* (*National Research University of Electronic Technology*); *Eduard Adipovich Mindubaev* (*National Research University of Electronic Technology*); *Sergey Vasilyevich Selishchev* (*National Research University of Electronic Technology "MIET"*);

44 Effect of Phase Modulator on the Performance in a Delayed Modified Heterodyne Lock Loop
Arindum Mukherjee (*Central Institute of Technology*); *Baidyanath N. Biswas* (*Sir J. C. Bose School of Engineering*); *Shuvajit Roy* (*Supreme Knowledge Foundation Group of Institutions*); *Haradhan Chel* (*Central Institute of Technology*); *Tulika Mehta* (*IEC Baddi*);

45 Quality of Service Parameter Measurements Data Analysis in the Scope of Net Neutrality
Elmars Lipenbergs (*Riga Technical University*); *Inga Smirnova* (*Public Utilities Commission*); *Alina Stafecka* (*Riga Technical University*); *Girts Ivanovs* (*Riga Technical University*); *Peteris Gavars* (*Riga Technical University*);

46 Blind Quality Assessment of JPEG Compressed Images
Pranav Sodhani (*Indian Institute of Technology*); *Haradhan Chel* (*Central Institute of Technology*);

47 Textile Based Dual Band MIMO Quad-mode Substrate Integrated Waveguide Antenna for WiFi Application
Ahmed Shafqat (*National University of Sciences and Technology (NUST)*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST)*); *Muhammad Umar Khan* (*National University of Sciences and Technology (NUST)*);

48 Metamaterial UHF RFID Tag with Enhanced Gain
Yun Jing Zhang (*Tongji University*); *Dan Wang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

49 Design of Wireless Control Units for Freight Trains' Braking Systems Based on Loop Simulations
Lan Chen (*Shanghai Institute of Technology*); *Kun Zhang* (*Shanghai Institute of Technology*); *Zi Wei Xia* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

50 Huffman Coding Method Based on Parallel Implementation of FPGA
Yi Chen (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Ling Yi Tang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

51 The Side Shadow Effect of Zero-index Materials
Jia Wen Song (*Soochow University*); *Jie Luo* (*Soochow University*); *Yun Lai* (*Soochow University*);

52 Comparing Planar Periodic Resonant Structures at GHz Frequencies
Tomas Kriz (*Brno University of Technology*);

53 An Acoustic Waveguide at Arbitrary Refraction Angles Originated from Eaton Lens
Dongwoo Lee (*Pohang University of Science and Technology (POSTECH)*); *Junsuk Rho* (*Pohang University of Science and Technology (POSTECH)*);

55 Valley Photonic Crystals
Xiao-Dong Chen (*Sun Yat-Sen University*); *Jian-Wen Dong* (*Sun Yat-Sen University*);

56 Metalens Investigation with Different Sectors Number
Anton G. Nalimov (*Image Processing Systems Institute — Branch of the Federal Scientific Research Centre "Crystallography and Photonics" of Russian Academy of Scienc*); *Victor V. Kotlyar* (*Image Processing Systems Institute of the Russian Academy of Sciences*); *Elena Sergeevna Kozlova* (*Samara National Research University*);

57 Compact Low-cost Arduino-based Buoy for Sea Surface Wave Measurements
Yury Yu Yurovsky (*FSBSI Marine Hydrophysical Institute RAS*); *V. A. Dulov* (*FSBSI Marine Hydrophysical Institute RAS*);

58 Analysis of High-harmonic Generation in Terms of Complex Floquet Spectral Analysis
Hidemasa Yamane (*Osaka Prefecture University/Japan*); *S. Tanaka* (*Osaka Prefecture University*); *Michelangelo Domina* (*University of Palermo*); *Roberto Passante* (*University of Palermo*); *T. Petrosky* (*The University of Texas at Austin*);

60 Developed Multiband Optical Transmission Devices
Ho-Jun Lee (*Korea Electronics Technology Institute*); *Ki-Hyeok Jeong* (*Korea Electronics Technology Institute*);

61 Evaluation of the Impact of Parameters of Transmission System on the Performance of WDM-PON
Inna Kurbatska (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Peteris Gavars* (*Riga Technical University*); *Lilita Gegere* (*Riga Technical University*);

Session 1P1
FocusSession.SC3: THz Spintronics with Ferrimagnets and Dirac/Weyl Materials 1

Monday PM, November 20, 2017

Room LT5

Organized by Hyunsoo Yang, Geoffrey Stephen D. Beach, Tobias Kampfrath

Chaired by Geoffrey Stephen D. Beach, Hyunsoo Yang

14:00 Keynote Spin Hall Current Induced Switching in Ferrimagnetic Insulators
Geoffrey Stephen D. Beach (*Massachusetts Institute of Technology*);

14:30 Invited Spintronics Based on Antiferromagnets and Ferrimagnets
Kyung-Jin Lee (*Korea University*);

15:00 Invited Enhanced Current-induced Torques in Ferrimagnets due to Negative Exchange
Rahul Mishra (*National University of Singapore*); *Jiawei Yu* (*National University of Singapore*); *Xuepeng Qiu* (*Tongji University*); *Hyunsoo Yang* (*National University of Singapore*);

15:20 Invited Spin Orbitoronics Study in Heterostructure of Ferrimagnetic RE-TM and Heavy Metal Pt
Hiroyuki Awano (*Toyota Technological Institute*); *Do Bang* (*Toyota Technological Institute*); *Yuichiro Kurokawa* (*Toyota Technological Institute*); *Satoshi Sumi* (*Toyota Technological Institute*);

16:00 **Coffee Break**

16:20 Invited Controlling Spin Current Absorption with Artificial Magnetic Texture
Xuepeng Qiu (*Tongji University*); *Xiang Zhou* (*Tongji University*); *Shiming Zhou* (*Tongji University*); *Hyunsoo Yang* (*National University of Singapore*);

16:50 Invited Spin Orbit Torque in Ferrimagnets and Other Heterostructure
Sayeef Salahuddin (*University of California, Berkeley*);

17:20 Bulk Spin-orbit Spin-transfer Torques in Ferrimagnetic Multilayers
Invited
Jiawei Yu (*National University of Singapore*); *Do Bang* (*Toyota Technological Institute*); *Xuepeng Qiu* (*Tongji University*); *Rahul Mishra* (*National University of Singapore*); *Yunboo Jeong* (*Korea University*); *Gyoungchoon Go* (*Korea University*); *Seo-Won Lee* (*Korea University*); *Hiroyuki Awano* (*Toyota Technological Institute*); *Kyung-Jin Lee* (*Korea University*); *Hyunsoo Yang* (*National University of Singapore*);

17:40 Emergent Domain Wall Dynamics in Various Magnetic Nanostructures
Invited
See-Hun Yang (*IBM Research-Almaden*);

18:10 Ultralow Energy Consumption Voltage-control Spintronics Memory Having Potentials for High-density and High-speed Applications
Invited
Hiroaki Yoda (*Toshiba Corporation*); *Naoharu Shimomura* (*Toshiba Corporation*); *Yuichi Ohsawa* (*Toshiba Corporation*); *Y. Saito* (*Toshiba Corporation*); *Y. Kato* (*Toshiba Corporation*); *T. Inokuchi* (*Toshiba Corporation*); *S. Shirotori* (*Toshiba Corporation*); *K. Koi* (*Toshiba Corporation*); *M. Shimizu* (*Toshiba Corporation*); *H. Sugiyama* (*Toshiba Corporation*); *S. Oikawa* (*Toshiba Corporation*); *B. Altansargai* (*Toshiba Corporation*); *M. Ishikawa* (*Toshiba Corporation*); *Y. Kamiguchi* (*Toshiba Corporation*); *K. Ikegami* (*Toshiba Corporation*); *A. Kurobe* (*Toshiba Corporation*);

Session 1P2
SC3: Nano-photonic Devices: Pushing the Frontier for Optical Interconnects and Optical Sensing

Monday PM, November 20, 2017

Room LT6

Organized by Alan X. Wang, Linjie Zhou

Chaired by Alan X. Wang, Linjie Zhou

14:00 Cavity Integrated Layered Material Devices
Invited
Arka Majumdar (*University of Washington*); *Taylor Fryett* (*University of Washington*); *Yueyang Chen* (*University of Washington*); *Chang-Hua Liu* (*University of Washington*); *Alan Zhan* (*University of Washington*); *Kyle Syler* (*University of Washington*); *Pasqual Rivera* (*University of Washington*); *Xiaodong Xu* (*University of Washington*);

14:20 Bioanalysis Based on Photonic Crystal and Plasmonic Materials
Invited
Xiangwei Zhao (*Southeast University*);

14:40 Unusual Scaling Laws for Plasmonic Lasers beyond Diffraction Limit
Invited
Renmin Ma (*Peking University*);

15:00 Reconfigurable Optical Processor Based on a Dual-ring Assisted MZI Matrix
Invited
Linjie Zhou (*Shanghai Jiao Tong University*); *Liangjun Lu* (*Shanghai Jiao Tong University*); *Zhanzhi Guo* (*Shanghai Jiao Tong University*); *Lin Shen* (*Shanghai Jiao Tong University*); *Jianping Chen* (*Shanghai Jiao Tong University*);

15:20 Physics-enabled Efficient Modeling of Silicon Photonic Devices
Invited
Wei Jiang (*Nanjing University*);

16:00 **Coffee Break**

16:20 Ultra-silicon-rich Nitride Devices for Ultrafast Photonics Applications with High Nonlinear Figure of Merit
Invited
Dawn T. H. Tan (*Singapore University of Technology and Design*); *Kelvin J. A. Ooi* (*Singapore University of Technology and Design*); *D. K. T. Ng* (*Technology and Research (A*STAR)*); *E. Sahin* (*Singapore University of Technology and Design*); *G. F. R. Chen* (*Singapore University of Technology and Design*); *J. W. Choi* (*Singapore University of Technology and Design*); *B. U. Sohn* (*Singapore University of Technology and Design*); *P. Xing* (*Singapore University of Technology and Design*);

16:40 Substrate-Independent Crystallization of Direct Bandgap GeSn towards Monolithic 3D Photonic Integration
Invited
Xiaoxin Wang (*Dartmouth College*); *Haofeng Li* (*Dartmouth College*); *Alejandra Cuervo Covian* (*Dartmouth College*); *Jifeng Liu* (*Dartmouth College*);

17:00 Integrated Flat Micro-lenses
Invited
Mao Ye (*University of Michigan*); *Yasha Yi* (*University of Michigan*);

17:20 Plasmonic Gratings for On-chip Gas Sensing
Xinyuan Chong (*Oregon State University*); *Erwen Li* (*Oregon State University*); *Alan X. Wang* (*Oregon State University*);

17:40 Reconfigurable Optical Add-drop Multiplexers on Silicon
Invited
Daoxin Dai (*Zhejiang University*);

Session 1P3
FocusSession.SC2: Novel Materials and Designs for Absorption of Wave Energy 3

Monday PM, November 20, 2017

Room LT7

Organized by Yun Lai, Bo Hou

Chaired by Yun Lai, Bo Hou

14:00 Invited — Highly Efficient Backward Second Harmonic Generation in Spoof Plasmonic Systems
Yu Luo (*Nanyang Technological University*); *Liangliang Liu* (*Nanjing University of Information Science and Technology*);

14:20 Invited — Conjugate Metamaterials
Huanyang Chen (*Xiamen University*); *Yangyang Fu* (*Soochow University*); *Yadong Xu* (*Soochow University*);

14:40 Invited — Hybrid Coupling Model for Ultra-thin Bilayer Metamaterials
Wei Tan (*China Academy of Engineering Physics*); *Caihong Zhang* (*Nanjing University*); *Biaobing Jin* (*Nanjing University*);

15:00 Invited — Broadband Coherent Perfect Absorption
Caixing Fu (*HKUST*); *Min Yang* (*Acoustic Metamaterials Group Ltd.*); *Mengyao Xie* (*Acoustic Metamaterials Group Ltd.*); *Shuyu Chen* (*Acoustic Metamaterials Group Ltd.*);

15:20 Invited — Novel Designs of Micro/Nano Photonic Structures for Controlling the Wave Energy
Zhihui Chen (*Taiyuan University of Technology*);

16:00 **Coffee Break**

16:20 — 3D-printed FSS Using Printing Filaments with Enclosed Metal Particles
Rainer Kronberger (*TH Cologne University of Technology, Arts and Sciences*); *Volker Wienstroer* (*Cologne University of Applied Sciences*);

16:40 Invited — Broadband and Omnidirectional Perfect Absorption by Optical Ultratransparent Media with Material Losses
Jie Luo (*Soochow University*); *Yun Lai* (*Soochow University*);

17:00 Invited — Customized Broadband Absorption and Its Applications
Songwen Xiao (*Acoustic Metamaterials Group Ltd.*); *Min Yang* (*Acoustic Metamaterials Group Ltd.*); *Shuyu Chen* (*Acoustic Metamaterials Group Ltd.*);

17:20 Invited — Coherent Perfect Absorption Using Zero-index Materials
Bingbing Liu (*Soochow University*); *Jie Luo* (*Soochow University*); *Yun Lai* (*Soochow University*); *Zhi Hong Hang* (*Soochow University*);

17:40 Invited — The Studies of Electromagnetic Properties of Conductive Films
Zhenyu Li (*Soochow University*); *Bo Hou* (*Soochow University*);

Session 1P4
FocusSession.SC2: Surface Electromagnetics: From Metasurface Physics to Engineering Applications

Monday PM, November 20, 2017

Room LT8

Organized by Cheng-Wei Qiu, Fan Yang

Chaired by Fan Yang

14:00 Invited — Artificial Matching Layer Designs Using Metasurfaces
Jun Luo (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*); *Maokun Li* (*Tsinghua University*);

14:20 — An Angularly Stable Tri-band Reflective Cross-polarization Conversion Anisotropic Metasurface
Muhammad Ismail Khan (*COMSATS Institute of information Technology*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST)*); *Rashid Saleem* (*The University of Manchester*);

14:40 Invited — An Alignment-free Plasmonic Demultiplexer for Orbital Angular Momentum Beam
Ji Chen (*Nanjing University*); *X. Chen* (*Nanjing University*); *T. Li* (*Nanjing University*); *S. N. Zhu* (*Nanjing University*);

15:00 Invited — Identifying Resonance Frequencies of Metasurface with Closely Spaced Resonances Using Characteristic Mode Analysis
Tay Chai Yan (*National University of Singapore*); *Zhining Chen* (*National University of Singapore*);

15:20 — A Metasurface Synthesis Method Using Only Planar Electric Impedance Surfaces
Bo O. Zhu (*Nanjing University*);

16:00 **Coffee Break**

16:20 Active Control of Electromagnetic Wave through Tunable Huygens' Metasurface (Invited)
Ke Chen (*Nanjing University*); *Junming Zhao* (*Nanjing University*); *Yijun Feng* (*Nanjing University*); *Tian Jiang* (*Nanjing University*); *Bo Zhu* (*Nanjing University*); *Cheng-Wei Qiu* (*National University of Singapore*);

16:40 Non-foster Active Metasurface and Its Applications in Ultra-wideband and Extremely-thin Absorbers
Jinchao Mou (*Nanyang Technological University*); *Zhongxiang Shen* (*Nanyang Technological University*);

17:00 Evolution of Plasmonic Response of a Semiconducting Particle: Transition from Surface to Bulk Phenomena
Zhijing Hu (*Illinois Institute of Technology*); *Tao Shen* (*Kunming University of Science and Technology*); *Thomas T. Y. Wong* (*Illinois Institute of Technology*);

Session 1P5a
FocusSession.SC3: Photonic Nanostructures for Enhancing Light-matter Interaction 2

Monday PM, November 20, 2017

Room LT11

Organized by Chia Chen Hsu, Ngoc Diep Lai

Chaired by Chia Chen Hsu, Henri Benisty

14:00 Hybrid Nanomaterial-nanophotonics Platforms for Enhancing Light-matter Interactions (Keynote)
Masaya Notomi (*NTT Corporation*);

14:30 Broadband Light Absorber of Cicada Surface Covered with Gold Thin Film (Invited)
Kotaro Kajikawa (*Tokyo Institute of Technology*);

14:50 Enhancing Upconversion Fluorescence of Rare Earth Nanoparticles in Aqueous Solution by Low Refractive Index Resonant Waveguide Grating (Invited)
D. T. Vu (*National Chung Cheng University*); *H. W. Chiu* (*National Chung Cheng University*); *R. Nababan* (*National Chung Cheng University*); *Q. M. Le* (*VAST of Vietnam*); *S. W. Kuo* (*National Sun Yat Sen University*); *Lai-Kwan Chau* (*National Chung Cheng University*); *Chu-Chi Ting* (*National Chung Cheng University*); *Hung-Chih Kan* (*National Chung Cheng University*); *Chia Chen Hsu* (*National Chung Cheng University*);

15:10 High-order Smith-Purcell Effect of Deep Ultraviolet Radiation
Yu Ye (*Tsinghua University*); *Fang Liu* (*Tsinghua University*); *Yidong Huang* (*Tsinghua University*);

15:25 Numerical Modeling of Borosilicate Doped Photonic-crystal Fiber for Mid-IR Supercontinuum Generation
Shruti Kalra (*Jaipur Egineering College & Research Centre*); *Sandeep Vyas* (*Jaipur Engineering College & Research Centre*); *Manish Tiwari* (*Manipal University*); *Ghanshyam Singh* (*Malaviya National Institute of Technology*);

16:00 **Coffee Break**

Session 1P5b
SC3: Light Manipulation, Propagation and Application 1

Monday PM, November 20, 2017

Room LT11

Organized by Yangjian Cai

Chaired by Yangjian Cai

16:20 Propagation of a Gaussian Schell-model Beam in Anisotropic Turbulence along Horizontal Link
Fei Wang (*Soochow University*); *Xiaofeng Peng* (*Soochow University*); *Lin Liu* (*Soochow University*);

16:40 Propagation and Generation of Vector Optical Coherence Lattices
Jun Zeng (*Soochow University*); *Chunhao Liang* (*Soochow University*); *Chengliang Zhao* (*Soochow University*); *Yangjian Cai* (*Soochow University*);

17:00 Spatial and Angular Resolution Measurement of a Tensor Light Field Display
Phil Surman (*Nanyang Technological University*); *Shizheng Wang* (*Nanyang Technological University*); *Junsong Yuan* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

17:20 Principle of Orbital Angular Momentum (OAM) Mode Selection and Its Application in Generating of Structured Electron Beams
Yuanjie Yang (*University of Electronic Science and Technology of China*); *G. Thirunavukkarasu* (*University of York*); *Mohamed Babiker* (*University of York*); *J. Yuan* (*University of York*);

17:40 Propagation Properties of a Radially Polarized Partially Coherent Twisted Beam in Free Space
Gaofeng Wu (*Northwest University*);

Session 1P6
THz and Biosystems

Monday PM, November 20, 2017

Room LT12

Organized by Constantinos Simserides

Chaired by Anirban Bandyopadhyay, Constantinos Simserides

14:00 Wireless Communication through Microtubule Analogue Device: Noise Driven Machines in the Biosystems
Komal Saxena (*Dayalbagh Educational Institute*); *K. V. Karthik* (*National Institute for Materials Science*); *Suryakant Kumar* (*National Institute for Materials Science*); *Krishnananda Soami Daya* (*Dayalbagh Educational Institute*); *Anirban Bandyopadhyay* (*National Institute for Materials Science*);

14:20 Complete Dielectric Resonator Model of Human Brain from MRI Data; A Journey from Connectom Neural Branching to Single Protein
Pushpendra Singh (*National Institute for Materials Science*); *Kanad Ray* (*Amity University Rajasthan*); *Anirban Bandyopadhyay* (*National Institute for Materials Science*);

14:40 Two TB Approaches (a Wire Model and an Extended Ladder Model) as Well as RT-TDDFT, Predict THz Oscillations in DNA Monomers, Dimers and Trimers
K. Lambropoulos (*National and Kapodistrian University of Athens*); *K. Kaklamanis* (*National and Kapodistrian University of Athens*); *A. Morphis* (*National and Kapodistrian University of Athens*); *M. Tassi* (*National and Kapodistrian University of Athens*); *G. Georgiadis* (*National and Kapodistrian University of Athens*); *Constantinos Simserides* (*National and Kapodistrian University of Athens*);

15:00 Frequency Content of Carrier Oscillations along B-DNA Polymers
K. Lambropoulos (*National and Kapodistrian University of Athens*); *M. Mantela* (*National and Kapodistrian University of Athens*); *Constantinos Simserides* (*National and Kapodistrian University of Athens*);

15:20 Analysis of Anisotropic B-factors in Bovine Trypsin Crystals upon Terahertz Irradiation
Viktor Ahlberg Gagner (*University of Gothenburg*); *Ida Lundholm* (*University of Gothenburg*); *Maria-Jose Garcia-Bonete* (*University of Gothenburg*); *Helena Rodilla* (*Chalmers University of Technology*); *Gleb Bourenkov* (*EMBL c/o DESY*); *Thomas Schneider* (*EMBL c/o DESY*); *Jan Stake* (*Chalmers University of Technology*); *Gergely Katona* (*University of Gothenburg*);

16:00 **Coffee Break**

16:20 Terahertz Reflectance Phase Spectroscopy for Biological Analysis and Diagnosis
Hiroaki Fukuda (*Ricoh Company, Ltd.*); *Kodo Kawase* (*Nagoya University*);

16:40 Investigating the Impact of Fibroblast Cell Density on Optical Properties of Dermal Equivalents Using Terahertz Time Domain Spectroscopy
Rui Zhang (*Queen Mary University of London*); *Ke Yang* (*Queen Mary University of London*); *Qammer Hussain Abbasi* (*Queen Mary University of London*); *Khalid A. Qaraqe* (*Texas A&M University at Qatar*); *Akram Alomainy* (*Queen Mary University of London*);

17:00 Terahertz Electromagnetic Communication for In-vivo Wireless Nanosensor Networks
Hadeel Elayan (*Khalifa University*); *Raed M. Shubair* (*MIT*); *Josep M. Jornet* (*University at Buffalo*); *Pedram Johari* (*The University at Buffalo*); *Raj Mittra* (*University of Central Florida*);

17:20 Design of Implantable Monopole Inset-feed C-shaped Slot Patch Antenna for Bio-medical Applications
Ketavath Kumar Naik (*K L University*); *P. Amala Vijaya Sri* (*K L University*); *J. Srilakshmi* (*K L University*);

Session 1P7a
SC5: Remote Sensing for Water Cycle Applications

Monday PM, November 20, 2017

Room LT13

Organized by Jian-Cheng Shi

Chaired by Tianxing Wang

14:00 Development of a Daytime Cloud and Haze Detection Algorithm for Himawari-8 Satellite Measurements over China
Huazhe Shang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)*); *Husi Letu* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)*); *Run Ma* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)*); *Ziming Wang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)*); *Liangfu Chen* (*Institute of Remote Sensing Applications, Chinese Academy Of Sciences*);

14:20 Change Detection of Water-body Using Chinese GF-3 Polarimetric SAR Images
Hong Zhang (*Institute of Remote Sensing and Digital Earth, CAS*); *Lingyan Chen* (*Beijing Research Institute of Remote Sensing Information*); *Xuefei Zhang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*);

14:40 A Novel Method of Hyperspectral Imagery Target Detection Based on Sparse Representation
Chunhui Zhao (*Harbin Engineering University*); *Meiling Meng* (*Harbin Engineering University*);

15:00 Combined Volume and Surface Scattering from Snowpack on Sea Ice Based on Discrete Dipole Approximation and Half-space Dyadic Green's Function
Shurun Tan (*University of Michigan*); *Jiyue Zhu* (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Son V. Nghiem* (*California Institute of Technology*);

15:20 Retrieving Chlorophyll-a Levels, Transparency and TSS Concentration from Multispectral Satellite Data by Using Artificial Neural Networks
Hieda Adriana Nascimento Silva (*University of Rome "La Sapienza"*); *Giovanni Laneve* (*University of Rome "La Sapienza"*); *Antonello Rosato* (*University of Rome "La Sapienza"*); *Massimo Panella* (*University of Rome "La Sapienza"*);

15:40 Land Surface All-wave and All-sky Radiation Estimation from Remote Sensing Measurements over the Tibetan Plateau
Tianxing Wang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Jian-Cheng Shi* (*Institute of Remote Sensing Applications, Chinese Academy of Sciences*); *Tianjie Zhao* (*Jointly Sponsored by Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Wang Zhou* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Yuechi Yu* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Rui Zhao* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

16:00 **Coffee Break**

16:20 Inverse Model for Retrieval of Snow Water Equivalent Using Scatterometer Data with Both Co- and Cross-polarization
Jiyue Zhu (*University of Michigan*); *Shurun Tan* (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Juha Lemmetyinen* (*Finnish Meteorological Institute (FMI)*); *Chris Derksen* (*Environment and Climate Change Canada*); *Joshua King* (*Environment and Climate Change Canada*); *Edward J. Kim* (*NASA Goddard Space Flight Center*);

Session 1P7b
Remote Sensing of the Earth, Ocean, and Atmosphere

Monday PM, November 20, 2017

Room LT13

Chaired by Yee Hui Lee

16:40 Analyzing Cloud Optical Properties Using Sky Cameras
Shilpa Manandhar (*Nanyang Technological University Singapore*); *Soumyabrata Dev* (*Nanyang Technological University Singapore*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Yu Song Meng* (*Agency for Science, Technology and Research (A*STAR)*);

17:00 GPS Derived PWV for Monitoring Cloud Evolution
Lakshmi Sutha Kumar (*National Institute of Technology Puducherry*); *Shilpa Manandhar* (*Nanyang Technological University Singapore*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Yu Song Meng* (*Agency for Science, Technology and Research (A*STAR)*);

17:20 On the Upper Ocean Response to Tropical Cyclones: Model Interpretation
Anna K. Monzikova (*Russian State Hydrometeorological University*); *Vladimir N. Kudryavtsev* (*FSBSI Marine Hydrophysical Institute RAS*); *Nicolas Reul* (*IFREMER*); *Bertrand Chapron* (*IFREMER*);

17:40 Study of Clear Sky Models for Singapore
Soumyabrata Dev (*Nanyang Technological University Singapore*); *Shilpa Manandhar* (*Nanyang Technological University Singapore*); *Yee Hui Lee* (*Nanyang Technological University*); *Stefan Winkler* (*Advanced Digital Sciences Center (ADSC)*);

18:00 Melting Layer Detection in Tropical Region
Feng Yuan (*Nanyang Technological University*); *Yee Hui Lee* (*Nanyang Technological University*); *Yu Song Meng* (*Agency for Science, Technology and Research (A*STAR)*);

Session 1P8
SC5: Electromagnetic Scattering and Applications

Monday PM, November 20, 2017

Room LT14

Organized by Hong Tat Ewe, Yang Du

Chaired by Hong Tat Ewe, Yang Du

14:00 Co- and Cross-polarized Backscattering from Anisotropy Random Rough Surface
Ying Yang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Kun-Shan Chen* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Science*);

14:20 Unidirectional Scattering from Plasmonic Nanoparticle Systems with Toroidal Dipolar Excitation
Lixin Ge (*Chongqing University*); *Liang Liu* (*Chongqing University*); *Hong Xiang* (*Chongqing University*); *Dezhuan Han* (*Chongqing University*);

14:40 Radar Target Identification Using a DTV-based Passive Radar in South Korea
Young-Jae Choi (*Hannam University*); *Seung-Hwan Seol* (*Hannam University*); *In-Sik Choi* (*Hannam University*);

15:00 Van der Waals Force Induced Heat Transfer across a Vacuum Gap
Karthik Sasihithlu (*Blackett Laboratory*); *John B. Pendry* (*Imperial College London*);

15:20 Carpet Cloaking Using the Reflectarray for Wideband Use
Yuki Fujimoto (*Doshisha University*); *Hiroyuki Deguchi* (*Doshisha University*); *Mikio Tsuji* (*Doshisha University*);

15:40 Determination of Dielectric Properties of the Red Delicious Apple and Its Correlation with Quality Parameters
Alexandra Reyes (*Pontificia Universidad Catolica del Peru*); *Manuel A. Yarleque Medina* (*Pontificia Universidad Catolica del Peru, Seccion Telecomunicaciones*); *Wilson Castro* (*Universidad Privada del Norte*); *Steven Chuquizuta* (*Universidad Nacional Toribio Rodriguez de Mendoza de Amazonas*);

16:00 **Coffee Break**

16:20 Scattering of Infrared by Prismatic Cloud Ice Crystals
Jawad A. Shaker (*University of Essex*); *David H. O. Bebbington* (*University of Essex*);

16:40 Millimeter-wave Propagation and Attenuation in Closed Packed Sea-foam Layer and Complex Dielectric Constant of Sea-foam Using Split-step Fourier Transform
Ayibapreye Kelvin Benjamin (*University of Essex*); *David H. O. Bebbington* (*University of Essex*);

17:00 An Integrated Modeling Approach for Wave Scattering from Layered Random Medium
Saibun Tjuatja (*University of Texas at Arlington*);

17:20 Hybrid Method Combining Generalized $\boldsymbol{T}$ Matrix of Single Objects and Foldy-Lax Equations in NMM3D Microwave Scattering in Vegetation
Huanting Huang (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Eni Gerald Njoku* (*California Institute of Technology*); *Andreas Colliander* (*California Institute of Technology*); *Kung-Hau Ding* (*Air Force Research Laboratory, Wright-Patterson AFB*); *Tien-Hao Liao* (*California Institute of Technology*);

17:40 Characterization and Modeling of Gradient-carbon Absorber Layers Suitable for Radar Cross Section Reduction of UAVs
Plamen I. Dankov (*Sofia University "St. Kliment Ohridski"*); *Ivan I. Iliev* (*Sofia University "St. Kliment Ohridski"*);

18:00 Machine-learning-assisted Analysis of Polarimetric Scattering from Dielectric Cylinders of Finite Length
Hao Chen (*Zhejiang University*); *Chao Yang* (*Zhejiang University*); *Yang Du* (*Zhejiang University*);

Session 1P9
Computational Techniques in Electromagnetics and Applications

Monday PM, November 20, 2017

Room LT15

Organized by Yoichi Okuno, Tsuneki Yamasaki

Chaired by Yoichi Okuno, Tsuneki Yamasaki

14:00 Optimization of Magnetic Actuators Using Competition Over Resources Algorithm
Houssem Rafik El Hana Bouchekara (*University of Constantine 1*); *Mouaaz Nahas* (*Umm Al-Qura University*);

14:20 Microwave Imaging in the Time Domain with Noise Waveforms
Ayed R. AlAjmi (*Texas Tech University*); *Mohammad A. Saed* (*Texas Tech University*);

14:40 Assessment of the Human Exposure due to an Electric Vehicle (EV) Equipped with a Wireless Power Transfer (WPT) System
Valerio De Santis (*University of L'Aquila*); *Tommaso Campi* (*University of L'Aquila*); *Silvano Cruciani* (*University of L'Aquila*); *Mauro Feliziani* (*University of L'Aquila*);

15:00 A Semi-analytical Model for Transmission Coefficient Calculation for Metal Planar Rings in Meta-sheets in the Microwave Region
Ezgi Ozis (*German Aerospace Center (DLR)*); *Andrey V. Osipov* (*Microwaves and Radar Institute, German Aerospace Center (DLR)*); *Thomas F. Eibert* (*Technical University of Munich*);

15:20 A Grating-based Plasmon Index Sensor: Performance Simulation in the Presence of Noise
Miaoning Zheng (*South China Normal University*); *Xun Xu* (*Kyushu Sangyo University*); *Rui Gong* (*South China Normal University*); *Yoichi Okuno* (*South China Normal University*);

15:40 Nanolattice Coupling to a Single Dipole Excitation Using Array Scanning Method
Michael Wei (*University of Illinois*); *Weng Cho Chew* (*University of Illinois*);

16:00 **Coffee Break**

16:20 A Study on Numerical Integration Scheme for Electromagnetic Scattering Analysis of Finite Periodic Circular Cylinder Array
Koki Watanabe (*Fukuoka Institute of Technology*); *Kiyotaka Fujisaki* (*Fukuoka Institute of Technology*); *Kamin Kangkarn* (*Fukuoka Institute of Technology*);

16:40 Implementation of Bi-modal Statistical Distribution into SPICE Models
Stanislav Banas (*ON Semiconductor*); *Marek Brzobohaty* (*ON Semiconductor*); *Josef Dobes* (*Czech Technical University in Prague*);

17:00 Broadband Green's Function with Higher Order Extractions for Waveguide Applications
Tien-Hao Liao (*California Institute of Technology*); *Kung-Hau Ding* (*Air Force Research Laboratory, Wright-Patterson AFB*); *Leung Tsang* (*University of Michigan*);

17:20 Incident Wave and Unidirectional Wave Source Implementation in Crank-Nicolson Scheme for One-dimensional Maxwell's Equations
Satyajeet Singh (*Indian Institute of Technology Madras*); *Harishankar Ramachandran* (*Indian Institute of Technology Madras*);

17:40 Scattering of Electromagnetic Wave by a Dielectric Rectangular Cylinder with Conducting Strip
Tsuneki Yamasaki (*Nihon University*);

18:00 Compact Dual-band Hexadecagon Circular Patch Antenna with DGS for Ku Band Applications
Ketavath Kumar Naik (*K L University*); *P. Amala Vijaya Sri* (*K L University*); *N. Yasasvini* (*K L University*); *Momina Anjum* (*K L University*); *G. Dattatreya* (*K L University*);

Session 1P10a
SC3: Modeling, Numerical Simulation and Theory in Optics and Photonics 2

Monday PM, November 20, 2017

Room LT16

Organized by Jun Shibayama, Yasuhide Tsuji

Chaired by Jun Shibayama, Yasuhide Tsuji

14:00 Extraction of All Eigenmodes Propagating in an Optical Fiber from Transcendental Equations by the Sakurai-Sugiura Method
Juichi Takahashi (*Muroran Institute of Technology*); *Shingo Sato* (*Muroran Institure of Technology*); *Koji Hasegawa* (*Muroran Institute of Technology*);

14:20 Analysis of Butt Coupling of Optical Waveguides Using Propagation Operator Method Based on Finite Element Method
K. Morimoto (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

14:40 Eigenmode Analysis Using the Imaginary-distance Beam-propagation Method Based on Yee's Mesh in Cylindrical Coordinates
Masato Ito (*Hosei University*); *Jun Shibayama* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

15:00 A Cylindrical LOD-FDTD Method for the Analysis of Plasmonic Devices
Jun Shibayama (*Hosei University*); *Tatsuyuki Hara* (*Hosei University*); *Masato Ito* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

16:00 **Coffee Break**

Session 1P10b
Spintronic and Electromagnetic Physics in Ferromagnetic, Diamond, and Dirac Materials

Monday PM, November 20, 2017

Room LT16

Organized by Seng Ghee Tan, Mansoor B. A. Jalil, Leonid A. Krivitskiy

Chaired by Mansoor B. A. Jalil

16:20 Invited The Role of Exchange Interaction in Nitrogen Vacancy Centre-based Magnetometry
Cong Son Ho (*National University of Singapore*); *Seng Ghee Tan* (*Agency for Science, Technology and Research (A-STAR)*); *Mansoor B. A. Jalil* (*Natl Univ Singapore*); *Zilong Chen* (*Agency for Science, Technology and Research (A*STAR)*); *Leonid A. Krivitskiy* (*Data Storage Institute (DSI), A*STAR*);

16:40 Invited Heusler Alloys for Spintronic Devices
Atsufumi Hirohata (*University of York*); *William Frost* (*University of York*); *Teodor Huminiuc* (*University of York*); *John Sinclair* (*University of York*); *Haokaifeng Wu* (*University of York*); *Marjan Samiepour* (*University of York*); *Jun-Young Kim* (*University of York*);

17:20 Invited Spin Accumulation in Disordered Topological Insulator Ultrathin Films
Zhuo Bin Siu (*National University of Singapore*); *Cong Son Ho* (*National University of Singapore*); *Seng Ghee Tan* (*Agency for Science, Technology and Research (A-STAR)*); *Mansoor B. A. Jalil* (*National University of Singapore*);

Session 1P11a
Education for Electromagnetics

Monday PM, November 20, 2017

Room LT17

Organized by Eng Leong Tan, Ari Sihvola

Chaired by Eng Leong Tan, Ari Sihvola

14:00 Analogy and Historical Approaches to Undergraduate Electromagnetic Education
Kok Yeow You (*University Teknologi Malaysia*); *Zulkifly Abbas* (*University Putra Malaysia*);

14:20 Develop a Demonstration Kit for Education of Circuit Design with Radiated EMI Control
Junwu Zhang (*Nanyang Technological University*); *Kye Yak See* (*Nanyang Technological University*);

14:40 Is Electromagnetics Education Possible Out of Context?
Ari Sihvola (*Aalto University*);

15:00 Hidden Momentum and the Choice of Energy-flux Fields in Metamaterials
Carlos Prieto Lopez (*Instituto de Fisica, UNAM*); *Ruben G. Barrera* (*Instituto de Fisica, UNAM*);

15:20 Demonstration of Electromagnetic Plane Wave Reflection and Transmission on iPad and 3D TV
Eng Leong Tan (*Nanyang Technological University*); *Ding Yu Heh* (*Nanyang Technological University*);

16:00 **Coffee Break**

16:20 Analysis of Discharge Parameters for Applications in Plasma Devices
Gorur Govinda Raju (*University ofWindsor*);

16:40 Design of a Smart Temperature Adjusting System for a Large Classroom
Maode Ma (*Nanyang Technological University*); *A. P. V. Subramanian* (*Nanyang Technological University*);

Session 1P11b
Power Electronics

Monday PM, November 20, 2017

Room LT17

Chaired by Ari Sihvola

17:00 A Fully Integrated Dual Marx Generator for Dynamic Adjustable Power Supply
Darmayuda I Made (*A*STAR*); *Lei Yao* (*A*STAR*); *Yuan Gao* (*A*STAR*);

17:20 Performance Improving of Induction Motor Drive with DTC Using Predictive Control
Jiri Lettl (*Czech Technical University in Prague*); *Pavel Karlovsky* (*Czech Technical University in Prague*);

17:40 Improved Design of Switching Pattern Generation for Matrix Converter Powering Induction Motor Drive
Jiri Lettl (*Czech Technical University in Prague*); *Jan Bauer* (*Czech Technical University in Prague*);

Session 1P12
Practical Antenna Designs for Wireless Communication Systems and Mobile Devices

Monday PM, November 20, 2017
Room LT18
Organized by Chow-Yen-Desmond Sim, Jiang Xiong
Chaired by Chow-Yen-Desmond Sim, Jiang Xiong

14:00 Application of Pulsed Near-field System for Heart Rate Sensing
Wei-Ping Hung (*National Chiao Tung University*); *Tsern-Huei Lee* (*National Chiao Tung University*); *Chia-Hung Chang* (*Feng Chia University*);

14:20 Analysis and Improvement for Normal Mode Helical Antennas
Yifan Xiong (*University of Electronic Science and Technology of China*); *Lidong Huang* (*University of Electronic Science and Technology of China*); *Jiang Xiong* (*University of Electronic Science and Technology of China*);

14:40 A Broadside Circularly Polarized Semi-cylindrical Dielectric Resonator Antenna Excited with Unequal Pair of Vertical Microstrip Line
Rakesh Chowdhury (*Indian Institute of Technology (Indian School of Mines)*); *Md. Muzammil Sani* (*Indian Institute of Technology (Indian School of Mines)*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

15:00 Novel Switchable Circular Polarized Antenna Based on Substrate Integrated Waveguide
Yu-Jen Chi (*Tamkang University*); *Yu-Ting Kao* (*Tamkang University*);

15:20 Dual-wideband Single Open-slot Antenna for LTE/WWAN Smartphone
Horng-Dean Chen (*National Kaohsiung Normal University*); *Chow-Yen-Desmond Sim* (*Feng Chia University*); *Ruenn-Bo Tsai* (*National Kaohsiung Normal University*); *Colin Kuo* (*Telecom Technology Center*);

16:00 **Coffee Break**

16:20 Challenges of Co-time Co-frequency Full Duplex and the Possible Solutions
Yi-Ming Zhang (*University of Electronic Science and Technology of China*); *Jia-Lin Li* (*University of Electronic Science and Technology of China (UESTC)*);

16:40 On the Radiation Performance of Cavity-backed Slot Antennas
Jun Zhang (*Guangdong University of Technology*); *Zhongxiang Shen* (*Nanyang Technological University*);

Session 1P0
Poster Session 4

Monday PM, November 20, 2017
14:00 PM - 18:00 PM
Room TR+29 - TR+36

1 Solution of Composite Scattering from a Target Buried Beneath a Dielectric Rough Surface with a Hybrid FEM/MoM Method
Hong-Jie He (*Xidian University*); *Li-Xin Guo* (*Xidian University*);

2 Full-wave Electromagnetic Optimizations of Photonic Crystals Involving Dielectric Rods
Hamza Eray (*Middle East Technical University*); *Bariscan Karaosmanoglu* (*Middle East Technical University*); *Ozgur Ergul* (*Middle East Technical University*);

3 Analysing the Responses of Layered Materials with Varied Parameters
Radim Kadlec (*Brno University of Technology*); *Petr Drexler* (*Brno University of Technology*);

4 Study on the Heat Capacity of Chemical Compounds under Microwave Energy
Fujiko Aoki (*Kyushu Institute of Technology*); *Katsumi Chiyomaru* (*Kyushu Institute of Technology*); *Takeo Yoshimura* (*Tokyo Institute of Technology*); *Shokichi Ohuchi* (*Kyushu Institute of Technology*);

5 Numerical Model for Simulation of Wave Propagation through Plasma Layer
Chengxun Yuan (*Harbin Institute of Technology*); *Bekasov Vladimir* (*St. Petersburg State University*); *Stepan Eliseev* (*St. Petersburg State University*); *Anatoly A. Kudryavtsev* (*St. Petersburg State University*);

6 Multiple False Targets Generation Method for Countering ISAR
Qingzhan Shi (*National University of Defense Technology*); *Chao Wang* (*National University of Defense Technology*); *Xiao-Fa Zhang* (*National University of Defense Technology*); *Chang Zhu* (*National University of Defense Technology*); *Nai-Chang Yuan* (*National University of Defense Technology*); *Qingping Wang* (*National University of Defense Technology*);

7 Fundamental Study on Velocity Estimation of Vehicle for Automotive Millimeter Wave SAR
Yusuke Kobayashi (*Niigata University*); *Hiroyoshi Yamada* (*Niigata University*); *Yoshio Yamaguchi* (*Niigata University*); *Y. Sugiyama* (*Fujitsu TEN Limited VICT Engineering Group*);

9 Monitoring of Seismic Shocks Evolution Process at the 2013 Santa Cruz Islands Earthquake
Shigehisa Nakamura (*Kyoto University*);

10 Microwave Backscattering by the Sea Surface in the Transition Range of Incidence Angles (10°–20°): Theory and Experiment
Vladimir Yurjevich Karaev (*Institute of Applied Physics, Russian Academy of Sciences*); *Yu. A. Titchenko* (*Institute of Applied Physics, Russian Academy of Sciences*); *E. A. Meshkov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Maria A. Panfilova* (*Institute of Applied Physics, Russian Academy of Sciences*);

11 Extratropical Cyclones over the North Atlantic and North Pacific: Comparison of AMSR2 — Retrieved and Era-Interim Sea Surface Wind Fields for 2 Year Period
Elizaveta V. Zabolotskikh (*Russian State Hydrometeorological University*); *P. V. Vasilyeva* (*Russian State Hydrometeorological University*); *Bertrand Chapron* (*IFREMER*);

12 The Laser Scattering and Statistical Characteristics of Haze Particles Which Have Rarefied Random Distribution
Ming-Jun Wang (*Xianyang Normal College*); *Ji-Hua Yu* (*Xi'an University of Technology*); *Xi-Zheng Ke* (*Xi'an University of Technology*);

13 An Experiment to Assess the Response of the Human Organism to Changes in Low-level Magnetic Fields
Michael Hanzelka (*Brno University of Technology*); *Jiri Dan* (*Masaryk University*); *Pavel Fiala* (*Brno University of Technology*); *Petr Drexler* (*Brno University of Technology*); *Vladan Holcner* (*University of Defence*); *Premysl Dohnal* (*Brno University of Technology*);

14 Thermoacoustic Guided Self-regulative Magnetic Nanoparticle Hyperthermia
Siyu Liu (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*); *Zilian Qu* (*Nanyang Technological University*);

15 Survey of Leakage Magnetic Fields from Various Induction Heating Ranges
Hiroo Tarao (*National Institute of Technology, Kagawa College*); *Noriyuki Hayashi* (*University of Miyazaki*); *Katsuo Isaka* (*The University of Tokushima*);

16 Hyperspectral Target Detection Based on Sparse Errors Matrix
Wei Li (*Harbin Engineering University*); *Meiling Meng* (*Harbin Engineering University*); *Chunhui Zhao* (*Harbin Engineering University*);

17 Equivalent Circuit Characterization of an mm-Wave Meander Slot Antenna Array on Silicon Substrate
Seyi Stephen Olokede (*University of Johannesburg*); *Babu Sena Paul* (*University of Johannesburg*);

18 Three-element Homogeneous Layer of Cylindrical Dielectric Resonator Antenna for Wideband Applications
Md. Muzammil Sani (*Indian Institute of Technology (Indian School of Mines)*); *Rakesh Chowdhury* (*Indian Institute of Technology (Indian School of Mines)*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

19 A Small $\mathbf{8} \times \mathbf{8}$ MIMO Antenna Design and Measurement for a Wi-Fi System
Jung-Shyr Wu (*National Central University*); *Jen-Wei Wang* (*National Central University*); *Jwo-Shiun Sun* (*National Taipei University of Technology*); *Guan-Yu Chen* (*National Taipei University of Technology*);

20 Radiation Pattern Synthesis with Improved High Dimension PSO
Guizhen Lu (*Communication University of China*); *Zhi Cao* (*Communication University of China*);

21 ACS-fed Multiband Antenna Loaded with Staircase Radiating Strips for Wireless Communication Systems
Praveen Vummadisetty Naidu (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Arvind Kumar* (*Kautilya Institute of Technology and Engineering*);

22 A Low Cost Tri-band Microstrip Patch Antenna for GPS Application
Anegunda Subramanya Supriya (*Amrita University*); *Jolly Rajendran* (*Amrita University*);

23 A Modified Antipodal Vivaldi Antenna (AVA) with Elliptical Slotting Edge (ESE) for Ultra-Wideband (UWB) Applications
Hassan Nornikman (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. Abdulmalek* (*University of Wollongong in Dubai*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *O. Al-Khatib* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hasliza Binti A. Rahim* (*Universiti Malaysia Perlis (UniMAP)*); *Y. Y. Soon* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. S. Muslimah* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *R. Syazwany* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *H. I. Salimi* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. Y. Amirul* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. S. N. Azizi* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

24 Two Layered $\mathbf{2 \times 1}$ Koch Curve Patch Array Antenna with Suspended Air Gap Effect for Wireless LAN Applications
M. Abdulmalek (*University of Wollongong in Dubai*); *Hassan Nornikman* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *O. Al-Khatib* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. Abdulaziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hasliza Binti A. Rahim* (*Universiti Malaysia Perlis (UniMAP)*); *N. Y. Ann* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *J. Y. L. Shen* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. Salman* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *N. M. Razak* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hamizan Bin Abu Bakar* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

25 A Very Small Wideband Asymmetric Coplanar Strip Fed Printed Dual Band Antenna for Advanced Communication Applications
Praveen Vummadisetty Naidu (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Arvind Kumar* (*Kautilya Institute of Technology and Engineering*); *Vinay Kumar* (*Defence Institute of Advanced Technology (Deemed University)*);

26 A Miniaturized Antipodal Vivaldi Antenna with Director for Ultra-wide-band Applications
Peng Ye (*East China Jiaotong University*); *Aiyun Zhan* (*East China Jiaotong University*); *Zhiwei Liu* (*East China Jiaotong University*); *Miao Tian* (*East China Jiaotong University*); *Xiao-Yan Zhang* (*East China Jiaotong University*);

27 Mutual Coupling Reduction in Tightly Coupled Microstrip Patch Antenna Arrays Using Decoupling Circuits
Cheng-Nan Hu (*Oriental Institute of Technology*); *Jhih-Jia Chen* (*Oriental Institute of Technology*); *Den-Chen Lon* (*Oriental Institute of Technology*);

28 Design of a Novel Annular Broadband Microstrip Antenna
Xuanxuan Li (*Anhui University*); *Minquan Li* (*Anhui University*); *Xu Pan* (*Anhui University*); *Chunchun Shen* (*Anhui University*); *Yongguang Zhou* (*Anhui University*); *Shandong Wang* (*Anhui University*);

29 Integration of Sparse Array Feed and Phase Correction to Design High Gain Resonant Cavity Antennas
Muhammad Usman Afzal (*Macquarie University*); *Ali Lalbakhsh* (*Macquarie University*); *Karu P. Esselle* (*Macquarie University*);

30 A 2.45 GHz Printed High Gain Dipole Antenna Array with Circular Polarization
Ji-Hong Kim (*Gyeongsang National University (GNU)*); *Min-Gyo Jeong* (*Gyeongsang National University (GNU)*); *Sang-Hyeon Bae* (*Gyeongsang National University (GNU)*); *Wang-Sang Lee* (*Gyeongsang National University*);

31 A Millimeter-wave Low-loss Suspended Microstrip Power Divider/Combiner Design
Cheng-Nan Hu (*Oriental Institute of Technology*); *J.-W. Chou* (*Oriental Institute of Technology*); *P.-F. Lee* (*Oriental Institute of Technology*); *Y.-W. Shih* (*Oriental Institute of Technology*); *Z.-Y. Huang* (*Oriental Institute of Technology*);

32 Investigation on the Stability for the Staggered Double Vane Structure TWT in G-band with Bragg Reflector
Cun-Jun Ruan (*Beihang University*); *Hua-Feng Zhang* (*Beihang University*); *De-Yin Kong* (*Beihang University*); *Min Zhan* (*Beihang University*);

33 Design of a Subharmonic Mixer for Millimeter-wave Applications
Sadhana Kumari (*National Institute of Technology Patna*); *Priyanka Mondal* (*National Institute of Technology Patna*);

34 The Impaction of Epitaxy Growth Method on Performance of Low-voltage UMOS
Min Gong (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Tao Jin* (*Southwest Jiaotong University*);

35 Compact Ultra-wideband Bandpass Filter with Nested Symmetrical Split-ring Defected Ground Structure
Bin Wu (*National University of Defense Technology*); *Xi Chen* (*National University of Defense Technology*); *Jingjian Huang* (*National University of Defense Technology*); *Qi Feng* (*National University of Defense Technology*); *Nai-Chang Yuan* (*National University of Defense Technology*);

36 Tunable Microstrip Bandpass Filter Based on Cascade Quadruplet Topology
Ding-Hong Jia (*Southwest Jiaotong University*); *Jianqin Deng* (*41st Institute of China Electronic Technology Group Corporation*);

37 Microstrip Diplexer and Triplexer Using Mixed Directed-feed and Coupled-feed Line Coupled-resonator Filters
Wei Lo (*Super Micro Computer, Inc.*); *Pu-Hua Deng* (*National University of Kaohsiung*); *Chen-Hsiang Lin* (*National University of Kaohsiung*);

38 Differential Bandpass Filter with Common-mode Suppression Using Frequency-selecting Coupling Structure
Xiao-Yu Zhang (*Kwangwoon University*); *Yang Wang* (*Kwangwoon University*); *Chun-He Quan* (*Kwangwoon University*); *Fu-Xing Liu* (*Kwangwoon University*); *Jong-Chul Lee* (*Kwangwoon University*);

39 Adaptive Beamforming: An Excellent Performance for Smart Antennas in Wireless Communication Systems
Ayodele S. Oluwole (*University of KwaZulu-Natal*); *Viranjay M. Srivastava* (*University of KwaZulu-Natal*);

40 A Wideband Power Amplifier for Wi-Fi Application in 130 nm SOI CMOS Process
Bo Chen (*Nanyang Technological University*); *Liheng Lou* (*Nanyang Technological University*); *Kai Tang* (*Nanyang Technological University*); *Ting Guo* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

41 Design of Electromagnetic Wave Absorbers Using Frequency Selective Surfaces
Takahiko Yoshida (*Doshisha University*); *Masato Matsushita* (*Nitta Corporation*); *Naoki Morikawa* (*Doshisha University*); *Takumi Kubota* (*Doshisha University*); *Shinzo Yoshikado* (*Doshisha University*);

42 A Study on Active Absorption Transmission Reflection FSS Using Diodes
Takahiro Omatsuzawa (*Aoyama Gakuin University*); *Ryosuke Suga* (*Aoyama Gakuin University*); *Kiyomichi Araki* (*Tokyo Institute of Technology*); *Osamu Hashimoto* (*Aoyama Gakuin University*);

43 Simple Type of Coaxial Line — Microstrip Line Transition at Millimeter-wave Frequencies
Keishi Okamura (*National Institute of Technology*); *Yuki Kawahara* (*Kawashima Manufacturing Co., Ltd.*); *Futoshi Kuroki* (*Kure National College of Technology*);

44 A New Small Resonant Antenna Based on a Lumped-element Resonator
Seyi Stephen Olokede (*University of Johannesburg*); *Babu Sena Paul* (*University of Johannesburg*);

46 A Wearable UHF RFID Tag Antenna with Archimedean Spiral Strips
Dan Wang (*Tongji University*); *Yun Jing Zhang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

47 Design of Interconnected Mobile Application for Visualized Information System of Monitoring Risks
Zi Wei Xia (*Tongji University*); *Yi Chen* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

48 Electromagnetic Properties of Magnetite/Epoxy Resin Composites at X-band Frequency
Yi Lin Chan (*Universiti Tun Hussein Onn Malaysia*); *Fahmiruddin Bin Esa* (*Universiti Tun Hussein Onn*); *Kok Yeow You* (*University Teknologi Malaysia*); *Man Seng Sim* (*Universiti Tun Hussein Onn Malaysia*); *Mohd Zul Hilmi Mayzan* (*Universiti Tun Hussein Onn Malaysia*); *Mohamad Ashry Jusoh* (*Universiti Malaysia Pahang*);

49 Study on the Bending Stiffness of Elastic Metamaterial Slabs
Jinjie Shi (*Soochow University*); *Chenkai Liu* (*Soochow University*); *Yun Lai* (*Soochow University*);

50 Inverted Suspended Circular Polarized Antenna with the Integration of Metasurface (MS) Structure Technique
Hamizan Bin Abu Bakar (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hassan Nornikman* (*Universiti Malaysia Perlis*);

52 Investigation on a Ku-band Planar Luneburg Lens Using Metamaterial Resonators
Gong Cheng (*Beijing Institute of Technology*); *Nan Zhao* (*Beijing Institute of Technology*); *Yuming Wu* (*Beijing Institute of Technology*); *Cheng Jin* (*Beijing Institute of Technology*); *Jinchao Mou* (*Nanyang Technological University*);

53 Metamaterial Based Directional Coil for 7-Tesla MRI Applications
Mei Sun (*Institute for Infocomm Research (I2R)*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Xinyi Tang* (*Institute for Infocomm Research*); *Zhining Chen* (*National University of Singapore*);

54 An Ultrasensitive Nanoplasmonic Sensor Utilizing Plasmon Coupling within Multifold Nanorod Array
Chien-Ying Huang (*National Taiwan University*); *Hung-Chun Chang* (*National Taiwan University*);

55 Ytterbium Nanoparticles Fabricated by fs-laser Ablation Raman Spectroscopy Study
Ilia Samusev (*Immanuel Kant Baltic Federal University*); *Anna Tsibulnikova* (*Immanuel Kant Baltic Federal University*); *Andrey Yurievich Zyubin* (*Immanuel Kant Baltic Federal University*); *Rodion Borkunov* (*Immanuel Kant Baltic Federal University*); *Igor V. Alekseenko* (*Immanuel Kant Baltic Federal University*); *Valery V. Bryukhanov* (*Immanuel Kant Baltic Federal University*);

56 Propagation Properties of a Radially Polarized Twisted Gaussian Schell-model Beam in Turbulent Atmosphere
Xiaofeng Peng (*Soochow University*); *Chengliang Zhao* (*Soochow University*);

57 BM3D Vector Approximate Message Passing for Radar Coded-aperture Imaging
Shuo Chen (*National University of Defense Technology*); *Chenggao Luo* (*National University of Defense Technology*); *Bin Deng* (*National University of Defense Technology, NUDT*); *Yu-Liang Qin* (*National University of Defense Technology*); *Hong-Qiang Wang* (*National University of Defense Technology*); *Zhaowen Zhuang* (*National University of Defense Technology*);

58 Comparison of Discrete and Distributed In-line Raman Amplifiers in a 16 Channel DWDM Transmission System
Julija Putrina (*Riga Technical University*); *Sergejs Olonkins* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*); *Girts Ivanovs* (*Riga Technical University*);

59 Evaluation of Dispersion Compensation Effectiveness for 4-PAM Modulated 40 Gbit/s DWDM-PON Optical Access Systems
Toms Salgals (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Girts Ivanovs* (*Riga Technical University*);

60 High-throughput and Scalable Nanopatterning by the Mechanical Inscribing of a Rigid Nanograting Mold Edge onto a Polymer Substrate and Its Photonic and Plasmonic Applications
Jeong Dae Kim (*Seoul National University of Science and Technology*); *Dong Kyo Oh* (*Seoul National University of Science and Technology*); *Seungjo Lee* (*Seoul National University of Science and Technology*); *Jae Hyuk Lee* (*Seoul National University of Science and Technology*); *Jong G. Ok* (*Seoul National University of Science and Technology*);

61 Facile and Scalable Fabrication of 3D Plasmonic Nanoarchitecures Comprising Double-bent Au Strips on Transparent Nanogratings via Roll-to-roll Nanoimprinting and Angled Au Deposition for Flexible LSPR-based Sensors
Jung-Sub Wi (*Korea Research Institute of Standards and Science*); *Dong Kyo Oh* (*Seoul National University of Science and Technology*); *Sung Ho Lee* (*Kyungpook National University*); *Seungjo Lee* (*Seoul National University of Science and Technology*); *Kyu-Tae Lee* (*University of Illinois at Urbana-Champaign*); *Inkyu Park* (*Korea Advanced Institute of Science and Technology*); *Moon Kyu Kwak* (*Kyungpook National University*); *Jong G. Ok* (*Seoul National University of Science and Technology*);

62 Increasing the Efficiency of Organic Solar Cell Using Dielectric Grating
Vidhi Mann (*Indian Institute of Technology Roorkee*); *Vipul Rastogi* (*Indian Institute of Technology Roorkee*);

Session 2A1
FocusSession.SC3: THz Spintronics with Ferrimagnets and Dirac/Weyl Materials 2

Tuesday AM, November 21, 2017

Room LT5

Organized by Hyunsoo Yang, Geoffrey Stephen D. Beach, Tobias Kampfrath

Chaired by Hyunsoo Yang, Teruo Ono

09:00 Spin Dynamics in Antiferromagnets and Ferrimagnets
Keynote
Teruo Ono (*Kyoto University*);

09:30 Stability and Dynamics of Antiferromagnetic
Invited Skyrmions
Oleg A. Tretiakov (*Tohoku University*);

10:00 Spin Torque and Charge Pumping in Topological In-
Invited sulators
Aurelien Manchon (*King Abdullah University of Science and Technology (KAUST)*); *P. B. Ndiaye* (*King Abdullah University of Science and Technology (KAUST)*); *S. Ghosh* (*King Abdullah University of Science and Technology (KAUST)*); *S. Laref* (*King Abdullah University of Science and Technology (KAUST)*);

10:30 Charge-spin Conversion in Topological Material and
Invited Interfaces
Kouta Kondou (*RIKEN Center for Emergent Matter Science (CEMS)*); *S. Nakatsuji* (*University of Tokyo*); *Yoshichika Otani* (*University of Tokyo*);

11:00 **Coffee Break**

11:20 THz Emission Spectroscopy of Topological Insulators
Invited
Chih-Wei Luo (*National Chiao Tung University*);

11:50 Nonlinear Terahertz Responses of Dirac Semimetals
Invited
Ikufumi Katayama (*Yokohama National University*);

Session 2A2
FocusSession.SC3: Silicon Photonics 1

Tuesday AM, November 21, 2017

Room LT6

Organized by Newton C. Frateschi, Yeshaiahu Shaya Fainman

Chaired by Newton C. Frateschi

09:00 Multi-photon and High-dimensional Entanglement in
Invited Integrated Frequency Combs
Christian Reimer (*INRS-EMT*); *Michael Kues* (*INRS-EMT*); *Piotr Roztocki* (*INRS-EMT*); *Luis Romero Cortes* (*INRS-EMT*); *Stefania Sciara* (*INRS-EMT*); *Benjamin Wetzel* (*INRS-EMT*); *Yanbing Zhang* (*INRS-EMT*); *Alfonso Cino* (*University of Palermo*); *Brent E. Little* (*Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Science*); *Sai T. Chu* (*City University of Hong Kong*); *David J. Moss* (*Swinburne University of Technology*); *Lucia Caspani* (*University of Strathclyde*); *Jose Azana* (*INRS-EMT*); *Roberto Morandotti* (*INRS-EMT*);

09:20 Ultra-large-scale Silicon Photonic Integrated Circuits
Invited for Optical Switching
Kazuhiro Ikeda (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Keijiro Suzuki* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Ken Tanizawa* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Satoshi Suda* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Hiroyuki Matsuura* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Shu Namiki* (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Hitoshi Kawashima* (*National Institute of Advanced Industrial Science and Technology (AIST)*);

09:40 Area-selective, On-chip Heating in Silicon Photonic
Invited Platforms
Ahmed M. Morsy (*University of Southern California*); *Roshni Biswas* (*University of Southern California*); *Michelle L. Povinelli* (*University of Southern California*);

10:00 Narrowband Silicon Photonic Waveguide Bragg Grat-
Invited ing Devices
Yung-Jr Hung (*National Sun Yat-sen University*);

10:20 Design and Analysis of SOI-based Optical Sensors
Invited
Hung-Hsuan Chen (*National Sun Yat-Sen University*); *Chi-Yan Chen* (*National Sun Yat-Sen University*); *Chin-Ping Yu* (*National Sun Yat-Sen University*);

11:00 **Coffee Break**

11:20 Integrated Multichannel Scanning Fourier Transform Spectrometer
Invited
Toralf Scharf (*EPFL-STI-IMT-NAM*); *Gael D. Osowiecki* (*EPFL STI IMT OPT*); *Hans Peter Herzig* (*Swiss Federal Institute of Technology in Lausanne (EPFL)*);

11:40 Fourier Transform Optical Spectrometer on Silicon
Invited
Mario Cesar Mendes Machado de Souza (*Universidade Estadual de Campinas*); *Andrew Grieco* (*University of California San Diego*); *Newton C. Frateschi* (*Universidade Estadual de Campinas*); *Yeshaiahu Shaya Fainman* (*University of California at San Diego*);

12:00 Infrared Polarization and Color Filters Using Metal/Dielectric Nanostructures
Invited
A. J. Hohne (*Montana State University*); *B. Moon* (*Montana State University*); *C. L. Baumbauer* (*Montana State University*); *T. Gray* (*Montana State University*); *J. Dilts* (*Montana State University*); *Joseph A. Shaw* (*Montana State University*); *D. L. Dickensheets* (*Montana State University*); *Wataru Nakagawa* (*Montana State University*);

12:20 Three Dimensional Optimization of Non-volatile Random Access Photonic Memory Cell
Shubham Singh (*Indian Institute of Technology Roorkee*); *Nadir Ali* (*Indian Institute of Technology Roorkee*); *Rajesh Kumar* (*Indian Institute of Technology Roorkee*);

12:35 Photonic Microwave and RF Signal Processing Based on Optical Micro-combs
Invited
Xingyuan Xu (*Swinburne University of Technology*); *Jiayang Wu* (*Swinburne University of Technology*); *Mehrdad Shoeiby* (*RMIT University*); *Sai T. Chu* (*City University of Hong Kong*); *Brent E. Little* (*Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Science*); *Roberto Morandotti* (*Institute National de la Recherche Scientifique*); *Arnan Mitchell* (*RMIT University*); *David J. Moss* (*Swinburne University of Technology*);

Session 2A3
FocusSession.SC2: Metamaterials and Transformation Optics 1

Tuesday AM, November 21, 2017

Room LT7

Organized by Yu Luo, Hongsheng Chen

Chaired by Simon A. R. Horsley

09:00 Structural Dispersion Induced Effective SPPs and LSPs
Invited
Zhuo Li (*Nanjing University of Aeronautics and Astronautics*);

09:20 Symmetrical Non-concentric Textured Closed Surfaces for Broadband Light-harvesting and Localized Field Enhancement
Invited
Liangliang Liu (*Nanjing University of Information Science and Technology*); *Xiaozhong Gu* (*Nanjing University of Information Science and Technology*); *Huadong Guo* (*Nanjing University of Information Science and Technology*); *Geyi Wen* (*Nanjing University of Information Science and Technology*);

09:40 Dynamic and Asymmetric Control of Electromagnetic Wave with Chiral Metasurface
Invited
Yijun Feng (*Nanjing University*); *Ke Chen* (*Nanjing University*); *Bo Zhu* (*Nanjing University*); *Junming Zhao* (*Nanjing University*); *Tian Jiang* (*Nanjing University*);

10:00 Omnidirectional Invisibility Cloak Based on a Two-step Linear Transformation
Invited
Youming Zhang (*Nanyang Technological University*); *Yu Luo* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*);

10:20 Electromagnetic Waves Control and Manipulation by Meta-surfaces
Invited
Luigi La Spada (*University of London*); *Benjamin Vial* (*Queen Mary University of London*); *Yang Hao* (*Queen Mary University of London*);

11:00 **Coffee Break**

11:20 Effects of Losses and Phase Mismatch on Transient Processes in Optical Parametric Amplification through Three-wave Mixing of Ordinary and Backward Electromagnetic Waves
Viktor A. Tkachenko (*Siberian Federal University*); *Aleksey S. Tsipotan* (*Siberian Federal University*); *Sergey A. Myslivets* (*Institute of Physics of Russian Academy of Sciences*); *Vitaliy V. Slabko* (*Siberian Federal University*); *Alexander K. Popov* (*University of Wisconsin-Stevens Point*);

11:35 Anisotropic Metasurface with Near-unity Circular Polarization Conversion
Xiaoxiao Wu (*The Hong Kong University of Science & Technology*); *Yan Meng* (*Chongqing University*); *Li Wang* (*The Hong Kong University of Science and Technology*); *Jingxuan Tian* (*The Hong Kong University of Science & Technology*); *Shiwei Dai* (*Chongqing University*); *Weijia Wen* (*The Hong Kong University of Science and Technology*);

11:50 Transformation Optics-based Designs for Efficient Long-distance Photon Recycling
H. Chung (*Yale University*); *Z. Zhou* (*Purdue University*); *Peter Bermel* (*Purdue University*);

12:05 Broadband Green's Function with Low Wavenumber Extraction (BBGFL) in 3D Vector Wave Equations Applied to Arbitrary Wire Medium Characterization
Shurun Tan (*University of Michigan*); *Leung Tsang* (*University of Michigan*);

12:20 Efficient SPP Wavefront Controls with Dielectric Metasurfaces
Shaohua Dong (*Fudan University*); *Yu Zhang* (*Fudan University*); *Huijie Guo* (*Fudan University*); *Jingwen Duan* (*Fudan University*); *Fuxin Guan* (*Fudan university*); *Qiong He* (*Fudan University*); *Lei Zhou* (*Fudan University*); *Shulin Sun* (*Fudan University*);

Session 2A4
Antenna Array, Phased Array and Reconfigurable Array

Tuesday AM, November 21, 2017

Room LT8

Chaired by Kunio Sakakibara, Thomaskutty Mathew

09:00 TSA Antennas Performance Comparison for Focal Plane Array
S. Younes (*Antonine University*); *Remi M. Sarkis* (*TICKET Laboratory*);

09:20 Design of Layered Multi-beam Antenna Using Rotman-lens Phase Shifter in Millimeter-wave Band
Yuta Suzuki (*Nagoya Institute of Technology*); *Kunio Sakakibara* (*Nagoya Institute of Technology*); *Nobuyoshi Kikuma* (*Nagoya Institute of Technology*);

09:40 Design Considerations of a Circular Phased Array $\mathbf{4 \times 4}$ MIMO Antenna for Ad Hoc Connected Car System
Kazuhiro Honda (*Toyama University*); *Taiki Fukushima* (*Toyama University*); *Koichi Ogawa* (*Toyama University*);

10:00 Traveling-wave Array Design of Series-fed Microstrip Patch Array Antenna
Kengo Ichihashi (*Nagoya Institute of Technology*); *Kunio Sakakibara* (*Nagoya Institute of Technology*); *Nobuyoshi Kikuma* (*Nagoya Institute of Technology*);

10:20 Design of Center-fed Two-dimensional Microstrip Planar Array Fed by Cross-junction Power-dividers in Millimeter-wave Band
Yuta Mouri (*Nagoya Institute of Technology*); *Kunio Sakakibara* (*Nagoya Institute of Technology*); *Nobuyoshi Kikuma* (*Nagoya Institute of Technology*);

10:40 Performance Investigation of Reflectarray Antenna with Variable Feed Distance
Muhammad Hashim Dahri (*University Tun Hussein Onn Malaysia*); *M. R. Kamarudin* (*Cranfield University, Defence Academy of the United Kingdom*); *Mohd Haizal Jamaluddin* (*Universiti Teknologi Malaysia*); *Muhammad Inam Abbasi* (*University Technology Malaysia (UTM)*);

11:00 **Coffee Break**

11:20 Design of Finline $\mathbf{4 \times 4}$ Butler Matrix in Multilayer Substrate at Millimeter-wave Band
Yuta Mizuno (*Nagoya Institute of Technology*); *Kunio Sakakibara* (*Nagoya Institute of Technology*); *Nobuyoshi Kikuma* (*Nagoya Institute of Technology*); *Kojiro Iwasa* (*Nippon Pillar Packing Co., Ltd.*);

11:40 Design and Comparative Evaluation of Antenna Array Performance Using Non Blind LMS Beamforming Algorithms
Rinkee Chopra (*Indian Institute of Technology*); *Rahul Lakhmani* (*Indian Institute of Technology*);

12:20 Design of Slot Antenna Array for Tracking Radar Using Particle Swarm Optimization
Hisham Khalil (*The University of Lahore*); *Saeed Ur Rahman* (*Nanjing University of Aeronautics and Astronautics (NUAA)*); *Umair Rafique* (*Capital University of Science and Technology*); *Muhammad Mansoor Ahmed* (*Capital University of Science and Technology*);

Session 2A5
SC3: Light Manipulation, Propagation and Application 2

Tuesday AM, November 21, 2017

Room LT11

Organized by Yangjian Cai

Chaired by Yangjian Cai

09:00 Influence of Spherical Aberration and Spatial Coherence on Laser Beam Self-focusing in the Atmosphere
Xiaoling Ji (*Sichuan Normal University*); *Zhengcai Pu* (*Sichuan Normal University*); *Hanling Deng* (*Sichuan Normal University*);

09:20 Measurement and Self-reconstruction of the Degree of Coherence of a Partially Coherent Vortex Beam
Xianlong Liu (*Soochow University*); *Fei Wang* (*Soochow University*); *Yangjian Cai* (*Soochow University*);

09:40 Influence of Oceanic Turbulence on the Spectral Switches of Partially Coherent Pulsed Beams
Chaoliang Ding (*Luoyang Normal University*); *Haixia Wang* (*Luoyang Normal University*); *Yongtao Zhang* (*Luoyang Normal University*); *Liuzhan Pan* (*Luoyang Normal University*);

10:00 Equivalence Relations of Light Waves on Weak Scattering
Tao Wang (*Zhejiang University*); *Zhengfei Jiang* (*Sichuan Normal University*); *Hao Wu* (*Sichuan Normal University*); *Xiaoling Ji* (*Sichuan Normal University*);

10:20 Manipulating the Coherence of Laser Beam and Its Applications
Yangjian Cai (*Soochow University*); *Yahong Chen* (*Soochow University*);

10:40 Conversion Cavity for High Efficient and Broadband Circular Asymmetric Transmission
Ruonan Ji (*Northwestern Polytechnical University*); *Shaowei Wang* (*Shanghai Institute of Technical Physics, Chinese Academy of Sciences*); *Wei Lu* (*Shanghai Institute of Technical Physics, Chinese Academy of Sciences*);

11:00 **Coffee Break**

11:20 Beam Wander of Multi-Gaussian Schell-model Hermite-Gaussian Beam in Atmospheric Turbulence
Yangsheng Yuan (*Anhui Normal University*); *Jixiang Feng* (*Anhui Normal University*); *Zhengxian Zhou* (*Anhui Normal University*); *Jun Qu* (*Anhui Normal University*);

11:40 Experimental Generation of Partially Coherent Pulses Trains
Chaoliang Ding (*Luoyang Normal University*); *Matias Koivurova* (*University of Eastern Finland*); *Antonie D. Verhoeven* (*University of Eastern Finland*); *Jari Turunen* (*University of Eastern Finland*); *Tero Setala* (*University of Eastern Finland*); *Ari T. Friberg* (*University of Eastern Finland*);

12:00 Partially Coherent Vortex Beams
Chengliang Zhao (*Soochow University*); *Jun Zeng* (*Soochow University*); *Yangjian Cai* (*Soochow University*);

12:20 The Statistical Properties of a Hermite-Gaussian Correlated Schell-model Beam in a Gradient-index Fiber
Zhiheng Xu (*Qingdao University*); *Qingjia Zhou* (*Soochow University*); *Jiayi Yu* (*Soochow University*); *Weijin Kong* (*Qingdao University*); *Lin Liu* (*Soochow University*); *Yangjian Cai* (*Soochow University*);

12:40 Hermite-Gaussian Correlated Schell-model Pulsed Beam
Fang Wang (*Soochow University*); *Qingjia Zhou* (*Soochow University*); *Yahong Chen* (*Soochow University*); *Lin Liu* (*Soochow University*); *Yangjian Cai* (*Soochow University*);

Session 2A6a
Electromagnetic and Optical Properties of Photonic Materials, Structures, and Crystals

Tuesday AM, November 21, 2017

Room LT12

Organized by Chien-Jang Wu, Tzong-Jer Yang

Chaired by Yuan-Fong Chou Chau

09:00 Electromagnetic Transport in Valley Photonic Crystals
Yu Ting Yang (*Soochow University*); *Zhi Hong Hang* (*Soochow University*);

09:20 Plasmonic Effects Arising from the Ag-dielectric Core-shell Nanoparticles in Ordered Ag Nanohole Arrays
Yuan-Fong Chou Chau (*Universiti Brunei Darussalam*);

09:40 High Sensitivity Hybrid Plasmonic Nanostructures Consisting of Metal/Dielectric Nanospheres and Nanorods
Chung-Ting Chou Chao (*Fu Jen Catholic University*); *Yuan-Fong Chou Chau* (*Universiti Brunei Darussalam*);

10:00 A New Type of Differential Transmission Lines with Surface Plasmon Polaritons in Microwave Regime
Jin-Jei Wu (*Chung Hua University*); *Her-Lih Chiueh* (*Chung Hua University*); *Chin-Chih Chang* (*Chung Hua University*); *Chih-Fu Yi* (*Chung Hua University*); *Yao-Huang Kao* (*Chung-Hua University*); *Tzong-Jer Yang* (*National Chiao Tung University*);

10:20 High-efficiency Tunable T-shaped Power Splitter at Microwave Frequencies
Tzong-Jer Yang (*National Chiao Tung University*); *Jin-Jei Wu* (*Chung Hua University*); *Her-Lih Chiueh* (*Lunghwa University of Science and Technology*); *Linfang Shen* (*Nanchang University*);

10:40 Optical Properties of the Cap Layer Containing One Graphene Layer on the Surface of Si/SiO_2 Photonic Crystal
Chien-Jang Wu (*National Taiwan Normal University*); *Tzong-Jer Yang* (*National Chiao Tung University*);

11:00 **Coffee Break**

Session 2A6b
Industrial Workshop by CST — Computer Simulation Technology

Tuesday AM, November 21, 2017

11:20 AM - 13:00 PM

Room LT12

11:20 Electrically Large Structures
CST Representatives (*Computer Simulation Technology (CST)*);

Session 2A7
SC5: Micro-doppler Effect and Its Applications

Tuesday AM, November 21, 2017

Room LT13

Organized by Qun Zhang, Gang Li

Chaired by Qun Zhang

09:00 Classification of Drones Based on Micro-doppler Signatures with Dual-band Radar Sensors
Pengfei Zhang (*Tsinghua University*); *Le Yang* (*Tsinghua University*); *Gao Chen* (*Tsinghua University*); *Gang Li* (*Tsinghua University*);

09:20 Micro-motion Feature Extraction Based on Bayesian Inference
Le Kang (*Air Force Engineering University*); *Qun Zhang* (*Air Force Engineering University*); *Ying Luo* (*Air Force Engineering University*); *Jian Hu* (*Air Force Engineering University*); *Yong Wu* (*Shaanxi Institute of Metrology Science*);

09:40 Group Target Micro-doppler Feature Extraction via Bessel Basis Decomposition and Sparse Recovery
Qi-Fang He (*Air Force Engineering University*); *Qun Zhang* (*Air Force Engineering University*); *Ying Luo* (*Air Force Engineering University*); *Feng Zhu* (*National Defense University of PLA*); *Li Sun* (*Air Force Engineering University*);

10:00 A New Method for Helicopter Classification Based on InISAR under LFMCW Radar
Kai-Ming Li (*Air Force Engineering University*); *Yong Wu* (*Shaanxi Institute of Metrology Science*); *Wang-Yang Li* (*Air Force Engineering University*); *Yuxue Sun* (*Air Force Engineering University*);

10:20 Three-dimensional Reconstruction for Space Spinning Targets Based on Both ISAR Images and HRRP
Rong Chen (*Air Force Engineering University*); *Cun-Qian Feng* (*Air Force Engineering University*); *Sisan He* (*Air Force Engineering University*); *Xuguang Xu* (*Air Force Engineering University*);

10:40 Estimation of Human Gait Cycle Based on Cepstrum of Radar Micro-doppler Signatures
Peng Lei (*Beijing University of Aeronautics and Astronautics*); *Yuan Zhang* (*Beijing University of Aeronautics and Astronautics*); *Jun Wang* (*Beijing University of Aeronautics and Astronautics*); *Jinping Sun* (*Beihang University*);

11:00 **Coffee Break**

Session 2A8
FocusSession.SC5: Inverse Problems for Scientific, Industrial and Biomedical Applications 2

Tuesday AM, November 21, 2017

Room LT14

Organized by Cheng-Gang Xie, Xudong Chen

Chaired by Cheng-Gang Xie, Xudong Chen

09:00 Numerical Study on Complex Resistivity Measurement of Porous Media Containing Gas Hydrate
Bin Wang (*China University of Petroleum*); *Lanchang Xing* (*China University of Petroleum*);

09:20 Permittivity Imaging Method by Incorporating Range Points Migration and Ellipsometry for UWB Short Range Radar
Tatsuo Takatori (*The University of Electro-Communications*); *Yong Huang* (*Fuji Electric Co., Ltd.*); *Takahiro Kudo* (*Fuji Electric Co., Ltd.*); *Shouhei Kidera* (*University of Electro-Communications*);

09:40 Super-resolution Doppler Velocity Estimation by Gaussian-kernel Based Range-Doppler Conversion for UWB Radar
Masafumi Setsu (*The University of Electro-Communications*); *Shouhei Kidera* (*University of Electro-Communications*);

10:00 Flow Regime Identification and Measurement of Water-liquid Ratio by Electrical Capacitance Tomography and Microwave Cavity Resonant Sensor (Invited)
Mimi Faisyalini Ramli (*University of Manchester*); *Wenbin Tian* (*University of Manchester*); *Heron Eduardo Avila* (*Federal University of Santa Catarina*); *Fernando Rangel De Sousa* (*Federal University of Santa Catarina*); *Wuqiang Yang* (*University of Manchester*);

10:20 Two Dimensional Microwave Imaging Using a Divide and Unite Algorithm
Disha Shur (*Indian Institute of Engineering Science and Technology*); *K. Yaswanth* (*Indian Institute of Technology Madras*); *Uday K. Khankhoje* (*Indian Institute of Technology Madras*);

11:00 **Coffee Break**

11:20 Two-dimensional Non-linear Microwave Imaging with Total Variation Regularization
K. Yaswanth (*Indian Institute of Technology Madras*); *Uday K. Khankhoje* (*Indian Institute of Technology Madras*);

11:40 Hemorrhagic Brain Strokes Detection via Microwave Surface Impedance Method
Nergis Erdem (*Uludag University*); *O. Guren* (*Istanbul Technical University*); *Ibrahim Akduman* (*Istanbul Technical University*);

12:00 Automated Scaling Region of Interest (AS-ROI) in Inverse Scattering Method for Tomographic Image Reconstruction
Juliana Nawawi (*Universiti Malaysia Sarawak*); *Shafrida Sahrani* (*Universiti Malaysia Sarawak*); *Kismet Ak. Hong Ping* (*Universiti Malaysia Sarawak*);

12:20 Potential of Electrical Capacitance Tomography to Image Conductive Objects
Jiangtao Sun (*Beihang University*); *Shijie Sun* (*Beihang University*); *Lijun Xu* (*Beihang University*);

Session 2A9
Design and Simulation of Electromagnetic and Optical Devices 1

Tuesday AM, November 21, 2017

Room LT15

Organized by Shinichiro Ohnuki, Jun Shibayama

Chaired by Shinichiro Ohnuki, Jun Shibayama

09:00 Design and Analysis of Optimal Couplers for Maximum Power Transmission through Bended Nanowire Systems
Askin Altinoklu (*Middle East Technical University*); *Ozgur Ergul* (*Middle East Technical University*);

09:20 Design of Photonic Crystal Devices with Absolute PBG Using Finite Element Analysis
Katsumasa Satoh (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

09:40 Reduced Basis Method in Modeling Quasi-Periodic Arrays
Xunwang Dang (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*);

10:00 Realization of Multiple Resonances on Graphene Based Optical Structures
Guoxiong Cai (*Xiamen University*); *Jin Yao* (*Xiamen University*); *Yangyu Liu* (*Xiamen University*); *Na Liu* (*Xiamen University*); *Qing Huo Liu* (*Duke University*);

10:20 Design of All-optical Photonic Crystal Half Adder with T-shaped Waveguides Using Path Difference Based Interference
Enaul Haq Shaik (*Pondicherry University*); *Nakkeeran Rangaswamy* (*Pondicherry University*);

10:40 Polarimetric Scattering Analysis from Simple Man-made Objects Model Covered by Snow
Ryoichi Sato (*Niigata University*); *S. Hayashi* (*Niigata University*); *Yoshio Yamaguchi* (*Niigata University*); *H. Yamada* (*Niigata University*);

11:00 **Coffee Break**

11:20 Metasurface Design by Surrogate-assisted Optimization
Binbin Zhu (*Kuang-Chi Institute of Advanced Technology*); *Yiqi Liu* (*Kuang-Chi Institute of Advanced Technology*); *Xiao Guo* (*Shenzhen Kuang-chi Institute of Advanced Technology*); *Tian Zhou* (*Kuang-Chi Research Institute of Advanced Technology*); *Chunlin Ji* (*Kuang-Chi Institute of Advanced Technology*);

11:40 One-way Invisible Electromagnetic Wave Concentrator Using Parity-time Symmetric Transformation Optics
Zhensheng Chen (*Lanzhou University*); *Ning Yang* (*Lanzhou University*); *Zhong-Lei Mei* (*Lanzhou University*);

12:00 Analysis of a Bent Si-wire Waveguide in Cylindrical Coordinates
T. Aso (*Hosei University*); *Yota Sasaki* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

12:20 Ultra-broadband Terahertz Spectrum Sweeping Pulse Gyrotron
Chao-Hai Du (*Peking University*); *Shi Pan* (*Peking University*); *Pu-Kun Liu* (*Peking University*);

12:40 Analysis of the Three-dimensional Surface Plasmon Resonance Waveguide Sensor in the THz Region
Jun Shibayama (*Hosei University*); *Kei Yoshihara* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

Session 2A10a
Energy Harvesting Methods and Components

Tuesday AM, November 21, 2017

Room LT16

Organized by Abdullah Eroglu

Chaired by Abdullah Eroglu

09:00 A Highly Efficient Tri Band (GSM1800, WiFi2400 and WiFi5000) Rectifier for Various Radio Frequency Harvesting Applications
Mutee Ur Rehman (*Lahore University of Management Sciences*); *Waleed Ahmad* (*Lahore University of Management Sciences*); *Muhammad Ibrahim Qureshi* (*Lahore University of Management Sciences*); *Wasif Tanveer Khan* (*Lahore University of Management Sciences*);

09:20 Design of a Dual Band DC-RF Energy Harvester
S. R. Hussain (*Purdue University*); *Abdullah Eroglu* (*Purdue University*); *Omonowo David Momoh* (*Indiana University-Purdue University (IPFW)*);

09:40 Dual Band Antenna System for Energy Harvesters
F. A. Rivera-Abreu (*Purdue University*); *Abdullah Eroglu* (*Purdue University*);

10:00 Bench Top Wireless Power Transmission Using Magnetic Resonance for Multiple Devices
Ijhar Khan (*Lahore University of Management Sciences*); *Muhammad Asfand Yar* (*Lahore University of Management Sciences*); *Muhammad Rafey Khan* (*Lahore University of Management Sciences*); *Faaran Khan* (*Lahore University of Management Sciences*); *Wasif Tanveer Khan* (*Lahore University of Management Sciences*);

10:20 Long Range Wireless Power Transfer via Magnetic Resonance
Ijhar Khan (*Lahore University of Management Sciences*); *Muhammad Ibrahim Qureshi* (*Lahore University of Management Sciences*); *Mutee Ur Rehman* (*Lahore University of Management Sciences*); *Wasif Tanveer Khan* (*Lahore University of Management Sciences*);

11:00 **Coffee Break**

Session 2A10b
Wireless Power Transfer and Harvesting

Tuesday AM, November 21, 2017

Room LT16

Chaired by Mhand Cheikh

11:20 Human Body Exposure to Low Frequency Wireless Charging: Direct Coupling Mechanisms and Interferences with Medical Devices
Mhand Cheikh (*Continental Automotive Systems*); *Youri Vassilieff* (*Continental Automotive Systems*); *A. Fortes* (*Continental Automotive Systems*); *Rachid Benbouhout* (*Continental Automotive Systems*); *Herve Foligne* (*Continental Automotive Systems*);

11:40 Highly Efficient and Low Cost Radio Frequency Rectifier for Energy Harvesting Applications
Mutee Ur Rehman (*Lahore University of Management Sciences*); *Ijhar Khan* (*Lahore University of Management Sciences*); *Waleed Ahmad* (*Lahore University of Management Sciences*); *Wasif Tanveer Khan* (*Lahore University of Management Sciences*);

12:00 An Integrated Circular Polarization Microwave Rectifying Antenna Module
Xiaoning Li (*University of Electronic Science and Technology of China*); *Shi Jun Shen* (*University of Electronic Science and Technology of China*);

12:20 Theorical Upper Bound of Matching Circuit Efficiency
Ryoichi Baba (*Toyohashi University of Technology*); *Kyohei Yamada* (*Toyohashi University of Technology*); *Naoki Sakai* (*Toyohashi University of Technology*); *T. Ohira* (*Toyohashi University of Technology*);

Session 2A11
Sensor Array Signal Processing and Applications

Tuesday AM, November 21, 2017

Room LT17

Organized by Guohua Wang

Chaired by Guohua Wang

09:00 A Mixing Matrix Estimation Algorithm for Frequency Hopping Signals under the UBSS Model
Xiaochen Guo (*Harbin Engineering University*); *Yuan Tian* (*Harbin Engineering University*); *Yibing Li* (*Harbin Engineering University*);

09:20 Modified Direction-of-arrival Estimation Approach of Virtual Antenna Array Based on Fourth Order Statistics
Yu Zhao (*Harbin Engineering University*); *Wenxing Li* (*Harbin Engineering University*); *Bin Yang* (*Harbin Engineering University*); *Yimeng Zhang* (*Harbin Engineering University*);

09:40 A Modified Robust Algorithm against Large Look Direction Error Based on Interference-plus-noise Covariance Matrix Reconstruction and Steering Vector Double Estimation
Hang Yang (*Harbin Engineering University*); *Wenxing Li* (*Harbin Engineering University*); *Demin Cao* (*Harbin Engineering University*);

10:00 A Blind Source Extraction Algorithm Based on ICA-R for Underdetermined Anechoic Mixtures
Min Du (*Harbin Engineering University*); *Qianhui Dong* (*Harbin Engineering University*); *Yibing Li* (*Harbin Engineering University*);

10:20 A q-norm LMS Algorithms for Adaptive Beamforming
Peng Xu (*Harbin Engineering University*); *Hengxu Wang* (*Harbin Engineering University*); *Tao Jiang* (*Harbin Engineering University*);

11:00 **Coffee Break**

11:20 A Novel Adaptive Regularized Iteration Algorithm for DOA Estimation
Lina Zhang (*Wuhan University*); *Zezong Chen* (*Wuhan University*); *Chen Zhao* (*Wuhan University*); *Chao He* (*Wuhan University*); *Fei Xie* (*Wuhan University*);

11:40 Comparisons of the Super-resolution TOA/TDOA Estimation Algorithms
Caicai Gao (*Nanyang Technological University*); *Guohua Wang* (*Nanyang Technological University*); *Sirajudeen Gulam Razul* (*Nanyang Technological University*);

12:00 Robust Adaptive Beamforming against the Array Pointing Error
Fulai Liu (*Northeastern University at Qinhuangdao*); *Jian Wu* (*Northeastern University*); *Ruiyan Du* (*Northeastern University at Qinhuangdao*); *Xiaoyu Bai* (*Northeastern University*);

12:20 3D Correlation Function of a Uniform Circular Array Using Maximum Power in the Direction of Arrival
Affum Emmanuel Ampoma (*University of Electronic Science and Technology of China*); *Guangjun Wen* (*University of Electronic Science and Technology of China*); *Hao-Bin Zhang* (*University of Electronic Science and Technology of China*); *Yongjun Huang* (*University of Electronic Science and Technology of China*); *Oteng Kwame Gyasi* (*University of Electronic Science and Technology of China*); *Parfait I. Tebe* (*University of Electronic Science and Technology of China*);

Session 2A12
Compact Multi Band Antennas Design and Its Applications

Tuesday AM, November 21, 2017

Room LT18

Organized by Praveen Vummadisetty Naidu

Chaired by Praveen Vummadisetty Naidu

09:00 A Low Cost and Compact LTE Antenna for Vehicular Application
Ling Huang (*Nanyang Technological University*); *Yi Hua* (*Nanyang Technological University*); *Yi-Long Lu* (*Nanyang Technological University*);

09:20 Compact Dumbbell Shaped Microstrip Antenna with Suppressed Harmonics
Rinkee Chopra (*Indian Institute of Technology*); *Girish Kumar* (*Indian Institute of Technology Bombay*);

09:40 Design of Miniature Dielectric-loaded Trihelix Antenna for Multi-band Cellular Telephone Handsets
Mouaaz Nahas (*Umm Al-Qura University*); *Mousaab M. Nahas* (*University of Jeddah*);

10:00 A Compact Dual-polarized Magneto-electric Dipole Antenna for 2G/3G/LTE Applications
Zuming Li (*Anhui University*); *Yufa Sun* (*Anhui University*); *Ming Yang* (*Anhui University*); *Peiquan Tang* (*Anhui University*); *Zhifeng Wu* (*Anhui University*);

10:20 Design of a Compact Octagonal UWB MIMO Antenna Employing Polarization Diversity Technique
Kamili Jagadeesh Babu (*St. Ann's College of Engineering and Technology (SACET)*); *Bandi Kiran Kumar* (*St. Ann's College of Engineering and Technology (SACET)*); *Subba Rao Boddu* (*Indian Institute of Technology Kharagpur*); *Kalva Sri Rama Krishna* (*V. R. Siddhartha Engineering College*);

10:40 Design and Analysis of Conformal Antenna for Smart Shoes
Narimane Mislimani (*Antonine University*); *Remi M. Sarkis* (*TICKET Laboratory*);

11:00 **Coffee Break**

11:20 A Dual-frequency Satellite Antenna Loaded with a Double-arrow Array
Baiqiang You (*Xiamen University*); *Hu Xu* (*Xiamen University*); *Jianhua Zhou* (*Xiamen University*); *Y. P. Shang* (*Xinghai Communication Science and Technology Co., Ltd.*); *Wen Zhuo Li* (*Xiamen University*); *Tuan Hui Xue* (*Xiamen University*); *Hai Ke Xu* (*Xiamen University*);

11:40 A Multiband Monopole Antenna with Arrow-shaped Aperture-coupled Resonators
Jianhua Zhou (*Xiamen University*); *Jing Nie* (*Xiamen University*); *Baiqiang You* (*Xiamen University*); *Yun Peng Shang* (*Xinghai Communication Science and Technology Co., Ltd.*); *Tao Zhou* (*Xiamen University*); *Jiang Huang* (*Xiamen University*);

12:00 An Integrated 2-port Antenna for LTE, Wi-Fi, and DSRC Applications
Yi Hua (*Nanyang Technological University*); *Ling Huang* (*Nanyang Technological University*); *Yi-Long Lu* (*Nanyang Technological University*);

12:20 A Novel Rhombus Shaped ACS Fed Multi Band Antenna Loaded with Meander Branches for Advanced Communication Applications
Arvind Kumar (*Kautilya Institute of Technology and Engineering*); *Praveen Vummadisetty Naidu* (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Vinay Kumar* (*Deemed University*);

12:40 A Novel Compact Unequal Wideband Wilkinson Power Divider for UWB and EW Applications
Praveen Vummadisetty Naidu (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Vanamadi Ravi* (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Arvind Kumar* (*Kautilya Institute of Technology and Engineering*);

Session 2A0
Poster Session 5

Tuesday AM, November 21, 2017
9:00 AM - 13:00 PM
Room TR+29 - TR+36

1 Numerical Dispersion Analysis of Radial Point Interpolation Meshless Method
Xiao-Yan Zhang (*East China Jiaotong University*); *Peng Ye* (*East China Jiaotong University*); *Zhizhang (David) Chen* (*University of Electronic Science and Technology of China*); *Yiqiang Yu* (*Dalhousie University*);

2 Research on Electromagnetic Scattering from Multiship Maritime Scene
Min Zhang (*Xidian University*); *Song Xue* (*Xidian University*); *Jinxing Li* (*Xidian University*);

3 Coupling Dynamic Electromagnetic Finite Element Models to Circuit Simulators by Using Model Order Reduction
Antero Marjamaki (*Tampere University of Technology*); *Paavo Rasilo* (*Tampere University of Technology*);

4 Estimation of the Direction-of-Arrival of Incoming EM Wavefronts through a Neural Network Approach
Luca Scorrano (*Elettronica SpA*); *Stefano Maddio* (*Univ Florence*); *Giuseppe Pelosi* (*University of Florence*); *Stefano Selleri* (*University of Florence*);

5 Symmetry Protection of the Edge States in One-dimensional Photonic Crystals
Yan Meng (*Chongqing University*); *Zhinan Liu* (*Chongqing University*); *Weijia Wen* (*The Hong Kong University of Science and Technology*); *Dezhuan Han* (*Chongqing University*);

6 Are the Present Maxwell Equations Complete?
Ju Feng (*Southwest Jiaotong University*); *Kemin Sheng* (*Southwest Jiaotong University*); *Jinsheng Tang* (*Southwest Jiaotong University*);

7 Influence of Temperature on Transformer's Winding Defect Analysis Using Inductive Probes
Sooriya Bandara Rathnayaka (*Nanyang Technological University*); *Kye Yak See* (*Nanyang Technological University*); *Manish Prajapati* (*Nanyang Technological University*); *Kangrong Li* (*Nanyang Technological University*); *Nishshanka Bandara Narampanawe* (*Nanyang Technological University*); *Fei Fan* (*Nanyang Technological University*);

8 An Empirical Characterization of a Flexible Current Probe for In-Circuit Impedance Measurement
Nishshanka Bandara Narampanawe (*Nanyang Technological University*); *Kye Yak See* (*Nanyang Technological University*); *Sooriya Bandara Rathnayaka* (*Nanyang Technological University*); *Jie Zhang* (*Nanyang Technological University*); *Kangrong Li* (*Nanyang Technological University*); *Eng Kee Chua* (*Nanyang Technological University*); *Wei Peng Goh* (*Nanyang Technological University*);

9 Proton Focusing Driven by Ultra-intense Laser Electromagnetic Pulse
Fu-Qiu Shao (*National University of Defense Technology*); *W. Q. Wang* (*National University of Defense Technology*); *Li-Xiang Hu* (*National University of Defense Technology*); *Jian-Min Ouyang* (*National University of Defense Technology*); *De-Bin Zou* (*National University of Defense Technology*);

10 Investigation of Laser-driven High-energy-density Deuterium and Tritium Ions
Jian-Min Ouyang (*National University of Defense Technology*); *Li-Xiang Hu* (*National University of Defense Technology*); *De-Bin Zou* (*National University of Defense Technology*); *Fu-Qiu Shao* (*National University of Defense Technology*);

11 Emissivity-area Product and Temperature Estimation Based on Infrared Signature Model of Exo-atmosphere Objects
Dongya Wu (*National University of Defense Technology*); *Huanzhang Lu* (*National University of Defense Technology*); *Shanzhu Xiao* (*National University of Defense Technology*); *Huamin Tao* (*National University of Defense Technology*); *Bendong Zhao* (*National University of Defense Technology*);

12 Numerical Simulation of Low-frequency Acoustic Wave Scattering by Corrugated Structures
Jin Ze Du (*Tongji University*); *Mei Song Tong* (*Tongji University*);

13 Response of Radar Cross Section Reduction Bandwidth to the Dielectric Constant
Shih-Chung Tuan (*Oriental Institute of Technology*); *Shen Shou Max Chung* (*Air Force Institute of Technology*); *Yu-Chou Chuang* (*Yuan Ze University*);

14 Design and Implementation of a Real-time Smart Home Automation System Based on Arduino Microcontroller Kit and LabVIEW Platform
Abdulwadoud A. Maash (*Taif University*); *Mohamed O. Elhabib* (*Taif University*); *Ahmad A. Alahmadi* (*Taif University*); *Mohamed S. Soliman* (*Taif University*);

15 Parameter Estimation of LFM Signal under Low SNR
Xiaolei Fan (*National University of Defense Technology*); *Tao Li* (*National University of Defense Technology*);

16 A Novel Application of Spotlight Bistatic Forward-looking SAR
Dong Feng (*National University of Defense Technology*); *Dao Xiang An* (*National University of Defense Technology*); *Xiaotao Huang* (*National University of Defense Technology*);

17 Automatic Vehicle Detection Using Circular Synthetic Aperture Radar Image
Leping Chen (*National University of Defense Technology*); *Dao Xiang An* (*National University of Defense Technology*); *Xiaotao Huang* (*National University of Defense Technology*);

18 Velocity Estimation of Moving Target Based on Concatenated ATI and Inverse Radon Transform in Three-channel Circular SAR
Xin-Yun Wang (*National University of Defense Technology*); *Bin Deng* (*National University of Defense Technology, NUDT*); *Hong-Qiang Wang* (*National University of Defense Technology*); *Yu-Liang Qin* (*National University of Defense Technology*);

19 Assisted GPS Signal Acquisition Algorithm Based on the Joint Code-frequency Search
Shangyue Wang (*State Key Laboratory of Experimental Physics and Computational Mathematics*); *Lu Gao* (*State Key Laboratory of Experimental Physics and Computational Mathematics*); *Jinliang Bai* (*State Key Laboratory of Experimental Physics and Computational Mathematics*); *Fang Ye* (*Harbin Engineering University*);

20 Electric Field Measurements near the Sq Current Focus by S-310-44 Sounding Rocket
Keigo Ishisaka (*Toyama Prefectural University*); *Takumi Abe* (*JAXA/ISAS*); *Atsushi Kumamoto* (*Tohoku University*); *Makoto Tanaka* (*Tokai University*); *Hiroki Matsushita* (*Kyushu University*);

21 Monitoring for Detecting Thermal Magma Chamber in Volcano
Shigehisa Nakamura (*Kyoto University*);

22 Producing Fine Resolution Thematic Map for Hyperspectral Remote Sensing Imagery
Peng Wang (*Harbin Engineering University*); *Liguo Wang* (*Harbin Engineering University*);

23 Analysis of AMSR2 89 GHz Measurements over the Arctic Sea Ice in January 2015
Elizaveta V. Zabolotskikh (*Russian State Hydrometeorological University*); *M. A. Zhivotovskaya* (*Russian State Hydrometeorological University*); *Natalia Yu Zakhvatkina* (*Arctic and Antarctic Research Institute*); *Bertrand Chapron* (*IFREMER*);

24 Detectability of the Arctic Polar Lows over the Barents Sea Ice Edge Using Multi-sensor Approach
Elizaveta V. Zabolotskikh (*Russian State Hydrometeorological University*); *I. A. Gurvich* (*V.I. Il'ichev Pacific Oceanological Institute*); *Bertrand Chapron* (*IFREMER*);

25 The Method for Solving the Inverse Problem of Bistatic Remote Sensing of the Sea Surface with Moving Receiver and Transmitter
Yu. A. Titchenko (*Institute of Applied Physics, Russian Academy of Sciences*); *Vladimir Yurjevich Karaev* (*Institute of Applied Physics, Russian Academy of Sciences*); *M. S. Ryabkova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Maria A. Panfilova* (*Institute of Applied Physics, Russian Academy of Sciences*);

26 The Use of Underwater Sonar at Small Angles of Incidence for In-Situ Measurements of Sea Surface Parameters
Yu. A. Titchenko (*Institute of Applied Physics, Russian Academy of Sciences*); *G. A. Baydakov* (*Institute of Applied Physics, RAS*); *Vladimir Yurjevich Karaev* (*Institute of Applied Physics, Russian Academy of Sciences*); *M. S. Ryabkova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Maria A. Panfilova* (*Institute of Applied Physics, Russian Academy of Sciences*);

27 A CSEB Subspace-based Optimization Method for Reconstruction of Uniaxial Anisotropic Objects
Yulang Liu (*University of Electronic Science and Technology of China*); *Zhiqin Zhao* (*University of Electronic Science and Technology of China*); *Xiaozhang Zhu* (*University of Electronic Science and Technology of China*); *Zaiping Nie* (*University of Electronic Science and Technology of China*); *Qing Huo Liu* (*Duke University*);

28 Electromagnetic Two-dimensional Scattering Database for Verifying Inversion Algorithms
Jianing Li (*Beihang University*); *Jianhua Wu* (*Beihang University*); *Ming Bai* (*Beihang University*); *Xiuzhu Ye* (*Beihang University*);

29 A Coordinate Transformation Algorithm for GPS Navigation and Positioning System
Guo Chun Wan (*Tongji University*); *Yong Kang Kuang* (*Tongji University*); *Chuang Gao* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

30 Biophysical Approach to Knee Osteoarthritis Pain and Disability
Alberto Foletti (*Clinical Biophysics International Research Group*); *Paolo Baron* (*Clinical Biophysics International Research Group*);

31 Low Power Microwaves Induce Changes in Gating Function of Trpv4 Ion Channel Proteins
Sohni Singh Jain (*RMIT University*); *Sara Baratchi* (*RMIT University*); *Elena Pirogova* (*Royal Melbourne Institute of Technology (RMIT) University*);

32 The EMG Effects of a Static Magnetic Field on the Behavior of Organic or Live Materials
Eliska Vlachova Hutova (*Brno University of Technology*); *Karel Bartusek* (*Institute of Scientific Instruments of the ASCR*); *Tomas Kriz* (*Brno University of Technology*); *Premysl Dohnal* (*Brno University of Technology*); *Pavel Fiala* (*Brno University of Technology*);

33 Brain Tumor DWIs: Comparing the Results of Manual and Computer-based Evaluation
Anna Siruckova (*Saint Leo University*); *Petr Marcon* (*Brno University of Technology*); *Premysl Dohnal* (*Brno University of Technology*);

34 A Chromatic Aberration Correction Method for RGB LED Based on PWM
Ling Yi Tang (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

35 Numerical Simulation and Experimental Study on Air Charging Characteristics of Train's Air-Pipe System
Lan Chen (*Shanghai Institute of Technology*); *Xiao Juan Zhai* (*Shanghai Institute of Technology*); *Zi Wei Xia* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

36 A Hardware Design Method for Canonical Huffman Code
Yi Chen (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Zi Wei Xia* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

37 A Compact Dualband Circularly Polarized GNSS Antenna
Nasimuddin (*Institute for Infocomm & Research, A-STAR*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Zhining Chen* (*National University of Singapore*);

38 A Tapered Leaky-wave Slot Antenna with Wideband Boresight Radiation
Nasimuddin (*Institute for Infocomm & Research, A-STAR*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Zhining Chen* (*National University of Singapore*);

39 A Low-power Low-voltage Current-reused Voltage-controlled Oscillator with Amplitude-balanced Technique
Chun-Yi Lin (*National Chiao Tung University*); *Yu-Kei Lin* (*National Chiao Tung University*); *Pei-Zong Rao* (*National Chiao Tung University*); *Jenn-Hwen Tarng* (*National Chiao Tung University*); *Shyh-Jong Chung* (*National Chiao Tung University*);

40 Design of Quad-band Pass Filters Using Three-coupled Finline and Concentric Split Ring Resonators
Vepakayala Madhusudana Rao (*Jawaharlal Nehuru Technological University*); *B. Prabhakara Rao* (*Jawaharlal Nehru Technological University*);

41 Reduce the Gatecharge of UMOS Using Polysilicon Spacer Technique
Fei Liu (*Southwest Jiaotong University*); *Quanyuan Feng* (*Southwest Jiaotong University*); *Tao Jin* (*Southwest Jiaotong University*);

42 Swarm and BAT Algorithm Optimized 2DOF-FOPID Based STATCOM Controller for Transient Stability Enhancement
Shiba Ranjan Paital (*International Institute of Information Technology*); *Prakash Kumar Ray* (*International Institute of Information Technology*); *Asit Mohanty* (*CET*);

43 Firefly-swarm Optimized Fuzzy Adaptive PSS in Power System for Transient Stability Enhancement
Shiba Ranjan Paital (*International Institute of Information Technology*); *Prakash Kumar Ray* (*International Institute of Information Technology*); *Asit Mohanty* (*CET*);

44 A Compact Bandpass Substrate Integrated Waveguide (SIW) Filter with Compact Microstrip Resonant Cell (CMRC) Resonators
Lei Huang (*National University of Defense Technology*); *Weiwei Wu* (*National University of Defense Technology*); *Xiao-Fa Zhang* (*National University of Defense Technology*); *Nai-Chang Yuan* (*National University of Defense Technology*);

45 Hybrid Multi-corridor Path-loss Model for Locating Radio Sources under Rubble
Antonio Sorin Tasu (*Politehnica University of Bucharest*); *Ana Dumitrascu* (*Constanta Maritime University*); *Lilana Anchidin* (*Constanta Maritime University*); *Razvan Tamas* (*Maritime University of Constanta*); *Teodor Petrescu* (*University Politehnica of Bucharest*);

46 A Low Noise S-band Image Rejection Mixer Based on Enhancement Mode pHEMT
Binqi Yang (*Southeast University*); *Zhiqiang Yu* (*Southeast University*); *Jianyi Zhou* (*Southeast University*);

47 A Study on Bandwidth Improvement of Circular Patch Array Absorber by Using Perturbation Elements
Daisuke Kitahara (*Aoyama Gakuin University*); *Ryosuke Suga* (*Aoyama Gakuin University*); *Kiyomichi Araki* (*Tokyo Institute of Technology*); *Osamu Hashimoto* (*Aoyama Gakuin University*);

48 The Effect of 2.45 GHz Electromagnetic Interference on a Microcontroller IC
Jiawen Nie (*Guangdong University of Technology*); *Yun Huang* (*China Electronic Product Reliability and Environmental Testing Research Institute*); *Weiheng Shao* (*China Electronic Product Reliability and Environmental Testing Research Institute*); *Xin Liu* (*China Electronic Product Reliability and Environmental Testing Research Institute*); *Wenxiao Fang* (*China Electronic Product Reliability and Environmental Testing Research Institute*); *Yijing Huang* (*Guangdong University of Technology*);

49 A Comparative Analysis of Load Frequency Control of Two-area Interconnected Hybrid Power System Using LabVIEW
Dillip Kumar Mishra (*IIIT*); *K. Panigrahi Tapas* (*IIIT*); *Asit Mohanty* (*CET*); *Prakask Kumar Ray* (*NTU*);

50 Design of 2.4-GHz Miniaturized Antenna for Wi-Fi Application Based on Meandered Technique
Xiao Jia Huang (*Tongji University*); *Dan Wang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

51 Slow Propagation of Spoof Surface Plasmon Polariton Excited on Metallic Lieb Lattice
Keisuke Hieda (*Kyoto University*); *Toshihiro Nakanishi* (*Kyoto University*); *Masao Kitano* (*Kyoto University*);

52 High-efficiency Meta-couplers for Converting Propagating Waves to Guided Waves in Wire Waveguides
Yi Chao Xu (*Soochow University*); *Hong Chen Chu* (*Soochow University*); *Yun Lai* (*Soochow University*);

53 Metasurface Antenna for Wideband Circularly Polarized Radiation
Nasimuddin (*Institute for Infocomm & Research, A-STAR*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*);

54 An Indirect Optomechanical Sensing of Liquid Concentration
Rahul Kishor (*Nanyang Technological University*); *Phil Surman* (*Nanyang Technological University*); *Yuanjin Zheng* (*Nanyang Technological University*);

55 Classical and Quantum Dynamics of Anharmonic Oscillator in Chirped Pulse's Field
Alexander F. Klinskikh (*Voronezh State University*); *Peter A. Meleshenko* (*Voronezh State University*); *Hang T. T. Nguyen* (*Vietnam National University*); *Svetlana A. Sokolova* (*Voronezh State Agricultural University*); *Mikhail E. Semenov* (*Zhukovsky-Gagarin Air Force Academy*); *Igor N. Ischuk* (*Zhukovsky-Gagarin Air Force Academy*); *Alla V. Perova* (*Voronezh State Technical University*);

56 Deterministic Interface State in Two Dimensional Photonic Crystals
Ziyuan Jia (*Soochow University*); *Yu Ting Yang* (*Soochow University*); *Liyu Ji* (*Soochow University*); *Zhi Hong Hang* (*Soochow University*);

57 Wireless Passive Micromechanical Accelerometer on Surface Acoustic Waves (SAW)
Vladimir Yu. Venediktov (*St.-Petersburg Electrotechnical University and St.-Petersburg State University*); *Sergey Shevchenko* (*St. Petersburg Electrotechnical University*); *Alexander Kukaev* (*St. Petersburg Electrotechnical University*); *Mariya Khivrich* (*St. Petersburg Electrotechnical University*);

58 Fabrication of Long Period Waveguide Gratings in Ion Exchanged BK7 Rib Waveguide by Excimer Laser Ablation Method
U. S. Tripathi (*Instrument Research & Development Establishment*); *Rajesh Kumar* (*Indian Institute of Technology Roorkee*); *Vipul Rastogi* (*Indian Institute of Technology Roorkee*);

59 Investigation of Stokes Pulse Power on SBS Fast Light in Optical Fibers
Shanglin Hou (*Lanzhou University of Technology*); *Yongkang Che* (*Lanzhou University of Technology*); *Jingli Lei* (*Lanzhou University of Technology*); *Daobin Wang* (*Lanzhou University of Technology*); *Xiaoxiao Li* (*Lanzhou University of Technology*);

60 The Generation of a Bright Attosecond x-ray Pulse Train in a Double-laser-driven Cone Target
Li-Xiang Hu (*National University of Defense Technology*); *Tong-Pu Yu* (*National University of Defense Technology*); *Fu-Qiu Shao* (*National University of Defense Technology*); *De-Bin Zou* (*National University of Defense Technology*); *Jian-Min Ouyang* (*National University of Defense Technology*);

61 A Photonic Assisted Analog-to-Digital Converter (p-ADC) Based on a 10 GHz Frequency Comb Source
Kentaro Furusawa (*National Institute of Information and Communications Technology*); *Isao Morohashi* (*National Institute of Information and Communications Technology*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*); *Iwao Hosako* (*National Institute of Information and Communications Technology*);

Session 2P1
FocusSession.SC3: THz Spintronics with Ferrimagnets and Dirac/Weyl Materials 3

Tuesday PM, November 21, 2017

Room LT5

Organized by Hyunsoo Yang, Geoffrey Stephen D. Beach, Tobias Kampfrath

Chaired by Tobias Kampfrath, Hyunsoo Yang

14:00 Keynote Ultrafast Spincaloritronics Enables Efficient Emitters of Terahertz Radiation
Tobias Kampfrath (*Fritz Haber Institute of the Max Planck Society*);

14:30 Invited Towards THz Spintronics: Generation and Transport of Subpicosecond Spin Current Pulses
Marco Battiato (*Nanyang Technological University*);

14:50 Invited Terahertz Spintronics Study in the Ferromagnetic and Nonmagnetic Heterostructures
Yang Wu (*National University of Singapore*); *Mengji Chen* (*National University of Singapore*); *Hyunsoo Yang* (*National University of Singapore*);

15:10 Invited Excitation of Coherent THz Magnon in Ferromagnets by Photo-spin-current
Gyung-Min Choi (*Sungkyunkwan University*); *Dong-Gyu Lee* (*Korea University*); *Seo-Won Lee* (*Korea University*); *Kun-Woo Kim* (*Korea Institute for Advanced Study*); *Byoung-Chul Min* (*Korea Institute of Science and Technology*); *Kyung-Jin Lee* (*Korea University*); *Hyun-Woo Lee* (*Pohang University of Science and Technology*);

15:40 Invited Inverse Spin Hall Effect in Topological Materials via THz Emission Spectroscopy
Elbert E. M. Chia (*Nanyang Technological University*);

16:00 **Coffee Break**

16:20 Invited Terahertz Spintronics with Cold and Hot Electrons
Dmitry Turchinovich (*Universitat Duisburg-Essen*);

16:50 Compensated Ferrimagnet Based Terahertz Emitters
Invited
Mengji Chen (*National University of Singapore*); *Rahul Mishra* (*National University of Singapore*); *Yang Wu* (*National University of Singapore*); *Hyunsoo Yang* (*National University of Singapore*);

17:40 Photoinduced Charge and Spin Dynamics in Topological Insulators and Ferromagnetic/Non-ferromagnetic Heterostructures
Invited
Jingbo Qi (*University of Electronic Science and Technology of China*);

Session 2P2a
FocusSession.SC3: Silicon Photonics 2

Tuesday PM, November 21, 2017

Room LT6

Organized by Newton C. Frateschi, Yeshaiahu Shaya Fainman

Chaired by Newton C. Frateschi

14:00 Novel Material of Nonlinear Waveguide for Si Photonics: From Light Source to All Optical Modulation
Invited
Chao-Kuei Lee (*National Sun-Yat-Sen University*); *Chun-Lung Wu* (*National Sun-Yat-Sen University*); *Yi-Jen Chiu* (*National Sun-Yat-Sen University*); *An-Kuo Chu* (*National Sun-Yat-Sen University*);

14:20 Non-Hermitian Interface State Dynamics in a Silicon Photonic Lattice
Invited
Liang Feng (*University of Pennsylvania*); *Mingsen Pan* (*University of Pennsylvania*); *Han Zhao* (*University of Pennsylvania*);

14:40 Ultra-confined Low-loss Polariton Waves in Molecular Layers of MoS_2 for Optical Interconnect and Nanoresonators
Invited
Alexander M. Dubrovkin (*Nanyang Technological University*); *Bo Qiang* (*Nanyang Technological University*); *Harish N. S. Krishnamoorthy* (*Nanyang Technological University*); *Nikolay I. Zheludev* (*University of Southampton*); *Qi Jie Wang* (*Nanyang Technological University*);

15:00 On the Photonic Nanojets
Invited
Boris S. Luk'yanchuk (*Agency for Science, Technology and Research*);

Session 2P2b
SC3: Hybrid Integration for Future Convergence of Photonics and Electronics

Tuesday PM, November 21, 2017

Room LT6

Organized by Yuqing Jiao, Di Liang

Chaired by Yuqing Jiao, Di Liang

15:20 Integrated Photonics — Backbone for the Next Societal Revolution
Invited
Ton Backx (*Eindhoven University of Technology*);

15:40 Current Status of Hybrid III-V Lasers on Si and SOI Substrates
Invited
Nobuhiko Nishiyama (*Tokyo Institute of Technology*); *Shigehisa Arai* (*Tokyo Institute of Technology*);

16:00 **Coffee Break**

16:20 Integrated Photonic Crystal DBR Laser in an InP Membrane Platform
Vadim Pogoretskiy (*Eindhoven University of Technology*); *Jos J. G. M. Van der Tol* (*Eindhoven University of Technology*); *Aura Higuera-Rodriguez* (*Eindhoven University of Technology*); *Meint K. Smit* (*Technical University of Eindhoven*); *Yuqing Jiao* (*Eindhoven University of Technology*);

16:40 Thermal Shunts for Heterogeneously Integrated III-V-on-silicon Microspiral Disk Lasers
Bo Xue Tan (*The Hong Kong University of Science and Technology*); *Kaiyi Wu* (*The Hong Kong University of Science and Technology*); *Yu Zhang* (*University of California Davis*); *Andrew Wing On Poon* (*The Hong Kong University of Science and Technology*);

17:00 High-efficiency Phase Modulation Based on Si Hybrid MOS Structure
Invited
Mitsuru Takenaka (*The University of Tokyo*); *Shinichi Takagi* (*The University of Tokyo*);

17:20 Silicon-plus Photonic Integrated Devices
Invited
Daoxin Dai (*Zhejiang University*);

17:40 Hybrid Lasers in Both Near- and Mid-infrared Region
Invited
Xiaonan Hu (*Nanyang Technological University*); *Yu-Lian Cao* (*Nanyang Technological University*); *Yuanbing Cheng* (*Nanyang Technological University*); *Xianshu Luo* (*Institute of Microelectronics, A*STAR*); *Junfeng Song* (*Institute of Microelectronics, A*STAR*); *Tsung-Yang Liow* (*A*STAR*); *Guo-Qiang Lo* (*A*STAR*); *Yongquan Zeng* (*Nanyang Technological University*); *Qi Jie Wang* (*Nanyang Technological University*);

Session 2P3
FocusSession.SC2: Metamaterials and Transformation Optics 2

Tuesday PM, November 21, 2017

Room LT7

Organized by Yu Luo, Hongsheng Chen

Chaired by Baile Zhang

14:00 Tailoring the Absorption Characteristics of a Graphene Sheet by Incorporating Periodic Structures
Ruey-Bing (Raybeam) Hwang (*National Chiao-Tung University*);

14:15 Invited Specific Beam Generation Based on Field Transformation through 3D Printing
Junming Zhao (*Nanjing University*); *Cheng Wang* (*Nanjing University*); *Ke Chen* (*Nanjing University*); *Tian Jiang* (*Nanjing University*); *Yijun Feng* (*Nanjing University*);

14:35 Nonlinear Chiral Metamaterials
Nantakan Wongkasem (*University of Texas Rio Grande Valley*);

14:50 Invited Transformation Lenses in Electromagnetics and Acoustics
Wei Xiang Jiang (*Southeast University*); *Jian Tang* (*Southeast University*); *Di Bao* (*Southeast University*); *Tie Jun Cui* (*Southeast University*);

15:10 Invited On the Effective Medium Theory for Optical Force Density
Xiao Li (*HKBU Institute of Research and Continuing Education*); *Liyong Cui* (*HKBU Institute of Research and Continuing Education*); *Yongyin Cao* (*Harbin Institute of Technology*); *Jack Tsz Fai Ng* (*HKBU Institute of Research and Continuing Education*);

15:30 Crosstalk Analysis of PCBs and Mitigation of Crosstalk Using CSRR Structures
R. Azhagumurugan (*Sri Sai Ram Engineering College*); *J. Harinarayanan* (*Sri Sai Ram Engineering College*);

16:00 **Coffee Break**

16:20 Keynote Metamaterials, Anapoles and Flying Donuts
Nikolay I. Zheludev (*University of Southampton*); *Nikitas Papasimakis* (*University of Southampton*);

16:50 Invited One-way Cloaking by Using Parity-time-symmetric Metasurfaces and Zero-index Media
Jie Luo (*Soochow University*); *Jensen Li* (*University of Brimingham*); *Yun Lai* (*Soochow University*);

17:10 Invited One-way Edge States and Complex Principal Axes
Simon A. R. Horsley (*University of Exeter*);

17:30 A Novel Hybrid Physical to Geometrical Optics Transformation for Shaping Aperture Fields on Reflective Surfaces
Gregory John Durnan (*NXP Semiconductors*);

17:45 Compact Two Pole Metamaterial Bandpass Filter Using Inverted IDC, Meander Line and Rectangular Stub for WiMAX Application
Dilip Kumar Choudhary (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Naveen Mishra* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Rajkishor Kumar* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*);

Session 2P4
Small Antennas: Session in Honor of Kyohei Fujimoto's 88th Birthday

Tuesday PM, November 21, 2017

Room LT8

Organized by Zhining Chen, Koichi Ito

Chaired by Koichi Ito, Zhining Chen

14:00 Electrically Small Printed Monopole Antenna for WLAN and WiMAX Applications
Wajid Zaman (*National University of Sciences & Technology (NUST)*); *Muhammad Umar Khan* (*National University of Sciences and Technology (NUST)*); *Farooq Ahmad Tahir* (*National University of Sciences and Technology (NUST)*);

14:40 Synthetic Aperture Radar Imaging for Millimeter Wave Automotive Radar
Hiroyoshi Yamada (*Niigata University*);

15:00 Study on Cross-band Mutual Coupling between Wire Antennas Using Characteristic Mode Analysis
Huiwen Sheng (*National University of Singapore*); *Zhining Chen* (*National University of Singapore*);

15:20 Measured RF Characteristics of Negative Impedance Converters Terminated by Resistance
Kunio Sakakibara (*Nagoya Institute of Technology*); *Nobuyoshi Kikuma* (*Nagoya Institute of Technology*);

16:00 **Coffee Break**

16:20 A Wideband Conformal Slot Antenna for GPS Application
Ratikanta Sahoo (*National Institute of Technology*); *Damera Vakula* (*National Institute of Technology*); *Nookala Venkata Satya Narasimha Sarma* (*National Institute of Technology*);

16:40 Prof. Kyohei Fujimoto: A World Pioneer in R&D of Small Antennas
Koichi Ito (*Chiba University*);

17:00 Space Matching Concept Applied to Make Antenna Small
Kyohei Fujimoto (*JAPAN*);

Session 2P5a
Light-matter Interaction in Hybrid Waveguides: Fundamentals

Tuesday PM, November 21, 2017

Room LT11

Organized by Amir Abdolvand, Federico Belli

Chaired by Amir Abdolvand, Federico Belli

14:00 Keynote Gas, Glass & Light: The Remarkable Applications of Photonic Crystal Fibre
Philip St. J. Russell (*Max Planck Institute for the Science of Light*);

14:30 Dispersive Hydrodynamic Dam-break Flow in Optical Fibers
Gang Xu (*Univ. Lille*); *Matteo Conforti* (*Universite Lille 1*); *Alexandre Kudlinski* (*Univ. Lille*); *Arnaud Mussot* (*Universite des Sciences et Technologies de Lille 1*); *Stefano Trillo* (*University of Ferrara*);

14:50 Instability and Noise in Nonlinear Optical Waveguides
Curtis R. Menyuk (*University of Maryland Baltimore County*); *Z. Qi* (*University of Maryland Baltimore County*); *S. Wang* (*University of Maryland Baltimore County*);

15:10 Optically-pumped Hollow Fiber Laser at 3 µm Wavelength
Fei Yu (*University of Bath*); *Mengrong Xu* (*University of Bath*); *Jonathan C. Knight* (*University of Bath*);

15:30 Nonlinear Optics in the Mid-infrared Using Gas-filled Hollow-core Fibres
John C. Travers (*Heriot-Watt University*); *Federico Belli* (*Heriot-Watt University*); *Amir Abdolvand* (*Nanyang Technological University*);

16:00 **Coffee Break**

16:20 Excitation of Mid-infrared Solitons in Gas-filled Hollow-core Fibers
Wonkeun Chang (*The Australian National University*); *Md. Imran Hasan* (*The Australian National University*); *Nail Akhmediev* (*The Australian National University*);

Session 2P5b
Light-matter Interaction in Hybrid Waveguides: High-field

Tuesday PM, November 21, 2017

Room LT11

Organized by John C. Travers, Francesco Tani

Chaired by John C. Travers

16:40 Soliton Self-compression Dynamics in Hollow-core Photonic Crystal Fibres Filled with Molecular Gases
Amir Abdolvand (*Nanyang Technological University*); *Federico Belli* (*Heriot-Watt University*); *John C. Travers* (*Heriot-Watt University*);

17:00 Nonlinear Pulse Compression Stage Delivering 43 W Few-cycle Pulses with GW-peak Power at 2 µm Wavelength
Martin Gebhardt (*Friedrich-Schiller-Universitat Jena*); *Christian Gaida* (*Friedrich-Schiller-Universitat Jena*); *Fabian Stutzki* (*Friedrich-Schiller-Universitat Jena*); *Cesar Jauregui Misas* (*Friedrich Schiller Universität*); *Jose Antonio-Lopez* (*University of Central Florida*); *Axel Schulzgen* (*The University of Arizona*); *Rodrigo Amezcua-Correa* (*University of Central Florida*); *Andreas Tunnermann* (*Fraunhofer Institute for Applied Optics and Precision Engineering*); *Jens Limpert* (*Friedrich Schiller University Jena*);

17:20 Bright Deep-UV Pulses for Few-femtosecond Pump-probe Experiments Based on Kagomé PCF
Christian Brahms (*Imperial College London*); *Dane R. Austin* (*Imperial College London*); *Francesco Tani* (*Max Planck Institute for the Science of Light*); *Allan S. Johnson* (*Imperial College London*); *John C. Travers* (*Heriot-Watt University*); *Philip St. J. Russell* (*Max Planck Institute for the Science of Light*); *Jon P. Marangos* (*Imperial College London*);

17:40 Ultrafast Four-wave Mixing in Gas-filled Hollow-core Fibres
Federico Belli (*Heriot-Watt University*); *John C. Travers* (*Heriot-Watt University*);

18:00 Control of Laser Accelerated Proton Beam by Self-generated Electromagnetic Fields in the Laser Coneplasma Interaction
De-Bin Zou (*National University of Defense Technology*); *Li-Xiang Hu* (*National University of Defense Technology*); *Jian-Min Ouyang* (*National University of Defense Technology*); *Fu-Qiu Shao* (*National University of Defense Technology*);

Session 2P6
Quantum Information Processing Devices

Tuesday PM, November 21, 2017

Room LT12

Organized by Hai-Zhi Song

Chaired by Hai-Zhi Song, Jiang Wu

14:00 Quantum Teleportation through a Fibre Networks towards a Global Quantum Internets
Qiang Zhou (*University of Electronic Science and Technology of China*); *V. R. R. Valivarthi* (*University of Calgary*); *M. G. Puigibert* (*University of Calgary*); *G. H. Aguilar* (*University of Calgary*); *V. Verma* (*National Institute of Standards and Technology*); *F. Marsili* (*California Institute of Technology*); *Sae Woo Nam* (*National Institute of Standards and Technology*); *D. Oblak* (*University of Calgary*); *Wolfgang Tittel* (*University of Calgary*);

14:20 Quantum Information Kills Rayleigh's Criterion
Invited
Ranjith Nair (*National University of Singapore*); *Xiaoming Lu* (*National University of Singapore*); *Shan Zheng Ang* (*National University of Singapore*); *Mankei Tsang* (*National University of Singapore*);

14:40 Spectrally Uncorrelated Biphoton Source and Its Applications in Quantum Information Processing
Rui-Bo Jin (*Wuhan Institute of Technology*);

15:00 Semiconductor Nanostructures by Molecular Beam
Invited Epitaxy for Quantum Information Technologies
Jiang Wu (*University College London*);

15:20 Broad-band Circular Bragg Grating for High Efficient Single-photon Extraction
Rongbin Su (*Sun Yat-sen University*); *Juntao Li* (*Sun Yat-sen University*); *Tengwei Zhang* (*Sun Yat-sen University*); *Jin Liu* (*Sun Yat-sen University*); *Xue-Hua Wang* (*Sun Yat-Sen University*);

15:40 Electrically-pumped Spherical Resonators as Single Photon Sources for Quantum Photonics
R. Shugaye (*Purdue University*); *Peter Bermel* (*Purdue University*);

16:00 **Coffee Break**

16:20 Quantum Optical Simulation of Classical Stochastic Processes
Nora Tischler (*Griffith University*); *Farzad Ghafari Jouneghani* (*Griffith University*); *Carlo Di Franco* (*Nanyang Technological University*); *Jayne Thompson* (*National University of Singapore*); *Mile Gu* (*Nanyang Technological University*); *Geoff J. Pryde* (*Griffith University*);

16:40 Quantum Simplicity: Classical-quantum Divergences
Invited in the Complexity of Predictive Modelling
Mile Gu (*Nanyang Technological University*);

17:00 Multi-atom Multi-photon Interactions Modeled with the Dyadic Green's Function
Aiyin Y. Liu (*University of Illinois*); *Weng Cho Chew* (*University of Illinois*);

Session 2P7
SC5: Light Scattering and Radiative Transfer: Basic Research and Applications

Tuesday PM, November 21, 2017

Room LT13

Organized by Ping Yang, Michael I. Mishchenko

Chaired by Ping Yang, Fangchao Hu

14:00 Application of Vectorial Complex Ray Model to Characterization of a Pendant Drop
Kuan Fang Ren (*Normandie Universite, CNRS, Universite et INSA de Rouen*); *Z. Ma* (*Normandie Universite, CNRS, Universite et INSA de Rouen*); *S. Idlahcen* (*Normandie Universite, CNRS, Universite et INSA de Rouen*); *C. Roze* (*Normandie Universite, CNRS, Universite et INSA de Rouen*);

14:20 An Introduction to a New Radiative Transfer Model of BCC_ RAD
Hua Zhang (*China Meteorological Administration*); *Xixun Zhou* (*China Meteorological Administration*); *Sihong Zhu* (*China Meteorological Administration*);

14:40 Visibility Theory in Air and Water
Zhongping Lee (*University of Massachusetts Boston*); *Shaoling Shang* (*Xiamen University*);

15:00 Aerosol Types Identification with Spectral Derivatives of Optical Depths
Tang-Huang Lin (*National Central University*); *Wei-Hung Lien* (*National Central University*); *Gin-Rong Liu* (*National Central University*); *Chian-Yi Liu* (*National Central University*);

15:20 Retrieval of Ice Cloud Properties from HIMAWARI-8/AHI by Voronoi Light Scattering Model
Husi Letu (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)*); *Takashi M. Nagao* (*Earth Observation Research Center (EORC)*); *Takashi Y. Nakajima* (*Tokai University*); *Hiroshi Ishimoto* (*Meteorological Research Institute*); *Jerome Riedi* (*Universite de Lille 1*); *Huazhe Shang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)*);

15:40 Near-field Effects on Light Absorption in Nanoparticle System
L. X. Ma (*Harbin Institute of Technology*); *Junmin Zhao* (*Harbin Institute of Technology*); *J. Y. Tan* (*Harbin Institute of Technology*); *Linhua Liu* (*Harbin Institute of Technology*);

16:00 **Coffee Break**

16:20 On the Geometric Optics Method for Light Scattering by Large Dielectric Particles
Ping Yang (*Texas A&M University*); *Bingqiang Sun* (*Texas A&M University*); *George W. Kattawar* (*Texas A&M University*); *Xiaodong Zhang* (*University of North Dakota*);

16:40 Atmospheric Aerosol Characteristics and Optical Response over Land-sea Interaction Zone
Xiaoyu Zhang (*Zhejiang University*); *Lei Bi* (*Zhejiang University*); *Wushao Lin* (*Zhejiang University*); *Zheng Wang* (*Zhejiang University*);

17:00 The Growth Dependent Radiative Properties of Microalgae and Light Field Distribution within Photobioreactors
C. Y. Ma (*Harbin Institute of Technology*); *Junmin Zhao* (*Harbin Institute of Technology*); *Linhua Liu* (*Harbin Institute of Technology*); *Lin Zhang* (*Northeast Forestry University*);

17:20 A Urban Aerosol Model of Black Carbon Aggregates and Sulfate Coating with Hygroscopic Behavior Used in Radiative Transfer Model
Fangchao Hu (*Nanjing University of Information Science & Technology*); *Chao Liu* (*Nanjing University of Information Science & Technology*);

Session 2P8
FocusSession.SC5: Inverse Problems for Scientific, Industrial and Biomedical Applications 3

Tuesday PM, November 21, 2017

Room LT14

Organized by Cheng-Gang Xie, Xudong Chen

Chaired by Cheng-Gang Xie, Xudong Chen

14:00 Keynote Equivalence Principles and Virtual Focusing Techniques as a Way to Inverse Scattering
Tommaso Isernia (*Mediterranea University of Reggio Calabria*); *Martina T. Bevacqua* (*Mediterranea University of Reggio Calabria*);

14:30 Applications of Tomography in Oil and Gas Industry
Cheng-Gang Xie (*Schlumberger Oilfield (S) Pte Ltd.*);

14:45 Invited Three Applications of Inverse Scattering Imaging in Aeronautics and Astronautics
Feng Xu (*Fudan University*); *Ping-Ping Ding* (*Fudan University*);

15:05 Keynote Electrical Capacitance Tomography and Its Inverse Problem
Wuqiang Yang (*University of Manchester*);

16:00 **Coffee Break**

16:20 Super-resolution Imaging in Microwave Impedance Microscopy by Inversion
Wei Zhun (*National University of Singapore*); *Xudong Chen* (*National University of Singapore*);

16:35 Invited Electromagnetically Locating Damages in Layered Fiber-reinforced Periodic Laminates with a Joint-sparsity-based Method
Zicheng Liu (*Universite Paris Saclay*); *Dominique Lesselier* (*UMR8506 (CNRS, CentraleSupelec, Univ. Paris-Sud), Univ. Paris-Saclay*); *Yu Zhong* (*A*STAR*);

16:55 Keynote Overview Advanced Answer Products for Triaxial Induction Logging
Aria Abubakar (*Schlumberger Houston Formation Evaluation*); *Gong Li Wang* (*Schlumberger Houston Formation Evaluation*);

Session 2P9a
SC4: Advanced Manufacturing Technologies for Microwave and Millimetre-wave Devices

Tuesday PM, November 21, 2017

Room LT15

Organized by Raj Mittra, Yongxin Guo

Chaired by Raj Mittra, Yongxin Guo

14:00 Wideband and End-fire Radiation Antenna with 3D Printing Methods
Shi-Gang Zhou (*National University of Singapore*); *Tan-Huat Chio* (*National University of Singapore*);

14:20 A Hybrid Metallic/Dielectric 3D Printed 60 GHz Gaussian Optical Antenna
Bing Zhang (*National University of Singapore*); *Yongxin Guo* (*National University of Singapore*);

14:40 New Materials and Fabrication Technologies for Substrate Integrated Waveguide (SIW) Components
Maurizio Bozzi (*University of Pavia*); *Enrico Massoni* (*University of Pavia*); *Giulia Maria Rocco* (*University of Pavia*); *Cristiano Tomassoni* (*University of Perugia*); *Luca Perregrini* (*University of Pavia*);

15:00 Polymer-embedded Conductive Fabric for a Simple Realization of Robust Flexible Wearable Antennas
Roy B. V. B. Simorangkir (*Macquarie University*); *Abu Sadat Md. Sayem* (*Macquarie University*); *Karu P. Esselle* (*Macquarie University*); *Toni Bjorninen* (*Tampere University of Technology*); *Leena Ukkonen* (*Tampere University of Technology*);

15:20 Electrical Characterization of through Glass Vias Based Inductors in 3-D Integration
Libo Qian (*Ningbo University*); *Jifei Sang* (*Ningbo University*); *Yidie Ye* (*Ningbo University*);

16:00 **Coffee Break**

Session 2P9b
Design and Simulation of Electromagnetic and Optical Devices 2

Tuesday PM, November 21, 2017

Room LT15

Organized by Shinichiro Ohnuki, Jun Shibayama

Chaired by Shinichiro Ohnuki, Jun Shibayama

16:20 Phase Interference Dependent Single PhC Based Logic Gate Structure with T-shaped Waveguide as XOR, NOT and OR Logic Gates
Enaul Haq Shaik (*Pondicherry University*); *Nakkeeran Rangaswamy* (*Pondicherry University*);

16:40 Design and Multiphysics Analysis of a High Power RF Window for LHCD System of Tokamaks
Yogesh M. Jain (*Institute for Plasma Research*); *P. K. Sharma* (*IPR*); *Harish V. Dixit* (*Veermata Jijabai Technological Institute*); *Aviraj R. Jadhav* (*V.J.T.I.*); *Pramod Parmar* (*Institute for Plasma Research*);

17:00 Microwave Collimator Design for Beam Splitting to Prescribed Directions
Jeonghoon Yoo (*Yonsei University*); *J. Go* (*Yonsei University*); *H. Kim* (*Agency for Defense Development*); *J. Park* (*Agency for Defense Development*);

17:20 Numerical Verification of a Novel High-density Magnetic Recording Method "Hybrid Technique of MAMR with BPM"
Ryota Oida (*Nihon University*); *Shinichiro Ohnuki* (*Nihon University*);

17:40 Time-domain Analysis of Spin Waves Using the FDTD Scheme
Kazuyuki Tanaka (*Nihon University*); *Shinichiro Ohnuki* (*Nihon University*);

18:00 Optimization of Electric Field Distribution in Unequal-length Slots Extended Interaction Klystron
Renjie Li (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*); *Hua-Feng Zhang* (*Beihang University*);

Session 2P10
EMC, SI & PI: Modeling, Measurement and Applications

Tuesday PM, November 21, 2017

Room LT16

Organized by Eng Kee Chua, Si-Ping Gao

Chaired by Eng Kee Chua, Si-Ping Gao

14:00 Study of Electrical Characteristics in Carbon-based Three Dimensional Integration
Libo Qian (*Ningbo University*); *Jifei Sang* (*Ningbo University*); *Yidie Ye* (*Ningbo University*);

14:20 The Study of PCB Ground Area and Location on EMI Reduction Effectiveness
Chih-Hung Lee (*Electronics Testing Center*); *Chi-Yuan Yao* (*Electronics Testing Center*); *Hai-Ching Li* (*Electronics Testing Center*); *Ding-Bing Lin* (*National Taiwan University of Science and Technology*); *Hsin-Piao Lin* (*National Taipei University of Technology*);

14:40 Analysis and Characterization of Electromagnetic Compatibility of the In Vitro Diagnostic Medical Device
Yu Guo (*Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences*); *Jian Guo* (*Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences*); *Feng Qi* (*Shenyang Institute of Automation, Chinese Academy of Sciences*); *Lirong Wang* (*Soochow University*); *Xiaohe Chen* (*Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences*);

15:00 Package Stiffener Optimization for High Speed Signal Integrity and Electromagnetic Compatibility
Boping Wu (*Intel Corporation*);

15:20 Composite Material to Protect Security Devices against Electromagnetic Interference
Stanislav Kovar (*Tomas Bata University in Zlin*); *Tomas Martinek* (*Tomas Bata University in Zlin*); *Vaclav Mach* (*Tomas Bata University in Zlin*); *Martin Pospisilik* (*Tomas Bata University in Zlin*);

16:00 **Coffee Break**

16:20 Threshold Levels of Electromagnetic Susceptibility for Unarmed Air Vehicles
Vaclav Mach (*Tomas Bata University in Zlin*); *Stanislav Kovar* (*Tomas Bata University in Zlin*); *Jan Valouch* (*Tomas Bata University in Zlin*); *Milan Adamek* (*Tomas Bata University in Zlin*); *Rui Miguel Soares Silva* (*Campus do Instituto Politecnico de Beja*);

16:40 Development of a Compact Electromagnetic Sensor for Poynting Vector Measurement
Satoshi Yagitani (*Kanazawa University*); *Takuma Ban* (*Kanazawa University*); *Mitsunori Ozaki* (*Kanazawa University*); *Aya Ohmae* (*Hitachi Ltd.*); *Umberto Paoletti* (*Hitachi Ltd.*);

17:00 Enhancement of Electromagnetic Radiation Source Reconstruction Utilizing Sparseness
Huapeng Zhao (*University of Electronic Science and Technology of China*); *Sihong Tao* (*University of Electronic Science and Technology of China*); *Zhizhang Chen* (*University of Electronic Science and Technology of China*); *Ying Zhang* (*University of Electronic Science and Technology of China (UESTC)*); *Jun Hu* (*University of Electronic Science and Technology of China*);

17:20 A Study on Fibre Weave Effect on Intra-pair Skew of Differential Lines Using Analytical Approach
Eng Kee Chua (*Nanyang Technological University*); *Junwu Zhang* (*Nanyang Technological University*); *Kye Yak See* (*Nanyang Technological University*);

17:40 Physics-based via Modelling: Brief Review and Latest Development
Si-Ping Gao (*Institute of High Performance Computing, A*STAR*); *Hui Min Lee* (*Institute of High Performance Computing*); *Xian-Ke Gao* (*Institute of High Performance Computing*); *En-Xiao Liu* (*Institute of High Performance Computing*);

18:00 Circuit Modeling and Simulation of CMOS Circuits Latchup Induced by Microwave Pulse Injection
Hai-Yang Wang (*University of Electronic Science and Technology of China*); *Biao Hu* (*University of Electronic Science and Technology of China*); *Huan Zou* (*University of Electronic Science and Technology of China*); *Yi-Hong Zhou* (*University of Electronic Science and Technology of China*);

Session 2P11a
Electromagnetic Signal Processing, Wavelets, Neural Network

Tuesday PM, November 21, 2017

Room LT17

Chaired by Xavier Neyt, Lay Keng Lim

14:00 Parameter Estimation of Polynomial-phase Signal Using the Hybrid LvHAF
Fulong Jing (*Harbin Engineering University*); *Weijian Si* (*Harbin Engineering University*); *Yu Wang* (*Harbin Engineering University*);

14:20 An Improved Underdetermined Blind Source Separation of Frequency Hopping Signals Based on Subspace Projection
Yu Wang (*Harbin Engineering University*); *Chaozhu Zhang* (*Harbin Engineering University*); *Fulong Jing* (*Harbin Engineering University*);

14:40 Combining Wavelets and Mathematical Morphology to Detect Changes in Time Series
Mattia Stasolla (*Royal Military Academy*); *Xavier Neyt* (*Royal Military Academy*);

15:00 An FPGA Based 1.6 GHz Cross-correlator for Synthetic Aperture Interferometric Radiometer
Muhammad Asif (*Beihang University*); *Xiangzhou Guo* (*Beihang University*); *Jing Zhang* (*Beihang University*); *Jungang Miao* (*Beihang University*);

15:20 An Improved Cluster Labeling Algorithm Based on Vector Similarity in Radar Signal Sorting
Yang Sheng (*Harbin Engineering University*); *Changbo Hou* (*Harbin Engineering University*); *Weijian Si* (*Harbin Engineering University*);

15:40 Real Time Transmission of 100 Channels Neural Recording System
Lay Keng Lim (*IME, A-STAR*); *Bin Zhao* (*IME, A-STAR*);

16:00 **Coffee Break**

16:20 Real-valued Root-MUSIC Algorithm with Forward/Backward Averaging
Yan Wang (*Harbin Engineering University*); *Weijian Si* (*Harbin Engineering University*);

Session 2P11b
MIMO Systems and Techniques

Tuesday PM, November 21, 2017

Room LT17

Organized by Mario Marques da Silva

Chaired by Mario Marques da Silva

16:40 Analytical Performance Evaluation of Massive MIMO Systems with 1-bit DACs
Joao Guerreiro (*Universidade Nova de Lisboa*); *Rui Dinis* (*Universidade Nova de Lisboa*); *Paulo Montezuma Carvalho* (*Universidade Nova de Lisboa*); *Nalin Jayakody* (*Tomsk Polytechnic University*); *Mario Marques da Silva* (*Universidade Autonoma de Lisboa*);

17:00 Problem of Detecting Space Debris Objects Using Multi-position Radar System
A. I. Baskakov (*National Research University "Moscow Power Engineering Institute"*); *V. G. Grachyov* (*National Research University "Moscow Power Engineering Institute"*); *Vladlen I. Gusevsky* (*National Research University*); *Aleksey Aleksandrovich Komarov* (*National Research University "Moscow Power Engineering Institute"*);

17:20 Scattering Features of Space Debris Objects for Multiposition Radar System
A. I. Baskakov (*National Research University "Moscow Power Engineering Institute"*); *V. G. Grachyov* (*National Research University "Moscow Power Engineering Institute"*); *Vladlen I. Gusevsky* (*National Research University*); *Aleksey Aleksandrovich Komarov* (*National Research University "Moscow Power Engineering Institute"*);

17:40 A Novel Doublet Hermite Pulse for Performance Enhancement and Interference Mitigation in UWB STC Systems
Amira Ibrahim Zaki (*Arab Academy for Science, Technology and Maritime Transport (AASTMT)*); *Mohamed Mahmoud Mohamed Omar* (*AASTMT*); *Ingy Yousry Ahmed Hassanin Mahmoud* (*Arab Academy for Science, Technology and Maritime Transport (AASTMT)*);

18:00 Research on Scheduling Strategy of Non-Binary LDPC Codes Decoding
Yaqiang Zhou (*Harbin Engineering University*); *Yuan Tian* (*Harbin Engineering University*); *Yibing Li* (*Harbin Engineering University*);

Session 2P12a
Metamaterial Antennas

Tuesday PM, November 21, 2017

Room LT18

Organized by Shobhitkumar Kiritkumar Patel

Chaired by Shobhitkumar Kiritkumar Patel

14:00 Broadband and High Gain Multiband Patch Antenna Designs Using Corrugated Split Ring Resonators
Shobhitkumar Kiritkumar Patel (*Marwadi Education Foundation Group of Institutions*); *Christos Argyropoulos* (*University of Nebraska-Lincoln*); *Yogeshwarprasad Kosta* (*Marwadi Education Foundation Group of Institutions*);

14:20 Broadband Circularly Polarized Antenna Using Metasurface
Nasimuddin (*Institute for Infocomm & Research, A-STAR*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Zhining Chen* (*National University of Singapore*);

14:40 Beam Synthesis and Target Detection Based on Aperture Coding Metasurface
Qinhao Wu (*National University of Defense Technology*); *Yongqiang Cheng* (*National University of Defense Technology*); *Xiang Li* (*National University of Defense Technology*); *Hong-Qiang Wang* (*National University of Defense Technology*); *Yu-Liang Qin* (*National University of Defense Technology*);

15:00 Performance Enhancement of Coupled-fed Printed Log-periodic Antenna Using Complimentary Split Ring Resonator
Debasish Pal (*CSIR-Central Electronics Engineering Research Institute*); *V. Jindal* (*B.K. Birla Inst. of Engg. and Technology*); *A. K. Bandyopadhyay* (*CSIR-Central Electronics Engineering Research Institute*); *Lokesh Kumar Verma* (*Birla Institute of Technology & Sciences*); *Rahul Singhal* (*Birla Institute of Technology & Sciences*);

15:20 A Novel Dual Band Leaky-wave Antenna Based on CRLH Transmission Line
Jiaxin Feng (*University of Electronic Science and Technology of China*); *Shao-Qiu Xiao* (*University of Electronic Science and Technology of China*); *Chunmei Liu* (*University of Electronic Science and Technology of China*);

16:00 **Coffee Break**

16:40 A Compact CPW-fed Dual-band Open-ended ZOR Antenna Based on CRLH TL for Wireless Applications
Rajkishor Kumar (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Reshma Singh* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Dilip Kumar Choudhary* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

Session 2P12b
Compact Multi Band Antennas Design and Its Applications 2

Tuesday PM, November 21, 2017

Room LT18

Organized by Praveen Vummadisetty Naidu

Chaired by Praveen Vummadisetty Naidu

17:00 Wideband, Stub-loaded Cross-dipole Reflectarray Elements for Ku Band
V. Lingasamy (*SSN College of Engineering*); *Krishnasamy T. Selvan* (*SSN College of Engineering*); *Rajeev Jyoti* (*Indian Space Research Organisation*);

17:40 Dual-band Microstrip Patch Antenna Array for 5G Mobile Communications
Umair Rafique (*Capital University of Science and Technology*); *Hisham Khalil* (*The University of Lahore*); *Saif Ur Rehman* (*Capital University of Science and Technology*);

Session 2P0
Poster Session 6

Tuesday PM, November 21, 2017

14:00 PM - 18:00 PM

Room TR+29 - TR+36

1 Absorbing Boundary Conditions in Leapfrog ADI-FDTD Method
Yunyang Dong (*Southeast University*); *Jianyi Zhou* (*Southeast University*);

2 Free Space Radiation Pattern Reconstruction from Reverberating Measurements Using the 3D Impulse Response of the Environment
Cesar Whesly (*Gyeongsang National University*); *K. Kang* (*Gyeongsang National University*); *K. Seol* (*Gyeongsang National University*); *Jinhwan Koh* (*Gyeongsang National University*);

3 Low Complexity MUSIC Algorithm for FMCW Radar Systems
Bong-Seok Kim (*DGIST*); *Sang-Dong Kim* (*Daegu Geongbuk Institute of Science and Technology (DGIST)*); *Jonghun Lee* (*Daegu Gyeonbuk Institute of Science & Technology*);

4 Floquet Modal Analysis to Study Periodic and Aperiodic Planar Antenna Arrays with Mutual Coupling
Nader Benlatifa (*El Manar University*); *Bilel Hamdi* (*University of Tunis*); *Taoufik Aguili* (*University of Tunis El Manar (UTM)*);

5 Cognitive Cooperative-jamming Decision Method Based on Bee Colony Algorithm
Fang Ye (*Harbin Engineering University*); *Fei Che* (*Harbin Engineering University*); *Hongbo Tian* (*Harbin Engineering University*);

6 Jamming Resource Allocation Aimed to Data Link Based on Simulant Annealing Algorithm
Shijia Shao (*Harbin Engineering University*); *Taige Zhang* (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*);

7 Anti-spoofing Algorithm Based on Adaptive Kalman Filter for High Dynamic Positioning
Taige Zhang (*Harbin Engineering University*); *Jingpeng Gao* (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*);

8 Research on Modeling of Radio Propagation inside the Tunnels
Yanjie Sun (*Harbin Engineering University*); *Tao Jiang* (*Harbin Engineering University*); *Nan Bi* (*Harbin Engineering University*); *Yuqi Yuan* (*Harbin Engineering University*);

9 Study on Electromagnetic Radiation of Some Kinds of Typical Partial Discharge
Xiaoru Sun (*Huazhong University of Science and Technology*); *Ziqing Guo* (*Huazhong University of Science and Technology*); *Qizheng Ye* (*Huazhong University of Science and Technology*);

10 Electromagnetic Scattering Algorithm of Dielectric Bodies Based on Müller Equations
Hao Sun (*Tongji University*); *Jian Zhang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

11 Reduction of Volume Integral Equations for Penetrable Body-of-Revolution Structures
Jin Ze Du (*Tongji University*); *Mei Song Tong* (*Tongji University*);

12 Indoor Contactless Human Body Identification Using VLF and LF Electric Fields Based on Capacitive Sensing Technology
Javed Iqbal (*Politecnico di Torino*); *M. T. Lazarescu* (*Politecnico di Torino*); *P. Poolad* (*Politecnico di Torino*); *Luciano Lavagno* (*Politecnico di Torino*);

13 An Analysis of MSF-OFDM Based Waveform Design for MIMO Imaging Radar
Jiangwei Zou (*National University of Defense Technology*); *Wenzhen Wu* (*National University of Defense Technology*); *Pengjiang Hu* (*National University of Defense Technology*);

14 Impact of Synchronization Error in Airborne Bistatic SAR
Yuhua Guo (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Zhenghuan Xia* (*Beijing Institute of Satellite Information Engineering*); *Haitao Wang* (*Beijing Institute of Satellite Information Engineering*); *Hui Guo* (*Beijing Institute of Satellite Information Engineering*); *Yong Shi* (*Beijing Institute of Satellite Information Engineering*);

15 DC Electric Field Measurement in the Ionosphere during MSTID Occurrence
Atsuhi Yamamoto (*Toyama Prefectural University*); *Keigo Ishisaka* (*Toyama Prefectural University*); *Makoto Tanaka* (*Tokai University*); *Mamoru Yamamoto* (*Kyoto University*); *Takumi Abe* (*JAXA/ISAS*);

16 Functional Dependence of Electromagnetic Wave Absorption Coefficient on the Thermophysical Parameters of Material
Igor N. Ischuk (*Zhukovsky-Gagarin Air Force Academy*); *Konstantin V. Postnov* (*Zhukovsky-Gagarin Air Force Academy*); *Valery N. Tyapkin* (*Siberian Federal University*); *Mikhail E. Semenov* (*Zhukovsky-Gagarin Air Force Academy*); *Evgeniya G. Kabulova* (*National University of Science and Technology "MISIS"*); *Alexander F. Klinskikh* (*Voronezh State University*); *Peter A. Meleshenko* (*Voronezh State University*);

17 On the Upper Ocean Response to Tropical Cyclones: Satellite Microwave Observation
Anna K. Monzikova (*Russian State Hydrometeorological University*); *Vladimir N. Kudryavtsev* (*FSBSI Marine Hydrophysical Institute RAS*); *Nicolas Reul* (*IFREMER*); *Bertrand Chapron* (*IFREMER*);

18 A Broadband Tapered Slot Antenna for Microwave Imaging Application
Hao Jiang (*Beihang University*); *Rong Shen* (*AVIC Leihua Electronic Technology Institute*); *Kuiwen Xu* (*Hangzhou Dianzi University*); *Xiuzhu Ye* (*Beihang University*);

19 Analysis of Reflected Characteristics of Microwave/Millimeter Wave Based on Multi-layer Graphene Structures
Min Han (*Qilu University of Technology*); *Yuan-Tao Liu* (*Shandong Jiaotong University*); *Ying-Chun Zhang* (*Qilu University of Technology*); *Hou-Jun Sun* (*Beijing Institute of Technology*);

20 A New Non-parametric Bayesian Based Space Upscaling Method for In-situ Soil Moisture Sampling
Lu Zhu (*East China Jiaotong University*); *Chaozheng Yue* (*East China Jiaotong University*); *Yuanyuan Liu* (*East China Jiaotong University*); *Guang Xiong* (*East China Jiaotong University*);

21 Analytical Consideration on Pull-up Operation of a Non-magnetic Metal Ring Using AC Ampere Force
Takahisa Ohji (*University of Toyama*); *Satoshi Kusano* (*University of Toyama*); *Kenji Amei* (*University of Toyama*); *Kyohei Kiyota* (*University of Toyama*);

22 Static Electric Fields Induce Conformational Changes in Alpha Conotoxin: A Molecular Dyanamics Simulation Study
Sohni Singh Jain (*RMIT University*); *Elena Pirogova* (*Royal Melbourne Institute of Technology (RMIT) University*);

23 Framework for Automated Identification of Spectral Hidden Peaks of Skin Tissue Structure Relevant Signatures from Concomitant Raman-FTIR Spectroscopy
Saylee Muley (*Indian Institute of Technology*); *Biswajoy Ghosh* (*Indian Institute of Technology*); *Abhishek Sharma* (*Indian Institute of Technology*); *Jyotirmoy Chatterjee* (*Indian Institute of Technology*);

24 Non-invasive Depth of Field Estimation of Skin Vascularity Using 5-filter Multispectral Imaging
Abhishek Sharma (*Indian Institute of Technology*); *Biswajoy Ghosh* (*Indian Institute of Technology*); *Saylee Muley* (*Indian Institute of Technology*); *Jyotirmoy Chatterjee* (*Indian Institute of Technology*);

25 Transmission Characterization of Glucose Solutions at Ku-band for Non-invasive Glucose Monitoring
Yijun Zhou (*Institute for Infocomm Research, A*STAR*); *Xianming Qing* (*Institute for Infocomm & Research, A-STAR*); *Terence Shie Ping See* (*Institute for Infocomm Research, Agency of Science, Technology, and Research*); *Francois P. S. Chin* (*Institute for Infocomm Research, A*STAR*); *Muhammad Faeyz Karim* (*Nanyang Technological University*);

26 Design of Joint Structure for Upper Limb Exoskeleton Robot System
Guo Chun Wan (*Tongji University*); *Fozhi Zhou* (*Tongji University*); *Chuang Gao* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

27 A Hardware and Software Design for an Image Acquisition Module
Jia Xin Wan (*East China Normal University*); *Jian Zhou* (*Tongji University*); *Ling Yi Tang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

29 Identification of High-temperature Region for Insulators Based on BP Neural Network
Shu Jia Yan (*Shanghai University of Engineering Science*); *Shi Cong Wang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

30 Approximate Characterization of a Series-fed Lumped Resonator Array Using an Equivalent Circuit Model
Seyi Stephen Olokede (*University of Johannesburg*); *Babu Sena Paul* (*University of Johannesburg*);

31 Study on Focusing Property of Centrally Grooved Focusing Type Dielectric Lens Horn Antenna
Yuki Abe (*Aoyama Gakuin University*); *Ryosuke Suga* (*Aoyama Gakuin University*); *Atsushi Kezuka* (*Electronic Navigation Research Institute*); *Osamu Hashimoto* (*Aoyama Gakuin University*);

32 A Quad-band Antenna with Easily Controlled Bands for Wireless Locations/WLAN/WiMAX/SATCOM Applications
Ding-Hong Jia (*Southwest Jiaotong University*); *Jianqin Deng* (*41st Institute of China Electronic Technology Group Corporation*);

33 Dual-band Pentagonal Island Shaped Patch Antenna with Fractal Ring Structure and Trapezium CPW-fed Technique
Hassan Nornikman (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. Abdulmalek* (*University of Wollongong in Dubai*); *Ping Jack Soh* (*Universiti Malaysia Perlis (UniMAP)*); *O. Al-Khatib* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Badrul Hisham Ahmad* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Mohamad Zoinol Abidin Abd Aziz* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *Hasliza Binti A. Rahim* (*Universiti Malaysia Perlis (UniMAP)*); *N. W. Hong* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *A. Abdullah Sani* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *F. F. Mohd Rashid* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *A. Mohd Ismail* (*Universiti Teknikal Malaysia Melaka (UTeM)*); *M. S. N. Azizi* (*Universiti Teknikal Malaysia Melaka (UTeM)*);

34 Enhanced Bandwidth Performance for Monopole Ultra-wideband Patch Antenna for Super-wideband Applications
Mohamed S. Soliman (*Taif University*); *Majed O. Dwairi* (*Al-Balqa' Applied University*); *Ahmad A. Alahmadi* (*Taif University*);

35 A Miniaturized Triple Band ACS-fed Monopole Printed Antenna with Meandered and Circular Ring Shape Resonators for WLAN/WiMAX Applications
Praveen Vummadisetty Naidu (*Velagapudi Ramakrishna Siddhartha Engineering College*); *Arvind Kumar* (*Kautilya Institute of Technology and Engineering*); *Vinay Kumar* (*Defence Institute of Advanced Technology (Deemed University)*);

36 A Microstrip Grid Array Antenna at 24 GHz
Yue-Ping Zhang (*Nanyang Technological University*);

37 Source Module Based on Diodes-multipliers to Extend Signal Generator Capability from 140 GHz to 220 GHz
Jianqin Deng (*41st Institute of China Electronic Technology Group Corporation*); *Yintang Yang* (*Xidian University*); *Ding-Hong Jia* (*Southwest Jiaotong University*);

38 Microwave Heating with Nano Ferro Fluid for Heavy Oil Application
Erdila Indriani (*Institute Teknologi Bandung*); *Anugerah* (*Institute Teknologi Bandung*); *Sudjati Rachmat* (*Institute Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

39 Experimental Study on Textile Properties for Wearable Absorber Using Cavity Method
Levy Olivia Nur (*Telkom University*); *Bambang Setia Nugroho* (*Universitas Indonesia*); *Achmad Munir* (*Institut Teknologi Bandung*);

40 Optimization of TCSC with Multi Objective Firefly Algorithm for Enhancing SMIB System
Dillip Kumar Mishra (*IIIT*); *Asit Mohanty* (*CET*); *Meera Viswavandya* (*CET*); *Prakask Kumar Ray* (*NTU*); *Tapas K. Panigrahi* (*IIIT*);

41 Bat Algorithm Optimized SVC for Power System Stability Enhancement
Shiba Ranjan Paital (*International Institute of Information Technology*); *Prakash Kumar Ray* (*International Institute of Information Technology*); *Asit Mohanty* (*CET*);

42 Ka-band Surface-mount Dielectric Resonator Filter with an Enhanced Stopband Performance
Gyuwon Lee (*Korea University*); *Boyoung Lee* (*Korea University*); *Jang-Yong Jeong* (*Sangshin Elecom*); *Juseop Lee* (*Korea University*);

43 A 10 GHz–40 GHz Wideband PHEMT MMIC Passive Frequency Doubler
Qiliang Li (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Guoqing Fan* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Shibin Zhang* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*);

44 A New Functional Model for Wireless Communication Class-AB Solid-state Bipolar Power Amplifiers and Its Applications: Part I Intermodulation Performance
Muhammad Taher Abuelma'atti (*King Fahd University of Petroleum and Minerals*); *Abdullah M. T. Abuelmaatti* (*31 Longbridge Road*);

45 Quantifying the Effects of Channel Interference from Secondary User to Digital TV Reception Using Practical Systems
Alberto S. Banacia (*University of San Carlos*); *Felicito S. Caluyo* (*Mapua Institute of Technology*);

46 Genetic Algorithm Improved Spatial Diversity 24-GHz FMCW Radar with Multipath for Automotive Applications
Min Guo (*National University of Defense Technology*); *Zhanshan Sun* (*National University of Defense Technology*); *Shiling Yang* (*National University of Defense Technology*); *Yun-Qi Fu* (*National University of Defense Technology*);

47 Vehicular Wireless Network Access Controller Parameter Estimation
Arnis Ancans (*Riga Technical University*); *Ernests Petersons* (*Riga Technical University*); *Aleksandrs Ipatovs* (*Riga Technical University*);

48 Modelling of Rain Drop Size Distribution for Microwave and Millimiter Wave in Central Africa
Djuma Sumbiri (*Universuty of KwaZulu-Natal*); *Thomas Joachim Odhiambo Afullo* (*University of KwaZulu-Natal (UKZN)*); *Akintunde Ayodeji Alonge* (*University of KwaZulu-Natal*);

49 Design of a 0.01 GHz–70 GHz High Output Power Signal Source Module
Shibin Zhang (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Guoqing Fan* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Qiliang Li* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*); *Aiying Zhao* (*The 41st Research Institute of CETC and National Key Lab of Electronic Measurement Technology*);

50 Research on Harmonic Transmission Characteristics of Capacitor Voltage Transformer
Chaofeng Wei (*Zhengzhou University*); *Qionglin Li* (*State Grid Henan Electric Power Research Institute*); *Jiandong Jiang* (*Zhengzhou University*);

51 Impact of Multiple-directional Mechanical Deformation on the Resonant Frequency of Patch Antennas
Shi Cong Wang (*Tongji University*); *Peng Peng Liu* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

52 The Effect of Fabric Conductors on the Microstrip Antennas with Textile Patches
Ye Kuang (*Donghua University*); *Lan Yao* (*Donghua University*); *Jian Chen* (*Donghua University*); *Shenghai Yu* (*Donghua University*); *Yiping Qiu* (*Donghua University*);

53 Surface Plasmon-polaritons in Graphene — Antiferromagnet Nanostructure
Igor V. Bychkov (*Chelyabinsk State University*); *V. A. Tolkachev* (*Chelyabinsk State University*); *Dmitry A. Kuzmin* (*Chelyabinsk State University*); *Vladimir G. Shavrov* (*V. A. Kotelnikov Institute of Radio Engineering and Electronics, RAS*);

54 A Double Negative Metamaterial Inspired Miniaturized Rectangular Patch Antenna with Improved Gain and Bandwidth
S. Geetha Priyadharisini (*VIT University*); *Elizabeth Rufus* (*Middle East College*);

55 Stable Non-cubic 3D Liquid Photonic Crystals
Duan-Yi Guo (*National Sun Yat-sen University*); *Chun-Wei Chen* (*Pennsylvania State University*); *Hung-Chang Jau* (*National Sun Yat-sen University*); *Tsung-Hsien Lin* (*National Sun Yat-Sen University*);

56 Fluorescent Study of Human Health and Septic Albumin Doped with Ag Nanoparticles
Andrey Yurievich Zyubin (*Immanuel Kant Baltic Federal University*); *Elizaveta I. Konstantinova* (*Immanuel Kant Baltic Federal University*); *Ilia Samusev* (*Immanuel Kant Baltic Federal University*); *Valery V. Bryukhanov* (*Immanuel Kant Baltic Federal University*);

57 Angle-resolved Conical Emission Spectra from Filamentation in a Solid with an Airy Pattern and a Gaussian Laser Beam
Cheng Gong (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Science*); *Zi Xi Li* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Science*); *Xiao Jun Liu* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*);

58 Self-powered UV Photodetector Based on a Single Crystalline ZnO Nanorod *p-n* Homo-junction
Hak Dong Cho (*Dongguk Univ.-Seoul*); *Im Taek Yoon* (*Dongguk Univ.-Seoul*); *Deuk Young Kim* (*Dongguk University-Seoul*); *Tae Won Kang* (*Dongguk Univ.-Seoul*);

59 Transmission Characteristics of a Terahertz Waveguide with a Slot-coupled Cavity
Jun Shibayama (*Hosei University*); *Tomoya Tsubai* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

60 Real-time Detection of Terahertz Emission from Quantum Cascade Lasers by Frequency Up-conversion Technique
Shingo Saito (*National Institute for Information and Communications Technology*); *Kouji Nawata* (*RIKEN*); *Shin'ichiro Hayashi* (*RIKEN*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*); *Akifumi Kasamatsu* (*National Institute of Information and Communications Technology*); *Yoshinori Uzawa* (*National Institute of Information and Communications Technology*); *Hiroaki Minamide* (*RIKEN*);

61 Influence of Dispersion Slope Compensation on 40 Gbit/s WDM-PON Transmission System Performance with G.652 and G.655 Optical Fibers
Valts Dilendorfs (*Riga Technical University*); *Mareks Parfjonovs* (*Riga Technical University*); *Anita Alsevska* (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

62 Visibility Range Distribution Modeling for Free Space Optical Link Design in South Africa: Durban as Case Study
Okikiade Adewale Layioye (*University of KwaZulu-Natal*); *Thomas Joachim Odhiambo Afullo* (*University of KwaZulu-Natal (UKZN)*); *Pius Adewale Owolawi* (*Mangosuthu University of Technology*);

Session 3A1
Optical Fiber Lasers and Fiber Sensors

Wednesday AM, November 22, 2017

Room LT5

Organized by Yi Liu, Mingjiang Zhang

Chaired by Mingjiang Zhang

09:00 NALM with Dual Pump as Artificial Saturable Absorber inside a Laser Cavity
Alexey Kokhanovskiy (*Novosibirsk State University*); *A. V. Ivanenko* (*Novosibirsk State University*); *S. Smirnov* (*Novosibirsk State University*); *S. Kobtsev* (*Novosibirsk State University*);

09:20 Experimental Generation of Dark Solitons in an All Normal Dispersion Ytterbium Doped Fiber Laser
J. Mohanraj (*Vellore Institute of Technology*); *S. Sivabalan* (*VIT University*);

09:40 High Energy Ultrafast Pulses from a Photonic Crystal Fiber Oscillator
Jiaqi Luo (*Singapore Institute of Manufacturing Technology*); *Eng Leong Tan* (*Nanyang Technological University*);

10:00 A Tunable Long-cavity Passive Mode-locked Fiber Laser Based on Nonlinear Amplifier Loop Mirror
Pinghe Wang (*University of Electronic Science and Technology of China*);

10:20 Speckle Reduction Technologies in Laser Displays
Invited
Zhaomin Tong (*Shanxi University*);

11:00 **Coffee Break**

11:20 The Loss Compensated Chaotic Correlation Fiber
Invited Loop Ring Down Sensor
Lingzhen Yang (*Taiyuan University of Technology*); *Jianjun Yang* (*Taiyuan University of Technology*);

11:40 Real-time Distributed Oil/Gas Pipeline Security Pre
Invited Warning System Based on **Φ**-OTDR
Xin Liu (*Taiyuan University of Technology*); *Yu Wang* (*Taiyuan University of Technology*); *Baoquan Jin* (*Taiyuan University of Technology*); *Qirui Ying* (*Taiyuan University of Technology*); *Dong Wang* (*Taiyuan University of Technology*); *Yuncai Wang* (*Taiyuan University of Technology*);

12:00 A Stable and Fast Approach for Measuring Brillouin Frequency Shift
Qing Bai (*Taiyuan University of Technology*); *Yu Zhang* (*Taiyuan University of Technology*); *Yu Wang* (*Taiyuan University of Technology*); *Dong Wang* (*Taiyuan University of Technology*); *Baoquan Jin* (*Taiyuan University of Technology*); *Yuncai Wang* (*Taiyuan University of Technology*);

Session 3A2
Hybrid Plasmonics and Nanophotonics: Novel Functionalities and Device Applications

Wednesday AM, November 22, 2017

Room LT6

Organized by Amit K. Agrawal, Cheng Zhang

Chaired by Amit K. Agrawal

09:00 Magneto-plasmonics of Graphene-based Topological Meta-structures
Dmitry A. Kuzmin (*Chelyabinsk State University*); *Igor V. Bychkov* (*Chelyabinsk State University*); *Vladimir G. Shavrov* (*V. A. Kotelnikov Institute of Radio Engineering and Electronics, RAS*); *Vasily V. Temnov* (*Universite du Maine*);

09:20 Manipulation of Optical Fields by Plasmonic Meta-
Invited surfaces
Shuqi Chen (*Nankai University*); *Hua Cheng* (*Nankai University*); *Jian-Guo Tian* (*Nankai University*);

09:40 Plasmonic Lens Devices and Applications for Nano
Invited Lithography beyond Near Field Diffraction Limit
Changtao Wang (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Zeyu Zhao* (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Ping Gao* (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Xiangang Luo* (*Institute of Optics and Electronics, Chinese Academy of Sciences*);

10:00 Color Selective Top Contacts Monolithically Integrated on Photodiode Array for Bayer Filtering
Vandhana Narayanan (*IIT Madras*); *Sakthi Priya Amirtharaj* (*IIT Madras*); *Ananth Krishnan* (*Indian Institute of Technology Madras*);

10:20 Ultra-thin Plasmonic Spectral Filter with High Trans-
Invited mission Efficiency
Ting Xu (*Nanjing University*); *Yuzhang Liang* (*Nanjing University*); *Jiaxing Wang* (*Nanjing University*);

10:40 Strong Light-matter Interactions in Plasmonic
Invited Hotspots: Single Molecule Chemical Event SERS Detection, Stimulated Emission of Phonons and High Efficiency Four-wave Mixing
Tian Yang (*The University of Michigan — Shanghai Jiao Tong University Joint Institute*); *Jing Long* (*The University of Michigan — Shanghai Jiao Tong University Joint Institute*); *Hui Yi* (*The University of Michigan — Shanghai Jiao Tong University Joint Institute*); *Xiaodan Wang* (*The University of Michigan — Shanghai Jiao Tong University Joint Institute*); *Xiangyang Kong* (*The University of Michigan — Shanghai Jiao Tong University Joint Institute*);

11:00 **Coffee Break**

11:20 Surface-plasmon-polariton Laser Based on a Metallic
Invited Trench Fabry-Perot Resonator
Wenqi Zhu (*National Institute of Standards and Technology*); *Cheng Zhang* (*National Institute of Standards and Technology*); *Ting Xu* (*National Institute of Standards and Technology*); *Haozhu Wang* (*University of Michigan*); *Parag B. Deotare* (*University of Michigan*); *Amit K. Agrawal* (*National Institute of Standards and Technology*); *Henri J. Lezec* (*National Institute of Standards and Technology*);

11:40 Optoelectronic Devices Based on Hot Carriers in
Invited Ultra-thin Metallic Films
Jeremy N. Munday (*University of Maryland*);

12:00 Invited Light Generation from Crystalline Ag Metal-insulator-metal Tunnel Junctions
Haoliang Qian (*University of California*); *Su-Wen Hsu* (*University of California*); *Kargal Gurunatha* (*University of California*); *Jie Zhao* (*University of California*); *Conor T. Riley* (*University of California*); *Dylan Lu* (*University of California*); *Andrea R. Tao* (*University of California*); *Zhaowei Liu* (*University of California*);

12:20 Invited Highly Efficient Plasmonic-electronic Transducers Based on Quantum Mechanical Tunnel Junctions
Christian A. Nijhuis (*National University of Singapore*);

12:40 Invited Large-scale Integration of Photonic Crystal Coupled-cavity Waveguides with Ultra-wideband Slow Light
Antonio Badolato (*University of Ottawa*);

Session 3A3
FocusSession.SC2: Metamaterials and Transformation Optics 3

Wednesday AM, November 22, 2017

Room LT7

Organized by Yu Luo, Hongsheng Chen

Chaired by Wei Xiang Jiang

09:00 Invited Vortex Radiation from a Single Emitter
Renmin Ma (*Peking University*);

09:20 Realization of Bi-directional Metamaterial Absorber Formed by Cross-shaped Metamaterial at Microwave Frequencies
Lincy Stephen (*Indian Institute of Technology Madras*); *Natesan Yogesh* (*University of Madras (Guindy Campus)*); *G. Vasantharajan* (*Indian Institute of Technology Madras*); *Venkatachalam Subramanian* (*Indian Institute of Technology Madras*);

09:40 Near-field Lensing and Waveguiding Effects Based on Transformation Optics of Isotropic Concave Space
G. Vasantharajan (*Indian Institute of Technology Madras*); *Natesan Yogesh* (*University of Madras (Guindy Campus)*); *Venkatachalam Subramanian* (*Indian Institute of Technology Madras*);

10:00 Invited Novel Resonators Based on Designer Plasmonic Metamaterial
Di Bao (*Southeast University*); *Jun Feng Liu* (*Southeast University*);

10:20 Invited Illusion Optics from Fabry-Pérot Resonances
Huanyang Chen (*Xiamen University*); *Lin Xu* (*Soochow University*); *Mengying Zhou* (*Xiamen University*); *Luchan Zhang* (*Xiamen University*); *Yangyang Zhou* (*Xiamen University*); *Pengfei Zhao* (*Xiamen University*);

11:00 **Coffee Break**

11:20 Invited A Freestanding Optical Negative-index Metamaterials of Green-light
Yuzhang Liang (*Nanjing University*); *Ting Xu* (*Nanjing University*);

11:40 Study of a Compact Dual-band Ultrathin Polarization Independent Metamaterial Absorber for C- and X-band Applications
Naveen Mishra (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Dilip Kumar Choudhary* (*Indian Institute of Technology (Indian School of Mines) Dhanbad*); *Raghvendra Kumar Chaudhary* (*Indian Institute of Technology (Indian School of Mines)*);

12:20 Invited Bianisotropy Assissted Asymmetric Radiation
Liang Peng (*Hangzhou Dianzi University*); *Kewen Wang* (*Hangzhou Dianzi University*); *Xiaoxiao Zheng* (*Hangzhou Dianzi University*); *Shuaifei Sang* (*Hangzhou Dianzi University*); *Gaofeng Wang* (*Hangzhou Dianzi University*);

Session 3A4
Microstrip Antenna, Antenna Theory and Radiation 1

Wednesday AM, November 22, 2017

Room LT8

Chaired by Mohammed Zafar Ali Khan, Atsushi Kanno

09:00 Microwave Radiation from Graphene-based Optically Transparent Dipole Antenna
Shohei Kosuga (*Aoyama Gakuin University*); *Ryosuke Suga* (*Aoyama Gakuin University*); *Osamu Hashimoto* (*Aoyama Gakuin University*); *Shinji Koh* (*Aoyama Gakuin University*);

09:20 Spurious Radiation Suppression in Slotted Hexagonal Antenna Using Complementary Split Ring Resonators
Abhishek Joshi (*Birla Institute of Technology & Sciences*); *Lokesh Kumar Verma* (*Birla Institute of Technology & Sciences*); *Rahul Singhal* (*Birla Institute of Technology & Sciences*);

09:40 High Gain Antenna Characteristics for 300 GHz Band Fixed Wireless Communication Systems
Hirokazu Sawada (*National Institute of Information and Communication Technology (NICT)*); *Atsushi Kanno* (*National Institute of Information and Communications Technology*); *Naokatsu Yamamoto* (*National Institute of Information and Communications Technology*); *Katsumi Fujii* (*National Institute of Information and Communications Technology*); *Akifumi Kasamatsu* (*National Institute of Information and Communications Technology*); *Kentaro Ishizu* (*National Institute of Information and Communication Technology (NICT)*); *Fumihide Kojima* (*National Institute of Information and Communication Technology (NICT)*); *Hiroyo Ogawa* (*National Institute of Information and Communications Technology*); *Iwao Hosako* (*National Institute of Information and Communications Technology*);

10:00 A Novel Trifilar Coupled Line Splitter-balun for Wideband Antennas
Stanley Okoth Kuja (*Stellenbosch University*); *Pieter Gideon Wiid* (*Stellenbosch University*);

10:20 A Novel Spoof SPP-fed Circular Patch Antenna with Wideband Harmonic Rejection
Ziqiang Yang (*University of Electronic Science and Technology of China*); *Weikui Chen* (*University of Electronic Science and Technology of China*); *Tao Yang* (*University of Electronic Science and Technology of China*);

11:00 **Coffee Break**

11:20 A Novel Aperture Coupled Microstrip Circular Patch Antenna for Dual Band Operation
A. R. Parvathy (*Mahatma Gandhi University Regional Center*); *Thomaskutty Mathew* (*Mahatma Gandhi University Regional Center*);

11:40 Compact Transparent Conductive Oxide Based Dual Band Antenna for Wireless Applications
Trushit K. Upadhyaya (*Charotar University of Science and Technology*); *Arpan Desai* (*Chandubhai S Patel Institute of Technology (CHARUSAT University)*); *Riki Patel* (*Charotar University of Science and Technology*); *Upesh Patel* (*Charotar University of Science and Technology*); *Kanwar Preet Kaur* (*Charotar University of Science and Technology*); *Killol Pandya* (*Charotar University of Science and Technology*);

12:00 Design, Simulation, Analysis, Fabrication and Testing of Integrated Transmitting and Receiving Micro Strip Patch Antennas for Communicating with a Satellite in S-band Communication
Karedla Chitambara Rao (*Aditya Institute of Technology and Management*); *Prudhivi Mallikarjuna Rao* (*Andhra University*);

12:20 A Newly Proposed Multi-band Rectangular Patch Antenna Using Defected Ground Structures
Shobit Agarwal (*The LNM Institute of Information Technology*); *Raghuvir S. Tomar* (*The LNM Institute of Information Technology*);

12:40 An Embroidered Millimeter Full Wave Dipole Antenna for UWB Applications
Daggupati Anil Kumar (*Indian Institute of Technology*); *Mohammed Zafar Ali Khan* (*Indian Institute of Technology*);

Session 3A5
FocusSession.SC3: Advanced Optofluidics: Optical Control and Photonics with Fluid

Wednesday AM, November 22, 2017

Room LT11

Organized by Luigino Criante, Ai Qun Liu

Chaired by Luigino Criante, Ai Qun Liu

09:00 Invited Progress on Optofluidic Lasers Realized by Femtosecond Micromachining
Francesco Simoni (*Universita Politecnica delle Marche*); *Paolo Spegni* (*Universita Politecnicadelle Marche*); *Silvio Bonfadini* (*Istituto Italiano di Tecnologia*); *Sara Lo Turco* (*Istituto Italiano di Tecnologia*); *Luigino Criante* (*Istituto Italiano di Tecnologia*);

09:20 Invited Micro-laser Particles for Super-resolution Imaging and Cell Barcoding
Matjaz Humar (*Jozef Stefan Institute*); *Sangyeon Cho* (*Massachusetts General Hospital*); *Nicola Martino* (*Massachusetts General Hospital*); *Avinash Upadhya* (*Massachusetts General Hospital*); *Seok Hyun Yun* (*Massachusetts General Hospital*);

09:40 Invited Optical Image Stabilization via Droplet Manipulation Induced by Liquid Crystal Orientations
Yu-Jen Wang (*National Chiao Tung University*); *Hao-Ren Lo* (*National Chiao Tung University*); *Yi-Hsin Lin* (*National Chiao Tung University*);

10:00 Multilayered Surface-enhanced Raman Scattering Substrates Based on Plasmonic Quasi-crystals
Invited
Massimo Rippa (*ISASI*); *Riccardo Castagna* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*); *Jun Zhou* (*Ningbo University*); *Lucia Petti* (*Institute of Applied Sciences and Intelligent Systems — ISASI, CNR*);

10:20 Integration of the Perturbation Fields 3D Structure for Multifunctional Optofluidic Chips
Invited
Luigino Criante (*Istituto Italiano di Tecnologia*); *Silvio Bonfadini* (*Istituto Italiano di Tecnologia*); *Surya S. K. Guduru* (*Politecnico di Milano*); *S. Bucella* (*Istituto Italiano di Tecnologia*); *M. Caironi* (*Istituto Italiano di Tecnologia*);

10:40 Sorting and Manipulation of Nanoparticles and Bacteria Using Optofluidic Chip
Invited
Ai Qun Liu (*Nanyang Technological University*);

11:00 **Coffee Break**

Session 3A6
Electromagnetic Characterization of Composite Materials

Wednesday AM, November 22, 2017

Room LT12

Organized by Zulkifly Abbas

Chaired by Zulkifly Abbas

09:00 Electromagnetic Properties of La-Co Substituted Zn_2Y Type Hexagonal Ferrite for Microwave Device Applications
R. Vinaykumar (*National Institute of Technology*); *Jyoti* (*National Institute of Technology*); *J. Bera* (*National Institute of Technology*);

09:20 Macroscopic Characterization of Materials Using Microwave Measurement Methods — A Survey
Kok Yeow You (*University Teknologi Malaysia*); *Fahmiruddin Bin Esa* (*Universiti Tun Hussein Onn*); *Zulkifly Abbas* (*University Putra Malaysia*);

09:40 Dielectric Spectroscopy Technique for Carbohydrate Characterization of Fragrant Rice, Brown Rice and White Rice
Ee Meng Cheng (*Universiti Malaysia Perlis (UniMAP)*); *Kok Yeow You* (*University Teknologi Malaysia*); *Kim Yee Lee* (*Universiti Tunku Abdul Rahman*); *Zulkifly Abbas* (*University Putra Malaysia*); *Hasliza Binti A. Rahim* (*Universiti Malaysia Perlis (UniMAP)*); *Shing Fhan Khor* (*University Malaysia Perlis (UniMAP)*); *Zulkarnay Zakaria* (*Universiti Malaysia Perlis*); *Yeng Seng Lee* (*University Malaysia Perlis (UniMAP)*);

10:00 Broadband Metamaterial Microwave Absorber for X-Ku band Using Planar Split Ring-slot Structures
Man Seng Sim (*Universiti Tun Hussein Onn Malaysia*); *Kok Yeow You* (*University Teknologi Malaysia*); *Fahmiruddin Bin Esa* (*Universiti Tun Hussein Onn*); *Yi Lin Chan* (*Universiti Tun Hussein Onn Malaysia*);

10:20 Free-space Measurement Using Explicit, Reference-plane and Thickness-invariant Method for Permittivity Determination of Planar Materials
Kok Yeow You (*University Teknologi Malaysia*); *Man Seng Sim* (*Universiti Tun Hussein Onn Malaysia*); *Hafizah Mutadza* (*University Teknologi Malaysia*); *Fahmiruddin Bin Esa* (*Universiti Tun Hussein Onn*); *Yi Lin Chan* (*Universiti Tun Hussein Onn Malaysia*);

11:00 **Coffee Break**

11:20 Eliminating Errors Due to Position Uncertainty in Coaxial Airline Based Measurement of Material Parameters
Neelakantam V. Venkatarayalu (*Singapore Institute of Technology*); *C. J. Yuan* (*Newcastle University*);

11:40 Characterization and Modeling of Curvature Sensor for Microwave Measurements
Kim Yee Lee (*Universiti Tunku Abdul Rahman*); *Ee Meng Cheng* (*Universiti Malaysia Perlis (UniMAP)*); *Kok Yeow You* (*Universiti Teknologi Malaysia*); *Yeong-Nan Phua* (*Universiti Tunku Abdul Rahman*); *Eng Hock Lim* (*Universiti Tunku Abdul Rahman*);

12:00 Preparation and Microwave Characterization of Novel Polyaniline-graphene Composite for Antenna Applications
Paulbert Thomas (*The Cochin College*); *Neeraj K. Pushkaran* (*Cochin University of Science and Technology*); *Chandroth Karuvandi Aanandan* (*Cochin University of Science and Technology*);

12:20 A Simple Permittivity of the Wall Estimation Technique by the UWB Radar System
Miroslav Repko (*Technical University of Kosice*); *J. Gamec* (*Technical University of Kosice*);

Session 3A7
Electromagnetics at the Heart of the Magnetic Resonance Imaging (MRI)

Wednesday AM, November 22, 2017

Room LT13

Organized by J. Thomas Vaughan, Shao Ying Huang

Chaired by Shao Ying Huang

09:00 Invited The Future for MRI
J. Thomas Vaughan (*Columbia University*);

09:20 Invited Low Field Magnetic Resonance Sensors for Biomedical Applications
Robin Dykstra (*Victoria University of Wellington*); *Sergei Obruchkov* (*Victoria University of Wellington*); *Petrik Galvosas* (*Victoria University of Wellington*); *Shieak Tzeng* (*Otago University*);

09:40 Invited MRI Based Electrical Properties Mapping on a Clinical Scanner
Donghyun Kim (*Yonsei University*); *Jaewook Shin* (*Yonsei University*); *Jun-Hyeong Kim* (*Yonsei University*);

10:00 Invited Electromagnetics in High-performance Head-only MRI Gradient Coil Development
Seung-Kyun Lee (*Sungkyunkwan University*);

11:00 **Coffee Break**

11:20 Invited Electromagnetic Interactions between Gradient Coils and Surrounding Conductors in MRI
Fangfang Tang (*The University of Queensland*); *Mingyan Li* (*The University of Queensland*); *Feng Liu* (*The University of Queensland*); *Stuart Crozier* (*The University of Queensland*);

11:40 Invited Electromagnetics Related Research for Magnetic Resonance Imaging (MRI) at Singapore University of Technology and Design
Shao Ying Huang (*Singapore University of Technology and Design*);

12:00 A TSVD-based Approach for Flexible Spatial Encoding Strategy in Portable Magnetic Resonance Imaging (MRI) System
Dongwei Lu (*University of Electronic Science and Technology of China*); *Shao Ying Huang* (*Singapore University of Technology and Design*);

Session 3A8a
Remote Sensing and Polarimetry, SAR, GPR

Wednesday AM, November 22, 2017

Room LT14

Chaired by Motoyuki Sato

09:00 GPR for Nondestructive Pavement Inspection
Motoyuki Sato (*Tohoku University*);

09:20 A Revised Polarimetric Calibration Method for GF-3 SAR with Active Radar Transponder
Jun Hong (*Institute of Electronics, Chinese Academy of Science*); *Yu Wang* (*Institute of Electronics, Chinese Academy of Sciences*); *Mingkuan Yi* (*Institute of Electronics, Chinese Academy of Sciences*); *Yongtao Zhu* (*Institute of Electronics, Chinese Academy of Science*); *Liang Li* (*Institute of Electronics, Chinese Academy of Science*); *Feng Ming* (*Institute of Electronics, University of Chinese Academy of Sciences*);

09:40 Influence of Spatial Scale Effect on High Resolution SAR Radiometric Calibration
Yu Wang (*Institute of Electronics, Chinese Academy of Sciences*); *Jun Hong* (*Institute of Electronics, Chinese Academy of Science*);

10:00 Simulation of Actively Polarimetric Calibration Source Based on Correlated Noise Signals by Simulink
Jiaoyang Li (*University of Chinese Academy of Sciences*); *Zhenzhan Wang* (*National Space Science Center, Chinese Academy of Sciences*);

10:20 Comparative Classification of Compact Polarimetric versus Fully Polarimetric SAR Imagery Using Feature Calibration and Support Vector Machine
Lin Chen (*University of Petroleum*); *Jing-Jing Zhang* (*Institute of Electronics, Chinese Academy of Sciences*); *Shi-Jun Zhao* (*University of Petroleum*); *Xi-Chun Zhao* (*University of Petroleum*); *Dong-Dong Liu* (*University of Petroleum*); *Xiao-Dong Li* (*University of Petroleum*); *Wen Hong* (*Institute of Electronics, Chinese Academy of Sciences*);

10:40 A Compact Passive Microwave Calibration Target for Full-polarized Radiometer
Zhenzhan Wang (*National Space Science Center, Chinese Academy of Sciences*); *Jingyi Liu* (*National Space Science Center, Chinese Academy of Sciences*); *Bin Li* (*National Space Science Center, Chinese Academy of Sciences*); *Hao Lu* (*National Space Science Center, Chinese Academy of Sciences*); *Jiaoyang Li* (*University of Chinese Academy of Sciences*);

11:00 **Coffee Break**

Session 3A8b
Microwave and Millimeter Wave Circuits and Devices, CAD 1

Wednesday AM, November 22, 2017

Room LT14

Chaired by Sha Luo, Xinyi Tang

11:20 Highly Matched Charge Pump for Phase Lock Loop Using 65 nm CMOS for Wireless Transceiver Applications
Vincent Zhenguo Chia (*Institute of Microelectronics*); *Dan Lei Yan* (*Institute of Microelectronics*); *Jaeyoung Choi* (*Institute of Microelectronics, A*STAR*); *Muthusamy Kumarasamy Raja* (*Institute of Microelectronics*);

11:40 Pulsed Microwave Sensor on Heavily Doped Semiconductor Substrate
Algirdas Sužiedėlis (*Center for Physical Sciences and Technology*); *Steponas Ašmontas* (*Semiconductor Physics Institute*); *Jonas Gradauskas* (*Center for Physical Sciences and Technology*); *Aldis Šilėnas* (*Center for Physical Sciences and Technology*); *Andžej Lučun* (*Center for Physical Sciences and Technology*); *Aurimas Čerškus* (*Center for Physical Sciences and Technology*); *Ceslav Paškevič* (*Center for Physical Sciences and Technology*); *Ovidijus Žalys* (*Center for Physical Sciences and Technology*); *Maksimas Anbinderis* (*Center for Physical Sciences and Technology*);

12:00 Switching Characteristics of InN Tunnel Field Effect Transistor and Its Application in the Design of RF Amplifiers
Manjula Vijh (*Amity University Uttar Pradesh*); *R. S. Gupta* (*Maharaja Agrasen Institute of Technology*); *Sujata Pandey* (*Amity University*);

12:20 Design of MMIC Class-E Power Amplifier with Adaptive Bias Control and Built-in Linearizer Using 0.5 µm pHEMT Technology
P. Shanthi (*R. V. College of Engineering*); *J. S. Baligar* (*Dr. AIT*);

Session 3A9
Electromagnetic Modeling, Inversion and Applications 1

Wednesday AM, November 22, 2017

Room LT15

Organized by Jianhua Li, Ganquan Xie

Chaired by Ganquan Xie, Shigu Cao

09:00 The 0 to $\boldsymbol{R_1}$ Spherical Radial Transformation Can Not Be Used to Induce Acoustic No Scattering Cloak But Some Can Be for EM Invisible Cloak
Jianhua Li (*GL Geophysical Laboratory*); *Lee Xie* (*Hunan Super Computational Sciences Center*); *Feng Xie* (*GL Geophysical Laboratory*); *Ganquan Xie* (*GL Geophysical Laboratory; Dayuling Supercomputational Sciences Center*);

09:20 The 0 to R_1 Cylinder Radial Coordinate Transformation Can Not Be Used to Induce Cylinder Layer EM Invisible Cloak and Acoustic No Scattering Cloak
Jianhua Li (*GL Geophysical Laboratory*); *Lee Xie* (*Hunan Super Computational Sciences Center*); *Feng Xie* (*GL Geophysical Laboratory*); *Ganquan Xie* (*GL Geophysical Laboratory; Dayuling Supercomputational Sciences Center*);

09:40 Nonlinear AGILD MagLev-Advanced Global Integral and Local Differential Modeling and Inversion for Magnetic Levitation
Jianhua Li (*GL Geophysical Laboratory*); *Ganquan Xie* (*GL Geophysical Laboratory; Dayuling Supercomputational Sciences Center*); *Feng Xie* (*GL Geophysical Laboratory*); *Lee Xie* (*Hunan Super Computational Sciences Center*); *Michael Oristaglio* (*Yale University*); *Shigu Cao* (*Shenzhen Inequation Technology Co. Ltd.*);

10:00 High Order Basis Function to Solve the Hard Surface Scattering Field Based on Spherical Coordinates
Hua Wang (*National University of Defense Technology*); *Jianshu Luo* (*National University of Defense Technology*); *Ganquan Xie* (*GL Geophysical Laboratory; Dayuling Supercomputational Sciences Center*);

10:20 An Entropy-based Parameter Sensitivity Analysis for Microwave Scattering of Rough Surface
Yu Liu (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Kun-Shan Chen* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

11:00 **Coffee Break**

11:20 Study on Shielding Effectiveness of Electronic Enclosures with Connected Accessories under Corrosive Environment for Automobile Industry
S. Bhuvaneswari (*Dr. M. G. R Educational and Research Institute*); *Peedikakkandy Salil* (*SAMEER Centre for Electromagnetics*); *S. Manivannan* (*Dr. M. G. R Educational and Research Institute*);

11:40 Validation of Generalized Radar Scattering Model for Sloped Terrain with Airborne L- and P-band Data
Mariko S. Burgin (*California Institute of Technology*); *Xueyang Duan* (*Jet Propulsion Laboratory*); *Richard Chen* (*University of Southern California*); *Uday K. Khankhoje* (*Indian Institute of Technology Madras*); *Mahta Moghaddam* (*University of Michigan*);

12:00 Modeling and Dynamic of Ferroelectric Twin Structures
Shigu Cao (*Chinese Dayuling Supercomputational Sciences Center*); *Honghui Wu* (*The Hong Kong University of Science and Technology*);

12:20 Comparison of Chirp and Chaotic Wideband Signals for Hydroacoustics
T. I. Karimov (*Saint Petersburg Electrotechnical University "LETI"*); *D. N. Butusov* (*Saint Petersburg Electrotechnical University "LETI" (SPbETU "LETI")*); *V. V. Gulvanskii* (*SPbETU "LETI"*); *D. V. Bogaevskiy* (*SPbETU "LETI"*);

Session 3A10
Microwave and Millimeter-wave IC Design Techniques

Wednesday AM, November 22, 2017

Room LT16

Organized by Fanyi Meng, Kaixue Ma

Chaired by Fanyi Meng, Kaixue Ma

09:00 A CMOS D-band Low Noise Amplifier with 22.4 dB Gain and a 3 dB Bandwidth of 16 GHz for Wireless Chip to Chip Communication
Chae Jun Lee (*Korea Advanced Institute of Science and Technology (KAIST)*); *Tae Hwan Jang* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Dong Min Kang* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Hyuk Su Son* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Chul Woo Byeon* (*Wonkwang University*); *Chul Soon Park* (*Korea Advanced Institute of Science and Technology*);

09:20 A D-band SiGe Differential Amplifier with 20 dB Power Gain and 30 GHz Bandwidth
Bing Liu (*University of Electronic Science and Technology of China*); *Shouxian Mou* (*University of Electronic Science and Technology of China*); *Kaixue Ma* (*University of Electronic Science and Technology of China*); *Fanyi Meng* (*University of Electronic Science and Technology of China*);

09:40 A Compact CRLH Transmission Line Stub Dual-use Circuit for Harmonic-tuning and DC-biasing of Class-F Amplifiers
Tomoya Oda (*Shibaura Institute of Technology*); *Shinichi Tanaka* (*Shibaura Institute of Technology*);

10:00 A PVT Insensitive Noise Canceling Balun-LNA for TV Receiver Applications
Seunghyeok Jang (*Chonbuk National University*); *Seongsoo Park* (*Chonbuk National University*); *Donggu Im* (*Chonbuk National University*);

10:20 A 0.1–6 GHz Digital Controlled Variable Gain Low Noise MMIC Amplifier
Ruwei Li (*University of Electronic Science and Technology of China*); *Kaixue Ma* (*University of Electronic Science and Technology of China*); *Shouxian Mou* (*University of Electronic Science and Technology of China*); *Fanyi Meng* (*University of Electronic Science and Technology of China*);

11:00 **Coffee Break**

11:20 A Highly Linear Super-source-follower-based Reconfigurable RF Filter with Wide Tuning Range for TV Receiver Applications
Seongsoo Park (*Chonbuk National University*); *Seunghyeok Jang* (*Chonbuk National University*); *Donggu Im* (*Chonbuk National University*);

11:40 A 50–62 GHz Compact Subharmonic Passive Mixer MMIC with Low Conversion Loss
Changzi Xie (*University of Electronic Science and Technology of China*); *Kaixue Ma* (*University of Electronic Science and Technology of China*); *Shouxian Mou* (*University of Electronic Science and Technology of China*); *Fanyi Meng* (*University of Electronic Science and Technology of China*);

12:00 Design of a Wideband V-band 0.18-μm SiGe BiCMOS Low-noise Amplifier
Sunhwan Jang (*Texas A&M University*); *Meng-Jie Hsiao* (*Texas A&M University*); *Cam Nguyen* (*Texas A&M University*);

12:20 A Millimeter-wave Dual-band Single-pole Single-throw Switch with Bandpass Filtering Function
Donghyun Lee (*Texas A&M University*); *Meng-Jie Hsiao* (*Texas A&M University*); *Cam Nguyen* (*Texas A&M University*);

Session 3A11
Radio Wave Propagation and Wireless Channel Modeling 1

Wednesday AM, November 22, 2017

Room LT17

Organized by Tao Jiang

Chaired by Tao Jiang

09:00 CW Interference Effects on the Performance of GPS Receivers
Fang Ye (*Harbin Engineering University*); *Hongbo Tian* (*Harbin Engineering University*); *Fei Che* (*Harbin Engineering University*);

09:20 Interference Alignment Based on Rank Constraint for MIMO Cognitive Interference Channel
Yibing Li (*Harbin Engineering University*); *Xueying Diao* (*Harbin Engineering University*); *Yuan Tian* (*Harbin Engineering University*);

09:40 Long-range Mobile Communication over Sea Utilizing Evaporation Duct
Khurram Shabih Zaidi (*Universiti Teknologi PETRONAS*); *Varun Jeoti* (*Universiti Teknologi PETRONAS*); *Micheal Drieberg* (*Universiti Teknologi PETRONAS*); *Azlan Awang* (*Universiti Teknologi PETRONAS*); *Asif Iqbal* (*Universiti Teknologi PETRONAS*);

10:00 A Study of Signal Environment for 1030/1090 MHz Aircraft Surveillance Frequency during Flight Experiments
Takuya Otsuyama (*Electronic Navigation Research Institute*); *Junichi Honda* (*Electronic Navigation Research Institute*);

10:20 Research on Channel Modeling over Rough Sea Surface Based on Stochastic Bridge Process
Xianfeng Yang (*Harbin Engineering University*); *Tao Jiang* (*Harbin Engineering University*); *Xiaojun Wang* (*Harbin Engineering University*); *Yachen Zhang* (*Heilongjiang Univesity*);

11:00 **Coffee Break**

11:20 Adjacent and Co-channel Interference Constraints in a Multi-hop TVWS Network
Alberto S. Banacia (*University of San Carlos*); *Antonio C. Montejo III* (*University of San Carlos*); *Felicito S. Caluyo* (*Mapua Institute of Technology*);

11:40 Propagation Characteristics of Electromagnetic Vortex Wave
Jiangting Li (*Xidian University*); *Teng Gong* (*Xidian University*); *Li-Xin Guo* (*Xidian University*); *Mingjian Cheng* (*Xidian University*);

12:00 Analysis of Design Parameter Issues for Next Generation OFDMA Downlinks
Subba Rao Boddu (*Indian Institute of Technology*); *Jagadeesh Babu Kamili* (*St. Ann's College of Engineering and Technology (SACET)*);

12:20 Usability of Hilbert Transform for Complex Channel Transfer Function Calculation in 60 GHz Band
Ales Prokes (*Brno University of Technology*); *Tomas Mikulasek* (*Brno University of Technology*); *Jiri Blumenstein* (*Brno University of Technology*); *Josef Vychodil* (*Brno University of Technology*);

12:40 Graph-based Femtocell Enhanced Universal Resource Allocation Strategy for LTE-A HetNets
Yibing Li (*Harbin Engineering University*); *Chongyu Niu* (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*);

Session 3A12
Interaction Electromagnetic Waves with Laboratory and Space Plasma

Wednesday AM, November 22, 2017

Room LT18

Organized by Anatoly A. Kudryavtsev, Xiaogang Wang

Chaired by Xiaogang Wang

09:00 Wave Propagation Coefficients in Non-Maxwellian Plasma
Chengxun Yuan (*Harbin Institute of Technology*); *Vladimir S. Bekasov* (*St. Petersburg State University*); *Anatoly A. Kudryavtsev* (*St. Petersburg State University*);

09:20 DC Discharge with Gridded Anode as a Plasma Source for Experiments on Electromagnetic Wave Propagation
Stepan I. Eliseev (*St. Petersburg State University*); *Chengxun Yuan* (*Harbin Institute of Technology*); *A. A. Kudryavtsev* (*Harbin Institute of Technology*);

09:40 The Transmission of Microwave in One-dimension Plasma Photonic Crystal
Chengxun Yuan (*Harbin Institute of Technology*); *Jingfeng Yao* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*); *A. A. Kudryavtsev* (*Harbin Institute of Technology*);

10:00 The Experimental Investigation of Propagation Characteristics of Electromagnetic Waves in Dusty Plasmas
Yonggan Liang (*Harbin Institute of Technology*); *Chengxun Yuan* (*Harbin Institute of Technology*); *Zhongxiang Zhou* (*Harbin Institute of Technology*); *A. A. Kudryavtsev* (*Harbin Institute of Technology*);

10:20 A Probe Diagnostics of AC Large-volume Plasma Generator with Coaxial Gridded Hollow Electrodes for the Experiments of Electromagnetic Wave Propagation in Plasma
Almaz I. Saifutdinov (*Harbin Institute of Technology*); *Sergey S. Sysoev* (*St. Petersburg State University*); *Anatoly A. Kudryavtsev* (*St. Petersburg State University*); *Chengxun Yuan* (*Harbin Institute of Technology*);

11:00 **Coffee Break**

11:20 Simulations on the Excitation of Chorus-like Waves in DREX
Hua Huang (*Harbin Institute of Technology*); *Zhi-Bin Wang* (*Harbin Institute of Technology*); *Xiaogang Wang* (*Harbin Institute of Technology*); *Xin Tao* (*University of Science and Technology of China*); *Qing-Mei Xiao* (*Harbin Institute of Technology*); *Peng E* (*Harbin Institute of Technology*);

11:40 Generation of Banded Chorus in an Inhomogeneous Magnetic Field
Hua Huang (*Harbin Institute of Technology*); *Zhi-Bin Wang* (*Harbin Institute of Technology*); *Xin Tao* (*University of Science and Technology of China*); *Xiaogang Wang* (*Harbin Institute of Technology*);

12:00 Conceptual Design of Dipolarization Process in Tail-Research EXperiment (T-REX) on Space Plasma Environment Research Facility (SPERF)
Qing-Mei Xiao (*Harbin Institute of Technology*); *Zhi-Bin Wang* (*Harbin Institute of Technology*); *Xiaogang Wang* (*Harbin Institute of Technology*); *Peng E* (*Harbin Institute of Technology*); *Aohua Mao* (*Harbin Institute of Technology*); *Chao Shen* (*Harbin Institute of Technology*); *Chijie Xiao* (*Peking University*);

12:20 Numerical Model of Wave Propagation in Dusty Plasmas
Gennady Kirsanov (*St. Petersburg State University*); *Vladimir Bekasov* (*St. Petersburg State University*); *Anatoly A. Kudryavtsev* (*St. Petersburg State University*); *Stepan I. Eliseev* (*St. Petersburg State University*);

Session 3A0
Poster Session 7

Wednesday AM, November 22, 2017
9:00 AM - 13:00 PM
Room TR+29 - TR+36

1 The Multi-target Association Algorithm Based on Multi-feature
Hongmei Tang (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yilun Zhao* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Haotong Li* (*Science and Technology on Electromagnetic Scattering Laboratory*);

2 Travelling Salesman Problem for UAV Path Planning with Two Parallel Optimization Algorithms
Jie Chen (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*); *Yibing Li* (*Harbin Engineering University*);

3 Numerical Analyses of Modified DS Combination Methods Based on Different Distance Functions
Jie Chen (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*); *Tao Jiang* (*Harbin Engineering University*);

4 The UPSF Code: A Metaprogramming-based High-performance Automatically Parallelized Plasma Simulation Framework
Xiaotian Gao (*Harbin Institute of Technology*); *Xiaogang Wang* (*Harbin Institute of Technology*);

5 Graphene Enhanced Surface Plasmon Resonance Sensing Based on Goos-Hänchen Shift
Huifang Chen (*Zhejiang University*); *Jinguang Tong* (*Zhejiang University*); *Yiqin Wang* (*Zhejiang University*); *Li Jiang* (*Zhejiang University*);

7 Vehicles Detection Experiments with Ka-band FMCW ISAR
Xiangkun Zhang (*National Space Science Center, Chinese Academy of Sciences*); *Jiawei Ren* (*National Space Science Center, Chinese Academy of Sciences*); *Zelong Shao* (*National Space Science Center, Chinese Academy of Sciences*); *Jingshan Jiang* (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); *Yingsong Li* (*Harbin Engineering University*);

8 Performance Verification and Testing for Micro Deformation Detection Radar
Xiangkun Zhang (*National Space Science Center, Chinese Academy of Sciences*); *Zelong Shao* (*National Space Science Center, Chinese Academy of Sciences*); *Jiawei Ren* (*National Space Science Center, Chinese Academy of Sciences*); *Jingshan Jiang* (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); *Yingsong Li* (*Harbin Engineering University*);

9 A Fast Phase Error Correction Method for Compress Sensing SAR Imaging
Jia-Cheng Ni (*Air Force Engineering University*); *Qun Zhang* (*Air Force Engineering University*); *Ying Luo* (*Air Force Engineering University*); *Li Sun* (*Air Force Engineering University*);

12 Experimental Validation of Microwave Imaging for Wood Inspection
Alvita Maurizka (*Institut Teknologi Bandung*); *Achmad Munir* (*Institut Teknologi Bandung*);

13 Reflection Coefficient of Inhomogeneous Anisotropic Impedance Plane
Yury Vladimirovich Yukhanov (*Southern Federal University*); *Tatyana Yurievna Privalova* (*Southern Federal University*);

14 The Research on the Affections to Electromagnetic Scattering of Cavity Structures
Yongfeng Wang (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yilun Zhao* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Kainan Qi* (*Communication University of China*); *Yongxing Che* (*Science and Technology on Electromagnetic Scattering Laboratory*);

15 The Research on the Affections to Electromagnetic Scattering of Slot Structures
Yilun Zhao (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yongfeng Wang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Kainan Qi* (*Communication University of China*); *Hongmei Tang* (*Science and Technology on Electromagnetic Scattering Laboratory*);

17 Sparse-aware Least Sum of Exponentials Algorithms for Sparse System Identification
Yuting Zhao (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Xiaojun Mao* (*No. 38 Research Institute of CETC*);

18 Planar Array Approach as Alternative Method to Characterize Radiation Pattern of $\mathbf{2 \times 2}$ Spiral Resonator (SR) Structure
Mochamad Yunus (*University of Pakuan*); *Fitri Yuli Zulkifli* (*University of Indonesia*); *Eko Tjipto Rahardjo* (*Universitas Indonesia*); *Achmad Munir* (*Institut Teknologi Bandung*);

19 A Novel Wideband Feed Configuration for Compact Range to Improve the Low Frequency Performance
Jingxuan Yang (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xin Hou* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xiao-Feng Yuan* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Haotong Li* (*Science and Technology on Electromagnetic Scattering Laboratory*);

20 A High Gain Patch Antenna Using Negative Permeability Metamaterial Structures
Yuting Zhao (*Harbin Engineering University*); *Kai Yu* (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*);

21 A Fork-like Dual-band Antenna with an Inverted U-shaped Parasitic Element for WLAN and WIMAX Applications
Fanping Shi (*Harbin Engineering University*); *Tao Jiang* (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*);

22 Isolation Enhancement of a Two-element MIMO Antenna Array Using Rotated E-shaped Resonators
Shengyuan Luo (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Xiaojun Mao* (*Harbin Engineering University*);

23 A Low Mutual Coupling MIMO Antenna Array with Periodic Crossing Electromagnetic Band Gap
Tianqi Jiao (*Harbin Engineering University*); *Tao Jiang* (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Xiaojun Mao* (*Harbin Engineering University*);

25 Study of a Water-immersed Ultra-wide Band Microstrip Patch Antenna
Yang Yang (*University of Electronic Science and Technology of China*); *Jin Xu* (*University of Electronic Science and Technology of China*); *Hai-Rong Yin* (*University of Electronic Science and Technology of China*); *Wenfei Bo* (*University of Electronic Science and Technology of China*); *Jingchao Tang* (*University of Electronic Science and Technology of China*); *Jialu Ma* (*University of Electronic Science and Technology of China*); *Jie Xie* (*University of Electronic Science and Technology of China*); *Zhan-Liang Wang* (*University Electronic Science and Technology of China*); *Yu-Bin Gong* (*University of Electronic Science and Technology of China*);

26 The Radiation Characteristics of the Vivaldi Antenna Located in the Cutout of the Metal Wedge
A. V. Gevorkyan (*Southern Federal University*); *Yury Vladimirovich Yukhanov* (*Southern Federal University*); *Tatyana Yurievna Privalova* (*Southern Federal University*);

28 Study on One Stage Angular Log-periodic Meander Line Traveling-wave Tube
Tenglong He (*University of Electronic Science and Technology of China*); *Xinyi Li* (*University of Electronic Science and Technology of China*); *Zhan-Liang Wang* (*University Electronic Science and Technology of China*); *Hexin Wang* (*University of Electronic Science and Technology of China*); *Ningjie Shi* (*University of Electronic Science and Technology of China*); *Duo Xu* (*University of Electronic Science and Technology of China*); *Tao Tang* (*University of Electronic Science and Technology of China*); *Yan-Yu Wei* (*University of Electronic Science and Technology of China*); *Yu-Bin Gong* (*University of Electronic Science and Technology of China*);

29 Broadband Wilkinson Power Divider of Lumped Elements Based on IPD Technology
Zhou-Qiang Qian (*Kunming University of Science and Technology*); *Xiao-Zhen Li* (*Kunming University*); *Meng-Jiang Xing* (*Kunming University of Science and Technology*); *Qi Chen* (*Kunming University of Science and Technology*); *Xiao-Dong Yang* (*Kunming University of Science and Technology*);

30 A Non-axisymmetric Structure Multistage Depressed Collector for Sheet Beam VEDs
Zhan-Liang Wang (*University Electronic Science and Technology of China*); *Xiong Xu* (*University of Electronic Science and Technology of China (UESTC)*); *Yu-Bin Gong* (*University of Electronic Science and Technology of China*); *Zhaoyun Duan* (*University of Electronic Science and Technology of China*); *Yanyu Wei* (*University of Electronic and Technology of China*); *Hua-Rong Gong* (*University of Electronic Science and Technology of China*); *Hongwei Liu* (*State Key Laboratory of Complex Electromagnetic Environment effects on Electronics and Information System (CEMEE)*);

31 A Wide Dual Band Stop-band Filter with Two Different Defected Microterip Structures
Zhengxiong Jiang (*Harbin Engineering University*); *Zeyang Sun* (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Yuting Zhao* (*Harbin Engineering University*);

34 Dual-layer Defense-based Collaborative Spectrum Sensing against SSDF Attack in Cognitive Radio Networks
Xun Zhang (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*); *Yuan Tian* (*Harbin Engineering University*);

35 A Feasibility Study of Visualization Method of Electromagnetic Field by a Quantum Phenomenon
Masanori Ishii (*National Institute of Advanced Industrial Science and Technology (AIST)*); *Moto Kinoshita* (*National Institute of Advanced Industrial Science and Technology (AIST)*);

36 Mode Selection and Tuning in Solid State Microwave Heating
Gregory John Durnan (*NXP Semiconductors*);

37 Power Absorption in Foreign Metal Objects for Inductive Power Transfer
Mhand Cheikh (*Continental Automotive Systems*); *Brahim Aloui* (*Continental Automotive Systems*); *Youri Vassilieff* (*Continental Automotive Systems*); *Rachid Benbouhout* (*Continental Automotive Systems*);

38 Design of Resonator for Wireless Charging System with Expanded Charging Area
Sang-Won Kim (*Electronics and Telecommunications Research Institute (ETRI)*); *In-Kui Cho* (*Electronics and Telecommunications Research Institute*); *Sung-Yong Hong* (*Chungnam National University*);

39 Modeling of Stepped Type Circular Loop Transmission Coil
Sang-Won Kim (*Electronics and Telecommunications Research Institute (ETRI)*); *In-Kui Cho* (*Electronics and Telecommunications Research Institute*); *Sung-Yong Hong* (*Chungnam National University*);

40 Design of Power Control Algorithm in Wireless Power Transmission for Drone
Sang-Won Kim (*Electronics and Telecommunications Research Institute (ETRI)*); *In-Kui Cho* (*Electronics and Telecommunications Research Institute*); *Sung-Yong Hong* (*Chungnam National University*);

41 120 W Wireless Power Transfer System for the Wireless Seat in Automobile
Seong-Min Kim (*Electronics and Telecommunications Research Institute*); *Jung-Ick Moon* (*Electronics and Telecommunications Research Institute*); *Sang-Won Kim* (*Electronics and Telecommunications Research Institute (ETRI)*); *In-Kui Cho* (*Electronics and Telecommunications Research Institute*);

42 Inductance Calculation for the Curved Rectangular Coil
Jung-Ick Moon (*Electronics and Telecommunications Research Institute*); *Sang-Won Kim* (*Electronics and Telecommunications Research Institute (ETRI)*); *Seong-Min Kim* (*Electronics and Telecommunications Research Institute*); *In-Kui Cho* (*Electronics and Telecommunications Research Institute*);

43 A Monopole Super Wideband Microstrip Antenna with Band-notch Rejection
Hamidreza Dalili Oskouei (*Shahid Sattari Aeronautical University of Science & Technology*); *Alireza Mirtaheri* (*Shahid Sattari Aeronautical University of Science & Technology*);

45 The High Gain Frequency- and Radiation Pattern-reconfigurable Antenna Based on Meta-surface
Ai-Xin Chen (*Beihang University*); *Xin Liu* (*Beihang University*);

46 Analysing the Spectral Response of Resonant Structures at THz Frequencies
Petr Drexler (*Brno University of Technology*); *Radim Kadlec* (*Brno University of Technology*); *Dusan Nespor* (*Brno University of Technology*); *Eva Gescheidtova* (*Brno University of Technology*);

47 Design of Reflection-type Metasurface with Phase Discontinuities
Shuai Yang (*Harbin Institute of Technology*); *Zhuochao Wang* (*Harbin Institute of Technology*); *Junqian Niu* (*Beijing Institute of Electronic System Engineering*); *Kuang Zhang* (*Harbin Institute of Technology*); *Xu Min Ding* (*Harbin Institute of Technology*); *Qun Wu* (*Harbin Institute of Technology*);

48 Design and Optimization of a Novel Frequency-selective Absorber
Yongxing Che (*Science and Technology on Electromagnetic Scattering Laboratory*); *Haotong Li* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yongfeng Wang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xiao-Feng Yuan* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xinyu Hou* (*Science and Technology on Electromagnetic Scattering Laboratory*);

49 Metamaterial Base on Uneven Layered Elements for Ultra-wideband RCS Reduction
Jianxun Su (*Beijing Institute of Technology*); *Zengrui Li* (*Communication University of China*);

50 A Radar Absorber Based on High Impedance Surface for Ultrahigh Frequency Applications
Kainan Qi (*Communication University of China*); *Yongfeng Wang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yilun Zhao* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xiao Wei* (*Science and Technology on Electromagnetic Scattering Laboratory*);

51 Level Anti-crossing in 13C-enriched Diamond
Alexei I. Ivanov (*Immanuel Kant Baltic Federal University*); *Anastasia A. Talatay* (*Immanuel Kant Baltic Federal University*); *Alexander T. Khalikov* (*Immanuel Kant Baltic Federal University*);

52 Liquid Crystal Based Planar Optical Waveguide for Temperature Sensing Application
Sandeep Kumar Chamoli (*Indian Institute of Technology Roorkee*); *Vipul Rastogi* (*Indian Institute of Technology Roorkee*); *Vidhi Mann* (*Indian Institute of Technology Roorkee*);

53 Nonsequential Double Ionization of Atoms Driven by Ultrashort Intense Laser Fields
Yan Lan Wang (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*); *Song Bo Xu* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*); *Zhi Lei Xiao* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*); *Xuan Yang Lai* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*); *Wei Quan* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*); *Jing Chen* (*Institute of Applied Physics and Computational Mathematics*); *Xiao Jun Liu* (*Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences*);

54 Broadband Supercontinuum Generation in Photonics Crystal Fiber Pumped by Femtosecond Carbon-Nanotube-based Passively Mode-locked Erbium-doped Fiber Laser
Sivasankara Rao Yemineni (*Nanyang Technological University*); *Wennjing Lai* (*Nanyang Technological University*); *Alphones Arokiaswami* (*Nanyang Technological University*); *Perry Ping Shum* (*Nanyang Technological University*);

55 Study on Refractivity Terahertz Gas Sensor of Metal Triangular Cylinder Array
Haibin Gong (*Shenzhen University*); *Hong Su* (*Shenzhen University*); *Zhixiang Zhang* (*Shenzhen University*); *Shixing Wang* (*Shenzhen University*); *Min Zhang* (*Shenzhen University*); *Huawei Liang* (*Shenzhen University*);

56 Graphene Based Surface Plasmon Resonance Gas Sensor with Magnetic Field Control for Terahertz
Zhixiang Zhang (*Shenzhen University*); *Hong Su* (*Shenzhen University*); *Haibin Gong* (*Shenzhen University*); *Shixing Wang* (*Shenzhen University*); *Min Zhang* (*Shenzhen University*); *Huawei Liang* (*Shenzhen University*); *Chen Zhang* (*Shenzhen University*);

57 Investigation of Dispersion Compensated WDM-PON System's Performance Employing Various Modulation Formats
Marina Aleksejeva (*Riga Technical University*); *Peteris Gavars* (*Riga Technical University*); *Rolands Parts* (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*);

59 Mobility Spectrum Analysis in InAlAs/InGaAs Heterostructures
Il-Ho Ahn (*Dongguk University*); *Juwon Lee* (*Dongguk University*); *Jihoon Kyhm* (*Dongguk University*); *Woochul Yang* (*Dongguk University*); *Deuk Young Kim* (*Dongguk University-Seoul*);

60 Study of Optical Transition, Structural, and Ferromagnetic Properties in p-type InCrP:Zn
Juwon Lee (*Dongguk University*); *Yoon Shon* (*Dongguk University*); *Deuk Yong Kim* (*Dongguk University*); *Il-Ho Ahn* (*Dongguk University*); *Jihoon Kyhm* (*Dongguk University*); *Changsoo Park* (*Hanyang University*); *Eun Kyu Kim* (*Hanyang University*);

61 Shorted Stubs Metamaterial Absorber and Its Applications to Low Radar Cross Section of Patch Antenna
Dhawan Singh (*University Of Kwazulu Natal*); *Viranjay M. Srivastava* (*University of KwaZulu-Natal*);

62 A Low Loss High Isolation Double-pole Double-throw Traveling-wave Switch Using 0.5-μm GaAs Process
Yu-An Lin (*National Central University*); *Ching-Yen Chan* (*National Central University*); *Hao-En Liu* (*National Central University*); *Jyun-Jia Huang* (*National Central University*); *Hong-Yeh Chang* (*National Central University*);

63 Exponential MLWDF (EXP-MLWDF) Scheduling Algorithm Evaluated in LTE for High Mobility Scenario with a Large Number of Active Users
Ismail Angri (*National Institute of Posts and Telecommunications (INPT) Rabat*); *Abdellah Najid* (*National Institute of Posts and Telecommunications INPT*); *Mohamed Mahfoudi* (*Superior School of Technology — Fez*); *Moulhime El Bekkali* (*Superior School of Technology — Fez*);

00:00 Generation of Arbitrary Radially Polarized Array Beams by Manipulating Correlation Structure
Shijun Zhu (*Nanjing University of Science and Technology*); *Zhenhua Li* (*Nanjing University of Science and Technology*);

Session 3P1
Wireless and Optical Systems, Networking and Security

Wednesday PM, November 22, 2017

Room LT5

Organized by Maode Ma

Chaired by Maode Ma

14:00 Formation of Phase Vortices by Means of Holograms with Asymmetric Pattern
Alexander A. Sevryugin (*St.-Petersburg Electrotechnical University*); *Ibrohim M. Tursunov* (*St.-Petersburg Electrotechnical University*); *Vladimir Yu. Venediktov* (*St.-Petersburg Electrotechnical University and St.-Petersburg State University*);

14:20 Efficient ECC Scalar Multiplication Algorithm Based on Symmetric Ternary in Wireless Sensor Networks
Hengzhuang Liu (*Harbin Engineering University*); *Qianhui Dong* (*Harbin Engineering University*); *Yibing Li* (*Harbin Engineering University*);

14:40 AMD Codes Based on Wavelet Transform
A. B. Levina (*University of Information Technologies, Mechanics and Optics (ITMO University)*); *S. V. Taranov* (*University of Information Technologies, Mechanics and Optics (ITMO University)*); *Dmitrii I. Kaplun* (*SPbETU "LETI"*); *Dmitry M. Klionskiy* (*Saint Petersburg Electrotechnical University "LETI"*); *V. V. Gulvanskii* (*SPbETU "LETI"*);

15:00 Investigation on Power Efficiency of GPON with Heterogeneous Traffic
Bhargav Ram Rayapati (*Pondicherry University*); *Nakkeeran Rangaswamy* (*Pondicherry University*); *Enaul Haq Shaik* (*Pondicherry University*);

15:20 Security Enhancement to IEEE 802.11ah Wireless Networks
Lyuye Zhang (*Nanyang Technological University*); *Maode Ma* (*Nanyang Technological University*);

16:00 **Coffee Break**

16:20 Enhanced Security Functionality for Communication Networks in Smart Grid Systems
Tianhe Shen (*Nanyang Technological University*); *Maode Ma* (*Nanyang Technological University*);

16:40 System for Metered Wireless Power Transfer for Low Voltage Application
Ashit Gupta (*SRM University*); *Sanjana Ghosh* (*SRM University*); *Soham Chatterjee* (*SRM University*); *Archana Iyer* (*SRM University*);

Session 3P2a
Optical Image/Signal Processing and Applications

Wednesday PM, November 22, 2017

Room LT6

Organized by Wen Chen

Chaired by Wen Chen

14:00 Optical Encoding System Using Sparse Pinhole Arrays for Optical Information Processing
Wen Chen (*The Hong Kong Polytechnic University*);

14:20 Phase Retrieval of Complex Object in Phase Modulation Based on Wirtinger Derivative
Wei Zhun (*National University of Singapore*); *Xudong Chen* (*National University of Singapore*);

14:40 Double Image Encryption by Vector Decomposition with Pixel Position Matrices
Y. Xiong (*National University of Singapore*); *Chenggen Quan* (*National University of Singapore*); *C. J. Tay* (*National University of Singapore*);

15:00 Optical Image Encryption Using Radon Transform
Agarwal Ritika (*Indian Institute of Technology*); *Y. Xiong* (*National University of Singapore*); *Chenggen Quan* (*National University of Singapore*);

16:00 **Coffee Break**

Session 3P2b
Terahertz Photonics

Wednesday PM, November 22, 2017

Room LT6

Organized by Mikhail Konstantinovich Khodzitsky

Chaired by Sascha Preu

16:20 1550 nm Driven Terahertz Time Domain Spectroscopy System with More than 4 THz Bandwidth Using ErAs:In(Al)GaAs Photoconductors
U. Nandi (*TU Darmstadt*); *A. D. J. Fernandez Olvera* (*TU Darmstadt*); *J. Norman* (*University of California*); *Arthur C. Gossard* (*University of California*); *H. Lu* (*Nanjing University*); *Sascha Preu* (*TU Darmstadt*);

16:40 Terahertz Integrated Waveguide Sensor Based on a Metal Rod Array for Phase Sensitive Fluid Detection
Borwen You (*University of Tsukuba*); *Ja-Yu Lu* (*National Cheng Kung University*); *Toshiaki Hattori* (*University of Tsukuba*);

17:00 Comparison of Nano On-chip Dielectric Ridge Waveguides with Graded Junction
Rijul Bansal (*Indian Institute of Technology*); *Bhavik Ameta* (*Indian Institute of Technology*); *Mohammed Zafar Ali Khan* (*Indian Institute of Technology*);

17:20 Tunable THz Ultrafast Filter Based on Cross-in-square-shaped Resonators Graphene Metasurface
Alexander N. Grebenchukov (*ITMO University*); *A. D. Zaitsev* (*ITMO University*); *M. K. Khodzitsky* (*ITMO University*);

Session 3P3a
Acoustic and Elastic Metamaterials

Wednesday PM, November 22, 2017

Room LT7

Organized by Wonju Jeon

Chaired by Wonju Jeon

14:00 Broadband, Wide-angle and Transparent Acoustic Media in Water
Yun Lai (*Soochow University*); *Chenkai Liu* (*Soochow University*); *Jie Luo* (*Soochow University*);

14:20 Acoustic Cloak in a Viscous Flow
Taeseok Oh (*Korea Advanced Institute of Science and Technology (KAIST)*); *Hyeonbin Ryoo* (*Korea Advanced Institute of Science and Technology (KAIST)*); *Wonju Jeon* (*Korea Advanced Institute of Science and Technology (KAIST)*);

14:40 Applications of Double Zero-refractive-index Acoustic Metamaterials
Wei Zhao (*Soochow University*); *Yu Ting Yang* (*Soochow University*); *Zhi Hong Hang* (*Soochow University*);

15:00 Metamaterial is Artificial Phase Transition
Woon Siong Gan (*Acoustical Technologies Singapore Pte Ltd.*);

15:20 Strain-induced Landau Levels in an Acoustic System
Yahui Yang (*Nanyang Technological University*); *Zhaoju Yang* (*Nanyang Technological University*); *Baile Zhang* (*Nanyang Technological University*);

16:00 **Coffee Break**

Session 3P3b
Metamaterials and Plasmonics

Wednesday PM, November 22, 2017

Room LT7

Chaired by Takashi Hisakado, Konstantinos Daskalakis

16:20 Analysis of Dispersion Splitting on Light Line by Characteristic Roots of Retarded Circuit Equation
Ryoma Nakata (*Kyoto University*); *Takashi Hisakado* (*Kyoto University*); *Tohlu Matsushima* (*Kyoto University*); *Osami Wada* (*Kyoto University*);

16:40 Principle Investigation of Thermal Tunable Hg-metamaterial
Liang Ma (*University of Electronic Science and Technology of China*); *Yongjun Huang* (*University of Electronic Science and Technology of China*); *Jian Li* (*University of Electronic Science and Technology of China*); *Guangjun Wen* (*University of Electronic Science and Technology of China*); *Haobin Zhang* (*Science and Technology on Electronic Information Control Laboratory*); *Le Zuo* (*Science and Technology on Electronic Information Control Laboratory*);

17:00 Influence of Seam Type with Wave Absorbing Sponge on Shielding Effectiveness for Electromagnetic Shielding Clothing
Yaping Li (*Zhongyuan University of Technology*); *Zhe Liu* (*Zhongyuan University of Technology*); *Jiajia Duan* (*Zhongyuan University of Technology*); *Xiuchen Wang* (*Zhongyuan University of Technology*);

17:20 Bose-Einstein Condensation in a Plasmonic Lattice
Tommi K. Hakala (*Aalto University*); *Antti J. Moilanen* (*Aalto University*); *Aaro I. Vakevainen* (*Aalto University*); *Rui Guo* (*Aalto University*); *Jani-Petri Martikainen* (*Aalto University*); *Konstantinos S. Daskalakis* (*Aalto University*); *Heikki T. Rekola* (*Aalto University*); *Aleksi Julku* (*Aalto University*); *Paivi Torma* (*Aalto University*);

17:40 Experimental Realization of Three-dimensional Hyperbolic Cavities in the Microwave Regime
Huijie Guo (*Fudan University*); *Xinwei Li* (*Fudan University*); *Qiong He* (*Fudan University*); *Meng Qiu* (*Fudan University*); *Shulin Sun* (*Fudan University*); *Lei Zhou* (*Fudan University*);

Session 3P4
Microstrip Antenna, Antenna Theory and Radiation 2

Wednesday PM, November 22, 2017

Room LT8

Chaired by Viranjay M. Srivastava, Wasif Tanveer Khan

14:00 Low-temperature Sintered $SrCo_{1.5}Ti_{1.5}Fe_9O_{19}$ Ferrite for High-frequency Antenna Application
R. Vinaykumar (*National Institute of Technology*); *J. Bera* (*National Institute of Technology*);

14:20 Backscattereing Reduction of Dihedreal Corner Reflector with Metallo-dielectric Structure Based on Sierpinsky Carpet Array
Cyriac M. Odackal (*Cochin University of Science and Technology*); *Arimpoorpallan Ouseph Lindo* (*Cochin University of Science & Technology*); *Chandroth Karuvandi Aanandan* (*Cochin University of Science and Technology*); *Thomaskutty Mathew* (*Mahatma Gandhi University Regional Center*);

14:40 A High Gain Six Band Frequency Independent Dual CP Planar Log Periodic Antenna for Ambient RF Energy Harvesting
Hafiz Saad Khaliq (*Lahore University of Management Sciences (LUMS)*); *Muhammad Awais* (*Lahore University of Management Sciences (LUMS)*); *Waleed Ahmad* (*Lahore University of Management Sciences*); *Wasif Tanveer Khan* (*Lahore University of Management Sciences*);

15:00 A Novel Dual-band Millimeter-wave Antenna for Automotive Radar and Multi-gigabit Wireless Communications
Muhammad Awais (*Lahore University of Management Sciences (LUMS)*); *Hafiz Saad Khaliq* (*Lahore University of Management Sciences (LUMS)*); *Wasif Tanveer Khan* (*Lahore University of Management Sciences*);

15:20 A Comparative Analysis of Return Loss for Planar and Cylindrical Surrounding Antenna at 2.4 GHz Application
Umayah Erhiega. N (*University of KwaZulu-Natal*); *Viranjay M. Srivastava* (*University of KwaZulu-Natal*);

16:00 **Coffee Break**

16:20 Circularly-polarized Phased Array at 28 GHz for 5G Mobile Terminals
Shuai Zhang (*Aalborg University*); *Igor Syrytsin* (*Aalborg University*); *Fanping Shi* (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Gert Frolund Pedersen* (*Aalborg University*);

16:40 Study of Terminal Truncation on Log-spiral Antenna Characteristics at Terahertz Frequency
Xing-Yun Zhang (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*); *Jun Dai* (*Beihang University*);

17:20 On the Performance Characteristics of a Thin-wire Zigzag Circular-loop Antenna
Hisham Abubakar Muhammed (*University of Lagos*); *Sulaiman Adeniyi Adekola* (*University of Lagos*); *Alex Ike Mowete* (*University of Lagos*);

Session 3P5
Optics and Photonics

Wednesday PM, November 22, 2017

Room LT11

Chaired by Mikhail I. Vasilevskiy, Varun Raghunathan

14:00 Development of Optical Cavity Used for Laser Electron Beam Interaction
Xing Liu (*University of Paris-Sud*); *Kevin Cassou* (*Universite Paris-Sud*); *Ronic Chiche* (*Universite Paris-Sud*); *Pierre Favier* (*Universite Paris-Sud, CNRS/IN2P3*); *Wenhui Huang* (*Tsinghua University*); *Aurelien Martin* (*Universite Paris-Sud*); *Viktor Soskov* (*Universite Paris-Sud*); *Chuanxiang Tang* (*Tsinghua University*); *Lixin Yan* (*Tsinghua University*); *Fabian Zomer* (*Universite Paris 11*);

14:20 Graphene Nano-ribbons for Molecular Sensing
Andre Souto (*Universidade do Minho*); *Nuno M. R. Peres* (*Universidade do Minho*); *Mikhail I. Vasilevskiy* (*Universidade do Minho*);

14:40 Realization of High-precision Phase Generated Carrier Demodulation Algorithm with Ellipse Fitting Algorithm Based on FPGA
Chaozhu Zhang (*Harbin Engineering University*); *Chenshuo Zhang* (*Harbin Engineering University*); *Changbo Hou* (*Harbin Engineering University*); *Shuai Guo* (*Harbin Engineering University*); *Liangmao Jiang* (*Harbin Engineering University*);

15:00 The Parameter Design for High-performance Digital PGC Demodulation Technique
Shuai Guo (*Harbin Engineering University*); *Zhiyu Qu* (*Harbin Engineering University*); *Changbo Hou* (*Harbin Engineering University*); *Chenshuo Zhang* (*Harbin Engineering University*); *Liangmao Jiang* (*Harbin Engineering University*);

15:20 Optical Properties of Layered Topological Insulators
J. Alex Crosse (*New York University Shanghai & New York University*);

16:00 **Coffee Break**

16:20 Modulator Bias Optimization of a High Extinction-ratio Optical Mach-Zehnder Intensity Modulator for Linear-cell Radar Systems
Atsushi Kanno (*National Institute of Information and Communications Technology*); *Naokatsu Yamamoto* (*National Institute of Information and Communications Technology*); *Tetsuya Kawanishi* (*National Institute of Information and Communications Technology*);

16:40 Efficient Cathodoluminescence of Monolayer Transitional Metal Dichalcogenides in a van der Waals Heterostructure
Shoujun Zheng (*Nanyang Technological University*); *Jin-Kyu So* (*Nanyang Technological University*); *Fucai Liu* (*Nanyang Technological University*); *Zheng Liu* (*Nanyang Technological University*); *Nikolay I. Zheludev* (*University of Southampton*); *Hong Jin Fan* (*Nanyang Technological University*);

17:00 Wave Impedance Analysis of Modes of Photonic Crystal Surface Emitting Lasers
Guangrui Li (*University of Glasgow*); *Jayanta Sarma* (*University of Sheffield*); *Richard A. Hogg* (*The University of Sheffield*);

17:20 Soliton Induced Pulse Compression in Dispersion Engineered Silicon Waveguides under the Influence of Multi-photon Absorption Processes
Varun Raghunathan (*Indian Institute of Science*); *Sutapa Ghosh* (*Indian Institute of Science*);

17:40 Analysis of a Series of FBG Sensors Using Neural Network
Lili Yuan (*Muroran Institute of Technology*); *Yao Zhao* (*Muroran Institute of Technology*); *Ryusuke Kubota* (*Muroran Institute of Technology*); *Hirokazu Sato* (*Muroran Institute of Technology*); *Shinya Sato* (*Muroran Institute of Technology*);

Session 3P6
Application of EM Field in Medical Diagnostics and Therapy

Wednesday PM, November 22, 2017

Room LT12

Organized by Jan Vrba, Jr., David Vrba

Chaired by Jan Vrba, Jr., David Vrba

14:00 Making and Evaluation of Breast Cancer Phantom for Microwave Mammography
Toshiyuki Tanaka (*Nagasaki University*); *Hikari Yoshimatsu* (*Nagasaki University*); *Chizuru Shinkura* (*Nagasaki University*);

14:20 Microwave MTM-based Sensor for Blood Glucose Concentration Measurement: Sensitivity Analysis by Means of Numerical Simulations
Jan Vrba, Jr. (*Czech Technical University in Prague*); *J. Platzer* (*Czech Technical University in Prague*); *Ondrej Fiser* (*Czech Technical University in Prague*); *Ilja Merunka* (*Czech Technical University in Prague*); *David Vrba* (*Czech Technical University in Prague*);

14:40 Electric and Magnetic Field Distribution Verification of rTMS Treatment for Patient with Orofacial Pain
David Vrba (*Czech Technical University in Prague*); *Lukas Malena* (*Czech Technical University in Prague*); *Jakub Albrecht* (*Charles University Prague*); *Jitka Fricova* (*Charles University Prague*); *Martin Anders* (*Charles University Prague*); *Richard Rokyta* (*Charles University Prague*); *Jan Vrba* (*Czech Technical University in Prague*);

15:00 Influence of Media Type on Heating of Selected Magnetic Nanoparticles with Time-harmonic Magnetic Fields
Jan Vrba, Jr. (*Czech Technical University in Prague*); *L. Vannucci* (*Academy of Sciences of the Czech Republic*); *Vitezslav Pankrac* (*Czech Technical University in Prague*); *M. Babic* (*Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic*); *David Vrba* (*Czech Technical University in Prague*);

15:20 The Possibility Verification of Thermal Effect during Cortical Stimulation
Jan Vrba (*Czech Technical University in Prague*); *Miroslav Blaha* (*Czech Technical University in Prague*); *Radek Janca* (*Czech Technical University in Prague*); *Petr Jezdik* (*Czech Technical University in Prague*); *Pavel Krsek* (*Charles University in Prague, Motol University Hospital*); *David Vrba* (*Czech Technical University in Prague*);

15:40 Numerical Study of Propagation of EM Waves through Human Head
J. Tesarik (*Czech Technical University in Prague*); *Jan Vrba, Jr.* (*Czech Technical University in Prague*); *David Vrba* (*Czech Technical University in Prague*);

16:00 **Coffee Break**

16:20 Extraction of Electrical Properties of Strokes from Magnetic Resonance Scans — Testing on Simplified Head Phantoms
L. F. Diaz (*Czech Technical University in Prague*); *Jan Vrba, Jr.* (*Czech Technical University in Prague*); *David Vrba* (*Czech Technical University in Prague*);

16:40 Theoretical Analysis of Wireless Charging with Maximum Power for Biomedical Applications
Zengdi Bao (*National University of Singapore*); *Yong-Xin Guo* (*National University of Singapore*); *Raj Mittra* (*University of Central Florida*);

17:00 Systematic Investigation of Microstrip Line Sensors for Non-invasive Glucose Monitoring
Omkar (*Singapore University of Technology and Design*); *Yu Yoshida* (*Chiba University*); *Wenchuan Mu* (*Singapore University of Technology and Design*); *Adan Garcia* (*Chiba University*); *Yu Song Meng* (*Agency for Science, Technology and Research (A*STAR)*); *Wen Wei Yu* (*Chiba University*); *Shao Ying Huang* (*Singapore University of Technology and Design*);

17:20 Monitoring Microwave Power Deposition in Breast Cancer Hyperthermia by Compressive Thermoacoustic Imaging
Xiong Wang (*ShanghaiTech University*); *Lifan Xu* (*ShanghaiTech University*);

Session 3P7a
Over-the-Horizon Radar in the HF Band

Wednesday PM, November 22, 2017

Room LT13

Organized by Stuart John Anderson, Hongbo Sun

Chaired by Stuart John Anderson, Hongbo Sun

14:00 HF Radar Signatures of Ship Wakes
Stuart John Anderson (*University of Adelaide*);

14:20 Wind Direction Measurements Using HF Ground Wave Radars Based on a Circular Receive Array
Chen Zhao (*Wuhan University*); *Zezong Chen* (*Wuhan University*); *Chao He* (*Wuhan University*); *Fei Xie* (*Wuhan University*); *Xi Chen* (*Wuhan University*);

14:40 Influence of the Ionosphere and the Troposphere on the Propagation of Radio Waves in the Detection of Space Debris Objects Using Multi-position Radar System
A. I. Baskakov (*National Research University "Moscow Power Engineering Institute"*); *Aleksey Aleksandrovich Komarov* (*National Research University "Moscow Power Engineering Institute"*); *Mikhail Sergeyevich Mikhailov* (*National Research University "Moscow Power Engineering Institute"*); *Valery A. Permyakov* (*Moscow Power Engineering Institute (Technical University)*);

15:00 Space-borne Passive HF Radar for Surveillance and Remote Sensing
Stuart John Anderson (*University of Adelaide*);

15:20 Evaluation of Two Architectures for Target Detection and Data Fusion by HFSWR
Zezong Chen (*Wuhan University*); *Chao He* (*Wuhan University*); *Chen Zhao* (*Wuhan University*); *Fei Xie* (*Wuhan University*);

16:00 **Coffee Break**

Session 3P7b
Space, Propagation/Scattering and Measurements

Wednesday PM, November 22, 2017

Room LT13

Organized by George Jandieri

Chaired by George Jandieri

16:20 Invited Scintillation Effects of HF Electromagnetic Waves and New Type MHD Waves in F Region of the Ionosphere
George Vakhtang Jandieri (*Georgian Technical University*); *Zhuzhuna Diasamidze* (*Batumi Shota Rustaveli State University*); *Rahul Kaushik* (*Jaypee Institute Of Information Technology*);

16:40 Invited CubeSat Mission for Ionosphere Mapping and Weather Forecasting Using Chip-scale Atomic Clock
Kateryna Aheieva (*Kyushu Institute of Technology*); *Rahmi Rahmatillah* (*Kyushu Institute of Technology*); *Ryotaro Ninagawa* (*Kyushu Institute of Technology*); *Ibukun Oluwatobi Adebolu* (*Kyushu Institute of Technology*); *Hirokazu Masui* (*Kyushu Institute of Technology*); *Takashi Yamauchi* (*Kyushu Institute of Technology*); *Sangkyun Kim* (*Kyushu Institute of Technology*); *Mengu Cho* (*Kyushu Institute of Technology*); *Chee Lap Chow* (*Nanyang Technological University*); *Man Siu Tse* (*Nanyang Technological University*); *King Ho Holden Li* (*Nanyang Technological University*);

17:00 Invited Features of OFDM Signals Delay Tracking for Navigation and Radio Location
Ilya V. Korogodin (*Moscow Power Engineering Institute*);

17:20 A Simulation Study of the Effect of Ionospheric Vertical Gradients on the Neutral Bending Angle Error for GNSS Radio Occultation
Vinícius Ludwig Barbosa (*Blekinge Institute of Technology*); *Joel Rasch* (*Molflow*); *Anders Carlstrom* (*RUAG Space AB*); *Mats I. Pettersson* (*Belkinge Inst Technol*); *Viet Thuy Vu* (*Blekinge Institute of Technology*);

Session 3P8
SC5: SAR/ISAR Imaging and Signal Processing

Wednesday PM, November 22, 2017
Room LT14
Organized by Mengdao Xing
Chaired by Junjie Wu

14:00 Development of the Quad-polarization Transponder for GF-3 SAR
Liang Li (*Institute of Electronics, Chinese Academy of Science*); *Jun Hong* (*Institute of Electronics, Chinese Academy of Science*); *Yongtao Zhu* (*Institute of Electronics, Chinese Academy of Science*); *Feng Ming* (*Institute of Electronics, University of Chinese Academy of Sciences*);

14:20 A Pencil Drawing Algorithm Based on Wavelet Transform Multiscale
Chunhui Zhao (*Harbin Engineering University*); *Bing Gao* (*Harbin Engineering University*); *Weiwei Deng* (*Harbin Engineering University*); *Hongyu Zhang* (*Harbin Engineering University*);

14:40 Imaging under Irregular Surface Using Microwave Holography
Vladimir V. Razevig (*Bauman Moscow State Technical University*); *Andrey V. Zhuravlev* (*Bauman Moscow State Technical University*); *Alexander S. Bugaev* (*Moscow Institute of Physics and Technology*); *Margarita A. Chizh* (*Bauman Moscow State Technical University*); *Sergey I. Ivashov* (*Bauman Moscow State Technical University*);

15:00 Measurement and Compensation of Frequency-dependent Antenna Phase Center Position for Microwave Holography Applications
Vladimir V. Razevig (*Bauman Moscow State Technical University*); *Andrey V. Zhuravlev* (*Bauman Moscow State Technical University*); *Alexander S. Bugaev* (*Moscow Institute of Physics and Technology*); *Margarita A. Chizh* (*Bauman Moscow State Technical University*);

15:20 Combing Single Shot MultiBox Detector with Transfer Learning for Ship Detection Using Chinese Gaofen-3 Images
Yuanyuan Wang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Cheng Zhang* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*);

15:40 A Novel Ship Detection Method Based on Shannon Entropy in Chinese Gaofen-3 Fully Polarimetric SAR Images
Cheng Zhang (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*); *Hong Zhang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Chao Wang* (*Institute of Remote Sensing and Digital Earth, CAS*); *Qiaoyan Fu* (*China Center for Resources Satellite Date and Application*); *Lu Xu* (*Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences*);

16:00 **Coffee Break**

16:20 Validation of the Increased Image Resolution Obtained Using TOPSAR Sentinel-1 Data in a Bistatic Setup
Virginie Kubica (*Royal Military Academy*); *Xavier Neyt* (*Royal Military Academy*); *Hugh D. Griffiths* (*University College London*);

16:40 SAR Moving Target Range Cell Migration Correction Using Positive and Negative Second-order Keystone Transform
Junjie Wu (*University of Electronic Science and Technology of China*); *Zhichao Sun* (*University of Electronic Science and Technology of China*); *Yi Lan* (*University of Electronic Science and Technology of China*); *Zhongyu Li* (*University of Electronic Science and Technology of China*); *Jianyu Yang* (*University of Electronic Science and Technology of China*); *Yulin Huang* (*University of Electronic Science and Technology of China*);

17:00 ISAR Imaging and Target Characterization in the Presence of Multiplicative Noise
Jon Mitchell (*The University of Texas at Arlington*); *Saibun Tjuatja* (*University of Texas at Arlington*);

17:20 Study about Ionospheric Effects Induced by Irregularities on MEOSAR Range Imaging Quality
Liang Li (*Institute of Electronics, Chinese Academy of Science*); *Jun Hong* (*Institute of Electronics, Chinese Academy of Science*); *Liangjiang Zhou* (*Institute of Electronics, Chinese of Sciences*); *Ming Feng* (*Institute of Electronics, Chinese of Sciences*);

17:40 Raw Data Simulation of Large Scale Environments Including Complex Targets for Synthetic SAR Image Generation
Nicolas Douchin (*OKTAL Synthetic Environment*); *Paul Pitot* (*OKTAL Synthetic Environment*);

Session 3P9a
Extended/Unconventional Electromagnetic Theory, EHD(Electro-hydrodynamics)/EMHD(Electro-magneto-hydrodynamics), and Electro-biology

Wednesday PM, November 22, 2017

Room LT15

Organized by Eva Gescheidtova

Chaired by Petr Drexler

14:00 The Electromagnetic Properties of a Resonant Structure Formed from Inorganic or Organic Elements
Petr Drexler (*Brno University of Technology*); *Pavel Fiala* (*Brno University of Technology*); *Premysl Dohnal* (*Brno University of Technology*); *Petr Marcon* (*Brno University of Technology*);

14:20 Calculating Magnetic Susceptibility from the Reaction Field in the Vicinity of Differently Shaped Samples
Petr Marcon (*Brno University of Technology*); *Karel Bartusek* (*Institute of Scientific Instruments of the ASCR*); *Premysl Dohnal* (*Brno University of Technology*);

14:40 A Numerical Analysis of a Periodic Resonant Structure at GHz Frequencies
Tomas Kriz (*Brno University of Technology*); *Petr Drexler* (*Brno University of Technology*); *Radim Kadlec* (*Brno University of Technology*);

15:00 The Novel Technique of Linear Birefringence Compensation in Optical Fiber Sensors Using Phase Retarders
Rastislav Motuz (*Brno University of Technology*); *Petr Drexler* (*Brno University of Technology*);

16:00 **Coffee Break**

Session 3P9b
Electromagnetic Modeling, Inversion and Applications 2

Wednesday PM, November 22, 2017

Room LT15

Organized by Jianhua Li, Ganquan Xie

Chaired by Ganquan Xie, Shigu Cao

16:20 Non-spherical Wheel System
Shigu Cao (*Shenzhen Inequation Technology Co. Ltd.*);

Session 3P10
Microwave and Millimeter Wave Circuits and Devices, CAD 2

Wednesday PM, November 22, 2017

Room LT16

Chaired by Priyanka Mondal

14:00 Design of a 16.5–25.5 GHz 0.18-µm SiGe BiCMOS Power Amplifier
Meng-Jie Hsiao (*Texas A&M University*); *Cam Nguyen* (*Texas A&M University*);

14:20 A Dual-band Subharmonic Mixer with High RF-IF Isolation
Kumari Pushpa (*National Institute of Technology Patna*); *Priyanka Mondal* (*National Institute of Technology Patna*); *Abinash Singh* (*Indian Institute of Technology Kharagpur*);

14:40 High Peak Power IR-UWB Pulse Generator for Long Range Indoor Localization
Md. Arif Hussain Ansari (*Nanyang Technological University*); *Manmohan Sharma* (*Nanyang Technological University*); *Choi Look Law* (*Nanyang Technology University*);

15:00 Design of High Isolation System for Monostatic X-band Radar
Yanuar Prabowo (*University of Indonesia*); *Fitri Yuli Zulkifli* (*University of Indonesia*);

15:20 GaN Based Tunnel Field Effect Transistor for Terahertz Applications
Manjula Vijh (*Amity University Uttar Pradesh*); *R. S. Gupta* (*Maharaja Agrasen Institute of Technology*); *Sujata Pandey* (*Amity University*);

16:00 **Coffee Break**

16:20 A Digital Transmitter for Contact-less In-vehicle Data Communication
Hang Liu (*Institute of Microelectronics, A*STAR*); *Jaeyoung Choi* (*Institute of Microelectronics, A*STAR*); *Sungwoo Cha* (*DENSO Corporation*);

16:40 Design of Self-powered Wireless Telemetry System for Marine Thruster Condition Monitoring
Rabeek S. Mohamed (*Institute of Microelectronics, A*STAR*); *Arasu Muthukumaraswamy Annamalai* (*Institute of Microelectronics, A-STAR*);

17:00 A 2.1 ps RMS Jitter MEMS-based Temperature Stable Timing Device with Single Point Calibration Temperature Sensor
Dan Lei Yan (*A*STAR*); *Jayce Lim Lay Keng* (*A*STAR*); *Jacky Yu-Shun Wang* (*A*STAR*); *Pyoungwon Park* (*A*STAR*); *Jing Hui Xu* (*A*STAR*);

17:20 A Photonics-assisted Instantaneous Frequency Measurement Receiver
Chunjie Zhang (*Harbin Engineering University*); *Longqi Yang* (*Harbin Engineering University*); *Shanshuang Li* (*Harbin Engineering University*);

Session 3P11
RF and Wireless Communication, Multipath

Wednesday PM, November 22, 2017

Room LT17

Chaired by Hassan El-Sallabi

14:00 Reputation-based Beta Reputation System against SSDF Attack in Cognitive Radio Networks
Ping Bai (*Harbin Engineering University*); *Xun Zhang* (*Harbin Engineering University*); *Fang Ye* (*Harbin Engineering University*);

14:20 An MMSE-EIC Equalization for FBMC/OQAM Systems
Zhongqiu He (*Harbin Engineering University*); *Rui Qian* (*Harbin Engineering University*);

14:40 Improvement in Accuracy of Breakpoint Distance Model for Path Loss Prediction
Hassan El-Sallabi (*Emiri Signal and Information Technology Corps*); *Abdulaziz Aldosary* (*Emiri Signal and Information Technology Corps*); *Yahia Basahl* (*Emiri Signal and Information Technology Corps*); *Jean-Francois Chamberland* (*Texas A&M University*);

15:00 Evidence-theory-based Collaborative Spectrum Sensing with Efficient Creditability Evaluation in Cognitive Radio Networks
Fang Ye (*Harbin Engineering University*); *Xun Zhang* (*Harbin Engineering University*);

15:20 A Joint-optimization NLMS Algorithm with Linear Function Approximation Penalty for Sparse Channel Estimation
Yanyan Wang (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Fanping Shi* (*Harbin Engineering University*);

16:00 **Coffee Break**

16:40 Mixing Matrix Estimation of MIMO Radar Based on Adaptive Hierarchical Clustering Algorithm for Underdetermined Blind Source Separation
Jianhong Xiang (*Harbin Engineering University*); *Chen Li* (*Harbin Engineering University*); *Qiang Guo* (*Harbin Engineering University*);

17:00 Combining Time-frequency Analysis and Array Processing for Multi-interferences Mitigation in GNSS Application
Liangang Qi (*Harbin Engineering University*); *Qiang Guo* (*Harbin Engineering University*);

	SUNDAY AM 9:00 November 19	SUNDAY PM 14:00 November 19		MONDAY AM 9:00 November 20		MONDAY PM 14:00 November 20	
ROOM LT5	0A1 - Advanced Materials and Devices for Optical and Mechanical Applications 1	0P1 - Advanced Materials and Devices for Optical and Mechanical Applications 2		1A1 - Modeling, Numerical Simulation and Theory in Optics and Photonics 1		1P1 - THz Spintronics with Ferrimagnets and Dirac/Weyl Materials 1	
ROOM LT6	0A2 - Liquid Crystal Photonics 1	0P2a - Liquid Crystal Photonics 2	0P2b - Oral Presentations for Best Student Paper Awards -- Antennas and Microwave Technologies	1A2a - Label-free Optical Nanobiosensors for Bio-diagnostics, Environmental Monitoring and Food Safety	1A2b - Memorial Session for Professor Kenneth K. Mei	1P2 - Nano-photonic Devices: Pushing the Frontier for Optical Interconnects and Optical Sensing	
ROOM LT7	0A3 - Microwave and THz Plasmonic Metamaterials 1	0P3a - Microwave and THz Plasmonic Metamaterials 2	0P3b - Novel Materials and Designs for Absorption of Wave Energy 1	1A3 - Novel Materials and Designs for Absorption of Wave Energy 2		1P3 - Novel Materials and Designs for Absorption of Wave Energy 3	
ROOM LT8	0A4 - High-performance Antennas for Millimeter-wave and THz Applications	0P4 - RFID, Wearable Antenna, and Metamaterials Antenna		1A4 - Novel Frequency Selective Structures		1P4 - Surface Electromagnetics: From Metasurface Physics to Engineering Applications	
ROOM LT11	0A5 - Plasmonic Nanophotonics 1	0P5a - Plasmonic Nanophotonics 2	0P5b - Advanced Antenna Technologies for 5G	1A5 - Photonic Nanostructures for Enhancing Light-matter Interaction 1		1P5a - Photonic Nanostructures for Enhancing Light-matter Interaction 2	1P5b - Light Manipulation, Propagation and Application 1
ROOM LT12	0A6 - Resonators, Filters, Interconnects, Packaging, MMIC	0P6 - Electromagnetic Waves in Complex Nanostructures		1A6a - Oral Presentations for Best Student Paper Awards -- Metamaterials, Plasmonics and Complex Media	1A6b - Oral Presentations for Best Student Paper Awards -- Remote Sensing, etc.	1P6 - THz and Biosystems	
ROOM LT13	0A7 - Theoretical Models and Applications in Microwave Remote Sensing	0P7 - Microwave Remote Sensing of Ocean		1A7 - Microwave Remote Sensing of Soil Moisture		1P7a - Remote Sensing for Water Cycle Applications	1P7b - Remote Sensing of the Earth, Ocean, and Atmosphere
ROOM LT14	0A8 - SAR Scattering and Imaging	0P8 - Sensor Development and Application		1A8 - Inverse Problems for Scientific, Industrial and Biomedical Applications 1		1P8 - Electromagnetic Scattering and Applications	

	SUNDAY AM 9:00 November 19	SUNDAY PM 14:00 November 19		MONDAY AM 9:00 November 20	MONDAY PM 14:00 November 20	
ROOM LT15	0A9 - Advanced Numerical Techniques in Computational Electromagnetics	0P9 - Advanced Solution Methods for Modeling Complex EM Problems		1A9 - Novel Mathematical Methods in Electromagnetics	1P9 - Computational Techniques in Electromagnetics and Applications	
ROOM LT16	0A10 - High Power Microwave and EMC Problems 1	0P10a - High Power Microwave and EMC Problems 2	0P10b - Imaging and Super-resolution Techniques for Biomedical Imaging Problems	1A10 - Advances in RFID	1P10a - Modeling, Numerical Simulation and Theory in Optics and Photonics 2	1P10b - Spintronic and EM Physics in Ferromagnetic, Diamond, and Dirac Materials
ROOM LT17	0A11 - Optical Field Manipulation and Its Applications	0P11a - Oral Presentations for Best Student Paper Awards -- CEM, EMC, Scattering & EM Theory	0P11b - Oral Presentations for Best Student Paper Awards -- Optics and Photonics	1A11 - 5G Communication Electromagnetic Issues	1P11a - Education for Electromagnetics	1P11b - Power Electronics
ROOM LT18	0A12 - Recent Advances in MIMO and Smart Antenna Systems, Physical Layer Encryption, Waveform Design and Rate Control on Dynamic Networks in Communication	0P12 - Antennas for Radar Applications		1A12 - Recent Technology on Circularly Polarized Antennas	1P12 - Practical Antenna Designs for Wireless Communication Systems and Mobile Devices	
ROOM TR+29 - TR+36	0A0 - Poster Session 1	0P0 - Poster Session 2		1A0 - Poster Session 3	1P0 - Poster Session 4	

	TUESDAY AM 9:00 November 21	TUESDAY PM 14:00 November 21	WEDNESDAY AM 9:00 November 22	WEDNESDAY PM 14:00 November 22
ROOM LT5	2A1 - THz Spintronics with Ferrimagnets and Dirac/Weyl Materials 2	2P1 - THz Spintronics with Ferrimagnets and Dirac/Weyl Materials 3	3A1 - Optical Fiber Lasers and Fiber Sensors	3P1 - Wireless and Optical Systems, Networking and Security
ROOM LT6	2A2 - Silicon Photonics 1	2P2a - Silicon Photonics 2 2P2b - Hybrid Integration for Future Convergence of Photonics and Electronics	3A2 - Hybrid Plasmonics and Nanophotonics: Novel Functionalities and Device Applications	3P2a - Optical Image/Signal Processing and Applications 3P2b - Terahertz Photonics
ROOM LT7	2A3 - Metamaterials and Transformation Optics 1	2P3 - Metamaterials and Transformation Optics 2	3A3 - Metamaterials and Transformation Optics 3	3P3a - Acoustic and Elastic Metamaterials 3P3b - Metamaterials and Plasmonics
ROOM LT8	2A4 - Antenna Array, Phased Array and Reconfigurable Array	2P4 - Small Antennas: Session in Honor of Kyohei Fujimoto's 88th Birthday	3A4 - Microstrip Antenna, Antenna Theory and Radiation 1	3P4 - Microstrip Antenna, Antenna Theory and Radiation 2
ROOM LT11	2A5 - Light Manipulation, Propagation and Application 2	2P5a - Light-matter Interaction in Hybrid Waveguides: Fundamentals 2P5b - Light-matter Interaction in Hybrid Waveguides: High-field	3A5 - Advanced Optofluidics: Optical Control and Photonics with Fluid	3P5 - Optics and Photonics
ROOM LT12	2A6a - Electromagnetic and Optical Properties of Photonic Materials, Structures, and Crystals 2A6b - Industrial Workshop by CST --- Computer Simulation Technology	2P6 - Quantum Information Processing Devices	3A6 - Electromagnetic Characterization of Composite Materials	3P6 - Application of EM Field in Medical Diagnostics and Therapy
ROOM LT13	2A7 - Micro-doppler Effect and Its Applications	2P7 - Light Scattering and Radiative Transfer: Basic Research and Applications	3A7 - Electromagnetics at the Heart of the Magnetic Resonance Imaging (MRI)	3P7a - Over-the-Horizon Radar in the HF Band 3P7b - Space, Propagation/Scattering and Measurements
ROOM LT14	2A8 - Inverse Problems for Scientific, Industrial and Biomedical Applications 2	2P8 - Inverse Problems for Scientific, Industrial and Biomedical Applications 3	3A8a - Remote Sensing and Polarimetry, SAR, GPR 3A8b - Microwave and Millimeter Wave Circuits and Devices, CAD 1	3P8 - SAR/ISAR Imaging and Signal Processing

	TUESDAY AM 9:00 November 21		TUESDAY PM 14:00 November 21		WEDNESDAY AM 9:00 November 22	WEDNESDAY PM 14:00 November 22	
ROOM LT15	2A9 - Design and Simulation of Electromagnetic and Optical Devices 1		2P9a - Advanced Manufacturing Technologies for Microwave and Millimetre-wave Devices	2P9b - Design and Simulation of Electromagnetic and Optical Devices 2	3A9 - Electromagnetic Modeling, Inversion and Applications 1	3P9a - Extended/Unconventional Electromagnetic Theory, EHD/EMHD, and Electro-biology	3P9b - Electromagnetic Modeling, Inversion and Applications 2
ROOM LT16	2A10a - Energy Harvesting Methods and Components	2A10b - Wireless Power Transfer and Harvesting	2P10 - EMC, SI & PI: Modeling, Measurement and Applications		3A10 - Microwave and Millimeter-wave IC Design Techniques	3P10 - Microwave and Millimeter Wave Circuits and Devices, CAD 2	
ROOM LT17	2A11 - Sensor Array Signal Processing and Applications		2P11a - Electromagnetic Signal Processing, Wavelets, Neural Network	2P11b - MIMO Systems and Techniques	3A11 - Radio Wave Propagation and Wireless Channel Modeling 1	3P11 - RF and Wireless Communication, Multipath	
ROOM LT18	2A12 - Compact Multi Band Antennas Design and Its Applications		2P12a - Metamaterial Antennas	2P12b - Compact Multi Band Antennas Design and Its Applications 2	3A12 - Interaction Electromagnetic Waves with Laboratory and Space Plasma		
ROOM TR+29 - TR+36	2A0 - Poster Session 5		2P0 - Poster Session 6		3A0 - Poster Session 7		

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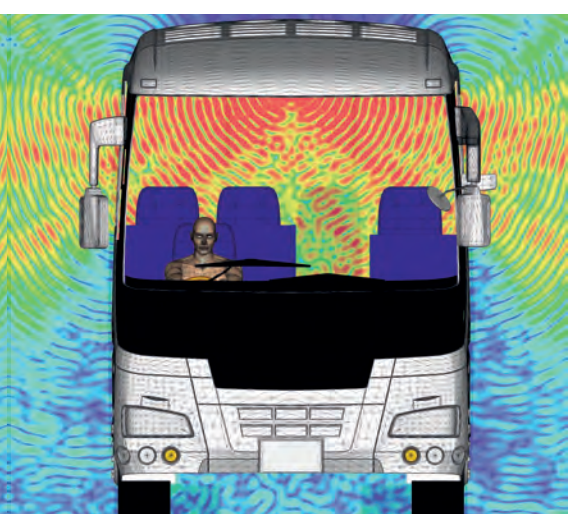
Find the simple way through complex EM systems with CST STUDIO SUITE



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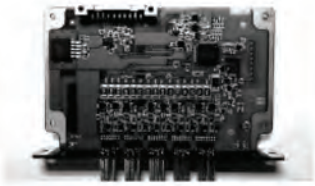
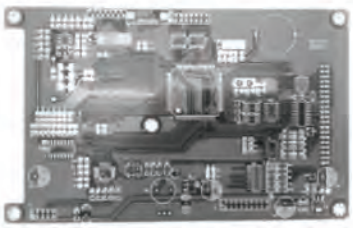


PCB FABRICATION

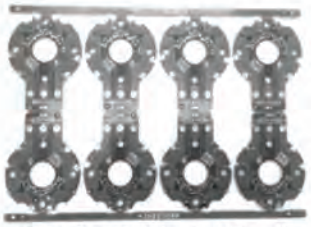
PCB ASSEMBLY

COMPONENT SOURCING

Gallery



PCB Communications Board



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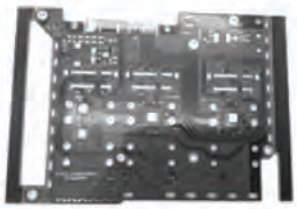
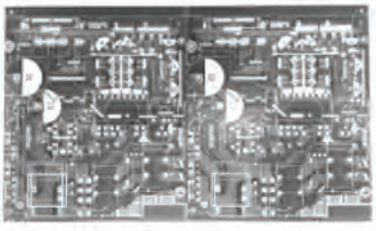
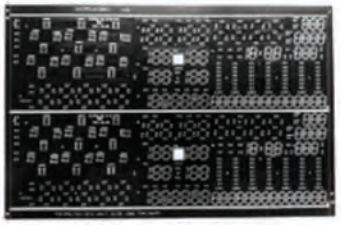


PCB Computer Accessories Board

PCB Medical Board



PCB Power Supply Board

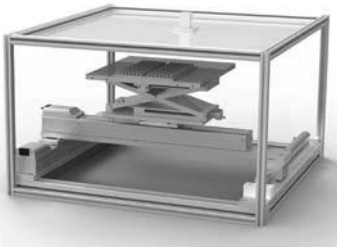


PCB Domestic Board

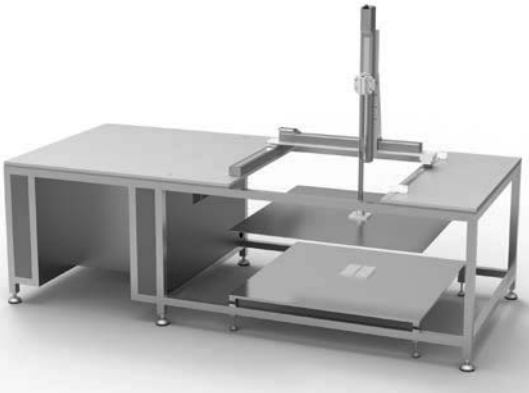
LINBOU Nearfield Imaging System

Surface Wave Measured by LINBOU System.

LINBOU systems visualize electromagnetic wave propagation in free space, media, reciprocal space and time domain, from near-field to far-field, for applications such as metamaterial characterization, antenna measurement and EMC test.



NFS02 Desktop Version



NFS03 Cabinet Version

Measurement Examples of LINBOU System

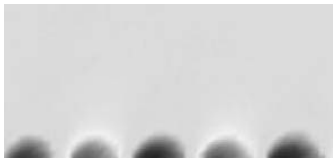
Freespace

Wave Propagation in Free Space

Media

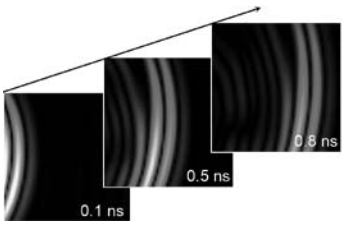
Wave Bending in Photonic Crystal

Surface



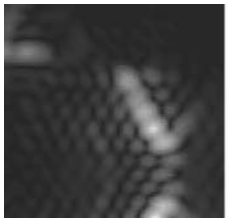
Surface Wave (Cross section)

Time Domain



Pulse Evolution

Reciprocal Space



Momentum Space

Farfield

Radiation Pattern of an iPhone Antenna

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