Monday, April 7
08:00 - 09:20
Registration
Room: Exhibition Foyer
09:20 - 10:10
Opening Session
Session type: Plenary
Room: Theater
Chairs: Peter de Maagt (European Space Agency, The Netherlands), Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)
10:10 - 10:50
Opening Session
Session type: Keynote
Application track: Biomedical
Room: Theater
10:10 ***RF for Healthcare: Diagnose, Treat, Monitor and Support***
Jean-Paul Linnartz (Philips Research, The Netherlands)
10:50 - 11:20
Coffee Break
Room: Exhibition Foyer
11:20 - 12:00
Wireless LAN - Quo vadis?
Session type: Opening Session
Application track: Wireless Networks and RF Sensors
Room: Theater
11:20 ***Wireless LAN - Quo Vadis?***
Richard van Nee (Qualcomm, The Netherlands)
12:00 - 12:40
Opening Session
Session type: Keynote
Application track: Defense & Security
Room: Theater
12:00 ***Return-to-Flight Electromagnetic Measurements - The NASA Shuttle Ascent Debris Radar System***
Brian M Kent (Air Force Research Laboratory, USA)
12:40 - 14:00
Lunch Break
Room: Atlantic
14:00 - 16:00
IET Antennas & Propagation Network: New Antenna Systems Involving Metamaterials and Metasurfaces
Session type: Convened
Application track: Fundamental Research
Room: Amazon
Chairs: Rob Lewis (BAE Systems Advanced Technology Centre, United Kingdom), Stefano Maci (University of Siena, Italy)
14:00 ***Patch Antennas on Metamaterial Substrates***
J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom); Chinwe Njoku (Loughborough University, United Kingdom); William Whittow (Loughborough University,
14:20 ***Robust Low-profile Metasurface-Enabled Wearable Antennas for Off-Body Communications***
Zhi Hao Jiang (The Pennsylvania State University, USA); Douglas H Werner (Pennsylvania State University, USA)
14:40 ***A Miniaturised Dual Band Artificial Magnetic Conductor Using Interdigital Capacitance***
Rola Saad (University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom)
15:00 ***A Frequency-Tunable Metamaterial-Based Antenna Using a Reconfigurable AMC Groundplane***
MArco Salucci (ELEDIA Research Center, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Micah Gregory (The Pennsylvania State University, USA); Douglas H Werner (Pennsylvania State University, USA); Andrea Massa (University of Trento, Italy)
15:20 ***Study of a Flexible Low Profile Tunable Dipole Antenna Using Barium Strontium Titanate Varactors***
David Cure (Kymeta Corporation, USA); Thomas Weller (University of South Florida, USA); Felix Miranda (NASA John H. Glenn Research Center, USA)
15:40 ***Conical Horn Antennas with Enhanced Functionalities Through the Use of Metamaterial Concepts***
Mirko Barbuto ("Niccolò Cusano" University, Italy); Davide Ramaccia (University of Rome RomaTre, Italy); Fabrizio Trotta (Elettronica S.p.A., Italy); Alessandro Toscano (University Roma Tre (IT), Italy); Filiberto Bilotti (University Roma Tre, Italy)
16:00 - 16:20
Coffee Break
Room: Exhibition Foyer
16:20 - 18:20
IET Antennas & Propagation Network: New Antenna Systems Involving Metamaterials and Metasurfaces
Session type: Convened
Application track: Fundamental Research

Room: Amazon

Chairs: Rob Lewis (BAE Systems Advanced Technology Centre, United Kingdom), Stefano Maci (University of Siena, Italy)

16:20 ***Metamaterial Huygens' Surfaces From Microwave to Optical Frequencies***

Carl Pfeiffer (University of Michigan, USA); Anthony Grbic (University of Michigan, Ann Arbor, USA)

16:40 ***The Anti-Fish Eye Cloak for Surface Wave Antennas***

Rhiannon C Mitchell-Thomas (Queen Mary, University of London, United Kingdom); Oscar Quevedo-Teruel (KTH Royal Institute of Technology, Sweden); Tim M McManus (Queen Mary University of London, United Kingdom); Simon Horsley (University of Exeter, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

17:00 ***Conformal Surface Lenses From a Bed of Nails***

Oscar Quevedo-Teruel (KTH Royal Institute of Technology, Sweden); Rhiannon C Mitchell-Thomas (Queen Mary, University of London, United Kingdom); Tim M McManus (Queen Mary University of London, United Kingdom); Simon Horsley (University of Exeter, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

17:20 ***Reconfigurable Transmission Lines Based on Self-Complementary Metasurfaces***

David González-Ovejero (Università degli Studi di Siena, Italy); Enrica Martini (University of Siena, Italy); Brigitte Loiseaux (Thales Research & Technology, France); Charlotte Tripon-Canseliet (Université Pierre et Marie Curie, France); Jean-Maurice Chazelas (Thales Aerospace Division, France); Stefano Maci (University of Siena, Italy)

17:40 ***A Metasurface for RCS Reduction***

Qiang Cheng (Southeast University, China, P.R. China); Wenxuan Tang (Southeast University, P.R. China); Huifeng Ma (Southeast University, P.R. China); Wei Xiang Jiang (Southeast University, P.R. China); Di Bao (Southeast University, P.R. China)

18:00 ***Structural Modification of Mushroom EBG for Wider Band Gap, Reduced Design Complexity and Compactness***

Khadim Ullah Jan (FAST-NUCES National University of Computer & Emerging Sciences, Peshawar, Pakistan); Shahid Bashir (University of Engineering & Technology Peshawar, Pakistan); Haider Ali (King Fahd University of Petroleum & Minerals, Saudi Arabia); Muhammad Khan (University of Engineering & Technology Peshawar Pakistan, Pakistan); Dawar Awan (University of Engineering and Technology Peshawar, Pakistan); Ahmad Shah (University of Engineering and Technology Peshawar, Pakistan)

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Microfluidic Technology for Flexible and Reconfigurable Antennas

Session type: Convened

Application track: Fundamental Research

Room: Mississippi

Chairs: Ozlem Aydin Civi (Middle East Technical University, Turkey), Gregory Huff (Texas A&M University, USA)

14:00 ***A Novel Fluidic Switch for High Power Applications***

Joel Barrera (Texas A&M University, USA); Anthony Griffin (University of Illinois at Urbana-Champaign, USA); Scott White (University of Illinois at Urbana-Champaign, USA); Nancy Sottos (University of Illinois at Urbana-Champaign, USA); Jennifer T. Bernhard (University of Illinois at Urbana-Champaign & Electromagnetics Laboratory, USA); Gregory

14:20 ***A Reconfigurable Nested Ring-Split Ring Transmitarray Unit Cell by Microfluidic Technology***

Emre Erdil (Middle East Technical University, Turkey); Kagan Topalli (TED University, Turkey); Nasim Seyedpour Esmaeilzad (Middle East Technical University, Turkey); Ozge Zorlu (METU-MEMS Research and Applications Centre, Turkey); Haluk Kulah (METU, Turkey); Ozlem Aydin Civi (Middle East Technical University, Turkey)

14:40 ***Digital Microfluidics for Reconfigurable Antennas***

Necmi Biyikli (Bilkent University & UNAM, National Nanotechnology Research Center, Turkey)

15:00 ***Integration of Microfluidic Channels with Frequency Selective Surfaces for Sensing and Tuning***

Sumanth Pavuluri (Heriot-Watt University, United Kingdom); Carolina Mateo-Segura (Heriot Watt University, United Kingdom); Elizabeth McKeever (Heriot-Watt University, United Kingdom); George Goussetis (Heriot-Watt University, United Kingdom); David Flynn (Heriot Watt University, United Kingdom); Marc Desmulliez (Heriot Watt University,

15:20 ***Large-Scale Fluidic Tuning of Sub-wavelength Periodic Structures***

Tonmoy Bhattacharjee (University of Wisconsin Madison, USA); Hongrui Jiang (University of Wisconsin Madison, USA); Nader Behdad (University of Wisconsin, USA)

15:40 ***Microfluidic Beamscanning Optical Leaky-Wave Antenna Concept***

Jorge Julio Jácome-Muñoz (Fraunhofer FHR, Spain); Juan Sebastián Gomez-Diaz (EPFL, Switzerland); Alejandro Alvarez-Melcon (Technical University of Cartagena, Spain); María García-Vigueras (Ecole Polytechnique Fédérale de Lausanne, Spain); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Theory and Applications of Magnetodielectric Materials in Antenna Design

Session type: Convened

Application track: Fundamental Research

Room: Mississippi

Chairs: Antonis A Alexandridis (NCSR "Demokritos", Greece), J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

16:20 ***Efficiency Measurements of Multiband and Circularly Polarized Magneto-Dielectric Antennas by the Equivalent-Circuit Wheeler Cap***

Constantine G. Kakoyiannis (National Technical University of Athens & Institute of Communication and Computer Systems, Greece); Theodore Zervos (NCSR "Demokritos", Institute of Informatics & Telecommunications, Greece); George Fikioris (National Technical University of Athens, Greece); Michael Pissas (NCSR Demokritos, IAMPPNM, Greece)

16:40 ***Complex Electric Permittivity and Magnetic Permeability of Ferrites Calculated From Scattering Parameters***

Ilias Tsiachristos (National Technical University of Athens, Greece); Eirini Varouti (NCSR Demokritos, Institute for Advanced Materials, Greece); Efthymios Manios (NCSR Demokritos, IAMPPNM, Greece); Theodore Zervos (NCSR "Demokritos", Institute of Informatics & Telecommunications, Greece); Constantine G. Kakoyiannis (National Technical University of Athens & Institute of Communication and Computer Systems, Greece); George Fikioris (National Technical University of Athens, Greece); Antonis A Alexandridis (NCSR "Demokritos", Greece); Michael Pissas (NCSR Demokritos, IAMPPNM, Greece)

17:00 ***Diamagnetism in Materials with Metallic Inclusions***

Chinwe Njoku (Loughborough University, United Kingdom); J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom); William Whittow (Loughborough University,

17:20 ***Magneto-dielectric Material Characterization and Antenna Design for RF Applications***

Kyu Han (Georgia Institute of Technology, USA); Madhavan Swaminathan (, USA); Raj Pulugurtha (Georgia Institute of Technology, USA); Himani Sharma (Georgia Institute of Technology, USA); Rao Tummala (Georgia Institute of Technology, USA); Vijay Nair (Intel Corporation Inc., USA)

17:40 ***Magneto-Dielectric Metasurfaces***

Sergei Tretyakov (Aalto University, Finland); Younes Ra'di (Aalto University, Finland); Viktar Asadchy (Aalto University, Finland)

18:00 ***Reconfigurable Planar Directional Antennas Printed on Ferrimagnetic Substrates***

Theodore Zervos (NCSR "Demokritos", Institute of Informatics & Telecommunications, Greece); Antonis A Alexandridis (NCSR "Demokritos", Greece); Fotis Lazarakis (NCSR Demokritos, Institute of Informatics & Telecommunications, Greece); Kostas Dangakis (NCSR "Demokritos", Greece); Constantine G. Kakoyiannis (National Technical University of Athens & Institute of Communication and Computer Systems, Greece); Eirini Varouti (NCSR Demokritos, Institute for Advanced Materials, Greece); J (Yiannis) Vardaxoglou

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Medical and Biological Applications of EMF

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Ovidio Mario Bucci (University of Naples, Italy), Raquel C. Conceição (Universidade de Lisboa, Faculdade de Ciências, Instituto de Biofísica e Engenharia Biomédica, Portugal), Daniel Flores Tapia (108 Allen Building & University of Manitoba, Canada)

14:00 ***A Comparison Study Between Horn and Vivaldi Antennas for 1.5-6 GHz Breast Microwave Radar Imaging***

Mario Solis Nepote (University of Manitoba, Canada); Diego Rodriguez Herrera (University of Manitoba, Canada); Nikita Kopotun (Queen's University, Canada); Daniel Flores Tapia (108 Allen Building & University of Manitoba, Canada); Saeed Latif (University of Manitoba, Canada); Stephen Pistorius (University of Manitoba & CancerCare Manitoba,

14:20 ***A Numerical Study of Metallic Implants Effects on the SAR and Temperature Distributions Over the Human Body***

Flora Charalampous (Democritus University of Thrace, Greece); Adamos Kyriakou (Democritus University of Thrace, Greece); John Sahalos (University of Nicosia, Cyprus)

14:40 ***Conceptual Design and Simulations of a Nano-communication Model for Drug Delivery Based on a Transient Microbot System***

Yifan Chen (South University of Science and Technology of China, P.R. China); Panagiotis Kosmas (King's College London, United Kingdom); Rui Wang (The South University of Science and Technology of China, Hong Kong)

15:00 ***Applicators for Local Microwave Hyperthermia Based on Metamaterial Technology***

David Vrba (Czech Technical University in Prague & Faculty of Biomedical Engineering, Czech Republic); Jan Vrba (Faculty of Biomedical Engineering, Czech Technical University in Prague, Czech Republic)

15:20 ***Beamforming in the Frequency Domain with Applications to Microwave Breast Imaging***

Charlotte Curtis (University of Calgary, Canada); Elise Fear (University of Calgary, Canada)

15:40 ***Biological Tissues Assesment Using Transmitted Microwave Signals***

Jeremie Bourqui (University of Calgary, Canada); Elise Fear (University of Calgary, Canada)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Medical and Biological Applications of EMF

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Ovidio Mario Bucci (University of Naples, Italy), Raquel C. Conceição (Universidade de Lisboa, Faculdade de Ciências, Instituto de Biofísica e Engenharia Biomédica, Portugal), Daniel Flores Tapia (108 Allen Building & University of Manitoba, Canada), Martin O'Halloran (National University of Ireland, Galway, Ireland)

16:20 ***Bound Water and the Effects on Tissue Dielectric Properties for Imaging Purposes***

Paul M Meaney (Dartmouth College, USA); Keith D. Paulsen (Dartmouth College, USA)

16:40 ***Development of Biological Tissue Coagulation Device by Microwave Energy***

Yuta Endo (Chiba University, Japan); Yoshito Tezuka (Chiba University, Japan); Kazuyuki Saito (Chiba University, Japan); Koichi Ito (Chiba University, Japan)

17:00 ***Experimental Feasibility Study of Contrast Agent Enhanced UWB Breast Imaging by Means of M-Sequence Sensor Systems***

Marko Helbig (Technische Universität Ilmenau, Germany); Jürgen Sachs (Ilmenau University of Technology, Germany); Felista Tansi (University Hospital Jena, Germany); Ingrid Hilger (University Hospital Jena, Germany)

17:20 ***Field Penetration in MRI-based Breast Models: a Numerical Investigation***

Giuseppe Ruvio (Trinity College - University of Dublin & Antenna & High Frequency Research Centre, Ireland); Raffaele Solimene (Second University of Naples, Italy); Antonio Cuccaro (Seconda Universita di Napoli, Italy); Max James Ammann (Dublin Institute of Technology, Ireland)

17:40 ***Investigation of Classification Algorithms for a Prototype Microwave Breast Cancer Monitor***

Adam Santorelli (McGill University, Canada); Yunpeng Li (Mc Gill University, USA); Emily Porter (McGill Universtiy, Canada); Milica Popović (McGill University, Canada); Mark Coates (McGill University, Canada)

18:00 ***Wavelet-based Distorted Born Iterative Method for Accurate Microwave Imaging of Breast Tissues***

Rosa Scapaticci (CNR-National Research Council of Italy, Italy); Panagiotis Kosmas (King's College London, United Kingdom); Lorenzo Crocco (CNR - National Research Council,

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Millimetre-Wave, Submillimetre-Wave and TeraHertz Antennas

Session type: Regular

Application track: Wireless networks and RF Sensors

Room: Yangtze 1

Chairs: Ronan Sauleau (University of Rennes 1, France), Maarten van der Vorst (European Space Agency, The Netherlands)

14:00 ***2D-Scanning Holographic Antenna System with Rotman-Lens At 60 GHz***

Christian Rusch (Karlsruhe Institute of Technology, Germany); Jochen Schäfer (Karlsruhe Institute of Technology, Germany); Heiko Gulan (Karlsruhe Institute of Technology, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

14:20 ***60GHz Slot-Array Antenna Design Based on Gap Waveguide Cavity and Gap Waveguide Feed Layer***

Ashraf Uz Zaman (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden)

14:40 ***60-GHz Wideband Branchline Coupler and Patch Antenna with Dielectric Rod for Full-Duplex Gigabit Wireless Communication***

Mohadig Rousstia (Eindhoven University of Technology, The Netherlands); Matti Herben (Eindhoven University of Technology, The Netherlands)

15:00 ***Aperture Coupled Antenna for 122.5 GHz Applications with Off-Chip Parasitic Patch***

Benjamin Goettel (Karlsruhe Institute of Technology, Germany); Mario Pauli (Karlsruhe Institute of Technology, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT),

15:20 ***High-Efficiency Horn Antenna Using Solder Balls for Seamless Package with Millimeter-Wave 3D Chips***

Sanming Hu (University of Ulm, Germany); Wolfgang Menzel (University of Ulm, Germany); Christian Waldschmidt (University of Ulm, Germany)

15:40 ***Micromachined Periodic Surfaces for Planar Terahertz Antennas***

Konstantinos Konstantinidis (University of Birmingham, United Kingdom); Alexandros Feresidis (University of Birmingham, United Kingdom); Mike Lancaster (University of Birmingham, United Kingdom)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Indoor Channels and Systems

Session type: Regular

Application track: Wireless networks and RF Sensors

Room: Yangtze 1

Chairs: Vittorio Degli-Esposti (University of Bologna, Italy), Carol D Wilson (CSIRO ICT Centre, Australia)

16:20 ***Auto-correlation and Cross-correlation Analysis for Sport Arenas At 850 MHz and 2.1 GHz***

Alejandro Aragon-Zavala (Tecnologico de Monterrey, Campus Queretaro & Real Wireless Ltd., Mexico); Vladan Jevremovic (iBwave Solutions inc., USA); Ali Jemmali (iBwave

16:40 ***Estimation of Room Electromagnetics Reverberation Time for Ultra-Wideband Indoor Channels***

Brecht Hanssens (Ghent University, Belgium); Maria Teresa Martinez-Ingles (Universidad Politecnica de Cartagena, Spain); Aliou Bamba (University of Ghent, Belgium); Emmeric Tanghe (Ghent University, Belgium); Jose-Maria Molina-Garcia-Pardo (Universidad Politécnica de Cartagena, Spain); Davy P Gaillot (University of Lille 1, France); Martine Liénard (University of Lille, France); Claude Oestges (Université Catholique de Louvain, Belgium); Luc Martens (Ghent University, Belgium); Wout Joseph (Ghent University, Belgium)

17:00 ***Modeling and Simulation of Fast Fading Channels in Indoor Peer-to-Peer Scenarios***

Evgenii Vinogradov (Universite Catholique de Louvain, Belgium); Wout Joseph (Ghent University, Belgium); Claude Oestges (Université Catholique de Louvain, Belgium)

17:20 ***Active Tapping Scheme to Wireless Secret Key Generator Employing Duplex Amplifying Repeater***

Yosuke Omori (Toyohashi University of Technology, Japan); Naoki Sakai (Toyohashi University of Technology, Japan); Takashi Ohira (Toyohashi University of Technology, Japan)

17:40 ***Impact of Wireless Sensor Network Cluster Architecture in Wireless Channel Performance***

Leire Azpilicueta (Universidad Publica de Navarra, Spain); Jose Javier Astrain (Universidad Publica de Navarra, Spain); Jesus Villadangos (Universidad Publica de Navarra, Spain); Francisco Falcone (Universidad Publica de Navarra, Spain)

18:00 ***Semantic Wireless Localization Enabling Advanced Services in Museums***

Alessandro Polo (University of Trento & ELEDIA Research Center, Italy); Federico Viani (University of Trento & ELEDIA Research Center, Italy); Enrico Giarola (ELEDIA Research Center, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Memorial Session for Professor Pertti Vainikainen

Session type: Convened

Application track: Wireless Networks and RF Sensors

Room: Yangtze 2

Chairs: Dirk Manteuffel (University of Kiel, Germany), Claude Oestges (Université Catholique de Louvain, Belgium)

14:00 ***Channel Modelling for the Fifth Generation Mobile Communications***

Jonas Medbo (Ericsson Research, Sweden); Kai Börner (Fraunhofer Heinrich Hertz Institute, Germany); Katsuyuki Haneda (Aalto University, Finland); Veikko Hovinen (University of Oulu, Finland); Tetsuro Imai (NTT DOCOMO, Inc., Japan); Jan Järveläinen (Aalto University, Finland); Tommi Jamsa (Anite Telecoms, Finland); Aki Karttunen (Aalto University, Finland); Katsutoshi Kusume (DOCOMO Euro-Labs, Germany); Jukka Kyröläinen (CWC, University of Oulu, Finland); Pekka Kyösti (Anite Telecoms Oy, Finland); Juha Meinilä (Elektrobit Corporation, Finland); Vuokko Nurmela (Nokia Research Center, Finland); Leszek Raschkowski (Fraunhofer Heinrich Hertz Institute, Germany); Antti Roivainen (Centre

14:20 ***A Small Tribute to Prof. Pertti Vainikainen: a Great Antenna and Propagation Specialist***

Cyril Luxey (University Nice Sophia-Antipolis, France)

14:40 ***Capacitive Coupling Elements - Changing the Way of Designing Antennas***

Risto Valkonen (Christian-Albrechts-Universität zu Kiel, Germany); Anu Lehtovuori (Aalto University & School of Electrical Engineering, Finland); Dirk Manteuffel (University of

15:00 ***Characterization of Vehicle Penetration Loss At Wireless Communication Frequencies***

Usman Virk (Aalto University, Finland); Katsuyuki Haneda (Aalto University, Finland); Veli-Matti Kolmonen (Aalto University, Finland); Pertti Vainikainen (Aalto University, Finland); Yrjo Kaipainen (Renesas Mobile, Finland)

15:20 ***Design of a Circular Antenna Array for MIMO Channel Sounding Application At 2.53 GHz***

Robert Müller (TU Ilmenau, Germany); Martin Käske (Ilmenau University of Technology, Germany); Peter Rauschenbach (MEODAT GmbH, Germany); Gerd Sommerkorn (Ilmenau University of Technology, Germany); Christian Schneider (Ilmenau University of Technology, Germany); Frank Wollenschläger (Ilmenau University of Technology, Germany); Stephan Haefner (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

15:40 ***Investigation on Bendable Mobile Devices in the Presence of the User***

Kimmo Rasilainen (Aalto University, Finland); Janne Ilvonen (Aalto University School of Electrical Engineering, Finland); Ville Viikari (Aalto University School of Electrical

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Memorial Session for Professor Pertti Vainikainen

Session type: Convened

Application track: Wireless networks and RF Sensors

Room: Yangtze 2

Chairs: Dirk Manteuffel (University of Kiel, Germany), Claude Oestges (Université Catholique de Louvain, Belgium)

16:20 ***Experimental Characterization of Channel-Based Key Establishment Using Reconfigurable Antennas***

Rashid Mehmood (Brigham Young University, USA); Jon Wallace (Brigham Young University, USA); Michael Jensen (Brigham Young University, USA)

16:40 ***On the Reliability of Multipath Cluster Estimation in Realistic Channel Data Sets***

Christian Schneider (Ilmenau University of Technology, Germany); Maysam Ibraheam (Ilmenau University of Technology, Germany); Stephan Haefner (Ilmenau University of Technology, Germany); Martin Käske (Ilmenau University of Technology, Germany); Matthias Hein (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau

17:00 ***Spherical Wave Representation of Double Directional Channel Model***

Jun-ichi Takada (Tokyo Institute of Technology, Japan)

17:20 ***Studying the Multi-Dispersive Characteristics of the Radio Channel - a Story of Collaboration and Friendship with Pertti Vainikainen***

Vittorio Degli-Esposti (University of Bologna, Italy); Franco Fuschini (DEI - Bologna, Italy); Doriana Guiducci (Fondazione Ugo Bordoni, Italy); Enrico M. Vitucci (University of

17:40 ***Wideband Nearfield Microwave Sensors for Industrial Applications***

Valeri Mikhnev (Institute of Applied Physics, National Academy of Sciences, Belarus)

18:00 Moved to Poster Session THUR.2.107

18:20 ***Millimetre-Wave Dielectric Slab and Parallel Plate Waveguide Dielectric Lens Antennas for Beam Steering***

Aki Karttunen (Aalto University, Finland); Kalle Piiroinen (Aalto University, Finland); Juha Ala-Laurinaho (Aalto University, Finland); Antti V. Räisänen (Aalto University, Finland)

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Reflector, Feed Systems and Components

Session type: Regular

Application track: Space

Room: Africa

Chairs: Makoto Ando (Tokyo Institute of Technology, Japan), Hans Henrik Viskum (TICRA, Denmark)

14:00 ***An Ultra Rapid Deployable Antenna for On-The-Field Satellite Communications***

Paolo Proietti Zolla (HPS GmbH, Germany); Fabian Preller (Invent GmbH, Germany); Marco Formaggi (Cobham Technical Services, United Kingdom); Glafkos Philippou (Cobham Technical Services, United Kingdom); Volker Jarsch (ND SatCom GmbH, Germany); Peter de Maagt (European Space Agency, The Netherlands)

14:20 ***Derivation of Different Types of Antenna Reflectors From the Principle of Highly Flexible Structures***

Leri Datashvili (Large Space Structures UG & Institute of Lightweight Structures / Technische Universitaet Muenchen, Germany); Horst Baier (TU München, Sweden)

14:40 ***Design and Analysis of a Ka-Band Coaxial-to-Quad-Ridged Circular Waveguide Transition***

Joana S. Silva (Laboratory of Electromagnetics and Acoustics / École Polytechnique Fédérale de Lausanne & LEMA, Switzerland); Eduardo B. Lima (Instituto de Telecomunicações & Instituto Superior Técnico, Portugal); Jorge R. Costa (Instituto de Telecomunicações / ISCTE-IUL, Portugal); Carlos A. Fernandes (Instituto de Telecomunicacoes, Instituto Superior Tecnico, Portugal); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

15:00 ***Design, Development and Verification of an Active Phased Array Fed Reflector Antenna for A Space Application***

Koray Tap (ASELSAN, Turkey); Duygu Tekbas (ASELSAN, Turkey); Erdinc Ercil (ASELSAN, Turkey); Sinan Koksoy (ASELSAN, Turkey)

15:20 ***Dual Reflector Shaping for Realistic Frequency Dependent Feed Patterns with Specific Secondary Field Pattern Targets***

Dirk de Villiers (Stellenbosch University, South Africa); Robert Lehmensiek (EMSS Antennas (Pty) Ltd & Cape Peninsula University of Technology, South Africa)

15:40 ***Analysis of Reflectors Fed by Reconfigurable Array Lenses***

Catherine Kocia (University of Toronto, Canada); Sean V Hum (University of Toronto, Canada)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Reflector, Feed Systems and Components

Session type: Regular

Application track: Space

Room: Africa

Chairs: Makoto Ando (Tokyo Institute of Technology, Japan), Hans Henrik Viskum (TICRA, Denmark)

16:20 ***Exomars High Gain TTC Antenna Overview***

Denis Dubruel (Thales Alenia Space, France); Pierre-Yves Renaud (Thales Alenia Space, France); Christophe Dreyer (Thales Alenia Space, France); Langevin Jean Paul (MDA, Canada); Thomas Tralman (MDA, Canada); Jean-Francois Durocher-De-GrandPre (MDA, Canada); Steve Larouche (MDA, Canada); Mario Lanuti (ThalesAleniaSpace-Italia, Italy); Paolo Noschese (Thales Alenia Space Italia, Italy); Maddalena Cova (Thales Alenia Space, Italy); Alistair Winton (European Space Agency, The Netherlands); Peter de Maagt (European Space Agency, The Netherlands); Elena Saenz (European Space Agency, The Netherlands)

16:40 ***Focal Plane Array with a Ka-band Silicon Transmitter on Chip for VSAT Applications***

Abolghasem Zamanifekri (Eindhoven Unversity of Tehnology, The Netherlands); Yu Pei (NXP Semiconductors, The Netherlands); Ying Chen (NXP Semiconductors, The Netherlands); A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands); Domine Leenaerts (NXP Semiconductors, The Netherlands); Marcel Geurts (NXP

17:00 ***In-orbit Verification of Novel Reflector Antenna Technologies - The Final Step of a European-German Development***

Maximilian Klebor (HPS GmbH, Germany)

17:20 ***Reflector Antenna Analysis Using Physical Optics on Graphics Processing Units***

Oscar Borries (Technical University of Denmark & TICRA, Denmark); Hans Brandenborg Sørensen (Technical University of Denmark, Denmark); Bernd Dammann (Technical University of Denmark, Denmark); Erik Jørgensen (TICRA, Denmark); Peter Meincke (TICRA, Denmark); Stig Sørensen (TICRA, Denmark); Per Christian Hansen (Technical

17:40 ***Research on Compact Reflector Feeds for Space Applications***

Rastislav Galuscak (Czech Airlines, Czech Republic); Pavel Hazdra (Czech Technical University in Prague, Czech Republic); Milos Mazanek (Czech Technical University in Prague,

18:00 ***Very Compact TM01 Mode Extractor for Enhanced RF Sensing in Broadband Satellite Multiple Beam Reflector Antenna Systems***

Nelson Fonseca (European Space Agency, The Netherlands)

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Tropospheric Propagation

Session type: Regular

Application track: Space

Room: Antarctica

Chair: Nicolas Jeannin (ONERA, France)

14:00 ***Study on the Use of New IGS Zenith Tropospheric Delay Products to Estimate Water Vapor Attenuation***

Gustavo Siles (Universidad Politecnica de Madrid, Spain); Jose M Riera (Universidad Politécnica de Madrid, Spain); Pedro Garcia-del-Pino (Universidad Politecnica de Madrid,

14:20 ***Comparison of Recent Rainfall Rate Models Using Spanish Data***

Pedro Garcia-del-Pino (Universidad Politecnica de Madrid, Spain); Ana Benarroch (Universidad Politécnica de Madrid, Spain); Jose M Riera (Universidad Politécnica de Madrid,

14:40 ***Comparison of Attenuation Measurements At 19.7 GHz From Radiometer Observations, GNSS Delay Data and Radiosondes***

Gustavo Siles (Universidad Politecnica de Madrid, Spain); Jose M Riera (Universidad Politécnica de Madrid, Spain); Pedro Garcia-del-Pino (Universidad Politecnica de Madrid,

15:00 ***Synchronized Measurements of L- And C-band Tropospheric Propagation Parameters***

Michael Schönhuber (Joanneum Research, Austria); Stefan Junker (Universität der Bundeswehr München, Germany); Iva Bartunkova (Institute of Geodesy and Navigation University, Germany); Karin Plimon (Joanneum Research, Austria); Raul Orus Perez (European Space Agency (ESA) / ESTEC, The Netherlands)

15:20 ***The Ka/Q-band Alphasat Ground Propagation Terminal - First Months of Operation***

Franz Teschl (Joanneum Research, Austria); Félix Cuervo (JOANNEUM RESEARCH, Austria); Antonio Martellucci (European Space Agency, The Netherlands); Juan Rivera Castro (ESA, The Netherlands); Carlo Riva (Politecnico di Milano, Italy); Giuseppe Codispoti (Italian Space Agency, Italy); Karin Plimon (Joanneum Research, Austria); Michael Schönhuber

15:40 ***Using ECMWF Reanalysis Data for Radiometric Calibration***

Lorenzo Luini (Politecnico di Milano, Italy); Roberto Nebuloni (Ieiit - Cnr, Italy); Carlo Capsoni (Politecnico di Milano, Italy)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Radio Climatology

Session type: Regular

Application track: Space

Room: Antarctica

Chairs: Nicolas Jeannin (ONERA, France), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

16:20 ***Estimation of Effective Path Lengths of Rain Based on Cell Size Distributions From Meteorological Radar***

Juan Antonio Romo (University of the Basque Country, Spain); Laura Santamaría Ruiz (University of the Basque Country, Spain); Ainhoa Larrea (University of the Basque Country, Spain); Ignacio Anitzine (University of Basque Country, Spain)

16:40 ***Estimation of the Atmospheric Refractivity Using a C-Band Polarimetric Weather Radar***

Rubén Nocelo López (University of Vigo, Spain); Veronica Santalla del Rio (University of Vigo, Spain); Alberto Pettazzi (Meteogalicia, Spain)

17:00 ***Estimation of Trends in Distributions of One-Minute Rain Rates Over the UK***

Kevin S Paulson (University of Hull, United Kingdom); Channa Ranatunga (University of Hull, United Kingdom)

17:20 ***Prediction of Surface Refractivity Gradient Distributions, From Weather Station Surface Data***
Stephen Salamon (University of Adelaide & Telstra Corporation, Australia); Hedley Hansen (DSTO, Australia); Derek Abbott (University of Adelaide, Australia)

17:40 ***Accuracy of Real-time Sky Status Indicator (SSI) for the Characterization of a Satellite Communication Link At Microwave Bands***
Ada Vittoria Bosisio (CNR-IEIIT & c/o Politecnico di Milano, Italy); Ermanno Fionda (Fondazione Ugo Bordoni, Italy); Vinia Mattioli (He-Space Operations & Sapienza University of Rome, Italy); Piero Ciotti (University of L'Aquila, Italy); Frank S. Marzano (Sapienza University of Rome, Italy); Antonio Martellucci (European Space Agency, The Netherlands)

18:00 ***Influence of Climate Variability on Performance of Millimeter Wave Cellular 5th Generation Wireless Systems in Consequence of Precipitation***
Péter Kántor (Budapest University of Technology and Economics, Hungary); János Bitó (Budapest University of Technology and Economics, Hungary)

18:30 - 20:00
Welcome Reception
Room: Exhibition Foyer

14:00 - 16:00
Imaging and Inverse Scattering
Session type: Regular
Application track: Defense & Security
Room: Europe 1
Chairs: Dirk Heberling (RWTH Aachen University, Germany), Huib J. Visser (IMEC Netherlands, The Netherlands)

14:00 ***Time-Domain Microwave Radar for Breast Screening: Initial Testing with Volunteers***
Emily Porter (McGill Universtiy, Canada); Adam Santorelli (McGill University, Canada); Milica Popović (McGill University, Canada)

14:20 ***Contrast Source - Extended Born Inversion Method: State of the Art and Recent Advances***
Michele D'Urso (Selex ES S.p.A., Italy); Tommaso Isernia (University of Reggio Calabria, Italy); Gabriella Bernardi (SELEX Sistemi Integrati, Italy)

14:40 ***Imaging Sparse Scatterers Through a Multi-Frequency CS Approach***
Lorenzo Poli (University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Luca Manica (University of Trento, Italy); Andrea Massa

15:00 ***Investigations Into 3D Imaging Reconstruction of Hidden Objects with Use of the Bi-Polar Near-Field System***
Pawel Kabacik (Wroclaw University of Technology, Poland); Arkadiusz Byndas (Wroclaw University of Technology, Poland)

15:20 ***Non-Cooperative Target Recognition Based on Singular Value Decomposition***
Patricia López-Rodríguez (National Institute for Aerospace Technology-INTA, Spain); Raul Fernandez-Recio (INTA, Spain); Ignacio Bravo (University of Alcala, Spain)

15:40 ***The UWB Imaging System with Rotating Antenna Array for Concealed Metallic Object***
Min Zhou (Queen Mary, University of London, United Kingdom); Xiaodong Chen (Queen Mary, University of London, United Kingdom)

16:00 - 16:20
Coffee Break
Room: Exhibition Foyer

16:20 - 18:20
Multiple-Beam Antennas, Beamforming and Data Processing
Session type: Regular
Application track: Defense & Security
Room: Europe 1
Chairs: Jean-Christophe Angevain (ESA, The Netherlands), Hao Xin (University of Arizona, USA)

16:20 ***Angle of Arrival and Signal to Noise Ratio Estimation for Broadband Signals by Phased Adaptive Array Antennas***
Bassim Sayed Mohammed (University of Technology, Iraq); Noori Hussein Noori (Al-Mansour University College, Iraq)

16:40 ***Covert Communication Using a Directly Modulated Array Transmitter***
HongZhe Shi (The University of Sheffield, United Kingdom); Alan Tennant (University of Sheffield, United Kingdom)

17:00 ***Miniaturized Device for Passive Microwave UWB Beamforming***
Thomas Fromenteze (University of Limoges & XLIM, France); Cyril Decroze (XLIM, France); David Carsenat (XLIM CNRS-UMR 6172, France)

17:20 ***Probabilistic Direction of Arrival Estimation Through Bayesian Compressive Sensing***
Matteo Carlin (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa

17:40 ***Pulse Shape Optimization in Time-Modulated Arrays for Sideband Radiation Suppression***
Lorenzo Poli (University of Trento, Italy); Ephrem Teshale Bekele (University of Trento & Eledia Research Center, DISI, University of Trento, Italy); Michele D'Urso (Selex ES S.p.A., Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

18:00 ***Vector Representation of Directional Modulation Transmitters***
Yuan Ding (Queen's University Belfast & The ECIT, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom)

18:30 - 20:00
Welcome Reception
Room: Exhibition Foyer

14:00 - 16:00
Ultra-Wideband Antennas and Time-Domain Techniques
Session type: Regular
Application track: Multiple Applications
Room: Central America
Chairs: Hendrik Rogier (Ghent University, Belgium), Luca Salghetti Drioli (European Space Agency-ESTEC, The Netherlands)

14:00 ***Arrangements and Applications of Self-grounded Antennas***

Jian Yang (Chalmers University of Technology, Sweden); Ali Al-Rawi (Eindhoven University of Technology, The Netherlands); Hasan Raza (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Ahmed Kishk (Concordia University, Canada)

14:20 ***A Compact Balanced Symmetric Discone Antenna with Optimized Ultrawideband Omnidirectional Impulse Radiation Behavior***

Narek Rostomyan (Technische Universität München, Germany); Arndt Ott (Technische Universität München, Germany); Robert Brem (Technische Universität München, Germany); Christoph J. Eisner (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

14:40 ***Cost-Efficient Dual-Stage Gaussian Process Modeling of Antennas***

J. Pieter Jacobs (University of Pretoria, South Africa); Slawomir Koziel (Reykjavik University, Iceland)

15:00 ***Dyson Conical Quad-Spiral Array for VLBI2010***

Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Sergio Llorente-Romano (Universidad Carlos III de Madrid, Spain); Francisco Javier Herraiz-Martínez (Carlos III University in Madrid, Spain); Luis-Enrique Garcia-Muñoz (University Carlos III of Madrid, Spain); José Antonio López (IGN Spain, Spain); Jose-Antonio López-Pérez (IGN Spain & Centro de Desarrollos Tecnologicos, Spain); Félix Tercero (IGN Spain, Spain); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

15:20 ***Time-domain Analysis of the Pulsed EM Field in Planarly Layered Configurations: Principles and Software Implementation***

Ioan E. Lager (Delft University of Technology, The Netherlands); Vincent Voogt (Delft University of Technology, The Netherlands); Bert Jan Kooij (Delft University of Technology, The Netherlands); Adrianus T De Hoop (Delft University of Technology, The Netherlands); Martin Štumpf (Brno University of Technology & Katholieke Universiteit Leuven, Czech Republic); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

15:40 ***Wideband Electric-Magnetic Antenna for Polarimetric Application***

Nadia Haider (Delft University of Technology, The Netherlands); Diego Caratelli (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Alexander Yarovoy (Delft University of Technology, The Netherlands)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Passive, Multiband and Small Antenna Elements

Session type: Regular

Application track: Multiple Applications

Room: Central America

Chair: Custodio Peixeiro (IST-TUL, Portugal)

16:20 ***A Compact IFA-Based Dual-Band Planar Antenna for WiFi USB Dongles***

Bruno Roberto Franciscatto (Imep-Lahc-Cnrs/Minatec & Electrical Engineering Department – DEE, Federal University of Campina Grande – UFCG, Brazil, France); Hans Adel (Fraunhofer Institute for Integrated Circuits IIS, Germany); Mauricio H C Dias (Instituto Militar de Engenharia, Brazil); Tan Phu Vuong (Grenoble INP, France)

16:40 ***Fundamental Limitations on Small Multi-Beam Antennas***

Per-Simon Kildal (Chalmers University of Technology, Sweden); Xiaoming Chen (Chalmers University of Technology, Sweden)

17:00 ***Investigating the Q Factor and Efficiency for Lossy Antennas Using Convex Optimization***

Doruk Tayli (Lund University, Sweden); Mats Gustafsson (Lund University, Sweden)

17:20 ***Matching Electrically Small Antenna Using Non-Foster Circuit in the FM-Band***

Yizhu Shen (National University of Singapore, Singapore)

17:40 ***On the Increase of the Directivity of a Low Profile Aircraft Antenna***

Amna Ikram (Ecole Polytechnique de Montreal, Canada); Jean-Jacques Laurin (Ecole Polytechnique de Montreal, Canada)

18:00 ***Post-Processing Accuracy Enhancement of the Improved Wheeler Cap for Wideband Antenna Efficiency Measurements***

Constantine G. Kakoyiannis (National Technical University of Athens & Institute of Communication and Computer Systems, Greece)

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Antenna Measurement Techniques

Session type: Regular

Application track: Multiple Applications

Room: North America

Chair: Daniel J. Janse van Rensburg (Near Field Systems Inc., USA)

14:00 ***A Review on the Electromagnetic Characterisation of Building Materials At Micro- And Millimetre Wave Frequencies***

David Ferreira (University of Vigo & Instituto de Telecomunicações, Portugal); Iñigo Cuiñas (University of Vigo, Spain); Rafael F. S. Caldeirinha (IPL - Polytechnic Institute of Leiria & Instituto de Telecomunicação (IT), Portugal); Telmo R. Fernandes (IPLeiria / Institute of Telecommunications & ESTG/IT-DL, Portugal)

14:20 ***Accuracy Assessment of Free-Space Material Reflectivity Measurements Using a MADRAS Spaceborne Radiometer Sample***

Elena Saenz (European Space Agency, The Netherlands); Luis Rolo (European Space Agency, The Netherlands); Maciej Kaniecki (European Space Research and Technology Centre,

14:40 ***Application of Spherical Near-Field Uncertainty Analysis to Positioner Design***

Steven R Nichols (MI Technologies, USA)

15:00 ***Construction of Equivalent Source for Modulated Electromagnetic Radiation***

Bunka Nishina (Tohoku University, Japan); Qiang Chen (Tohoku University, Japan); Kunio Sawaya (Tohoku University & School nof Engineering, Japan); Qiaowei Yuan (Sendai National College of Technology, Japan)

15:20 ***Disturbing Effects of Microwave Probe on mm-Wave Antenna Pattern Measurements***

Ad Reniers (Eindhoven University of Technology, The Netherlands); Rainier Van Dommele (Eindhoven University of Technology, The Netherlands); Mingda Huang (NXP Semiconductors, The Netherlands); Matti Herben (Eindhoven University of Technology, The Netherlands)

15:40 ***Increased Dynamic Range for RFID EM-field Measurements***

Santiago Capdevila (EPFL & École Polytechnique Fédérale de Lausanne, Switzerland); Jordi Romeu (Universitat Politècnica de Catalunya, Spain); Luis Jofre (UPC, Spain); Jean-Charles Bolomey (Supelec Université de Paris Sud XI, France)

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Antenna Measurement Techniques

Session type: Regular

Application track: Multiple Applications

Room: North America

Chair: Antonio A Moreira (I.S.T. - Technical U. Lisbon / I.T. Lisbon, Portugal)

16:20 ***Key Aspects of Robot Based Antenna Measurements At Millimeter Wave Frequencies***

Martin Hitzler (University of Ulm, Germany); Sebastian Bader (University of Ulm, Germany); Christian Waldschmidt (University of Ulm, Germany)

16:40 ***Large Volunteer Study on the Effects of Real Hands on Specific Absorption Rate in the Head***

Chinthana J Panagamuwa (Loughborough University, United Kingdom); Ian Howells (Loughborough University, United Kingdom); William Whittow (Loughborough University,

17:00 ***Novel Method to Measure the Gain of UHF Directional Antennas Using Distance Scan***

Ben Witvliet (University of Twente & Radiocommunications Agency Netherlands, The Netherlands); Erik Van Maanen (Radiocommunications Agency Netherlands, The Netherlands); Mark J. Bentum (University of Twente, The Netherlands); Cornelis H Slump (University of Twente, The Netherlands); Roel Schiphorst (University of Twente, The

17:20 ***Planar Array Diagnosis Through Compressive Sensing: a Preliminary Assessment***

Matteo Carlin (University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

17:40 ***Wave Length Scaled Scanning of the Solar Orbiter/RPW Antennas: First Results***

Manfred Sampl (KATHREIN-Werke KG, Austria); Michael Kapper (Austrian Academy of Sciences, Austria); Dirk Plettemeier (Dresden University of Technology, Germany); Milan Maksimovic (LESIA, France); Kees van 't Klooster (European Space Agency, The Netherlands); Helmut Rucker (Austrian Academy of Sciences, Austria)

18:00 ***Comparison of Cavity-based Ultra Wideband Antenna Efficiency Measurement Methods***

Nuno Pires (Instituto Superior Técnico & École Polytechnique Fédérale de Lausanne, Portugal); Antonio A Moreira (I.S.T. - Technical U. Lisbon / I.T. Lisbon, Portugal); Anja K. Skrivervik (EPFL, Switzerland)

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

14:00 - 16:00

Multiple Beam Antennas

Session type: Convened

Application track: Space

Room: South America

Chairs: Philippe Lepeltier (Thales Alenia Space, France), Giovanni Toso (European Space Agency, The Netherlands)

14:00 ***The Many Guises of HTS Antennas***

Hector T. Fenech (Eutelsat S.A., France); Sonya Amos (Eutelsat S.A., France); Alessia Tomatis (Eutelsat S.A., France); Viphakone Soumpholphakdy (Eutelsat S.A., France); Jose Luis Serrano Merino (Eutelsat S.A., France)

14:20 ***CNES and Multibeam Antennas, a Decade of Joint Venture***

Hugo Gonzalez Perez (CNES, France); Christophe Laporte (CNES, France); Baptiste Palacin (CNES, France)

14:40 ***Multibeam Antennas Based on Phased Arrays: An Overview on Recent ESA Developments***

Giovanni Toso (European Space Agency, The Netherlands); Piero Angeletti (European Space Agency, The Netherlands); Cyril Mangenot (European Space Agency, The

15:00 ***Satellite Multibeam Antennas At Airbus Defence and Space***

Helmut Wolf (Astrium GmbH & Communications Satellites, Germany); Michael Schneider (Astrium GmbH, Germany); Simon J Stirland (Astrium Ltd, United Kingdom); Didier Scouarnec (Astrium, France)

15:20 ***THALES ALENIA SPACE Multiple Beam Antennas for Telecommunication Satellites***

Philippe Lepeltier (Thales Alenia Space, France); Jean-Christophe Lafond (Thales Alenia Space, France); Eric Vourch (Thales Alenia Space France, France); Claude Labourdette (Thales Alenia Space, France); Gilles Navarre (Thales Alenia Space, France); François Dubos (Thales Alenia Space, France); Jean-Marc Bassaler (Thales Alenia Space, France); Fabier Delepaux (Thales Alenia Space, France); Christian Féat (Thales Alenia Space, France); Pierre Bosshard (Thales Alenia Space, France)

15:40 ***A Review of Multibeam Antenna Solutions and Their Applications***

Eric Amyotte (MDA, Canada); Yves Demers (MDA Corporation, Canada); Louis Hildebrand (MDA, Canada); Sylvain Richard (MDA Corporation, Canada); Simon Mousseau (MDA

16:00 - 16:20

Coffee Break

Room: Exhibition Foyer

16:20 - 18:20

Multiple Beam Antennas

Session type: Convened

Application track: Space

Room: South America

Chairs: Philippe Lepeltier (Thales Alenia Space, France), Giovanni Toso (European Space Agency, The Netherlands)

16:20 Recent Developments on Multi-beam Antennas At Boeing

Parthasarathy Ramanujam (The Boeing Company, USA); Louis Fermelia (Boeing, USA)

16:40 ***Advancements in Large Mesh Reflector Technology for Multi-Beam Antenna Applications***

David Alexander (Harris Corporation & Government Communications Systems Division, USA); Philip Henderson (Harris Corporation, USA); Greg Turner (Harris Corporation, USA)

17:00 ***Ultra-Compact Multi-Function Feed Networks for Satellite Multibeam Antennas***

Clency Lee-Yow (Custom Microwave Inc., USA)

17:20 ***Elements Reduction Using Optimum Size Element of Array-Fed Reflector Antenna in 100-Beam-Class Multi-beam Communications Satellite***

Shin-ichi Yamamoto (Mitsubishi Electric Corpoation, Japan); Takashi Yanagi (Mitsubishi Electric Corporation, Japan); Yoshio Inasawa (Mitsubishi Electric Corporation, Japan); Hiroaki Miyashita (Mitsubishi Electric Corporation, Japan); Teruaki Orikasa (Institute of Information and Communications Technology, Japan); Amane Miura (Institute of Information and Communications Technology, Japan)

17:40 ***Multiple Beam Bifocal Reflector Antenna Design with Front-Fed Offset Gregorian Configuration***

Andrey N. Plastikov (JSC Special Research Bureau of Moscow Power Engineering Institute (OKB MEI) & National Research University Moscow Power Engineering Institute, Russia)

18:00 ***GEODA-SARAS:Multi-Phased Array Planar Antenna Design and Measurements***

José-Manuel Fernández-González (Universidad Politécnica de Madrid, Spain); José Manuel Inclán-Alonso (Universidad Politécnica de Madrid, Spain); Javier García-Gasco Trujillo (Universidad Politécnica de Madrid, Spain); Álvaro Noval Sánchez de Toca (Universidad Politécnica Madrid & Grupo de Radiación, Spain); Manuel Sierra-Pérez (Universidad

18:30 - 20:00

Welcome Reception

Room: Exhibition Foyer

Tuesday, April 8

09:00 - 10:40

Theory and Applications of Graphene in Antenna and Microwave Engineering

Session type: Convened

Application track: Fundamental Research

Room: Amazon

Chair: Yang Hao (Queen Mary, University of London, United Kingdom)

09:00 ***Efficient Characterization of the Electromagnetic- Coupling of Wire Antennas - And Graphene Patches***

Luca Pierantoni (Università Politecnica delle Marche, Ancona, Italy); Davide Mencarelli (Università Politecnica dell Marche, Italy)

09:20 ***Graphene Conductivity Characterization At Microwave and THz Frequency***

Min Liang (University of Arizona, USA); Mingguang Tuo (University of Arizona, USA); Si Li (University of Science and Technology of China, P.R. China); Qi Zhu (University of Science and Technology of China, P.R. China); Hao Xin (University of Arizona, USA)

09:40 ***Graphene-based Plasmonic Nano-transceiver for Terahertz Band Communication***

Josep Miquel Jornet (University at Buffalo, USA); Ian F. Akyildiz (Georgia Institute of Technology, USA)

10:00 ***Material Region Division and Antenna Application of Monolayer and Multilayer Graphene***

Bian Wu (Queen Mary,University of London & Queen Mary University of London, P.R. China); Yang Hao (Queen Mary, University of London, United Kingdom)

10:20 ***Measurement of Biased Graphene Stacks At Terahertz: Dynamic Reconfiguration and Hysteresis***

Juan Sebastián Gomez-Diaz (EPFL, Switzerland); Clara Moldovan (EPFL, Switzerland); Santiago Capdevila (EPFL & École Polytechnique Fédérale de Lausanne, Switzerland); Laurent Syavoch Bernard (EPFL, Switzerland); Jordi Romeu (Universitat Politècnica de Catalunya, Spain); Mihai Adrian (EPFL, Switzerland); Arnaud Magrez (EPFL, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Theory and Applications of Graphene in Antenna and Microwave Engineering

Session type: Convened

Application track: Fundamental Research

Room: Amazon

Chairs: Yang Hao (Queen Mary, University of London, United Kingdom), Hao Xin (University of Arizona, USA)

11:00 ***Plasmonic and Optoelectronic Effects in Graphene Nanostructures***

Ivan Iorsh (NRU ITMO, Russia); Pavel Buslaev (NRU ITMO, Russia); Daria Smirnova (Australian National University, Australia); Andrey Gorbach (University of Bath, United Kingdom); Ilya Shadrivov (Australian National University, Australia); Pavel Belov (National Research University of Information Technologies, Mechanics and Optics, Russia); Yuri Kivshar (Australian National University, Australia)

11:20 ***Space-Domain Method of Moments for Graphene Nanoribbons***

Paolo Burghignoli (Sapienza University of Rome, Italy); Rodolfo Araneo (La Sapienza, Italy); Giampiero Lovat (Sapienza University of Rome, Italy); George Hanson (University of Wisconsin-Milwaukee, USA)

12:00 ***Theoretical Upper Bounds on the Performance of Graphene Reconfigurable Devices***

Michele Tamagnone (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Arya Fallahi (DESY-Center for Free Electron Laser Science (CFEL), Germany); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

12:20 ***Tunable Terahertz Graphene Magnetoplasmons: Non-Reciprocal Components and Applications***

Nima Chamanara (Ecole Polytechnique de Montreal, Canada); Christophe Caloz (Ecole Polytechnique de Montreal, Canada)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

INTELECT: Integral Equations in Electromagnetics

Session type: Convened

Application track: Fundamental Research

Room: Mississippi

Chairs: Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland), Zvonimir Sipus (University of Zagreb, Croatia)

09:00 ***A New Radial-Angular-R2 Transformation for Singular Integrals on Triangular Meshes***

Li Li (Technische Universität München, Germany); Kun Wang (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

09:20 ***A Novel Approach to Evaluating Reaction Integrals in the Method of Moments: Coplanar Element Case***

Donald Wilton (University of Houston, USA); Francesca Vipiana (Politecnico di Torino, Italy); William Johnson (Private Consultant, USA)

09:40 ***A Tracking Algorithm for the Eigenvectors Calculated with Characteristic Mode Analysis***

Danie Ludick (EM Software & Systems – S. A. (Pty) Ltd, South Africa); Ulrich Jakobus (EM Software & Systems – S.A. (Pty) Ltd, South Africa); Martin Vogel (EM Software and

10:00 ***Coupling of Plasmonic Gap Waveguides with Directive Antennas***

Diego M. Solís (University of Vigo, Spain); Jose M. Taboada (University of Extremadura, Spain); Fernando Obelleiro (University of Vigo, Spain); Luis Landesa (University of Extremadura, Spain); José Rodríguez (University of Vigo, Spain); Oscar Rubiños-López (University of Vigo, Spain)

10:20 ***Solution of a Million by Million Complex Matrix Equation by Gaussian Elimination with Partial Pivotting Using Parallel Out-of-core Solvers***

Tapan Sarkar (Syracuse University, USA); Magdalena Salazar-Palma (Universidad Carlos III de Madrid, Spain); Daniel Garcia Donoro (Universidad Carlos III de Madrid, Spain); Hongsik Moon (Syracuse University, USA)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

INTELECT: Integral Equations in Electromagnetics

Session type: Convened

Application track: Fundamental Research

Room: Mississippi

Chairs: Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland), Zvonimir Sipus (University of Zagreb, Croatia)

11:00 ***Hybrid ACA-MLayAIM Technique for the Analysis of Metasurfaces***

Angelo Freni (University of Florence, Italy); Patrizio De Vita (IDS Ingegneria Dei Sistemi, Italy); Mauro Bandinelli (Ingegneria dei Sistemi, IDS, Italy)

11:20 ***Numerical-Asymptotic Synergic Approach for Speeding Up the Filling Time in a MoM/Mode Matching Code for Large SIW Structures***

Guido Valerio (Université de Rennes 1, France); Massimiliano Casaletti (University of Rennes1, France); Josip Seljan (University of Rennes 1, France); Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France); Ronan Sauleau (University of Rennes 1, France); Matteo Albani (University of Siena, Italy)

11:40 ***Simplifying the Design of Complex Electromagnetic Structures Using Green's Functions Based on Asymptotic Boundary Conditions***

Zvonimir Sipus (University of Zagreb, Croatia); Marko Bosiljevac (University of Zagreb, Croatia)

12:00 ***High Order Integral Equation Methods for the Scattering of a Superellipsoid***

Felipe Vico-Bondía (Universidad Politécnica de Valencia, Spain); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain); Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain); Antonio Berenguer (Universitat Politecnica de Valencia & Instituto de Telecomunicaciones y Aplicaciones Multimedia, Spain)

12:20 ***What Can Integral Equation Do for Array Analysis ?***

Anja K. Skrivervik (EPFL, Switzerland)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Medical and Biological Applications of EMF 2

Session type: Regular

Application track: Biomedical

Room: Asia

Chair: Rob Mestrom (Eindhoven University of Technology, The Netherlands)

09:00 ***Comparison of Image Quality Metrics for Electromagnetic Wave Propagation Speed Estimation in Breast Microwave Radar Imaging Scenarios***

Diego Rodriguez Herrera (University of Manitoba, Canada); Daniel Flores Tapia (108 Allen Building & University of Manitoba, Canada); Stephen Pistorius (University of Manitoba & CancerCare Manitoba, Canada)

09:20 ***Design and Optimization of mm-Size Implantable and Wearable On-Body Antennas for Biomedical Systems***

Sara Amendola (Tampere University of Technology, Finland); Elham Moradi (Tampere University of Technology, Finland); Karoliina Koski (Tampere University of Technology, Finland); Toni Björninen (Tampere University of Technology, Finland); Lauri Tapio Sydänheimo (Tampere University of Technology, Finland); Leena Ukkonen (Tampere University of Technology, Finland); Jan Rabaey (UC Berkeley, USA); Yahya Rahmat-Samii (University of California Los Angeles (UCLA), USA)

09:40 ***Development of Axilla Phantoms to Aid Breast Cancer Staging Via Sentinel Lymph Node Detection***

Raquel C. Conceição (Universidade de Lisboa, Faculdade de Ciências, Instituto de Biofísica e Engenharia Biomédica, Portugal); Luís Oliveira (Universidade Lisboa, Faculdade Ciências, Inst Biofísica e Eng Biomédica, Portugal); Brie Banks (Department of Pathology & Laboratory Medicine, Foothills Medical Centre, Calgary, Canada); Elise Fear (University

10:00 ***Dielectric Characterisation of Human Tissue Samples***

Stefania Monni (TNO Defence Security and Safety, The Netherlands); Wim Lambertus van Rossum (TNO, The Netherlands); Frans Nennie (TNO, The Netherlands); Albert van der Veen (VU University Amsterdam, The Netherlands); Daniela Deiana (TNO, The Netherlands)

10:20 ***Exploiting Proper Orthogonal Decomposition for the Solution of Forward and Inverse ECG and EEG Related Biomedical Problems***

Ilias Aitidis (Democritus University of Thrace, Greece); George Kyriacou (Democritus University of Thrace, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Medical and Biological Applications of EMF 2

Session type: Regular

Application track: Biomedical

Room: Asia

Chair: Rob Mestrom (Eindhoven University of Technology, The Netherlands)

11:00 ***Functionalized Carbon Nanotube Theranostic Agents for Microwave Diagnostic Imaging and Thermal Therapy of Tumors***

Fuqiang Gao (University of Wisconsin-Madison, USA); Shawn X Xie (Stony Brook University, USA); Balaji Sitharaman (Stony Brook University, USA); John Booske (University of Wisconsin-Madison, USA); Susan C. Hagness (University of Wisconsin, Madison, USA)

11:20 ***Magnetic Nanoparticle Enhanced Microwave Imaging: Towards an Experimental Feasibility Assessment***

Ovidio Mario Bucci (University of Naples, Italy); Gennaro Bellizzi (University of Naples Federico II, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Rosa Scapaticci (CNR-National Research Council of Italy, Italy); Giuseppe Di Massa (University of Calabria, Italy); Sandra Costanzo (University of Calabria, Italy); Antonio Borgia (University of

11:40 ***Microwave Imaging Based on Compressed Sensing Using Adaptive Thresholding***

Masoumeh Azghani (Sharif University of Technology, Iran); Panagiotis Kosmas (King's College London, United Kingdom); Farokh Marvasti (Sharif university of Technology, Iran)

12:00 ***Microwave Tomographic Imaging for Breast Cancer Chemotherapy Monitoring***

Tomasz Grzegorczyk (BAE Systems, USA); Paul M Meaney (Dartmouth College, USA); Keith D. Paulsen (Dartmouth College, USA)

12:20 ***Utilization Potential of Balanced Antipodal Vivaldi Antenna for Microwave Hyperthermia Treatment of Breast Cancer***

Ilja Merunka (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic); Ondrej Fiser, Jr. (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic); Lucie Vojackova (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic); Jan Vrba (Faculty of Biomedical Engineering, Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague & Faculty of Biomedical Engineering, Czech Republic)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Antennas and Propagation in Wireless Efficient Smart Buildings

Session type: Convened

Application track: Wireless Networks and RF Sensors

Room: Yangtze 1

Chairs: Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom), Ludek Subrt (Czech Technical University in Prague, Czech Republic)

09:00 ***3D-Frequency Selective Surfaces for Building Wall Applications***

Ic Pyo Hong (Kongju National University, Korea); In Gon Lee (Kongju National University, Korea)

09:20 ***A Passive System for Increasing Cellular Coverage Within Energy Efficient Buildings***

Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom); Ludek Subrt (Czech Technical University in Prague, Czech Republic)

09:40 ***Active Singly and Dual Polarised Interwoven Spiral Frequency Selective Surfaces***

Andrea Vallecchi (University of Sheffield, United Kingdom); Richard Langley (University of Sheffield, United Kingdom); Alex Schuchinsky (Queen's University Belfast, United

10:00 ***Advanced Modelling of Intelligent Walls for Indoor Smart Environments***

Ludek Subrt (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Andrea Vallecchi (University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom); Richard Langley (University of Sheffield, United Kingdom); Jonathan Michael Rigelsford (The

10:20 ***Frequency Selective Building Facades***

Pavel Valtr (Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic); Tianyou Yu (Czech Technical University in Prague, Czech Republic); Wenkang Zhao (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Hasim Altan (The British University in Dubai, UAE); Kenneth Lee Ford (University of Sheffield, United Kingdom)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Antennas and Propagation in Wireless Efficient Smart Buildings

Session type: Convened

Application track: Wireless Networks and RF Sensors

Room: Yangtze 1

Chairs: Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom), Ludek Subrt (Czech Technical University in Prague, Czech Republic)

11:00 ***Inter-Building Propagation Modelling for Indoor Wireless Communications System Deployment***

Michael J Neve (The University of Auckland, New Zealand); Martin Leung (The University of Auckland, New Zealand); John Cater (The University of Auckland, New Zealand)

11:20 ***ISM Band Interference Behaviour in a Modern City Hospital***

Lorenzo Mucchi (University of Florence, Italy); Yifan Chen (South University of Science and Technology of China, P.R. China); Alessio Carpini (University of Florence, Italy)

11:40 ***Rapid Channel Assignment for Intelligent Indoor Scenarios***

Robert Urban (Brno University of Technology, Czech Republic); Eliska Hutová (Brno University of Technology, Czech Republic)

12:00 ***Secure Electromagnetic Buildings***

Jiayin Roberts (University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom); Jonathan Michael Rigelsford (The University of Sheffield,

12:20 ***Study of Clusters of Defects in Low-Cost Digitally Fabricated Frequency Selective Surfaces***

Badredin Turki (University of Kent, United Kingdom); Edward Parker (The University of Kent, United Kingdom); Mohamad Ali Ziai (University of Kent, United Kingdom); John Batchelor (University of Kent, United Kingdom); Veronica Sanchez-Romaguera (University of Manchester, United Kingdom); Stephen Yeates (University of Manchester, United

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Modelling Propagation for Millimetre-Wave Wireless Communications

Session type: Convened

Application track: Wireless networks and RF Sensors

Room: Yangtze 2

Chairs: Vittorio Degli-Esposti (University of Bologna, Italy), Jose-Maria Molina-Garcia-Pardo (Universidad Politécnica de Cartagena, Spain)

09:00 ***A Sliding-Correlator-based SAGE Algorithm for Mm-wave Wideband Channel Parameter Estimation***

Xuefeng Yin (Tongji University, P.R. China); Yongyu He (Tongji University, P.R. China); Zinuo Song (Tongji University, P.R. China); Myung-Don Kim (ETRI, Korea); Hyun Kyu Chung

09:20 ***Beamforming Antennas for 60 GHz Positioning Systems***

Anna Papio Toda (University of California, Irvine, USA); Jordi Romeu (Universitat Politècnica de Catalunya, Spain); Luis Jofre (UPC, Spain); Franco De Flaviis (University of

09:40 ***Indoor Short-Range Radio Propagation Measurements At 60 and 70 GHz***

Katsuyuki Haneda (Aalto University, Finland); Jan Järveläinen (Aalto University, Finland); Aki Karttunen (Aalto University, Finland); Mikko Kyro (National Board of Patents and Registration of Finland, Finland); Jyri Putkonen (Nokia Solutions and Networks, Finland)

10:00 ***Fast Beam Searching Concept for Indoor Terahertz Communications***

Bile Peng (Technische Universität Braunschweig, Germany); Sebastian Priebe (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität

10:20 ***Millimeter-wave Channel Modelling for IEEE802 Standardizations***

Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan); Hirokazu Sawada (NICT, Japan)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Modelling Propagation for Millimetre-Wave Wireless Communications

Session type: Convened

Application track: Wireless networks and RF Sensors

Room: Yangtze 2

Chair: Vittorio Degli-Esposti (University of Bologna, Italy)

11:00 ***On Clustering for Deterministic and Measured Indoor mmW Channels***

Maria Teresa Martinez-Ingles (Universidad Politecnica de Cartagena, Spain); Davy P Gaillot (University of Lille 1, France); Juan Pascual-García (Technical University of Cartagena, Spain); Jose-Maria Molina-Garcia-Pardo (Universidad Politécnica de Cartagena, Spain); Martine Liénard (University of Lille, France); José-Víctor Rodríguez (Universidad Politécnica

11:20 ***Modeling the Cluster Decay in mm-Wave Channels***

Carl Gustafson (Lund University, Sweden); David Bolin (Umeå University, Sweden); Fredrik Tufvesson (Lund University, Sweden)

11:40 ***Propagation Characterization of an Office Building in the 60 GHz Band***

Jonathan S. Lu (Polytechnic Institute of New York University, USA); Daniel Steinbach (InterDigital Communications, LLC, USA); Patrick Cabrol (InterDigital Communications, LLC, USA); Philip Pietraski (InterDigital Communications, USA); Ravikumar Pragada (InterDigital, USA)

12:00 ***Study of Back-Scattering From Buildings Using a 60 GHz Scaled Model***

Jonathan S. Lu (Polytechnic Institute of New York University, USA); Vittorio Degli-Esposti (University of Bologna, Italy); Enrico M. Vitucci (University of Bologna, Italy); Henry L. Bertoni (Polytechnic University, USA)

12:20 ***Ultrawideband Multichannel Sounding for mm-Wave***

Robert Müller (TU Ilmenau, Germany); Ralf Herrmann (Ilmenau Technical University, Germany); Diego Andres Dupleich (Ilmenau University of Technology, Germany); Christian Schneider (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Frequency and Polarisation Selective Surfaces

Session type: Regular

Application track: Space

Room: Africa

Chairs: Robert Cahill (Queen's University Belfast, United Kingdom), Simon van den Berg (Thales NL, The Netherlands)

09:00 ***A Multi Layer Meander Line Circular Polarization Selective Structure (MLML-CPSS)***

Daniel Sjöberg (Lund University, Sweden); Andreas Ericsson (Lund University, Sweden)

09:20 ***Analysis of Conformal Frequency Selective Surface Radome***

Akın Dalkılıç (ASELSAN Inc. & Middle East Technical University, Turkey); Lale Alatan (METU, Turkey); Can Baris Top (Aselsan Inc., Turkey)

09:40 ***Low-Profile Polarizing Surface with Dual-Band Operation in Orthogonal Polarizations for Broadband Satellite Applications***

Nelson Fonseca (European Space Agency, The Netherlands); Cyril Mangenot (European Space Agency, The Netherlands)

10:00 ***Lumped-Elements Tunable Frequency Selective Surfaces***

Shady Keyrouz (Eindhoven University of Technology & imec / Holst Centre - The Netherlands, The Netherlands); Huib J. Visser (IMEC Netherlands, The Netherlands)

10:20 ***Oblique Incidence Measurements of Circular Polarization Selective Surfaces***

Juanjo Sanz-Fernandez (European Space Agency, The Netherlands); Elena Saenz (European Space Agency, The Netherlands); Peter de Maagt (European Space Agency, The

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Array-Antenna Design and Technology

Session type: Regular

Application track: Space

Room: Africa

Chairs: Cyril Mangenot (European Space Agency, The Netherlands), Giovanni Toso (European Space Agency, The Netherlands)

11:00 ***Tolerance Analysis with Phase Errors in Linear Arrays by Means of Interval Arithmetic***

Lorenzo Poli (University of Trento, Italy); Luca Manica (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Ennio Giaccari (Finmeccanica, Italy); Andrea Massa (University of Trento, Italy)

11:20 ***Dual-Polarized Wideband and High-Gain Array with Waveguide-to-Stripline Series-Feed Network***

Guanlong Huang (National University of Singapore & Temasek Laboratories, Singapore); Shigang Zhou (National University of Singapore, Singapore); Tan-Huat Chio (National University of Singapore, Singapore); Tat Soon Yeo (National University of Singapore, Singapore)

11:40 ***A Ku-Band 8×8 Dual-Polarized High-Gain Array with Mirror-Symmetric Hybrid Feeding Network***

Guanlong Huang (National University of Singapore & Temasek Laboratories, Singapore); Shigang Zhou (National University of Singapore, Singapore)

12:00 ***An Interval Arithmetic-Based Robustness Evaluation of Sub-Arrayed Linear Array Antenna Architectures***

Lorenzo Poli (University of Trento, Italy); Luca Manica (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

12:20 ***Design of Thinned Arrays with Controlled Sidelobes by ADS-CP Strategy***

Davide Sartori (ELEDIA Research Center, Italy); Luca Manica (University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Satellite Tropospheric Propagation

Session type: Regular

Application track: Space

Room: Antarctica

Chairs: Carlo Riva (Politecnico di Milano, Italy), Michael Schönhuber (Joanneum Research, Austria)

09:00 ***Evaluation of Deep Space Ka-Band Data Transfer Using Radiometeorological Forecast Models***

Marianna Biscarini (University of La Sapienza, Italy); Frank S. Marzano (Sapienza University of Rome, Italy); Luciano Iess (Univerity of Rome La Sapienza, Italy); Mario Montopoli (University of L'Aquila, Italy); Klaide De Sanctis (HIMET, Italy); Saverio Di Fabio (CETEMPS, Italy); Livio Bernardini (CETEMPS, Italy); Marco Gregnanin (Arpsoft Srl, Italy); Marzia Parisi (Sapienza University of Rome, Italy); Maria Montagna (ESA, Italy); Mattia Mercolino (European Space Agency, Germany); Marco Lanucara (European Space Agency,

09:20 ***Ka-Band Atmospheric Phase Stability Measurements in Goldstone, CA; White Sands, NM and Guam***

Michael Zemba (NASA Glenn Research Center, USA); Jacquelynne Morse (NASA Glenn Research Center, USA); James Nessel (NASA, USA)

09:40 ***Measurements of K-band Scintillation on a Low Elevation Satellite-Earth Path in Norway***

Martin Rytir (Norwegian Defence Research Establishment (FFI), Norway); Lars Erling Bråten (Norwegian Defence Research Establishment (FFI), Norway)

10:00 ***Modeling of Joint Rainfall Rate and Rain Attenuation Statistics Using Archimedean Copula Functions***

Charilaos Kourogiorgas (National Technical University of Athens, Greece); Spiros Livieratos (ASPETE, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece); George Chatzarakis (ASPETE, Greece)

10:20 ***Performance of SatCom Systems Implementing Time Diversity in Equatorial Malaysia***

Lam Hong Yin (Universiti Teknologi Malaysia, Malaysia); Lorenzo Luini (Politecnico di Milano, Italy); Jafri Din (Universiti Teknologi Malaysia, Malaysia); Carlo Capsoni (Politecnico di Milano, Italy); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Satellite Tropospheric Propagation

Session type: Regular

Application track: Space

Room: Antarctica

Chairs: Carlo Riva (Politecnico di Milano, Italy), Michael Schönhuber (Joanneum Research, Austria)

11:00 ***Radiometric Attenuation for Beacon Calibration: a Preliminary Analysis on Accuracy and Reliability***

Vinia Mattioli (He-Space Operations & Sapienza University of Rome, Italy); Ada Vittoria Bosisio (CNR-IEIIT & c/o Politecnico di Milano, Italy); Xavier Boulanger (ONERA, France); Laurent Castanet (ONERA, France)

11:20 ***Rain Attenuation Variability Calculated From a Slant-Path Ka-Band Experiment***

Jose García-Rubia (The Catholic University of America, USA); Jose M Riera (Universidad Politécnica de Madrid, Spain); Pedro Garcia-del-Pino (Universidad Politecnica de Madrid, Spain); Gustavo Siles (Universidad Politecnica de Madrid, Spain); Ana Benarroch (Universidad Politécnica de Madrid, Spain)

11:40 ***Statistical Analysis of 19.7 GHz Satellite Beacon Measurements in Ljubljana, Slovenia***

Urban Kuhar (Jozef Stefan Institute, Slovenia); Andrej Hrovat (Jožef Stefan Institute, Slovenia); Gorazd Kandus (Jozef Stefan Institute, Slovenia); Andrej Vilhar (Jozef Stefan

12:00 ***Use of Microwave Profiler for Alphasat ALDO In-Orbit Tests and Atmospheric Observations***

Félix Cuervo (JOANNEUM RESEARCH, Austria); Franz Teschl (Joanneum Research, Austria); Vinia Mattioli (He-Space Operations & Sapienza University of Rome, Italy); Antonio Martellucci (European Space Agency, The Netherlands); Juan Rivera Castro (ESA, The Netherlands); Carlo Riva (Politecnico di Milano, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Lorenzo Luini (Politecnico di Milano, Italy); Giuseppe Codispoti (Italian Space Agency, Italy); Michael Schönhuber (Joanneum Research, Austria)

12:20 ***Worst Month Statistics: Rain and Ka-band Attenuation Results***

Armando C Rocha (University of Aveiro & Institute of Telecommunications, Portugal); Flávio M. da Silva Jorge (University of Aveiro & Telecommunications Institute, Portugal)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Phased Array Systems for Defence Applications

Session type: Convened

Application track: Defense & Security

Room: Europe 1

Chairs: Kazunari Kihira (Mitsubishi Electric Corporation, Japan), Stefania Monni (TNO Defence Security and Safety, The Netherlands)

09:00 ***A Phased Array Antenna Using Commercial Fractional-N PLL Synthesizers by Clock Shift of LE Signals***

Kazunari Kihira (Mitsubishi Electric Corporation, Japan); Yusuke Kitsukawa (Mitsubishi Electric Corporation, Japan); Hideyuki Nakamizo (Mitsubishi Electric Corporation, Japan); Toru Takahashi (Mitsubishi Electric Corporation, Japan); Hiroaki Miyashita (Mitsubishi Electric Corporation, Japan)

09:20 ***An X-band Compact Multi-Channel Antenna Module for Active Phased Array Antennas***

Masahiro Tanabe (Toshiba Corporation, Japan)

09:40 ***Evolution of Naval AESA Radars***

Simon van den Berg (Thales NL, The Netherlands); Annemieke Tonnaer (Thales NL, The Netherlands)

10:00 ***Phased Array Systems for Air, Land and Naval Defence Applications in Selex ES***

Alfonso Farina (Selex ES, Italy); Luca Timmoneri (Selex ES, Italy)

10:20 ***RADAR for Security & Defence - Recent Developments At Fraunhofer-FHR***

Joachim H. G. Ender (Fraunhofer FHR, Germany); Peter Knott (Fraunhofer FHR, Germany); Helmut Wilden (Fraunhofer FHR, Germany); Robert Kohlleppel (Fraunhofer FHR, Germany); Nils Pohl (Fraunhofer FHR, Germany); Thomas Bertuch (Fraunhofer FHR, Germany); Michael Caris (Fraunhofer FHR, Germany); Jens Klare (Fraunhofer FHR, Germany);

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Phased Array Systems for Defence Applications

Session type: Convened

Application track: Defense & Security

Room: Europe 1

Chairs: Stefania Monni (TNO Defence Security and Safety, The Netherlands), Simon van den Berg (Thales NL, The Netherlands)

11:00 ***Recent Advances in Randomly Spaced Antenna Arrays***

Christos Christodoulou (University of New Mexico, USA); Maialen Ciaurriz (The University of New Mexico, USA); Youssef Tawk (The University of New Mexico & Notre Dame University Louaize, USA); Joseph Costantine (California State University Fullerton & American University of Beirut- Electrical and Computer Engineering Department, USA); Silvio

11:20 ***S-band Active Array Filtenna with Enhanced X-band Spurious Interference Suppression***

Lorenzo Cifola (Thales Nederland & Università Politecnica della Marche, The Netherlands); Giampiero Gerini (TNO - Defence, Security and Safety, The Netherlands); Simon van den Berg (Thales NL, The Netherlands); Frank van de Water (Thales NL, The Netherlands)

11:40 ***Status and Trends of Active Electronically Scanned Antennas At Airbus Defense&Space***

Peter Ruetzel (Airbus Defense & Space, Germany); Markus Boeck (Airbus Defense & Space, Germany)

12:00 ***Wideband Phased Arrays with True Time Delay Beamformers***

Ruth Rotman (Tel Aviv University, Israel); Moshe Tur (Tel Aviv University, Israel)

12:20 ***A Direction Finding Antenna System***

Eric Amyotte (MDA, Canada); Thomas Tralman (MDA, Canada); Rainer Ullmann (MDA Corporation, Canada)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Mm-Wave Antenna Systems

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Cyril Luxey (University Nice Sophia-Antipolis, France), Marta Martínez-Vázquez (IMST GmbH, Germany)

09:00 ***300-GHz Corrugated Horn Antennas on LTCC Multi-layer Substrates***

Takuro Tajima (NTT Microsystem Integration Laboratories & Nippon Telegraph and Telephone Corporation, Japan); Ho-jin Song (NTT Microsystem Integration Laboratories, Japan); Makoto Yaita (NTT Microsystem Integration Laboratories, Japan)

09:20 ***60 GHz System-on-Chip (SoC) with Built-in Memory and an On-chip Antenna***

Farhan Ghaffar (KAUST, Saudi Arabia); Muhammad Arsalan (4700 King Abdullah University of Science and Technology, Saudi Arabia); Hammad Cheema (School of Elect. Engg. and Comp. Science, National Uni. of Science & Technology, Pakistan); Khaled N Salama (KAUST, Saudi Arabia); Atif Shamim (King Abdullah University of Science and Technology,

09:40 ***60-GHz Antennas on PCB***

Zhi Ning Chen (National University of Singapore & Institute for Infocomm Research, Singapore); Xianming Qing (Institute for Infocomm Research, Singapore); Mei Sun (Institute for Infocomm Research, Singapore); Ke Gong (Southeast University, Singapore); Hong Wei (Southeast University, P.R. China)

10:00 ***Dual-Circular Polarised Patch Antenna Array on LCP for 60 GHz Millimetre-Wave Identification***

Antti E. I. Lamminen (VTT Technical Research Centre of Finland, Finland); Jouko Aurinsalo (VTT Technical Research Centre of Finland, Finland); Jussi Säily (VTT Technical Research Centre of Finland, Finland); Timo Karttaavi (Cojot Oy, Finland); Jim Francey (Optiprint AG, Switzerland); Terry Bateman (Optiprint AG, Switzerland)

10:20 ***FSS Design for Dual-Band and Low Profile Fabry-Pérot Antenna At Ka-band***

Eduardo B. Lima (Instituto de Telecomunicações & Instituto Superior Técnico, Portugal); Jorge R. Costa (Instituto de Telecomunicações / ISCTE-IUL, Portugal); Carlos A. Fernandes (Instituto de Telecomunicacoes, Instituto Superior Tecnico, Portugal)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Mm-Wave Antenna Systems

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Cyril Luxey (University Nice Sophia-Antipolis, France), Marta Martínez-Vázquez (IMST GmbH, Germany)

11:00 ***Miniaturized 122 GHz Short Range Radar Sensor with Antenna-in-Package (AiP) and Dielectric Lens***

Benjamin Goettel (Karlsruhe Institute of Technology, Germany); Mario Pauli (Karlsruhe Institute of Technology, Germany); Heiko Gulan (Karlsruhe Institute of Technology, Germany); Mekdes Girma (Robert Bosch GmbH, Germany); Juergen Hasch (Robert Bosch GmbH, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

11:20 ***mmWave Phased-Array with Hemispheric Coverage for 5th Generation Cellular Handsets***

Wonbin Hong (Samsung Electronics, Korea); Kwanghyun Baek (Samsung Electronics, Korea); Yoon Geon Kim (Samsung Electronics, Korea); Youngju Lee (Samsung Electronics, Korea); Byungchul Kim (Samsung Electronics, Korea)

11:40 ***On Design of Differentially Driven On-Chip Antennas with Harmonic Filtering for Silicon Integrated Mm-Wave and THz N-push Oscillators***

Janusz Grzyb (University of Wuppertal, Germany); Yan Zhao (University of California at Los Angeles (UCLA), USA); Richard Al Hadi (University of Wuppertal, Germany); Ullrich Pfeiffer (University of Wuppertal, Germany)

12:00 ***Probe-fed Measurement System for F-band Antennas***

Aimeric Bisognin (University Nice Sophia-Antipolis, France); Diane Titz (University of Nice, France); Fabien Ferrero (CREMANT, Université Nice-Sophia Antipolis & CREMANT CNRS, France); Gilles Jacquemod (University of Nice, France); Romain Pilard (STMicroelectronics, Technology R&D, STD, TPS Lab, France); Frédéric Gianesello (STMicroelectronics, France); Daniel Gloria (STMicroelectronics, France); Claire Laporte (STMicroelectronics, France); Hilal Ezzeddine (STMicroelectronics, France); Delphine Lugara (France Telecom R&d, France); Cyril Luxey (University Nice Sophia-Antipolis, France)

12:20 ***Technologies for Integrated mm-Wave Antennas***

Steven Brebels (IMEC, Belgium); Amin Enayati (ESAT, Katholieke Universiteit Leuven & IMEC, Belgium); Charlotte Soens (Imec, Belgium); Walter De Raedt (IMEC, Belgium); Liesbet Van der Perre (IMEC, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

09:00 - 10:40

Slotted-Wave, Guided-Wave and Leaky-Wave Antennas

Session type: Regular

Application track: Multiple Applications

Room: North America

Chairs: Achim Dreher (German Aerospace Center (DLR), Germany), Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France)

09:00 ***2D Slot Array Antenna in Ridge Gap Waveguide Technology***

Mona Ramezan (K. N. Toosi University of Technology, Iran); Ali Khaleghi (K. N. Toosi University of Technology, Iran)

09:20 ***An Anisotropic Substrate Grounded with a Tensor Impedance Sheet for Control of Guided-Waves and Application to Planar Leaky-Wave Antenna Design***

Symon K Podilchak (Queen's University & Royal Military College of Canada, Canada); Ladislau Matekovits (Politecnico di Torino, Italy); Al P. Freundorfer (Queen's University, Canada); Yahia Antar (Royal Military College of Canada, Canada)

09:40 ***A New Half Mode Substrate Integrated Waveguide Leaky Wave Antenna***

Robert Henry (University of Calgary, Canada); Michal Okoniewski (University of Calgary, Canada)

10:00 ***A Tapered CRLH Mushroom-like Leaky Wave Antenna with Reduced Sidelobe Level***

Jorge Julio Jácome-Muñoz (Fraunhofer FHR, Spain); Juan Sebastián Gomez-Diaz (EPFL, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland); Alejandro Alvarez-Melcon (Technical University of Cartagena, Spain)

10:20 ***Annular Slots for Circularly Polarized Slotted Substrate Integrated Waveguide Array***

Philippe Ratajczak (Orange Labs, France)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Slotted-Wave, Guided-Wave and Leaky-Wave Antennas

Session type: Regular

Application track: Multiple Applications

Room: North America

Chairs: Jean-Christophe Angevain (ESA, The Netherlands), Elena Saenz (European Space Agency, The Netherlands)

11:00 ***Bessel Beam Generation with a RLSA Antenna for Non-Contact Detection of Buried Objects***

Agnese Mazzinghi (University of Florence, Italy); Massimo Balma (Selex ES, Italy); Dorina Devona (Selex ES, Italy); Giacomo Guarnieri (Selex Galileo, Italy); Giuseppe Mauriello (Selex Galileo, Italy); Matteo Albani (University of Siena, Italy); Angelo Freni (University of Florence, Italy)

11:20 ***Compact Leaky Wave Antenna with Periodical Slots on Substrate Integrated Waveguide***

Manisha Mujumdar (Nanyang Technological University Singapore, Singapore); Arokiaswami Alphones (Nanyang Technological University, Singapore)

11:40 ***Optimization of Planar Periodic Leaky-Wave Antennas by Selective Surface-Wave Suppression***

Symon K Podilchak (Queen's University & Royal Military College of Canada, Canada); Paolo Baccarelli (Sapienza University of Rome, Italy); Paolo Burghignoli (Sapienza University of Rome, Italy); Al P. Freundorfer (Queen's University, Canada); Yahia Antar (Royal Military College of Canada, Canada)

12:00 ***Scanning Antennas Using Digital Metasurfaces***

Santi Concetto Pavone (University of Siena, Italy); Enrica Martini (University of Siena, Italy); Matteo Albani (University of Siena, Italy); Christian Renard (Thales Systèmes Aéroportés, France); Jean-Maurice Chazelas (Thales Aerospace Division, France); Stefano Maci (University of Siena, Italy)

12:20 ***Transitions Between Gap Waveguides for Use in a Phased Array Antenna Fed by a Rotman Lens***

Fernando Carrera Suárez (Universidad Politécnica de Valencia & Escuela Politécnica Nacional, Spain); Diana Navarro Méndez (Universidad Politécnica de Valencia & Escuela Politécnica Nacional, Spain); Mariano Baquero-Escudero (Universidad Politécnica de Valencia, Spain); Bernardo Bernardo-Clemente (Universitat Politècnica de València, Spain); Sara Martínez Giner (Universidad Politécnica de Valencia, Spain)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Emerging Techniques for Multiband and Wideband Antennas

Session type: Convened

Application track: Wireless Networks and RF Sensors

Room: South America

Chairs: Sungtek Kahng (University of Incheon, Korea), Hisamatsu Nakano (Hosei University, Japan)

09:00 ***Compact Hyper-band Printed Slot Antenna: Design and Experiments***

Ming-Chun Tang (College of Communication Engineering, Chongqing University, Chongqing, 400044, China, P.R. China); Richard W. Ziolkowski (University of Arizona, USA)

09:20 ***Design of a Multi-band Antenna for 4G Wireless Systems***

Young-Taek Hong (Hanyang University, Korea)

09:40 ***Investigation of Tunable Matching Circuits for Multiband 4G Handsets***

Aykut Cihangir (University of Nice Sophia Antipolis, France); Fabien Ferrero (CREMANT, Université Nice-Sophia Antipolis & CREMANT CNRS, France); Cyril Luxey (University Nice Sophia-Antipolis, France); Gilles Jacquemod (University of Nice, France); Alexandre Reinhardt (CEA-LETI, France); Laurent Dussopt (CEA, LETI, Minatec, France); Nicolas Lorphelin (DELFMEMS, France); Nizar Obeid (DELFMEMS, France); Patrice Brachat (Orange Labs & France Telecom, France)

10:00 ***Metamaterial-based Wideband Horizontally Polarized Omnidirectional 5-GHz WLAN Antenna Array***

Xianming Qing (Institute for Infocomm Research, Singapore); Zhi Ning Chen (National University of Singapore & Institute for Infocomm Research, Singapore)

10:20 ***Microwave Imaging From Wheel-of-Time Data***

Khaldoun Alkhalifeh (Université Catholique de Louvain, Belgium); Augustin Cosse (Université Catholique de Louvain, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium); Benoit Macq (UCL, Belgium)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Emerging Techniques for Multiband and Wideband Antennas

Session type: Convened

Application track: Wireless networks and RF Sensors

Room: South America

Chairs: Sungtek Kahng (University of Incheon, Korea), Hisamatsu Nakano (Hosei University, Japan)

11:00 ***New Concept for Realizing Wideband and Multiband Dielectric Resonator Antennas***

Debatosh Guha (University of Calcutta, India); Yahia Antar (Royal Military College of Canada, Canada)

11:20 ***Printed Multi-band MIMO Antenna Systems: Techniques and Isolation Mechanisms***

Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia)

11:40 ***Reconfiguration of Ultra Wideband Antenna for Multi-band Operation in Cognitive Radio Application***

Tamer Aboufoul (Queen Marry, University of London, United Kingdom); Akram Alomainy (Queen Mary, University of London, United Kingdom)

12:00 ***Two-arm Metaspiral Antenna***

Hisamatsu Nakano (Hosei University, Japan); Hideyuki Kataoka (Hosei University, Japan); Toshio Shimizu (Hosei University, Japan); Junji Yamauchi (College of Engineering, Japan)

12:20 ***Wideband and Low-Profile Metamaterial Antennas for Aircrafts and Automobiles***

Sungtek Kahng (University of Incheon, Korea); Kyeongnam Jang (University of Incheon, Korea); Jinsu Jeon (University of Incheon, Korea); Inkyu Yang (University of Incheon, Korea); Kyungseok Kahng (University of Incheon, Korea); Se-gyoon Mok (University of Incheon, Korea); Jaume Anguera (Fractus, Spain)

12:40 - 13:30
Lunch Break
Room: Atlantic

11:00 - 12:40
[WS]: AMTA Special Session on Low-Frequency Antenna Measurements
Session type: Scientific Workshop
Room: Oceania

11:00 - 12:00
CST Workshop
Session type: Industrial Workshop
Room: Europe 2

12:40 - 13:30
Lunch Break
Room: Atlantic

13:30 - 16:20 Poster Session

Body Centric Issues
Room: Poster area 1

TUE.1.1 A Novel Compact Planar Inverted-F Antenna for Biomedical Applications in the MICS Band
Bright Yeboah-Akowuah (King's College London, United Kingdom); Panagiotis Kosmas (King's College London, United Kingdom); Efthymios Kallos (Queen Mary, University of London, United Kingdom); George K Palikaras (Queen Mary University of London, United Kingdom); Yifan Chen (South University of Science and Technology of China, P.R. China)

TUE.1.2 Bandwidth Enlargement of Inductively-Coupled UHF RFID Tag Antennas Based on a Dual-Dipole Topology
Thierry Alves (Université Paris Est Marne-la-Vallée, France); Rafael Quiroz (Université Paris-Est Marne-la-Vallée, France); Jean-Marc Laheurte (Université de Paris Est Marne La Vallée (UPEMLV), France)

TUE.1.3 Compact Low-Profile Antenna for Wireless Medical Vital Sign Monitors At 868 MHz
Gareth Conway (Queen's University of Belfast & ECIT, United Kingdom); William G. Scanlon (Queen's University Belfast & University of Twente, United Kingdom)

TUE.1.4 Feeding Structure Influence on Performance of Two UWB Antennas Near a Human Arm
Mohsen Koohestani (Laboratoire d'Electromagnétisme et d'Acoustique, École Polytechnique Fédérale de Lausanne & Instituto Superior Técnico, Universidade Técnica de Lisboa, Switzerland); Antonio A Moreira (I.S.T. - Technical U. Lisbon / I.T. Lisbon, Portugal); Anja K. Skrivervik (EPFL, Switzerland)

TUE.1.5 Super-Wideband Tree Shaped Textile Antenna
Roshayati Yahya (Universiti Tun Hussein Onn Malaysia, Malaysia); Muhammad Ramlee Kamarudin (Universiti Teknologi Malaysia, Malaysia); Norhudah Seman (Universiti

TUE.1.6 On-Body Channel Correlation in Various Walking Scenarios
Oudomsack Pierre Pasquero (CEA, LETI, Minatec Campus, France); Ramona Rosini (DEI - University of Bologna & CEA - Leti Grenoble, Italy); Raffaele D'Errico (CEA, LETI, Minatec Campus, France); Claude Oestges (Université Catholique de Louvain, Belgium)

TUE.1.7 Correlated Shadowing and Fading Characterization of MIMO Off-Body Channels by Means of Multiple Autonomous On-Body Nodes
Patrick Van Torre (Ghent University, Belgium); Peter Vanveerdeghem (Ghent University, Belgium); Hendrik Rogier (Ghent University, Belgium)

TUE.1.8 First-Order Characteristics of the Person-to-Vehicle Channel At 5.8 GHz
Michael Doone (Queen's University Belfast, United Kingdom); Simon Cotton (Queen's University, Belfast, United Kingdom)

TUE.1.9 Modelling of Dynamic On-Body Channels Using Different Types of Wearable Antennas
Anastasios Paraskevopoulos (Loughborough University, United Kingdom); Antonis A Alexandridis (NCSR "Demokritos", Greece); Theodore Zervos (NCSR "Demokritos", Institute of Informatics & Telecommunications, Greece); Asimina Michalopoulou (NCSR Demokritos, Greece); Fotis Lazarakis (NCSR Demokritos, Institute of Informatics & Telecommunications, Greece); J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

TUE.1.10 Improving Signal Reliability for Indoor Off-body Communications Using Spatial Diversity At the Base Station
Seong Ki Yoo (Queen's University Belfast, United Kingdom); Simon Cotton (Queen's University, Belfast, United Kingdom)

TUE.1.11 Expression for Human Whole-Body Averaged SAR of Adults for Single Plane Wave Exposure
Aliou Bamba (University of Ghent, Belgium)

TUE.1.12 A Flexible Loop Antenna for Biomedical Bone Implants
Rula Alrawashdeh (The University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Aznida Abu Bakar Sajak (University of Liverpool & University of Kuala Lumpur, United Kingdom)

TUE.1.13 A Novel Algorithm for Implantable Antenna Design: Size and Radiation Performance Considerations
Asimina Kiourti (National Technical University of Athens, USA); Andromachi Kaltampani (Imperial College London, United Kingdom); Konstantina S Nikita (National Technical University of Athens, Greece)

TUE.1.14 Compact Dual-Band Implanted Antenna for Wireless Communication
Saeed M Alamri (University of Sheffield, United Kingdom); Richard Langley (University of Sheffield, United Kingdom); Ahmed AlAmoudi (King Abdulaziz City for Science and

TUE.1.15 Convex Optimization for Analysis of Antennas with Near Field Constraints
Mats Gustafsson (Lund University, Sweden); Jonas Fridén (Ericsson AB, Sweden); Davide Colombi (Ericsson AB, Sweden)

TUE.1.16 Low Profile UHF RFID Tag for Wristbands in Healthcare Applications
Sergio López (Universitat Autònoma de Barcelona, Spain); Josep Parrón (Universitat Autònoma de Barcelona, Spain)

TUE.1.17 Small Antenna Embedded in a Wrist-Watch for Application in Telemedicine

Hafedh Hamouda (University of Nice-Sophia Antipolis & LEAT Sophia Antipolis - CNRS, France); Philippe Lethuc (University of Nice, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Georges Kossiavas (University of Nice, France)

Tropospheric Channel

Room: Poster area 1

TUE.1.18 Modelling Rain Rate by Means of Arrival Processes

Vicente Pastoriza (University of Vigo, Spain); Fernando Machado (University of Vigo, Spain); Perfecto Marino (University of Vigo, Spain); Fernando Pérez-Fontán (University of

TUE.1.19 Deciwavelength-Scale Fade Mitigation

Jeff Frolik (University of Vermont, USA)

TUE.1.20 Model-based Analysis of the Impact of Volcanic Ash Clouds on W-band Satellite Communication Links

Frank S. Marzano (Sapienza University of Rome, Italy); Luigi Mereu (Sapienza University of Rome, Italy); Mario Montopoli (University of L'Aquila, Italy); Saverio Mori (Sapienza University of Rome, Italy); David V. Rogers (Communications Research Centre Canada & CRC, Canada)

TUE.1.21 Multi Satellite MIMO Systems At Ka Band and Above: Outage Capacity Analysis Using Bivariate IG Distribution

Charilaos Kourogiorgas (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

TUE.1.22 Physically-based Models for the Performance Evaluation of V and W Band SatCom Systems

Lorenzo Luini (Politecnico di Milano, Italy); Carlo Capsoni (Politecnico di Milano, Italy)

TUE.1.23 Propagation Experiment in Madrid Using the Alphasat Q-Band Beacon

Jose M Riera (Universidad Politécnica de Madrid, Spain); Pedro Garcia-del-Pino (Universidad Politecnica de Madrid, Spain); Gustavo Siles (Universidad Politecnica de Madrid, Spain); Ana Benarroch (Universidad Politécnica de Madrid, Spain)

TUE.1.24 Climatic-Dependent Energy Efficient Design of Satellite Links Operating Above 10GHz: An Optimal Stopping Approach

Marios I. Poulakis (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

TUE.1.25 Effects of Multiple Scattering Due to Atmospheric Water Particles on Outdoor Free Space Optical Links

Saverio Mori (Sapienza University of Rome, Italy); Frank S. Marzano (Sapienza University of Rome, Italy)

TUE.1.26 Meteorological Measurement of Atmospheric Turbulence and FSO Link Attenuation - Preliminary Results

Vladimir Brazda (Institute of Atmospheric Physics Prague, Czech Republic); Ondrej Fiser (Institute of Atmospheric Physics & Fac. of Electrical Engineering and Informatics/Uni of Pardubice, Czech Republic); Viktor Pek (University of Pardubice, Czech Republic); Petr Pesice (Institute of Atmospheric Physics Prague, Czech Republic); Vladimir Schejbal

TUE.1.27 Modelling of the Propagation of GPS Signals Over the Horizon

Cheng-Guo Liu (Wuhan University of Technology, P.R. China); Bin Zhang (Wuhan University of Technology, P.R. China); Zhi Wu (Wuhan University of Technology, P.R. China); Yang Li (Huazhong University of Science and Technology, P.R. China)

TUE.1.28 Radar Observations and Modeling of Fog At 35 GHz

Yunlong Li (Delft University of Technology, The Netherlands); Peter Hoogeboom (Delft University of Technology, The Netherlands); Herman W. J. Russchenberg (Delft University of Technology, The Netherlands)

Antenna and RF Material Characterization Techniques and Facilities

Room: Poster area 1

TUE.1.29 A Measurement Method for Evaluation of Car-to-Infrastructure Radio Channels

Michael Meuleners (Hochschule Niederrhein University of Applied Sciences, Germany); Daniel Quack (Hochschule Niederrhein, Germany); Christoph Degen (Hochschule Niederrhein University of Applied Sciences, Germany)

TUE.1.30 Full-Wave Embedding - De-embedding Procedures for RFID Measurement Space Characterization

Theodoros Kaifas (Aristotle University of Thessaloniki, Greece); Dimitrios G. Babas (Aristotle University of Thessaloniki, Greece); Elias E Vafiadis (Aristotle University of Thessaloniki & Physics Department, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

TUE.1.31 Investigation of the Influence of Panoramic Roof on Mobile Telephony Antennas

Jerzy Kowalewski (Karlsruhe Institute of Technology, Germany); Tobias Mahler (Karlsruhe Institute of Technology, Germany); Lars Reichardt (E. Solutions GmbH, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

TUE.1.32 Measurement of Antenna Radiation Pattern Using Injection Locking Technique

Md. Hasanuzzaman Sagor (University of Greenwich, United Kingdom); Peter Callaghan (University of Greenwich, United Kingdom)

TUE.1.33 Measurement Uncertainty Investigation in the Multi-probe OTA Setups

Wei Fan (Aalborg University, Denmark); Istvan Szini (Aalborg University, USA); Michael Foegelle (ETS-Lindgren, USA); Jesper Ø Nielsen (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

TUE.1.34 Optically Modulated Scatterer Probe for In-Situ Antenna Monitoring

Ghattas Lama (Commissariat d'Energie Atomique CEA, France); Serge Bories (CEA, France); Mervi Hirvonen (VTT, France); Dominique Picard (DRE, Laboratoire des Signaux et

TUE.1.35 Near-Field Hybrid Test Range From 400 MHz to 50 GHz in the ESTEC Compact Payload Test Range with RF Upgrade for High Frequencies

Sara Burgos (ORBIT/FR Europe GmbH & System Engineer and Project Manager, Germany); Per Iversen (Orbit/FR, USA); Tyrone Andersson (ORBIT/FR Europe GmbH, Germany); Ulrike Wagner (ORBIT/FR Europe GmbH, Germany); Thomas Kozan (ORBIT/FR Europe GmbH, Germany); Anders Jernberg (ORBIT/FR Europe GmbH, Germany); Bernhard Priemer (ORBIT/FR Europe GmbH, Germany); Marcel Boumans (ORBIT/FR Europe GmbH, Germany); Gennady Pinchuk (Orbit/FR, Israel); Roni Braun (Orbit/FR, USA); Lior Shmidov

TUE.1.36 Reconstruction Over a Regular Grid of Antenna Near Field Measurement Based on Irregular Near Field Data

Mohamed Farouq (DRE, Laboratoire des Signaux et Systèmes, France); Mohammed Serhir (DRE, Laboratoire des Signaux et Systèmes, France); Dominique Picard (DRE, Laboratoire des Signaux et Systèmes, France)

TUE.1.37 Modeling of Magnitude of the Applied Electric Field Intensity During Electromagnetic Processing of Oil in Water Emulsions

Jan Vrba (Faculty of Biomedical Engineering, Czech Technical University in Prague, Czech Republic); David Vrba (Czech Technical University in Prague & Faculty of Biomedical Engineering, Czech Republic)

TUE.1.38 Permittivity Measurement of Materials of Different Natures

Elodie Georget (Aix Marseille University, France); Fatimata Diaby (Polytech School, France); Redha Abdeddaim (Aix Marseille University, France); Pierre Sabouroux Pierre Sabouroux (Institut Fresnel, France)

TUE.1.39 Multipurpose Software Defined Measurement System for Dielectric Characterization

Sandra Costanzo (University of Calabria, Italy); Giuseppe Di Massa (University of Calabria, Italy); David Moreno (University of Calabria, Italy); Francesco Spadafora (University of

TUE.1.40 Scattering-Parameter Extraction and Calibration Techniques for RF Free-Space Material Characterization

Maciej Kaniecki (European Space Research and Technology Centre, The Netherlands); Elena Saenz (European Space Agency, The Netherlands); Luis Rolo (European Space Agency, The Netherlands); Roger Appleby (Queen's University Belfast & Roger Appleby MMW Consulting, United Kingdom); Olav Breinbjerg (Technical University of Denmark, Denmark)

TUE.1.41 System for the Dielectric Evaluation of Powders and Liquids

Youssef Elgholb (Waterford Institute of Technology, Ireland); Yaqiang Liu (Waterford Institute of Technology, Ireland); Paul O'Leary (Supervisor, Ireland)

TUE.1.42 Evaluation and Optimization of LTE MIMO Antenna Configurations in Automotive Environment

Thomas Lankes (Kathrein Werke KG, Germany); Peter Turban (Continental AG, Germany); Frank Mierke (Kathrein-Werke KG, Germany)

TUE.1.43 Measurements of Throughput in Reverberation Chamber Using Universal Software Radio Peripheral

Bjarni Einarsson (Chalmers University of Technology, Sweden); Ahmed Hussain (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of

TUE.1.44 A Measurement Technique for Static Determination of RFID Tags' Sensitivity Using a Low-cost UHF GTEM Cell

Robson Valmiro (University of São Paulo, Brazil); Silvio E. Barbin (University of Sao Paulo, Brazil)

TUE.1.45 A Generalised Material Characterisation Technique for Partially-Filled Waveguides

David King (QinetiQ, United Kingdom)

Reflector, Feed Systems and Components

Room: Poster area 2

TUE.2.46 The Design of the MeerKAT UHF Band Feed

Robert Lehmensiek (EMSS Antennas (Pty) Ltd & Cape Peninsula University of Technology, South Africa); Isak Theron (EMSS Antennas (Pty) Ltd, South Africa)

TUE.2.47 Analysis for the Fan-beam Pattern of the Offset Parabolic Cylinder Antenna

Xin Zhao (National Space Science Center, Chinese Academy of Sciences, P.R. China); Hao Liu (National Space Science Center, Chinese Academy of Sciences, P.R. China); Wang Hongjian (National Space Science Center, P.R. China)

TUE.2.48 JWST High Gain Antenna

Mattias Viberg (RUAG Space AB, Sweden); Hans Ekström (RUAG Space Sweden, Sweden); Johan Wettergren (RUAG Aerospace Sweden, Sweden); Joakim Johansson (RUAG Space

TUE.2.49 Longitudinally Magnetized Left-Handed Cylindrical Ferrite Coupled Line Junction for Nonreciprocal Devices

Adam Kusiek (Gdańsk University of Technology, Poland); Wojciech Marynowski (Gdańsk University of Technology, Poland); Jerzy Mazur (Gdańsk University of Technology,

TUE.2.50 Monopulse Tracking Feed System for Next Q/V-Band Applications

Antonino Incorvaia (Selex ES, Italy); Tindaro Cadili (Selex Elsag, Italy); Anna Genovese (Selex ES, Italy); Liborio Gianino (Selex Elsag, Italy); Fabrizio Tosto (Selex ES, Italy); Carmelo Mollura (Selex Communications, Italy)

TUE.2.51 Optimum Design of a Novel Multi-Section Wide Band Phase Shifter for Phased Array Antenna Beam Forming Network

Alireza Shamsafar (University of Calabria, Italy); Elnaz Abaei (Universita Della Calabria, Italy); Homayoon Oraizi (Iran University of Science and Technology, Iran); Emilio Arnieri (Universita' della Calabria, Italy)

TUE.2.52 A Reflector Impulse Radiating Antenna (IRA) with a New Feeding Structure

Mojtaba Valibeiglou (K. N. Toosi University of Technology, Iran); Ali Khaleghi (K. N. Toosi University of Technology, Iran)

TUE.2.53 A Tri-band Inductive Frequency Selective Surface Sub-Reflector for Satellite Communications Systems

Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom); Sandra Martin Benito (The University of Sheffield, United Kingdom); Andrea Vallecchi (University of Sheffield, United Kingdom)

TUE.2.55 Four-Port Circulator Using Reduced Ground Plane Ferrite Coupled Line Junction

Wojciech Marynowski (Gdańsk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland); Jerzy Mazur (Gdańsk University of Technology,

TUE.2.56 Investigation of Thick Coax-to-Waveguide Transitions

Ely Levine (AFEKA, Academic College of Engineering, Israel); Haim Matzner (HIT-Holon Institute of Technology, Israel); Nissim Tako (JCE Jerusalem College of Engineering, Israel); Gimel Kabilo (JCE, Israel)

Millimetre-Wave, Submillimetre-Wave and TeraHertz Antennas

Room: Poster area 2

TUE.2.57 Gap Waveguide Structure in LTCC for Millimeter-Wave Applications

Cristina Arenas Buendia (TELECOM BRETAGNE, France); Francois Gallée (Télécom Bretagne, France); Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain); Christian Person (Lab-STICC/MOM UMR CNRS, France)

TUE.2.58 Steerable Millimetre-Wave Plasmonic Antenna with Elliptical Slots

Shaker Alkaraki (University of Manchester, United Kingdom); Zhirun Hu (University of Manchester, United Kingdom)

TUE.2.59 80GHz Array Antenna for mm-Wave Applications

Wael Swelam (Egyptian Armed Forces, Egypt)

TUE.2.60 Investigation of Transitions for Use in Inverted Microstrip Gap Waveguide Antenna Arrays

Astrid Algaba Brazález (Chalmers University of Technology, Sweden); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain); Per-Simon Kildal (Chalmers University of

TUE.2.61 A W-Band Slot Array Antenna Based on Substrate Waveguide

Jinling Zhang (Beijing University of Posts and Telecommunications, P.R. China); Ke Gao (Beijing University of Posts and Telecommunications, P.R. China); Yu Zhang (Beijing University of Posts and Telecommunications, P.R. China); Xinyu Cao (Beijing University of Posts and Telecommunications, P.R. China)

TUE.2.62 A Switched Beam 60 GHz 2×2-Element Planar Antenna Array

Anthony Barison (University of Essex, United Kingdom); Prafulla Deo (University of Essex, United Kingdom); Dariush Mirshekar (University of Essex, United Kingdom)

TUE.2.63 An Annular Ring Antenna for 60 GHz Communications

Roberto Arcaro (DEIS Universita' della Calabria, Italy); G. Amendola (Universita della Calabria, Italy); Emilio Arnieri (Universita' della Calabria, Italy); Luigi Boccia (University of Calabria, Italy); Ali Imran Sandhu (Chalmers University of Technology, Sweden)

TUE.2.64 Beam Steering 60 GHz Slot Antenna Array Using Liquid Crystal Phase Shifter

Prafulla Deo (University of Essex, United Kingdom); Dariush Mirshekar (University of Essex, United Kingdom); Lawrence Seddon (University College London, United Kingdom); Sally Day (University College London, United Kingdom); Aníbal Fernández (University College London, United Kingdom)

TUE.2.65 Millimeter-Wave Planar Log Periodic Antenna for On-Chip Wireless Interconnects

Aman Samaiyar (Delhi Technological University, India); Shobha Ram (IIIT Delhi, India); Sujay Deb (IIIT Delhi, India)

TUE.2.66 Advanced Feed for a 60-GHz Exposure Chamber

Artem V. Boriskin (IETR, Université de Rennes 1, France); Maxim Zhadobov (University of RENNES 1, France); Daouda Diedhiou (IETR, Université de Rennes 1, France); Ronan Sauleau (University of Rennes 1, France)

TUE.2.67 Considerations on Designing Microstrip Gap Waveguide Slot Arrays

Luis Inclan-Sanchez (University Carlos III of Madrid, Spain); Jose-Luis Vazquez-Roy (University Carlos III of Madrid, Spain); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain)

TUE.2.68 Terahertz Dipole Antenna Performance Enhancement Using A Photonic-Bandgap GaAs Substrate

Wenfei Yin (The University of Sheffield & The University of Sheffield, United Kingdom); Salam Khamas (University of Sheffield, United Kingdom); Richard Hogg (University of Sheffield, United Kingdom)

TUE.2.69 An Investigation on THz Antennas Using Graphene as a Substrate

Aznida Abu Bakar Sajak (University of Liverpool & University of Kuala Lumpur, United Kingdom); Yao-Chun Shen (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Neda Khiabani (University of Liverpool, United Kingdom); Rula Alrawashdeh (The University of Liverpool, United Kingdom)

Antenna Systems and Architectures

Room: Poster area 2

TUE.2.70 System-by-Design: a New Paradigm for Handling Design Complexity

Andrea Massa (University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Federico Viani (University of Trento & ELEDIA Research Center, Italy)

TUE.2.71 Dual Feed Folded Loop Antenna for LTE Carrier Aggregation

Seng Thail Sron (Ethertronics & University of Limoges, France); Abhishek Singh (Ethertronics, USA)

TUE.2.72 SNO Design of Microstrip Antennas for an Experimental Rocket

Riccardo Albi (Politecnico di Milano, Italy); Francesco Grimaccia (Politecnico di Milano, Italy); Marco Mussetta (Politecnico di Milano & Politecnico di Torino, Italy); Alessandro Niccolai (Politecnico di Milano, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy)

TUE.2.73 A Via-Less Planar Quad-Band Monopole Antenna Employing Complementary Split Ring Resonator and Interdigital Capacitor

Aditya Singh (IIT Kanpur, India); Debdeep Sarkar (Indian Institute of Technology, Kanpur, India); Kushmanda Saurav (IIT Kanpur, India); Sanampudi Venkatrami Reddy (Indian Institute of Technology, Kanpur, India); Kumar Vaibhav Srivastava (Indian Institute of Technology, Kanpur, India)

TUE.2.74 Decision Support System for Fleet Management Based on TETRA Terminals Geolocation

Alessandro Polo (University of Trento & ELEDIA Research Center, Italy); Fabrizio Robol (ELEDIA Research Center, Italy); Cristina Nardin (University of Trento, Italy); Silvia Marchesi (Centrale Unica Emergenza (CUE) Agency, Italy); Alessandro Zorer (Trentino Network S. r. l., Italy); Luisa Zappini (Centrale Unica Emergenza (CUE) Agency, Italy); Federico Viani (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

TUE.2.75 Dual-Linear Polarized Cavity-Backed Sinuous Antenna with Non-Sequential Feeding

Ramanan Balakrishnan (National University of Singapore, Singapore); Hongzhao Ray Fang (National University of Singapore, Singapore); Israel Hinostroza (SONDRA, Supélec, France); Regis Guivarc'h (SONDRA, Supelec, France); Koen Mouthaan (National University of Singapore, Singapore); Mohammed Serhir (Departement de Recherche en

TUE.2.76 GNSS Microstrip Antenna for Orbit Determination of GEO Satellites

Antonio Tazon (University of Cantabria, Spain); ´Juan Vassallo (CSIC - ITEFI Torres Quevedo, Spain); Tomás Fernández (University of Cantabria, Spain); Angel Mediavilla (University

TUE.2.77 On the Design of a Mobile RFID System for Searching of Misplaced or Lost Tagged Items

John Sahalos (University of Nicosia, Cyprus)

TUE.2.78 Polarization Distortion as a Means for Securing Wireless Communication

Yuan Ding (Queen's University Belfast & The ECIT, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom)

TUE.2.79 RF Power Transfer Using a Near-Field Focused Array of Directive Radiators

Huib J. Visser (IMEC Netherlands, The Netherlands); Robbert van der Linden (Eindhoven University of Technology, The Netherlands)

Advanced RF Materials, Metamaterials and EBG

Room: Poster area 3

TUE.3.80 77 GHz VCO Design Using a Coupled-Line Inductor with Spiral-Shaped EBG Structure

Jae-Hoon Song (Seoul National University, Korea); Byung-Sung Kim (Sungkyunkwan University, Korea); Sangwook Nam (Seoul National University, Korea)

TUE.3.81 A Dual Band Metamaterial Antenna with Circular Polarization

Bashir Danjuma Bala (Universiti Teknologi Malaysia & Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia)

TUE.3.82 A Novel Low Profile High-Gain UHF Antenna Using High-Impedance Surfaces

Nora Mohamed Mohamed-Hicho (Universidad Politécnica de Valencia, Spain); Eva Antonino-Daviu (Universidad Politecnica de Valencia, Spain); Marta Cabedo-Fabrés (Universidad Politécnica de Valencia, Spain); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain)

TUE.3.83 Analysis and Design of Microstrip Antenna Array Using Interdigital Capacitor with CRLH-TL Ground Plane for Multiband Applications

Yasser M. Madany (IEEE, Senior Member, Alexandria University, Egypt); Darwish Mohamed (AAST, Egypt); Bishoy Halim (AAST, Egypt)

TUE.3.84 Analysis of Metamaterial Inclusions for Association with Radiating Elements Using the Theory of Characteristic Modes

Mhamad Hassanein Rabah (IFSTTAR & University Lille 1 Nord de France, France); Divitha Seetharamdoo (IFSTTAR, LEOST & Univ Lille Nord de France, France); André De Lustrac (Institut d'Electronique Fondamentale (IEF), France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France)

TUE.3.85 Backward Wave Eigenanalysis of a Tuneable Two-Dimensional Array of Wires Covered with Magnetized Ferrite

Panagiotis Theofanopoulos (Democritus University of Thrace, Greece); Christos Lavranos (Democritus University of Thrace, Greece); Elias E Vafiadis (Aristotle University of Thessaloniki & Physics Department, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece); George Kyriacou

TUE.3.86 Circuit Model of Circular Antenna Loaded with Composite Right/Left-Handed Transmission Line

Sen Yan (KU Leuven, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

TUE.3.87 Circularly Polarized Antenna Based on Mu-negative Transmission Line

Byung-Chul Park (Hongik University, Korea); Jeong Hae Lee (Hongik University, Korea)

TUE.3.88 Controlling the Band-Gap of a High Impedance Surface of Quasi-Periodic Sequences Using Cascade Arrangement

Syed Muzahir Abbas (Macquarie University, Australia); Ladislau Matekovits (Politecnico di Torino, Italy); Yogesh Ranga (CSIRO, ICT Centre, Australia); Karu Esselle (Macquarie

TUE.3.89 Design of Waveguide to Ridge Gap Waveguide Transition Using Probe Excitation

Mohamed Al Sharkawy (Concordia University, Canada); Ahmed Kishk (Concordia University, Canada)

TUE.3.90 Dispersion Characteristics of Multi-Layer Fabry-Perot Leaky-Wave Antennas

Konstantinos Konstantinidis (University of Birmingham, United Kingdom); Alexandros Feresidis (University of Birmingham, United Kingdom); Peter S Hall (University of

TUE.3.91 Dual Band Polarization Insensitive and Wide Angle Circular Ring Metamaterial Absorber

Osman Bin Ayop (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia)

TUE.3.92 Effect of Cylindrical Metal Obstacles on the Propagation of Bloch Waves in a Shielded Circular "Mushroom" Structure

Aldo De Sabata (Politehnica University of Timisoara, Romania); Ladislau Matekovits (Politecnico di Torino, Italy); Yogesh Ranga (CSIRO, ICT Centre, Australia); Mario Orefice (Politecnico di Torino, Italy)

TUE.3.93 Electro-Magnetic Band-Gap Feed Overlapping Apertures for Multi-beam Antennas on Communication Satellites

Gerard Caille (Thales Alenia Space France, France); Peter de Maagt (European Space Agency, The Netherlands); Baptiste Palacin (CNES, France); Marc Thevenot (XLIM-UMR 6172-CNRS, University of Limoges, France); Renaud Chiniard (Thales Alenia Space, France); Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges, France); Hassan Chreim (University of Limoges, France); Eric Arnaud (University of LIMOGES, France)

TUE.3.94 Metasurface Approach for Contoured Beam Reflectors

Mario Junior Mencagli (University of Siena, Italy); Stig Sørensen (TICRA, Denmark); Enrica Martini (University of Siena, Italy); Cecilia Cappellin (TICRA, Denmark); Rolf Jørgensen (Ticra, Denmark); Min Zhou (TICRA, Denmark); Marco Sabbadini (Esa Estec, The Netherlands); Stefano Maci (University of Siena, Italy)

TUE.3.95 Reduced Size C-Band Band-pass Filter with 2nd Harmonic Suppression

Ramona Cosmina Hotopan (Universidad de Oviedo, Spain); María Elena de Cos (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

TUE.3.96 Slimming the Fishnet Metamaterial Lens

Victor Pacheco-Peña (Universidad Publica de Navarra, Spain); Bakhtiyar Orazbayev (Universidad Publica de Navarra, Spain); Víctor Torres (Universidad Publica de Navarra, Spain); Miguel Beruete (Universidad Publica de Navarra, Spain); Miguel Navarro-Cía (Imperial College London, United Kingdom)

TUE.3.97 Study of the Effect of Metamaterial Substrates in Microstrip Antennas Parameters and Applications

Marinaldo Sousa, Neto (Federal University of Rio Grande do Norte, Brazil); Humberto C. C. Fernandes (Federal University of Rio Grande do Norte, Brazil)

TUE.3.98 Dielectric Resonator Nanoantenna Fed by Surface Plasmon Coplanar Waveguide

Gilliard N. Malheiros-Silveira (University of Campinas, Brazil); Hugo Enrique Hernández-Figueroa (Unicamp, Brazil)

TUE.3.99 Wideband and Low-Profile Metamaterial Antennas for Aircrafts and Automobiles

Sungtek Kahng (University of Incheon, Korea)

TUE.3.100 New Fractal Metamaterial Unit-cell for Microwave Applications

Behnam Zarghooni (INRS, University of Quebec, Canada); Tayeb A. Denidni (INRS-EMT, Canada)

Analytical Methods and Numerical Techniques in Electromagnetic Theory

Room: Poster area 4

TUE.4.100 Computational Challenges for Antenna Analysis Using Current Optimization

Mats Gustafsson (Lund University, Sweden)

TUE.4.101 Discussion About the Link Budget for Electromagnetic Wave with Orbital Angular Momentum

Duy Kevin Nguyen (Université de Toulouse UPS INPT LAPLACE CNRS & CNES, France); Olivier Pascal (Université de Toulouse - UPS INPT CNRS, France); Jerome Sokoloff (University Paul Sabatier of Toulouse, France); Alexandre Chabory (ENAC, France); Baptiste Palacin (CNES, France); Nicolas Capet (CNES, France)

TUE.4.102 Dispersion Properties of Corrugated Waveguides Based on the Modal Theory

Benedikt Byrne (CNES, France); Nicolas Capet (CNES, France); Nathalie Raveu (University of Toulouse - UPS - INPT - LAPLACE -CNRS, France)

TUE.4.103 Efficient Surrogate-based Antenna Design Optimization Using Novel Sampling Methods

Xiaohui Chen (Anhui Polytechnic University, P.R. China); Xinxin Guo (Anhui Polytechnic University, P.R. China); Song Qi (Anhui Polytechnic University, P.R. China)

TUE.4.104 Influence of the Impedance Matching on the Characteristic Wave Modes

Eugen Safin (University of Kiel, Germany); Dirk Manteuffel (University of Kiel, Germany)

TUE.4.105 Investigation of Split-Potentials Low Frequency Stabilization of Kernel-Independent Low-Rank Compressive Solvers

Mario Alberto Echeverri Bautista (Politecnico di Torino, Italy); Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy)

TUE.4.106 Acceleration of Oscillating Green's Function Series Using Term Splitting

Vladimir Volski (KU Leuven, Belgium); Alexander Svezhentsev (Institute of Radio Physics and Electronics, NAS of the Ukraine, Ukraine); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

TUE.4.107 Capacity Field: Modelling Channel Capacity From Electromagnetic Propagation Perspective

Jialai Weng (University of Sheffield, United Kingdom); Xiaoming Tu (University of Sheffield, United Kingdom); Jie Zhang (University of Sheffield, Dept. of Electronic and Electrical Engineering, United Kingdom)

TUE.4.108 Fullwave Computation of Path Loss in Urban Areas

Dung Trinh (Dublin City University, Ireland); Conor Brennan (Dublin City University, Ireland)

TUE.4.109 A Method for Evaluating Radiation Efficiency Based on a Modal Approach

Miloslav Capek (Czech Technical University in Prague, Czech Republic); Jan Eichler (CTU in Prague, FEE, Czech Republic); Pavel Hazdra (Czech Technical University in Prague, Czech Republic); Milos Mazanek (Czech Technical University in Prague, Czech Republic)

TUE.4.110 A Mode Matching Approach for Modeling an Electromagnetic Telemetry System for Oil Fields

Guilherme Rosa (Pontifical Catholic University of Rio de Janeiro, PUC-Rio, Brazil); Jose R Bergmann (PUC-Rio, Brazil); Sandro R. Zang (PUC-Rio, Brazil)

TUE.4.111 Dynamic Method Applied for Cylindrical Antennas

Humberto C. C. Fernandes (Federal University of Rio Grande do Norte, Brazil); Almir Souza Silva Neto (University of Rio Grande do Norte, Brazil)

TUE.4.112 Electromagnetic Scattering From Cylinders Located Close to Periodic Circular Cylinder Array

Koki Watanabe (Fukuoka Institute of Technology, Japan)

TUE.4.113 Evaluation of Human Exposure to Pulsed Waves

Winfried Bilgic (IMST GmbH, Germany); Marta Martínez-Vázquez (IMST GmbH, Germany)

TUE.4.114 High Fidelity Modeling of 30m Near-Field Cassegrain Antenna in X-band

Alberto Di Maria (German Aerospace Center (DLR), Germany); Luca Pandolfo (IDS Ingegneria Dei Sistemi S. p. A, Italy); Paolo De Vita (IDS Ingegneria Dei Sistemi S. p. A, Italy); Giancarlo Guida (IDS Ingegneria Dei Sistemi S. p. A, Italy); Mirko Bercigli (IDS Ingegneria Dei Sistemi S. p. A, Italy); Mauro Bandinelli (IDS Ingegneria Dei Sistemi S. p. A, Italy)

TUE.4.115 Higher-Order Curved Div-conforming Elements with Loop-Star Subspaces Decomposition for Surface Integral Equation

José Gil (Universidad Politécnica de Madrid, Spain)

TUE.4.116 Hybrid Technique Combining the Backward Ray Tracing and the FDTD Method

Bartosz Reichel (Gdansk University of Technology, Poland); Tomasz P Stefanski (Gdansk University of Technology, Poland)

TUE.4.117 Hybridization of the FDTD Method with Use of the Discrete Green's Function

Tomasz P Stefanski (Gdansk University of Technology, Poland)

TUE.4.118 Numerical Study of the Differential Phase Shift in the Azimuthally Magnetized Coaxial Ferrite Waveguide

Mariana Nikolova Georgieva-Grosse (Meterstrasse 4, Germany); Georgi Nikolov Georgiev (University of Veliko Tirnovo "St. St. Cyril and Methodius", Bulgaria)

TUE.4.119 On the Statistical Characteristics of Power Balance Approach: Theoretical Study

Young Seung Lee (Electronics and Telecommunications Research Institute, Korea); Suna Choi (ETRI, Korea); Jong Hwa Kwon (ETRI, Korea)

TUE.4.120 Selecting Parameters of Type-3 NUFFTs to Control Accuracy in MoM Methods

Amedeo Capozzoli (Università di Napoli Federico II, Italy); Claudio Curcio (Università di Napoli Federico II, Italy); Angelo Liseno (Università di Napoli Federico II, Italy); Antonio Riccardi (Università di Napoli Federico II, Italy)

TUE.4.121 The Performance of the CUDA Implementations of HABC and CFS-PML ABCs on GPU Hardware

Hanan Almeer (University of Manchester, United Kingdom); Fumie Costen (University of Manchester, United Kingdom); Jean-Pierre Berenger (Centre d Analyse de Defense,

TUE.4.122 Exchange of Geometrical Data for E.M. Modelling

Francesca Mioc (Consultant, Switzerland); Francesca Rossi (University of Padova & ESA/ESTEC, The Netherlands); Marco Sabbadini (Esa Estec, The Netherlands); Poul Erik

TUE.4.123 On-Going Progress of SoftLAB Benchmark in 2014

Raphael Gillard (IETR & INSA, France); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Benoit Le Lepvrier (European University of Brittany IETR, France); Renaud Loison (IETR & INSA, France)

TUE.4.124 GPU Acceleration for V-CALAR Soft Based on Richmond's Moment Method

Qiaowei Yuan (Sendai National College of Technology, Japan)

TUE.4.125 On the Efficient Computation of Near-Field Radar Cross Sections

Emmanuel H. Van Lil (Katholieke Universiteit Leuven, Belgium); Jan-willem De Bleser (Katholieke Universiteit Leuven, Belgium)

TUE.4.126 Out-of-Core Solver Using GPU-Accelerated Cluster for MoM-Based EM Code

Dusan Zoric (WIPL-D, Serbia); Dragan I. Olcan (University of Belgrade, Serbia); Branko Kolundzija (University of Belgrade, Serbia)

TUE.4.127 Weak Scaling Analysis for the Parallel MLFMA: The Quest for Ever Larger Simulations

Bart Michiels (Ghent University, Belgium); Jan Fostier (Ghent University, Belgium); Ignace Bogaert (Ghent University, Belgium); Daniel De Zutter (Ghent University, Belgium)

16:20 - 16:40

Coffee Break

Room: Exhibition Foyer

15:00 - 15:40

Metamaterials

Session type: Invited

Application track: Multiple Applications

Room: Amazon

Chairs: Giampiero Gerini (TNO - Defence, Security and Safety, The Netherlands), Anthony Grbic (University of Michigan, Ann Arbor, USA)

15:00 ***Metamaterial-inspired Advances in Antennas and Propagation***

Richard W. Ziolkowski (University of Arizona, USA)

15:40 - 16:20

Metamaterials

Session type: Invited

Application track: Fundamental Research

Room: Amazon

15:40 ***Some New Perspectives in Metamaterials***

Vincenzo Galdi (University of Sannio, Italy)

15:00 - 15:40

Square Kilometer Array

Session type: Invited

Application track: Fundamental Research

Room: Mississippi

Chairs: Arnold van Ardenne (ASTRON, The Netherlands), A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands)

15:00 ***Propagation Prediction in Establishing a Radio Quiet Zone for Radioastronomy***

Carol D Wilson (CSIRO Astronomy and Space Science, Australia)

15:40 - 16:20

Square Kilometer Array

Session type: Invited

Application track: Fundamental Research

Room: Mississippi

15:40 ***The SKA and the MeerKAT Precursor — Extreme Antenna Engineering***

David B Davidson (University of Stellenbosch, South Africa)

16:20 - 16:40

Coffee Break

Room: Exhibition Foyer

16:40 - 18:20

Compressive Sensing in Electromagnetics

Session type: Convened

Application track: Fundamental Research

Room: Amazon

Chairs: Michele D'Urso (Selex ES S.p.A., Italy), Tommaso Isernia (University of Reggio Calabria, Italy)

16:40 ***Array Diagnosis From Far Field Data Via L1 Minimizations***

Benjamin Fuchs (University of Rennes 1 - IETR, France); Marco Donald Migliore (University of Cassino, Italy)

17:00 ***Compressive Sensing in Electromagnetics: Theoretical Foundations, Recent Advances, and Applicative Guidelines***

Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

17:20 ***Exploiting Compressive Sensing in Microwave Tomography and Inverse Scattering***

Loreto Di Donato (University of Catania, Italy); Martina Teresa Bevacqua (University Mediterranea, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Tommaso Isernia (University of Reggio Calabria, Italy)

17:40 ***On the Deterministic Synthesis of Aperiodic Ring Antenna Arrays***

Diego Caratelli (Delft University of Technology, The Netherlands); Giovanni Toso (European Space Agency, The Netherlands); Piero Angeletti (European Space Agency, The

18:00 ***Maximally Sparse AESA Antennas Via Sequential Convex Optimizations***

Michele D'Urso (Selex ES S.p.A., Italy); Giancarlo Prisco (Selex ES, Italy)

16:40-18:20

Imaging and Inverse Scattering

Session type: Regular

Application track: Fundamental Research

Room: Mississippi

Chair: Santiago Capdevila (EPFL, Switzerland), Luis Jofre (UPC, Spain)

16:40 ***A Total Variation Compressive Sensing Technique for Imaging Large Scatterers***

Nicola Anselmi (University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

17:00 ***Application of Time Reversal to Imaging Electrical Properties of Inhomogeneous Cylindrical Objects***

Toshifumi Moriyama (Nagasaki University, Japan); Takashi Takenaka (Nagasaki University, Japan)

17:20 ***Conditioning Inverse Scattering Problems by Means of Suitably Designed Synthetic Experiments***

Martina Teresa Bevacqua (University Mediterranea, Italy); Loreto Di Donato (University of Catania, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Tommaso Isernia (University of Reggio Calabria, Italy)

17:40 ***Superdirectivity-Based Superoscillatory Waveform Design: A Practical Path to Far-Field Sub-Diffraction Imaging***

Alex M. H. Wong (University of Toronto, Canada); George V. Eleftheriades (University of Toronto, Canada)

18:00 ***Optimized Tomography with Controlled Resolution***

Amedeo Capozzoli (Università di Napoli Federico II, Italy); Claudio Curcio (Università di Napoli Federico II, Italy); Angelo Liseno (Università di Napoli Federico II, Italy)

16:40 - 18:20

Medical and Biological Applications of EMF 3

Session type: Regular

Application track: Biomedical

Room: Asia

Chair: Margarethus M. Paulides (Erasmus University Medical Center, The Netherlands)

16:40 ***Antenna Applicator for Microwave Hyperthermia Treatment of Pediatric Brain Cancer***

Hana Dobšíček Trefná (Chalmers University of Technology, Sweden); Jonathan Jonsson (Chalmers University of Technology, Sweden); Björn Vessman (Chalmers University of Technology, Sweden); Joel Wanemark (Chalmers University of Technology, Sweden); Emma Woxlin (Chalmers University of Technology, Sweden); Albin Hjalmarsson (Chalmers University of Technology, Sweden); Leo Adelbäck (Chalmers University of Technology, Sweden); Pegah Takook (CHALMERS, Sweden); Johanna Gellermann (Chalmers University of Technology, Sweden); Birgitta Lannering (University of Gothenburg, Sweden); Klas Blomgren (Karolinska Institutet, Sweden); Mikael Persson (Chalmers University of

17:00 ***Average Property Estimation Validation with Realistic Breast Models***

John Garrett (University of Calgary, Canada); Elise Fear (University of Calgary, Canada)

17:20 ***Compressed Sensing for Three-Dimensional Microwave Breast Cancer Imaging***

Christian Kexel (Goethe University Frankfurt am Main, Germany); Jochen Moll (Goethe University Frankfurt am Main, Germany); Markus Kuhnt (Goethe University Frankfurt am Main, Germany); Florian Wiegandt (Goethe University Frankfurt am Main, Germany); Viktor Krozer (Goethe University of Frankfurt am Main, Germany)

17:40 ***Numerical and Experimental Assessment of Millimeter-Wave Reflectometry for Non-Invasive Diagnosis of Skin Cancers***

Reza Aminzadeh (Sharif University of Technology-International Campus, Iran); Amir Ahmad Shishegar (Sharif University of Technology, Iran); Mehrdad Saviz (University of

18:00 ***Radar-based Tumor Localization in Heterogeneous Breast Tissue Using a 3D Permittivity Model***

Jochen Moll (Goethe University Frankfurt am Main, Germany); Mantalena Sarafianou (University of Bristol, United Kingdom); Thomas Kelly (Goethe University Frankfurt am Main, Germany); Viktor Krozer (Goethe University of Frankfurt am Main, Germany); Ian Craddock (University of Bristol, United Kingdom)

16:40 - 18:20

Antenna Systems and Architectures

Session type: Regular

Application track: Wireless networks and RF Sensors

Room: Yangtze 1

Chairs: Mattias Gustafsson (Huawei Technologies Sweden AB, Sweden), Jiro Hirokawa (Tokyo Institute of Technology, Japan)

16:40 ***A Dual-Polarized Solar Cell Stacked Microstrip Patch Antenna with a λ/4 DC/RF Isolation Circuit for 5.8 GHz Band WiMAX Networks***

Okan Yurduseven (Northumbria University, United Kingdom); David Smith (Northumbria University, United Kingdom); Michael Elsdon (Northumbria University, United Kingdom)

17:00 ***A Transmission Line Model for the Capacitively Loaded Inverted-F Antenna (CLIFA)***

Loizos Loizou (Tyndall National Institute & University College Cork, Ireland); John Laurence Buckley (Tyndall National Institute, University College Cork, Ireland); Brendan O'Flynn (Tyndall National Institude, Ireland); John Barton (Tyndall National Institute, Ireland); Cian Ó Mathúna (Tyndall National Institute, Ireland)

17:20 ***Design of Integrated Parasitic Element Antennas for a Remote Wake Up Device***

Faycel Fezai (XLIM University of Limoges, France); Cyrille Menudier (XLIM - UMR CNRS 6172 - University of Limoges & Antenna and Associated Waves Dept, France); Marc Thevenot (XLIM-UMR 6172-CNRS, University of Limoges, France); Eric Arnaud (University of LIMOGES, France); Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges,

17:40 ***Narrow Film Transmission Lines and Antennas***

Atabak Rashidian (University of Manitoba, Canada); Lotfollah Shafai (University of Manitoba, Canada)

18:00 ***OTA Characterization of μBTS Antenna in RIMP and Random-LOS***

Mattias Gustafsson (Huawei Technologies Sweden AB, Sweden); Xiaoming Chen (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Mats Andersson (Huawei Technologies Sweden AB, Sweden)

16:40 - 18:20

Wearable Antennas

Session type: Regular

Application track: Wireless networks and RF Sensors

Room: Yangtze 2

Chairs: Kenneth Lee Ford (University of Sheffield, United Kingdom), Hendrik Rogier (Ghent University, Belgium)

16:40 ***A Wearable Multiband Monopole Antenna for Digital Television and Wireless Communications***

Asimina Michalopoulou (NCSR Demokritos, Greece); Antonis A Alexandridis (NCSR "Demokritos", Greece); Theodore Zervos (NCSR "Demokritos", Institute of Informatics & Telecommunications, Greece); Fotis Lazarakis (NCSR Demokritos, Institute of Informatics & Telecommunications, Greece)

17:00 ***Inkjet Printed Epidermal RFID Tags***

Dumtoochukwu Oyeka (University of Kent., United Kingdom); Ali Ziai (University of Kent., United Kingdom); John Batchelor (University of Kent, United Kingdom); Veronica Sanchez-Romaguera (University of Manchester, United Kingdom); Stephen Yeates (University of Manchester, United Kingdom); Sebastian Wünscher (University of Jena, Germany); Ulrich Schubert (Friedrich-Schiller-Universität Jena, Germany)

17:20 ***Microstrip-based All-textile Unidirectional UWB Antenna with Full Ground Plane***

Purna B. Samal (College of Science and Technology, Bhutan); Ping Jack Soh (Katholieke Universiteit Leuven & Universiti Malaysia Perlis (UNIMAP), Belgium); Hantao Xu (Katholieke Universiteit Leuven, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

17:40 ***On-body Fidelity Factor for Footwear Antennas Over Different Ground Materials***

Domenico Gaetano (Dublin Institute of Technology, Ireland); Patrick McEvoy (Dublin Institute of Technology, Ireland); Max James Ammann (Dublin Institute of Technology, Ireland); Colm Brannigan (Royal College of Surgeons in Ireland, Ireland); Louise Keating (Royal College of Surgeons in Ireland, Ireland); Frances Horgan (Royal College of Surgeons

18:00 ***Textile Antenna Incorporated with High Impedance Surface for On-body Performance Enhancement***

Muhammad Khan (University of Engineering & Technology Peshawar Pakistan, Pakistan); Haider Ali (King Fahd University of Petroleum & Minerals, Saudi Arabia); Shahid Bashir (University of Engineering & Technology Peshawar, Pakistan); Luai Al-Hadhrami (King Fahd University of Petroluem & Minerals, Saudi Arabia); Khadim Ullah Jan (FAST-NUCES National University of Computer & Emerging Sciences, Peshawar, Pakistan)

16:40 - 18:20

Slotted-Wave, Guided-Wave and Leaky-Wave Antennas

Session type: Regular

Application track: Space

Room: Africa

Chairs: Nelson Fonseca (European Space Agency, The Netherlands), Alex Schuchinsky (Queen's University Belfast, United Kingdom)

16:40 ***A Flat-Topped Leaky-Wave Source for Phased Arrays with Reduced Scan Losses***

Francesco Scattone (University of Rennes 1 & IETR Institut d'Electronique et de Télécommunications de Rennes, France); Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France); Ronan Sauleau (University of Rennes 1, France); Nelson Fonseca (European Space Agency, The Netherlands)

17:00 ***A Radial Line Slot Array Focusing in the Near Field: Analysis and Design***

Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France); Massimiliano Casaletti (University of Rennes1, France); Guido Valerio (Université de Rennes 1, France); Laurent Le Coq (University of Rennes 1 & IETR, France); Ronan Sauleau (University of Rennes 1, France); Santi Concetto Pavone (University of Siena, Italy); Matteo Albani

17:20 ***Circularly Polarized Slotted Substrate Integrated Waveguide Array with Low Axial Ratio Over Wide Angles***

Philippe Ratajczak (Orange Labs, France)

17:40 ***Low Cost and Compact Ka-band Mobile Satcom Terminal***

Manuel J Gonzalez (TTI, Spain); Alberto Pellón (TTI, Spain); Régis Lenormand (Thales Alenia Space, France); Antonin Hirsch (Thales Alenia Space, France); Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain); José Ignacio Herranz-Herruzo (Universidad Politécnica de Valencia, Spain); Jérôme Petit (iXBlue, France); Yan Haentjens (Vectrawave, France); Nicolas Capet (CNES, France); Elena Saenz (European Space Agency, The Netherlands); Stephane Pirio (European Space Agency, The Netherlands)

18:00 ***Metasurface Leaky-Wave Antennas: a Comparison Between Slot and Patch Implementation***

Marco Faenzi (University of Siena, Italy); Enrica Martini (University of Siena, Italy); David González-Ovejero (Università degli Studi di Siena, Italy); Gabriele Minatti (European Space Agency, The Netherlands); Paolo De Vita (IDS Ingegneria Dei Sistemi S. p. A, Italy); Marco Sabbadini (Esa Estec, The Netherlands); Stefano Maci (University of Siena, Italy)

16:40 - 18:20

Wideband Channel Modelling for Satellite and Aeronautical Communication Links

Session type: Convened

Application track: Space

Room: Antarctica

Chairs: Uwe-Carsten G. Fiebig (German Aerospace Center (DLR), Germany), Fernando Pérez-Fontán (University of Vigo, Spain)

16:40 ***A Propagation Model for Trees Based on Multiple Scattering Theory***

Jonathan Israel (ONERA - The French Aerospace Lab, France); Frederic Lacoste (CNES, France); Jose Mametsa (ONERA, France); Fernando Pérez-Fontán (University of Vigo, Spain)

17:00 ***A Satellite-to-Indoor Channel Model for Pedestrian Applications***

Jost Thomas (German Aerospace Center (DLR), Germany); Wei Wang (German Aerospace Center (DLR), Germany); Fernando Pérez-Fontán (University of Vigo, Spain); Uwe-Carsten G. Fiebig (German Aerospace Center (DLR), Germany)

17:20 ***Measurements of Single Tree Attenuation for Vehicular Satellite Communications At X-Band***

Lars Erling Bråten (Norwegian Defence Research Establishment (FFI), Norway); Vegard Arneson (FFI, Norway)

17:40 ***Propagation Study of a Wideband SIMO Land Mobile Satellite System in a Dense Urban Environment***

Nektarios Moraitis (National Technical University of Athens & Institute of Communications and Computers Systems, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece); Ileana Popescu (National Technical University of Athens, Greece)

18:00 ***QuaDRiGa: a MIMO Channel Model for Land Mobile Satellite***

Frank Burkhardt (Fraunhofer Institute for Integrated Circuits IIS, Germany); Stephan Jaeckel (Fraunhofer Heinrich Hertz Institute, Germany); Ernst Eberlein (Fraunhofer Institute for Integrated Circuits, Germany); Roberto Prieto-Cerdeira (European Space Agency, The Netherlands)

16:40 - 18:20

Electromagnetic Theory and Numerical Techniques

Session type: Regular

Application track: Defense & Security

Room: Europe 1

Chair: Stefania Monni (TNO Defence Security and Safety, The Netherlands)

16:40 ***Compact CW Radar Transceiver Antennas with Novel Decoupling Technique Based on Neutralization***

Kun Wang (Technische Universität München, Germany); Alexander Paulus (Tehcnische Universitaet Muenchen, Germany); Thomas J. Wächter (Technische Universität München, Germany); Uwe Siart (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

17:00 ***Modeling of Metamaterial Absorber by Equivalent Resonant Circuit***

Alexandre Sellier (Institut d'Electronique Fondamentale - Université Paris-Sud, France); André de Lustrac (Institut d'Electronique Fondamentale - Université Paris-Sud, France); Tatiana Teperik (Institutde d'Electronique Fondamentale, France)

17:20 ***Novel Nystrom Method for TDEFIE***

Gokhun Selcuk (Middle East Technical University & Aselsan Inc, Turkey); Seyit Koc (Middle East Technical University, Turkey)

17:40 ***Optimization of Antenna-Plasma Interaction in a Helicon Plasma Thruster***

Davide Melazzi (University of Padova, Italy); Vito Lancellotti (Eindhoven University of Technology, The Netherlands); Paola De Carlo (Department of Industrial Engineering, University of Padova, Italy); Marco Manente (University of Padova, Italy); Daniele Pavarin (University of Padova, Italy)

18:00 ***A Modular Implementation of the Boundary Integral Method for Dielectric Bodies Using Electromagnetic Duality***
Christos Liontas (Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany)

16:40 - 18:20
Propagation in Complex Media
Session type: Regular
Application track: Multiple Applications
Room: Central America
Chairs: Nicolas Floury (ESA, The Netherlands), Pavel Valtr (Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic)

16:40 ***A Disc of Scatterers Based Radio Channel Model for Secure Key Generation***
Taghrid Mazloum (Telecom ParisTech, France); Francesco Mani (TELECOM ParisTech, France); Alain Sibille (Telecom Paris Tech & ENSTA PARISTECH, France)

17:00 ***A Proposal on Spatial Diversity in Emergency Communications Within Forest Environments***
Iñigo Cuiñas (University of Vigo, Spain); José Antonio Gay-Fernández (University of Vigo, Spain)

17:20 ***Electromagnetic Simulation and Measurement of Diffuse Scattering From Building Walls***
Lorenzo Minghini (CEA, LETI, Minatec Campus, France); Raffaele D'Errico (CEA, LETI, Minatec Campus, France); Vittorio Degli-Esposti (University of Bologna, Italy); Enrico M. Vitucci (University of Bologna, Italy)

17:40 ***Empirical Channel Model for Unattended Near Ground Sensor Networks At UHF***
Eran Greenberg (RAFAEL, Israel); Abraham Shuval (RAFAEL, Israel)

18:00 ***Wavelet Based Analysis of Reception Level Variations in Urban Mobile Communication Environment***
Tetsuro Imai (NTT DOCOMO, Inc., Japan); Koshiro Kitao (NTT DoCoMo, Japan); Yukihiko Okumura (NTT DOCOMO, INC., Japan)

16:40 - 18:20
Frequency and Polarisation Selective Surfaces
Session type: Regular
Application track: Multiple Applications
Room: North America
Chairs: Robert Cahill (Queen's University Belfast, United Kingdom), Simon van den Berg (Thales NL, The Netherlands)

16:40 ***Active FSS Enclosed Beam-switching Node for Wireless Sensor Networks***
Bin Liang (University of Kent, United Kingdom); Benito Sanz-Izquierdo (University of Kent, United Kingdom); John Batchelor (University of Kent, United Kingdom); Alessandro Bogliolo (University of Urbino, Italy)

17:00 ***Design of a Pin Reflection Frequency Selective Surface From a Comb-Based Structure***
Christopher James Davenport (University of Sheffield, United Kingdom); Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom)

17:20 ***Fast Analysis Over a Wide Band Using Chebyshev Approximation with Clenshaw-Lord Approximation***
Yi-Ru Jeong (Yonsei University, Korea); Ic Pyo Hong (Kongju National University, Korea); Heoung-Jae Chun (Yonsei University, Korea); Yong Bae Park (Ajou University, Korea); Youn-Jae Kim (Agency for Defense and Development, Korea); Jong-Gwan Yook (Yonsei University, Korea)

17:40 ***Small Sized Uniplanar Artificial Magnetic Conductor***
Ramona Cosmina Hotopan (Universidad de Oviedo, Spain); María Elena de Cos (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

18:00 ***Ultra Thin Resistively Loaded FSS Absorber for Polarisation Independent Operation At Large Incident Angles***
Siti Normi Zabri (Queen's University Belfast, United Kingdom); Robert Cahill (Queen's University Belfast, United Kingdom); Alex Schuchinsky (Queen's University Belfast, United

16:40 - 18:20
Wire Antennas, Baluns and Associated Circuits
Session type: Regular
Application track: Wireless networks and RF Sensors
Room: South America
Chairs: Juraj Bartolić (University of Zagreb, Croatia), Dirk de Villiers (Stellenbosch University, South Africa)

16:40 ***A New Compact Reconfigurable Band Pass Filter Using DGS-Octagonal Resonators, Varactor Devices and RF Signal Choke***
Ahmed Boutejdar (University of Magdeburg, Germany); Ahmed Abdelmonem (Elminia, Egypt)

17:00 ***Integrated HF Antenna for Vertical Tail Plane Using Virtual Prototyping***
Francisco Javier Jiménez González (Airbus Military, Spain); Enrique Pascual Gil (Airbus Military, Spain); Rubén Rey Piñon (Airbus Military & Airbus Military, Spain); Jose Antonio Royo Moreno (Airbus Military, Spain)

17:20 ***Meander-Line Inverted F Antenna Designed Using a Transmission Line Model***
Onofrio Losito (ITEL Telecomunicazioni srl, Italy); Vincenzo Dimiccoli (ITEL Telecomunicazioni S.r.l., Italy); Domenico Barletta (1ITEL Telecomunicazioni S.r.l., Italy)

17:40 ***Multi Antenna Receiver for RF to DC Conversion***
Faycel Fezai (XLIM University of Limoges, France); Cyrille Menudier (XLIM - UMR CNRS 6172 - University of Limoges & Antenna and Associated Waves Dept, France); Marc Thevenot (XLIM-UMR 6172-CNRS, University of Limoges, France); Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges, France)

18:00 ***Orthomode Transducer for Dual Polarized Substrate Integrated Circuits and Antennas***
Marc Esquius Morote (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Michael Mattes (EPFL, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne,

14:30 - 16:20
EurAAP WG 5: Meeting on Antenna Measurements
Session type: EurAAP WG Meeting
Room: Oceania

16:40 - 18:20
EurAAP Delegate Assembly
Room: Oceania

14:00 - 15:00
TICRA Workshop
Session type: Industrial Workshop
Room: Europe 2

15:20 - 16:20
FEKO Workshop
Session type: Industrial Workshop
Room: Europe 2

Wednesday, April 9

09:00 - 10:40
Slotted-Wave, Guided-Wave and Leaky-Wave Antennas
Session type: Regular
Application track: Fundamental Research
Room: Amazon
Chairs: Chi-Chih Chen (The Ohio State University & ElectroScience Laboratory, USA), Alberto Toccafondi (University of Siena, Italy)

09:00 ***60GHz-band Dual-polarization Hollow-waveguide Slot Array Antennas with High Isolation and Antenna Efficiency***
Jiro Hirokawa (Tokyo Institute of Technology, Japan); Dongjin Kim (Tokyo Institute of Technology, Japan); Miao Zhang (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan)

09:20 ***A Millimeter-Wave Bessel Beam Launcher Through the Excitation of Higher-Order Leaky Modes***
Walter Fuscaldo (Sapienza University of Rome, Italy); Guido Valerio (Université de Rennes 1, France); Alessandro Galli (Sapienza University of Rome, Italy); Ronan Sauleau (University of Rennes 1, France); Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France)

09:40 ***A Novel Low-profile Slot Antenna with Unidirectional Radiation***
Jiang Xiong (University of Electronic Science and Technology of China, P.R. China); Xuelian Li (Tsinghua University, P.R. China); Bing-Zhong Wang (University of Electronic Science and Technology of China, P.R. China)

10:00 ***Dual-beam Radiation From 1D Leaky-Wave Antennas***
María García-Vigueras (Ecole Polytechnique Fédérale de Lausanne, Spain); Marc Esquius Morote (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

10:20 ***Gain Optimization in RLSAs with Lossy Substrates by the Slot Coupling Control***
Tung Nguyen (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan); Jiro Hirokawa (Tokyo Institute of Technology, Japan); Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain)

10:40 - 11:00
Coffee Break
Room: Exhibition Foyer

11:00 - 12:40
Pulsed-Field Radio: Potentialities and Implementation
Session type: Convened
Application track: Multiple Applications
Room: Amazon
Chairs: Ramon Gonzalo (Public University of Navarra, Spain), Ioan E. Lager (Delft University of Technology, The Netherlands)

11:00 ***Demonstration of the Enhanced Radiation in Dielectric Lens Spiral Antennas***
Alessandro Garufo (TU Delft, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

11:20 ***On Discrete Synthesis of Pulsed Beams***
Nikola Basta (German Aerospace Center (DLR), Germany); Achim Dreher (German Aerospace Center (DLR), Germany)

11:40 ***On Maximum Signal Amplitude, Signal-to-Noise Ratio and Filtering in Impulse-UWB Transmission***
Lukasz Zwirello (Karlsruhe Institute of Technology (KIT), Germany); Werner Wiesbeck (Karlsruhe Institute of Technology, Germany); Thomas Zwick (Karlsruhe Institute of

12:00 ***Resolution of Confocal Imaging Using 4x4 Planar Antenna Array***
Takumi Sugitani (Hiroshima University & Research Institute for Nanodevice and Bio Systems, Japan); Xia Xiao (Tianjin University, P.R. China); Hayato Kono (Hiroshima University, Japan); Takamaro Kikkawa (Hiroshima University, Japan)

12:20 ***UWB Pulse Radio Transceivers and Antennas: Considerations on Design and Implementation***
Domenico Zito (University College Cork & Tyndall National Institute, Ireland); Domenico Pepe (Tyndall National Institute, Ireland)

12:40 - 13:30
Lunch Break
Room: Atlantic

09:00 - 10:40
Analytical Methods in Electromagnetic Theory
Session type: Regular
Application track: Fundamental Research
Room: Mississippi
Chairs: Olav Breinbjerg (Technical University of Denmark, Denmark), Stefano Maci (University of Siena, Italy)

09:00 ***Circuit Model for Patch/Slot-based Frequency Selective Surfaces Under Conical Incidence***
Raúl Rodríguez-Berral (Universidad de Sevilla, Spain); Francisco Mesa (University of Seville, Spain); Francisco Medina (University of Seville, Spain)

09:20 ***Drude-Lorentz Model in Circuit Form***

Carlo Andrea Gonano (Politecnico di Milano, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy)

09:40 ***Mixed Potentials for Planar Multilayered Structures Including Conductive Interfaces***

Ioannis D Koufogiannis (EPFL, Switzerland); Michael Mattes (EPFL, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

10:00 ***Modal Green's Functions for a Slot Antenna Array on a Cylindrical Cavity***

Simon Hubert (Université Catholique de Louvain & ICTEAM Institute, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium)

10:20 ***Pulse Shape Distortion in Closed-Waveguide Axial Modal Signal Transfer - An Analytic Time-Domain Study***

Adrianus T De Hoop (Delft University of Technology, The Netherlands); Ioan E. Lager (Delft University of Technology, The Netherlands)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Analytical Methods in Electromagnetic Theory

Session type: Regular

Application track: Fundamental Research

Room: Mississippi

Chairs: Olav Breinbjerg (Technical University of Denmark, Denmark), Stefano Maci (University of Siena, Italy)

11:00 ***Radiation From Vertical Dipoles in the Presence of Homogenized Omnidirectional Metasurfaces***

David Di Ruscio (Sapienza University of Rome, Italy); Paolo Burghignoli (Sapienza University of Rome, Italy); Paolo Baccarelli (Sapienza University of Rome, Italy); Alessandro Galli (Sapienza University of Rome, Italy)

11:20 ***Simulation of a Radio Frequency Quadrupole with the Method of Moments***

Christopher Raucy (Université Catholique de Louvain, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium); Dirk Vandeplassche (SCK-CEN, Belgium)

11:40 ***Transformation Optics for Anisotropic Metasurfaces***

Mario Junior Mencagli (University of Siena, Italy); Enrica Martini (University of Siena, Italy); David González-Ovejero (Università degli Studi di Siena, Italy); Stefano Maci

12:00 ***Wave Scattering by One and Many Thin Material Strips: Singular Integral Equations, Meshless Nystrom Discretization, and Periodicity Caused Resonances***

Olga Shapoval (IRE NASU, Ukraine); Ilya O. Sukharevsky (Bilkent University, Ukraine); Ayhan Altintas (Bilkent University, Ukraine); Ronan Sauleau (University of Rennes 1, France); Alexander Nosich (IRE NASU, Ukraine)

12:20 ***Polynomial Chaos for Wave Propagation in a One Dimensional Inhomogeneous Slab***

Ellaheh Barzegar (Eindhoven University of Technology, The Netherlands)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Electromagnetics in the Medical Arena: Therapeutic Applications

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Tommaso Isernia (University of Reggio Calabria, Italy), Gerard C. van Rhoon (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands)

09:00 ***Blind Focusing in Microwave Hyperthermia by Target Contrast Variation***

Ovidio Mario Bucci (University of Naples, Italy); Gennaro Bellizzi (University of Naples Federico II, Italy)

09:20 ***Detection of Stroke with a Microwave Helmet***

Andreas Fhager (Chalmers University of Technology, Sweden); Yinan Yu (Chalmers University of Technology, Sweden); Tomas McKelvey (Chalmers University of Technology, Sweden); Hana Dobšíček Trefná (Chalmers University of Technology, Sweden); Göran Pegenius (Sahlgrenska Academy, Sweden); Jan-Erik Karlsson (Sahlgrenska University Hospital, Sweden); Mikael Elam (Sahlgrenska Academy, Sweden); Mikael Persson (Chalmers University of Technology, Sweden)

09:40 ***Feasibility of MRI-guided Hyperthermia Treatment of Head and Neck Cancer***

Margarethus M. Paulides (Erasmus University Medical Center, The Netherlands); Wouter Numan (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands); Tomas Drizdal (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands); Gyula Kotek (Erasmus MC, The Netherlands); Desmond Teck Beng Yeo (GE Global Research, USA); Gerard C. van Rhoon (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands)

10:00 ***High Frequency Microwave Ablation for Targeted Minimally Invasive Cancer Treatment***

Hung Luyen (University of Wisconsin-Madison, USA); Fuqiang Gao (University of Wisconsin-Madison, USA); Susan C. Hagness (University of Wisconsin, Madison, USA); Nader Behdad (University of Wisconsin, USA)

10:20 ***Modeling, Effect Prediction, and Planning for EM- And FUS-based Thermal Treatment***

Esra Neufeld (IT'IS Foundation, Switzerland); Adamos Kyriakou (Zeughausstrasse 43 & IT'IS Foundation/ETH Zurich, Switzerland); Deepika Sharma (IT'IS Foundation, ETH Zurich, Switzerland); Niels Kuster (IT'IS Foundation, Switzerland)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Electromagnetics in the Medical Arena: Therapeutic Applications

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Tommaso Isernia (University of Reggio Calabria, Italy), Gerard C. van Rhoon (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands)

11:00 ***MR Temperature Monitoring for MR-RF Hyperthermia - A Systems-Level Approach***

Desmond Teck Beng Yeo (GE Global Research, USA); Matthew Tarasek (GE Global Research, USA); Tomas Drizdal (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands); Eric Fiveland (GE Global Research, USA); Margarethus M. Paulides (Erasmus University Medical Center, The Netherlands); Thomas Foo (GE Global Research, USA)

11:20 ***Numerical Investigation of Proximity Effects on Field Gradients in Biological Cells***

Juan Vanegas-Acosta (Eindhoven University of Technology, The Netherlands); Vito Lancellotti (Eindhoven University of Technology, The Netherlands); Peter Zwamborn (TNO Defence Security and Safety, The Netherlands)

11:40 ***Penetration Enhancement of Non-invasive Microwave Hyperthermia Applicator***

Ki Joon Kim (Yonsei University, Korea); Woo Cheol Choi (Yonsei University, Korea); Jaeheung Kim (Yonsei University, Korea); Young Joong Yoon (Yonsei University, Korea)

12:00 ***Three-dimensional Power Focusing and Shaping for Effective Hyperthermia Treatment Planning***

Lorenzo Crocco (CNR - National Research Council, Italy); Loreto Di Donato (University of Catania, Italy); Domenica A. M. Iero (IETR, Université de Rennes 1, France); Tommaso Isernia (University of Reggio Calabria, Italy); Rosa Scapaticci (CNR-National Research Council of Italy, Italy)

12:20 ***Weak Field Transcerebral Pulsed Electromagnetic Fields in Health Care***

Rudie Kortekaas (University Medical Center Groningen, The Netherlands); Sjoerd van Belkum (UMCG, The Netherlands); Lotte van Nierop (UMCG, The Netherlands); Robert Schoevers (UMCG, The Netherlands)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Antennas and Propagation Challenges in Short Range Radio Applications

Session type: Convened

Application track: Wireless Networks and RF Sensors

Room: Yangtze 1

Chairs: Mark Bentum (ASTRON, The Netherlands), William G. Scanlon (Queen's University Belfast & University of Twente, United Kingdom)

09:00 ***Advent of Practical UWB Localization: (R)Evolution in UWB Antenna Research***

Vit Sipal (Dublin Institute of Technology, Ireland); Matthias John (Trinity College Dublin & Dublin Institute of Technology, Ireland); Dries Neirynck (Decawave, Ireland); Michael McLaughlin (Decawave, Ireland); Max James Ammann (Dublin Institute of Technology, Ireland)

09:20 ***Biocompatibility of Implantable Antennas: Design and Performance***

Konstantinos Psathas (National Technical University of Athens, Greece); Asimina Kiourti (The Ohio State University, USA); Konstantina S Nikita (National Technical University of

09:40 ***Body-Centric Antenna Positioning Effects for Off-Body UWB Communications in a Contemporary Learning Environment***

Philip Catherwood (Queen's University, Belfast, United Kingdom); William G. Scanlon (Queen's University Belfast & University of Twente, United Kingdom)

10:00 ***Channel Characterization for Wideband 60 GHz Wireless Link Within a Metal Enclosure***

Seyran Khademi (Delft University of Technology, The Netherlands); Sundeep Prabhakar Chepuri (Delft University of Technology, The Netherlands); Zoubir Irahhauten (Delft University of Technology, The Netherlands); Gerard Janssen (TUDelft, The Netherlands); Alle-Jan van der Veen (TUDelft, The Netherlands)

10:20 ***Design of Antennas and Circuit for Integrating RFID and Wireless Charging Systems***

Chi-Fang Huang (Tatung University, Taiwan); Chun-Lun Lin (Tatung University, Taiwan)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Antennas and Propagation Challenges in Short Range Radio Applications

Session type: Convened

Application track: Wireless networks and RF Sensors

Room: Yangtze 1

Chairs: Mark Bentum (ASTRON, The Netherlands), William G. Scanlon (Queen's University Belfast & University of Twente, United Kingdom)

11:00 ***Increased Operational Range for Implantable UHF RFID Antennas***

Aleksei Dubok (Eindhoven University of Technology, The Netherlands); A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands)

11:20 Integrated Antenna-Battery for Low-profile Short Range Communications

Michael Woods (University of Kent, United Kingdom); Osman Rakibet (University of Kent, United Kingdom); Paul Robert Young (University of Kent, United Kingdom); Robert Luck (University of Kent, United Kingdom); Maria Alfredsson (University of Kent, United Kingdom); John Batchelor (University of Kent, United Kingdom)

11:40 ***Modulated Scatterer Technique Probe for Intra-Body RF Channel Measurements***

Mark J. Bentum (University of Twente, The Netherlands); Vladislav Yordanov (University of Twente, The Netherlands)

12:00 ***Time-Domain Propagation Investigations for Terahertz Intra-Device Communications***

Alexander Fricke (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany); Christian Homann (Technische Universität Braunschweig, Germany)

12:20 ***UWB Chipless RFID System Performance Based on Real World 3D-Deterministic Channel Model and ZF Equalization***

Abdelfattah Fawky (M. Sc, Egypt); Maher Khaliel (Duisburg Essen University, Germany); Mohamed El-Hadidy (University of Duisburg-Essen, Germany); Thomas Kaiser (Universität Duisburg-Essen, Germany)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Ray Tracing Deterministic Modelling for Future Wireless Systems

Session type: Convened
Application track: Wireless networks and RF Sensors
Room: Yangtze 2
Chairs: Franco Fuschini (DEI - Bologna, Italy), Xuefeng Yin (Tongji University, P.R. China)

09:00 ***3D Ray-Based Propagation Channel Modeling for Multi-Layer Wireless Network Performance Simulation: Focus on the MIMO Channel Rank***
G. Gougeon (Siradel, France); Mathieu Brau (SIRADEL, France); Yoann Corre (SIRADEL, France); Thierry Tenoux (SIRADEL, France); Yves Lostanlen (SIRADEL & University of

09:20 ***Diffraction From Multiple Ridges: Comparing Three- And Two-Dimensional Results***
Zhengqing Yun (University of Hawaii, USA); Magdy Iskander (University of Hawaii, USA)

09:40 ***Efficient and Reliable Ray Tracing, Some Challenges and Proposed Solutions***
Vahid Mohtashami (Ferdowsi University of Mashhad, Iran); Amir Ahmad Shishegar (Sharif University of Technology, Iran)

10:00 ***Improving RSS Fingerprint-based Localization Using Directional Antennas***
Loizos Kanaris (Sigint Solutions Ltd, Cyprus); Akis Kokkinis (Sigint Solutions Ltd, Cyprus); Marios Raspopoulos (Sigint Solutions Ltd, Cyprus); Antonio Liotta (Eindhoven University of Technology, The Netherlands); Stavros Stavrou (Open University of Cyprus, Cyprus)

10:20 ***Investigation on the Influence of Diffraction by Wedges in Satellite Navigation Systems***
Marcos Liso Nicolás (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

10:40 - 11:00
Coffee Break
Room: Exhibition Foyer

11:00 - 12:40
Ray Tracing Deterministic Modelling for Future Wireless Systems
Session type: Convened
Application track: Wireless networks and RF Sensors
Room: Yangtze 2
Chairs: Franco Fuschini (DEI - Bologna, Italy), Xuefeng Yin (Tongji University, P.R. China)

11:00 Ray Tracing Model for Propagation Channel Estimation in Tunnels and Parameters Tuning with Measurements
Roberto Lanzo (Telecom Italia, Italy); Massimiliano Petra (Telecom Italia, Italy); Loris Stola (Telecom Italia, Italy)

11:20 ***Ray Tracing Simulation of the Radio Channel Time- And Angle-Dispersion in Large Indoor Environments***
Enrico M. Vitucci (University of Bologna, Italy); Franco Fuschini (DEI - Bologna, Italy); Vittorio Degli-Esposti (University of Bologna, Italy)

11:40 ***Uplink Coordinated Multi-Point in Field Trials and Ray Tracing Simulations***
Michael Grieger (Technische Universität Dresden, Germany); Mohammad Amro (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia); Martin Danneberg (Technische Universität Dresden, Germany); Jens Voigt (Actix GmbH, Germany); Adnan Landolsi (KFUPM, Saudi Arabia); Salam A. Zummo (KFUPM, Saudi Arabia); Gerhard

12:00 ***Using Game Engines and Graphic Technologies for Ray-Tracing in Future Wireless***
Andres Navarro (Universidad Icesi, Colombia); Dinael Guevara (Francisco de Paula Santander University, Colombia); Narcis Cardona (Universidad Politecnica Valencia, Spain)

12:20 ***Quantifying Uncertainty in Ray-Tracing Models of Radiowave Propagation Using Polynomial Chaos***
Andrew Austin (University of Toronto, Canada); Neeraj Sood (University of Toronto, Canada); Costas Sarris (University of Toronto, Canada)

12:40 - 13:30
Lunch Break
Room: Atlantic

09:00 - 10:40
Reflectarrays and Transmitarrays
Session type: Regular
Application track: Space
Room: Africa
Chairs: Robert Cahill (Queen's University Belfast, United Kingdom), Jose A. Encinar (Universidad Politecnica de Madrid, Spain)

09:00 ***Circularly Polarized Transmit-Array with Sequentially Rotated Elements in Ka Band***
Luca Di Palma (CEA, LETI, Minatec, France); Antonio Clemente (CEA-LETI Minatec, France); Laurent Dussopt (CEA, LETI, Minatec, France); Ronan Sauleau (University of Rennes 1, France); Patrick Potier (DGA/Maîtrise de l'Information, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France)

09:20 ***Design and Optimization of Multi-Faceted Reflectarrays for Satellite Applications***
Min Zhou (TICRA, Denmark); Stig Sørensen (TICRA, Denmark); Peter Meincke (TICRA, Denmark); Erik Jørgensen (TICRA, Denmark)

09:40 ***Design of a Multi-Layer Ka-Band Frequency Selective Surface- Backed Reflectarray for Satellite Applications***
Mohammad Reza Chaharmir (Communications Research Centre, Canada); Jafar Shaker (Communications Research Centre, Canada)

10:00 ***Dual Focus Polarisation Lens***
Paul Moseley (UCL, United Kingdom); Giorgio Savini (University College London, United Kingdom); Elena Saenz (European Space Agency, The Netherlands); Jin Zhang (Cardiff University, United Kingdom); Peter Ade (Cardiff University, United Kingdom)

10:20 ***Dual Frequency Ka-band Reflectarray for Ground Terminal Application***
Jean-Marc Baracco (Mardel, France); Philippe Ratajczak (Orange Labs, France); Patrice Brachat (France Telecom, France); Giovanni Toso (European Space Agency, The

10:40 - 11:00
Coffee Break
Room: Exhibition Foyer

11:00 - 12:40
Reflectarrays and Transmitarrays

Session type: Regular
Application track: Space
Room: Africa
Chairs: Robert Cahill (Queen's University Belfast, United Kingdom), Jose A. Encinar (Universidad Politecnica de Madrid, Spain)

11:00 ***Ka-band Reflectarray Antenna System for SAR Applications***
Carolina Tienda (German Aerospace Center, Germany); Marwan Younis (German Aerospace Center (DLR), Germany); Paco López-Dekker (German Aerospace Center (DLR), Germany); Piotr Laskowski (DLR, Germany)

11:20 ***Optically Transparent Reflectarray for Satellite Applications***
Catherine Kocia (University of Toronto, Canada); Sean V Hum (University of Toronto, Canada)

11:40 ***Triple-Slot Phase-Shifting Cell of Reduced Size for Reflectarray Applications***
Tony Makdissy (IETR - INSA of Rennes, France); Raphael Gillard (IETR & INSA, France); Erwan Fourn (INSA of Rennes, France); Etienne Girard (Thales Alenia Space, France)

12:00 ***Unit-cell for Dual-Circular Polarisation Reflectarrays***
Simon Mener (IETR & CNES/DGA, France); Raphael Gillard (IETR & INSA, France); Ronan Sauleau (University of Rennes 1, France); Anthony Bellion (CNES, France); Patrick Potier (DGA/Maîtrise de l'Information, France)

12:20 ***Fractal Reflectarray for Wide-Angle Fixed-Beam Applications***
Sandra Costanzo (University of Calabria, Italy); Francesca Venneri (University of Calabria, Italy)

12:40 - 13:30
Lunch Break
Room: Atlantic

09:00 - 10:40
Multipactor, Passive Intermodulation and Corona in Antennas
Session type: Convened
Application track: Space
Room: Antarctica
Chairs: Yan Brand (Eutelsat S. A., France), Jérome Puech (CNES, France), Jacques Sombrin (TéSA Laboratory, France)

09:00 ***Characterisation of Nonlinear Distortion and Intermodulation in Passive Devices and Antennas***
Alexey Shitvov (The Queens University of Belfast, United Kingdom); Alex Schuchinsky (Queen's University Belfast, United Kingdom); Michael Steer (North Carolina State University, USA); Joshua Wetherington (North Carolina State University, USA)

09:20 ***Design and Multipactor Analysis of Microwave Impedance Transformer with Dielectric Filling***
Tiancun Hu (China Academy of Space Technology, P.R. China)

09:40 ***Everest Preliminary Results on High RF Power Phenomena***
Jérome Puech (CNES, France); Cesar Miquel Espana (ESA, The Netherlands); David Raboso (European Space Agency, The Netherlands)

10:00 ***EVEREST Simulation Campaign Results on Multipactor Effect Using CST Particle StudioTM***
Ahmed Al-Mudhafar (Technische Universität Darmstadt & Institut für Mikrowellentechnik und Photonik, Germany); Jérome Puech (CNES, France)

10:20 ***Multipactor Analysis in Parallel-Plate Waveguides Loaded by a Single Dielectric Slab***
Apostolos L. Sounas (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Francisco Eden Sorolla (EPFL, Switzerland); Michael Mattes (EPFL, Switzerland)

10:40 - 11:00
Coffee Break
Room: Exhibition Foyer

11:00 - 12:40
Multipactor, Passive Intermodulation and Corona in Antennas
Session type: Convened
Application track: Space
Room: Antarctica
Chairs: Yan Brand (Eutelsat S. A., France), Jérome Puech (CNES, France), Jacques Sombrin (TéSA Laboratory, France)

11:00 ***Multipactor Prediction with Multi-carrier Signals: Experimental Results and Discussions on the 20-gap-crossing Rule***
Sergio Anza Hormigo (Aurorasat Software and Testing, Spain); Carlos Vicente Quiles (Aurorasat Software and Testing, Spain); Jordi Gil (Aurora Software and Testing, Spain); Michael Mattes (EPFL, Switzerland); Dieter Wolk (TESAT Spacecom GmbH & Co, Germany); Ulrich Wochner (TESAT Spacecom GmbH & Co, Germany); Vicente Boria (Universidad Politécnica de Valencia, Spain); Benito Gimeno (Universidad de Valencia, Spain); David Raboso (European Space Agency, The Netherlands)

11:20 ***PIM and Multipactor Considerations for Future High-RF Power Space Missions***
Frédéric Piro (Eutelsat S.A., France); Yan Brand (Eutelsat S. A., France)

11:40 ***Relaxation of the Multicarrier Passive Intermodulation Specifications of Antennas***
Jacques Sombrin (TéSA Laboratory, France); Isabelle Albert (CNES, France); Geoffroy Soubercaze-Pun (CNES, France)

12:00 ***TAS-F Multipactor Results in EVEREST Project***
Philippe Mader (Thales Alenia Space, France); Christian Féat (Thales Alenia Space, France); Mathias Humbert (Thales Alenia Space, France); Jean-Christophe Lafond (Thales Alenia Space, France); Philippe Lepeltier (Thales Alenia Space, France); Jérome Puech (CNES, France); Jérome Sinigaglia (Thales Alenia Space, France)

12:20 ***The Calculation of Electric Field for Low Pressure Discharge in Air From DC Parameters***
Rui Wang (National Key Laboratory of Science and Technology on space Microwave, P.R. China); Na Zhang (Science and Technology on Space Microwave Laboratory, P.R. China); Yun Li (Science and Technology on Space Microwave Laboratory, P.R. China); Wanzhao Cui (Science and Technology on Space Microwave Laboratory, P.R. China)

12:40 - 13:30
Lunch Break
Room: Atlantic

09:00 - 10:40

Array-Antenna Analysis and Synthesis

Session type: Regular

Application track: Defense & Security

Room: Europe 1

Chairs: Christophe Craeye (Université Catholique de Louvain, Belgium), Giovanni Toso (European Space Agency, The Netherlands)

09:00 ***A Theoretical Accuracy Analysis of Dual-polarization Planar Phased Array for Meteorological Applications in ATSR Mode***

Chen Pang (Delft University of Techlogogy, The Netherlands); Peter Hoogeboom (Delft University of Technology, The Netherlands); Herman W. J. Russchenberg (Delft University of Technology, The Netherlands); Tao Wang (National University of Defense Technology, P.R. China); Jian Dong (National University of Defense Technology, P.R. China); Xuesong Wang (National University of Defense Technology, P.R. China)

09:20 ***A Hybrid Approach to the Synthesis of Reconfigurable Sparse Circular Arrays***

Ovidio Mario Bucci (University of Naples, Italy); Stefano Perna (Università degi Studi di Napoli "Parthenope", Italy); Daniele Pinchera (University of Cassino & University of Naples,

09:40 ***Optimal Power Coupling Coefficient Distribution Determination for Dual Feed Leaky Waveguide Array Using Multi Objective Genetic Algorithm***

Vinay Ravindra (University of Tokyo, Japan); Hirofumi Saito (Institute of Space & Astronuatical Science Japan, Japan); Jiro Hirokawa (Tokyo Institute of Technology, Japan)

10:00 ***Tolerance Analysis of Reconfigurable Monopulse Linear Antenna Arrays Using Interval Arithmetic***

Nicola Anselmi (University of Trento, Italy); Luca Manica (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

10:20 ***Two-Dimensional Time-Domain Antenna Arrays for Steerable Energy Pattern with Low Side Lobe Level***

Alberto Reyna (Autonomous University of Tamaulipas, Mexico); Marco Panduro (, Mexico); Carlos Del-Río (Public University of Navarra & Antenna Group, Spain)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Array-Antenna Design and Technology

Session type: Regular

Application track: Defense & Security

Room: Europe 1

Chair: Ovidio Mario Bucci (University of Naples, Italy); Chair: Olivier Lafond (IETR, France)

11:00 ***A Switched Phased Array on a Conical Structure***

Vincent Jaeck (French-German Research Institute of Saint-Louis, France); Loic Bernard (ISL, France); Kouroch Mahdjoubi (Université de Rennes, France); Sylvain Collardey (University of Rennes 1, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France)

11:20 ***An 11-GHz Multi-Beam Dielectric Rod Antenna Using Non-Planar Array Approach***

Mohadig Rousstia (Eindhoven University of Technology, The Netherlands); Ad Reniers (Eindhoven University of Technology, The Netherlands); Matti Herben (Eindhoven University of Technology, The Netherlands)

11:40 ***Artificial Dielectric Based Connected Array of Slots At 60 GHz***

Waqas Hassan Syed (Delft University of Technology, The Netherlands); Daniele Cavallo (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands); Paul Zeijl (Omniradar, The Netherlands)

12:00 ***Design Considerations for the EISCAT_3D Phased Array Antenna***

Claes Beckman (KTH Royal Institute of Technology, Sweden); Johan Borg (Luleå University of Technology, Sweden); Jonny Johansson (Luleå University of Technology, Sweden); Irina Tecsor (KTH Royal Institute of Technology, Sweden)

12:20 ***High Gain and Low Losses Antenna Array for High Power Microwave Applications***

Antoine Chauloux (IETR, France); Franck Colombel (Université de Rennes 1, France); Mohamed Himdi (Université de Rennes 1, France); Jean Louis Lasserre (CEA - Gramat, France); Pierre Bruguiere (CEA - Gramat, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France); Patrick Potier (DGA/Maîtrise de l'Information, France)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

AMTA/EurAAP Measurements/Automotive, Telematics and Defense Antenna Testing

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Lars Jacob Foged (Microwave Vision Italy, Italy), Kimberly Hassett (Nearfield Systems, Inc., USA)

09:00 ***A Novel Approach to Positioning in Antenna Measurements***

Miguel A. Salas Natera (Antenna Systems Solutions, Spain); Jose Luis Besada (Universidad Politécnica de Madrid (Technical University of Madrid), Spain); David Fraile (Antenna Systems Solutions, Spain); Carlos Rivas Torreiro (Antenna Systems Solutions, Spain); Carlo Rizzo (Antenna Systems Solutions, United Kingdom)

09:20 ***The Measurement of Antenna Group Delay***

Philip Miller (UK, National Physical Laboratory, United Kingdom)

09:40 ***A Novel Motion Control Approach in Antenna Measurements***

Miguel A. Salas Natera (Antenna Systems Solutions, Spain); Jose Luis Besada (Universidad Politécnica de Madrid (Technical University of Madrid), Spain); Carlos Rivas Torreiro (Antenna Systems Solutions, Spain); Pablo Caballero Almena (Universidad Politécnica de Madrid, Spain); Carlo Rizzo (Antenna Systems Solutions, United Kingdom)

10:00 ***Advanced Waveform Generator for Integrated Phased Array Testing***

Kimberly Hassett (Nearfield Systems, Inc., USA); Dave Fooshe (Nearfield Systems, Inc., USA)

10:20 ***Far Field Reconstruction From Positioning Error Affected Near-Field Data Acquired Via a Nonredundant Spherical Scanning***

Francesco D'Agostino (University of Salerno, Italy); Flaminio Ferrara (University of Salerno, Italy); Claudio Gennarelli (University of Salerno, Italy); Rocco Guerriero (University of Salerno, Italy); Massimo Migliozzi (University of Salerno, Italy)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

AMTA/EurAAP Measurements/Automotive, Telematics and Defense Antenna Testing

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Lars Jacob Foged (Microwave Vision Italy, Italy), Kimberly Hassett (Nearfield Systems, Inc., USA)

11:00 ***Multiplexed Pulsed Transmit and Receive RF Measurement System for Active Phased Array Testing***

Kimberly Hassett (Nearfield Systems, Inc., USA); Bruce Williams (Nearfield Systems, Inc., USA)

11:20 ***Short Note on the Use of Spherical Modal Filtering to Remove RF Leakage From SNF Measurements***

Jeffrey Fordham (MI Technologies, USA); David Musser (MI Technologies, USA)

11:40 ***Improvement of Antenna Measurement Results At Low Frequencies by Using Post-processing Techniques***

Gwenn Le Fur (SATIMO, France); Francisco José Cano (SATIMO, France); Francesco Saccardi (SATIMO, Italy); Daniel Belot (CNES, France); Ludovic Durand (SATIMO, France); Luc Duchesne (SATIMO, France); Lars Jacob Foged (Microwave Vision Italy, Italy); Jean-marc Lopez (CNES, France); Anthony Bellion (CNES, France)

12:00 ***Optimized Spherical Near-Field Antenna Measurements***

Amedeo Capozzoli (Università di Napoli Federico II, Italy); Claudio Curcio (Università di Napoli Federico II, Italy); Angelo Liseno (Università di Napoli Federico II, Italy)

12:20 ***Very High-Accuracy Calibration of Radiation Pattern and Gain of a Near-Field Probe***

Sergey Pivnenko (Technical University of Denmark, Denmark); Jeppe Nielsen (Technical University of Denmark, Denmark); Olav Breinbjerg (Technical University of Denmark,

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Novel Advances in Reconfigurable Systems

Session type: Convened

Application track: Multiple Applications

Room: North America

Chairs: Dimitris E. Anagnostou (South Dakota School of Mines and Technology & Democritus University of Thrace, USA), Stavros Koulouridis (University of Patras, Greece)

09:00 ***A Reconfigurable Feeding Network***

Youssef Tawk (The University of New Mexico & Notre Dame University Louaize, USA); Joseph Costantine (California State University Fullerton & American University of Beirut-Electrical and Computer Engineering Department, USA); Ali Ramadan (American University of Beirut, Lebanon); Karim Youssef Kabalan (American University of Beirut, Lebanon); Christos Christodoulou (University of New Mexico, USA)

09:20 ***A Synthesis Method for Frequency-Reconfigurable Frequency Selective Surfaces***

David Rolando (Texas A&M University, USA); Gregory Huff (Texas A&M University, USA)

09:40 ***Biomimetic Nano-Antenna Arrays: A Concept for Designing Sub-Wavelength Angle-Sensing Detectors At Optical Wavelengths***

Amir Reza Masoumi (University of Wisconsin-Madison, USA); Nader Behdad (University of Wisconsin, USA)

10:00 ***Compact, Low-profile, HIS-Based Pattern-Reconfigurable Antenna for Wide-Angle Scanning***

Mei Li (University of Electronic Science and Technology of China, P.R. China); Shao Qiu Xiao (UESTC, P.R. China); Bing-Zhong Wang (University of Electronic Science and

10:20 ***Theoretical and Numerical Study of a Plasma-Based Frequency Tunable Microstrip Antenna***

Romain Pascaud (Université de Toulouse - ISAE, France); Francisco Pizarro (Université de Toulouse - ISAE, France); Olivier Pascal (Université de Toulouse - UPS INPT CNRS, France); Thierry Callegari (Université de Toulouse - UPS INPT CNRS, France); Laurent Liard (Université de Toulouse - UPS INPT CNRS, France)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Novel Advances in Reconfigurable Systems

Session type: Convened

Application track: Multiple Applications

Room: North America

Chairs: Dimitris E. Anagnostou (South Dakota School of Mines and Technology & Democritus University of Thrace, USA), Stavros Koulouridis (University of Patras, Greece)

11:00 ***Generating Field Profiles with Arbitrary Phase and Amplitude Distributions Using Metamaterials***

Anthony Grbic (University of Michigan, Ann Arbor, USA); Gurkan Gok (University of Michigan, Ann Arbor, USA)

11:20 ***Electroactive Polymer Based Reconfigurable Phase Shifter At Millimeter-Waves***

Pietro Romano (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Oluwaseun Araromi (EPFL, Switzerland); Samuel Rosset (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Herbert Shea (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

11:40 ***Near-Field Probe for Adaptive Antenna Tuning***

Nathanael Smith (The Ohio State University & ElectroScience Laboratory, USA); Chi-Chih Chen (The Ohio State University & ElectroScience Laboratory, USA); John L. Volakis (Ohio State University, USA)

12:00 ***Technological Advances in Reconfigurable and Autonomous Antenna Systems***

Dimitris E. Anagnostou (South Dakota School of Mines and Technology & Democritus University of Thrace, USA)

12:20 ***Tuning Periodic Surfaces with Piezoelectric Actuators***

Marina Mavridou (University of Birmingham, United Kingdom); Alexandros Feresidis (University of Birmingham, United Kingdom); Peter Gardner (University of Birmingham,

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Wearable Antennas

Session type: Regular

Application track: Biomedical

Room: South America

Chairs: Milos Mazanek (Czech Technical University in Prague, Czech Republic), Anja K. Skrivervik (EPFL, Switzerland)

09:00 ***A Design of an Ultra-thin Antenna for WBAN On-Body Communication***

Juneseok Lee (Hanyang University, Korea)

09:20 ***Antenna Implementable Into Button for On-Body Communications At 61 GHz***

Jan Puskely (Brno University of Technology, Czech Republic); Michal Pokorný (Brno University of Technology, Czech Republic); Jaroslav Lacik (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic)

09:40 ***Bend Profiling of Textile Antenna for Body Centric Wireless Communication***

Saleem Shahid (National University of Sciences and Technology, Islamabad & SEECS, Pakistan); Muhammad Rizwan (NUST - SEECS, Pakistan); Muhammad Babar, Abbasi (NUST-SEECS, Islamabad, Pakistan); Munir Ahmad Tarar (National University of Sciences and Technology, Pakistan); Syed Muzahir Abbas (Supervisor, Pakistan)

10:00 ***Design and Performance of Miniaturized Wearable Antennas in UHF Band***

Branimir Ivšić (University of Zagreb, Croatia); Davor Bonefačić (University of Zagreb & Dept of Wireless Communications, Croatia); Juraj Bartolić (University of Zagreb, Croatia)

10:20 ***Far Field Modeling of Body Worn Antennas by the Superposition of Equivalent Electric Sources***

Markus Grimm (Christian – Albrechts – University of Kiel, Germany); Dirk Manteuffel (University of Kiel, Germany)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Wearable Antennas

Session type: Regular

Application track: Biomedical

Room: South America

Chairs: Milos Mazanek (Czech Technical University in Prague, Czech Republic), Anja K. Skrivervik (EPFL, Switzerland)

11:00 ***Folded Loop Antenna as a Promissing Solution for a Cochlear Implant***

Alexander Vorobyov (CSEM & Center Suisse d'Electronique et de Microtechnique SA, Switzerland); Cedric Hennemann (CSEM, Switzerland); Alexander Vasylchenko (Megion Research & Development, Austria); Jean-Dominique Decotignie (CSEM & EPFL, Switzerland); Josef Baumgartner (Med-El Elektromedizinische Geraete GmbH, Austria)

11:20 ***Inset-fed Liquid Metal Patch Antenna***

Daouda Diedhiou (IETR, Université de Rennes 1, France); Domenica A. M. Iero (IETR, Université de Rennes 1, France); Olivier De Sagazan (University Rennes 1, France); Ronan Sauleau (University of Rennes 1, France); Artem V. Boriskin (IETR, Université de Rennes 1, France)

11:40 ***Non-uniform Meshed Microstrip Antennas for Wearable Applications***

Shiyu Zhang (Loughborough University, United Kingdom); Rob Seager (Loughborough University, United Kingdom); Alford Chauraya (Loughborough University, United Kingdom); William Whittow (Loughborough University, United Kingdom); J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

12:00 ***The Effect of Antenna Pattern and Polarization for Launching Creeping Waves on a Skin Surface***

Tommi Tuovinen (University of Oulu, Finland); Markus Berg (University of Oulu, Finland); Erkki T. Salonen (University of Oulu, Finland)

12:20 ***Wearable Substrate-Integrated Waveguide with Embroidered Vias***

Thomas Kaufmann (The University of Adelaide, Australia); Zhi Xu (Radar and Avionics Institute of AVIC, P.R. China); Christophe Fumeaux (The University of Adelaide, Australia)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

EurAAP WG 4 on Software: Electromagnetic Energies, an Emerging Tool in Computational Electromagnetics

Session type: EurAAP WG Meeting

Room: Oceania

Chairs: Yahia Antar (Royal Military College of Canada, Canada), Mats Gustafsson (Lund University, Sweden), Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

EurAAP WG 4 on Software: Electromagnetic Energies, an Emerging Tool in Computational Electromagnetics

Session type: EurAAP WG Meeting

Room: Oceania

Chairs: Yahia Antar (Royal Military College of Canada, Canada), Mats Gustafsson (Lund University, Sweden), Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

11:00 - 12:00

CST Workshop

Session type: Industrial Workshop

Room: Europe 2

12:40 - 13:30

Lunch Break

Room: Atlantic

13:30 - 16:00 Poster Session

Reflectarrays, Transmitarrays and FSSs

Room: Poster area 1

WED.1.1 A Metal-Only Reflectarray (MOR) Antenna Excited by Equivalent Surface Current Sources to Model Arbitrary Feeds

Yong Heui Cho (Mokwon University, Korea); Seungkyun Lim (Mokwon University, Korea); Sangwook Lee (Mokwon University, Korea); Minwoo Yi (Agency for Defense Development, Korea); Woo-sang Lee (Agency for Defense Development, Korea); Joon-ho So (Agency for Defense Development, Korea)

WED.1.2 Analytical and Full-Wave Analysis of Square and Ring Patch Structures for Reflectarray Unit Cells

Clement Vourch (University of Glasgow, United Kingdom); Timothy Drysdale (University of Glasgow, United Kingdom)

WED.1.3 Metaheuristics for Design of Metal-Only Reflectarray (MOR) Antenna

Seungkyun Lim (Mokwon University, Korea); Sangwook Lee (Mokwon University, Korea); Yong Heui Cho (Mokwon University, Korea); Yongjun Hong (Agency for Defense Development, Korea); Joon-ho So (Agency for Defense Development, Korea)

WED.1.4 A Novel Reflectarray Based on the Folded SIR Patch-Slot Configuration

Mohammad Mehdi Fakharian (Electrical Engineering and Computer, Semnan University, Iran); Pejman Rezaei (Semnan University, Iran); Ali Asghar Orouji (Semnan university,

WED.1.5 Accurate Characterization of Multi-Resonant Reflectarray Cells by Artificial Neural Networks

Pedro Robustillo (École Polytechnique Fédéral de Lausanne, Switzerland); Juan Zapata (Universidad Politécnica de Madrid, Spain); Jose A. Encinar (Universidad Politecnica de Madrid, Spain); Rafael Florencio (Universidad de Sevilla, Spain); Rafael Boix (University of Seville, Spain); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

WED.1.6 Broadband Reflectarray Element for Dual Polarization Made of Orthogonal Sets of Parallel Dipoles

Rafael Florencio (Universidad de Sevilla, Spain); Gerardo Perez-Palomino (Universidad Politécnica de Madrid, Spain); Jose A. Encinar (Universidad Politecnica de Madrid, Spain); Rafael Boix (University of Seville, Spain)

WED.1.7 Electrically Tunable Reflectarray Element Based on Aperture-Coupled C-Patch

Kien Trung Pham (Ho Chi Minh City International University, Vietnam); Nguyen Binh Duong (International University, Vietnam); Van-Su Tran (International University, HCMC VNU, Vietnam); Lan Phuong Bui (International University, VNU HCMC., Vietnam); Linh Mai (International University of Viet Nam, Vietnam)

WED.1.8 20-GHz 1-Bit Slotted Active Elementary Cell

Muhammad Nazrol Bin Zawawi (Université Nice Sophia Antipolis, France); Jerome Lanteri (Université Nice Sophia Antipolis, France); Claire Migliaccio (Université Nice Sophia

WED.1.9 Bowl-Shaped Beam Reflectarray Antenna for Satellite Communication

Seyed Mostafa Mousavi (K. N. Toosi University of tech., Iran); Abdullah Mirtaheri (K. N. Toosi University, Iran); Foad Fereidoony (Ms. in K. N. Toosi University of Technology,

WED.1.10 Varactor-Loaded Dual-Polarized Unit-Cell for Reconfigurable Reflectarrays

Mingtao Zhang (University of Kent & Xi'an Institute of Space Radio Technology, United Kingdom); Steven Gao (University of Kent, United Kingdom)

WED.1.11 On the Limits of an Array-Based Model for Planar Lenses

Enrique González-Plaza (Universidad de Oviedo, Spain); Germán León (Universidad de Oviedo, Spain); Susana Loredo (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

WED.1.12 Extraordinary Transmission Through Metallic Holes in the X-Band

Daniel Sanchez-Escuderos (Universidad Politécnica de Valencia, Spain); Marta Cabedo-Fabrés (Universidad Politécnica de Valencia, Spain); Eva Antonino-Daviu (Universidad Politecnica de Valencia, Spain); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain)

WED.1.13 Design Multiband Frequency Selective Surface (FSS) on Hybrid Material

Mahfuzah Shukor (Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Zoinol Abidin Bin Abd Aziz (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Mohd Fareq Abd Malek (Universiti Malaysia Perlis, Malaysia); Badrul Hisham Ahmad (Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Kadim Haji Suaidi (Telecommunication Engineering, Malaysia); Fauzi Mohd Johar (Universiti Teknikal Malaysia Melaka, Malaysia)

WED.1.14 Efficient Network Representation of Grounded Patch-Based FSS

María García-Vigueras (Ecole Polytechnique Fédérale de Lausanne, Spain); Francisco Mesa (University of Seville, Spain); Francisco Medina (University of Seville, Spain); Raúl Rodríguez-Berral (Universidad de Sevilla, Spain); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

WED.1.15 A Material-by-Design Strategy for the Design and Optimization of Multisurface-Metamaterial Polarizers

Ephrem Teshale Bekele (University of Trento & Eledia Research Center, DISI, University of Trento, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Enrica Martini (University of Siena, Italy); Stefano Maci (University of Siena, Italy); Andrea Massa (University of Trento, Italy)

WED.1.16 Circular Polarization Frequency Selective Surface Operating in Ku and Ka Band

Robert Orr (Queen's University Belfast, United Kingdom); George Goussetis (Reader, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); Robert Cahill (Queen's University Belfast, United Kingdom); Dmitry E Zelenchuk (Queen's University of Belfast, United Kingdom); Arpan Pal (Queen's University, United Kingdom); Elena Saenz (European Space Agency, The Netherlands); Massimiliano Simeoni (European Space Agency, The Netherlands); Luca Salghetti Drioli (European Space Agency-ESTEC, The

WED.1.17 Design and Characteristic Impedance Modelling of Dual Band Frequency Selective Surface (FSS) on Hybrid Material

Mahfuzah Shukor (Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Zoinol Abidin Bin Abd Aziz (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Badrul Hisham Ahmad (Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Kadim Haji Suaidi (Telecommunication Engineering, Malaysia); Fauzi Mohd Johar (Universiti Teknikal Malaysia Melaka, Malaysia); Mohd Fareq Abd Malek (Universiti Malaysia Perlis, Malaysia)

WED.1.18 Fabrication of Fabric Based Frequency Selective Surfaces (FSS)

Alford Chauraya (Loughborough University, United Kingdom); Rob Seager (Loughborough University, United Kingdom); Janet Bowman (Loughborough University, United Kingdom); Mathew Broughton (Loughborough University, United Kingdom); Nithikul Nimkulart (Loughborough University, United Kingdom)

WED.1.19 Finite Frequency Selective Surface Modelling

Raymond Dickie (Queens University Belfast, United Kingdom); Robert Cahill (Queen's University Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United

WED.1.20 Linear to Circular Polarization Reflector with Transmission Band

Robert Orr (Queen's University Belfast, United Kingdom); George Goussetis (Reader, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); Elena Saenz (European Space Agency, The Netherlands)

WED.1.46 Design of Reconfigurable Frequency Selective Surfaces with Flexibility

Ic Pyo Hong (Kongju National University, Korea); In Gon Lee (Kongju National University, Korea); Chan-Sun Park (Yonsei University, Korea); Jong-Gwan Yook (Yonsei University, Korea); Heoung-Jae Chun (Yonsei University, Korea); Youn-Jae Kim (Agency for Defense and Development, Korea)

Indoor and Urban Channels and Systems

Room: Poster area 1

WED.1.21 Attitude Estimation for Base Station Antennas Based on Downlink Channel Statistics

Cen Ling (Tongji University, P.R. China); Yongyu He (Tongji University, P.R. China); Xuefeng Yin (Tongji University, P.R. China); Zhimeng Zhong (Huawei Technology Company, P.R. China); Weiming Duan (Huawei, P.R. China); Silvia Ruiz Boqué (UPC, Spain)

WED.1.22 Automatic Location of Base-Stations for Optimum Coverage and Capacity Planning of LTE Systems

Georgia Athanasiadou (University of Peloponnese, Greece); Dimitra Zarbouti (University of Peloponnese, Greece); George Tsoulos (University of Peloponnese, Greece)

WED.1.23 Propagation Model Based on Building Penetration Loss Measurement in UHF Band

Hirokazu Sawada (NICT, Japan); Tomoshige Kan (Tokyo Institute of Technology, Japan); Chunyi Song (National Institute of Information and Communications Technology, Japan); Hiroshi Harada (National Institute of Information & Communications Technology (NICT), Japan)

WED.1.24 Statistical Tuning of Walfisch-Ikegami Model for the Untypical Environment

Slawomir J. Ambroziak (Gdansk University of Technology, Poland); Ryszard Katulski (Gdansk University of Technology, Poland)

WED.1.25 VHF Band Path Loss Model for Low Antenna Heights in Residential Areas

Motoharu Sasaki (NTT Access Network Service Systems Laboratories, Japan); Wataru Yamada (NTT Access Network Service Systems Laboratories, Japan); Takatoshi Sugiyama

WED.1.26 Analysis of 802.11 OFDM in High Multipath Environments

Frederic Heereman (Ghent University & IBBT, Belgium); Wout Joseph (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

WED.1.27 Indoor Tracking of Human Movements Using UWB Technology for Motion Capture

Richa Bharadwaj (Queen Mary University of London, United Kingdom); Clive Parini (Queen Mary University of London, United Kingdom); Akram Alomainy (Queen Mary, University of London, United Kingdom)

WED.1.28 Optimising the Location of Wireless Base Stations Within a Dynamic Indoor Environment

Rania Minkara (University of Bath, United Kingdom); Peter Shepherd (University of Bath, United Kingdom)

WED.1.29 Realistic Prediction of Outage Probability and Confidence Interval of BER for Indoor Radio Communications

Meiling Luo (CITI, INSA-Lyon, INRIA, Universit´e de Lyon, France); Guillaume Villemaud (Université de Lyon, INRIA, INSA-Lyon, CITI, France); Jean-Marie Gorce (INSA-Lyon, France); Jie Zhang (University of Sheffield, Dept. of Electronic and Electrical Engineering, United Kingdom)

WED.1.30 Real-time Path Loss Modelling for a More Robust Wireless Performance

Quentin Braet (Ghent University, Belgium); David Plets (Ghent University - iMinds, Belgium); Wout Joseph (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

WED.1.31 An Accurate Indoor Propagation Analysis for Wi-Fi Antenna Embedded in a Commercial TV Set

Hyunjin Kim (Samsung Electronics, Korea); Byungchul Kim (Samsung Electronics, Korea); Youngju Lee (Samsung Electronics, Korea)

WED.1.32 Automated Modelling of Realistic Indoor Walls in the Context of Small Cell Propagation

Sören Hahn (Technische Universität Braunschweig & Institut für Nachrichtentechnik, Germany); Dennis M. Rose (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

WED.1.33 Connectivity Gain Evaluation Using Diversity in Wireless Sensor Networks Under Correlated Shadowing

Georgios Pitsiladis (National Technical University of Athens, Greece); Charilaos Kourogiorgas (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

WED.1.34 Coverage Area Simulation for Indoor 4G Networks in 2.6 GHz and 3.5 GHz

Allan Braga (Federal University of Pará, Brazil); Ramz Fraiha (Federal University of Pará UFPA, Brazil); Simone da Gra?a de Castro Fraiha (Federal University of Pará, Brazil); Jasmine Priscyla Leite de Araújo (Federal University of Pará, Brazil); Hermínio Gomes (Federal University of Pará, Brazil); Josiane do Couto Rodrigues (Federal University of Pará, Brazil); Hélio Ferreira (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

WED.1.35 Crowd Detection and Occupancy Estimation Through Indirect Environmental Measurements

Federico Viani (University of Trento & ELEDIA Research Center, Italy); Alessandro Polo (University of Trento & ELEDIA Research Center, Italy); Fabrizio Robol (ELEDIA Research Center, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

WED.1.36 IEEE 802.11 n-Based TDOA Performance Evaluation in an Indoor Multipath Environment

Kristoph Keunecke (Helmut-Schmidt-University/Electrical Measurement Engineering, Germany); Gerd J. Scholl (Helmut-Schmidt-University, Germany)

WED.1.37 Novel Mobility Model for Indoor Conference Scenarios

Ludek Subrt (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Ondrej Hrstka (Czech Technical University in Prague, Czech Republic); Vojtech Micka (Czech Technical University in Prague, Czech Republic); Jiri Vokrinek (Czech Technical University in Prague, Czech Republic)

WED.1.38 Optimizing Route Prior Knowledge for Map-Aided Fingerprint-based Positioning Systems

Akis Kokkinis (Sigint Solutions Ltd, Cyprus); Loizos Kanaris (Sigint Solutions Ltd, Cyprus); Marios Raspopoulos (Sigint Solutions Ltd, Cyprus); Stavros Stavrou (Open University of Cyprus, Cyprus); Antonio Liotta (Eindhoven University of Technology, The Netherlands)

WED.1.39 Room Electromagnetics in an Industrial Workshop

Emmeric Tanghe (Ghent University, Belgium); Davy P Gaillot (University of Lille 1, France); Martine Liénard (University of Lille, France); Luc Martens (Ghent University, Belgium); Wout Joseph (Ghent University, Belgium)

Beamforming and Signal Processing

Room: Poster area 1

WED.1.40 An Alternative Approach for Angle of Arrival Estimation

Noori Hussein Noori (Al-Mansour University College, Iraq); Bassim Sayed Mohammed (University of Technology, Iraq)

WED.1.41 An Experimental and Theoretical Analysis on Precoding-Based Vertical Plane Beam Control for LTE Systems

Kenji Hoshino (Softbank Mobile Corp., Japan); Sho Nabatame (Softbank Mobile Corp., Japan); Atsushi Nagate (Softbank Mobile Corp., Japan); Teruya Fujii (Softbank Mobile,

WED.1.42 Beam Steering for RFID Readers with Inherent Antenna Diversity

Fanourios Fakoukakis (Democritus University of Thrace, Microwaves Lab Xanthi, Greece); Konstantinos Gotsis (Aristotle University of Thessaloniki, Greece); George Kyriacou (Democritus University of Thrace, Greece); John Sahalos (University of Nicosia, Cyprus)

WED.1.43 Application of Modern DOA Algorithms to an Adcock Array Antenna

Rainer Mueller (Cassidian, Germany); Ralf Lorch (Cassidian Electronics, Germany)

WED.1.44 Effect of the Bandwidth on the Accuracy of AOA Estimation Algorithms in a Multipath Environment

Taherah S. Ghazaany (University of Bradford & Datong of seven tech group, United Kingdom); Shaozhen Zhu (University of Bradford, United Kingdom); Stephen M R Jones (University of Bradford, United Kingdom); Raed A Abd-Alhameed (University of Bradford, United Kingdom); Jim M. Noras (University of Bradford, United Kingdom); Tyler Van Buren (Seven Technologies Group, USA); Tim Suggett (Seven Technologies Group, United Kingdom); Simon Marker (Seven Technologies Group, United Kingdom)

WED.1.45 Miniature 2.4-GHz Switched Beamformer Module Using the Integrated Passive Device Technology

Tze-Hao Tseng (National Central University, Taiwan); Yo-Shen Lin (National Central University, Taiwan)

Adaptive and Reconfigurable Antennas

Room: Poster area 2

WED.2.46 A Nematic Liquid Crystal Tunable Patch Antenna

Marios Christou (University of Nicosia, Cyprus); Nectarios Papanicolaou (University of Nicosia, Cyprus); Anastasis C Polycarpou (University of Nicosia, Cyprus)

WED.2.47 A Varactor-Based Tunable Matching Network for a Non-Resonant Mobile Terminal Antenna

Yi Chen (University of Kiel, Germany); Robert Martens (University of Kiel, Germany); Risto Valkonen (Christian-Albrechts-Universität zu Kiel, Germany); Dirk Manteuffel

WED.2.48 Reconfigurable Circularly-Polarized Antenna in LTCC Technology

Diana Navarro Méndez (Universidad Politécnica de Valencia & Escuela Politécnica Nacional, Spain); Fernando Carrera Suárez (Universidad Politécnica de Valencia & Escuela Politécnica Nacional, Spain); Mariano Baquero-Escudero (Universidad Politécnica de Valencia, Spain); Antonio Vila-Jiménez (Universitat Politècnica de València, Spain)

WED.2.49 A Dual Ultra-Wide Band Frequency Reconfigurable Antenna with a Low Bandwidth of Overlap

Mohsen Gholamrezaei (Science and Research Branch Islamic Azad University, Iran); Fatemeh Geran (Shahid Rajaee Teacher Training University, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran)

WED.2.50 A Dynamic Basestation Antenna with Reconfigurable Azimuth Beamwidth

Yingjie You (University of Sheffield, United Kingdom); Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom); Timothy O'Farrell (University of Sheffield, United Kingdom)

WED.2.51 A Frequency Reconfigurable Antenna for High Performance U-NII Band Radios

Ali Mansoul (Centre de Developpement des Technologies Avancees, Algeria); Farid Ghanem (Centre de Developpement des Technologies Avancees, Algeria); Mohamed Trabelsi (Ecole Nationale Polytechnique d'Alger, Algeria)

WED.2.52 A New Implementation of Adaptive Array Antenna System for 3-D Passive Estimation

Bassim Sayed Mohammed (University of Technology, Iraq); Noori Hussein Noori (Al-Mansour University College, Iraq)

WED.2.53 A Reconfigurable Artificial Magnetic Conductor Adopting a Digitally Tuned Capacitor

Alaa Hasanain (University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom)

WED.2.54 Frequency Reconfigurable Box Shaped Narrow Band Monopole Antenna

Irena Zivkovic (Max Planck Institute for Biological Cybernetics, Germany); Klaus Scheffler (Max-Planck-Institut Tübingen, Germany)

WED.2.55 Circularly Polarized Microstrip Antennas with Tunable Frequency

Jeen-Sheen Row (National Changhua University of Education, Taiwan); Jia-Fu Tsai (National Changhua University of Education, Taiwan)

WED.2.56 Frequency Reconfigurable Wideband Monopole Antenna Using EBG Structures

Huda A. Majid (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Osman Bin Ayop (Universiti Teknologi Malaysia, Malaysia); Mohamad Rijal Hamid (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia)

WED.2.57 Dual State Dual Band Frequency Reconfigurable SIW Antenna

Rama Krishna Dasari (Osmania University & University College of Engineering, India); Pandharipande (Osmania University, Hyderabad, India); Shiban K Koul (Indian Institute of Technology Delhi, India)

WED.2.58 Microstrip Antenna System for Arbitrary Polarization Reconfigurability

Jarrah Bergeron (University of Victoria, Canada); Bernard Lambrechts (University of Victoria, Canada); Jens Bornemann (University of Victoria, Canada)

WED.2.59 Realization of Frequency-Reconfigurable Multi-Band Compact Antennas

Sergio Arianos (Istituto Superiore Mario Boella (ISMB), Italy); Gianluca Dassano (Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Javier Leonardo Araque Quijano (Universidad Nacional de Colombia, Colombia); Giuseppe Vecchi (Politecnico di Torino, Italy); Mario Orefice (Politecnico di Torino, Italy)

WED.2.60 Improved Bandwidth Low-Profile Miniaturized Multi-Arm Logarithmic Spiral Antenna

Shaozhen Zhu (University of Bradford, United Kingdom); Taherah S. Ghazaany (University of Bradford & Datong of seven tech group, United Kingdom); Raed A Abd-Alhameed (University of Bradford, United Kingdom); Stephen M R Jones (University of Bradford, United Kingdom); Jim M. Noras (University of Bradford, United Kingdom); Tim Suggett (Seven Technologies Group, United Kingdom); Tyler Van Buren (Seven Technologies Group, USA); Simon Marker (Seven Technologies Group, United Kingdom)

WED.2.61 Steerable Back-to-Back Yagi-Uda Dipole Array

Robert Lehmensiek (Cape Peninsula University of Technology & Cape Peninsula University of Technology, South Africa); Patsa Khotso (Cape Peninsula University of Technology,

Wire Antennas, Baluns and Associated Circuits

Room: Poster area 2

WED.2.62 A Transparent Meshed Solar Monopole Antenna for UWB Applications

Okan Yurduseven (Northumbria University, United Kingdom); David Smith (Northumbria University, United Kingdom); Michael Elsdon (Northumbria University, United Kingdom)

WED.2.63 Anisotropic Uniaxial Crystal as a Substrate in Spherical Microstrip Antenna with Annular-circular Patch: S11 Parameter and Radiation Pattern

Saeed Komeylian (Sharif University, Iran); Somayeh Komeylian, Miss (Islamic Azad University, Iran); Farrokh Hojjat-Kashani (Iran university of science and Technology, Iran)

WED.2.64 Bandwidth Enhancement of a Triangle with Gridded-Square Loop-Loaded FSS for X and Ku Bands

Sultan Can (Ankara University, Turkey); Asim Yilmaz (Ankara University, Turkey)

WED.2.65 Cavity Backed Annular Ring Microstrip Antenna Loaded with Concentric Circular Patch

Anil Singh (Electronics Engineering, ISM & Electronics and Instrumentation Engineering, IET, MJP Rohilkhand University, India); Ravi Kumar Gangwar (Indian School of Mines, India); Binod Kanaujia (Ambedkar Institute of Technology, Delhi, India)

WED.2.66 Compact Design of Dual-mode Patch Antenna with Improved Bandwidth Using a Notch Technique

Zahriladha Zakaria (FKEKK, Universiti Teknikal Malaysia Melaka, Malaysia); Sam Weng Yik (UTEM, Malaysia); Mohamad Ariffin Mutalib (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Shakir Saat (Universiti Teknikal Malaysia Melaka, Malaysia); Anas Abdul Latiff (Universiti Teknikal Malaysia Melaka & Faculty of Electronics and

WED.2.68 Compact Structure of Bandpass Filter Integrated with Defected Microstrip Structure (DMS) for Wideband Applications

Zahriladha Zakaria (FKEKK, Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Ariffin Mutalib (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Alyani Ismail (Universiti Putra Malaysia, Malaysia); Mohd Saari Mohamad Isa (Universiti Teknikal Malaysia Melaka, Malaysia); Mohd Muzafar Ismail (University Tecnical Malaysia Melaka, Malaysia); Anas Abdul Latiff (Universiti Teknikal Malaysia Melaka & Faculty of Electronics and Computer Engineering, Malaysia); Nur Aishah Zainuddin (FKEKK, UTeM,

WED.2.69 Design of a Broadband Circular Polarized Antenna

Phoo Kho Shin (Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Zoinol Abidin Bin Abd Aziz (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Mohd Syaiful Redzwan Mohd Shah (Universiti Teknikal Malaysia Melaka, Malaysia); Nornikman Hassan (Universiti Teknikal Malaysia Melaka, Malaysia); Mohd Fareq Abd Malek (Universiti Malaysia Perlis, Malaysia); Badrul Hisham Ahmad (Universiti Teknikal Malaysia Melaka, Malaysia)

WED.2.70 Numerical Analysis of Radiation Properties of 2D-Irregular Fractal-jet Printed Antenna

Donia Oueslati (University Tunis El Manar, Tunisia); Hatem Rmili (King Abdulaziz University & Faculty of Engineering, Saudi Arabia); Jean-marie Floch (IETR, France); Christophe Dumouchel (CORIA, Université de Rouen, France)

WED.2.71 Optimization of Feed Position of Circular Microstrip Antenna Using PSO

Ivan Vilovic (University of Dubrovnik, Croatia); Niksa Burum (University of Dubrovnik, Croatia)

WED.2.72 Parametric Analyzes of Dual-Frequency Annular Ring Microstrip Patch Antenna

Kamil Yavuz Kapusuz (Atılım University, Turkey); Sultan Can (Ankara University, Turkey)

WED.2.73 Performance of a Cross Dipole Antenna Dedicated to Biological Telemetry

Philippe Perrissol (UNS & LEAT, France); Aliou Diallo (University of Nice, France); Philippe Le Thuc (University of Nice-Sophia Antipolis, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Georges Carle (University of Nice Sophia-Antipolis, France)

WED.2.74 Slotted Patch Antenna with Low Cross-Polarization

Sandra Costanzo (University of Calabria, Italy); Antonio Costanzo (University of Calabria, Italy)

WED.2.75 A Novel Design of Miniaturized Bagley Polygon Power Divider Using Defected Ground Structure

Bin Li (Chinese Academy of Space Technology, Xi'an, P.R. China)

WED.2.76 Helical Antenna Over Different Ground Planes

Fatemeh Sadeghikia (Aerospace Research Institute, Iran)

WED.2.77 Inaccuracies of the LTCC Technology and Their Impact on the Chip Balun Performance

Artur Drela (Wroclaw Universitu of Technology, Poland); Jan Macioszczyk (Wroclaw University of Technology, Poland); Arkadiusz Dąbrowski (Wroclaw University of Technology, Poland); Piotr Słobodzian (Wroclaw University of Technology & Faculty of Electronics, Poland); Leszek Golonka (Wroclaw University of Technology, Poland)

WED.2.78 The Influence of a Magnetized Plasma Column on the Radiation Characteristics of a Strip Loop Antenna

Alexander Kudrin (University of Nizhny Novgorod, Russia); Anna Zaitseva (University of Nizhny Novgorod, Russia); Bernardo Spagnolo (Palermo University, Italy); Tatyana Zaboronkova (Technical University of Nizhny Novgorod, Russia)

WED.2.79 Polyaniline-carbon Nanotubes Composites - Based Patch Antenna

Zahir Hamouda (Institut Aéronautique, Université de Blida, Algeria); Jean-Luc Wojkiewicz (Université Lille Nord de France, France); A Pud (Institut of Bioorganic Chemistry and Petrochemistry of NASU, Ukraine); B Belaabed (Ecole Supérieure des Techniques Aéronautiques (ESTA), Algeria); S Bergheul (Laboratoire des Sciences Aéronautiques, Université de Blida, Algeria); Tuami Lasri (IEMN - University of Lille, France)

Array Antennas

Room: Poster area 3

WED.3.80 Adaptive GA-Based Thinning Strategy for Pattern Nulling in Sub-Arrayed Phased Arrays

Lorenzo Poli (University of Trento, Italy); Marco Salucci (ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

WED.3.81 An Optimization Procedure for Radial Line Slot Antennas with Arbitrary Pattern

Tamara Salmerón-Ruiz (Universidad Politécnica de Madrid, Spain); Teresa Díez-Ricondo (Universidad Politécnica de Madrid, Spain); Manuel Sierra-Castañer (Universidad

WED.3.82 Implementation of a Control System of Intelligent Antennas Based on the Sequential Quadratic Programming (SQP) Algorithm

Nadhem Nemri (Tunis El Manar University, Tunisia)

WED.3.83 Study of Superposition of SAR Distribution Created by External and Interstitial Applicator

Barbora Vrbova (Czech Technical University of Prague, Czech Republic); Jan Vrba (Czech Technical University, Czech Republic)

WED.3.84 Tx/Rx MultiBeam Satellite Antenna Array Design Assesment on a Single Aperture

Theodoros Kaifas (Aristotle University of Thessaloniki, Greece); Dimitrios G. Babas (Aristotle University of Thessaloniki, Greece); Giovanni Toso (European Space Agency, The Netherlands); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

WED.3.85 A Compact Dual-Band Microstrip Antenna Array with Artificial Magnetic Conductor

Muhammad Hazmi Mokhtar (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia); Huda A. Majid (Universiti Teknologi Malaysia, Malaysia); Mohamad Afiq Abdul Majid (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia)

WED.3.86 Design of Broadband ESPAR Antenna Using Inverted F Monopoles

Chao Gu (University Of Kent, United Kingdom); Steven Gao (University of Kent, United Kingdom); Mingtao Zhang (University of Kent & Xi'an Institute of Space Radio Technology,

WED.3.87 Oriented Array of Waveguide Applicators for Local Thermotherapy

Ondrej Fiser, Jr. (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic); Jan Vrba (Czech Technical University, Czech Republic)

WED.3.88 The On-Board Wide Angle Scanning Antenna Array

Elena Ovchinnicova (Moscow Aviation Institute National Research University, Russia); Lev Zykov (Moscow Aviation Institute National Research University, Russia); Pavel Shmachilin (Moscow Aviation Institute National Research University, Russia); Svetlana G. Kondrat'eva (Moscow Aviation Institute National Research University, Russia)

WED.3.89 Design of 60GHz Planar Array Antennas Using PCB-based Microstrip-Ridge Gap Waveguide and SIW

Seyed Ali Razavi (Ferdowsi University of Mashhad, Iran); Per-Simon Kildal (Chalmers University of Technology, Sweden); Liangliang Xiang (Huawei, Shanghai, P.R. China); Haiguang Chen (Huawei Technologies Sweden AB, Gothenburg, Sweden); Esperanza Alfonso (Gapwaves AB, Gothenburg, Sweden)

WED.3.90 Potentialities of Hybrid Arrays with Parasitic Elements

Aymen Oueslati (XLIM-UMR CNRS 6172, University of Limoges, France); Cyrille Menudier (XLIM - UMR CNRS 6172 - University of Limoges & Antenna and Associated Waves Dept, France); Marc Thevenot (XLIM-UMR 6172-CNRS, University of Limoges, France); Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges, France)

WED.3.91 A Performance Study of a Cylindrical Polarimetric Array Radar

Rubén Nocelo López (University of Vigo, Spain); María Vera-Isasa (University of Vigo, Spain); Veronica Santalla del Rio (University of Vigo, Spain)

WED.3.92 Gain Enhancement of a Microstrip Array Inserted Inside a Pyramidal Horn

Ely Levine (AFEKA, Academic College of Engineering, Israel); Haim Matzner (HIT-Holon Institute of Technology, Israel); Aleph Goldberg (HIT, Israel)

WED.3.93 Matrix of Interstitial Applicators for Microwave Thermoablation

Lucie Vojackova (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic); Jan Vrba (Czech Technical University, Czech Republic); Barbora Vrbova (Czech Technical University of Prague, Czech Republic)

WED.3.94 Phased-array Antenna Feed Network for Geophysical FMCW Radar

Mandana Ardeshir Tanha (University College London, United Kingdom); Matthew Ash (University College London, United Kingdom); Paul Brennan (University College London,

WED.3.95 8 Elements Phased Array Antenna Using Superconducting Receiving Module

Hiroyuki Kayano (Toshiba Corporation, Japan)

WED.3.96 A Planar Antenna Array with Integrated Feed Network for UAV Applications

Saeed Dweik (KFUPM, Saudi Arabia); Sameir Deif (King Fahd University for Petroleum and Minerals, Saudi Arabia); Waseem Sadeh (Oakland University, USA); Osamah Rawashdeh (Oakland University, USA); Daniel Aloi (Oakland University, USA); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia)

WED.3.97 Broadband Low Noise Amplifier for Connected Array Phased Array Feeds

Yogesh Ranga (CSIRO, ICT Centre, Australia); Robert Shaw (CSIRO, Australia); Stuart G Hay (CSIRO ICT Centre, Australia)

WED.3.98 Design and Analysis of a 5-element ESPAR Antenna with an Active PIFA

Paraskevi Daskalaki (Department of Digital Systems, University of Piraeus, Greece); Konstantinos Maliatsos (University of Piraeus & National Technical University of Athens, Greece); Athanasios G. Kanatas (University of Piraeus, Greece)

WED.3.99 Dual-Beam Antenna for MIMO WiFi Base Stations

Edlira Stavrou (IMST, Germany); Rens Baggen (IMST GmbH, Germany); Oliver Litschke (IMST GmbH, Germany); Christos Oikonomopoulos-Zachos (IMST GmbH, Germany)

WED.3.100 Omnidirectional Conformal Antenna Array Based on E-Shaped Patches

Alexander Svezhentsev (Institute of Radio Physics and Electronics, NAS of the Ukraine, Ukraine); Vladimir Volski (KU Leuven, Belgium); Ping Jack Soh (Katholieke Universiteit Leuven & Universiti Malaysia Perlis (UNIMAP), Belgium); Sen Yan (KU Leuven, Belgium); Guy Vandenbosch (Katholieke Universiteit Leuven, Ukraine)

Antenna Interaction, Coupling and RCS

Room: Poster area 4

WED.4.101 Analysis of SAR on Flat Phantom for Different Multi-antenna Mobile Terminals

Hui Li (Lund University, Sweden); Apostolos Tsiaras (Lund University, Sweden); Benoît Derat (Art-Fi, France); Buon Kiong Lau (Lund University, Sweden)

WED.4.102 Degradation Factors of Short-Distance Wireless Power Transmission and Allowable Variation of Receiving Circuit Parameters

Kyoichi Iigusa (National Institute of Information and Communications Technology, Japan); Hiroshi Harada (National Institute of Information & Communications Technology

WED.4.103 Modelling the Scattering and Coupling of Small Wind Turbines Located Above BTS Antennas

Tran Vu La (Telecom Bretagne, France); François Le Pennec (Telecom Bretagne & Lab-STICC/MOM, France); Serge Elenga (NHEOLIS Company, France)

WED.4.104 Dual-Band Phased Array Antenna with Low Mutual Coupling Characteristics

Shenario Ezhil Valavan (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Alexander Yarovoy (Delft University of Technology, The

WED.4.105 Reducing Mutual Coupling of SIW Slot Array Antenna Using Uniplanar Compact EBG (UC-EBG) Structure

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

WED.4.106 User Effect on the MIMO Performance of a Dual Antenna LTE Handset

Emil Buskgaard (Aalborg University, Denmark); Alexandru Tatomirescu (Aalborg University, Denmark); Samantha Caporal Del Barrio (Aalborg University, Denmark); Ondřej Franek (Aalborg University & APNet Section, Denmark); Gert Pedersen (Aalborg University, Denmark)

WED.4.107 A Refined Eigenvalue-Based Optimization Technique for Hyperthermia Treatment Planning

Rob Mestrom (Eindhoven University of Technology, The Netherlands); Jorn van Engelen (Eindhoven University of Technology, The Netherlands); Martijn van Beurden (Eindhoven University of Technology, The Netherlands); Margarethus M. Paulides (Erasmus University Medical Center, The Netherlands); Wouter Numan (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands); Anton G. Tijhuis (TU/e Eindhoven University of Technology, The Netherlands)

WED.4.108 Analysis and Measurement of Multiple Antenna Systems for Fading Channel Prediction in Moving Relays

Nima Jamaly (Chalmers University of Technology, Sweden); Rikke Apelfrojd (Signals and Systems, Sweden); Ana Belen Martinez (Vodafone Chair Mobile Communications Systems, Germany); Michael Grieger (Technische Universitat Dresden, Germany); Tommy Svensson (Chalmers University of Technology, Sweden); Mikael Sternad (Uppsala University, Sweden); Gerhard Fettweis (Technische Universität Dresden, Germany)

WED.4.109 Analysis of Compact Quadruple-Mode Antenna with Wide Bandwidth

Zahriladha Zakaria (FKEKK, Universiti Teknikal Malaysia Melaka, Malaysia); Sam Weng Yik (UTEM, Malaysia); Mohamad Ariffin Mutalib (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Norhanani Abdul Rahman (UTeM, Malaysia); Mawarni Mohamed Yunus (Universiti Teknikal Malaysia Melaka, Malaysia)

WED.4.110 Analysis of Coupling in an Array Composed of Patches Having Giuseppe Peano Fractal Boundaries

Homayoon Oraizi (Iran University of Science and Technology, Iran); Shahram Hedayati (Iran University of Science and Technology, Iran)

WED.4.111 Coupling Analysis of Electrically Large Antennas Using the Equivalence Principle

Sinan Koksoy (ASELSAN, Turkey); Alper K Ozturk (ASELSAN, Turkey)

WED.4.112 Coupling Estimation in Receiving Antenna Systems for Array Calibration

Simon Henault (Royal Millitary College of Canada, Canada); Symon K Podilchak (Queen's University & Royal Military College of Canada, Canada); Said Mikki (Royal Millitary College of Canada, Canada); Yahia Antar (Royal Military College of Canada, Canada)

WED.4.113 Coupling Reduction in Ultra-Wideband Balanced Antipodal Vivaldi Array

Maryam Mashayekhi (K. N. Toosi University of Technology, Iran); Ali Khaleghi (K. N. Toosi University of Technology, Iran)

WED.4.114 Design and Validation of a Generic LTE Tablet for SAR Assessment Studies

Amal Ghanmi (Télécom Bretagne, France); Nadège Varseir (Orange Labs, France); Emmanuelle Conil (Orange Labs, France); Abdelhamid Hadjem (Orange Labs, France); Joe Wiart (Orange- France Telecom, France); Christian Person (Lab-STICC/MOM UMR CNRS, France)

WED.4.115 Dielectric Loading Effect of Spiral Tape Antenna for Coupled-resonant Wireless Power Transfer

Hiroshi Hirayama (Nagoya Institute of Technology, Japan); Kanako Komatsu (Nagoya Institute of Technology, Japan); Hiroyuki Yamada (Nagoya Institute of Technology, Japan); Nobuyoshi Kikuma (Nagoya Institute of Technology, Japan); Kunio Sakakibara (Nagoya Institute of Technology, Japan)

WED.4.117 New Cavity Backed Capacitively Coupled Stacked Patch Element for P-Band SAR Application

Markus Limbach (German Aerospace Center (DLR), Germany); Bernd Gabler (German Aerospace Center (DLR), Germany); Ralf Horn (German Aerospace Center (DLR), Germany); Alicja Kość (German Aerospace Center, Germany); Alberto Di Maria (German Aerospace Center (DLR), Germany)

WED.4.118 Optimisation of Near-Field Wireless Power Transfer Using Evolutionary Strategies

Thijs Versloot (European Space Agency, The Netherlands); Duncan Barker (European Space Agency, The Netherlands); Xurxo Otero (European Space Agency, The Netherlands)

WED.4.119 Radio Communication Link Between a Novel Implantable Compact Dipole Antenna and an External Module

Sofia Bakogianni (University of Patras, Greece); Stavros Koulouridis (University of Patras, Greece)

WED.4.120 System Modeling of the RFID Contactless Inductive Coupling Using 13.56 MHz Loop Antennas

Oumar Mourad (University of Nice-Sophia Antipolis, France); Philippe Lethuc (University of Nice, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Plamen Iliev

WED.4.121 Design and Fabrication of Planar Multi Layer Metamaterial Absorber for RCS Reduction

Mohammad-reza Soheilifar (Faculty of Electrical and Computer Engineering, K. N. Toosi University of Technology, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran); Maryam Aghakhani (K. N. Toosi University of Technology, Iran)

Slotted-Wave, Guided-Wave and Leaky-Wave Antennas

Application track: Cellular Networks

Room: Poster area 4

WED.4.122 Design and Implementation of a Planar Ka Band Antenna Array Based on Slotted Waveguide Structures

Zunnurain Ahmad (Fraunhofer IIS, Germany); Hans Adel (Fraunhofer Institute for Integrated Circuits IIS, Germany); Mario Schühler (Fraunhofer Institute for Integrated Circuits

WED.4.123 Switchable RHCP/LHCP Slotted Waveguide Array Antenna for SATCOM On-The-Move Applications in Ka-band

Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain); José Ignacio Herranz-Herruzo (Universidad Politécnica de Valencia, Spain); Miguel Ferrando-Rocher (iTeam Institute-Universidad Politécnica de Valencia, Spain); Régis Lenormand (Thales Alenia Space, France); Antonin Hirsch (Thales Alenia Space, France); Jean-Luc Almeida

WED.4.124 Tri-band Slotted Waveguide Antenna Array for Millimetric-waves Applications

Igor da Costa (INATEL, Brazil); Arismar Cerqueira Sodré Junior (INATEL, Brazil); Luis Da silva (INATEL, Brazil); Danilo Spadoti (Universidade Federal de Itajubá - UNIFEI, Brazil); Antonella Bogoni (CNIT, Italy)

WED.4.125 Dual-Band Annular Slot Antenna for Radio Base Stations

Roger Farias (Universidade Federal do Pampa, Brazil); Cleiton Lucatel (Universidade Federal do Pampa, Brazil); Marcos Heckler (Universidade Federal do Pampa, Brazil)

WED.4.126 Frequency Scanning Antenna for Target Location Applications

Qing Liu (QUB, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); David Linton (ECIT, Queen's University Belfast, United Kingdom); Dmitry E Zelenchuk (Queen's University of Belfast, United Kingdom)

WED.4.127 LTE Low-Cost Vertical Sectorization Through a Leaky-Wave Antenna

Jorge Garrido Holgado (Polytechnic University of Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain)

WED.4.128 Microstrip Slot Antenna Using the Novel Application of Giuseppe Peano Fractal and CPW Feed

Homayoon Oraizi (Iran University of Science and Technology, Iran); Shahram Hedayati (Iran University of Science and Technology, Iran)

WED.4.129 New Concept of Small Antennas for Telemetry and Tracking Trajectory on Space Reentry Vehicles

Nathalie Lecerf (ASTRIUM Space Transportation, France); Serge Villers (ASTRIUM Space Transportation, France); Jeremy Dugenet (ASTRIUM Space Transportation, France)

15:00 - 15:40

Terahertz and Optical Antennas

Session type: Invited

Application track: Multiple Applications

Room: Amazon

Chairs: Andrea Neto (Delft University of Technology, The Netherlands), Gaetano Marrocco (University of Rome Tor Vergata, Italy)

15:00 ***Terahertz Active and Passive Imaging***

Erich Grossman (NIST, USA)

15:40 - 16:20

Terahertz and Optical Antennas

Session type: Invited

Application track: Fundamental Research

Room: Amazon

Chairs: Gaetano Marrocco (University of Rome Tor Vergata, Italy), Andrea Neto (Delft University of Technology, The Netherlands)

15:40 ***Parallel Time Domain Solvers for Electrically Large Transient Scattering Problems***

Eric Michielssen (University of Michigan, USA)

15:00 - 15:40

Mobile Channel Modelling

Session type: Invited

Application track: Wireless Networks and RF Sensors

Room: Mississippi

Chairs: Thomas Kürner (Technische Universität Braunschweig, Germany), Alain Sibille (Telecom Paris Tech & ENSTA PARISTECH, France)

15:00 ***Propagation Channel Modeling for Wideband Radio Systems***

Yoshio Karasawa (University of Electro-Communications, Japan)

15:40 - 16:20

Mobile Channel Modelling

Session type: Invited

Application track: Cellular Networks

Room: Mississippi

Chairs: Thomas Kürner (Technische Universität Braunschweig, Germany), Alain Sibille (Telecom Paris Tech & ENSTA PARISTECH, France)

15:40 ***Ray Tracing Propagation Modelling: Future Prospects***

Vittorio Degli-Esposti (University of Bologna, Italy)

16:20 - 16:40

Coffee Break

Room: Exhibition Foyer

16:40 - 18:20

Advanced Design and Optimization Techniques for Phased Arrays

Session type: Convened

Application track: Fundamental Research

Room: Amazon

Chairs: Oscar Quevedo-Teruel (KTH Royal Institute of Technology, Sweden), Paolo Rocca (University of Trento, Italy)

16:40 ***A Novel Lossless BFN for Linear Arrays Based on Overlapped Sub-Arrays***

Daniele Petrolati (ESA ESTEC, European Space Agency, The Netherlands); Piero Angeletti (European Space Agency, The Netherlands); Giovanni Toso (European Space Agency, The

17:00 ***A Phase-comparison Monopulse System Based on a 4D Antenna Array***

Quanjiang Zhu (University of Electronic Science and Technology of China, P.R. China); Shiwen Yang (University of Electronic Science and Technology of China (UESTC), P.R. China); Ruilin Yao (University of Electronic Science and Technology of China, P.R. China); Paolo Rocca (University of Trento, Italy)

17:20 ***Optimal Constrained Synthesis of Fields Granting Maximum Power Deposition Over Given Areas***

Andrea Francesco Morabito (University Mediterranea of Reggio Calabria, Italy); Antonia Rita Laganà (University of Reggio Calabria, Italy); Tommaso Isernia (University of Reggio

17:40 ***Synthesis of Robust Linear Antenna Arrays Exploiting an Interval-Based Particle Swarm Optimizer***

Nicola Anselmi (University of Trento, Italy); Luca Manica (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

18:00 ***Tradeoffs in the Placement of Time Delay in a Large, Wideband Antenna Array***

Randy Haupt (Colorado School of Mines, USA)

16:40 - 18:20

Body Centric Propagation

Session type: Regular

Application track: Biomedical

Room: Asia

Chairs: Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal), Simon Cotton (Queen's University, Belfast, United Kingdom)

16:40 ***Fading and Rician K-factor in the Ultra Wideband Footwear-Centric Body Area Network***

Vit Sipal (Dublin Institute of Technology, Ireland); Domenico Gaetano (Dublin Institute of Technology, Ireland); Patrick McEvoy (Dublin Institute of Technology, Ireland); Max James Ammann (Dublin Institute of Technology, Ireland); Colm Brannigan (Royal College of Surgeons in Ireland, Ireland); Louise Keating (Royal College of Surgeons in Ireland, Ireland); Frances Horgan (Royal College of Surgeons in Ireland, Ireland)

17:00 ***MHz-Band RF Signal Propagation Characteristics on Human-Equivalent Phantom for Intra-body Communication***

Masaki Ishida (Kyoto Institute of Technology, Japan); Tomonori Nakamura (Kyoto Institute of Technology, Japan); Mami Nozawa (Kyoto Institute of Technology, Japan); Naoto Watanabe (Kyoto Institute of Technology, Japan); Yuichi Kado (Kyoto Institute of Technology & Graduate School of Science and Technology, Japan); Mitsuru Shinagawa (Hosei

17:20 ***Multi-hop Channel Modeling At 60 GHz for On-body Communications***

Xiao Li (University of Birmingham, United Kingdom); Yuriy I. Nechayev (University of Birmingham, United Kingdom); Costas Constantinou (University of Birmingham, United Kingdom); Peter S Hall (University of Birmingham, United Kingdom)

17:40 ***Off-body Wireless Link Simulation Framework Using Deterministic Channel Modeling***

Luigi Vallozzi (Ghent University, Belgium); Hendrik Rogier (Ghent University, Belgium)

18:00 ***Radio Channel Characterization of Intra-body Propagation Under Frequency Dispersive Perspective***

Ana Alejos (Universidade de Vigo, Spain); Muhammad Dawood (New Mexico State University, USA); Francisco Falcone (Universidad Publica de Navarra, Spain); Erik Aguirre (Universidad Publica de Navarra, Spain)

16:40 - 18:20

Multiband and Wideband Antennas

Session type: Regular

Application track: Wireless Networks and RF Sensors

Room: Yangtze 1

Chairs: Werner Wiesbeck (Karlsruhe Institute of Technology, Germany), Alexander Yarovoy (Delft University of Technology, The Netherlands)

16:40 ***A Dual-Band Supershaped Annular Slotted Patch Antenna for WLAN Systems***

Vasiliki Paraforou (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Diego Caratelli (Delft University of Technology, The

17:00 ***Compact Multiband Microstrip Patch Antenna Using Defected Ground Structure (DGS)***

Syed Imran Shah (University of Engineering & Technology Peshawar, Pakistan); Shahid Bashir (University of Engineering & Technology Peshawar, Pakistan); Syed Dildar Shah (City University of Science and IT Peshawar, Pakistan); William Whittow (Loughborough University, United Kingdom)

17:20 ***Dual-Band Planar Inverted-F Antenna for Application in ISM, HIPERLAN, and UNII***

Hua-Xian Liu (Lunghwa University of Science and Technology, Taiwan)

17:40 ***UWB Antenna on Chip Packaging for BAN Applications***

Olivier Clauzier (CEA Leti, France); Christophe Delaveaud (CEA-LETI, France); Serge Bories (CEA, France)

18:00 ***Wideband Planar Antenna with Monopole Excitation for Wireless Applications***

Marko Tapani Sonkki (University of Oulu, Finland); Eva Antonino-Daviu (Universidad Politecnica de Valencia, Spain); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain); Erkki T. Salonen (University of Oulu, Finland)

16:40 - 18:20

Advanced RF Materials, Metamaterials and EBG

Session type: Regular

Application track: Wireless Networks and RF Sensors

Room: Yangtze 2

Chairs: Alexandros Feresidis (University of Birmingham, United Kingdom), J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

16:40 ***3D Printed FSS Arrays for Long Wavelength Applications***

Benito Sanz-Izquierdo (University of Kent, United Kingdom); Edward Parker (The University of Kent, United Kingdom)

17:00 ***Chipless RFIDs by Using Metasurfaces***

Filippo Costa (University of Pisa, Italy); Simone Genovesi (University of Pisa, Italy); Agostino Monorchio (University of Pisa, Italy)

17:20 ***Design of a Metamaterial Circular Patch Antenna Loaded with an ε-Negative Core***

Theodosios Karamanos (Aristotle University of Thessaloniki, Greece); Dimitrios Tzarouchis (Aalto University, Finland); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki,

17:40 ***High-Gain Metamaterial Antenna for Point-to-Point Communication Systems***

Bybi Chacko (National Institute of Scientific Research (INRS), Canada); Gijo Augustin (National Institute of Scientific Research (INRS), Canada); Tayeb A. Denidni (INRS-EMT,

18:00 ***Novel Compact Dual-Band Artificial Magnetic Conductors for Wi-Fi Applications***

Dahbia Hamzaoui (University of Bejaia & IMEP-LAHC, France); Tan Phu Vuong (Grenoble INP, France); Farid Djahli (University of Ferhat Abbes - Setif - Algeria, Algeria); Ghaffer Kiani (King Abdul Aziz University, Saudi Arabia)

16:40 - 18:20

AMTA/EurAAP Satellite and Aerospace Antenna Testing

Session type: Convened

Application track: Space

Room: Africa

Chair: Luca Salghetti Drioli (European Space Agency-ESTEC, The Netherlands)

16:40 ***Beam Forming Network for Reconfigurable Antenna of 21-GHz Band Broadcasting Satellite***

Susumu Nakazawa (NHK, Japan); Masafumi Nagasaka (NHK Science & Technology Research Laboratory, Japan); Masashi Kamei (NHK, Japan); Shoji Tanaka (NHK Science and Technical Research Laboratories, Japan); Tetsuomi Ikeda (Japan Broadcasting Corporation, Japan)

17:00 ***Fast and Efficient NF Technique for Satellite Antenna Testing***

Giorgio Giordanengo (Istituto Superiore Mario Boella & Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Lars Jacob Foged (Microwave Vision Italy, Italy); Lucia Scialacqua (SATIMO, Italy); Francesco Saccardi (SATIMO, Italy); Mauro Bandinelli (Ingegneria dei Sistemi, IDS, Italy); Mirko Bercigli (IDS Ingegneria Dei Sistemi S. p. A, Italy); Giancarlo Guida (IDS Ingegneria Dei Sistemi S.p.A, Italy); Marco Sabbadini (Esa Estec, The Netherlands); Giuseppe Vecchi (Politecnico di Torino, Italy)

17:20 ***Improvements for Large Planar Scanners***

Miguel A. Salas Natera (Antenna Systems Solutions, Spain); Jose Luis Besada (Universidad Politécnica de Madrid (Technical University of Madrid), Spain); David Fraile (Antenna Systems Solutions, Spain); Carlos Rivas Torreiro (Antenna Systems Solutions, Spain); Carlo Rizzo (Antenna Systems Solutions, United Kingdom); Miguel Àngel Piqueras (Das

17:40 ***Sentinel-1 SAR Antenna Subsystem: Antenna Model Predictions Vs. PNFS Measurements***

Friedhelm Rostan (EADS Astrium Friedrichshafen, Germany); Peter Koch (EADS Astrium GmbH, Germany); Markus Huchler (EADS Astrium, Germany); Renato Croci (Thales Alenia Space Italia, Italy); Allan Østergaard (European Space Agency, The Netherlands); Alexander Hees (EADS Astrium GmbH, Germany)

18:00 ***TAS-F Antenna Power and Multipaction Testing Capabilities***

Christian Féat (Thales Alenia Space, France); Jérome Sinigaglia (Thales Alenia Space, France); Philippe Guemas (Thales Alenia Space, France); Sylvain Leroy (Thales Alenia Space, France); Philippe Mader (Thales Alenia Space, France); Claude Labourdette (Thales Alenia Space, France); Philippe Lepeltier (Thales Alenia Space, France); Jean-Christophe Lafond

16:40 - 18:20

Land Mobile Satellite Channels

Session type: Regular

Application track: Space

Room: Antarctica

Chairs: Frederic Lacoste (CNES, France), Fernando Pérez-Fontán (University of Vigo, Spain)

16:40 ***A Geometry-Based Physical-Statistical Model of Land Mobile Satellite Channels in Urban Environments***

Claude Oestges (Université Catholique de Louvain, Belgium); Nizabat Khan (Universite Catholique de Louvain, Belgium); Francesco Mani (TELECOM ParisTech, France); Roberto Prieto-Cerdeira (European Space Agency, The Netherlands)

17:00 ***Estimation of Diversity Improvement for Satellite-to-Helicopter Radio Channel At Ku-band***

Manuel García Sánchez (Universidade de Vigo, Spain); Edgar Lemos-Cid (University of Vigo, Spain); Ana Alejos (Universidade de Vigo, Spain); Santiago Garcia-Fernandez (Armada

17:20 ***Impact of Driving Direction on Land Mobile Satellite Channel Modeling***

Marie Rieche (Ilmenau University of Technology, Germany); Daniel Arndt (Fraunhofer Institute for Integrated Circuits & Ilmenau University of Technology, Germany); Alexander Ihlow (Ilmenau University of Technology, Germany); Fernando Pérez-Fontán (University of Vigo, Spain); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS,

17:40 ***Modeling of First-Order Statistics of LMS Channel Under Tree Shadowing for Various Elevation Angles At L-Band***

Charilaos Kourogiorgas (National Technical University of Athens, Greece); Milan Kvicera (Czech Technical University in Prague, Czech Republic); Dimitrios Skraparlis (National Technical University of Athens, Greece); Tomas Korinek (Czech Technical University in Prague, Czech Republic); Vasileios Sakarellos (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece); Pavel Pechac (Czech Technical University in Prague, Czech Republic)

18:00 ***SISO and MIMO Enhanced 2-state Modelling of the Land Mobile Satellite Channel for Various Frequencies, Environments and Elevation Angles***

Frederic Lacoste (CNES, France); Belen Montenegro Villacieros (MIDIVAL, France); Roberto Prieto-Cerdeira (European Space Agency, The Netherlands); Joel Lemorton (ONERA,

16:40 - 18:20

Scattering, Diffraction and RCS

Session type: Regular

Application track: Defense & Security

Room: Europe 1

Chairs: Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium), Frank Weinmann (Fraunhofer FHR, Germany)

16:40 ***A Reference Target for Polarimetric Radar Cross-Section Measurements***

Thomas Dallmann (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany)

17:00 ***Accurate Prediction of EM Scattering by Wind Turbines***

Frank Weinmann (Fraunhofer FHR, Germany)

17:20 ***Investigation of Equivalent Edge Currents for Improved Radar Cross Section Predictions***

Robert Brem (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

17:40 ***Radar Target as Distributed Source for DOA Estimation***

Lajos Nagy (Budapest University of Technology and Economics, Hungary); Zoltán Szalay (BME, Hungary)

18:00 ***Reduction of Monostatic and Bistatic Radar Cross Section of Antenna Arrays***

Simone Genovesi (University of Pisa, Italy); Filippo Costa (University of Pisa, Italy); Agostino Monorchio (University of Pisa, Italy)

16:40 - 18:20

Reflectarrays and Transmitarrays

Session type: Regular

Application track: Multiple Applications

Room: Central America

Chairs: Sean V Hum (University of Toronto, Canada), Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

16:40 ***A Sub-wavelength Reflectarray Element Based on Double Square Rings Loaded with Meander Lines***

Peiyuan Qin (CSIRO Computational Informatics, Australia); Y Jay Guo (CSIRO, Australia); Andrew R Weily (CSIRO Computational Informatics, Australia)

17:00 ***Design and Optimization of a Multi-Resonant Reflectarray Element***

Bui Van Ha (Politecnico di Milano, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy); Paola Pirinoli (Politecnico di Torino, Italy); Sean V Hum (University of Toronto, Canada)

17:20 ***Dual Polarized Transmitarray Lens***

Enrique González-Plaza (Universidad de Oviedo, Spain); Germán León (Universidad de Oviedo, Spain); Susana Loredo (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

17:40 ***Reconfigurable Transmit-Array Antenna with Multiple Focal Sources***

Luca Di Palma (CEA, LETI, Minatec, France); Antonio Clemente (CEA-LETI Minatec, France); Laurent Dussopt (CEA, LETI, Minatec, France); Ronan Sauleau (University of Rennes 1, France); Patrick Potier (DGA/Maîtrise de l'Information, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France)

18:00 ***A Novel Reflectarray Backed on FSS Based on the Folded SIR Configuration for Low RCS***

Mohammad Mehdi Fakharian (Electrical Engineering and Computer, Semnan University, Iran); Pejman Rezaei (Semnan University, Iran); Ali Asghar Orouji (Semnan university,

16:40 - 18:20

Adaptive and Reconfigurable Antennas

Session type: Regular

Application track: Multiple Applications

Room: North America

Chairs: Mohamed Himdi (Université de Rennes 1, France), Thierry Monediere (University of Limoges, France)

16:40 ***A Simple Concept of Reconfigurable Parasitic Element Antenna***

Faycel Fezai (XLIM University of Limoges, France); Cyrille Menudier (XLIM - UMR CNRS 6172 - University of Limoges & Antenna and Associated Waves Dept, France); Marc Thevenot (XLIM-UMR 6172-CNRS, University of Limoges, France); Eric Arnaud (University of LIMOGES, France); Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges,

17:00 ***Numerical Investigation Into the Performance of Two Reconfigurable Gaseous Plasma Antennas***

Davide Melazzi (University of Padova, Italy); Vito Lancellotti (Eindhoven University of Technology, The Netherlands); Paola De Carlo (Department of Industrial Engineering, University of Padova, Italy); Marco Manente (University of Padova, Italy); Daniele Pavarin (University of Padova, Italy); Theodore Anderson (Haleakala Research and

17:20 ***Partially Reflective Surface Antenna with MEMS-based Dynamic Beamwidth Control***

Tomislav Debogovic (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

17:40 ***Realization of a Dual Dihedral Corner-Reflector Antenna by Using Low Cost Plasma***

Jusoh Tajudin Mohd Taufik (IETR, University of Rennes 1 & Faculty of Engineering, National Defence University of Malaysia, France); Mohamed Himdi (Université de Rennes 1, France); Franck Colombel (Université de Rennes 1, France); Olivier Lafond (IETR, France)

18:00 ***A Reconfigurable Defected Microstrip Structure for Applications in Phase Shifter***

Can Ding (CSIRO Computational Informatics & Xidian University, Australia); Y Jay Guo (CSIRO, Australia); Peiyuan Qin (CSIRO Computational Informatics, Australia); Yintang Yang (Xidian University, P.R. China)

16:40 - 18:20

Antenna Interaction and Coupling

Session type: Regular

Application track: Fundamental Research

Room: South America

Chairs: Stefano Maci (University of Siena, Italy), Marco Sabbadini (Esa Estec, The Netherlands)

16:40 ***A Dielectric-Contrast Technique for Effective Mitigation of Mutual Coupling Between Dual-Band Array Radiators***

Shenario Ezhil Valavan (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Alexander Yarovoy (Delft University of Technology, The

17:00 ***Analysis of Surrounded Antennas Mounted on Large and Complex Structures Using a Hybrid Method***

Benoit Le Lepvrier (European University of Brittany IETR, France); Renaud Loison (IETR & INSA, France); Raphael Gillard (IETR & INSA, France); Laurent Patier (CNES, France); Patrick Potier (DGA/Maîtrise de l'Information, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France)

17:20 ***Enhancing the Radiation Efficiency of Compact Antenna Arrays Using Spatial Tilting***

Maysam Ibraheam (Ilmenau University of Technology, Germany); Safwat Irteza Butt (Ilmenau University of Technology, Germany); Matthias Hein (Ilmenau University of

17:40 ***On the Simulation and Validation of the Intrinsic Cross-Polarization Ratio for Antenna Arrays Devoted to Low Frequency Radio Astronomy***

Benedetta Fiorelli (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands); Eloy de Lera Acedo (University of Cambridge, United Kingdom)

14:00 - 15:00

TICRA Workshop

Session type: Industrial Workshop

Room: Europe 2

16:40 - 18:20

EurAAP WG 2: European School of Antennas Board Meeting

Session type: EurAAP WG Meeting

Room: Oceania

18:30 Departure to Conference Dinner

Thursday, April 10

09:00 - 10:40

Domain Decomposition Methods and Macro-Basis Functions for Integral Equations

Session type: Convened

Application track: Fundamental Research

Room: Amazon

Chairs: Vito Lancellotti (Eindhoven University of Technology, The Netherlands), Rob Maaskant (CHALMERS, Sweden)

09:00 ***A Comparison of Domain Decomposition Techniques for Analysing Disjoint Finite Antenna Arrays***

Danie Ludick (EM Software & Systems – S. A. (Pty) Ltd, South Africa); Rob Maaskant (CHALMERS, Sweden); David B Davidson (University of Stellenbosch, South Africa); Ulrich Jakobus (EM Software & Systems – S.A. (Pty) Ltd, South Africa); Raj Mittra (Penn State University, USA)

09:20 ***Analysis and Efficient Algorithms for a Set of Generalized RWG Basis Functions***

Francesco Andriulli (Ecole Nationale Superieure des Telecomunications de Bretagne, France)

09:40 ***Analysis of NURBS Dielectric Volumes by Using the Method of Moments***

Javier Moreno (University of Alcala, Spain); Ivan Gonzalez (Universidad de Alcala, Spain); Maria Jesús Algar (University of Alcala, Spain); Felipe Cátedra (University of Alcala, Spain)

10:00 ***Application of the Characteristic Basis Function Method (CBFM) on a Non-uniform Mesh to the Solution of Large-size Dielectric Scattering Problems***

Ines Fenni (UPMC University, France); Hélène Roussel (UPMC University, France); Muriel Darces (UPMC Univ Paris 6, France); Raj Mittra (Penn State University, USA)

10:20 ***Characteristic Basis Function Analysis of Large Aperture-Fed Antenna Arrays***

Rob Maaskant (CHALMERS, Sweden); Carlo Bencivenni (Chalmers University of Technology, Sweden); Marianna Ivashina (Chalmers University of Technology, Sweden)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Domain Decomposition Methods and Macro-Basis Functions for Integral Equations

Session type: Convened

Application track: Fundamental Research

Room: Amazon

Chairs: Vito Lancellotti (Eindhoven University of Technology, The Netherlands), Rob Maaskant (CHALMERS, Sweden)

11:00 ***Fast MBF Approach for Reflectarrays Analysis***

Shambhu Nath Jha (Université Catholique de Louvain, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium); Sean V Hum (University of Toronto, Canada)

11:20 ***Mixed LEGO-EFIE Approach for the Analysis of Radiating Elements and Anisotropic Media***

Vito Lancellotti (Eindhoven University of Technology, The Netherlands); Anton G. Tijhuis (TU/e Eindhoven University of Technology, The Netherlands)

11:40 ***Using Entire-Domain Linear-Phase Basis Functions to Determine Induced Current and Scattered Field of Structures with Large Flat Faces and Details***

Muhammad Zubair (Politecnico di Torino, Italy); Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Marco Righero (Istituto Superiore Mario Boella, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy)

12:00 ***Including High-Frequency Surface Diffraction in a Hybrid FEBI-MLFMM-UTD Method***

Manushanker Balasubramanian (Fraunhofer Institute for High Frequency Physics and Radar Techniques, Germany); Alberto Toccafondi (University of Siena, Italy); Stefano Maci (University of Siena, Italy)

12:20 ***Modeling Scattering From Rough Surface Via the Multilevel Characteristic Basis Function Method (MLCBFM) Combined with Adaptive Cross Approximation (ACA)***

Chao Li (Wuhan University of Science and Technology & Central China Display Laboratories, Ltd., P.R. China); Giacomo Bianconi (Penn State University, USA); Raj Mittra (Penn State University, USA); Guo-Qiang Zhu (Wuhan University, P.R. China)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Advanced RF Materials, Metamaterials and EBG

Session type: Regular

Application track: Fundamental Research

Room: Mississippi

Chair: Giampiero Gerini (TNO - Defence, Security and Safety, The Netherlands)

09:00 ***Closed-form Expressions of Local Effective Bianisotropic Constitutive Parameters for Reciprocal Metamaterials***

Valentina Sozio (University of Siena, Italy); Andrea Vallecchi (University of Sheffield, United Kingdom); Matteo Albani (University of Siena, Italy); Filippo Capolino (University of California, Irvine, USA)

09:20 ***Frequency-Selective Coatings Based on EBG Structure Combining Carbon Nanotubes with Polymeric or Ceramic Substrate***

Yann Danlée (Université Catholique de Louvain, Belgium); Christian Bailly (Université Catholique de Louvain, Belgium); Isabelle Huynen (Université catholique de Louvain,

09:40 ***Metaradome for Blind Spot Mitigation in Phased-Array Antennas***

Pablo Rodríguez-Ulibarri (Universidad Pública de Navarra, Spain); Miguel Beruete (Universidad Publica de Navarra, Spain); Francisco Falcone (Universidad Publica de Navarra, Spain); Thomas Crepin (ONERA, France); Cedric Martel (ONERA, France); Fabrice Boust (ONERA, France); Claudius Loecker (Fraunhofer FHR, Germany); Kai Herbertz (Fraunhofer, Germany); Carlos Salzburg (Fraunhofer, Germany); Thomas Bertuch (Fraunhofer FHR, Germany); Jean-Paul Martinaud (THALES - AIRBORNE SYSTEMS, France); Thierry Dousset (Thales Systèmes Aéroportés, France); Antonio Marcotegui (Tafco Metawireless, Spain)

10:00 ***Rigorous Method for Calculating Gap Waveguides Impedance Using Transmission Line Theory***

Antonio Berenguer (Universitat Politecnica de Valencia & Instituto de Telecomunicaciones y Aplicaciones Multimedia, Spain); Mariano Baquero-Escudero (Universidad Politécnica de Valencia, Spain); Daniel Sanchez-Escuderos (Universidad Politécnica de Valencia, Spain); Felipe Vico (Universitat Politècnica de València, Spain)

10:20 ***Design of End-Fire Substrate Integrated Waveguide Antenna Elements Using In-house Planar-3D Integral Equation Frameworks and Commercial Full-3D Methods***

Thomas Vaupel (Fraunhofer FHR, Germany)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Advanced RF Materials, Metamaterials and EBG

Session type: Regular

Application track: Fundamental Research

Room: Mississippi

Chairs: Alex Schuchinsky (Queen's University Belfast, United Kingdom), A. Shitvov (Queen’s University Belfast, United Kingdom)

11:00 ***Single and Dual Mode Cavities Based on Defected Bed of Nails Structure for Ridge Gap Waveguide***

Milad Sharifi Sorkherizi (Concordia University, Canada); Ahmed Kishk (Concordia University, Canada); Ali Khaleghi (K. N. Toosi University of Technology, Iran)

11:20 ***Study of Spatial Dispersion in Graphene Parallel-Plate Waveguides and Equivalent Circuit***

Diego Correas Serrano (Polytechnic University of Cartagena, Spain); Juan Sebastián Gomez-Diaz (EPFL, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland); Alejandro Alvarez-Melcon (Technical University of Cartagena, Spain)

11:40 ***Wave Tunneling Through Parity-Time-Symmetric Epsilon-Near-Zero Bi-Layers***

Silvio Savoia (University of Sannio, Italy); Giuseppe Castaldi (University of Sannio, Italy); Vincenzo Galdi (University of Sannio, Italy); Andrea Alù (The University of Texas at Austin, USA); Nader Engheta (University of Pennsylvania, USA)

12:00 ***Application of Transformation Electromagnetics for Omnidirectional Emission***

Paul-henri Tichit (Institut d'Electronique Fondamentale - Université Paris-Sud, France); Shah Nawaz Burokur (Institut d'Electronique Fondamentale - Université Paris-Sud, France); Cheng-Wei Qiu (National University of Singapore, Singapore); André de Lustrac (Institut d'Electronique Fondamentale - Université Paris-Sud, France)

12:20 ***Potential Advantages of Hexagonal-Shaped Over Square-Shaped Unit-Cells Metallizations Regarding the Angular Stability of Artificial Magnetic Conductors***

María Elena de Cos (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Low Exposure in Mobile and Wireless Communications Systems

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal), Joe Wiart (Orange- France Telecom, France)

09:00 ***Dosimetric Assessment for Non-Ionizing ISM 2.4 GHz Wireless Systems in a Commercial Passenger Aircraft***

Erik Aguirre (Universidad Publica de Navarra, Spain); Peio Lopez Iturri (Universidad Publica de Navarra, Spain); Leire Azpilicueta (Universidad Publica de Navarra, Spain); Silvia de Miguel-Bilbao (Health Institute Carlos III, Spain); Victoria Ramos (Institute of Health Carlos III, Spain); Francisco Falcone (Universidad Publica de Navarra, Spain)

09:20 ***Downlink Electric-Field and Uplink SAR Prediction Algorithm in Indoor Wireless Network Planner***

David Plets (Ghent University - iMinds, Belgium); Wout Joseph (Ghent University, Belgium); Kris Vanhecke (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

09:40 ***Equivalence Principle Use to Assess the Exposure Induced by a Femto Antenna At 2100 MHz***

Pierric Kersaudy (Orange Labs, France); Azeddine Gati (Orange Labs, France); Abdelhamid Hadjem (France Telecom R&D, France); Nadège Varsier (Orange, France); Emmanuelle Conil (France Telecom R&D, France); Odile Picon (Université Paris-Est Marne-la-Vallée, France); Joe Wiart (Orange- France Telecom, France)

10:00 ***Experimental Investigation of Precoding for EM Exposure Reduction***

Pat Chambers (University of Surrey, United Kingdom); Tim Brown (University of Surrey, United Kingdom)

10:20 ***Exposure Index of EU Project LEXNET: Principles and Simulation-Based Computation***

Emmanuelle Conil (France Telecom R&D, France); Yoann Corre (SIRADEL, France); Nadège Varsier (Orange, France); Abdelhamid Hadjem (France Telecom R&D, France); Gunter Vermeeren (Ghent University, Belgium); Wout Joseph (Ghent University, Belgium); Sam Aerts (Ghent University, Belgium); David Plets (Ghent University - iMinds, Belgium); Luc Martens (Ghent University, Belgium); Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal); Joe Wiart (Orange- France Telecom, France)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Low Exposure in Mobile and Wireless Communications Systems

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal), Joe Wiart (Orange- France Telecom, France)

11:00 ***Joint Analysis of Small-cell Network Performance and Urban Electromagnetic Field Exposure***

Julien Stephan (SIRADEL, France); Mathieu Brau (SIRADEL, France); Yoann Corre (SIRADEL, France); Yves Lostanlen (SIRADEL & University of Toronto, Canada)

11:20 ***Low-Power Exclusion Clause for Wireless Devices Operating At Close Distances to the Human Body***

Andreas Christ (Research Consultant, Brazil)

11:40 ***Measurement of a Body-Worn Triaxial Sensor for Electromagnetic Field and Exposure Assessment***

Christophe Roblin (TELECOM ParisTech & ENSTA ParisTech, France)

12:00 ***Monopole Antenna with Metamaterials Structures***

Yenny C Pinto (Institut Mines Telecom, Telecom ParisTech, France); Anne-Claire Lepage (Institut Mines-Telecom, Telecom ParisTech, France); Xavier Begaud (Institut TELECOM, TELECOM ParisTech, France)

12:20 ***Using Virtual MIMO in Off-Body Channels for Power Efficient Communications***

Michal Mackowiak (INOV-INESC & University of Lisbon, Portugal); Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

MIMO, Antenna Diversity, Smart and Signal Processing Antennas

Session type: Regular

Application track: Cellular Networks

Room: Yangtze 1

Chair: Vanja Plicanic Samuelsson (Sony Mobile Communications, Sweden)

09:00 ***A 2-order MIMO Full-Duplex Antenna System***

Elpiniki Tsakalaki (Aalborg University, Denmark); Ehsan Foroozanfard (Aalborg University, Denmark); Elisabeth de Carvalho (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

09:20 ***Capacity Evaluation of MIMO Transmission in the 2GHz Band in Crowded Small-Cell Environment***

Kentaro Saito (NTT DOCOMO INC., Japan); Tetsuro Imai (NTT DOCOMO, Inc., Japan); Yukihiko Okumura (NTT DOCOMO, INC., Japan)

09:40 ***Capacity Gain of MIMO Systems with Microstructured Antenna Arrays***

Nadine Malhouroux (France Telecom Research & Development, France); Patrice Pajusco (TELECOM Bretagne, France); Roxana Burghelea (TELECOM Bretagne, France); Christian Leray (Time Reversal Communications SA, France)

10:00 ***Design of Bezel Antennas for Multiband MIMO Terminals Using Characteristic Modes***

Zachary Miers (Lund University, Sweden); Hui Li (Lund University, Sweden); Buon Kiong Lau (Lund University, Sweden)

10:20 ***Hardware Acceleration of MUSIC Based DoA Estimator in MUBTS***

Jing Yan (Katholieke Universiteit Leuven, Belgium); Yangqing Huang (Katholieke Universiteit Leuven, Belgium); Hantao Xu (Katholieke Universiteit Leuven, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

MIMO, Antenna Diversity, Smart and Signal Processing Antennas

Session type: Regular

Application track: Cellular Networks

Room: Yangtze 1

Chair: Vanja Plicanic Samuelsson (Sony Mobile Communications, Sweden)

11:00 ***Isolation Improvement Using an MTM Inspired Structure with a Patch Based MIMO Antenna System***

Muhammad U. Khan (King Fahd University of Petroleum & Minerals, Saudi Arabia); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals (KFUPM), Saudi

11:20 ***Impact of Mutual Coupling on Capacity in Large MIMO Antenna Arrays***

Mattias Gustafsson (Huawei Technologies Sweden AB, Sweden); Jocelyn Aulin (Huawei Technologies Sweden AB, Sweden); Mats Högberg (Huawei Technologies Sweden AB, Sweden); Martin Alm (Huawei Technologies, Sweden); Björn Sihlbom (Huawei Technologies Sweden AB, Sweden)

11:40 ***Parametric Study on Capacitive and Inductive Couplers for Exciting Characteristic Modes on CPE***

Montaha Bouezzeddine (RM, Germany); Werner L. Schroeder (RheinMain University of Applied Sciences, Germany)

12:00 ***On the Design of Wideband and Tunable Matching and Decoupling Networks for N-port Antennas***

Montaha Bouezzeddine (RM, Germany); Werner L. Schroeder (RheinMain University of Applied Sciences, Germany)

12:20 ***Revisiting the Complex Correlation in a MIMO System***

Xiaoming Chen (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Jan Carlsson (SP Technical Research Institute of

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Adaptive and Reconfigurable Antennas

Session type: Regular

Application track: Wireless Networks and RF Sensors

Room: Yangtze 2

Chairs: Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland), Antoine Roederer (Technical University of Delft, The Netherlands)

09:00 ***An Active Microcell with Switchable Beams***

Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom); Hayder Hussein (The University of Sheffield, United Kingdom)

09:20 ***A Reconfigurable Radiation Pattern Metamaterial-Inspired Circular Array Antenna***

Dakhli Saber (Innov'Com Laboratory SUPCOM University of Carthage Tunis, Tunisia); Jean-marie Floch (IETR, France); Kourosh Mahdjoubi (University of Rennes 1, France); Hatem Rmili (King Abdulaziz University & Faculty of Engineering, Saudi Arabia); F. Choubani (SUP'COM, Tunisia)

09:40***Efficient Newton-Based Pattern Synthesis of Reconfigurable Parasitic Arrays***

Samee ur Rehman (Delft University of Technology, The Netherlands); Jon Wallace (Brigham Young University, USA)

10:00 ***Frequency Reconfigurable Slot Antenna Using Metasurface***

Hailiang Zhu (The University of Hong Kong, Hong Kong); William S. W. Cheung (The University of Hong Kong, Hong Kong); Xihong Liu (The University of Hong Kong, Hong Kong); Yunfei Cao (The University of Hong Kong, Hong Kong); Ti Yuk (The University of Hong Kong, Hong Kong)

10:20 ***Dual Band Low-profile Switched Beam Square Loop Antenna with Capacitively Coupled Feeds***

Arpan Pal (Queen's University, United Kingdom); Amit Mehta (Swanse University, United Kingdom); Dariush Mirshekar (University of Essex, United Kingdom)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Adaptive and Reconfigurable Antennas

Session type: Regular

Application track: Wireless Networks and RF Sensors

Room: Yangtze 2

Chairs: Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland), Antoine Roederer (Technical University of Delft, The Netherlands)

11:00 ***Planar Reconfigurable Antenna with Integrated Switching Control Circuitry***

Damiano Patron (Drexel University, USA); Kapil Dandekar (Drexel University, USA)

11:20 ***Polarization Reconfigurable Circular Patch Antenna with Fixed Operating Frequency***

Mohamed Nasrun Osman (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Mohamad Rijal Hamid (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia); Huda A. Majid (Universiti Teknologi Malaysia, Malaysia)

11:40 ***Reconfigurable Circular Ring Patch Antenna for UWB and Cognitive Radio Applications***

Eduardo Jorge Brito Rodrigues (Federal University of Rio Grande do Norte, Brazil); Hertz Lins (Federal University of Rio Grande do Norte, Brazil); Adaildo Assunção (Universidade Federal do Rio Grande do Norte, Brazil)

12:00 ***Reconfigurable Dualband Antenna Module with Integrated High Voltage Charge Pump and Digital Analog Converter***

Erick González-Rodríguez (Technische Universität Darmstadt, Germany); Arshad Mehmood (Technical University of Darmstadt, Germany); Yuliang Zheng (Technische Universität Darmstadt, Germany); Holger Maune (Technische Universität Darmstadt, Germany); Shen Lufei (Technische Universität Darmstadt, Germany); Jing Ning (Technische Universität Darmstadt, Germany); Hubertus Braun (University of Mainz, Germany); Martun Hovhannisyan (Technische Universität Darmstadt, Germany); Klaus Hofmann (TU Darmstadt,

12:20 ***Smart Plasma Antenna on Plasma Windowing Concept***

Hajar Ja'afar (Universiti Teknologi MARA, Malaysia); Mohd Tarmizi Ali (Universiti Teknologi Mara, Malaysia); Ahmad Nazri Dagang (Universiti Malaysia Terengganu, Malaysia); Nur Aina Halili (Universiti Teknologi MARA, Malaysia); Hanisah Mohd Zali (Universiti Teknologi Mara, Malaysia)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Antennas and Receivers for Astronomy and Cosmology

Session type: Convened

Application track: Space

Room: Africa

Chairs: Elena Saenz (European Space Agency, The Netherlands), Giorgio Savini (University College London, United Kingdom)

09:00 ***Cryogen-free THz Detection and Passive Imaging Systems - Commerce From Astronomical Technology***

Ken Wood (QMC Instruments Ltd., United Kingdom)

09:20 ***Development of Millimetre-Wave Quasi-Optical Devices Based on the Mesh Technology***

Giampaolo Pisano (University of Manchester, United Kingdom); Bruno Maffei (University of Manchester, United Kingdom); Ming Wah Ng (University of Manchester, United Kingdom); Vic Haynes (Manchester University, United Kingdom); Imran Mohamed (University of Manchester, United Kingdom); Peter Schemmel (University of Manchester, United Kingdom); Stefania Maccalli (University of Manchester, United Kingdom)

09:40 ***Developments of Wide Field-of-View MKID Cameras for Millimeter and Submillimeter Astronomy***

Yutaro Sekimoto (National Astronomical Observatory of Japan, Japan); Tom Nitta (University of Tsukuba, Japan); Ken'ichi Karatsu (National Astronomical Observatory of Japan, Japan); Masakazu Sekine (University of Tokyo, Japan); Shigeyuki Sekiguchi (University of Tokyo, Japan); Takashi Okada (University of Tokyo, Japan); Shibo Shu (University of Tokyo, Japan); Takashi Noguchi (National Astronomical Observatory of Japan, Japan); Masato Naruse (Saitama University, Japan); Kenji Mitsui (National Astronomical Observatory of Japan, Japan); Norio Okada (National Astronomical Observatory of Japan, Japan); Hiroshi Matsuo (National Astronomical Observatory of Japan, Japan)

10:00 ***Kilopixel Arrays of Microwave Kinetic Inductance Detectors for Submm Astronomy***

Jochem Baselmans (SRON, The Netherlands); Stephen Yates (SRON, The Netherlands); Andrey Baryshev (SRON & University of Groningen, Kapteyn Astronomical Institute, The Netherlands); Juan Bueno (Centro de Astrobiología CSIC INTA, Spain); Akira Endo (TUDelft, The Netherlands)

10:20 ***Evaluation of an Electronic Sky Derotation Scheme for a Phased Array Fed Reflector Antenna***

Andre Young (Stellenbosch University, South Africa); Karl Warnick (Brigham Young University, USA); David B Davidson (University of Stellenbosch, South Africa)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Antennas and Receivers for Astronomy and Cosmology

Session type: Convened

Application track: Space

Room: Africa

Chairs: Elena Saenz (European Space Agency, The Netherlands), Giorgio Savini (University College London, United Kingdom)

11:00 ***Lessons Learned From the Planck Mission: High Precision Measurements in the THz Range From Space***

François Pajot (Paris Sud University, France)

11:20 ***Multimode Horn Antennas for Far-Infrared Astronomy***

John Anthony Murphy (National University of Ireland Maynooth, Ireland); Colm Bracken (National University of Ireland Maynooth, Ireland); Stephen Doherty (National University of Ireland Maynooth, Ireland); Ian McAuley (National University of Ireland Maynooth, Ireland); Daniel Wilson (National University of Ireland Maynooth, Ireland); Creidhe O'Sullivan (National University of Ireland Maynooth, Ireland); Neil Trappe (NUI Maynooth, Ireland); Marcin Gradziel (National University of Ireland, Maynooth, Ireland); Peter Ade (Cardiff University, United Kingdom); Emily Gleeson (Met Eireann, Ireland); Bruno Maffei (University of Manchester, United Kingdom); Jean-Michel Lamarre (Observatoire de Paris, France); Fabio Noviello (University of Manchester, United Kingdom); Patrick Tully Peacocke (National University of Ireland Maynooth, Ireland); Giampaolo Pisano (University of Manchester, United Kingdom); Jean-Loup Puget (Université Paris X, France); Giorgio Savini (University College London, United Kingdom); Rashmikant Sudiwala (Cardiff University, United Kingdom); Stafford Withington (Cavendish Laboratory, United Kingdom); Richard Wylde (St Andrews University, United Kingdom); Vladimir Yurchenko

11:40 ***The Cosmology Large Angular Scale Surveyor (CLASS) Telescope Architecture***

David Chuss (NASA Goddard Space Flight Center, USA); Aamir Ali (Johns Hopkins University, USA); Mandana Amiri (University of British Columbia, Canada); John Appel (Johns Hopkins University, USA); Derek Araujo (Columbia University, USA); Charles Bennett (Johns Hopkins University, USA); Fletcher Boone (Johns Hopkins University, USA); Manwei Chan (Johns Hopkins University, USA); Hsiao-Mei (Sherry) Cho (NIST, USA); Felipe Colazo (NASA Goddard Space Flight Center, USA); Erik Crowe (NASA Goddard Space Flight Center, USA); Kevin Denis (NASA Goddard Space Flight Center, USA); Rolando Dunner (PUC de Chile, Chile); Joseph Eimer (Johns Hopkins University, USA); Thomas Essinger-Hileman (Johns Hopkins University, USA); Dominik Gothe (Johns Hopkins University, USA); Mark Halpern (University of British Columbia, Canada); Kathleen Harrington (Johns Hopkins University, USA); Gene Hilton (NIST, USA); Gary Hinshaw (University of British Columbia, Canada); Caroline Huang (Johns Hopkins University, USA); Kent Irwin (Stanford University, USA); Glenn Jones (Columbia University, USA); John Karakla (Johns Hopkins University, USA); Alan Kogut (NASA Goddard Space Flight Center, USA); David Larson (Johns Hopkins University, USA); Michele Limon (Columbia University, USA); Lindsay Lowry (Johns Hopkins University, USA); Tobias Marriage (Johns Hopkins University, USA); Nicholas Mehrle (Johns Hopkins University, USA); Amber Miller (Johns Hopkins University, USA); Nathan Miller (NASA Goddard Space Flight Center, USA); Samuel Moseley (NASA Goddard Space Flight Center, USA); Giles Novak (Northwestern University, USA); Carl Reintsema (NIST, USA); Karwan Rostem (NASA Goddard Space Flight Center, USA); Thomas Stevenson (NASA Goddard Space Flight Center, USA); Deborah Towner (NASA Goddard Space Flight Center, USA); Kongpop U-Yen (NASA Goddard Space Flight Center, USA);

12:00 ***The Planck Mission and Its Optical System***

Jan Tauber (European Space Agency, The Netherlands); Per Nielsen (TICRA, Denmark); Arturo Martin Polegre (European Space Agency, The Netherlands)

12:20 ***Full W-Band Microstrip-to-Waveguide Inline Transition***

Ainara Rebollo (Public University of Navarra, Spain); Belen Larumbe-Gonzalo (Antenna Group. Public University of Navarra, Spain); Ramon Gonzalo (Public University of Navarra, Spain); Iñigo Ederra (Universidad Publica de Navarra, Spain)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

On-the-Move Antenna Systems

Session type: Convened

Application track: Space

Room: Antarctica

Chairs: Avi Gal (Gilat Satellite Networks Ltd, Israel), Maria Carolina Vigano (Viasat Antenna Systems SA, Switzerland)

09:00 ***A Dual-Band, Dual-Polarized Array Element for Ka Band Satcom on the Move Terminals***

Francesco Greco (Universita' delle Calabria, Italy); G. Amendola (Universita della Calabria, Italy); Emilio Arnieri (Universita' della Calabria, Italy); Luigi Boccia (University of

09:20 ***Dielectric Resonator Antenna Phased Array with Liquid Crystal Based Phase Shifters***

Arshad Mehmood (Technical University of Darmstadt, Germany); Onur Karabey (Technische Universität Darmstadt, Germany); Yuliang Zheng (Technische Universität Darmstadt, Germany); Rolf Jakoby (Institute for Microwave Engineering and Photonics, Technische Universität Darmstadt, Germany); Hubertus Braun (University of Mainz, Germany); Martin Letz (Schott AG, Germany); Martun Hovhannisyan (Technische Universität Darmstadt, Germany); Muhammed Ayluctarhan (Technical University of Darmstadt, Germany)

09:40 ***Mobile Satellite TDMA Communications***

Avi Gal (Gilat Satellite Networks Ltd, Israel)

10:00 ***On-the-Move Antenna Systems for Broad-Band Satellite Communications***

Mario Gachev (RaySat Bulgaria, Bulgaria)

10:20 ***Electronically Beam Steerable Antennas for Broad Band Satellite Communications***

Ilan Kaplan (Gilat Satellite Networks, Israel); Izhar Marinov (Gilat Satellite Networks, Israel); Avi Gal (Gilat Satellite Networks Ltd, Israel); Vesselin Peshlov (RaySat Bulgaria Ltd, Bulgaria); Mario Gachev (RaySat Bulgaria, Bulgaria); Boyanov Victor (RaySat Bulgaria Ltd, Bulgaria); Borislav Marinov (RaySat Bulgaria Ltd, Bulgaria)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

On-the-Move Antenna Systems

Session type: Convened

Application track: Space

Room: Antarctica

Chairs: Avi Gal (Gilat Satellite Networks Ltd, Israel), Maria Carolina Vigano (Viasat Antenna Systems SA, Switzerland)

11:00 ***Planar Printed Ka Band Antenna for Satellite Communication Based on Metamaterial Technology***

Reuven Shavit (Ben-Gurion University, Israel)

11:20 ***Satcom-on-the-Move: Digital Beam Forming Versus Phased Array***

Rens Baggen (IMST GmbH, Germany); Sybille Holzwarth (IMST GmbH, Germany)

11:40 ***Sige Bicmos Technology for Ka-Band Satcom on the Move User Terminals***

Luigi Boccia (University of Calabria, Italy); Alireza Shamsafar (University of Calabria, Italy); Emilio Arnieri (Universita' della Calabria, Italy); Ali Imran Sandhu (University of Calabria, Italy); G. Amendola (Universita della Calabria, Italy); Tatyana Purtova (University of Ulm, Italy); Filipe Tarabani (University of Ulm, Italy); Václav Valenta (Institute of Electron Devices and Circuits, Germany); Hermann Schumacher (Universität Ulm, Germany); Erika Meniconi (EADS Deutschland GmbH, Germany); Mehmet Kaynak (IHP Microelectronics, Germany); Bernd Tillack (IHP Microelectronics, Germany); Steven Gao (University of Kent, United Kingdom); Volker Ziegler (EADS Innovation Works, Germany)

12:00 ***Ka-Band Mobility Terminals Enabling New Services***

Stefano Vaccaro (JAST SA, Switzerland); Lance Diamond (Viasat, USA); Don Runyon (Viasat, USA); Maria Carolina Vigano (Viasat Antenna Systems SA, Switzerland)

12:20 ***X- And Ka-Band Low Profile Antennas for Aeronautical and Land Mobile Satcom***

Martin Shelley (Cobham Technical Services, United Kingdom); Javier Vazquez (Cobham Technical Services, United Kingdom); David Moore (Cobham Technical Services, United

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

AMTA/EurAAP Measurements/Antenna Diagnostics and Post Processing

Session type: Convened

Application track: Defense & Security

Room: Europe 1

Chairs: Sergey Pivnenko (Technical University of Denmark, Denmark), Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain)

09:00 ***A Fast Single Cut Spherical Near-Field-to-Far-Field Transformation Using Cylindrical Modes***

Tamara Salmerón-Ruiz (Universidad Politécnica de Madrid, Spain); Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain); Francesco Saccardi (SATIMO, Italy); Sara Burgos (ORBIT/FR Europe GmbH & System Engineer and Project Manager, Germany); Francisco José Cano (SATIMO, France); Lars Jacob Foged (Microwave Vision Italy, Italy)

09:20 ***A New Mobile Base Station Antenna Measurement System***

Miguel A. Salas Natera (Antenna Systems Solutions, Spain); Jose Luis Besada (Universidad Politécnica de Madrid (Technical University of Madrid), Spain); Leandro De Haro Ariet (Polytechnic University of Madrid, Spain); David Fraile (Antenna Systems Solutions, Spain); Carlo Rizzo (Antenna Systems Solutions, United Kingdom)

09:40 ***Comparison of a Direct Low-Pass Filtering Technique with Spherical Modal Filtering Applied to the Suppression of Range Reflections in Antenna Measurements***

Thomas Kozan (ORBIT/FR Europe GmbH, Germany); Sara Burgos (ORBIT/FR Europe GmbH & System Engineer and Project Manager, Germany); Francesco Saccardi (SATIMO, Italy); Lars Jacob Foged (Microwave Vision Italy, Italy); Per Iversen (Orbit/FR, USA)

10:00 ***Estimating the Effect of Higher Order Azimuthal Modes in Spherical Near-Field Probe Correction***

Allen Newell (Nearfield Systems Inc., USA); Stuart Gregson (Nearfield Systems Inc. & Queen Mary, University of London, USA)

10:20 ***Field Reconstruction and Estimation of the Antenna Support Structure Effect on the Measurement Uncertainty of the BTS1940 Antenna***

Cecilia Cappellin (TICRA, Denmark); Sergey Pivnenko (Technical University of Denmark, Denmark)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

AMTA/EurAAP Measurements/Antenna Diagnostics and Post Processing

Session type: Convened

Application track: Defense & Security

Room: Europe 1

Chairs: Sergey Pivnenko (Technical University of Denmark, Denmark), Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain)

11:00 ***Indirect Holography Setup for Efficient Phaseless Cylindrical Acquisition for Antenna Measurement***

Jaime Laviada (Universidad de Oviedo, Spain); Ana Arboleya Arboleya (Universidad de Oviedo, Spain); Yuri Álvarez (Universidad de Oviedo, Spain); Cebrián García (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

11:20 ***International Comparison of Ku-band Standard Gain Horn Characterization***

Jeffrey Guerrieri (National Institute of Standards and Technology, USA)

11:40 ***Investigation of Complex Excitation Errors At Single Element and Sub-Array Level in Large Array Antennas by Inverse Source Technique***

Lars Jacob Foged (Microwave Vision Italy, Italy); Lucia Scialacqua (SATIMO, Italy); Francesco Saccardi (SATIMO, Italy); Luca Salghetti Drioli (European Space Agency-ESTEC, The Netherlands); Javier Leonardo Araque Quijano (Universidad Nacional de Colombia, Colombia); Giuseppe Vecchi (Politecnico di Torino, Italy)

12:00 ***Multi-Spectral Representation of Measurement Probes for Antenna Field Transformations***

Thomas F. Eibert (Technische Universität München, Germany); Raimund A. M. Mauermayer (Technische Universität München, Germany); Georg Schnattinger (Technische Universität München, Germany)

12:20 ***Source Reconstruction Technique for Slot Array Antennas Using the Gerchberg-Papoulis Algorithm***

Makoto Sano (Tokyo Institute of Technology, Japan); Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain); Tamara Salmerón-Ruiz (Universidad Politécnica de Madrid, Spain); Jiro Hirokawa (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

THz Enabling Technologies and Applications

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Ramon Gonzalo (Public University of Navarra, Spain), Richard W. Ziolkowski (University of Arizona, USA)

09:00 ***Balloon-borne Platforms for THz Astronomy***

Christopher Walker (University of Arizona, USA)

09:20 ***Commercial Passive Millimetre Wave Imagers for Stand-Off Security Screening***

Chris Mann (Digital Barriers Plc. & Water Window Ltd, United Kingdom)

09:40 ***Comparative Study of Stripline Dipole Antenna on Semi-infinite and Lens Substrates At Terahertz Frequency***

Truong Khang Nguyen (Ajou University, Korea); Ikmo Park (Ajou University, Korea)

10:00 ***Design of Wideband and High-Efficiency On-Chip Antenna Array At 1.1 Terahertz***

Daniele Cavallo (Delft University of Technology, The Netherlands); Akshay Visweswaran (Delft University of Technology, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands); Marco Spirito (Delft University of Technology, The Netherlands); Waqas Hassan Syed (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands); John Long (Delft University of Technology, The Netherlands)

10:20 ***Scattering in the THz Region, Measurement Prediction and Extrapolation***

Roger Appleby (Queen's University Belfast & Roger Appleby MMW Consulting, United Kingdom); Elena Saenz (European Space Agency, The Netherlands); Richard Wylde (St Andrews University, United Kingdom); Stuart Froud (Thomas Keating Ltd., United Kingdom)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

THz Enabling Technologies and Applications

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Ramon Gonzalo (Public University of Navarra, Spain), Richard W. Ziolkowski (University of Arizona, USA)

11:00 ***Dielectric Rod Waveguide as an Enabling Technology for THz Frequencies***

Antti V. Räisänen (Aalto University, Finland); Andrey Generalov (Aalto University School of Electrical Engineering, Finland); Dmitri Lioubtchenko (Aalto University School of Electrical Engineering, Finland); Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Mario Méndez-Aller (Universidad Carlos III de Madrid, Spain); Luis-Enrique Garcia-Muñoz (University Carlos III of Madrid, Spain); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain); Sascha Preu (Friedrich Alexander Universität Erlangen-

11:20 ***High Directivity, Lens-less THz Photoconductive Switch Dipole Antennas***

Ning Zhu (University of Arizona, USA); Richard W. Ziolkowski (University of Arizona, USA)

11:40 ***Plasmonic Photoconductive Antennas for High-Power Terahertz Generation and High-Sensitivity Terahertz Detection***

Christopher Berry (University of Michigan, USA); Ning Wang (University of Michigan, USA); Mohammad Hashemi (University of Michigan, USA); Mona Jarrahi (University of

12:00 ***Terahertz Antennas with Silicon Micromachined Front-End***

Goutam Chattopadhyay (NASA-JPL, Caltech, USA); Theodore Reck (NASA-JPL, Caltech, USA); Cecile Jung (JPL, USA); Choonsup Lee (JPL, USA); Jose Siles (NASA-JPL, Caltech, USA); Nacer Chahat (NASA-JPL, Caltech, USA); Ken Cooper (California Institute of Technology, USA); Erich Schlecht (NASA-JPL, Caltech, USA); Maria Alonso (UPC, Spain); Imran Mehdi

12:20 ***Use of Low Loss Substrate for Developing Sub-Millimeter-Wave Mixers***

Itziar Maestrojuán (Public University of Navarra, Spain); Ines Palacios (Public University of Navarra, Spain); Iñigo Ederra (Universidad Publica de Navarra, Spain); Ramon Gonzalo (Public University of Navarra, Spain)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Multiband and Wideband Antennas

Session type: Regular

Application track: Multiple Applications

Room: North America

Chairs: Christophe Craeye (Université Catholique de Louvain, Belgium), Ioan E. Lager (Delft University of Technology, The Netherlands)

09:00 ***Better Multiband Horn Antenna Design by Using the Real Modal Content At Input***

Jean-Pierre Adam (IEEA, France); Pierrick Hamel (IEEA, France); Maxime Romier (CNES, France)

09:20 ***Compact Printed Multiband Antenna for M2M Applications***

Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan); Ryu Miura (NICT, Japan)

09:40 ***Fabry-Perot Antenna with Improved Bandwidth***

Giuseppe Di Massa (University of Calabria, Italy); Hugo Oswaldo Moreno Aviles (University of Calabria & Escuela Superior Politecnica de Chimborazo, Ecuador); Sandra Costanzo (University of Calabria, Italy)

10:00 ***Low Profile Cavity-Backed Four-Arm Archimedean Spiral Antenna with 8:1 Bandwidth***

Hongzhao Ray Fang (National University of Singapore, Singapore); Mohammed Serhir (Departement de Recherche en Electromagnetisme, Supelec, France); Ramanan Balakrishnan (National University of Singapore, Singapore); Regis Guivarc'h (SONDRA, Supelec, France); Koen Mouthaan (National University of Singapore, Singapore)

10:20 ***An Efficient Frequency Adjustable Penta-band Slot Antenna***

Mohsen Gholamrezaei (Science and Research Branch Islamic Azad University, Iran); Mohammad Naser Moghadasi (Islamic Azad University of Tehran, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Ionospheric Propagation

Session type: Regular

Application track: Space

Room: North America

Chairs: Yannick Béniguel (IEEA, France), Roberto Prieto-Cerdeira (European Space Agency, The Netherlands)

11:00 ***A Study of HF Transmitter Geolocation Through Single-Hop Ionospheric Propagation***

Pascal Pagani (Telecom Bretagne, France); Rolland Fleury (Telecom Bretagne, France); Yvon Le Roux (Telecom Bretagne, France); Denis Le Jeune (Ministère de la Défense, France)

11:20 ***Kriging Method Combined with GISM to Generate Ionospheric Scintillation Map***

Pierrick Hamel (IEEA, France); Diagna Charles Bernard Sambou (UPMC Univ Paris 6, France); Muriel Darces (UPMC Univ Paris 6, France); Yannick Béniguel (IEEA, France); Marc Hélier (UPMC Univ Paris 6, France)

11:40 ***Modelling Ionospheric Effects for L Band GNSS Receivers At High Latitudes***

Daniel Boscher (ONERA, France); Françoise Carvalho (CNES, France); Vincent Fabbro (ONERA, France); Joel Lemorton (ONERA, France); Rolland Fleury (Telecom Bretagne, France)

12:00 ***Monitoring of Ionosphere Propagation Conditions Using Opportunistic HF Signals***

Khaled Khoder (Telecom Bretagne, France); Rolland Fleury (Telecom Bretagne, France); Pascal Pagani (Telecom Bretagne, France)

12:20 ***Transionospheric Propagation Schemes: Analytical and Numerical Results for Dimensional Reduction***

Helene Galiegue (University of Toulouse, Paul Sabatier, France); Vincent Fabbro (ONERA, France); Laurent Féral (Laboratoire LAPLACE, France); Françoise Carvalho (CNES, France)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Mobile Propagation

Session type: Regular

Application track: Multiple Applications

Room: South America

Chairs: Claude Oestges (Université Catholique de Louvain, Belgium), Fernando Pérez-Fontán (University of Vigo, Spain)

09:00 ***Evaluation of V2X Antenna Performance Using a Multipath Simulation Tool***

Edith Condo Neira (SP Technical Research Institute of Sweden, Sweden); Ulf Carlberg (SP Technical Research Institute of Sweden, Sweden); Jan Carlsson (SP Technical Research Institute of Sweden, Sweden); Kristian Karlsson (SP Technical Research Institute of Sweden, Sweden); Erik G Ström (Chalmers University of Technology, Sweden)

09:20 ***Joint Spectrum Sensing and Transmission Using a Sector Antenna in Cognitive Radio Network***

Bilal Hasan Qureshi (Ilmenau University of Technology & TU-Ilmenau, Germany); Rajesh Kumar Sharma (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

09:40 ***Network Design Rules of Communication Systems At Train Stations Based on Intensive Measurement Campaigns***

Ke Guan (Beijing Jiaotong University, P.R. China); Zhangdui Zhong (Beijing Jiaotong University, P.R. China); Ai Bo (Beijing Jiaotong University, P.R. China); Thomas Kürner (Technische Universität Braunschweig, Germany)

10:00 ***On the Reliability of Measurement Based Channel Synthesis From a MIMO Performance Evaluation Point of View***

Martin Käske (Ilmenau University of Technology, Germany); Gerd Sommerkorn (Ilmenau University of Technology, Germany); Christian Schneider (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

10:20 ***Utilizing Two-Ray Interference in Vehicle-to-Vehicle Communications***

Kristian Karlsson (SP Technical Research Institute of Sweden, Sweden); Jan Carlsson (SP Technical Research Institute of Sweden, Sweden); Magnus JV Olbäck (Volvo Technology, Sweden); Tin Vukusic (Trebax, Sweden); Russ Whiton (Volvo Trucks, Sweden); Samuel Wickström (Scania, Sweden); Gunnar Ledfelt (Scania, Sweden); Johan Rogö (Kapsch,

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Active and Integrated Antennas

Session type: Regular

Application track: Multiple Applications

Room: South America

Chairs: Thomas Kaufmann (The University of Adelaide, Australia), A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands)

11:00 ***Closed-Form Expressions for the Analysis of Finite-Height Artificial Dielectric Layers***

Daniele Cavallo (Delft University of Technology, The Netherlands); Waqas Hassan Syed (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

11:20 ***Design and Stability of Negative Impedance Circuits for Non-Foster Matching of a Monopole Antenna***

Deepak Nagarkoti (Queen Mary University of London, United Kingdom); Khalid Rajab (Queen Mary University of London, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

11:40 ***Noise Performance of an Antenna Matching Network with Negative-Impedance Converter (NIC)***

Christian Stedler (Cologne University of Applied Sciences, Germany); Volker Wienstroer (Cologne University of Applied Sciences, Germany); Rainer Kronberger (Cologne University of Applied Sciences, Germany)

12:00 ***Wireless Millimeter-Wave Backplane for Microwave Phased Arrays Using Bond-Wire Antennas***

A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands); Ulf Johannsen (Eindhoven University of Technology, The Netherlands); Rick van Kemenade (Eindhoven University of Technology, The Netherlands); Maaike van 't Westeinde (ASML, The Netherlands); Bedilu Adela (Eindhoven University of Technology, The Netherlands)

12:40 - 13:30

Lunch Break

Room: Atlantic

09:00 - 10:40

Modulated Metasurface Antennas

Session type: Scientific Workshop

Room: Oceania

Chairs: Angelo Freni (University of Florence, Italy), Enrica Martini (University of Siena, Italy)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

[WS]: Data Domain Modelling for Antenna Analysis and Design

Session type: Scientific Workshop

Room: Oceania

11:00 - 12:00

CST Workshop

Session type: Industrial Workshop

Room: Europe 2

12:40 - 13:30

Lunch Break

Room: Atlantic

13:30 - 16:20 Poster Session

Scattering, Diffraction, RCS Measurement and Processing

Room: Poster area 1

THUR.1.2 The Energy Flow Behavior During the Resonance Scattering of a Plane Electromagnetic Wave by a Magnetized Plasma Column

Vasiliy Es'kin (University of Nizhny Novgorod, Russia); Alexander Ivoninsky (University of Nizhny Novgorod, Russia); Alexander Kudrin (University of Nizhny Novgorod, Russia)

THUR.1.3 Characteristic Coplarization States of Target Resonance as Radar Feature Set

Faisal Aldhubaib (Public Authority of Applied Education, Kuwait)

THUR.1.4 Closed-Form Solution for Electromagnetic Scattering by a Dielectric Spheroid

Grigorios Zouros (National Technical University of Athens, Greece); Aristides Kotsis (National Technical University of Athens, Greece); John Roumeliotis (National Technical University of Athens, Greece); Gerassimos Kokkorakis (National Technical University of Athens, Greece)

THUR.1.5 Detection of an Artificial Target with Low Radar Cross-Section in Presence of Backscatter

Dmitry E Zelenchuk (Queen's University of Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom)

THUR.1.6 Indoor 3D Spherical Near Field RCS Measurement Facility: Localization of Scatterers

Pierre Massaloux (CESTA, France)

THUR.1.7 Performance Comparison of Finite Size Ultra Thin Microwave Absorbers by Means of Bistatic Scattering Cross Section and Absorption Efficiency

Sofian Hamid (RWTH Aachen University, Germany); Hammam Shakhtour (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany)

THUR.1.8 Scattering and Propagation of the TE/TM Waves on Pre-Fractal Impedance Grating in Numerical Results

Kateryna Nesvit (Karazin Kharkiv National University, Department of Mathematical Physics and Computational Mathematic, Ukraine)

THUR.1.9 A Method of Building Radargram with the Ability of Object Discrimination for the Step-Frequency Radar

Valeri Mikhnev (Institute of Applied Physics, National Academy of Sciences, Belarus)

THUR.1.10 Propagation Analysis of Remote Sensing in a Rainforest Environment

Arismar Cerqueira Sodré Junior (INATEL, Brazil); Juliano Mologni (ESSS, Brazil); Igor da Costa (INATEL, Brazil); Luis Da silva (INATEL, Brazil); Joao Moreira (Orbisat, Brazil); Edson

THUR.1.11 Concealed Weapon Detection Using UWB 3-D Radar Imaging and Automatic Target Recognition

Leonardo Carrer (TU Delft, Italy); Alexander Yarovoy (TU Delft, The Netherlands)

THUR.1.12 Inverse Scattering Problem of Homogeneous Dielectrics Using Genetic Algorithms

Cebrián García (Universidad de Oviedo, Spain); Yuri Álvarez (Universidad de Oviedo, Spain); Fernando Las Heras (Universidad de Oviedo, Spain); Jaime Laviada (Universidad de Oviedo, Spain); Ana Arboleya Arboleya (Universidad de Oviedo, Spain); Paolo Rocca (University of Trento, Italy); Giacomo Oliveri (University of Trento, Italy); Andrea Massa

THUR.1.13 Multi-Perspective Landmine Detection with Ground Penetrating Radar and Hidden Markov Model

Ivor L. Morrow (Cranfield University, United Kingdom); Nathan Johnson (Cranfield University, United Kingdom)

THUR.1.14 On the Evaluation of a Proposed Bowtie Antenna for Microwave Tomography

Malyhe Jalilvand (Karlsruhe Institute of Technology, Germany); Claudia Vasanelli (IHE, Italy); Chuanren Wu (Karlsruhe Institute of Technology, Germany); Jerzy Kowalewski (Karlsruhe Institute of Technology, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

THUR.1.15 A New Universal Approach to Modeling and Simulation of UWB Channels Containing Convex Obstacles Using Spice-Like Programs

Piotr Górniak (Poznań University of Technology, Poland); Wojciech Bandurski (Poznań University of Technology, Poland)

MIMO, Antenna Diversity, Smart and Signal Processing Antennas

Room: Poster area 1

THUR.1.16 The Importance of Circular Polarization for Diversity Reception and MIMO in NVIS Propagation

Ben Witvliet (University of Twente & Radiocommunications Agency Netherlands, The Netherlands); Erik Van Maanen (Radiocommunications Agency Netherlands, The Netherlands); Albert Westenberg (Radiocommunications Agency Netherlands, The Netherlands); George Petersen (Radiocommunications Agency Netherlands, The Netherlands); Mark J. Bentum (University of Twente, The Netherlands); Cornelis H Slump (University of Twente, The Netherlands); Roel Schiphorst (University of Twente, The Netherlands)

THUR.1.17 A New Dual Feed PIFA Diversity Antenna

Saqer S. Alja'afreh (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Lei Xing (University of Liverpool, United Kingdom)

THUR.1.108 Near Field Beam Patterns of Circularly Rotating Phased Array

Harun Cetinkaya (Microwave Sensing, Signals and Systems (MS3), Delft University of Technology, The Netherlands); Alexander Yarovoy (TU Delft, The Netherlands)

THUR.1.18 Dual-Band MIMO Antenna with Enhanced Isolation for LTE System

Yunfei Cao (The University of Hong Kong, Hong Kong); William S. W. Cheung (The University of Hong Kong, Hong Kong); Hailiang Zhu (The University of Hong Kong, Hong Kong); Ti Yuk (The University of Hong Kong, Hong Kong); Dun Mao (The University of Hong Kong, Hong Kong)

THUR.1.19 MISO Beamforming for RFID Systems Via Second-Order Cone Programming

Betty Nagy (Ain Shams University & Egypt Japan University of Science and Technology, Egypt); Abdelfattah Fawky (M. Sc, Egypt); Maher Khaliel (Duisburg Essen University, Germany); Mohamed El-Hadidy (University of Duisburg-Essen, Germany); Thomas Kaiser (Universität Duisburg-Essen, Germany)

THUR.1.20 A 4x4 MIMO Antenna System for Mobile Tablets

Sultan Shoaib (Queen Mary University of London, United Kingdom); Imran Shoaib (Queen Mary University of London, United Kingdom); Nosherwan Shoaib (Politecnico Di Torino, Italy); Xiaodong Chen (Queen Mary, University of London, United Kingdom); Clive Parini (Queen Mary University of London, United Kingdom)

THUR.1.21 An 8x8 Butler Matrix for Generation of Waves Carrying Orbital Angular Momentum (OAM)

Baptiste Palacin (CNES, France); Ksenia Sharshavina (CNES, France); Duy Kevin Nguyen (Université de Toulouse UPS INPT LAPLACE CNRS & CNES, France); Nicolas Capet (CNES,

THUR.1.22 Channel Statistics for MIMO Handsets in Data Mode

Jesper Ø Nielsen (Aalborg University, Denmark); Boyan Yanakiev (Intel Mobile Communications, Denmark); Samantha Caporal Del Barrio (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

THUR.1.23 Characteristic Mode Analysis of Composite Metal-Dielectric Structure, Based on Surface Integral Equation/Moment Method

Ronis Maximidis (Democritus University of Thrace, Greece); Constantinos Zekios (Democritus University of Thrace, Greece); Theodoros Kaifas (Aristotle University of Thessaloniki, Greece); Elias E Vafiadis (Aristotle University of Thessaloniki & Physics Department, Greece); George Kyriacou (Democritus University of Thrace, Greece)

THUR.1.24 Electrically Switchable Multiport Matching Network for 2-Port MIMO Antennas

Aleksander Krewski (RheinMain University of Applied Sciences, Germany); Werner L. Schroeder (RheinMain University of Applied Sciences, Germany)

THUR.1.25 Investigations on QRD-M Based Broadband VP Technique for Multiuser Multiantenna System

Tetsuki Taniguchi (University of Electro-Communications, Japan); Yoshio Karasawa (The University of Electro-Communications, Japan)

THUR.1.26 Isolation Enhancement Effect on the Measured Channel Capacity of a Printed MIMO Antenna System

Muhammad U. Khan (King Fahd University of Petroleum & Minerals, Saudi Arabia); Wajih Abu-Al-Saud (KFUPM, Saudi Arabia); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia)

THUR.1.27 MEG and Correlation Characteristics of Hybrid Dipole - Nonuniform EBG Antenna Systems

Christos Mourtzios (Dept. of Physics, Aristotle University of Thessaloniki, Greece); Theodoros Ganatsos (Aristotle University of Thessaloniki, Iceland); Katherine Siakavara (Aristotle University, Greece)

THUR.1.28 True MIMO Transmission Using a Single RF-Chain and Antenna: Recent Developments

Mohsen Yousefbeiki (École Polytechnique Fédérale de Lausanne (EPFL) & Adaptive MicroNanoWave Systems Group, LEMA/NANOLAB, Switzerland); Pavle Belanovic (Swisscom Schweiz AG, Group Strategy & Innovation, Switzerland); Andreas Burg (EPFL, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL,

RF Sensors, RFIDs and Power Scavenging

Room: Poster area 1

THUR.1.29 UHF RFID Sensor for Crack Observation Through Controlled Mechanical-to-Electromagnetic Modulation

Corrado Paggi (University of Rome Tor Vergata, Italy); Cecilia Occhiuzzi (University of Rome "Tor Vergata", Italy); Gaetano Marrocco (University of Rome Tor Vergata, Italy)

THUR.1.30 Compact Open Slot Textile Antenna

Anthony Presse (University of Rennes1, France); Anne-Claude Tarot (University of Rennes 1, France)

THUR.1.31 Interferometer for Co-operating Target Motion Detection

Qing Liu (QUB, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); David Linton (ECIT, Queen's University Belfast, United Kingdom); Dmitry E Zelenchuk (Queen's University of Belfast, United Kingdom); Raymond Dickie (Queen's University Belfast, United Kingdom)

THUR.1.32 Measurement of Harmonic Distortions and Impedance of HF RFID Chips

Nikola Gvozdenovic (Vienna University of Technology, Austria); Lukas W Mayer (Vienna University of Technology, Austria); Christoph F Mecklenbräuker (Vienna University of

THUR.1.33 Miniature and Superdirective Two Elements Endfire Antenna Array

Mélusine Pigeon (IETR & Université de Rennes1, France); Ala Sharaiha (Université de Rennes 1 & IETR, France); Sylvain Collardey (University of Rennes 1, France)

THUR.1.34 Passive Wireless Sensor for Atmospheric Corrosion Monitoring

Maria Yasri (French Corrosion Institute / Brest University / Télécom Bretagne, France); Francois Gallée (Télécom Bretagne, France); Benoit Lescop (University of Brest, France); Erwan Diler (French Corrosion Institute, France); Dominique Thierry (French Corrosion Institute, France); Stephane Rioual (University of Brest, France)

THUR.1.35 A Fully Printed Passive Chipless RFID Tag for Low-Cost Mass Production

Diego Betancourt (TU Dresden, Germany); Raji Sasidharan Nair (Technische Universität Dresden, Germany); Frank Ellinger (Dresden University of Technology, Germany); Georg Schmidt (TU Chemnitz, Germany); Arved Hübler (TU Chemnitz, Germany); Dirk Plettemeier (Dresden University of Technology, Germany); Marvin Barahona (TU Dresden, Germany); Maxi Bellmann (TU Chemnitz, Germany); Daniel Höft (TU Chemnitz, Germany)

THUR.1.36 A Novel 60GHz Antenna for an RFID TAG with Dielectric Resonator

Abdelhak Ferchichi (University Of Science Tunisia, Tunisia)

THUR.1.37 An RFID-Based Library Management System Using Smart Cabinets: A Pilot Project

Anastasis C Polycarpou (University of Nicosia, Cyprus); Theodoros Samaras (Aristotle University of Thessaloniki, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

THUR.1.38 Design Considerations for Low-Power, High-Sensitivity Rectennas

Huib J. Visser (IMEC Netherlands, The Netherlands)

THUR.1.39 Design of Unequal Size of Witricity Device with Integrated Coil Strip

Mohd Hidir Mohd Salleh (Universiti Teknologi Malaysia, Malaysia); Norhudah Seman (Universiti Teknologi Malaysia, Malaysia)

THUR.1.40 Optimizing Meandered Spiral Antennas for RFID Tags Using Gbest-Guided Artificial Bee Colony Algorithm

Sotirios Goudos (Aristotle University of Thessaloniki, Greece); Katherine Siakavara (Aristotle University, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

THUR.1.41 Passive MIMO: New Load Modulation Technique Using Multiple Antennas

Naoki Honma (Iwate University, Japan); Keisuke Terasaki (Iwate University, Japan); Yoshitaka Tsunekawa (Iwate University, Japan)

THUR.1.42 Transparent Rectenna and Rectenna Array for RF Energy Harvesting At 2.45 GHz

Hakim Takhedmit (Paris-Est Marne-la-Vallée University, France); Laurent Cirio (Université de Paris-Est Marne-la-Vallée, France); Francois Costa (SATIE, France); Odile Picon (Université Paris-Est Marne-la-Vallée, France)

THUR.1.43 Connectivity of Wireless Sensor Nodes in Metal Rich Environment: Expectations and Reality

Relja Djapic (TNO, The Netherlands); Jeroen Van de Sande (TNO, The Netherlands); Yohan Toh (TNO, The Netherlands); Miodrag Djurica (TNO, The Netherlands)

THUR.1.44 Fabrication and Characterizations of Frequency-Tunable Soft Composite Antennas for Wireless Sensing

Tang Qingyuan (City University of Hong Kong, Hong Kong); Sun Huayu (City University of Hong Kong, Hong Kong); Yong Mei Pan (City University of HongKong, Hong Kong); Chan Yan-Cheong (City University of Hong Kong, Hong Kong); Kwok Wa Leung (City University of Hong Kong, Hong Kong)

Active Antennas, Integrated Antennas, Lens Antennas and Radomes

Room: Poster area 2

THUR.2.45 A New Low-Cost Active Rod Antenna for Automotive Reception of All Terrestrial Audio Broadcast Services

Leopold Reiter (University of the Bundeswehr, Munich, Germany); Alexander Böge (University of the Bundeswehr Munich, Germany); Stefan Lindenmeier (Universität der

THUR.2.46 A Novel Fully Integrated Fin Antenna for Automotive Application

Michele Gallo (Calearo Antenne SpA & Politecnico di Bari, Italy); Simona Bruni (Calearo Antenne SpA, Italy); Daniel Zamberlan (Calearo Antenne S.p.A., Italy)

THUR.2.47 An Active Multiband Antenna for Future Wireless Communications

Rocio Sanchez-Montero (University of Alcala, Spain); Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom); Pablo-Luis Lopez-Espi (University of Alcala, Spain); Jesus Alpuente-Hermosilla (University of Alcala, Spain)

THUR.2.48 Antenna System with Active Impedance Matching

Abhishek Singh (Ethertronics, USA); Seng Thail Sron (Ethertronics & University of Limoges, France); Jean-marie Floch (IETR, France)

THUR.2.49 Wideband Multilayer WAIM Design and Optimization

Luca Manica (University of Trento, Italy); Matteo Carlin (University of Trento, Italy); Iva Malcic (University of Zagreb, Croatia); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

THUR.2.50 Design of Spherical Lens Antennas Using Complex Huygens Element

Dario Bojanjac (University of Zagreb, Croatia); Alexander Nosich (IRE NASU, Ukraine); Zvonimir Sipus (University of Zagreb, Croatia)

THUR.2.51 All Dielectric Conformal Luneburg Lens Based Antenna

Carolina Mateo-Segura (Heriot Watt University, United Kingdom); Maria Lorente-Crespo (Heriot Watt University, United Kingdom); Yang Hao (Queen Mary, University of London,

THUR.2.52 Characterization of an OAM Antenna Using a Flat Phase Plate in the Millimeter Frequency Band

Ronan Niemiec (IETR, University of Rennes 1, France); Christian Brousseau (Université de Rennes 1, France); Kourosh Mahdjoubi (University of Rennes 1, France); Olivier Emile (Université de Rennes 1, France); Alain Ménard (DGA-Maîtrise de l'Information, France)

THUR.2.53 Design of Low Profile Cylindrical Luneburg Lens Antenna

Tse Tong Chia (Temasek Laboratories@NUS, Singapore); Wai Yean Lim (DSO National Laboratories, Singapore)

THUR.2.54 Design of Metamaterial-Coated Arrays Through Quasi-Conformal Transformation Optics

Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Ephrem Teshale Bekele (University of Trento & Eledia Research Center, DISI, University of Trento, Italy); Jeremiah P Turpin (The Pennsylvania State University, USA); Douglas H Werner (Pennsylvania State University, USA); Andrea Massa (University of Trento, Italy)

THUR.2.55 Design of Sandwich Type Radomes with Green's Function Method as a Radiation Problem Solving

Aleksey Karpov (Ural Federal University, Russia); Sergey Knyazev (Ural Federal University, Russia); Boris Panchenko (Radio Engineering Institute, Ural State Technical University, Yekaterinburg, Russia); Sergey Shabunin (Ural Federal University, Russia)

THUR.2.56 Efficient and Accurate Modeling of Electrically Large Dielectric Lens Antennas Using Full-Wave Analysis

Stig Sørensen (TICRA, Denmark); Min Zhou (TICRA, Denmark); Peter Meincke (TICRA, Denmark); Niall Tynan (National University of Ireland, Maynooth, Ireland); Marcin Gradziel (National University of Ireland, Maynooth, Ireland)

THUR.2.57 Waveguide Feed Chains for Scanning Lens Array in Ku and Ka Bands

John Thornton (MDA & MDA Space and Robotics Ltd, United Kingdom)

Mobile and Ionospheric Channels

Room: Poster area 2

THUR.2.59 An Enhanced Statistical Model for the Dual Polarised MIMO Land Mobile Satellite Channel

Fiona Ni Mhearain (Heriot-Watt University, United Kingdom); Mathini Sellathurai (Heriot-Watt University, United Kingdom); Fernando Pérez-Fontán (University of Vigo, Spain)

THUR.2.60 Diversity Combining for Cooperative Satellite Terminals in a Moving Convoy of Vehicles

Jonas König (Ilmenau University of Technology, Germany); Alexander Ihlow (Ilmenau University of Technology, Germany); Albert Heuberger (Fraunhofer IIS, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany)

THUR.2.61 A Proposed 3D Extension to the 3GPP/ITU Channel Model for 800 MHz and 2.6 GHz Bands

Reham Almesaeed (University Of Bristol, United Kingdom); Araz Sabir Ameen (University of Bristol & University of Sulaimani, United Kingdom); Evangelos Mellios (University of Bristol, United Kingdom); Angela Doufexi (University of Bristol, United Kingdom); Andrew Nix (University of Bristol, United Kingdom)

THUR.2.62 Path Loss Characterization in Vehicular Environments Under LOS and NLOS Conditions At 5.9 GHz

Herman Fernández (Escuela de Ingeniería Electrónica, Uni. Pedagógica y Tecnológica de Colombia, Spain); Vicent M. Rodrigo-Peñarrocha (Universidad Politécnica de Valencia, Spain); Lorenzo Rubio (Universitat Politècnica de València, Spain); Juan Reig (Universidad Politecnica de Valencia, Spain)

THUR.2.63 Simulation-based Evaluation of MIMO Antenna Systems in Car-to-Car Communication

Daniel Quack (Hochschule Niederrhein, Germany); Michael Meuleners (Hochschule Niederrhein University of Applied Sciences, Germany); Sabine Hommen (Hochschule Niederrhein, Germany); Christoph Degen (Hochschule Niederrhein University of Applied Sciences, Germany)

THUR.2.64 System Level Evaluation for Vehicular MIMO Antennas in Simulated and Measured Channels

Adrian Posselt (BMW Group Research and Technology & Leibniz University Hannover, Germany); Levent Ekiz (BMW Group Research and Technology, Germany); Oliver Klemp (BMW Group Research and Technology, Germany); Bernd Geck (Leibniz Universität Hannover, Germany); Christoph F Mecklenbräuker (Vienna University of Technology, Austria)

THUR.2.65 AF Relaying Scheme for Multiple Relays- Cooperative-Turbo Coded System

Hakim Tayakout (Research Center & National Polytechnic School enp, Algeria); Khalida Ghanem (Advanced Technologies Center (CDTA), Algeria); Hicham Bousbia (Ecole Nationale Polytechnique, Algeria)

THUR.2.66 Assessing Realistic Gains of Massive MIMO

Jocelyn Y. K. Aulin (Huawei Technologies Sweden AB, Sweden); Mattias Gustafsson (Huawei Technologies Sweden AB, Sweden)

THUR.2.67 Modeling Three Different Types of Multipath Components for Mobile Radio Channel

Wei Wang (German Aerospace Center (DLR), Germany); Jost Thomas (German Aerospace Center (DLR), Germany); Uwe-Carsten G. Fiebig (German Aerospace Center (DLR), Germany); Christian Gentner (German Aerospace Center (DLR), Germany)

THUR.2.107 ***Measurement on S-band Radio Propagation Characteristics for Unmanned Aircraft Systems***

Kenichi Takizawa (National Institute of Information and Communications Technology, Japan); Fumie Ono (National Institute of Information and Communications Technology, Japan); Mikio Suzuki (National Institute of Information and Communications Technology, Japan); Hiroyuki Tsuji (NICT, Japan); Ryu Miura (NICT, Japan)

Ultra-Wideband Antennas and Time-Domain Techniques

Room: Poster area 2

THUR.2.68 A Novel 1 Decade Super Wideband UHF Antenna for GPR and Impulse Radio Applications

D Tran (IRCTR & TU Delft, The Netherlands); Vasiliki Paraforou (Delft University of Technology, The Netherlands); Alexander Yarovoy (TU Delft, The Netherlands)

THUR.2.69 Detection of Breathing and Heartbeat by Using a Simple UWB Radar System

Qiuchi Jian (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Yinan Yu (Chalmers University of Technology, Sweden); Peter Björkholm (The Institute of Micro and Nanotechnology, Sweden); Tomas McKelvey (Chalmers University of Technology, Sweden)

THUR.2.70 Model Pulses in the TD Design of UWB Wireless Signal Transfer Systems

Ioan E. Lager (Delft University of Technology, The Netherlands); Adrianus T De Hoop (Delft University of Technology, The Netherlands); Takamaro Kikkawa (Hiroshima University,

THUR.2.71 A Novel Band-Reject UWB Antenna with Stable Radiation Pattern

Mohammadreza Khorshidi (Shahed University, Iran); Gholamreza Dadashzadeh (Shahed University, Iran); Hamid Reza Hassani (Shahed University, Iran)

THUR.2.72 Dual-polarized Antenna Set Based on Skewed Elliptic Dipoles for UWB Handheld Applications

Paul Unterhuber (TU Graz, Austria); Ivan Russo (Graz University of Technology, Austria); Thomas Gigl (Maxim Integrated GmbH, Austria); Erich Leitgeb (TUG, Austria); Gerhard Schultes (Maxim Integrated GmbH, Austria); Wolfgang Boesch (Graz University of Technology & Institute of Microwave and Photonic Engineering, Austria)

THUR.2.73 Efficient Method for Estimation of the Thicknesses and Complex Dielectric Constant of Wall

Foad Fereidoony (Ms. in K. N. Toosi University of Technology, Tehran, Iran); Somayyeh Chamaani (K. N. Toosi Univerity, Iran); Mohammad ali Sebt (K. N. Toosi University of Technology, Tehran, Iran); Abdullah Mirtaheri (K. N. Toosi University, Iran)

THUR.2.74 3D Printed Miniaturized UWB Antenna for Wireless Body Area Network

Ernesto Canelon (Carlos III Institute of Technology, Spain); Aida Lopez (Politecnica de Madrid Institute of Technology, Spain); Rohit Chandra (Lund University, Sweden); Anders Johansson (Lund University, Sweden)

THUR.2.75 A Compact Multiple Band-Notched Planer Antenna with Enhanced Bandwidth Using Parasitic Strip Lumped Capacitors and DGS-Technique

Ahmed Boutejdar (University of Magdeburg, Germany); Ahmed Abdelmonem (Elminia, Egypt)

THUR.2.76 A Compact Ultra-Wideband Spiral Helix Antenna for In-Body Communications

Ali Khaleghi (K. N. Toosi University of Technology, Iran); Ilangko Balasingham (Norwegian University of Science & Technology & Oslo University Hospital, Norway); Abbas Vosoogh (K. N. Toosi University of Technology, Iran)

THUR.2.78 Coplanar Waveguide Fed Ultra-Wideband Antenna Over the Planar and Cylindrical Surfaces

Rafal Lech (Gdansk University of Technology, Poland); Wojciech Marynowski (Gdańsk University of Technology, Poland); Adam Kusiek (Gdansk University of Technology, Poland)

THUR.2.79 Design and Simulation of an Equiangular Spiral Antenna for Extremely High-Frequencies

Marian Bogdan Sirbu (Fraunhofer IZM, Germany); Tolga Tekin (Technische Universität Berlin & Fraunhofer IZM, Germany); David Pouhè (Reutlingen University, Germany)

THUR.2.80 Equivalent Circuit Model of a Self-Complementary Connected Array Antenna

Stefan Varault (Institut Mines-Telecom, Telecom ParisTech, France); Anne-Claire Lepage (Institut Mines-Telecom, Telecom ParisTech, France); Michel Soiron (SART, France); Xavier Begaud (Institut TELECOM, TELECOM ParisTech, France)

THUR.2.81 Low Profile UWB Antenna for Wireless Body Area Networks

Andela Zaric (IT/IST - University of Lisbon, Portugal); Jorge R. Costa (Instituto de Telecomunicações / ISCTE-IUL, Portugal); Carlos A. Fernandes (Instituto de Telecomunicacoes, Instituto Superior Tecnico, Portugal)

Best Paper Posters

Room: Poster area 3

Multiband, Wideband, Electrically Small and Dielectric Resonator Antennas

Room: Poster area 4

THUR.4.82 A Differentially-Fed Four-Port Printed Antenna for High Throughput Transmitters At 60 GHz

Hamouda Cherif (ESYCOM, France); Jean-Marc Laheurte (Université de Paris Est Marne La Vallée (UPEMLV), France); Martine Villegas (ESYCOM ESIEE-Paris, France); Benoit Poussot (Université Paris-Est, France)

THUR.4.83 Printed Folded Meander Line Dual-Band Monopole for TV White Space and GSM

Abraham Loutridis (Dublin Institute of Technology & CTVR-Telecommunications Research Centre, Ireland); Matthias John (Trinity College Dublin & Dublin Institute of Technology, Ireland); Max James Ammann (Dublin Institute of Technology, Ireland)

THUR.4.84 A Complete Study of Flexible Antennas in Near Field and Far Field

Elodie Georget (Aix Marseille University, France); Redha Abdeddaim (Aix Marseille University, France); Pierre Sabouroux Pierre Sabouroux (Institut Fresnel, France)

THUR.4.85 A Multi-band Smart Skin Antenna Design for Flight Demonstration

Minsung Kim (Agency for Defense Development, Korea); Chan-Yik Park (Agency for Defense Development, Korea); Chang-Mn Cho (Agency for Defense Development, Korea); Seung-Moon Jun (Agency for Defense Development, Korea)

THUR.4.86 A Novel Supershaped Slot-Loaded Printed Dipole Antenna with Broadside Radiation for Dual-Band WLAN Applications

Vasiliki Paraforou (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Diego Caratelli (Delft University of Technology, The

THUR.4.87 A Planar Tri-Band Array Antenna

Shenario Ezhil Valavan (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Alexander Yarovoy (Delft University of Technology, The

THUR.4.88 Bent Antipodal Vivaldi Antenna

Anthony Presse (University of Rennes1, France); Jean-marie Floch (IETR, France); Anne-Claude Tarot (University of Rennes 1, France); Christophe Camus (Section Technique de l'Armée de Terre, France)

THUR.4.89 High Gain Compact Microstrip Antenna with Defected Ground Structure for GPS/WiMAX Applications

Binod Kanaujia (Ambedkar Institute of Technology, Delhi, India); Mukesh Khandelwal (Indian School of Mines Dhanbad & Ambedkar Institute of Advanced Communication Technologies & Research, Delhi, India); Santanu Dwari (Indian School of Mines, India); Sachin Kumar (Ambedkar Institute of Technology, India)

THUR.4.90 Modified Wideband Planar Inverted-F Antenna with Double Shorting Stubs for Portable Devices

Hassan Tariq Chattha (University of Engineering & Technology Lahore Faisalabad Campus, Pakistan); Muhammad Nasir (University of Engineering & Technology Lahore Faisalabad Campus, Pakistan); Yi Huang (University of Liverpool, United Kingdom); Saqer S. Alja'afreh (University of Liverpool, United Kingdom); Abubakar Sharif (GC University

THUR.4.91 Multiband Metamaterial-Inspired Antenna

Esthelladi Ramanandraibe (Radio-Frequency and Microwave Research Group, IETR-ESEO Angers, France); Mohamed Latrach (Radio-Frequency and Microwave Research Group, IETR-ESEO, Angers & ESEO, Graduate School of Engineering, France); Ala Sharaiha (Université de Rennes 1 & IETR, France)

THUR.4.92 Multi-band Multi-Antenna System with New Approach of PIFA Bandwidth Enhancement

Rafik Addaci (IFSTTAR, LEOST, France); Fabien Ferrero (CREMANT, Université Nice-Sophia Antipolis & CREMANT CNRS, France); Divitha Seetharamdoo (IFSTTAR, LEOST & Univ Lille Nord de France, France); Le Huy Trinh (University of Nice Sophia Antipolis, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France)

THUR.4.93 Multi-Objective Design of Antenna Structures Using Variable-Fidelity EM Simulations and Co-Kriging

Slawomir Koziel (Reykjavik University, Iceland); Stanislav Ogurtsov (Reykjavik University, Iceland); Ivo Couckuyt (Ghent University, Belgium); Tom Dhaene (Ghent University,

THUR.4.94 On-board Printed Handset Antenna with Coupled Monopoles

Muhammad Babar, Abbasi (NUST-SEECS, Islamabad, Pakistan); Saleem Shahid (National University of Sciences and Technology, Islamabad & SEECS, Pakistan); Muhammad Rizwan (NUST - SEECS, Pakistan); Munir Ahmad Tarar (National University of Sciences and Technology, Pakistan); Syed Muzahir Abbas (Supervisor, Pakistan)

THUR.4.95 Compact Wideband Antenna for TV White Spaces

Jan E. Bauer (Fraunhofer Institut Integrierte Schaltungen IIS, Germany); Mario Schühler (Fraunhofer Institute for Integrated Circuits IIS, Germany)

THUR.4.96 Propagation Study and Antenna Design for Wireless Sensor Networks in Train Environment

Sergio Arianos (Istituto Superiore Mario Boella (ISMB), Italy); Gianluca Dassano (Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Mario Orefice (Politecnico di Torino, Italy); Franco Lambertino (SKF Industrie S.p.A., Italy); Mario Rossi (SKF Industrie S.p.A., Italy)

THUR.4.97 Design of a Compact UWB Rectangular Dielectric Resonator Antenna Using a Simple Structure

Mohammad AbedianKasgari (Wireless Communication Centre, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Sharul Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Shadi Danesh (Wireless Communication Centre, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia)

THUR.4.98 Flexible and Stretchable UHF RFID Tag Antennas for Automotive Tire Sensing

Shuai Shao (The Ohio State University, USA); Asimina Kiourti (The Ohio State University, USA); Robert Burkholder (Ohio State University, USA); John L. Volakis (Ohio State

THUR.4.99 Multi-Standard Miniature Antenna for Smart Wireless Handheld Devices Application

Rafik Addaci (IFSTTAR, LEOST, France); Divitha Seetharamdoo (IFSTTAR, LEOST & Univ Lille Nord de France, France); Le Huy Trinh (University of Nice Sophia Antipolis, France); Fabien Ferrero (CREMANT, Université Nice-Sophia Antipolis & CREMANT CNRS, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Marion Berbineau (IFSTTAR, LEOST & University Lille Nord de France, France)

THUR.4.100 An Electrically Small Normal-mode Helical Antenna with Capacitive Coupling Feed

Jiang Xiong (University of Electronic Science and Technology of China, P.R. China); Lidong Huang (University of Electronic Science and Technology of China, P.R. China); Yufeng Yu (China Jiangnan Electronics Communication Institude, P.R. China)

THUR.4.101 Miniaturization of Omnidirectional Circularly Polarized Antennas

Adam Narbudowicz (Trinity College Dublin, Ireland); Xiu Long Bao (Dublin Institute of Technology, Ireland); Max James Ammann (Dublin Institute of Technology, Ireland)

THUR.4.102 Analysis of Harrington Limit for Electrically Small Antenna Directivity

Mélusine Pigeon (IETR & Université de Rennes1, France); Antonio Clemente (CEA-LETI Minatec, France); Christophe Delaveaud (CEA-LETI, France); Lionel Rudant (CEA-LETI &

THUR.4.103 A Frequency Reconfigurable Dielectric Resonator Antenna Using Controllable Air Gaps

Thomas Apperley (University of Calgary, Canada); Michal Okoniewski (University of Calgary, Canada)

THUR.4.104 Experimental Investigations of an Omni-directional Dielectric Resonator Antenna for UWB Systems

Idris Messaoudene (University of Constantine 1, Algeria); Tayeb A. Denidni (INRS-EMT, Canada); Abdelmadjid Benghalia (University of Constantine 1, Algeria)

THUR.4.105 CPW-Fed Cylindrical Dielectric Resonator Antenna Perturbed by a Thin Layer Dielectric-Metal Structure

Maria Castillo Solis (University of Manchester, United Kingdom); Zhipeng Wu (University of Manchester, United Kingdom); Cheng-Guo Liu (Wuhan University of Technology, P.R.

THUR.4.106 The Effects of a Triple-Junction Solar Cell on a Dielectric Resonator Antenna

Vernon Davids (Cape Peninsula University of Technology, South Africa); Robert Lehmensiek (Cape Peninsula University of Technology & Cape Peninsula University of Technology,

15:00 - 15:40

Advanced Applications
Session type: Invited
Application track: Defense & Security
Room: Amazon
Chairs: J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom), Werner Wiesbeck (Karlsruhe Institute of Technology, Germany)

15:40 - 16:20
Advanced Applications
Session type: Invited
Application track: Multiple Applications
Room: Amazon
Chairs: J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom), Werner Wiesbeck (Karlsruhe Institute of Technology, Germany)

15:40 ***Resonant Optical Antennas***
Jean-Jacques Greffet (Institut d'Optique & CNRS, Université Paris Sud, France)

15:00 - 15:40
Antenna Measurements (AMTA)
Session type: Invited
Application track: Multiple Applications
Room: Mississippi
Carlo Rizzo (Antenna Systems Solutions, United Kingdom), Olav Breinbjerg (Technical University of Denmark, Denmark)

15:00 ***Technology-Based Analysis of Probe Array Systems for Rapid Near-Field Imagery and Dosimetry***
Jean-Charles Bolomey (Supelec Université de Paris Sud XI, France)

15:40 - 16:20
Antenna Measurements (AMTA)
Session type: Invited
Application track: Multiple Applications
Room: Mississippi
Carlo Rizzo (Antenna Systems Solutions, United Kingdom), Olav Breinbjerg (Technical University of Denmark, Denmark)

15:40 ***Quality Factor for Lossy and Lossless Antennas***
Arthur D Yaghjian (Research Consultant, USA); Mats Gustafsson (Lund University, Sweden); Lars Jonsson (Royal Institute of Technology (KTH), Sweden)

16:20 - 16:40
Coffee Break
Room: Exhibition Foyer

16:40 - 18:20
Nano Antennas
Session type: Regular
Application track: Fundamental Research
Room: Amazon
Chairs: Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland), Khalid Rajab (Queen Mary University of London, United Kingdom)

16:40 ***A Circuit Model for Reconfigurable Graphene Plasmonic Dipoles***
Michele Tamagnone (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

17:00 ***An N-Port Network Model for Nanoantennas***
Xuezhi Zheng (Katholieke Universiteit Leuven, Belgium); Sen Yan (KU Leuven, Belgium); Niels Verellen (Katholieke Universiteit Leuven, Belgium); Vladimir Volski (KU Leuven, Belgium); Pol Van Dorpe (Imec, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Victor V. Moshchalkov (Katholieke Universiteit Leuven, Belgium)

17:20 ***Computational Analysis of a Spiral Thermoelectric Nanoantenna for Solar Energy Harvesting Applications***
Edgar Briones (University of San Luis Potosi, Mexico); Francisco J González (University of San Luis Potosi, Mexico)

17:40 ***Contact-less RF and Optical Measurement of Antenna Array Active Impedance Using Scattering Data***
Zeev Iluz (Tel Aviv University & CST AG, Israel); Amir Boag (Tel Aviv University, Israel)

18:00 ***Study of Far Field Characteristics of Nano Dipoles Above a Realistic Substrate***
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Zhongkun Ma (Katholieke Universiteit Leuven, Belgium); Xuezhi Zheng (Katholieke Universiteit Leuven,

16:40 - 18:20
Scattering, Diffraction and RCS
Session type: Regular
Application track: Fundamental Research
Room: Mississippi
Chair: Manuel Sierra-Castañer (Universidad Politécnica de Madrid, Spain)

16:40 ***An Efficient Iterative Physical Optics Algorithm for the Analysis of Electrically Large Scatterers***
Giorgio Carluccio (University of Siena, Italy); Matteo Albani (University of Siena, Italy); Luca Pandolfo (IDS Ingegneria Dei Sistemi S. p. A, Italy); Paolo De Vita (IDS Ingegneria Dei Sistemi S. p. A, Italy); Mauro Bandinelli (IDS Ingegneria Dei Sistemi S. p. A, Italy)

17:00 ***Microwave Analysis and Experimentation for Improved Backscatter Radio***
Stylianos D. Assimonis (Technical University of Crete, Greece); Eleftherios Kabianakis (TUC, Greece); Aggelos Bletsas (Technical University of Crete, Greece)

17:20 ***Ray Tracing Algorithm for Multiple Reflection and Diffraction Centers***
Giorgio Carluccio (University of Siena, Italy); Federico Puggelli (University of Siena, Italy); Matteo Albani (University of Siena, Italy)

17:40 ***Verification of the PMCHWT-CBFM for Scattering Analysis of a Microstrip Array Antenna***

Tai Tanaka (Mitsubishi Electric Corporation, Japan); Yasuhiro Nishioka (Mitsubishi Electric Corporation, Japan); Yoshio Inasawa (Mitsubishi Electric Corporation, Japan); Hiroaki Miyashita (Mitsubishi Electric Corporation, Japan)

18:00 ***VHF Omnidirectional Radio Range and Rotating Wind Turbines - A Review on a Timely Topic***

Björn Neubauer (Technische Universität Braunschweig, Germany); Georg Zimmer (Technische Universität Braunschweig, Germany); Robert Geise (Technische Universität

16:40 - 18:20

Electromagnetic Theory and Numerical Techniques

Session type: Regular

Application track: Biomedical

Room: Asia

Chairs: Huib J. Visser (IMEC Netherlands, The Netherlands), Peter Zwamborn (TNO Defence Security and Safety, The Netherlands)

16:40 ***Combination of DG-FDTD with a Substitution Model for Calculating Local Dosimetry in a Variable and Highly Multiscale Problem***

Guelilia Zakaria (IETR INSA Rennes, France); Renaud Loison (IETR & INSA, France); Raphael Gillard (IETR & INSA, France)

17:00 ***Design of a Novel Compact Printed Folded Dipole Antenna for Biomedical Applications***

Sofia Bakogianni (University of Patras, Greece); Stavros Koulouridis (University of Patras, Greece)

17:20 ***Mixed Discretization Formulations for the Direct EEG Problem***

Lyes Rahmouni (Ecole Nationale Superieure des Telecomunications de Bretagne, France); Francesco Andriulli (Ecole Nationale Superieure des Telecomunications de Bretagne,

17:40 ***Safe and Efficient Design of the Shelf Antenna in an RFID-based Library Management System***

Ioannis Markakis (Aristotle Uniersity of Thessaloniki, Greece); Theodoros Samaras (Aristotle University of Thessaloniki, Greece); Anastasis C Polycarpou (University of Nicosia, Cyprus); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

18:00 ***Exposure of Cells to Electric Fields: Numerical Analysis with a Volume-Integral-Equation Approach***

Juan Vanegas-Acosta (Eindhoven University of Technology, The Netherlands); Vito Lancellotti (Eindhoven University of Technology, The Netherlands); Peter Zwamborn (TNO Defence Security and Safety, The Netherlands)

16:40 - 18:20

Multiband and Wideband Antennas

Session type: Regular

Application track: Cellular Networks

Room: Yangtze 1

Chairs: Kenneth Lee Ford (University of Sheffield, United Kingdom), A. Shitvov (Queen's University Belfast, United Kingdom)

16:40 ***A High-Efficient 3-D Nefer-Antenna for LTE Communication on a Car***

Iuliia Goncharova (University of the Bundeswehr, Munich, Germany); Stefan Lindenmeier (Universität der Bundeswehr, Germany)

17:00 ***Compact Multi-band Planar Monopole Antenna for LTE Terminals***

Thanh Nga Mai (Mines-Telecom Paristech, France); Anne-Claire Lepage (Institut Mines-Telecom, Telecom ParisTech, France); Bernard Huyart (Institut Mines Telecom, Telecom ParisTech, France); Yenny C Pinto (Institut Mines Telecom, Telecom ParisTech, France)

17:20 ***Compact, Wideband and Low Profile Planar Inverted-L Antenna***

Saqer S. Alja'afreh (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Lei Xing (University of Liverpool, United Kingdom)

17:40 ***Effect of Antenna Q to the Radiation Efficiency of Tunable Antennas***

Jussi Rahola (Optenni Ltd, Finland)

18:00 ***On Designing Dual-Band Matching Circuits for Capacitive Coupling Element Antennas***

Anu Lehtovuori (Aalto University & School of Electrical Engineering, Finland); Risto Valkonen (Christian-Albrechts-Universität zu Kiel, Germany); Janne Ilvonen (Aalto University School of Electrical Engineering, Finland)

16:40 - 18:20

Propagation for Small Cell Deployment

Session type: Convened

Application track: Cellular Networks

Room: Yangtze 2

Chairs: Yvo de Jong (Communications Research Centre Canada, Canada), Rodney Vaughan (Simon Fraser University, Canada)

16:40 ***Experimental Characterization of Building Shadowing and Exit Loss in a Small-Cell Environment At 700, 2600 and 4900 MHz***

Yvo de Jong (Communications Research Centre Canada, Canada); Pierre Bouchard (Communications Research Centre Canada, Canada); Gerald Shewan (Communications Research Centre Canada, Canada)

17:00 ***3D Propagation and Environment Modeling for NLOS Wireless Small-cell Backhaul***

Florian Letourneux (Siradel, Canada); Sylvain Guivarch (SIRADEL, Canada); Yves Lostanlen (SIRADEL & University of Toronto, Canada)

17:20 ***An Outdoor-to-Indoor Propagation Scenario At 28GHz***

Christina Larsson (Ericsson Research & Ericsson AB, Sweden); Fredrik Harrysson (Ericsson Research, Sweden); Bengt-Erik Olsson (Ericsson AB, Sweden); Jan-Erik Berg (Ericsson

17:40 ***Multiport Antenna Performance Analysis From Ray-Traced Channels for Small Cells***

Maryam Dehghani Estarki (Simon Fraser University, Canada); Jane X. Yun (Simon Fraser University, Canada); Yvo de Jong (Communications Research Centre Canada, Canada); Rodney Vaughan (Simon Fraser University, Canada)

18:00 ***Spectrum Options for Wireless Backhaul of Small Cells***

Rodney Vaughan (Simon Fraser University, Canada)

16:40 - 18:20

Non-uniform Arrays - from Concepts to Implementation

Session type: Convened

Application track: Space

Room: Africa

Chairs: Ioan E. Lager (Delft University of Technology, The Netherlands), Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy)

16:40 ***A Review of High Performance Ultra-Wideband Antenna Array Layout Design***

Douglas H Werner (Pennsylvania State University, USA); Micah Gregory (The Pennsylvania State University, USA); Pingjuan Werner (Pennsylvania State University, USA)

17:00 ***Enhancing Compressive-Sensing Performances in the Synthesis of Maximally Sparse Arrays***

Andrea Francesco Morabito (University Mediterranea of Reggio Calabria, Italy); Antonia Rita Laganà (University of Reggio Calabria, Italy); Tommaso Isernia (University of Reggio

17:20 ***Sparse Array Antennas for Satellite Mobile Terminals***

Maria Carolina Vigano (Viasat Antenna Systems SA, Switzerland); Stefano Vaccaro (JAST SA, Switzerland); Daniel Llorens del Río (JAST, Switzerland)

17:40 ***Non-Regular Array Solutions Assessed From Industrial Point of View***

Gerard Caille (Thales Alenia Space France, France); Etienne Girard (Thales Alenia Space, France)

18:00 ***Sparse Array Antennas with Optimized Elements Positions and Dimensions***

Piero Angeletti (European Space Agency, The Netherlands); Giovanni Toso (European Space Agency, The Netherlands); Gianfranco Ruggerini (TeS Teleinformatica e Sistemi (A Space Engineering Company), Italy)

16:40 - 18:20

Dielectric Resonator Antennas

Session type: Regular

Application track: Multiple Applications

Room: Antarctica

Chairs: Yahia Antar (Royal Military College of Canada, Canada), Raphael Gillard (IETR & INSA, France

16:40 ***A Dual-Band Circular-Polarized Dielectric Loaded Antenna (DLA)***

Zhijiao Chen (Queen Mary University of London, United Kingdom); Clive Parini (Queen Mary University of London, United Kingdom)

17:00 ***A Hybrid Dielectric Resonator Antenna with Polarization-Agility and Wideband Operation***

Symon K Podilchak (Queen's University & Royal Military College of Canada, Canada); Michel Clénet (Defence R&D Canada, Canada); Yahia Antar (Royal Military College of Canada,

17:20 ***A Notched Dielectric Resonator Antenna Unit-Cell for 60GHz Passive Repeater with Endfire Radiation***

Duo Wang (IETR, INSA de Rennes, France); Raphael Gillard (IETR & INSA, France); Renaud Loison (IETR & INSA, France)

17:40 ***Antenna Optimization Based on Artificial Neural Network***

Linh Ho Manh (Politecnico di Milano, Italy); Marco Mussetta (Politecnico di Milano & Politecnico di Torino, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy); Francesco Grimaccia (Politecnico di Milano, Italy); Paola Pirinoli (Politecnico di Torino, Italy)

18:00 ***Three Element Cylindrical Sector Dielectric Resonator Antenna for Wide Band Monopole-like Radiation***

Pinku Ranjan (Indian School of Mines, India); Ravi Kumar Gangwar (Indian School of Mines, India)

16:40 - 18:20

AMTA/EurAAP Imaging and Diagnostic Measurement Techniques and Algorithms

Session type: Convened

Application track: Defense & Security

Room: Europe 1

Chairs: Dirk Heberling (RWTH Aachen University, Germany), Laurent Le Coq (University of Rennes 1 & IETR, France)

16:40 ***Assessing and Quantifying the Effects of Planar Mathematical Absorber Reflection Suppression Technique***

Greg Masters (NSI, USA); Stuart Gregson (Nearfield Systems Inc. & Queen Mary, University of London, USA); Allen Newell (Nearfield Systems Inc., USA); Greg Hindman (Nearfield

17:00 ***Failures Identification in a Linear Slot Array Using a Sparse Recovery Technique***

Marco Donald Migliore (University of Cassino, Italy); Sandra Costanzo (University of Calabria, Italy); Antonio Borgia (University of Calabria, Italy); Daniele Pinchera (University of Cassino & University of Naples, Federico II, Italy); Giuseppe Di Massa (University of Calabria, Italy)

17:20 ***High Precision Antenna Characterisation for Broadband Synthetic Aperture Radar Processing***

Marc Jäger (German Aerospace Center (DLR), Germany); Bernd Gabler (German Aerospace Center (DLR), Germany); Andreas Reigber (German Aerospace Center (DLR), Germany)

17:40 ***Very High-Resolution Three-Dimensional Imaging of Natural Environments Using a Tomographic Ground-Based SAR System***

Laurent Ferro-Famil (University of Rennes 1, France); Stefano Tebaldini (Politecnico di Milano, Italy); Matthieu Davy (University of Rennes 1, Italy); Cécile Leconte (University of Rennes 1, France); Frederic Boutet (IETR, France)

18:00 ***Near-Field 3D-RCS Measurement Simulation: Antenna Pattern Issues***

Pierre Massaloux (CESTA, France); Genevieve Maze merceur (CEA, France)

16:40 - 18:20

Lens Antennas & Radomes

Session type: Regular

Application track: Multiple Applications

Room: Central America

Chairs: Ronan Sauleau (University of Rennes 1, France), Maarten van der Vorst (European Space Agency, The Netherlands)

16:40 ***Design and Performance Evaluation of a Dielectric Flat Lens for Millimeter-Wave Applications***

Marc Imbert (Universitat Politècnica de Catalunya, Spain); Anna Papio Toda (University of California, Irvine, USA); Franco De Flaviis (University of California, Irvine, USA); Luis Jofre (UPC, Spain); Jordi Romeu (Universitat Politècnica de Catalunya, Spain)

17:00 ***Generalized Admittance Matrix Method for Fast Full-Wave Analysis of Integrated Lens Antennas***

Erik Jørgensen (TICRA, Denmark); Peter Meincke (TICRA, Denmark); Andrea Neto (Delft University of Technology, The Netherlands); Nuria LLombart (Delft University of

17:20 ***Investigation of the Radiation Characteristics of the Leaky-Lens Antenna for Small Dielectric Lenses***

Ozan Yurduseven (Delft University of Technology, The Netherlands); Daniele Cavallo (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

17:40 ***Light and Cheap Flat Foam-Based Luneburg Lens Antenna***

Jonathan Bor (IETR - University of Rennes 1, France); Olivier Lafond (IETR, France); Benjamin Fuchs (University of Rennes 1 - IETR, France); Hervé Merlet (Canon CRF, France); Philippe Le Bars (Canon CRF, France); Mohamed Himdi (Université de Rennes 1, France)

18:00 ***Prediction by Simulation of Electromagnetic Impact of Radome on Typical Aircraft Antenna***

Alexandre Piche (EADS France, France); Gerard-Pascal Piau (EADS CCR, France); Christophe Bernus (Airbus France, France); Franck Campagna (Airbus France, France); Dominique Balitrand (SERMA Ingénierie, France)

16:40 - 18:20

MIMO, Antenna Diversity, Smart and Signal Processing Antennas

Session type: Regular

Application track: Multiple Applications

Room: North America

Chairs: Dirk Manteuffel (University of Kiel, Germany), Hendrik Rogier (Ghent University, Belgium)

16:40 ***A Cooperative Antenna Selection Algorithm for MIMO-OFDMA Networks***

Panagiotis Gkonis (National Technical University of Athens, Greece); Nikolaos Asimakis (National Technical University of Athens, Greece); Maria Seimeni (National Technical University of Athens, Greece); Dimitra I Kaklamani (National Technical University of Athens, Greece); Iakovos S. Venieris (National Technical University of Athens, Greece); Christos Papavassiliou (Imperial College London, United Kingdom)

17:00 ***Diversity Antenna with Electronically Switchable Wide / Narrow Band for Cognitive Radio Systems***

Gijo Augustin (National Institute of Scientific Research (INRS), Canada); Bybi Chacko (National Institute of Scientific Research (INRS), Canada); Tayeb A. Denidni (INRS-EMT,

17:20 ***Estimation of the Orbital Angular Momentum Order Using a Vector Antenna in the Presence of Noise***

Cheikh Diallo (ENAC and CNES, France); Duy Kevin Nguyen (Université de Toulouse UPS INPT LAPLACE CNRS & CNES, France); Alexandre Chabory (ENAC, France); Nicolas Capet

17:40 ***Localizing Living Body Using Bistatic MIMO Radar in Multi-path Environment***

Dai Sasakawa (Iwate University, Japan); Keita Konno (Iwate University, Japan); Naoki Honma (Iwate University, Japan); Kentaro Nishimori (Niigata University, Japan); Tsutomu Mitsui (SAMSUNG R&D INSTITUTE JAPAN CO. LTD., Japan); Nobuyasu Takemura (SAMSUNG R&D INSTITUTE JAPAN CO. LTD., Japan); Yoshitaka Tsunekawa (Iwate University,

18:00 ***Scan-Phase Antenna Diversity for Digital Satellite Radio (SDARS) in a Single Automotive Side Mirror***

Simon Senega (Universität der Bundeswehr, Germany); Johannes Kammerer (Universität der Bundeswehr, Germany); Stefan Lindenmeier (Universität der Bundeswehr,

16:40 - 18:20

Antenna Systems and Architectures

Session type: Regular

Application track: Space

Room: South America

Chairs: Eric Amyotte (MDA, Canada), Luca Salghetti Drioli (European Space Agency-ESTEC, The Netherlands)

16:40 ***A Quad-Mode Antenna for Accurate Polarimetric Measurements Over an Ultra-Wide Field-Of-View***

David Prinsloo (Stellenbosch University, South Africa); Petrie Meyer (Stellenbosch University, South Africa); Marianna Ivashina (Chalmers University of Technology, Sweden); Rob Maaskant (CHALMERS, Sweden)

17:00 ***A Q/V-band Antenna for Feeder Link Applications***

Paolo Proietti Zolla (HPS GmbH, Germany); Norbert Nathrath (NTP, Germany); Christoph Noeldeke (Tesat-Spacecom GmbH & CO. KG, Germany); Marco Formaggi (Cobham Technical Services, United Kingdom); Glafkos Philippou (Cobham Technical Services, United Kingdom); Christoph Tschepe (INVENT GMBH, Germany); Nelson Fonseca (European

17:20 ***Calibration of the TM/TE Modes in Metasurface Antennas***

Francesco Caminita (University of Siena, Italy); Rodolfo Ravanelli (Thales Alenia Space Italy SpA, Italy); Stefano Maci (University of Siena, Italy)

17:40 ***Novel Dual-Band Single Circular Polarization Antenna Feeding Network for Satellite Communications***

Carlos A Leal-Sevillano (Universidad Politecnica de Madrid, Spain); Jorge A Ruiz-Cruz (Universidad Autonoma de Madrid & Escuela Politecnica Superior, Spain); Jose Ramon Montejo-Garai (Universidad Politecnica de Madrid, Spain); Jesus Maria Rebollar (Universidad Politecnica de Madrid, Spain)

18:00 ***Tunable Antenna System for Plug&Play Satellite Avionics: Prototyping and Test***

Gaetano Marrocco (University of Rome Tor Vergata, Italy); Giovannni Galgani (IDS, Italy); Andrea Giacomini (SATIMO, Italy); Cecilia Occhiuzzi (University of Rome "Tor Vergata", Italy); Luca Piazzon (University of Roma Tor Vergata, Italy); Paolo Colantonio (University of Roma Tor Vergata, Italy); Marco Sabbadini (Esa Estec, The Netherlands); Gabriele Scozza (IDS, Italy); Maria Alberica Saporetti (SATIMO, Italy)

13:30 - 15:00

EurAAP WG 7: Small Antennas Meeting

Session type: EurAAP WG Meeting

Room: Oceania

15:00 - 15:40

ITU-R Propagation Workshop

Session type: Scientific Workshop

Room: Oceania

16:40 - 18:20

ITU-R Propagation Workshop

Session type: Scientific Workshop

Room: Oceania

14:00 - 15:00

TICRA Workshop

Session type: Industrial Workshop

Room: Europe 2

Friday, April 11

09:00 - 10:40

Millimetre-Wave, Submillimetre-Wave and TeraHertz Antennas

Session type: Regular

Application track: Multiple Applications

Room: Amazon

Chairs: Nuria LLombart (Delft University of Technology, The Netherlands), Michael Lumholt (TICRA, Denmark)

09:00 ***A Finite Element Eigenanalysis of Electrically Large THz and Photonic Structures***

Constantinos Zekios (Democritus University of Thrace, Greece); Petros Allilomes (Democritus University of Thrace, Greece); Michael Chryssomallis (Democritus University of Thrace, Greece); Panagiotis Gkonis (National Technical University of Athens, Greece); Iakovos S. Venieris (National Technical University of Athens, Greece); George Kyriacou

09:20 ***Distributed Power Absorbers in General Focusing Systems***

Beatriz Blázquez (Delft University of Technology, The Netherlands); Angelo Freni (University of Florence, Italy); Nuria LLombart (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

09:40 ***Dual Polarized Leaky Lens Antenna for THz Space Applications***

Nuria LLombart (Delft University of Technology, The Netherlands); Ozan Yurduseven (Delft University of Technology, The Netherlands); Jochem Baselmans (SRON, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

10:00 ***Flat Corrugated Antennas in the THz***

Unai Beaskoetxea (Universidad Pública de Navarra, Spain); Miguel Beruete (Universidad Publica de Navarra, Spain); Amit Agrawal (Syracuse University, USA); Karine Blary (Lille University, France); Shuchang Liu (University of Utah, USA); Ajay Nahata (University of Utah, USA); Abdallah Chahadih (Lille University, France); Xiang-Lei Han (Lille University, France); Miguel Navarro-Cía (Imperial College London, United Kingdom); David Etayo (Public University of Navarra, Spain); Tahsin Akalin (Université de Lille 1, France); Mario Sorolla (Universidad Publica de Navarra, Spain); Mokhtar Zehar (Lille University, France); Víctor Torres (Universidad Publica de Navarra, Spain)

10:20 ***Frequency Discriminator of Terahertz Domain***

Rostyslav Dubrovka (Queen Mary, University of London, United Kingdom); Konstantin Vytovtov (Dnipropetrovsk National University, Ukraine)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Millimetre-Wave, Submillimetre-Wave and TeraHertz Antennas

Session type: Regular

Application track: Multiple Applications

Room: Amazon

Chairs: Nuria LLombart (Delft University of Technology, The Netherlands), Michael Lumholt (TICRA, Denmark)

11:00 ***Hybrid Strategy to Simulate Millimeter-Wave RADAR Devices for Automotive ADAS***

Erik Abenius (Efield AB, ESI Group Sweden, Sweden); Bo Strand (Efield AB, ESI Group, Sweden); Jean-Claude Kedzia (ESI Group, France)

11:20 ***Inter-CubeSat Communication with V-band "Bull's Eye" Antenna***

Clement Vourch (University of Glasgow, United Kingdom); Timothy Drysdale (University of Glasgow, United Kingdom)

11:40 ***Investigation of Localized Exposure System for Rabbit Eye At 40 GHz and 95 GHz***

Kensuke Sasaki (NICT, Japan); Jerdvisanop Chakarothai (NICT, Japan); Kanako Wake (National Institute of Information and Communications Technology, Japan); Soichi Watanabe (National Institute of Information and Communications Technology, Japan); Masami Kojima (Kanazawa Medical University, Japan); Hiroshi Sasaki (Kanazawa Medical University, Japan); Kazuyuki Sasaki (Kanazawa Medical University, Japan); Yukihisa Suzuki (Tokyo Metropolitan University, Japan); Masao Taki (Tokyo Metropolitan University, Japan)

12:00 ***Ultra-Wideband Dielectric Rod Waveguide Antenna as Photomixer-Based THz Emitter***

Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Sascha Preu (Friedrich Alexander Universität Erlangen-Nürnberg, Germany); Luis-Enrique Garcia-Muñoz (University Carlos III of Madrid, Spain); Andrey Generalov (Aalto University School of Electrical Engineering, Finland); Javier Montero-de-Paz (Universidad Carlos III de Madrid, Spain); Gottfried Döhler (Max Planck Institute for the Science of Light, Germany); Dmitri Lioubtchenko (Aalto University School of Electrical Engineering, Finland); Mario Méndez Aller (Universidad Carlos III de Madrid, Spain); Stefan Malzer (Max Planck Institute for the Science of Light, Germany); Daniel Segovia-Vargas (Universidad Carlos III de Madrid,

12:20 ***Ultra Wideband High Gain THz Plasmonic Antenna***

Shaker Alkaraki (University of Manchester, United Kingdom); Zhirun Hu (University of Manchester, United Kingdom)

09:00 - 10:40

Numerical Techniques in Electromagnetic Theory

Session type: Regular

Application track: Fundamental Research

Room: Mississippi

Chairs: Thomas F. Eibert (FGAN, Germany), Francesca Mioc (Consultant, Switzerland)

09:00 ***A Direct Hierarchical Multilevel Preconditioner for the Solution of Finite Element-Boundary Integral Equations***

Oliver Wiedenmann (Technische Universität München, Germany); Li Li (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München,

09:20 ***A New Method for Quadrilateral Meshing of Arbitrary Shaped Geometry Based on Meshing of Flat Polygons***

Branko Mrdakovic (WIPL-D, Serbia); Milan Kostic (WIPL-D d. o. o., Serbia); Dusan Zoric (WIPL-D, Serbia); Mladjen Stevanetic (WIPL-D, Serbia); Miodrag Tasic (University of Belgrade, Serbia); Branko Kolundzija (University of Belgrade, Serbia)

09:40 ***Applications of a Hierarchical Multiresolution Preconditioner to the CFIE***

Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Marco Righero (Istituto Superiore Mario Boella, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy)

10:00 ***Bringing Numerical Simulation and Antenna Measurements Together***

Lars Jacob Foged (Microwave Vision Italy, Italy); Lucia Scialacqua (SATIMO, Italy); Francesco Saccardi (SATIMO, Italy); Francesca Mioc (Consultant, Switzerland); Davide Tallini (Computer Simulation Technology, CST GmbH, Germany); Emmanuel Leroux (CST, Italy); Ulrich Becker (CST, Germany); Javier Leonardo Araque Quijano (Universidad Nacional de Colombia, Colombia); Giuseppe Vecchi (Politecnico di Torino, Italy)

10:20 ***Generalization of Loop-Star Approach for Adaptive MoM Analysis of Mixed Multiple Geometries of Metals, Dielectrics, Wires and Thin Material Sheets***

Faik G. Bogdanov (EMCoS, Georgia); Roman Jobava (EMCoS, Georgia); Anna Bzhalava (EMCoS, Georgia)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Numerical Techniques in Electromagnetic Theory

Session type: Regular

Application track: Fundamental Research

Room: Mississippi

Chairs: Thomas F. Eibert (FGAN, Germany), Francesca Mioc (Consultant, Switzerland)

11:00 ***Hybrid MoM/Mode-Matching Method for SIW Devices Housing Layered Dielectric Substrates***

Josip Seljan (University of Rennes 1, France); Guido Valerio (Université de Rennes 1, France); Massimiliano Casaletti (University of Rennes1, France); Karim Tekkouk (University of Rennes1, France); Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France); Ronan Sauleau (University of Rennes 1, France)

11:20 ***Improved Multilevel Fast Multipole Method for Higher-Order Discretizations***

Oscar Borries (Technical University of Denmark & TICRA, Denmark); Peter Meincke (TICRA, Denmark); Erik Jørgensen (TICRA, Denmark); Stig Sørensen (TICRA, Denmark); Per Christian Hansen (Technical University of Denmark, Denmark)

11:40 ***Nested Equivalent Source Approximation of Multiscale Structures***

Mengmeng Li (Nanjing University of Science and Technology, P.R. China); Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Deping Zheng (Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy); Rushan Chen (Nanjing University of Science and Technology, Italy)

12:00 ***Parallel, Distributed-Memory Computation of the Translation Operator in Three Dimensions***

Bart Michiels (Ghent University, Belgium); Ignace Bogaert (Ghent University, Belgium); Jan Fostier (Ghent University, Belgium); Daniel De Zutter (Ghent University, Belgium)

12:20 ***Spectral/Spatial Global Domain Basis Functions for the Description of Metasurfaces***

David González-Ovejero (Università degli Studi di Siena, Italy); Maddalena Violetti (University of Siena, Italy); Marco Faenzi (University of Siena, Italy); Marco Sabbadini (Esa Estec, The Netherlands); Stefano Maci (University of Siena, Italy)

09:00 - 10:40

Antennas & Propagation for Body Environments (supported by IC1004)

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Raffaele D'Errico (CEA, LETI, Minatec Campus, France), Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan)

09:00 ***A Statistical Characterization of Shadowed Device-to-Device Communications in an Indoor Environment***

Simon Cotton (Queen's University, Belfast, United Kingdom)

09:20 ***A 4D Immersive Platform to Visualize RF Propagation in BAN***

John Hagedorn (National Institute of Standards and Technology, USA); Kamran Sayrafian (NIST, USA); Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan); Judith Terrill (NIST, USA)

09:40 ***BAN Working Frequency: a Trade-Off Between Antenna Efficiency and Propagation Losses***

Luca Petrillo (Université Libre de Bruxelles, Belgium); Theodoros Mavridis (Université Libre de Bruxelles & Université Pierre et Marie Curie, Belgium); Julien Sarrazin (University of Pierre & Marie Curie UPMC, France); Jean-Michel Dricot (Université Libre de Bruxelles, Belgium); Aziz Benlarbi-Delaï (UPMC University Paris 06, France); Philipe De Doncker (ULB,

10:00 ***8-GHz Band Implantable UWB Communications for Wireless Brain-Machine Interfaces***

Kenichi Takizawa (National Institute of Information and Communications Technology, Japan); Hiroshi Ando (National Institute of Information and Communications Technology, Japan); Takafumi Suzuki (National Institute of Information and Communications Technology, Japan); Masayuki Hirata (Osaka University, Japan); Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan); Kojiro Matsushita (Osaka University, Japan)

10:20 ***Characterization of a Chip Antenna for 2.4 GHz in Proximity to Dielectric Material for Antenna De-Embedding of Body Area Networks***

Takahiro Aoyagi (Tokyo Institute of Technology & Graduate School of Decision Science and Technology, Japan); Jun-ichi Takada (Tokyo Institute of Technology, Japan); Minseok Kim (Tokyo Institute of Technology, Japan)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Antennas & Propagation for Body Environments (supported by IC1004)

Session type: Convened

Application track: Biomedical

Room: Asia

Chairs: Raffaele D'Errico (CEA, LETI, Minatec Campus, France), Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan), Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan)

11:00 ***Influence of the Environment on MIMO On-Body Communications***

Carla Oliveira (Technical University of Lisbon, Instituto Superior Tecnico & INOV - INESC, Portugal); Luis M. Correia (IST - University of Lisbon & INOV-INESC, Portugal)

11:20 ***The Body Area Network Channel Model: A New Look At Second-Order Statistics***

David B Smith (National ICT Australia, Australia); Leif W Hanlen (National ICT Australia & Australian National University, Australia)

11:40 ***Modelling of UWB Antenna Perturbed by Human Phantom in Spherical Harmonics Space***

Meriem Mhedhbi (University of Rennes 1, France); Stéphane Avrillon (Université de Rennes 1, France); Troels Pedersen (Aalborg University, Denmark); Bernard Uguen

12:00 ***FDTD Characterisation of On-Body Propagation Channels Adopting Statistically Shaped Subjects***

Khaleda Ali (School of Electronic Engineering & Computer Science Queen Mary University of London, United Kingdom); Alessio Brizzi (Queen Mary University of London, United Kingdom); Su-Lin Lee (Imperial College London, United Kingdom); Alice Pellegrini (Queen Mary, University of London, United Kingdom); Guang-Zhong Yang (Imperial College London, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

12:20 ***Characterization of the Body-Centric Propagation Channel At 60 GHz in the Presence of Textiles***

Anda Guraliuc (University of Rennes 1, France); Maxim Zhadobov (University of RENNES 1, France); Guido Valerio (Université de Rennes 1, France); Nacer Chahat (University of RENNES 1, France); Ronan Sauleau (University of Rennes 1, France)

09:00 - 10:40

Cellular Urban Propagation

Session type: Regular

Application track: Cellular Networks

Room: Yangtze 1

Chair: Thomas Kuerner (Braunschweig Technical University, Germany)

09:00 ***Automated Modelling of Realistic Multi-Storey Buildings and the Impact of Windows on Small Cell Propagation***

Dennis M. Rose (Technische Universität Braunschweig, Germany); Sören Hahn (Technische Universität Braunschweig & Institut für Nachrichtentechnik, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

09:20 ***Path Loss Model Comparison for LTE-Advanced Relay Backhaul Link in Urban Environment***

Jean-Marc Conrat (Orange Labs, France); Jean-Christophe Cousin (Telecom ParisTech, France); Issam Maaz (Orange Labs, France)

09:40 ***Path Loss Models in LOS Conditions for Relay Mobile Channels***

Issam Maaz (Orange Labs, France); Jean-Marc Conrat (Orange Labs, France); Jean Cousin (COMELEC, France)

10:00 ***Site Diversity Performance of Millimeter Wave Wireless Networks Against Localized Rain***

Hung V. Le (Tokyo Institute of Technology, Japan); Takuichi Hirano (Tokyo Institute of Technology, Japan); Jiro Hirokawa (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan)

10:20 ***Wave-Guide Effects in Urban Viaduct Propagation Channels for High-Speed Railway At 930 MHz***

Pengyu Liu (Beijing Jiaotong University, P.R. China); Ai Bo (Beijing Jiaotong University, P.R. China); David W Matolak (University of South Carolina, USA); Jian-wen Ding (Beijing Jiaotong University, P.R. China); Ruoyu Sun (University of South Carolina, USA); Yan Li (Beijing Jiaotong University, P.R. China)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Channel Measurements and Models for Cognitive Radio Applications

Session type: Convened

Application track: Multiple Applications

Room: Yangtze 1

Chairs: Tim Brown (University of Surrey, United Kingdom), Robert J Watson (University of Bath, United Kingdom)

11:00 ***A Research Vision on Cognitive Radio Filter-antennas***

Ali Ramadan (American University of Beirut, Lebanon); Joseph Costantine (California State University Fullerton & American University of Beirut- Electrical and Computer Engineering Department, USA); Youssef Tawk (The University of New Mexico & Notre Dame University Louaize, USA); Mohammed Al-Husseini (American University of Beirut, Lebanon); Christos Christodoulou (University of New Mexico, USA); Karim Youssef Kabalan (American University of Beirut, Lebanon)

11:20 ***Enhanced Algorithms for TV Whitespace Power Maximization***

Keith Briggs (BT Group, United Kingdom)

11:40 ***Modelling White Space Deployments Using a High Resolution Geolocation Database***

Nathan Dumont (University of Bath, United Kingdom); Robert J Watson (University of Bath, United Kingdom); Stephen Pennock (University of Bath, United Kingdom)

12:00 ***Polarisation Effects on Hidden Node Margin/Shadowing for TVWS Applications***

Tim Brown (University of Surrey, United Kingdom); Alejandro Aragon-Zavala (Tecnologico de Monterrey, Campus Queretaro & Real Wireless Ltd., Mexico)

12:20 ***A Three-Resolution UWB Frequency Reconfigurable Antipodal Vivaldi Antenna for Cognitive Radios***

Mounira Bitchikh (Advanced Technologies Development Centre (CDTA), Algeria); Farid Ghanem (Centre de Developpement des Technologies Avancees, Algeria)

09:00 - 10:40

OTA Measurements of Wireless Devices

Session type: Convened

Application track: Cellular Networks

Room: Yangtze 2

Chairs: Jan Carlsson (SP Technical Research Institute of Sweden, Sweden), Christian Lötbäck (Bluetest AB, Sweden)

09:00 ***Antenna Evaluation with Spatial Channel Models***

Doug Reed (Spirent Communications, USA); Ronald Borsato (Spirent Communications, USA); Alfonso Rodriguez-Herrera (Spirent Communications, USA)

09:20 ***Basic and Advanced MIMO OTA Testing of Wireless Devices Using Reverberation Chamber***

Christian Lötbäck (Bluetest AB, Sweden); Anton Skårbratt (Bluetest AB, Sweden); Charlie Orlenius (Bluetest AB, Sweden)

09:40 ***Comparing Throughputs of 2×2 Spatial Multiplexing MIMO Systems with and Without CSI At the Transmit Side in Rich Isotropic Multipath Environments***

Xiaoming Chen (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Mattias Gustafsson (Huawei Technologies Sweden

10:00 ***OTA Measurement of Wireless Devices with Single and Multiple Antennas in Anechoic Chamber***

Alessandro Scannavini (SATIMO, Italy); Nicolas Gross (SATIMO, France); Per Noren (Microwave Vision Group, Sweden); Lars Jacob Foged (Microwave Vision Italy, Italy)

10:20 ***Practical Active Antenna Evaluation Using the Two-stage MIMO OTA Measurement Method***

Moray Rumney (Agilent Technologies, United Kingdom); Hongwei Kong (Agilent, P.R. China); Ya Jing (Agilent Technologies, P.R. China)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Realism in Existing MIMO OTA Test Methods

Session type: Convened

Application track: Cellular Networks

Room: Yangtze 2

Chairs: Paul Hallbjörner (SP Technical Research Institute of Sweden, Sweden), David A Sánchez-Hernández (Universidad Politécnica de Cartagena, Spain)

11:00 ***Electronically Reconfigurable Reverberation Chambers***

Jon Wallace (Brigham Young University, USA); Rashid Mehmood (Brigham Young University, USA); Michael Jensen (Brigham Young University, USA)

11:20 ***MPS Results on LTE MIMO OTA 2013 Round Robin Tests***

Thomas Bolin (Sony Mobile Communications, Sweden); Miguel Mora Andreu (EMITE Ingenieria & EMITE Ingenieria, Spain); Dmytro Pugachov (Sigma Connectivity AB, Sweden); Paul Hallbjörner (SP Technical Research Institute of Sweden, Sweden)

11:40 ***On Spatial Characteristics of the Decomposition Method in MIMO OTA Testing***

Adam Tankielun (Rohde & Schwarz GmbH & Co. KG, Germany); Christoph von Gagern (Rohde & Schwarz GmbH & Co. KG, Germany)

12:00 ***Radio Channel Measurements in Live LTE Networks for MIMO Over-the-Air Emulation***

Pekka Kyösti (Anite Telecoms Oy, Finland); Pasi Kemppainen (Anite Telecoms Oy, Finland); Tommi Jamsa (Anite Telecoms, Finland)

12:20 ***Reverberation Chamber Results on 3GPP/CTIA LTE MIMO OTA 2013 Round Robin Tests Using Different Channel Models - A Comparison of Performance***

Miguel Mora (EMITE & Edif CEDIT, Parque Tecnologico de Fuente Alamo, Spain); David A Sánchez-Hernández (Universidad Politécnica de Cartagena, Spain)

09:00 - 10:40

Antennas for Radio Astronomy and Space Applications

Session type: Convened

Application track: Space

Room: Africa

Chairs: Eloy de Lera Acedo (University of Cambridge, United Kingdom), Benedetta Fiorelli (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands)

09:00 ***A Quadraxial Feed for Ultra-Wide Bandwidth Quadruple-Ridged Flared Horn Antennas***

Theunis Beukman (Stellenbosch University, South Africa); Marianna Ivashina (Chalmers University of Technology, Sweden); Rob Maaskant (CHALMERS, Sweden); Petrie Meyer (Stellenbosch University, South Africa); Carlo Bencivenni (Chalmers University of Technology, Sweden)

09:20 ***A Review of Full-Wave and Reduced-Order Modelling Methodologies for Dense Aperture Arrays***

Jacki Gilmore (Stellenbosch University, South Africa); David B Davidson (University of Stellenbosch, South Africa)

09:40 ***Antenna Technologies for Science Missions in Thales Alenia Space Italia***

Roberto Mizzoni (Thales Alenia Space Italia, Italy); Paolo Noschese (Thales Alenia Space Italia, Italy); Paolo Campana (ThalesAleniaSpace-Italia, Italy); Pierluigi Cecchini (Thales Alenia Space Italia S.p.A., Italy); Mario Lanuti (ThalesAleniaSpace-Italia, Italy); Giuseppe Mascolo (ThalesAleniaSpace-Italia, France); Alberto Meschini (ThalesAleniaSpace-Italia, Italy); Fabrizio Poscente (ThalesAleniaSpace-Italia, Italy); Raffaele Trento (ThalesAleniaSpace-Italia, Italy)

10:00 ***Synthesis of Non-Regular Arrays Using an FFT-based Calculation of the Cost Function Gradient***

Thibault Clavier (ARHS Developments, Belgium); Eloy de Lera Acedo (University of Cambridge, United Kingdom); David González-Ovejero (Università degli Studi di Siena, Italy); Christophe Craeye (Université Catholique de Louvain, Belgium); Nima Razavi Ghods (University of Cambridge, United Kingdom); Francois Glineur (Université Catholique de

10:20 ***Heterogeneous Dielectrics in Connected Array Analysis with CBFM***

Stuart G Hay (CSIRO ICT Centre, Australia)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Antennas for Radio Astronomy and Space Applications

Session type: Convened

Application track: Space

Room: Africa

Chairs: Eloy de Lera Acedo (University of Cambridge, United Kingdom), Benedetta Fiorelli (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands)

11:00 ***Imaging Speed of Antenna Coupled Kinetic Inductance Detectors in the SAFARI/SPICA Scenario***

Andrea Neto (Delft University of Technology, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands); Beatriz Blázquez (Delft University of Technology, The Netherlands); Angelo Freni (University of Florence, Italy)

11:20 ***Measuring Radiotelescope Phased Array Feed Noise and Sensitivity***

Douglas Hayman (CSIRO, Australia); Aaron Chippendale (CSIRO, Australia); Aidan Hotan (CSIRO, Australia); Robert Shaw (CSIRO, Australia); Stuart G Hay (CSIRO ICT Centre, Australia); Trevor S. Bird (Antengenuity & CSIRO, Australia); Peter J Hall (Curtin University of Technology, Australia); Karu Esselle (Macquarie University, Australia)

11:40 ***Novel Multi-Beam Radiometers for Accurate Ocean Surveillance***

Cecilia Cappellin (TICRA, Denmark); Knud Pontoppidan (TICRA, Denmark); Per Nielsen (TICRA, Denmark); Niels Skou (Technical University of Denmark, Denmark); Sten Søbjærg (Technical University of Denmark, Denmark); Marianna Ivashina (Chalmers University of Technology, Sweden); Oleg Iupikov (Chalmers University of Technology, Sweden); Alexander Ihle (HPS GMBH, Germany); Dennis Hartmann (HPS-GmbH, Germany); Kees van 't Klooster (European Space Agency, The Netherlands)

12:00 ***Dense Focal Plane Arrays for Pushbroom Satellite Radiometers***

Oleg Iupikov (Chalmers University of Technology, Sweden); Marianna Ivashina (Chalmers University of Technology, Sweden); Knud Pontoppidan (TICRA, Denmark); Per Nielsen (TICRA, Denmark); Cecilia Cappellin (TICRA, Denmark); Niels Skou (Technical University of Denmark, Denmark); Sten Søbjærg (Technical University of Denmark, Denmark); Alexander Ihle (HPS GMBH, Germany); Dennis Hartmann (HPS-GmbH, Germany); Kees van 't Klooster (European Space Agency, The Netherlands)

12:20 ***Shape Control of Reconfigurable Antenna Reflector: Concepts and Strategies***

Gonçalo Rodrigues (European Space Agency, The Netherlands); Jean-Christophe Angevain (ESA, The Netherlands); Julian Santiago-Prowald (European Space Agency (ESTEC), The

09:00 - 10:40

Space-Time Channel Models for Earth-Space and UAV Links

Session type: Convened

Application track: Space

Room: Antarctica

Chairs: Laurent Castanet (ONERA, France), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

09:00 ***Software for Tropospheric Propagation Statistical Data Analysis***

Flávio M. da Silva Jorge (University of Aveiro & Telecommunications Institute, Portugal); Armando C Rocha (University of Aveiro & Institute of Telecommunications, Portugal)

09:20 ***A Computationally Efficient System to Predict Joint Rain Fade on Arbitrary EHF Networks***

Denis Chinda (University of Hull, United Kingdom); Kevin S Paulson (University of Hull, United Kingdom)

09:40 ***An Operator's Perspective on Propagation***

Hector T. Fenech (Eutelsat S.A., France); Sonya Amos (Eutelsat S.A., France); Alessia Tomatis (Eutelsat S.A., France); Viphakone Soumpholphakdy (Eutelsat S.A., France); Jose Luis Serrano Merino (Eutelsat S.A., France)

10:00 ***Analysis of Liquid Water and Water Vapor Time Series and Rainy Period Detection From a Two Channel Microwave Radiometer***

Laura Resteghini (Politecnico di Milano, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Carlo Riva (Politecnico di Milano, Italy)

10:20 ***Atmospheric Channel Simulator for the Simulation of Propagation Impairments for Ka Band Data Downlink***

Nicolas Jeannin (ONERA, France); Maura Outeiral García (ONERA & ONERA, The French Aerospace Lab, France); Laurent Castanet (ONERA, France); Carlos Pereira (Université Catholique de Louvain, Belgium); Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium); Carlo Riva (Politecnico di Milano, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Lorenzo Luini (Politecnico di Milano, Italy); Mario Cossu (Thales Alenia Space - Italy, Italy); Antonio Martellucci (European Space Agency, The Netherlands)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Space-Time Channel Models for Earth-Space and UAV Links

Session type: Convened

Application track: Space

Room: Antarctica

Chairs: Laurent Castanet (ONERA, France), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

11:00 ***Rain Attenuation in Converging Terrestrial Links: Measurements and Modeling***

Luiz A R da Silva Mello (PUC/RIO & Inmetro, Brazil); Marlene S Pontes (Pontifical Catholic University of Rio de Janeiro, Brazil); Igor Fagundes (PUC-Rio, Brazil); Fernando J. A. Andrade (Federal University of Juiz de Fora, Brazil); Marta Almeida (Inmetro, Brazil)

11:20 ***Rain Attenuation Time Series Generator for Medium Earth Orbit Links Operating At Ka Band and Above***

Charilaos Kourogiorgas (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece); Pantelis-Daniel Arapoglou (National Technical University of Athens, Greece)

11:40 ***Results From Two Years of Ka-band Propagation Characterization At Svalbard, Norway***

James Nessel (NASA, USA); Jacquelynne Morse (NASA Glenn Research Center, USA); Michael Zemba (NASA Glenn Research Center, USA)

12:00 ***Simulation of Tropospheric Scintillation on LEO Satellite Link Based on Space-Time Channel Modeling***

Carlos Pereira (Université Catholique de Louvain, Belgium); Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium); Nicolas Jeannin (ONERA, France); Laurent Castanet (ONERA, France); Antonio Martellucci (European Space Agency, The Netherlands)

12:20 ***The Impact of Conditioned Attenuation Statistics on the Performance of VCM Techniques for Earth Observation Satellites in LEO Orbit***

Mario Cossu (Thales Alenia Space - Italy, Italy); Carlo Riva (Politecnico di Milano, Italy); Massimo Bertinelli (ESA, The Netherlands); Marco Della Maggiora (WISER srl, Italy); Guido Montorsi (Politecnico di Torino, Italy); Marco Luise (Wireless Systems Engineering and Research (WISER) Srl, Italy)

09:00 - 10:40

Advances in Measurement Implementations

Session type: Regular

Application track: Multiple Applications

Room: Europe 1

Chairs: Sean V Hum (University of Toronto, Canada), Luis Rolo (European Space Agency, The Netherlands)

09:00 ***3D Wave-Field Synthesis for Testing of Radio Devices***

Christopher Schirmer (Ilmenau University of Technology, Germany); Markus Landmann (Fraunhofer Institute for Integrated Circuits IIS, Germany); Wim A. Th. Kotterman (Technische Universität Ilmenau, Germany); Matthias Hein (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany); Albert Heuberger (Fraunhofer IIS, Germany)

09:20 ***Comparison of Horizontal and Vertical Feed Scanning Based APC in a Compact Range***

Rasmus Cornelius (RWTH Aachen University, Germany); Marc Dirix (RWTH Aachen University, Germany); Hammam Shakhtour (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany)

09:40 ***Exponentially Tapered Dielectric Loaded Probe for Accurate Near Field Measurements***

Zhengpeng Wang (University of Science and Technology Beijing, P.R. China); Xianzhong Chen (University of Science and Technology Beijing, P.R. China); Weilong Wang (National Institute of Metrology China, P.R. China); Meng Li (Beijing Great Wall Electronic Equipment Co., Ltd., P.R. China); Zhiping Li (Beihang University, P.R. China)

10:00 ***On Arranging Dual-Polarised Antennas in 3D Wave Field Synthesis***

Wim A. Th. Kotterman (Technische Universität Ilmenau, Germany); Christopher Schirmer (Ilmenau University of Technology, Germany); Markus Landmann (Fraunhofer Institute for Integrated Circuits IIS, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany)

10:20 ***The Measurement of Creeping Wave Propagation Constant on Cylinders***

Francis Smith (QinetiQ, United Kingdom); Alan Tennant (University of Sheffield, United Kingdom); Qiang Bai (University of Sheffield, United Kingdom)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Data Acquisition, Imaging Algorithms and Processing Methods

Session type: Regular

Application track: Multiple Applications

Room: Europe 1

Chairs: Olav Breinbjerg (Technical University of Denmark, Denmark), Mats Gustafsson (Lund University, Sweden)

11:00 ***A Compressed Sensing-based Imaging System***

Yuri Álvarez (Universidad de Oviedo, Spain); Yolanda Rodriguez-Vaqueiro (Northeastern University, USA); Borja Gonzalez-Valdes (University of Vigo, Spain); José Ángel Martinez-Lorenzo (The Gordon CenSSIS, Northeastern university, USA); Fernando Las-Heras (Universidad de Oviedo, Spain); Carey Rappaport (Northeastern University, USA)

11:20 ***Auto-Focusing UWB Radar Imaging for Moving Human Target Using Revised Range Point Migration***

Takuya Sakamoto (Kyoto University, Japan); Toru Sato (Kyoto University, Japan); Pascal Aubry (IRCTR, The Netherlands); Alexander Yarovoy (Delft University of Technology, The

11:40 ***ISAR Imaging of a Windmill - Measurement and Simulation***

Chenchen Li (The University of Texas at Austin, USA); Shang-Te Yang (The University of Texas at Austin, USA); Hao Ling (The University of Texas at Austin, USA)

12:00 ***Sampling Points Reduction for Far-Field Extrapolation by Phase Retrieval Method About Low-Gain Antenna***

Eriko Ohashi (Yokohama National University, Japan); Hiroyuki Arai (Yokohama National University, Japan)

12:20 ***Wide Field of View Active Near-Field Imaging System with Sub-Millimeter Sparse Focal Plane Array***

Erio Gandini (Delft University of Technology, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands); Tomas Bryllert (Chalmers University of Technology, Sweden)

09:00 - 10:40

Applications of Antennas and Propagation to Mining and Geoscience

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Chad Hargrave (CSIRO, Australia), Greg Hislop (CSIRO Earth Science and Resource Engineering, Australia)

09:00 ***A Comparison Between Two Measurement Configurations for Full 3D GPR Imaging***

Gianluca Gennarelli (IREA-CNR, Italy); Ilaria Catapano (CNR - National Research Council of Italy, Italy); Raffaele Persico (IBAM-CNR, Italy); Francesco Soldovieri (CNR, Italy)

09:20 ***Data-driven Inversion of GPR Surface Reflection Data for Lossless Layered Media***

Evert Slob (Delft University of Technology, The Netherlands); Kees Wapenaar (Delft University of Technology, The Netherlands)

09:40 ***Design and Operation Simulation of Compact Antenna for 3D Measurements of Alternating Magnetic Field in a Task of People Search Under Avalanches in Mines***

Igor Borisovich Shirokov (Sevastopol National Technical University, Ukraine); Elena Redkina (Sevastopol National Technical University, Ukraine)

10:00 ***Electromagnetic Wave Excitation and Propagation in Continuous Coal Mining Tunnels***

Chi-Chih Chen (The Ohio State University & ElectroScience Laboratory, USA)

10:20 ***Relations Between GPR Early-Time Signal Attributes and Ground Permittivity: A Numerical Investigation***

Davide Comite (Sapienza University of Rome, Italy); Alessandro Galli (Sapienza University of Rome, Italy); Carlotta Ferrara (Roma Tre University, Italy); Elena Pettinelli (Roma Tre

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Applications of Antennas and Propagation to Mining and Geoscience

Session type: Convened

Application track: Multiple Applications

Room: Central America

Chairs: Chad Hargrave (CSIRO, Australia), Greg Hislop (CSIRO Earth Science and Resource Engineering, Australia)

11:00 ***Measuring the Thickness, Permittivity and Conductivity of Layered Earth***

Greg Hislop (CSIRO Earth Science and Resource Engineering, Australia)

11:20 ***Near-Field Modeling of Radar Antennas: An Intrinsic Approach***

Sebastien Lambot (Universite catholique de Louvain, Belgium); Anh Tran (Université Catholique de Louvain, Belgium); Frédéric André (Université Catholique de Louvain, Belgium)

11:40 ***Numerical Analysis of the Detection Performance of Ground Coupled Radars for Different Antenna Systems and Signal Features***

Davide Comite (Sapienza University of Rome, Italy); Alessandro Galli (Sapienza University of Rome, Italy); Elena Pettinelli (Roma Tre University, Italy); Guido Valerio (Université de

12:00 ***Radar Waypoint Navigator for Underground Mining***

Chad Hargrave (CSIRO, Australia); Vaughan Clarkson (The University of Queensland, Australia); Hoi-Shun Lui (The University of Queensland, Australia)

12:20 ***Radio-Wave Propagation Into an Underground Mine Environment At 2.4 GHz, 5.8 GHz and 60 GHz***

Nadir Hakem (Université du Québec en Abitibi Témiscamingue & LRTCS Research Laboratory Télébec in Underground Communications, Canada); Gilles Delisle (LRTCS-UQAT, Canada); Yacouba Coulibaly (University du Quebec en Abitibi Téminscamigue, Canada)

09:00 - 10:40

Array-Antenna Analysis and Synthesis

Session type: Regular

Application track: Multiple Applications

Room: North America

Chair: Antoine Roederer (Technical University of Delft, The Netherlands)

09:00 ***Fast Design of Microstrip Antenna Arrays Exploiting Surrogate Models***

Slawomir Koziel (Reykjavik University, Iceland); Stanislav Ogurtsov (Reykjavik University, Iceland)

09:20 ***Estimation of Optimum Antenna Configurations Supported by Realistic Propagation Models At 60 GHz***

Vasilii Semkin (Aalto University School of Electrical Engineering, Finland); Martin Jacob (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany); Aimeric Bisognin (University Nice Sophia-Antipolis, France); Fabien Ferrero (CREMANT, Université Nice-Sophia Antipolis & CREMANT CNRS, France); Cyril Luxey (University Nice Sophia-Antipolis, France); Antti V. Räisänen (Aalto University, Finland)

09:40 ***Design of a 5.8 GHz Rectenna Using Aperture Coupled Antenna Array***

Chengyang Yu (Sichuan University, P.R. China); Xiang Zhao (Sichuan University, P.R. China); Changjun Liu (Sichuan University & Sichuan University, P.R. China)

10:00 ***Aperture Distribution Reconstruction of Phased Array Antenna with Single RF Channel Based on Non-Uniform Spatial Sampling of Array Elements***

Tarek Sallam (Egypt-Japan University of Science and Technology (E-JUST), Egypt); Adel Bedair (Egypt-Japan University of Science and Technology, Egypt); Masoud Alghoniemy (University of Alexandria, Egypt); Zen Kawasaki (Graduate School of Engineering, Osaka University, Osaka, Japan)

10:20 ***A Pattern-Reconfigurable Parasitic Patch Antenna Using BAR and HPND PIN Diode***

Thennarasan Sabapathy (University Malaysia Perlis & Advanced Communication Engineering Center, Malaysia); Muzammil Jusoh (Universiti Malaysia Perlis & School of Computer and Communiction Engineering, Malaysia); Muhammad Ramlee Kamarudin (Universiti Teknologi Malaysia, Malaysia)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Array-Antennas Analysis and Synthesis

Session type: Regular

Application track: Multiple Applications

Room: North America

Chair: Ovidio Mario Bucci (University of Naples, Italy)

11:00 ***Pencil Beams and Flat-Topped Beams with Asymmetric Side Lobes From Circular Arrays***

Raquel Eirey-Pérez (University of Santiago de Compostela, Spain); Aaron Salas-Sanchez (University of Santiago de Compostela, Spain); Juan Rodríguez-González (University of Santiago de Compostela, Spain); Eduardo Moreno-Piquero (University of Santiago de Compostela, Spain); Francisco Ares-Pena (University of Santiago de Compostela, Spain)

11:20 ***Pencil and Shaped Beams Obtained by Planar Density Tapering***

Aaron Salas-Sanchez (University of Santiago de Compostela, Spain); Javier Fondevila-Gómez (University of Santiago de Compostela, Spain); Juan Rodríguez-González (University of Santiago de Compostela, Spain); Eduardo Moreno-Piquero (University of Santiago de Compostela, Spain); Francisco Ares-Pena (University of Santiago de Compostela, Spain)

11:40 ***One More Look At the Reduction of the Number of Controlled Elements in Limited-Scan Phased Array Antennas***

Sergei Skobelev (Company "Radiophyzika", Russia)

12:00 ***Frequency and Scan Angle Limitations in UWB Phased Array***

Henry Vo (The Ohio State University, USA); Chi-Chih Chen (The Ohio State University & ElectroScience Laboratory, USA)

12:20 ***Ultra-Wideband Small Modular Array Antenna Based on Column-Coupled Vivaldi Subarrays***

Markus Gardill (University of Erlangen-Nuremberg, Germany); Robert Weigel (University of Erlangen-Nuremberg, Germany); Alexander Koelpin (University of Erlangen-Nuremberg & Institute f. Electronics Engineering, Germany)

09:00 - 10:40

RF Sensors

Session type: Regular

Application track: Wireless Networks and RF Sensors

Room: South America

Chairs: A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands), Huib J. Visser (IMEC Netherlands, The Netherlands)

09:00 ***A Simple Cross Shaped Loop Antenna Radiating Circularly Polarization Waves by One Port Feeding***

Mayumi Matsunaga (Ehime University, Japan); Yuhei Kuroda (Ehime University, Japan)

09:20 ***A Wireless Neurosensing System for Remote Monitoring of Brain Signals***

Asimina Kiourti (The Ohio State University, USA); Zheyu Wang (The Ohio State University, USA); Cedric Lee (The Ohio State University, USA); Helen Schwerdt (Arizona State University, USA); Junseok Chae (Arizona State University, USA); John L. Volakis (Ohio State University, USA)

09:40 ***Advances in Wildlife Road-Crossing Early-Alert System: New Architecture and Experimental Validation***

Federico Viani (University of Trento & ELEDIA Research Center, Italy); Fabrizio Robol (ELEDIA Research Center, Italy); Enrico Giarola (ELEDIA Research Center, Italy); Guido Benedetti (Autonomous Province of Trento, Italy); Stefano De Vigili (Autonomous Province of Trento, Italy); Andrea Massa (University of Trento, Italy)

10:00 ***An On-Chip Capacitive Coupled RFID Tag***

Walther Pachler (Graz University of Technology, Austria); Jasmin Grosinger (Graz University of Technology & Institute of Microwave and Photonic Engineering, Austria); Wolfgang Boesch (Graz University of Technology & Institute of Microwave and Photonic Engineering, Austria); Philipp Greiner (Infineon Technologies Austria AG, Austria); Günter Hofer (Infineon Technologies Austria AG, Austria); Gerald Holweg (, Austria)

10:20 ***Localization of Unidentified RF Sources Using a Moving and a Network of Stationary Sensors***

Konstantinos Gotsis (Aristotle University of Thessaloniki, Greece); Ioannis Kyriakides (University of Nicosia, Cyprus); Hassan Najjar (University of Nicosia, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

10:40 - 11:00

Coffee Break

Room: Exhibition Foyer

11:00 - 12:40

Passive, Multiband and Small Antenna Elements

Session type: Regular

Application track: Wireless Networks and RF Sensors

Room: South America

11:00 ***A Novel Approach for Wideband Tunable Electrically Small Antennas***

Yasin Kabiri (The University of Birmingham, United Kingdom); Peter Gardner (University of Birmingham, United Kingdom); Costas Constantinou (University of Birmingham,

11:20 ***A Passive RFID Sensor Tag Antenna Transducer***

Jasmin Grosinger (Graz University of Technology & Institute of Microwave and Photonic Engineering, Austria); Wolfgang Boesch (Graz University of Technology & Institute of Microwave and Photonic Engineering, Austria)

11:40 ***Passive MEMS Antenna Structures for an Hybrid UHF/UWB RFID Tag***

Philipp Gentner (KATHREIN-Werke KG, Germany); Holger Arthaber (Vienna University of Technology, Austria); Arpad L Scholtz (Vienna University of Technology, Austria); Christoph F Mecklenbräuker (Vienna University of Technology, Austria)

12:00 ***Performance Analysis of an Open Ended Coaxial Resonator Based Displacement Sensor***

Zoltán Szalay (BME, Hungary); Lajos Nagy (Budapest University of Technology and Economics, Hungary)

12:20 ***Circuit Models Explaining Bandwidth Behavior of Small Circular Cavity Backed Patch Antennas***

Mario Martinis (University of Rennes 1 & The Institut D'électronique et de Télécommunications de Rennes, France); Kourosh Mahdjoubi (University of Rennes 1, France); Ronan Sauleau (University of Rennes 1, France); Sylvain Collardey (University of Rennes 1, France); Loic Bernard (ISL, France)

09:00 - 10:40

Software Parallelization, High Performance Computing and Cloud Computing Efforts in Electromagnetics

Session type: Scientific Workshop

Room: Oceania

Chair: Dragan I. Olcan (University of Belgrade, Serbia)

13:00 - 13:30

Closing Session

Session type: Plenary

Application track: Multiple Applications

Room: Amazon

Chairs: Peter de Maagt (European Space Agency, The Netherlands), Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)