

TECHNICAL SESSIONS

Monday, March 26

09:40–10:00 **Conference Opening Hall**
Conference opening

Chair: Milos Mazanek (Czech Technical University in Prague, Czech Republic)

10:00–10:40 **Conference Opening Hall**
INV1: Plenary speaker: E. Brookner

*Chairs: Per Ingvarson (RUAG Space AB, Sweden),
 Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)*

10:00 **Recent Remarkable Advances in Phased Arrays**
 Eli Brookner (Raytheon Company, USA)

11:20–12:40 **Conference Opening Hall**
INV2: Plenary speakers: O. Koudelka, B. Derat

Chairs: Bertram Arbesser-Rastburg (ESA - Estec, The Netherlands), J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

11:20 **Is There a Need for Satellite Communications in the 21st Century?**
 Otto Koudelka (Technische Universität Graz, Austria)

12:00 **On the Challenge of Defining Conservative Specific Absorption Rate Assessment Procedures**
 Benoît Derat (Field Imaging, France)

14:00–16:20 **Room I**
CA15-1: Integral Techniques for Electromagnetics (INTELECT) I

Chairs: Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland), Angelo Freni (University of Florence, Italy)

14:00 Fast Wideband Solution of Finite Element - Boundary Integral Equation Problems

Dennis T. Schobert (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

14:20 New Features and Applications for a Fast Planar-3D Integral Equation Solver

Thomas Vaupel (Fraunhofer FHR, Germany)

14:40 Efficient Iterative Solution of Problems Using Characteristic Basis Function Method Combined with Multilevel Fast Multipole Algorithm

Eliseo García (Alcala University, Spain); Carlos Delgado (Alcala University, Spain); Ivan Gonzalez (Universidad de Alcala, Spain); Javier Moreno (University of Alcala, Spain); Felipe Cátedra (University of Alcala, Spain)

15:00 Acceleration of Series Summation Encountered in the Analysis of Conformal Antennas and Periodic Structures

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

15:20 Efficient Analysis of Mutual Coupling in Periodic and Non-Periodic Printed Antenna Arrays

David González-Ovejero (Université catholique de Louvain, Belgium); Francisco Mesa (University of Seville, Spain); Christophe Craeye (Université Catholique de Louvain, Belgium); Rafael Boix (University of Seville, Spain)

14:00–18:20 **Room II**
CA05: Leaky-Wave Antennas

Chairs: David R. Jackson (University of Houston, USA), Alessandro Galli (Sapienza University of Rome, Italy)

14:00 Novel Topology of Fabry-Perot Electronically Steerable Leaky-Wave Antenna

Raúl Guzmán-Quirós (Polytechnic University of Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); María García-Vigueras (Technical University of Cartagena, Spain); Andrew R Weily (CSIRO ICT Centre, Australia); Y Jay Guo (CSIRO, Australia)

14:20 Flexible Pattern Synthesis with SIW LWAs

Alejandro Javier Martínez-Ros (Universidad Politécnica de Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); George Goussetis (Reader, United Kingdom)

14:40 Near-Field Focusing with Holographic Two-Dimensional Tapered Leaky-Wave Slot Antennas

Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); Alejandro Javier Martínez-Ros (Universidad Politécnica de Cartagena, Spain); Nuria Llombart (Universidad Complutense de Madrid, Spain); Darwin Blanco (Carlos III University, Spain); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain)

15:00 Phase Centre of Fabry-Pérot Cavity Antennas

Paolo Burghignoli (Sapienza University of Rome, Italy)

15:20 Flat Leaky-Wave Lenses

Gabriele Minatti (University of Siena, Italy); Francesco Caminita (University of Siena, Italy); Stefano Maci (University of Siena, Italy)

15:40 Efficiently Illuminated Broadside-Directed 1D and 2D Tapered Fabry-Perot Leaky-Wave Antennas

María García-Vigueras (Technical University of Cartagena, Spain); Pablo DeLara-Guarch (Technical University of Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); Raúl Guzmán-Quirós (Polytechnic University of Cartagena, Spain); George Goussetis (Heriot-Watt University, United Kingdom)

16:00 Broadside Radiation From Radial Arrays of Substrate Integrated Leaky-Wave Antennas

Alejandro Javier Martínez-Ros (Universidad Politécnica de Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); George Goussetis (Reader, United Kingdom)

16:20 Coffee Break

16:40 Circularly Polarized Leaky Wave Antenna Without Phase Shifter Using CRLH Transmission Line

Kazuhiro Kitatani (Osaka University, Japan)

17:00 Computational Aspects for the Accurate and Efficient Analysis of Periodic Planar Leaky-Wave Antennas

Guido Valerio (Université de Rennes 1, France); Simone Paulotto (University of Houston, USA); David R. Jackson (University of Houston, USA); Donald R Wilton (University of Houston, USA); Paolo Baccarelli („Sapienza“ University of Rome, Italy); Alessandro Galli (Sapienza University of Rome, Italy)

17:20 Recent Advances in the Modeling of Periodic Leaky-Wave Antennas Scanning Through Broadside

Simon Otto (University Duisburg-Essen, Germany); Klaus Solbach (Universität Duisburg-Essen, Germany); Christophe Caloz (Ecole Polytechnique de Montreal, Canada)

17:40 A Study of Planar Leaky-Wave Antenna Designs Fed by Practical Surface-Wave Launchers

Symon K Podilchak (Queen's University & Royal Military College of Canada, Canada); Al P. Freundorfer (Queen's University, Canada); Yahia Antar (Royal Military College of Canada, Canada)

18:00 Analysis and Design of Leaky Wave Antennas (LWA) Based on Dielectric Filled Waveguides

J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom); Rob Seager (Loughborough University, United Kingdom)

14:00–18:20 Club A**CP01: Novel Methods in Radio Channel Modelling for Smart Environments**

Chairs: Claude Oestges (Université Catholique de Louvain, Belgium), Alain Sibille (Telecom Paris Tech & ENSTA PARISTECH, France)

14:00 Controlling Propagation Environments Using Intelligent Walls

Ludek Subrt (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic)

14:20 Analysis of Position-Related Information in Measured UWB Indoor Channels

Paul Meissner (Graz University of Technology, Austria); Klaus Witrisal (Graz University of Technology, Austria)

14:40 Application of the Channel Synthesis Approach to Evaluate the Performance of an Experimental 4-Port Application Antenna

Martin Käske (Ilmenau University of Technology, Germany); Christian Schneider (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany); Jörg Pamp (RWTH University, Germany)

15:00 Efficiency and Accuracy Enhanced Super Resolved Channel Estimation

Jonas Medbo (Ericsson Research, Sweden); Fredrik Harrysson (Ericsson Research & Ericsson AB, Sweden)

15:20 A Monte Carlo Study on the Diversity Measure of a Spherical Volume

Andrés Alayón Glazunov (KTH Royal Institute of Technology, Sweden)

15:40 Channel Improvement for Line-of-Sight MIMO Using Dual-Beam Reflectarray

Jiyun Shen (NTTDoCoMo, Inc., Japan)

16:00 Exploiting the Graph Description of Indoor Layout for Ray Persistency Modeling in Moving Channel

Bernard Uguen (Université Rennes I, France); Nicolas Amiot (Université Rennes I & Institut d'Electronique et de Télécommunications de Rennes, France); Mohamed Laaraiedh (University of Rennes 1, France)

16:20 Coffee Break**16:40 Tabulated Interaction Method for Electromagnetic Scattering From Lossy Irregular Terrain Profiles**

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

17:00 Study of a Polarimetric Model for Diffuse Scattering in Urban Environment

Enrico M. Vitucci (University of Bologna, Italy); Francesco Mani (UCLouvain, Belgium); Vittorio Degli-Esposti (University of Bologna, Italy); Claude Oestges (Université Catholique de Louvain, Belgium)

17:20 Shadowing in Urban Environments with Microcellular or Peer-to-Peer Links

Zheda Li (University of Southern California, USA); Rui Wang (University of Southern California, USA); Andreas Molisch (University of Southern California, USA)

14:00–16:20 Club B**CP09: Wireless Sensor Networks (WSNs) for Realtime and Distributed Remote Sensing**

Chairs: Andrea Massa (University of Trento, Italy), Federico Viani (University of Trento & ELEDIA Research Center, Italy)

14:00 Pervasive Remote Sensing Through WSNs

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

14:20 A Multi-Sensor WSN Backbone for Museum Monitoring and Surveillance

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

14:40 Electromagnetic Optimization of Passive RFID Sensor Nodes

Cecilia Occhiuzzi (University of Rome „Tor Vergata“, Italy); Gaetano Marrocco (University of Rome Tor Vergata, Italy)

15:00 Long-range Wireless Sensor Nodes-Lessons Learned

Krzysztof Piotrowski (IHP, Germany); Anna Sojka (IHP, Germany); Peter Langendoerfer (IHP Microelectronics, Germany)

15:20 Wireless Sensor Network Nodes for RTLS, Biomonitoring, and Authentication Applications

Vasileios Lakafosis (Georgia Institute of Technology, USA); Rushi Vyas (Georgia Institute of Technology, USA); Vidyasagar Mukala (Georgia Institute of Technology, USA); Anya Traille (Georgia Institute of Technology, USA); Manos M. Tentzeris (Georgia Institute of Technology, USA)

15:40 Industrial Wireless Sensor Networks: A Selection of Challenging Applications

Gerhard P Hancke (University of Pretoria, South Africa); Gerhard P Hancke (Royal Holloway, University of London, United Kingdom)

16:00 Cognitive Symbiotic Network Planning for Energy Consumption Reduction in Wireless Sensor Networks

David Plets (IBBT-Ghent University, Belgium); Wout Joseph (Ghent University, Belgium); Eli De Poorter (Ghent University & IBBT, Belgium); Luc Martens (Ghent University, Belgium); Ingrid Moerman (Ghent University - IBBT, Belgium)

14:00–18:20 Club C**CP05: Advances in Techniques, Instruments and Data for Propagation Campaigns (Convened by COST IC0802)**

Chairs: Carlo Riva (Politecnico di Milano, Italy), Michael J Willis (STFC Rutherford Appleton Laboratory, United Kingdom)

14:00 Propagation and Availability on E-band Terrestrial Radio

László Csurgai-Horváth (Budapest University of Technology and Economics, Hungary); Istvan Frigyes (Budapest University of Technologies, Hungary); János Bitó (Budapest University of Technology and Economics, Hungary)

14:20 Instruments, Data and Techniques for the Assessment of the Atmospheric Noise Emission in Satcom Ground Stations

Vinia Mattioli (Sapienza University of Rome / Perugia, Italy); Frank S. Marzano (Sapienza University of Rome, Italy); Susanne Crewell (Universität Köln, Germany); Guillaume Carrie (ONERA, France); Ulrich Löhnert (Universität Köln, Germany); Domenico Cimini (IMAA-CNR & CETEMPS University of L'Aquila, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Ermanno Fionda (FUB, Italy); Antonio Martellucci (European Space Agency, The Netherlands)

14:40 Statistics of Total Attenuation and Fade Dynamics From Measurements in Toulouse of the 19.7 GHz Beacon of Eutelsat Hot Bird 6

Xavier Boulanger (CNES-ONERA & Cooperation CNES-ONERA, France); Guillaume Carrie (ONERA, France); Laurent Castanet (ONERA, France)

15:00 Experimental Data and Testing Procedures for Modelling of Propagation Effects on Terrestrial Radio Links From C to W Bands

Marlene S Pontes (Pontifical Catholic University of Rio de Janeiro, Brazil); Luiz A R da Silva Mello (PUC/RIO & Inmetro, Brazil); Michael J Willis (STFC Rutherford Appleton Laboratory, United Kingdom); Steve Salamon (Telstra Corporation, Australia); Terje Tjelta (Telenor, Norway); Laurent Castanet (ONERA, France)

15:20 Review of Radar Measurements of Precipitation for the Characterization of Propagation Effects on Terrestrial and Slant Path Radio Links

Carlo Capsoni (Politecnico di Milano, Italy); Laurent Castanet (ONERA, France); Nicolas Jeannin (ONERA, France); Lorenzo Luini (Politecnico di Milano, Italy); Frank S. Marzano (Sapienza University of Rome, Italy); Merhala Thurai (Colorado State University, USA); Viswanathan Bringi (Colorado State University, USA)

15:40 Beacon Receivers and Digital Detectors Solutions for Earth-Satellite Propagation Campaigns

Armando C Rocha (University of Aveiro & Institute of Telecommunications, Portugal); Fernando Machado (University of Vigo, Spain); Fernando Pérez-Fontán (University of Vigo, Spain); Marco Sousa (University of Aveiro, Portugal)

16:00 Validation and Improvement of Precipitation Statistical Modelling for Radiowave Propagation

Nicolas Jeannin (ONERA, France); Laurent Castanet (ONERA, France); Carlo Capsoni (Politecnico di Milano, Italy); Carlo Riva (Politecnico di Milano, Italy); Marlene S Pontes (Pontifical Catholic University of Rio de Janeiro, Brazil); Antonio Martellucci (European Space Agency, The Netherlands); Michael J Willis (STFC Rutherford Appleton Laboratory, United Kingdom); Terje Tjelta (Telenor, Norway)

16:20 Coffee Break**16:40 Instruments, Data and Techniques for the Assessment of Tropospheric Noise in Deep Space Tracking**

Paolo Tortora (University of Bologna, Italy); Susanne Crewell (Universität Köln, Germany); Gunnar Elgered (Chalmers University of Technology, Italy); Alberto Graziani (University of Bologna, Italy); Per Jarlemark (SP Technical Research Institute of Sweden, Sweden); Marco Lanucara (European Space Agency, Germany); Ulrich Löhnert (Universität Köln, Germany); Antonio Martellucci (European Space Agency, The Netherlands); Mattia Mercolino (European Space Agency, Germany); Tong Ning (Chalmers University of Technology, Sweden); Thomas Rose (Radiometer Physics GmbH, Germany); Jan Schween (University of Cologne, Germany)

17:00 26-GHz Data Downlink for LEO Satellites

Josep Rosello (ESA, The Netherlands); Antonio Martellucci (European Space Agency, The Netherlands); Acosta (, USA); James Nessel (NASA, USA); Lars Erling Bråten (Norwegian Defence Research Establishment (FFI), Norway); Carlo Riva (Politecnico di Milano, Italy)

17:20 The Propagation and Telecom Experiments of the Alphasat Aldo Payload (TDP5 Q/V Band Experiment)

Giuseppe Codispoti (Italian Space Agency, Italy); Carlo Riva (Politecnico di Milano, Italy); Marina Ruggieri (University of Roma Tor Vergata, Rome, Italy); Tommaso Rossi (University of Rome "Tor Vergata", Italy); Antonio Martellucci (European Space Agency, The Netherlands); Juan Rivera Castro (ESA, The Netherlands); Otto Koudelka (Graz University of Technology, Austria); Michael Schönhuber (Joanneum Research, Austria)

14:00–16:20 Club D**CA08: Non-Foster Active Metamaterials: Theory, Design and Applications**

Chairs: Silvio Hrabar (University of Zagreb, Croatia), Yang Hao (Queen Mary, University of London, United Kingdom)

14:00 Evaluation of Microplasma Discharges as Active Components for Reconfigurable Antennas

Francisco Pizarro (Université de Toulouse - ISAE, France); Romain Pascaud (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)

14:20 A Novel Non-Foster Broadband Patch Antenna

Stavros Koulouridis (University of Patras, Greece); Spyros Stefanopoulos (University of Patras, Greece)

14:40 Broad Bandwidth, Efficient, Metamaterial-Inspired, Electrically Small Antennas Augmented with Internal Non-Foster Elements

Richard W. Ziolkowski (University of Arizona, USA); Ning Zhu (University of Arizona, USA)

15:00 Electrically Small Half-Loop Antenna Design with Non-Foster Matching Networks

Yifeng Fan (Queen Mary University of London, United Kingdom); Khalid Rajab (Queen Mary University of London, United Kingdom); Max Munoz (Queen Mary, University of London, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

15:20 Quasi-constant-phase Networks Inspired by Metamaterial Transmission Lines with the Non-Foster Elements

Dmitry V Kholodnyak (St. Petersburg Electrotechnical University, Russia); Viacheslav Turgaliev (St. Petersburg Electrotechnical University, Russia)

14:00–16:20 **Club E**
CA03: European Workshop on Conformal Antennas (EWCA)

15:40 Full Conditions for the Stability Analysis of Negative Impedance Converters

Jose Luis Jimenez-Martin (Universidad Politécnica de Madrid, Spain); Vicente Gonzalez-Posadas (Universidad Politécnica de Madrid, Spain); Angel Parra-Cerrada (Universidad Politécnica de Madrid, Spain); Alvaro Blanco-Campo (Universidad Politécnica de Madrid, Spain); Eduardo Ugarte-Muñoz (University Carlos III in Madrid, Spain); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

16:00 New Research Directions in Broadband Active non-Foster RF Metamaterials

Silvio Hrabar (University of Zagreb, Croatia); Igor Krois (University of Zagreb, Croatia); Aleksandar Kiricenko (University of Zagreb, Croatia); Ivan Bonic (University of Zagreb, Croatia); Damir Muha (University of Zagreb, Croatia)

Chairs: Zvonimir Sipus (University of Zagreb, Croatia), Peter Knott (Fraunhofer FHR, Germany)

14:00 Small Antenna for Aerobatic Aircraft

Kamil Pitra (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic)

14:20 Novel Conformal Antenna Concept for Security Applications

Christian Tschoban (Berlin Institute of Technology, Germany)

14:40 Antenna Design for a Conformal Antenna Array Demonstrator

Claudius Loecker (Fraunhofer FHR, Germany); Peter Knott (Fraunhofer FHR, Germany); Robert Sekora (Cassidian, Germany); Stephan Algermissen (German Aerospace Center (DLR), Germany)

15:00 Conformal Tapered Microstrip Leaky-Wave Antennas

Alejandro Javier Martinez-Ros (Universidad Politécnica de Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); George Goussetis (Reader, United Kingdom)

15:20 A Conformal CPW Folded Slot Antenna Array Printed on a Kapton Substrate

Masud Aziz (University of Kansas, USA); Sayan Roy (North Dakota State University, USA); Layne Berge (North Dakota State University & Center for Nanoscale Science and Engineering, USA); Irfan Irfanullah (North Dakota State University, USA); Sanjay Nariyal (North Dakota State University, USA); Benjamin Braaten (North Dakota State University, USA)

14:00–16:20 **Club H**
CA01: Advances in Nano-Inspired Applications of Electromagnetics in Medicine and Biotechnologies

Chairs: Ovidio Mario Bucci (University of Naples, Italy), Yahya Rahmat-Samii (University of California Los Angeles (UCLA), USA)

14:00 Determining the Optimal Operative Conditions in Magnetic Nanoparticle Hyperthermia

Gennaro Bellizzi (University of Naples Federico II, Italy); Ovidio Mario Bucci (University of Naples, Italy); Angelo Di Bernardo (Arizona State University & Fulbright Grantee, USA)

14:20 Magnetic Nanoparticles Enhanced Microwave Imaging: a Feasibility Assessment

Gennaro Bellizzi (University of Naples Federico II, Italy); Ovidio Mario Bucci (University of Naples, Italy); Ilaria Catapano (CNR - National Research Council of Italy, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Rosa Scapatucci (CNR-National Research Council of Italy, Italy)

14:40 Wearable Biomonitoring Monopole Antennas Using Inkjet Printed Electromagnetic Band Gap Structures

Sangkil Kim (Georgia Institute of Technology, USA); Manos M. Tentzeris (Georgia Institute of Technology, USA); Symeon Nikolaou (Frederick Research Center, Cyprus)

15:00 Possibilities for Microwave Breast Tumor Sensing Via Contrast-Agent-Loaded Nanorobots

Panagiotis Kosmas (King's College London, United Kingdom); Yifan Chen (Newcastle University, United Kingdom)

15:20 Smart Diagnostic Capsule with a Novel Antenna and Nano-Biosensors

Harish Rajagopalan (University of California Los Angeles (UCLA), USA); Kyeong-Sik Shin (University of California Los Angeles (UCLA), USA); Jorge Kina (University of California Los Angeles (UCLA), USA); Chi On Chui (University of California Los Angeles (UCLA), USA); Yahya Rahmat-Samii (University of California Los Angeles (UCLA), USA)

14:00–18:20 Room III**CA14: Domain Decomposition Methods****15:40 Characterization of Graphene-based Nano-antennas in the Terahertz Band**

Ignacio Llatser (Universitat Politècnica de Catalunya, Spain); Christian Kremers (University of Wuppertal, Germany); Dmitry Chigrin (University of Wuppertal, Germany); Josep Miquel Jornet (Georgia Institute of Technology & School of Electrical and Computer Engineering, USA); Max Lemme (KTH Royal Institute of Technology, Sweden); Albert Cabellos-Aparicio (Universitat Politècnica de Catalunya, Spain); Eduard Alarcón (Universitat Politècnica de Catalunya, Spain)

16:00 Electronic and Vibrational Properties of Magnetic Core-Shell Nanoparticles

Angelo Di Bernardo (Arizona State University & Fulbright Grantee, USA); Pilarisetty Tarakeshwar (Arizona State University, USA); Vladimiro Mujica (Arizona State University, USA)

Chairs: Giuseppe Vecchi (Politecnico di Torino, Italy), Stefano Maci (University of Siena, Italy)

14:00 A Domain Decomposition Approach to the Radiation From Sources Localized Within Complex Structures

Vito Lancellotti (Technical University of Eindhoven, The Netherlands); Bastiaan de Hon (Technische Universiteit Eindhoven, The Netherlands); Anton G. Tijhuis (TU/e Eindhoven University of Technology, The Netherlands)

14:20 Generalized Equivalence Integral Equations

Amir Boag (Tel Aviv University, Israel); Vitaliy Lomakin (University of California, San Diego, USA)

14:40 Fast-Factorization Acceleration of MoM Domain-Decomposition: SFX-AIM and General

Angelo Freni (University of Florence, Italy); Patrizio De Vita (IDS Ingegneria Dei Sistemi, Italy); Paola Pirinoli (Politecnico di Torino, Italy); Ladislau Matekovits (Politecnico di Torino & Macquarie University, Sydney, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy)

15:00 A Comparison of the Computational Resources Required by a Domain Decomposition Approach and Other Efficient Numerical Techniques Based on the Moment Method

Carlos Delgado (Alcala University, Spain); Eliseo García (Alcala University, Spain); Ivan Gonzalez (Universidad de Alcala, Spain); Leticia Hernández (Universidad de Alcalá, Spain); Felipe Cátedra (University of Alcala, Spain)

15:20 Scattering Matrix Domain Decomposition Method Formalized with Different Wave Propagators

Enrica Martini (University of Siena, Italy); Cristian Della Giovampaola (University of Siena, Italy); Alberto Toccafondi (University of Siena, Italy); Stefano Maci (University of Siena, Italy)

15:40 A New De-embedding Technique for the Analysis of Printed Circuits and Antennas Based on the Characteristic Basis Function Method

Raj Mittra (Penn State University, USA); Giacomo Bianconi (Penn State University, USA); Chiara Pelletti (The Pennsylvania State University, USA); K. Du (Penn State University, USA); Agostino Monorchio (University of Pisa, Italy)

16:00 On the Influence of Domain Extensions and the Relaxation Parameter on Spatial Domain Decomposition Methods

Jaime Laviada (Universidad de Oviedo, Spain); Marcos Pino (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

16:20 Coffee Break**16:40 Fast Spectral-Domain MBF Method for Printed Antennas**

Shambhu N Jha (Université Catholique de Louvain, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium)

17:00 Hierarchical EM Preconditioners with Spectral Domain Partitioning

Francesco Andriulli (Ecole Nationale Supérieure des Telecommunications de Bretagne, France)

17:20 Issues in Compressive Domain Decomposition for Integral Equations

Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Marco Righero (Istituto Superiore Mario Boella, Italy); Francesca Vipiana (Istituto Superiore Mario Boella (ISMB), Italy); Olivier Terzo (Istituto Superiore Mario Boella, Italy); Pietro Ruii (Istituto Superiore Mario Boella ISMB, Italy); Lorenzo Mossucca (Istituto Superiore Mario Boella, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy)

14:00–16:20 Room IV**A02: Antenna Interactions and Coupling**

Chairs: Osama Alrabadi (AAU, Denmark), Milan Polivka (Czech Technical University in Prague, Czech Republic)

14:00 Mutual Coupling Reduction Between Microstrip Patch Antennas

Yusef Hajilou (Shahed University, Iran); Hamid Reza Hassani (Shahed University, Iran); Bahman Rahmati (Shahed University, Iran)

14:20 Antenna Correlation From Input Parameters for Arbitrary Topologies and Terminations

Osama Alrabadi (AAU, Denmark); Jorgen Andersen (APNET, Denmark); Gert Pedersen (Aalborg University, Denmark)

14:40 Excitation of an Anisotropic Plasma Medium by an Antenna

Nabil Ben hsouna (XLIM OSA, France); Marc Thevenot (XLIM-UMR 6172-CNRS, University of Limoges, France); David Carsenat (XLIM CNRS-UMR 6172, France); Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges, France)

15:00 Evaluation of the Norton Equations for the Development of Body-Centric Propagation Models

Markus Grimm (Christian – Albrechts – University of Kiel, Germany); Dirk Manteuffel (University of Kiel, Germany)

15:20 Influence of the Human Body on a New Coplanar-fed Ultra-Wideband Antenna

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

16:40–18:20 Room I**A07-1: Electromagnetic Theory and Numerical Techniques I**

Chairs: Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

16:40 A Multilayered Coaxial Feed Model
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

17:00 On Increasing Capabilities of GPU In-Core Solver Applied to Method of Moments
Dusan Zoric (WIPL-D, Serbia); Dragan I. Olcan (University of Belgrade, Serbia); Branko Kolundzija (University of Belgrade, Serbia)

17:20 Near Field Excitation of Artificial Dielectric Layers: Field Distributions and Electrical Properties
Waqas Hassan Syed (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

17:40 Analysis of Wideband Thin-Sided Radiating Structures
Boris Mishoostin (Moscow Power Engineering Institute - Technical University, Russia); Vitaly Slyozkin (Sevastopol National Technical University, Ukraine)

18:00 Microstrip CAD Models Including Surface Wave Coupling
Andreas R. Diewald (IEE S.A., Germany)

16:40–18:20 Club B**CP06: Approaches in Wireless Optical Propagation and Channel Modelling for Free Space Optical Links**

Chairs: Carlo Capsoni (Politecnico di Milano, Italy), Erich Leitgeb (TUG, Austria)

16:40 First Results of Rain Spatial Parameters Analyses for Optical Links
Stanislav Zvanovec (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic)

17:00 The Impact of Liquid Water Content on Free Space Optical Propagation
László Csurgai-Horváth (Budapest University of Technology and Economics, Hungary); János Bitó (Budapest University of Technology and Economics, Hungary); Petr Pesice (Institute of Atmospheric Physics Prague, Czech Republic); Ondrej Fiser (Institute of Atmospheric Physics & Fac. of Electrical Engineering and Informatics/ Uni of Pardubice, Czech Republic)

17:20 Prediction of Cloud Attenuation on Earth-space Optical Links
Carlo Capsoni (Politecnico di Milano, Italy); Lorenzo Luini (Politecnico di Milano, Italy); Roberto Nebuloni (Ieiti - Cnr, Italy)

17:40 Characterization of Hydrometeor Scattering Effects and Experimental Measurements Using Near-Infrared Free-Space Urban Links
Frank S. Marzano (Sapienza University of Rome, Italy); Paolo Nocito (ISCOM, Italy); Saverio Mori (Sapienza University of Rome, Italy); Fabrizio Frezza (Sapienza University of Rome, Italy); Paolo Lucantoni (Sapienza University of Rome, Italy); Michele Ferrara (Sapienza University of Rome, Italy); Elio Restuccia (ISCOM, Italy); Giorgio Maria Tosi Beleffi (ISCTI - Ministry of Economic Development - Communications Department, Italy)

18:00 Restricted Beam Analysis for FSO Links
Juraj Poliak (Brno University of Technology & Faculty of Electrical Engineering, Czech Republic); Jiří Komrská (Brno University of Technology, Czech Republic); Otakar Wilfert (Brno University of Technology, Czech Republic)

16:40–18:20 Club D**CA21: The New Frontier of Clinical Therapies: Bioeffects and Engineering Issues of Electromagnetic Nanopulses**

Chairs: Francesca Apollonio (University Sapienza of Rome, Italy), Lluis M Mir (UMR 8203 CNRS-Institut Gustave-Roussy, France)

16:40 Microdosimetry for Ultrashort Electric Pulses: a Literature Review
Caterina Merla (ICEmB at ENEA, Research Center Casaccia, UT BIORAD, Italy); Alessandra Paffi (Sapienza University of Rome, Italy); Francesca Apollonio (University Sapienza of Rome, Italy); Micaela Liberti (ICEmB at „Sapienza” University of Rome, Italy)

17:00 Numerical Simulations Aided Development of Nanosecond Pulse Electroporators
Matej Kranjc (University of Ljubljana & Faculty of Electrical Engineering, Slovenia); Matej Rebersek (University of Ljubljana, Slovenia); Damijan Miklavcic (University of Ljubljana, Slovenia)

17:20 Nanopulses and Their Applications: Permeabilisation to Bleomycin Molecules by 10 Ns Duration Electric Pulses in a Tumor Model in Vivo
Aude Silve (Institut Gustave Roussy UMR 8203, Villejuif, F., France); Isabelle Leray (UMR 8203 CNRS- Institut Gustave Roussy, France); Bassim Al-Sakere (UMR 8203 CNRS- Institut Gustave Roussy, France); Lluis M Mir (UMR 8203 CNRS-Institut Gustave-Roussy, France)

17:40 Generators and Applicators for Nanosecond Pulsed Electric Field
Philippe Leveque (CNRS & XLIM, France); Delia Arnaud-Cormos (XLIM-CNRS University of Limoges, France)

18:00 Electroporation Mechanism: Review of Molecular Models Based on Computer Simulation
Francesca Apollonio (University Sapienza of Rome, Italy); Micaela Liberti (ICEmB at „Sapienza” University of Rome, Italy); Paolo Marracino (La Sapienza University, Rome, Italy); Lluis M Mir (UMR 8203 CNRS-Institut Gustave-Roussy, France)

16:40–18:20 Club E**A04-1: Array Antennas incl. Reflect Arrays I**

Chairs: Arezou Edalati (University of Michigan, USA), Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

16:40 Sideband Suppression in Time-Modulated Arrays Using Fixed Bandwidth Elements
Yizhen Tong (University of Sheffield, United Kingdom); Alan Tennant (University of Sheffield, United Kingdom)

17:00 Dual-parameter Concentric Ring RA Elements
Bui Van Ha (Politecnico di Milano, Italy); Paola Pirinoli (Politecnico di Torino, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy); Marco Mussetta (Politecnico di Milano & Politecnico di Torino, Italy)

17:20 Wideband Reflectarray Antenna Based on Miniaturized Element Frequency Selective Surfaces
Arezou Edalati (University of Michigan, USA); Kamal Sarabandi (University of Michigan, USA)

17:40 A Novel Approach for Bandwidth Enhancement of SIW-based Slot Array Antenna
Hossein Sarbandi Farahani (K. N. Toosi University of Technology, Iran); Akbar Kabir-Salmani (Islamic Azad University, Iran); Majid Tayarani (Iran University of Science and Technology, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran); Somayyeh Chamaani (K. N. Toosi University, Iran)

18:00 Harvesting RF Energy with Rectenna Arrays
Jingwei Zhang (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Ping Cao (University of Liverpool, United Kingdom)

16:40–18:20 Club H
A11: MIMO, Multiantenna Systems, Smart and Signal Processing Antennas

Chairs: Jan Carlsson (SP Technical Research Institute of Sweden, Sweden), Boyan R Yanakiev (Molex & Aalborg University, Denmark)

- 16:40 An Improved Spatial Modulation Scheme for MIMO Channels**
 Jose Martin Luna-Rivera (Autonomous University of San Luis Potosi, Mexico); Miryam Gonzalez-Perez (Autonomous University of San Luis Potosi, Mexico)
- 17:00 Performance Evaluation of Diversity Antennas in Multipath Environments of Finite Richness**
 Nima Jamaly (Chalmers University of Technology, Sweden); Muhammad Iftikhar (Chalmers University of Technology & ProTeleCo FZCO, Denmark); Yahya Rahmat-Samii (University of California Los Angeles (UCLA), USA)
- 17:20 Multiplexing Efficiency of MIMO Antennas in Arbitrary Propagation Scenarios**
 Ruiyuan Tian (Lund University, Sweden); Buon Kiong Lau (Lund University, Sweden); Ying Zhinong (Sony Ericsson Mobile Communications AB, Sweden)
- 17:40 Impact of Total Efficiency of Multiple Element Antennas on Diversity and Capacity**
 Jane X. Yun (Simon Fraser University, Canada); Rodney Vaughan (Simon Fraser University, Canada)
- 18:00 Correlation Measurements on Small Mobile Devices**
 Boyan R Yanakiev (Molex & Aalborg University, Denmark); Jesper Ø Nielsen (Aalborg University, Denmark); Morten Christensen (Molex Interconnect, Denmark); Gert Pedersen (Aalborg University, Denmark)

16:40–18:20 Room IV
A16: Printed Elements, Balun and Associated Circuits

Chairs: Dirk Heberling (RWTH Aachen University, Germany), Ladislav Oppl (Czech Technical University in Prague, Czech Republic)

- 16:40 Novel CPW Power Divider Based on Resonators**
 Luis Fernando Herran (Universidad de Oviedo, Spain)
- 17:00 Rectangular Waveguide to Coplanar Stripline Transition Based on a Unilateral Finline**
 Mahmoud Al Henawy (University of Bremen, Germany); Martin Schneider (University of Bremen, Germany)
- 17:20 A Miniaturised V-Band 4x4 Butler Matrix SiGe MMIC**
 Jian Zhang (Queen's University of Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom)
- 17:40 Analytical Model of a Printed Transition for SIW Antennas**
 Marc Esquius Morote (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Benjamin Fuchs (EPFL - LEMA, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)
- 18:00 New Power Divider Architecture for Suspended Strip Line**
 Jean-François Zürcher (EPFL, Switzerland); Rafat Głogowski (Istituto Superior Tecnico/Ecole Polytechnique Federale de Lausanne, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

16:40–18:20 Room V
EurAAP Steering Committee

18:30–19:30 Exhibition and Catering Area
Welcome Drink