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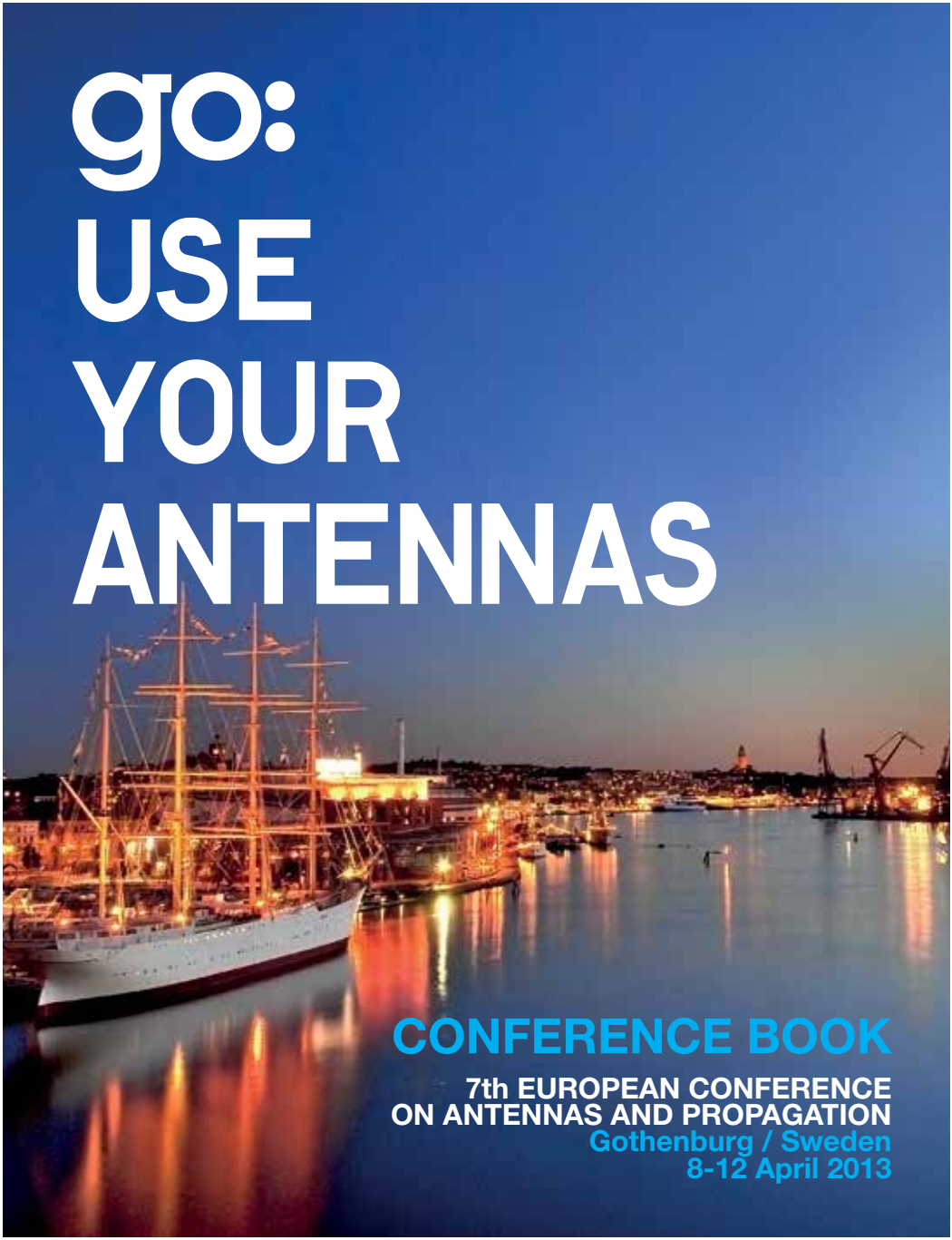

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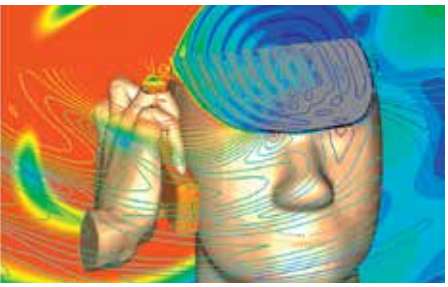

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CONTENTS

TECHNICAL SESSIONS

Welcome to the EuCAP 2013

Welcome to Gothenburg, Sweden

At EuCAP 2010 in Barcelona several involved persons asked me if I was interested in arranging EuCAP 2013 in Gothenburg. After some initial reluctance I was happy to answer yes, and when EurAAP later sent me a formal proposal of chairing the conference, I was sure that I wanted to do it, and the excitement has only increased since then.

Chalmers University of Technology and Gothenburg have a long tradition of antenna research, started in the early 1980s by my predecessor at Chalmers, Folke Bolinder, and Olof Dahlsjö at Ericsson Radar Electronics (ERE). Olof Dahlsjö was the head of the antenna department at ERE for more than 30 years. The antenna department at ERE grew later to what today is the antenna departments within the three companies Ericsson AB, Saab AB Electronic Defence Systems, and RUAG Space AB. 14 Swedish companies are today partners of the Chase Antenna Systems VINN Excellence center at Chalmers. The Chase center has a total turnover of 210 MSEK over 10 years (including financial support from the Swedish Governmental Agency for Innovation Systems VINNOVA, Chalmers and the 14 companies), and thus represents a very significant undertaking within antenna systems research in Sweden. This has already resulted in several start-ups and spin-offs from Chalmers research, such as e.g. Bluetest AB. The EuCAP 2013 appears after six years have passed of the lifetime of Chase, so it is a great opportunity for us to show the world what we have achieved during these years. Naturally, all the companies in Chase strongly support that Chalmers is hosting EuCAP 2013, and several of them are also exhibiting at the conference.

If you are interested in the strong antenna history of Sweden, I can recommend you to attend the Thursday afternoon session/ workshop on "The History of Antennas in Sweden". This covers many important Swedish antenna historical aspects including Grimeton radio station SAQ (a Unesco World Heritage, we also arrange a visit by bus trip there), Professor Hallén and his famous integral equation, the radio telescope at Onsala outside Gothenburg, the enormous VHF and UHF EISCAT antenna systems for ionospheric Eurora research in Cap of the North, Swedish phased array antennas used e.g. on the Swedish fighter aircrafts JAS Gripen and early warning radar ERIEYE, and Swedish space antenna projects, and the development of the experimental stealth ship "Smyge" (meaning creep in English). There will also be presentations about Allgon, one of the first mass producers of small antennas, and Comhat/Arkivator mass producing reflector antennas and filters for radio links, mainly Ericsson's MINI-LINK, one of their most successful products ever. Bluetest AB will also present their success story related to Over-The-Air (OTA) test equipment for mobile devices. So, I think this session should be interesting for many of you. The session is actually part of a Swedish Antenna Veterans Day, that includes also a bus trip to the Grimeton Unesco World Heritage and the evening banquet with ABBA music show.

Naturally, international telecom companies find Gothenburg interesting today. We have an organization called Microwave Road that promotes the Gothenburg area for its competence in microwaves and antenna technology, and it has enriched the area that Huawei Technologies Sweden AB settled here a few years ago with several interesting antenna projects, involving also financial support of research at Chalmers. Chalmers welcomes this, and sees a lot of potential for the future in developing our competences further together with also a fast-growing and ambitious company like Huawei.

Welcome to the EuCAP 2013

Interactions with China actually have a long tradition in Gothenburg. William Chalmers, the founder of a crafting school for poor children that later became Chalmers University of Technology, earned his fortune as a director of the Swedish East India Company SOIC. This company made 132 trade voyages to China during 1731-1813, and is claimed to be the most successful Swedish company ever. One of their ships sank outside Gothenburg in 1745 full with tea and porcelain, and during 1989-2003 this was discovered, and a replica was built and sailed to China during 2005-2007. If you have time you should visit its museum at the harbor area Eriksberg. Today, Chinese capital stimulates further industrial development in Gothenburg, the most known example being that the Chinese car manufacturer Geely acquired Volvo Cars AB in 2010 and has made large investments in further developments of new car models.

Gothenburg is a perfect city for hosting EuCAP 2013. The Swedish Exhibition and Congress Centre is the perfect venue in terms of modern, practical, useful and flexible conference facilities. The exhibition space is nicely located in between the large lecture rooms. We have nearly 50 exhibitors, including the above-mentioned local companies.

Finally, what would a conference in Sweden be without ABBA music? So, of course we had to arrange that. The closest we can come to the real ones is ARRIVAL from SWEDEN – The World´s Greatest ABBA show ever. I know many of my generation among you who were remotely in love with Agnetha and Anni-Frid during ABBA's heydays, and the ABBA music is still popular among our children. After we have finished the banquet dinner and the speeches (short ones) and EurAAP awards ceremony, I can promise you a real spectacular ABBA music show, thanks to the sponsoring of Bluetest AB. Please sing-along and join the dancing in front of the scene.

Note that all the EuCAP 2013 paper awards will be presented at the closing ceremony on Friday at lunchtime. We know that many of you will attend that.

Finally, I wish you a nice stay in Gothenburg. We cannot guarantee good weather, we actually never can here in the North of Europe, but we know how to enjoy ourselves, even when the weather is bad. And, of course, bad weather is also good for the working spirit: then you can enjoy the conference presentations even more. Let good weather come as a pleasant surprise, with opportunity to enjoy also an early spring. Personally, I have just been enjoying skiing during Easter in the Olympic hills of Lillehammer, being six hours drive away. I am Norwegian as I think you may know, which means that I am "born with skis on my feet", which is the saying we have in Norway.

Per-Simon Kildal
Professor
Department of Signals and Systems
Chalmers University of Technology
Chair of EuCAP 2013

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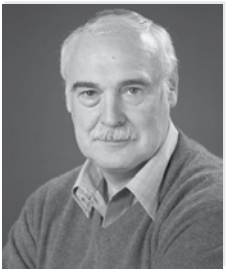
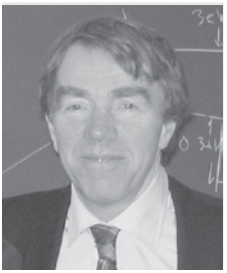


Juan Mosig



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Keynote Speakers

Nader Engheta | **Meta-Waves and Meta-Structures**

Winner of the 2012 IEEE Electromagnetics Award, Nader Engheta is the H. Nedwill Ramsey Professor at the University of Pennsylvania. He received his B.S. degree from the University of Tehran, and his M.S and Ph.D. degrees from Caltech. Selected as one of the Scientific American Magazine 50 Leaders in Science and Technology in 2006, he is a Guggenheim Fellow, an IEEE Third Millennium Medalist, a Fellow of IEEE, American Physical Society (APS), Optical Society of America (OSA), American Association for the Advancement of Science (AAAS), and SPIE-The International Society for Optical Engineering, and the recipient of the 2008 George H. Heilmeier Award for Excellence in Research, the Fulbright Naples Chair Award, NSF Presidential Young Investigator award, the UPS Foundation Distinguished Educator term Chair, and several teaching awards including the Christian F. and Mary R. Lindback Foundation Award, S. Reid Warren, Jr. Award and W. M. Keck Foundation Award. He has co-edited (with R. W. Ziolkowski) the book entitled "Metamaterials: Physics and Engineering Explorations" by Wiley-IEEE Press, 2006. He was the Chair of the Gordon Research Conference on Plasmonics in June 2012.

Henrik Lind | **How new active safety system and always connected vehicles lead to challenges on antenna design and integration in the automotive domain**

Mr. Henrik Lind (MScEE) is a Technical expert on remote sensing within Volvo Car Corporation. Henrik has been working with advanced driver assistance technologies and technology research at Volvo Technological Development since 1997 leading research of GaAs MMICs and 77GHz radar technology for automotive. From the year 2001 Henrik became partly responsible for the introduction of radar and radar related functions at Volvo Car Corporation, with the aim to provide increased safety and comfort to drivers by introducing forward collision warning with emergency brake and adaptive cruise control.

Mikael Höök | **Future of Radio Access**

In the future everything that benefits from being connected will be connected. In this networked society, communication will expand from today's human-centric needs to a large variety of machines and 'things' being connected. Wireless connectivity will be a key enabler in the global communication infrastructure and will have to support not only the heavy increase in traffic but also a more diverse range of requirements. This imposes considerable technology challenges where advancements within areas like multi-antenna technologies, spectrum utilization, air-interface design and co-ordination techniques will be of utmost importance in order to fulfill the requirements on future wireless networks. Technology evolution has however to be tuned for and targeting the propagation characteristics that will dominate future deployments. Mikael Höök has been Head of Radio Access Technologies at Ericsson Research since 2007. He is based in Kista and the responsibility covers research of air-interface design, advanced signal processing, multi-antenna systems, propagation and modem RF design. Results are fed into standardization and product development. Höök has been involved in the research and standardization of GPRS, EDGE, HSPA and LTE. Höök has 18 years of experience in the areas of research and standardization of wireless access technologies. He holds an MSc degree in Electric Engineering from the Royal Institute of Technology in Stockholm.

Invited Speakers

Ke Wu | **Multi-Dimensional and Multi-Functional Substrate Integrated Waveguide Antennas and Arrays for GHz and THz Applications: An Emerging Disruptive Technology**

Ke Wu is professor of electrical engineering, and Tier-I Canada Research Chair in RF and millimeter-wave engineering at the Ecole Polytechnique (University of Montreal). He holds the first Cheung Kong endowed chair professorship (visiting) at the Southeast University, the first Sir Yue-Kong Pao chair professorship (visiting) at the Ningbo University, and an honorary professorship at the Nanjing University of Science and Technology, the Nanjing University of Post Telecommunication, and the City University of Hong Kong, China. He has been the Director of the Poly-Grames Research Center and the founding Director of the Center for Radiofrequency Electronics Research of Quebec (Regroupement stratégique of FRQNT). He has also hold guest and visiting professorship in many universities around the world. He has authored or co-authored over 860 referred papers, and a number of books/book chapters and filed more than 30 patents. His current research interests involve substrate integrated circuits (SICs), antenna arrays, advanced CAD and modeling techniques, wireless power transmission, and development of low-cost RF and millimeter-wave transceivers and sensors for wireless systems and biomedical applications. He is also interested in the modeling and design of microwave photonic circuits and systems. Dr. Wu is a member of Electromagnetics Academy, the Sigma Xi Honorary Society, and the URSI. He has held key positions in and has served on various panels and international committees including the chair of technical program committees, international steering committees and international conferences/symposia. In particular, he was the general chair of the 2012 IEEE MTT-S International Microwave Symposium. He has served on the editorial/review boards of many technical journals, transactions, proceedings and letters as well as scientific encyclopedia including editors and guest editors. He is currently the chair of the joint IEEE chapters of MTTS/APS/LEOS in Montreal. Dr. Wu is an elected IEEE MTT-S AdCom member for 2006-2015 and served as Chair of the IEEE MTT-S Transnational Committee and Member and Geographic Activities (MGA) Committee. He was the recipient of many awards and prizes including the first IEEE MTT-S Outstanding Young Engineer Award, the 2004 Fessenden Medal of the IEEE Canada and the 2009 Thomas W. Eadie Medal of the Royal Society of Canada. He is a Fellow of the IEEE Fellow, a Fellow of the Canadian Academy of Engineering (CAE) and a Fellow of the Royal Society of Canada (The Canadian Academy of the Sciences and Humanities). He was an IEEE MTT-S Distinguished Microwave Lecturer from Jan. 2009 to Dec. 2011.

Fan Yang | **Progress in Reflectarray Antenna Research: From Enhanced Frequency Features to Advanced Radiation Capabilities**

Fan Yang received the B.S. and M.S. degrees from Tsinghua University, and the Ph.D. degree from University of California, Los Angeles. Currently, he is a Professor at Tsinghua University, and serves as the Director of the Microwave and Antenna Institute. Dr. Yang's research interests include antenna theory, designs, and measurements, electromagnetic band gap (EBG) structures and their applications, computational electromagnetics and optimization techniques, and applied electromagnetic systems. He has published three books, five book chapters, and over 150 journal articles and conference papers. Dr. Yang is a Senior Member of IEEE and a Full Member of URSI/USNC. He is an Associate Editor for IEEE Trans. Antennas Propagation and Associate Editor-in-Chief for Applied Computational Electromagnetics Society Journal.

Invited Speakers

Rodney Vaughan | **Compact, Multiport Antennas for High Spectral Efficiency**

The pursuit of spectral efficiency draws on many different research areas. The most impactful is the deployment of multiport antennas because it is the only technology that allows simultaneous sharing of the spectrum between many users, including full duplex operation in some circumstances. Current system designs are still a long way from their information-theoretic limits, and similarly, current multi-element antenna designs are quite a way from compactness limits. This talk will touch on how wireless has reached this point, along with the need for new results in information theory, communications techniques, networking, antenna elements and arrays, and signal theory. These aspects converge to set the scene for a new generation of adaptive antenna technology, and some design examples will be presented. The design of compact multiport antennas requires an extension of classical performance metrics, and new approaches to measurement and evaluation include tools such as physics-based statistical channel models. Rodney G. Vaughan attended the University of Canterbury, New Zealand, and Aalborg University, Denmark. He worked on mechanical and electrical projects from abattoir hardware to telephone traffic forecasting, before evolving to communications. He is Professor of Electrical Engineering and Sierra Wireless Chair in Communications at Simon Fraser University, B.C., Canada. His research involves propagation and its modelling, signal processing, and multiport antenna design and evaluation. Recent projects include compact bio-implantable antennas; spatial efficiency of MIMO antennas; multifaceted arrays; on-chip (60GHz) antenna structures, blind techniques for MIMO, and mobile sonar channel modeling. He has been on scientific evaluation panels for the funding and knowledge base for ICT in the UK, the Canadian Communications Research Centre, and for the ICT Centre of the CSIRO, Australia. He is Fellow of the IEEE, and an IEEE VT Society Distinguished Lecturer.

Fred Gianesello | **Innovate in a 4G world: RFIC designers discovering antennas**

Dr Fred Gianesello received the B.S. and M.S. degree in Electronics Engineering from Institut National Polytechnique de Grenoble (Grenoble, France) in 2003 and the Ph.D. degrees in electrical engineering from the Joseph Fourier University (Grenoble, France) in 2006. Dr Gianesello has authored and coauthored more than 80 refereed journal and conference technical articles. He currently is with STMicroelectronics (Crolles, France), where he leads the development of electromagnetic devices integrated on advanced RF CMOS/BiCMOS, silicon photonics and advanced packaging technologies. The rapid growth of wireless data and complexity of 4G systems drive new design challenges for RF chipset and handheld/mobile device manufacturers along with carriers. The wide and many frequency bands to be supported in multimode phone pose severe RF design challenges both from the chipset and antenna point of view. Generally, RF chipset and antenna designs are performed independently and there is little exchange between RFIC and antenna designers. This talk will provide a perspective in order to illustrate how the wireless industry can innovate and improve RF system performances leveraging a closer collaboration between RFIC and antenna communities.

Invited Speakers

Bertram Arbesser-Rastburg | **European Collaborative Propagation Research - a tribute to Aldo Paraboni and Gert Brussaard**

Bertram Arbesser-Rastburg studied Electrical Engineering at the Technical University of Graz, Austria. In his first position at the Technical University of Graz, he was involved in the design of a C-band weather radar for propagation studies. In 1983 he became Propagation Engineer at INTELSAT in Washington, D.C., taking responsibility for propagation experiments in tropical regions. In 1988 he joined the European Space Agency where he was responsible for the planning and implementation of wave propagation studies for all aspects of satellite communication and navigation as well as wave interaction studies for earth observation. End of 2007 he was appointed Head of the Electromagnetics and Space Environment Division of the European Space Agency, responsible for R&D and project support in the fields of Antennas, Propagation, EMC and Space Environment. He is Chairman of ITU-R SG3 (Propagation), Coordinator of the European part of the international SBAS-IONO Group and Executive Secretary of the Galileo Science Advisory Committee. He is member of the Board of Directors of EurAAP and Chairman of Commission F of the Netherlands URSI Committee. He serves as member of the editorial boards of the "International Journal of Satellite Communications and Networking" and as member of the Scientific Advisory Board of "Annals of Telecommunications". He is Senior Member of IEEE and Member of AGU, IEICE and OVN.

Femius Koenderink | **Antenna ideas at the nanoscale: quantum emitters at visible wavelengths controlled using plasmonics and metamaterials**

Femius Koenderink heads the Resonant Nanophotonics Group at the FOM Institute AMOLF, Amsterdam, the Netherlands, and is also affiliated as a professor to the Institute of Physics at the University of Amsterdam. After a MSc in Experimental Physics (1998) and in Mathematics (1999), he obtained his PhD on emission and transport of light in photonic crystals in 2003 at the University of Amsterdam. During a postdoctoral stay with Vahid Sandoghdar at the Swiss Federal Institute of Technology (ETH Zurich), he became interested in nanophotonics: the science of measuring and manipulating light confinement and light-matter interaction at deeply subwavelength length scales. His group at AMOLF aims to bring antenna physics to the nanoscale in order to manipulate the interaction of quantum emitters and single photons. The group models, realizes and characterizes plasmonic and metamaterial antennas, and explores their uses to control how fast, how brightly, and where to single molecules and quantum dots emit.

Invited Speakers

Yves Lostanlen | **From heterogeneous wireless networks to sustainable efficient ICT infrastructures: how antenna and propagation simulation tools can help?**

Yves Lostanlen, MSc, PhD, DSc (HDR) is a multilingual Business Executive and Technology Expert in the Information and Communication Technology (ICT) Industry. Currently Vice President and CTO of the Wireless activities at Siradel, a high-tech company specialized in complex wireless system design optimization, Yves has been involved, for more than 15 years, in delivering highly praised high-tech products and expert consultancies to many top-tier companies in the ICT and Media Industry: government, policy makers, regulation bodies, wireless operators and manufacturers. Yves is known for his ability and versatility to jump in a new environment, to successfully valuate and transfer innovative technology, and to create original solutions at the crossroads of several industries. His research focuses on smart devices, efficient wireless networks and Smart Cities minimizing the Energy consumption, EM wave Exposure and Spectrum needs to deliver optimal user experiences. Yves Lostanlen is also Professor of Wireless Communication Systems at the University of Toronto, Canada, as Industrial Adjunct Fellow in the ECE Communications Group. A senior IEEE member, Dr. Lostanlen serves as Board Member of the IEEE ComSoc Education Board, as Technical Program Committee Chair for IEEE International Conference on Telecommunications (2012, 2013). He also serves as Guest Editor for EURASIP special issues. Author and co-author of more than 100 peer-reviewed scientific articles, Yves Lostanlen is co-author of 2 chapters of the recent book "LTE-Advanced and Next Generation Wireless Networks: Channel Modelling and Propagation".

Giuseppe Vecchi | **Electromagnetic simulation of a multi-scale world- and beyond**

Giuseppe Vecchi received the Laurea and Ph.D. (Dottorato di Ricerca) degrees in electronic engineering from the Politecnico di Torino, Torino, Italy, in 1985 and 1989, respectively, with doctoral research carried out partly at Polytechnic University (Farmingdale, NY). He was a Visiting Scientist with Polytechnic University in 1989-1990, and since 1990 he is with the Department of Electronics, Politecnico di Torino, where he has been Assistant Professor, Associate Professor (1992 – 2000), and Professor. He was a Visiting Scientist at the University of Helsinki, Finland, in 1992, and has been an Adjunct Faculty in the Department of Electrical and Computer Engineering, University of Illinois at Chicago, since 1997. In 2010 he has been nominated academic reference person for the "Innovation Front-End", a technology-transfer outreach initiative of Politecnico di Torino. Prof. Vecchi is a Fellow of the IEEE, an Associate Editor of the IEEE Transactions on Antennas and Propagation, member of the Board of the European School of Antennas (ESOA), member of the IEEE-APS Educational Committee, and the Chairman of the IEEE AP/MTT/ED Italian joint Chapter. He serves as Course Organizer and instructor for the ESOA. His current research activities concern analytical and numerical techniques for analysis, design and diagnostics of antennas and devices, RF plasma heating, electromagnetic compatibility, and imaging.

Invited Speakers

Ernst Bonek | **MIMO propagation channel modeling**

Ernst Bonek (http://www.nt.tuwien.ac.at/about-us/staff/ernst-bonek/) received the Dipl.-Ing. and Dr. techn. degrees from Technische Universität Wien (TU Wien). In 1984, he was appointed Full Professor of Radio Frequency Engineering at the TU Wien, where he worked until his retirement in 2004. His field of research has been mobile communications, starting 1984, when the sweeping success of this technology had been by no means apparent.

Contributions:

3D super-resolution measurements of the urban radio channel "double-directional" viewpoint of the mobile radio channel MIMO propagation channel models advanced antenna designs, mostly smart antennas

1996 - 1999 Board of Directors of Post und Telekom Austria (PTA)
1997 - 2005 Chairman of the „Antennas and Propagation" working group in COST 259 and COST 273
1999 - 2002 Chairman of Commission C "Signals and Systems" of URSI
1999 Initiator of Forschungszentrum Telekommunikation Wien
2008 Dr. Techn. honoris causa from Lund Universitet, Sweden

Anja Skrivervik | **Implantable antennas: The challenge of efficiency**

Anja Skrivervik obtained her electrical engineering degree from Ecole Polytechnique Fédérale de Lausanne in 1986, and her PhD from the same institution in 1992, for which she received the Latsis award. After a stay at the University of Rennes as an invited Research Fellow and two years in the industry, she returned part time to EPFL as an Assistant Professor in 1996, and is now a Professeur Titulaire at this institution. Her teaching activities include courses on microwaves and antennas. Her research activities include electrically small antennas, implantable and on body antennas, multifrequency and ultra wideband antennas, numerical techniques for electromagnetics and microwave and millimeter wave MEMS. She is author or co-author of more than 100 scientific publications. She is very active in European collaboration and European projects. She is currently the chairperson of the Swiss URSI, the Swiss representative for COST action 297 and a member of the board of the Center for High Speed Wireless Communications of the Swedish Foundation for Strategic Research.

Invited Speakers

AMTA Invited Speaker: Michael H. Francis | **Estimating Uncertainties in Antenna Measurements**

Michael Francis received the Bachelor's Degree in physics in 1973 and a Master's Degree in 1976, both from the University of Colorado. He was a research assistant at the University of Colorado from 1974 – 1980, where he studied the solar chromosphere-corona transition region. He joined the National Institute of Standards and Technology (then the National Bureau of Standards) Antenna Metrology Group in 1980. His research has been primarily in the theory and practice of near-field measurements. He has participated in the development of probe-position correction methods at NIST for both planar and spherical near-field measurement techniques. He specializes in uncertainty analysis methods for near-field measurements. He was the project leader for the NIST/Boulder team that performed the electromagnetic testing of the prototype ePassport and ePassport reader. He has organized and lectured at the NIST biannual near-field short course for more than twenty-five years. He is currently a senior scientist in the Radio-Frequency Fields Group at NIST. Mr. Francis has received the US Department of Commerce Bronze, Silver and Gold Medals. He has received the Antenna Measurement Techniques Association (AMTA) Distinguished Achievement and Distinguished Service Awards. He is a Senior Member of the IEEE and currently chairs the IEEE Antenna Standards Committee and the Near-Field Working Group. This presentation will describe some general methods of estimating uncertainties in antenna measurements. These include estimates based on theory (analytical), simulation, and altering the measurement system (self-comparison tests). The important sources of uncertainty in antenna measurement will be presented (some examples of important sources of uncertainty include: alignment, multipath, and noise). Combining uncertainties will be discussed. The conditions for the validity of the central limit theorem will be considered. Finally, a measurement example from planar near-field measurements will be given.

Anthony Grbic | **Metamaterial Surfaces for Near and Far-Field Applications**

Anthony Grbic (S'00–M'06) received the B.A.Sc., M.A.Sc., and Ph.D. degrees in electrical engineering from the University of Toronto, Toronto, ON, Canada, in 1998, 2000, and 2005, respectively. In January 2006, he joined the Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, where he is currently an Associate Professor. His research interests include engineered electromagnetic structures (metamaterials, electromagnetic band-gap materials, frequency selective surfaces), printed antennas, microwave circuits, wireless power transmission systems, and analytical electromagnetics. Dr. Grbic received an AFOSR Young Investigator Award as well as an NSF Faculty Early Career Development Award in 2008. In January 2010, he was awarded a Presidential Early Career Award for Scientists and Engineers. In 2011, he received an Outstanding Young Engineer Award from the IEEE Microwave Theory and Techniques Society, a Henry Russel Award from the University of Michigan, and a Booker Fellowship from the United States National Committee of the International Union of Radio Science (USNC/URSI). In 2012, he was the inaugural recipient of the Ernest and Bettine Kuh Distinguished Faculty Scholar Award in the Department of Electrical and Computer Science, University of Michigan. Anthony Grbic served as Technical Program Co-Chair for the 2012 IEEE International Symposium on Antennas and Propagation and USNC-URSI National Radio Science Meeting. He is currently the Vice Chair of AP-S Technical Activities, Trident Chapter, IEEE Southeastern Michigan section.

Invited Speakers

Hisamatsu Nakano | **Natural and metamaterial low-profile antennas with emphasis on realization of wideband characteristics**

Hisamatsu Nakano received a Dr. E. degree in electrical engineering from Hosei University, Tokyo, in 1974. He has been a faculty member of Hosei University since 1973, where he is now a Professor in the Electrical and Electronics Engineering Department. His research topics include numerical methods for low- and high-frequency antennas and optical waveguides. He has published over 290 articles in major refereed journals and is the author or co-author of eight books. In 1989, he received the IEE (currently IET) International Conference on Antennas and Propagation Best Paper Award. In 1992, he was elected an IEEE Fellow for contributions to the design of spiral and helical antennas, and, in 1994, he received the IEEE Transactions on Antennas and Propagation Best Application Paper Award (H. A. Wheeler Award). He also received the IEEE Antennas and Propagation Society Chen-To Tai Distinguished Educator Award, in 2006. More recently, in 2010, he received the Prize for Science and Technology from Japan's Minister of Education, Culture, Sports, Science, and Technology. Prof. Nakano has served as a member of AdCom (2000-2002) and a Region 10 representative (2004-2010) of the IEEE Antennas and Propagation Society. He is an associate editor of several journals and magazines, such as Electromagnetics, IEEE Antennas and Propagation Society Magazine, and IEEE Antennas and Wireless Propagation Letters.

Kevin Boyle | **Antenna tuners for mobile applications**

Kevin Boyle received a B.Sc. (Hons.) in Electrical and Electronic Engineering from City University, London, a M.Sc. (with distinction) in Microwaves and Optoelectronics from University College, London and the Doctor of Technology degree from Delft University of Technology. He has more than twenty years experience in the design of a wide range of antennas and associated RF systems. He was with Marconi Communications Systems Ltd. until to 1997, working on all aspects of antenna system design. He then joined Philips Research Laboratories (which became NXP Semiconductors Research in 2006) where he was a Principal Research Scientist and a Cluster/Project Leader for antenna and propagation related activities. In 2008 he joined EPCOS (which has since become TDK-EPC) working as an Antenna Systems Architect. His main areas of interest include antenna design for mobile communication systems, adaptive RF systems, MIMO/diversity, propagation modelling and related areas of mobile system design. Dr. Boyle has actively participated in COST 259 and COST 273, is a member of the IEEE and IET – where currently serving on the Antennas and Propagation Executive Committee - and a Chartered Engineer. He has published more than thirty papers in refereed international journals and conferences, has contributed to two books and holds more than fifteen patents.

Monday, April 8

09:30 - 10:00 Opening: Opening
Room: Congress hall
Chairs: Per-Simon Kildal (Chalmers University of Technology, Sweden), Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

10:00 - 10:40 PS1: Plenary Keynote Speaker 1
Room: Congress hall
Chair: Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

10:00 Meta-Waves and Meta-Structures
Nader Engheta (University of Pennsylvania, USA)

COFFEE BREAK

11:20 - 12:00 PS2: Plenary Keynote Speakers 2
Room: Congress hall
Chair: Per-Simon Kildal (Chalmers University of Technology, Sweden)

11:20 How New Active Safety Systems and Always Connected Vehicles Leads to Challenges on Antenna Design and Integration in the Automotive Domain
Henrik Lind (Volvo Car Corporation, Sweden)

12.00 - 12:40 PS3: Plenary Keynote Speaker 3
Room: Congress hall
Chair: Per-Simon Kildal (Chalmers University of Technology, Sweden)

12:00 Future of Radio Access
Mikael Höök (Ericsson AB, Sweden)

14:00 - 14:40 IL1.1: Invited speaker 1
Room: Congress hall
Chairs: Peter de Maagt (European Space Agency, The Netherlands), Richard W. Ziolkowski (University of Arizona, USA)

14:00 Multi-Dimensional and Multi-Functional Substrate Integrated Waveguide Antennas and Arrays for GHz and THz Applications: An Emerging Disruptive Technology
Ke Wu (Ecole Polytechnique (University of Montreal) & Center for Radiofrequency Electronics Research of Quebec, Canada)

14:00 - 14:40 IL1.2: Invited speaker 2
Room: G1
Chairs: Steven R Best (The MITRE Corporation, USA), Dirk Manteuffel (University of Kiel, Germany)

14:00 Compact Multiport Antennas for High Spectral Efficiency
Rodney Vaughan (Simon Fraser University, Canada)

14:40 - 18:30 A06: Antenna systems and architectures

Room: E1

Chairs: Antoine Roederer (Technical University of Delft - IRCTR, The Netherlands), Manfred Thumm (Karlsruhe Institute of Technology, Germany)

14:40 Four-Element Compact Planar Antenna Array for Robust Satellite Navigation Systems
Safwat Irteza Butt (Ilmenau University of Technology, Germany); Matthias Hein (Ilmenau University of Technology, Germany); Ralf Stephan (Technische Universität Ilmenau, Germany); Matteo Sgammini (German Aerospace Center (DLR) & DLR-OP, Germany); Eric Schäfer (IMMS, Germany)

15:00 New Models for Passive Non Linearities Generating Intermodulation Products with Non-Integer Slopes
Jacques Sombrin (TéSA Laboratory, France); Geoffroy Soubercaze-Pun (CNES, France); Isabelle Albert (CNES, France)

15:20 Tunable Antenna System for Plug&Play Satellite Avionics
Cecilia Occhiuzzi (University of Rome „Tor Vergata", Italy); Luca Piazzon (University of Roma Tor Vergata, Italy); Giovannni Galgani (IDS, Italy); Gabriele Scozza (IDS, Italy); Andrea Giacomini (SATIMO, Italy); Paolo Colantonio (University of Roma Tor Vergata, Italy); Marco Sabbadini (Esa Estec, The Netherlands); Gaetano Marrocco (University of Rome Tor Vergata, Italy)

15:40 Effect of Digitally Modulated Signals on Multipactor Breakdown
Apostolos L. Sounas (Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland); Michael Mattes (EPFL, Switzerland)

16:00 A GA-Based Strategy for the Calibration of Satellite Communication Phased Array Antennas
Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Marco Salucci (ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy); Alessandro Saverio (Selex Elsag, Italy); Tindaro Cadili (Selex Elsag, Italy); Liborio Gianino (Selex Elsag, Italy); Massimo Russo (Selex Elsag, Italy)

COFFEE BREAK

16:50 Method for Vector Sensor Design Based on a Spherical Mode Approach for 3D DoA Estimation
Jimmy Lominé (Rockwell Collins France & ENAC - Ecole Nationale de l'Aviation Civile, France); Christophe Morlaas (ENAC, France); Hervé Aubert (Laboratory of Analysis and Architecture of Systems & Institut National Polytechnique de Toulouse, France)

17:10 Ka-Band Groundstation Antenna Aspects for Deep Space Telecommunication and Radar
Kees van ,t Klooster (European Space Agency, The Netherlands); Michael Petelin (Institute of Applied Physics, Russia); Manfred Thumm (Karlsruhe Institute of Technology, Germany); Marinella Aloisio (European Space Agency (ESTEC), The Netherlands)

17:30 S-band Electronically Switched Beam Antenna for Interactive Mobile Satellite Communications
Jose Padilla (JAST SA & EPFL, Switzerland); Noelia Ortiz (Universidad Publica de Navarra, Spain); Carolina Vigano (JAST SA, Switzerland); Ferdinando Tiezzi (JAST SA, Switzerland)

17:50 GEODA-SARAS: Multi-Phased Array Planar Antenna for Satellite Communications
Álvaro Noval Sánchez de Toca (Universidad Politécnica Madrid & Grupo de Radiación, Spain); José Manuel Inclán-Alonso (Universidad Politécnica de Madrid, Spain); Javier García-Gasco Trujillo (Universidad Politécnica de Madrid, Spain); José-Manuel Fernández-González (Universidad Politécnica de Madrid, Spain); Manuel Sierra Perez (Universidad Politecnica de Madrid, Spain)

18:10 On the Design of a Planar Phased Array Radar Antenna Architecture for Space Debris Situational Awareness
Javier García-Gasco Trujillo (Universidad Politécnica de Madrid, Spain); Stephane Halte (Ohlystr 62, Germany); Manuel Sierra Perez (Universidad Politecnica de Madrid, Spain); Pier Mario Besso (Esa – Esoc, Germany)

Monday, April 8

14:40 - 18:30 P2: Fixed propagation modeling and measurement campaigns
Room: E2
Chairs: Antonio Martellucci (European Space Agency, The Netherlands), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

14:40 Space-Time Rain Rate Field Generator for Multi-Antenna Satellite Communication Applications
Charilaos Kourogiorgas (National Technical University of Athens, Greece); Georgios Karagiannis (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

15:00 Satellite-Earth K-band Beacon Measurements At Kjeller, Norway
Lars Erling Bråten (Norwegian Defence Research Establishment (FFI), Norway); Jostein Sander (FFI, Norway); Terje Mjelde (FFI, Norway)

15:20 Short-Term Terrain Diffraction Measurements: Preliminary Results
Milan Kvicera (Czech Technical University in Prague, Czech Republic); Pavel Valtr (Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic); Tomas Korinek (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Martin Grabner (Czech Metrology Institute, Czech Republic); Vaclav Kvicera (Czech Metrology Institute, Czech Republic); Antonio Martellucci (European Space Agency, The Netherlands)

15:40 Separation of Rain and Ice Contributions for Depolarization At Ka Band
Armando C Rocha (University of Aveiro & Institute of Telecommunications, Portugal); Flávio Jorge (University of Aveiro, Portugal)

16:00 Slant Path Attenuation and Microscale Site Diversity Gain Measured and Predicted in Guam with the Synthetic Storm Technique At 20.7 GHz
Acosta (USA); Emilio Matricciani (Politecnico di Milano, Italy); Carlo Riva (Politecnico di Milano, Italy)

COFFEE BREAK

16:50 Tipping Bucket Data Processing for Propagation Application
Michele D'Amico (Politecnico di Milano, Italy); Siat Ling Jong (Universiti Teknologi Malaysia, Malaysia); Carlo Riva (Politecnico di Milano, Italy)

17:10 Prediction of Monthly Rain Attenuation Maps Over the USA
Lorenzo Luini (Politecnico di Milano, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Luis Emiliani (SES-ASTRA, Luxemburg)

17:30 RF Immunity Testing of an Unmanned Aerial Vehicle Platform Under Strong EM Field Conditions
Livio Torrero (CSP, Italy); Paolo Mollo (CSP - Innovazione nelle ICT, Italy); Andrea Molino (CSP - ICT Innovation & Research Institute, Italy); Alberto G. Perotti (CSP-ICT Innovation, Italy)

17:50 Preliminary Results on the Performance of an Indicator to Identify the Status of the Sky Along a Satellite Link by Means of Ground-Based Brightness Temperatures
Ada Vittoria Bosisio (CNR-IEIIT & c/o Politecnico di Milano, Italy); Ermanno Fionda (Fondazione Ugo Bordoni, Italy); Piero Ciotti (University of L'Aquila, Italy); Antonio Martellucci (European Space Agency, The Netherlands)

18:10 Techniques for the Combination of Microwave Radiometer Data
Alberto Graziani (University of Bologna, Italy); Vinia Mattioli (Sapienza University of Rome / Perugia, Italy); Antonio Martellucci (European Space Agency, The Netherlands); Paolo Tortora (University of Bologna, Italy)

14:40 - 16:20 CA18: Advanced and Emerging Applications of Inverse Scattering Techniques

Room: E3

Chairs: Andrea Massa (University of Trento, Italy), Mikael Persson (Chalmers University of Technology, Sweden)

14:40 Microwave Imaging Without Information of Sources Producing Incident Fields
Takashi Takenaka (Nagasaki University, Japan); Toshifumi Moriyama (Nagasaki University, Japan)

15:00 Enhancing the Factorization Method Relying on Its Physical Meaning
Lorenzo Crocco (CNR - National Research Council, Italy); Ilaria Catapano (CNR - National Research Council of Italy, Italy); Loreto Di Donato (University of Reggio Calabria, Italy); Tommaso Isernia (University of Reggio Calabria, Italy)

15:20 Robust Microwave Imaging for Brain Stroke Monitoring
Rosa Scapaticci (CNR-National Research Council of Italy, Italy); Ovidio Mario Bucci (University of Naples, Italy); Ilaria Catapano (CNR - National Research Council of Italy, Italy); Lorenzo Crocco (CNR - National Research Council, Italy)

15:40 Autocorrelation Removal by Phase-Shifted Reference in Off-Axis Gabor Holography
Jordi Marin (Universitat Autónoma de Barcelona, Spain); Pedro de Paco (Universitat Autonoma de Barcelona, Spain)

16:00 Scattering Data Inversion Through Interval Analysis Under Rytov Approximation
Luca Manica (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Marco Salucci (ELEDIA Research Center, Italy); Matteo Carlin (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

16:50 - 18:30 A27: Field scattering and penetration

Room: E3

Chairs: Richard W. Ziolkowski (University of Arizona, USA), Jian Yang (Chalmers University of Technology, Sweden)

16:50 Electromagnetic Forces Produced by Dipole Antennas
Iñigo Liberal (Public University of Navarra, Spain); Iñigo Ederra (Universidad Publica de Navarra, Spain); Ramon Gonzalo (Public University of Navarra, Spain); Richard W. Ziolkowski (University of Arizona, USA)

17:10 Optimal Aperture Distribution of Near-Field Antennas for Maximum Signal Penetration
Aidin Razavi (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Tomas McKelvey (Chalmers University of Technology, Sweden)

17:30 RCS Prediction Using Fast Ray Tracing in Plücker Coordinates
Nilgün Altın (Turkish Aerospace Industries, Turkey)

17:50 Asymptotic UTD Analysis of the Radiation of a TW Magnetic Current Distribution Over a PEC Cylinder
Federico Puggelli (University of Siena, Italy); Giorgio Carluccio (University of Siena, Italy); Matteo Albani (University of Siena, Italy); Janpugdee Panuwat (Chulalongkorn University, Thailand); Prabhakar Pathak (The Ohio State University, USA)

18:10 Simulation of Electromagnetic Field of a Fast Moving Target Close to Antennas
Filip Kozak (Czech Technical University in Prague, Czech Republic); Miloslav Capek (Czech Technical University in Prague, Czech Republic); Vojtech Jenik (Czech Technical University in Prague, Czech Republic); Premysl Hudec (Czech Technical University in Prague, Czech Republic); Zbynek Skvor (Czech Technical University in Prague, Czech Republic)

Monday, April 8

14:40 - 18:30 CA17: OTA measurements of wireless devices 1

Room: G1

Chairs: Jan Carlsson (SP Technical Research Institute of Sweden, Sweden), Christian Lötbäck (Bluetest AB, Sweden), Rodney Vaughan (Simon Fraser University, Canada)

14:40 Improved Radiation Pattern Measurements of MIMO Handheld Mobile Terminal
Dirk Manteuffel (University of Kiel, Germany); Robert Martens (University of Kiel, Germany)

15:00 Over the Air Measurement From Single Antenna Device to Multi Antenna Device
Xudong An (CATR of MIIT, P.R. China); Lin Guo (CATR of MIIT, P.R. China); Can Sun (CATR of MIIT, P.R. China); Zheng Liu (CATR of MIIT, P.R. China); Na Wang (CATR of MIIT, P.R. China)

15:20 Evaluating Multi-Element Antennas Using Equivalent Number of Antenna Elements
Jane X. Yun (Simon Fraser University, Canada); Rodney Vaughan (Simon Fraser University, Canada)

15:40 Verification of Emulated Channels in Multi-Probe Based MIMO OTA Testing Setup
Wei Fan (Aalborg University, Denmark); Xavier Carreño (Intel Mobile Communications, Denmark); Jesper Ø Nielsen (Aalborg University, Denmark); Jagjit Ashta (Intel Mobile Communications, Denmark); Gert Pedersen (Aalborg University, Denmark); Mikael Knudsen (Intel Mobile Communications, Denmark)

16:00 On the Use of Reverberation Chambers for Assessment of MIMO OTA Performance of Wireless Devices
Christian Lötbäck (Bluetest AB, Sweden); Anton Skårbratt (Bluetest AB, Sweden); Robert Rehammar (Bluetest AB, Sweden); Charlie Orlenius (Bluetest AB, Sweden)

COFFEE BREAK

16:50 MIMO 2x2 Absolute Data Throughput Concept
Istvan Szini (Aalborg University, USA); Gert Pedersen (Aalborg University, Denmark); Alexandru Tatomirescu (Aalborg University, Denmark); Anatoliy Ioffe (Intel Corporation, USA)

17:10 Evaluating MIMO Over-the-Air Performance Impact of Tilted Device Antennas
Doug Reed (Spirent Communications, USA); Alfonso Rodriguez-Herrera (Spirent Communications, USA); Ronald Borsato (Spirent Communications, USA)

17:30 Over-The-Air Validation of PA Nonlinearity Estimation At the Receiver
Lionel Rudant (CEA-LETI & MINATEC, France); Raffaele D'Errico (CEA, LETI, Minatec Campus, France); Maxime Robin (CEA-Leti, France); Jan Zeleny (CEA-Leti, France); Patrick Rosson (Cea Leti Minatec, France); Cedric Dehos (CEA, France); Andreas Kaiser (ISEN-IEMN, France)

17:50 New Approach to OTA Testing: RIMP and pure-LOS Reference Environments & a Hypothesis
Per-Simon Kildal (Chalmers University of Technology, Sweden); Jan Carlsson (SP Technical Research Institute of Sweden, Sweden)

18:10 Study of OTA Throughput of LTE Terminals for Different System Bandwidths and Coherence Bandwidths
Ahmed Hussain (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden)

CA08: Antenna & Propagation Aspects

14:40 - 18:30 for Multi-Gigabit Communication at 60 GHz and beyond 1

Room: G2
Chairs: Cyril Luxey (University Nice Sophia-Antipolis, France),
Antti V. Räisänen (Aalto University, Finland)

14:40 A High-Gain Microstrip Grid Array Antenna on Low Temperature Co-Fired Ceramic for 60-GHz Applications
Bing Zhang (Chalmers University of Technology, Sweden); Yue Ping Y. P. Zhang (Nanyang Technological University, Singapore); Herbert Zirath (Chalmers University of Technology, Sweden)

15:00 The SWE Gapwave Antenna - A New Wideband Thin Planar Antenna for 60GHz Communications
Jian Yang (Chalmers University of Technology, Sweden)

15:20 Empirical Characterization of Scattering Pattern of Built Surfaces At mm-Wave Frequencies
Mikko Kyrö (Aalto University School of Electrical Engineering, Finland); Vasilii Semkin (Aalto University School of Electrical Engineering, Finland); Veli-Matti Kolmonen (Aalto University & School of Electrical Engineering, Finland)

15:40 Fundamental Analyses of 60 GHz Human Blockage
Martin Jacob (Technische Universität Braunschweig, Germany); Sebastian Priebe (Technische Universität Braunschweig, Germany); Michael Peter (Fraunhofer HHI, Germany); Mike Wisotzki (Fraunhofer Heinrich Hertz Institute, Germany); Robert Felbecker (Fraunhofer Heinrich-Hertz-Institut, Germany); Wilhelm Keusgen (Fraunhofer Heinrich Hertz Institute, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

16:00 Flip-Chip Package with Integrated Antenna on a Polyimide Substrate for a 122-GHz Bistatic Radar IC
Stefan Beer (Karlsruhe Institute of Technology, Germany); Mekdes Girma (Robert Bosch GmbH, Germany); Yaoming Sun (IHP, Germany); Wolfgang Winkler (Silicon Radar GmbH, Germany); Wojciech Debski (Silicon Radar GmbH, Germany); Jaska Paaso (Selmic Oy, Finland); Gerhard Kunkel (Hightech MC AG, Switzerland); Christoph Scheytt (University of Paderborn, Germany); Juergen Hasch (Robert Bosch GmbH, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

COFFEE BREAK

16:50 Parabolic Cylindrical Reflector Antenna At 60 GHz with Line Feed in Gap Waveguide Technology
Esperanza Alfonso (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden)

17:10 Pulse Transmission Using Leaky Lens Antenna and RTD-MOSFET Wavelet Generator
Iman Vakili (Lund University, Sweden); Lars Ohlsson (Lund University, Sweden); Mats Gustafsson (Lund University, Sweden); Lars-Erik Wernersson (Lund University, Sweden)

17:30 IPD Technology for Passive Circuits and Antennas At Millimeter-Wave Frequencies
Bisognin Aimeric (CIMPACA-EPIB, France); Diane Titz (University of Nice, France); Fabien Ferrero (University of Nice & CREMANT CNRS, France); Cyril Luxey (University Nice Sophia-Antipolis, France); Gilles Jacquemod (University of Nice, France); Patrice Brachat (Orange Labs & France Telecom, France); Claire Laporte (STMicroelectronics, France); Hilal Ezzeddine (STMicroelectronics, France); Romain Pilard (STMicroelectronics, Technology R&D, STD, TPS Lab, France); Frédéric Gianesello (STMicroelectronics, France); Daniel Gloria (STMicroelectronics, France)

17:50 D-Band Quasi-Yagi Antenna in IPD Process
Bisognin Aimeric (CIMPACA-EPIB, France); Diane Titz (University of Nice, France); Fabien Ferrero (University of Nice & CREMANT CNRS, France); Cyril Luxey (University Nice Sophia-Antipolis, France); Gilles Jacquemod (University of Nice, France); Patrice Brachat (France Telecom, France); Claire Laporte (STMicroelectronics, France); Hilal Ezzeddine (STMicroelectronics, France)

18:10 An Off-chip Antenna for Mm-wave Applications
Amin Enayati (ESAT, Katholieke Universiteit Leuven & IMEC, Belgium); Walter Raedt (IMEC, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

CA19: 4D Arrays for New Generation

Monday, April 8

14:40 - 18:10 Reconfigurable Systems
Room: J1
Chairs: Paolo Rocca (University of Trento, Italy), Francesca Vipiana (Politecnico di Torino, Italy), Ioan E. Lager (Delft University of Technology, The Netherlands)

14:40 A Directional Modulation Technique for Secure Communication Based on 4D Antenna Arrays
Quanjiang Zhu (University of Electronic Science and Technology of China, P.R. China); Shi Wen Yang (University of Electronic Science and Technology of China, P.R. China); Ruilin Yao (University of Electronic Science and Technology of China, P.R. China); Zaiping Nie (University of Electronic Science and Technology of China, P.R. China)

15:00 A Study on 4D Antenna Arrays Conformed to a Cylindrical Platform
Shi Wen Yang (University of Electronic Science and Technology of china, P.R. China); Chuan Liu (University of Electronic Science and Technology of China (UESTC), P.R. China); Zheng Li (University of Electronic Science and Technology of China (UESTC), P.R. China); Quanjiang Zhu (University of Electronic Science and Technology of China, P.R. China)

15:20 Non-uniform Array Antennas - The Time-Domain Perspective
Amir Shlivinski (Ben-Gurion University of the Negev, Israel); Ioan E. Lager (Delft University of Technology, The Netherlands); Ehud Heyman (Tel Aviv University, Israel)

15:40 Optimized Design of Sparse Time Modulated Linear Arrays
Lorenzo Poli (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy); Michele D'Urso (SELEX Sistemi Integrati S.p.A., Italy)

16:00 Timed Arrays as New Imaging Systems
Giorgio Franceschetti (Università di Napoli Federico II, Italy)

COFFEE BREAK

16:50 Sidelobe Level and Bandwidth Optimization for Thinned Planar Antenna Arrays Using Time Modulation
Erkan Afacan (Gazi University, Turkey)

17:10 Planar UWB Antenna Array for Breast Cancer Detection
Takamaro Kikkawa (Hiroshima University, Japan)

17:30 Advances on Time-Modulated Arrays for Cognitive Radio
Ephrem Teshale Bekele (University of Trento & Eledia Research Center, DISI, University of Trento, Italy); Lorenzo Poli (University of Trento, Italy); Luca Manica (University of Trento, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy); Shi Wen Yang (University of Electronic Science and Technology of china, P.R. China); Quanjiang Zhu (University of Electronic Science and Technology of China, P.R. China)

17:50 Time Modulated and Reactive Loadings Beam Steering of Circular Array Antenna Application Using Genetic Algorithm Optimization Techniques
Abubakar Sadiq Hussaini (Instituto de Telecomunicações & University of Bradford, Portugal); Issa Elfergani (University of Bradford & Instituto de Telecomunicações, United Kingdom); Raed A Abd-Alhameed (University of Bradford, United Kingdom); Tahereh S. Ghazaany (University of Bradford & Datong Plc, United Kingdom); Mark Child (University of Bradford, United Kingdom); Jonathan Rodriguez (Instituto de Telecomunicações, Portugal)

A20: Small antenna and RF sensors
Room: J2

14:40 - 16:20 Chairs: Yi Huang (University of Liverpool, United Kingdom), Jan Zackrisson (RUAG Aerospace Sweden, Sweden)

A New Generation of S-Band Wide Coverage Antennas
Raul Timbus (RUAG Space Sweden, Sweden); Karin Woxlin (RUAG Space Sweden, Sweden); Jan Zackrisson (RUAG Aerospace Sweden, Sweden); Mikael Öhgren (RUAG Space AB, Sweden)

15:00 Superdirective Compact Arrays of Metamaterial-Inspired Electrically Small Antenna
Bruno Sentucq (University of Rennes 1, France); Ala Sharaiha (Université de Rennes 1 & IETR, France); Sylvain Collardey (University of Rennes 1, France)

15:20 Miniaturization of Cavity-Backed Crossed-Slot Antenna Using Folded Cavity
Sumin Yun (Seoul National University & INMC, Korea); Sangwook Nam (Seoul National University, Korea)

15:40 A Conformal U-shaped Loop Antenna for Biomedical Applications
Rula Alrawashdeh (The University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Ping Cao (University of Liverpool, United Kingdom)

16:00 A CPW Fed Star Shaped Patch Antenna for WSN Applications
Shanmuga Priya (MAM College of Engineering, India)

COFFEE BREAK

16:50 - 18:30 Chairs: : Jens Bornemann (University of Victoria, Canada), Jussi Rahola (Optenni Ltd, Finland)

16:50 Efficient Design of Substrate Integrated Waveguide Power Dividers for Antenna Feed Systems
Zamzam Kordiboroujeni (University of Victoria, Canada); Jens Bornemann (University of Victoria, Canada)

17:10 A 5 Way Lumped-Elements Wilkinson Power Divider
Alicja Kość (German Aerospace Center, Germany); Markus Limbach (German Aerospace Center (DLR), Germany); Alberto Di Maria (German Aerospace Center (DLR), Germany); Ralf Horn (German Aerospace Center (DLR), Germany); Andreas Reigber (German Aerospace Center (DLR), Germany)

17:30 Design of Circularly Polarized Annular Slot Antennas for Satellite Navigation Systems
Marcos Heckler (Universidade Federal do Pampa, Brazil); Roger Farias (Universidade Federal do Pampa, Brazil); Lucas Pereira (Universidade Federal do Pampa, Brazil); Edson Schlosser (Universidade Federal do Pampa, Brazil); Cleiton Lucatel (Universidade Federal do Pampa, Brazil)

17:50 Textile Artificial Magnetic Conductor Waveguide Sheet with Monopole Antennas for Body Centric Communication
Kamilia Kamardin (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Peter S Hall (University of Birmingham, United Kingdom); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia); Mohd Ezwan Jalil (Universiti Teknologi Malaysia, Malaysia); Osman Ayop (Universiti Teknologi Malaysia, Malaysia)

18:10 Compact Multiband Antenna System for Smartphone Platforms
Jaume Anguera, Cristina Picher, Aurora Andújar, Carles Puente (Fractus, Spain); Sungtek Kahng (University of Incheon, Korea)

A16: Printed elements, baluns and associated circuits
Room: J2

A28: Integral equations and moment methods
Room: R22+R23

Monday, April 8

14:40 - 18:30 Chairs: Thomas Rylander (Chalmers University of Technology, Sweden), Zvonimir Sipus (University of Zagreb, Croatia)

14:40 Surface Impedance for Electromagnetic Fields Over a Dielectric-Coated Circular Cylinder
Andrés G. Aguilar (Technical University of Madrid, Spain); Zvonimir Sipus (University of Zagreb, Croatia); Manuel Sierra-Pérez (Universidad Politécnica de Madrid, Spain)

15:00 Comparison of MoM Implementations of Surface Impedance Boundary Conditions for Material Sheets with Analytical and Measurement Data
Faik G. Bogdanov (EMCoS, Georgia); Roman Jobava (EMCoS, Georgia); Khatuna Khasaia (EMCoS, Georgia)

15:20 Development, Validation and Application of Node Triangle Joint Basis Functions in MoM Implementations for Triangulated Geometries
Faik G. Bogdanov (EMCoS, Georgia); Roman Jobava (EMCoS, Georgia); Irina Chochia (EMCoS, Georgia)

15:40 An Accelerated Implementation of the FMIR-MoM Algorithm
Greg Hislop (CSIRO Earth Science and Resource Engineering, Australia); Christophe Craeye (Université Catholique de Louvain, Belgium)

16:50 Near-field Characteristics of PMC Annealed
Zvonimir Sipus (University of Zagreb, Croatia); Per-Simon Kildal (Chalmers University of Technology, Sweden)

COFFEE BREAK

17:10 Reduced-Matrix Charge and Current Formulation of the Electromagnetic Method of Moments
Jan-willem De Bleser (Katholieke Universiteit Leuven, Belgium); Emmanuel H. Van Lil (Katholieke Universiteit Leuven, Belgium); Antoine Van de Capelle (Katholieke Universiteit Leuven, Belgium)

17:30 The Multiscale Compressed Block Decomposition as a Preconditioner for Method of Moments Computations
Alexander Heldring (Polytechnical University of Catalunya, Spain); Eduard Ubeda (Universitat Politècnica de Catalunya (UPC), Spain); Juan M. Rius (Universitat Politècnica de Catalunya, Spain)

17:50 Steady Improvement of Conditioning and Convergence of Surface Integral Equations for Arbitrary Penetrable Bodies
Luis Bote Curiel (University of Extremadura, Spain); Luis Landesa (University of Extremadura, Spain); Marta G. Araújo (Universidade de Vigo, Spain); Jose M. Taboada (University of Extremadura, Spain); Fernando Obelleiro (University of Vigo, Spain)

18:10 A Non-Resonant Current and Charge Integral Equation
Felipe Vico-Bondía (Universidad Politécnica de Valencia, Spain); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain); Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain); Eva Antonino-Daviu (Universidad Politecnica de Valencia, Spain)

A24: Wearable antennas
Room: R24+R25
Chairs: Jonas Fridén (Ericsson AB, Sweden), Anja K. Skrivervik (EPFL, Switzerland)

14:40 - 18:30

14:40 Parametric Study of the Low-Profile Over-the-Shoulder Antenna Based on Coupled Patches Technique
Milan Svanda (Czech Technical University in Prague, Czech Republic); Milan Polivka (Czech Technical University in Prague, Czech Republic); Premysl Hudec (Czech Technical University in Prague, Czech Republic)

15:00 Discussion of Body Worn Dipole Antennas Based on an Improved De-embedding Approach
Markus Grimm (Christian – Albrechts – University of Kiel, Germany); Dirk Manteuffel (University of Kiel, Germany)

15:20 Circular Ring-Slot Antenna Fed by SIW for WBAN Applications
Jaroslav Lacik (Brno University of Technology, Czech Republic); Tomas Mikulasek (Brno University of Technology, Czech Republic)

15:40 Wearable Textile Patch Antenna for BAN At 60 GHz
Nacer Chahat (University of RENNES 1, France); Maxime Zhadobov (University of RENNES 1, France); Ronan Sauleau (University of Rennes 1, France)

16:50 Yagi-Uda Textile Antenna for On-Body Communications At 60 GHz

COFFEE BREAK

Ronan Sauleau (University of Rennes 1, France)

17:10 On-body Investigation of Dual Band Diamond Textile Antenna for Wearable Applications At 2.45 Ghz and 5.8 Ghz
Mohd Ezwan Jalil (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia); Nazirah Othman (University Teknologi Malaysia, Malaysia); Huda A. Majid (Universiti Teknologi Malaysia, Malaysia)

17:30 Design of a Dual-Band Antenna for Wearable Wireless Body Area Network Repeater Systems
Kyeol Kwon (Hanyang University, Korea); Jinpil Tak (Hanyang University, Korea); Jaehoon Choi (Hanyang University, Korea)

17:50 Dual-band WiFi and 4G LTE Textile Antenna
Mohamad Mantash (University of Rennes 1, France); Sylvain Collardey (University of Rennes 1, France); Anne-Claude Tarot (University of Rennes 1, France); Anthony Presse (University of Rennes 1, France)

18:10 On-body Wireless Link Investigation
Branimir Ivšić (University of Zagreb, Croatia); Ivan Vujica (University of Zagreb, Croatia); Davor Bonefačić (University of Zagreb & Dept of Wireless Communications, Croatia); Juraj Bartolić (University of Zagreb, Croatia); Zvonimir Sipus (University of Zagreb, Croatia)

CA20: Antenna research in Asia 1
Room: R2
Chairs: Zhi Ning Chen (National University of Singapore & Institute for Infocomm Research,

Monday, April 8

14:40 - 18:10 Singapore), Koichi Ito (Chiba University, Japan)

14:40 Antenna Research and Development in Singapore
Zhi Ning Chen (National University of Singapore & Institute for Infocomm Research, Singapore); Xianming Qing (Institute for Infocomm Research, Singapore); Yue Ping Y. P. Zhang (Nanyang Technological university, Singapore); Zhongxiang Shen (Nanyang Technological University, Singapore); Eng Leong Tan (Nanyang Technological University, Singapore); Er Ping Li (Institute of High Performance Computing, Singapore)

15:00 Reconfigurable Antennas for Wireless Communications
Y Jay Guo (CSIRO, Australia); Peiyuan Qin (CSIRO ICT Centre, Australia); Trevor S. Bird (Antengenuity & CSIRO, Australia)

15:20 Radial Line Slot Array Antenna Development in Malaysia
Imran Mohd Ibrahim (Universiti Teknikal Malaysia Melaka, Malaysia); Teddy Purnamirza (Wireless Communication Centre, Malaysia); Tharek Abdul Rahman (Wireless Communication Centre, Malaysia); Mursyidul idzam Sabran (Universiti Teknologi Malaysia, Malaysia)

15:40 Antennas and Propagation in Thailand
Monai Krairiksh (King Mongkut's Institute of Technology Ladkrabang, Thailand)

16:00 Recent Research Activities on Antennas in Japan
Qiang Chen (Tohoku University, Japan); Kunio Sawaya (Tohoku University & School of Engineering, Japan); Koichi Ito (Chiba University, Japan)

17:10 Novel Antenna Designs for Applications in Modern Wireless Communication Systems
Wen-Jiao Liao (National Taiwan University of Science and Technology, Taiwan); Tzyh-Ghuang Ma (National Taiwan University of Science and Technology, Taiwan); Chang-Fa Yang (National Taiwan University of Science and Technology, Taiwan); Hsien-Wen Liu (Auden Techno Corp., Taiwan)

17:30 Recent Development of the Magneto-Electric Dipole Ultra-Wideband and High Frequency Applications
Kwai-Man Luk (City University of Hong Kong, Hong Kong)

17:50 Printed Microwave and Millimeter Wave Antennas Research Advances in the SKLMMW
Hong Wei (Southeast University, P.R. China)

COFFEE BREAK

16:50 Antennas for Wireless Body Area Network Applications
Kyeol Kwon (Hanyang University, Korea); Jaehoon Choi (Hanyang University, Korea)

CA01: EurAAP Small Antennas 1

Room: R31
Chairs: Max James Ammann (Dublin Institute

14:40 - 18:30 of Technology, Ireland), Steven R Best (The MITRE Corporation, USA)

14:40 A New Small Conformal Antenna for Capsule Endoscopy
Rula Alrawashdeh (The University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Ping Cao (University of Liverpool, United Kingdom); Eng Gee Lim (Xi'an Jiaotong-Liverpool University, P.R. China)

15:00 An Optimum Design of Handset Antenna for MIMO Systems
Hiroyuki Arai (Yokohama National University, Japan)

15:20 Compact Multiband Antennas of Self-Similar Analytic Geometry Inspired by the Chirp Waveform
Constantine G. Kakoyiannis (National Technical University of Athens & Institute of Communication and Computer Systems, Greece); Philip Constantinou (National Technical University of Athens, Greece)

15:40 Electrically Small Circularly Polarized Spherical Antenna with Air Core
Oleksiy S. Kim (Technical University of Denmark, Denmark)

COFFEE BREAK

16:50 Challenges for Frequency Reconfigurable Electrically Small Antennas
Jennifer T. Bernhard (University of Illinois at Urbana-Champaign & Electromagnetics Laboratory, USA); Matthew Young (University of Illinois at Urbana-Champaign, USA); Siwen Yong (University of Illinois at Urbana-Champaign, USA)

17:10 Gain Statistics for Mobile Phone Antenna Tuners
Kevin Boyle (EPCOS, United Kingdom); Theo Bakker (EPCOS, The Netherlands); Shunya Sato (EPCOS, The Netherlands); Erwin Spits (EPCOS, The Netherlands); Andre van Bezooijen (EPCOS, The Netherlands); Maurice de Jongh (Epcos, The Netherlands)

17:30 Convex Optimization for Analysis of Small Antennas
Mats Gustafsson (Lund University, Sweden)

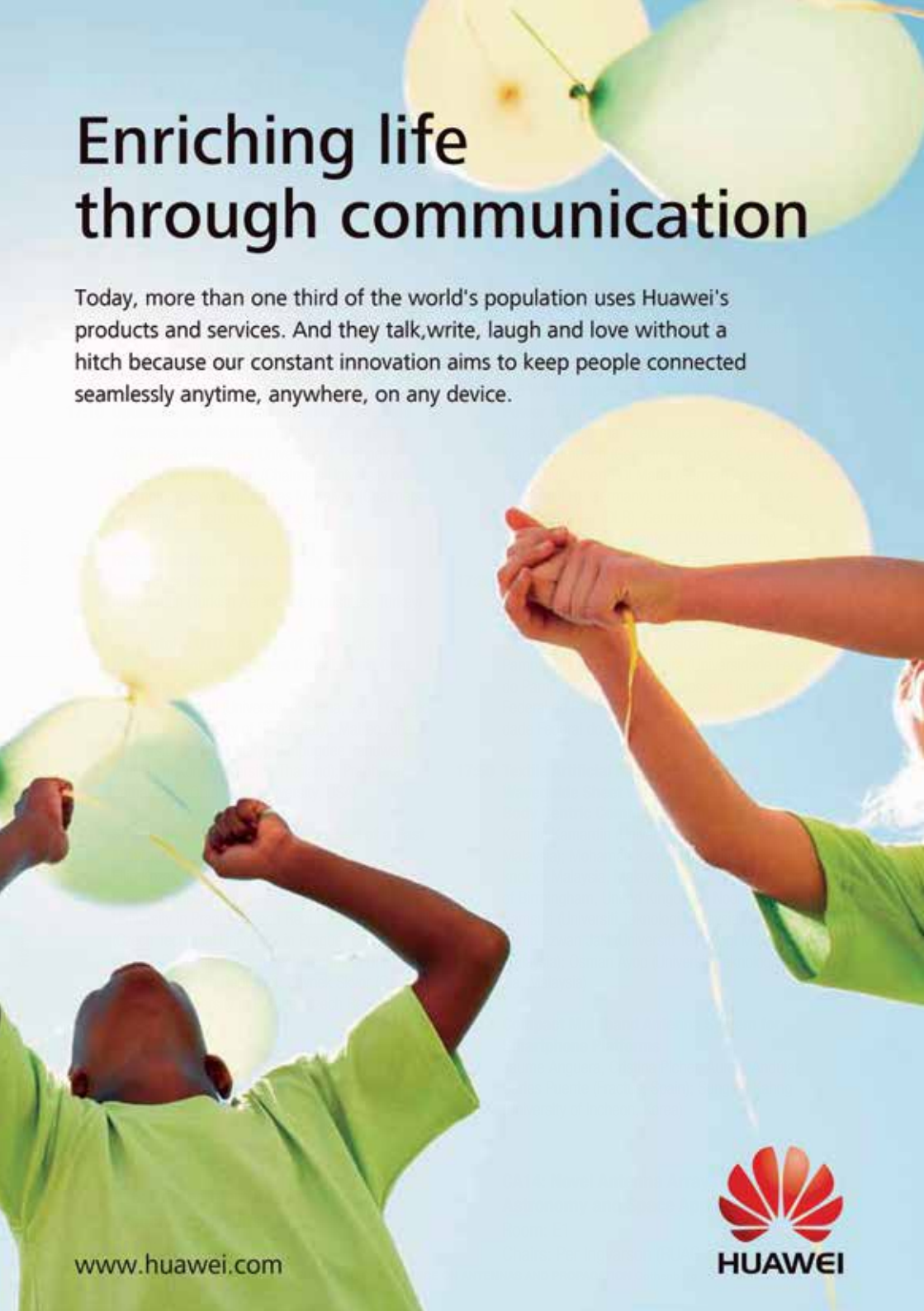
17:50 Performance Evaluation of a Conformal Dual Patch Antenna in an Indoor Environment
Magnus Jobs (Uppsala University, Sweden); Mathias Grudén (Uppsala University, Sweden); Anders Rydberg (Uppsala University, Sweden)

18:10 Inductive Power Transfer Systems Considered as Electrically-small Antennas
James S. McLean (TDK R&D Corp, USA)

A27: Field scattering and penetration

Room: E3

Chairs: Richard W. Ziolkowski (University of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09:00 - 12:50 Sweden), Marianna Ivashina (Chalmers University of Technology, Sweden), Karl Warnick (Brigham Young University, USA)

09:00 High Efficiency Phased Array Feed Antennas for Large Radio Telescopes and Small Satellite Communications Terminals
Karl Warnick (Brigham Young University, USA)

09:20 Ku-Band Dual-Polarized Array of Connected Dipoles for Satcom Terminals: Theory and Hardware Validation
Daniele Cavallo (Delft University of Technology, The Netherlands); Giampiero Gerini, Roland Bolt, Duije Deurloo (TNO Technical Sciences & Radar Technology, The Netherlands); Reindert Grooters (TNO - Defence, Security and Safety, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands); Giovanni Toso (European Space Agency, The Netherlands); Rolv Midthassel (European Space Agency ESTEC, The Netherlands)

09:40 Recent Advances on Space Multibeam Antennas Based on a Single Aperture
Giovanni Toso (European Space Agency, The Netherlands); Cyril Mangenot (European Space Agency, The Netherlands); Piero Angeletti (European Space Agency, The Netherlands)

10:00 THz Antenna Array Based on Photomixers for Radioastronomy Applications
Luis-Enrique Garcia-Muñoz, Javier Montero-de-Paz, Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Ivan Cámara Mayorga, Rolf Güsten (Max Planck Institute for Radioastronomy, Germany); Andrey Generalov, Dmitri Lioubtchenko (Aalto University School of Electrical Engineering, Finland); Pablo Acedo (Universidad Carlos III de Madrid, Spain); Cristina de Dios (Universidad Carlos III de Madrid, Spain); Rubén Criado (Universidad Carlos III de Madrid, Spain); Eduardo Ugarte-Muñoz (Universitiy Carlos III in Madrid, Spain); Antti V. Räisänen (Aalto University, Finland); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

10:20 Polarization Analysis and Evaluation for Radio Astronomy Aperture Array Antennas
Benedetta Fiorelli (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands); Michel Arts (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands); Giuseppe Virone (Istituto di Elettr. e di Ingegneria dell'Inform. e delle Telecom. (IEIIT- CNR), Italy); Eloy de Lera Acedo (University of Cambridge, United Kingdom); Wim A. van Cappellen (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands)

11:10 An Overview of Beam Modeling Techniques for Future Radio Telescopes
Andre Young (Stellenbosch University, South Africa); Marianna Ivashina (Chalmers University of Technology, Sweden); Rob Maaskant (CHALMERS, Sweden); Oleg Iupikov (Chalmers University of

COFFEE BREAK

11:30 Low-Cost Near Field Pattern Measurement Technique for Aperture Array Characterization
Christopher Raucy (Université Catholique de Louvain, Belgium); Eloy de Lera Acedo (University of Cambridge, United Kingdom); Nima Razavi Ghods (University of Cambridge, United Kingdom); David González-Ovejero (Università degli Studi di Siena, Italy); Christophe Craeye (Université Catholique de Louvain, Belgium)

11:50 Array Antenna Activities At RUAG Space; an Overview
Joakim Johansson (RUAG Space AB, Sweden); Per Ingvarson (RUAG Space AB, Sweden)

12:10 FoV Analysis and Design for the Australian SKA Pathfinder
Stuart G Hay (CSIRO ICT Centre, Australia); John Bunton (CSIRO ICT Centre, Australia); Robert Shaw (CSIRO, Australia)

12:30 Wideband Array Developments for Planned and Future Radio Astronomy Antennas
Arnold van Ardenne (ASTRON, The Netherlands); Jan Geralt bij de Vaate (Netherlands Institute for Radio Astronomy, The Netherlands); Benedetta Fiorelli (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands); Stefan J. Wijnholds (ASTRON, The Netherlands)

P4: Mobile channel modeling and measurement campaigns

Room: E2

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

Tuesday, April 9

09:00 - 12:50 **Markov Chain Based Analysis of Time-Varying Attenuation Due to Isolated Trees**
Iñigo Cuiñas (University of Vigo, Spain); Paula Gomez (Universidade de Vigo, Spain); Dori Fernandez (Unievrsidade de Vigo, Spain)

09:20 **A Novel Delay Spread Distribution Model for VHF and UHF Mobile-to-Mobile Channels**
Jörg Fischer (FAU Erlangen-Nürnberg, Germany); Marcus Grossmann (Fraunhofer Institute for Integrated Circuits IIS, Germany); Wolfgang Felber (Fraunhofer Institute for Integrated Circuits IIS, Germany); Markus Landmann (Fraunhofer Institute for Integrated Circuits IIS, Germany); Albert Heuberger (Friedrich-Alexander University Erlangen-Nuremberg, Germany)

09:40 **Outage Performance of Cooperative Land Mobile Satellite Broadcasting Systems**
Vasileios Sakarellos (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

10:00 **Empirical Study of Higher Order MIMO Capacity At 2.53 GHz in Urban Macro Cell**
Christian Schneider (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

10:20 **Perspectives for the Use of MIMO in Dynamic Body Area Networks**
Carla Oliveira (Technical University of Lisbon, Instituto Superior Tecnico & INOV - INESC, Portugal); Luis M. Correia (IST - Technical University Lisbon & INOV-INESC, Portugal)

11:10 **State Modeling of the Land Mobile Satellite**

COFFEE BREAK

Germany); Daniel Arndt (Fraunhofer Institute for Integrated Circuits & Ilmenau University of Technology, Germany); Alexander Ihlow (Ilmenau University of Technology, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany)

11:30 **Channel Model and OFDM Design for Aeronautical Applications**
Kia Wiklundh (Swedish Defence Research Agency, Sweden); Gunnar Eriksson (Swedish Defence Research Agency, Sweden); Sara Linder (FOI, Sweden); Peter Johansson (FOI, Sweden); Peter Holm (FOI, Sweden); Patrik Eliardsson (Swedish Defence Research Agency (FOI), Sweden); Mats Forsman (Saab Aeronautics, Sweden); Tore Lindgren (Saab Aeronautics, Sweden)

11:50 **A Wideband and Multifrequency Propagation Channel Simulation**
Jonathan Israel (ONERA - The French Aerospace Lab, France); Guillaume Carrie (ONERA, France); Mehdi Ait-Ighil (ONERA/CNES Toulouse & Onera / CNES / TAS, France)

12:10 **Virtual Multi-link Propagation Investigation of an Outdoor Scenario At 300 MHz**
Meifang Zhu (Lund University, Sweden); Fredrik Tufvesson (Lund University, Sweden)

12:30 **SCHUN - a Hybrid Land Mobile Satellite Channel Simulator Enhanced for Multipath Modelling Applied to Satellite Navigation Systems**
Mehdi Ait-Ighil (ONERA/CNES Toulouse & Onera / CNES / TAS, France); Joel Lemorton (ONERA, France); Fernando Pérez-Fontán (University of Vigo, Spain); Frederic Lacoste (CNES, France); Paul Thevenon (Centre National d'Etudes Spatiales, France); Christophe Bourga (Thalès Alenia Space, France); Michel Bousquet (SUPAERO, France)

CA15: Graphene and nano-materials

Room: E3

Chairs: Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland), Hao Xin (University of Arizona, USA)

09:00

09:00-12:50 Surface Plasmons on Graphene Sheets: Effect of Spatial Dispersion and Magnetostatic Bias
Juan Sebastián Gomez-Diaz (EPFL, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

09:20 Terahertz Characterization of Carbon Nano tube and Graphene On-Substrate Thin Films
Min Liang (University of Arizona, USA); Mingguang Tuo (University of Arizona, USA); Hao Xin (University of Arizona, USA)

09:40 Graphene Magnetoplasmons: Principles and Applications
Nima Chamanara (Ecole Polytechnique de Montreal, Canada); Dimitrios L. Sounas (Ecole Polytechnique de Montreal, Canada); Christophe Caloz (Ecole Polytechnique de Montreal, Canada)

10:00 Diamond Based Systems: Innovative Materials for Photonics
Ilaria Cianchetta (Università di Roma Tor Vergata, Italy)

10:20 Comparison of Spatially Dispersive Models for Dyadic Intraband Conductivity of Graphene
Giampiero Lovat (Sapienza University of Rome, Italy); George Hanson (University of Wisconsin-Milwaukee, USA); Rodolfo Araneo (La Sapienza, Italy); Paolo Burghignoli (Sapienza University of Rome, Italy)

COFFEE BREAK

Andrea Alu (The University of Texas at Austin, USA); Pai-Yen Chen (The University of Texas at Austin, USA)

11:30 Electromagnetic Properties of Graphene Metasurfaces and Applications
Arya Fallahi (DESY-Center for Free Electron Laser Science (CFEL), Germany); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

11:50 EM Properties of Synthetic Media
J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom); Chinwe Njoku (Loughborough University, United Kingdom); William Whittow (Loughborough University, United Kingdom)

12:10 Advanced Modeling of Graphene Nanodevices: Metal-Carbon Transition and Patch Antennas
Luca Pierantoni (Università Politecnica delle Marche, Ancona, Italy)

12:30 Dielectric Resonator Nanoantenna for Optical Frequencies
Gilliard Malheiros-Silveira (University of Campinas, Brazil); Hugo Enrique Hernández-Figueroa (Unicamp, Brazil)

A12: MIMO, antenna diversity, smart and signal processing antennas

Room: G1

Chairs: Martin Alm (Huawei Technologies, Sweden), Buon Kiong Lau (Lund University, Sweden), Mattias Gustafsson (Huawei Technologies Sweden AB, Sweden)

Tuesday, April 9

09:00-12:50

09:00 Gain-Bandwidth Limitations Evaluated for Real User Devices
Jonas Fridén (Ericsson AB, Sweden)

09:20 Implementation of a MIMO Solution for Ionospheric HF (3-30 MHz) Radio Links
Yvon Erhel (Ecoles de Saint-Cyr Coetquidan, France); Papa Ndao (IETR, France); Dominique Lemur (IETR, Universite' de Rennes 1, France); Martial Oger (Université de Rennes 1, France); Jérome Le Masson (CREC Saint Cyr & LABSTICC, France)

09:40 Pattern-Reconfigurable Built-in Antenna for Data Multiplexing with a Single Radio
Mohsen Yousefbeiki (École Polytechnique Fédérale de Lausanne (EPFL) & Adaptive MicroNanoWave Systems Group, LEMA/NANOLAB, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

10:00 Calculating Signal Correlation in Lossy Dipole Arrays Using Scattering Parameters and Efficiencies
Hui Li (Lund University, Sweden); Xianqi Lin (Royal Institute of Technology, Sweden); Buon Kiong Lau (Lund University, Sweden); Sailing He (Royal Institute of Technology, Sweden)

COFFEE BREAK

11:10 Network Benefits of Large Advanced Antenna Systems
Martin Alm (Huawei Technologies, Sweden); Mattias Gustafsson (Huawei Technologies Sweden AB, Sweden)

11:30 Slim Omnidirectional Orthogonal Polarization MIMO Antenna with Halo and Patch Antennas on the Cylindrical Ground Plane
Hiromi Matsuno (KDDI R&D Laboratories Inc., Japan); Masayuki Nakano (KDDI R&D Labs, Japan); Akira Yamaguchi (KDDI R&D Laboratories Inc., Japan)

11:50 Design of Four MIMO Handset Antennas
Kyungseok Kahng (University of Incheon, Korea); Inkyu Yang (University of Incheon, Korea); Sungtek Kahng (University of Incheon, Korea); Jaume Anguera (Fractus, Spain); Ju Yong Lee (KAIST, Korea)

12:10 MIMO Performance Study of Different Antennas for LTE Mobile Phones in CTIA Test Mode
Kun Zhao (Royal Institute of Technology & Sony Ericsson, Sweden); Shuai Zhang (KTH-Royal Institute of Technology, Sweden); Zhinong Ying (Sony Mobile, Sweden); Thomas Bolin (Sony Mobile Communications, Sweden); Sailing He (Royal Institute of Technology, Sweden)

12:30 Optimal Placement of MIMO Antenna Pairs with Different Quality Factors in Smart-Phone Platforms
Alexandru Tatomirescu (Aalborg University, Denmark); Osama Alrabadi (AAU, Denmark); Gert Pedersen (Aalborg University, Denmark)

CA09: COST IC1102 FA-B mmW, THz & nano-antennas

Room: G2

Chairs: Yi Huang (University of Liverpool, United Kingdom), Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

09:00

09:00-12:50 An E-band Cylindrical Reflector Antenna for Wireless Communication Systems
Ioannis Papageorgiou (Kongsberg Norspace AS, Norway); Anders Derneryd (Ericsson AB & Lund University, Sweden); Lars Manholm (Ericsson AB, Sweden); Jian Yang (Chalmers University of Technology, Sweden)

09:20 New Device for Continuous-Wave THz Emission: Large Area Emitter
Luis-Enrique Garcia-Muñoz (University Carlos III of Madrid, Spain); Gottfried Döhler (Max Planck Institute for the Science of Light, Germany); Javier Montero-de-Paz , Eduardo Ugarte-Muñoz, Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Sascha Preu (Friedrich Alexander Universität Erlangen-Nürnberg, Germany); Stefan Malzer, Sebastian Bauerschmidt (Max Planck Institute for the Science of Light, Germany); Vicente Gonzalez-Posadas, Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

09:40 High-Impedance Frequency-Agile THz Dipole Antennas Using Graphene
Michele Tamagnone, Juan Sebastián Gomez-Diaz, Juan R Mosig, Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne, Switzerland)

10:00 Reconfigurable Semiconductor Antenna for sub-THz Frequencies
Yevhen Yashchyshyn (Warsaw University of Technology & Institute of Radioelectronics, Poland); Krzysztof Derzakowski, Pawel Bajurko (Warsaw University of Technology, Poland)

10:20 Dielectric Rod Waveguide Antenna At 75 - 1100 GHz
Andrey Generalov, Dmitri Lioubtchenko, Antti V. Räisänen (Aalto University, Finland)

11:10 Implementation of a Multi-Pixel Sub-mm Wave Imaging Receiver
Ramon Gonzalo (Public University of Navarra, Navarra, Spain); Iñigo Ederra (Universidad Pública de Navarra, Spain)

COFFEE BREAK

11:30 Electromagnetic Crystal (EMXT) Based Terahertz Horn Antenna
Min Liang (University of Arizona, USA); Ziran Wu (Stanford University, USA); Weiren Ng (University of Arizona, USA); Michael Gehm (University of Arizona, USA); Hao Xin (University of Arizona, USA)

11:50 300 GHz CMOS Video Detection Using Broadband and Active Planar Antennas
Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain); Javier Montero-de-Paz (Universidad Carlos III de Madrid, Spain); Jamie Crooks (STFC Rutherford Appleton Laboratory, United Kingdom); Peter Huggard (STFC Rutherford Appleton Laboratory, United Kingdom); Luis-Enrique Garcia-Muñoz (University Carlos III of Madrid, Spain); Vicente Gonzalez-Posadas (Universidad Politecnica de Madrid, Spain); Byron Alderman, Renato Turchetta (STFC Rutherford Appleton Laboratory, United Kingdom)

12:10 On the Simulation of Carrier Dynamics in Terahertz Photoconductive Antennas
Enrique Moreno-Perez, Mario F Pantoja, Salvador G. García, Juan Roldan, Francisco García Ruiz, Amelia Rubio Bretones, Rafael Gómez Martín (Universidad de Granada, Spain)

12:30 A Novel Simulation Method for THz Photoconductive Antenna Characterization
Neda Khiabani (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Yao-Chun Shen (University of Liverpool, United Kingdom); Stephen Boyes (The University of Liverpool, United Kingdom); Qian Xu (University of Liverpool, United Kingdom)

CA05: Design of UWB antennas 1
Room: J1
Chairs: Milos Mazanek (Czech Technical University in Prague, Czech Republic), Werner Wiesbeck (Karlsruhe Institute of Technology, Germany), Jian Yang (Chalmers University of Technology, Sweden)

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09:00 12:50 Impact of Antennas on Practical UWB Signals
Vit Sipal (Dublin Institute of Technology, Ireland); Ben Allen (University of Bedfordshire, United Kingdom); David Edwards (University of Oxford, United Kingdom)

09:20 New Topology Ultrawideband Antenna for VLBI2010
Alejandro Rivera-Lavado (Universidad Carlos III de Madrid, Spain); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain); Luis-Enrique Garcia-Muñoz (University Carlos III of Madrid, Spain); Jose Manuel Serna (IGN Spain, Spain); José Antonio López (IGN Spain, Spain); Mario Méndez Aller (Universidad Carlos III de Madrid, Spain)

09:40 Overview of Developments of the Eleven Feeds
Jian Yang (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Miroslav Pantaleev (Onsala Space Observatory, Chalmers University of Technology, Sweden)

10:00 Design Considerations for UWB Antennas
Werner Wiesbeck (Karlsruhe Institute of Technology, Germany)

10:20 An Ultra-wideband Feed for Chinese Spectral Radio Heliograph Array
Biao Du (Joint Laboratory for Radio Astronmy Technology, P.R. China); Chuanfeng Niu (Joint Laboratory of Radio Anstronomy Techology, P.R. China); Yang Wu (Joint Laboratory of Radio Astronomy Technology, P.R. China); Yihua Yan (National Astronomical Observatories, Chinese Academy of Sciences, P.R. China); Chengjin Jin (National Astronomical Observatories, Chinese Academy of Sciences, P.R. China)

11:10 On the Discretisation Effect of Electromagnetically Transformed

COFFEE BREAK

London, United Kingdom); Wenxuan Tang (Queen Mary, University of London, United Kingdom); Sajad Haq (BAE SYSTEMS, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

11:30 UWB Dielectric Rod Antenna Designs
Chi-Chih Chen (The Ohio State University & ElectroScience Laboratory, USA); Chia-Wei Liu (NETGEAR, USA)

11:50 A Ultrawideband Leaky Slot Antenna for Microwave Radar Imaging
Kalyan Vaddagiri (TU Delft, The Netherlands); Stefania Monni (TNO Defence Security and Safety, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands); Frans Nennie (TNO, The Netherlands); Wim Lambertus van Rossum (TNO Defence, Security and Safety, The Netherlands)

12:10 UWB Antennas for Detections and Communications
Ahmed Kishk (Concordia University, Canada)

12:30 The Quadruple-Ridged Flared Horn: A Flexible, Multi-Octave Reflector Feed Spanning f/0.3 to f/2.5
Ahmed Akgiray (California Institute of Technology, USA); Sander Weinreb (California Institute of Technology, Germany); William A Imbriale (Jet Propulsion Laboratory, USA)

CP5: Body centric communications/Propagation in biological media 1
Room: J2
Chairs: Ramon Gonzalo (Public University of Navarra, Spain), Yang Hao (Queen Mary, University of London, United Kingdom)

09:00

09:00-12:50 Durability of Embroidered Antennas in Wireless Body-Centric Healthcare Applications
Karoliina Koski (Tampere University of Technology, Finland); Elham Moradi (Tampere University of Technology, Finland); Abdul Ali Babar (Tampere University of Technology, Rauma Research Unit, Finland); Toni Björninen (Tampere University of Technology, Finland); Lauri Tapio Sydänheimo (Tampere University of Technology, Finland); Leena Ukkonen (Tampere University of Technology, Finland); Yahya Rahmat-Samii (University of California Los Angeles (UCLA), USA)

09:20 Analytical Creeping Waves Model At 60 GHz for On-Body Communications
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); David Lautru (UniversityParis 06, France); Aziz Benlarbi-Delaï (UPMC University Paris 06, France); Philipe De Doncker (ULB, Belgium)

09:40 Analytical Creeping Waves Model At 60 GHz for Off-Body Communications
Theodoros Mavridis (Université Libre de Bruxelles & Université Pierre et Marie Curie, Belgium); Luca Petrillo (Université Libre de Bruxelles, Belgium); Julien Sarrazin (University of Pierre & Marie Curie UPMC, France); David Lautru (UniversityParis 06, France); Aziz Benlarbi-Delaï (UPMC University Paris 06, France); Philipe De Doncker (ULB, Belgium)

10:00 Methodologies for Fast and Accurate Design of Implantable Antennas: Analysis and Comparison
Asimina Kiourti (National Technical University of Athens, Greece); Konstantina S Nikita (National Technical University of Athens, Greece)

10:20 Theoretical and Experimental Characterization of On-Body Propagation At 60 GHz
Guido Valerio (Université de Rennes 1, France); Nacer Chahat (University of RENNES 1, France); Maxime Zhadobov (University of RENNES 1, France); Ronan Sauleau (University of Rennes 1, France)

11:10 Antennas and Interaction with the Body for Body-Centric Wireless Communications At Millimeter-Waves
Nacer Chahat (University of RENNES 1, France); Carole Leduc (University of Rennes 1, France); Maxime

COFFEE BREAK

11:30 Dual-mode Antenna for Body-Centric Wireless Communications
Chia-Hsien Lin (Chiba University, Japan); Zhengyi Li (Fujitsu Laboratories Ltd, Japan); Koichi Ito (Chiba University, Japan); Masaharu Takahashi (Chiba University, Japan); Kazuyuki Saito (Chiba University, Japan)

11:50 Full Wave and Ray - Based Analysis of a Body-Centric Scenario At V Band
Khaleda Ali (School of Electronic Engineering & Computer Science Queen Mary University of London, United Kingdom); Alice Pellegrini (Queen Mary, University of London, United Kingdom); Alessio Brizzi (Queen Mary University of London, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

12:10 An In-vivo Electrical Property Based Health Monitoring Sensor
Safa Salman (The Ohio State University, USA); John L. Volakis (Ohio State University, USA)

12:30 Analysis of Transmission Quality in Technology for In-body to Off-body MHz Band Near Field Coupling Communication
Kohei Nagata (Kyoto Institute of Technology, Japan); Yuichi Kado (Kyoto Institute of Technology & Graduate School of Science and Technology, Japan)

CA23: INTELECT session on Integral Equations for Electromagnetics
Room: R22+R23
Chairs: Rafael Boix (University of Seville, Spain), Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

Tuesday, April 9

09:00 - 12:50

09:00 Iterative Solution of the 3D Full Vectorial Inverse Source Problem
Georg Schnattinger (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany); Mark A. Eberspächer (Technische Universität München, Germany)

09:20 Improvements in the MoM Analysis of 2-D Planar Multilayered Periodic Structures
Rafael Florencio (Universidad de Sevilla, Spain); Rafael Boix (University of Seville, Spain); Jose A. Encinar (Universidad Politecnica de Madrid, Spain)

09:40 Fast Surface Integral Equation Methods for Electromagnetic Solution of Large-Scale Conductors, Metamaterials and Optical Nano-antennas
Jose M. Taboada (University of Extremadura, Spain); Luis Landesa (University of Extremadura, Spain); Diego M. Solís (University of Vigo, Spain); Javier Rivero (University of Extremadura, Spain); Marta G. Araújo (Universidade de Vigo, Spain); Luis Bote Curiel (University of Extremadura, Spain); Fernando Obelleiro (University of Vigo, Spain); José Rodríguez (University of Vigo, Spain)

10:00 Computation of Layered Mixed Potentials for the Accurate and Efficient Analysis of Periodic Printed Structures
Guido Valerio (Université de Rennes 1, France); Simone Paulotto (Maxtena Inc., USA); Paolo Baccarelli („Sapienza" University of Rome, Italy); Alessandro Galli (Sapienza University of Rome, Italy); David R. Jackson (University of Houston, USA); Donald Wilton (University of Houston, USA); William Johnson (Private Consultant, USA)

10:20 Eigenmode Analysis of Plasmonic Scatterers by Volumetric Integral Equation Technique
Xuezhi Zheng (Katholieke Universiteit Leuven, Belgium); Vladimir Volski (KU Leuven, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Victor V. Moshchalkov (Katholieke Universiteit Leuven, Belgium)

11:10 Optimal Choice of Higher Order Basis Functions Over Quadrilaterals in Method of Moment Solution of Surface Integral Equation
Branko Kolundzija (University of Belgrade, Serbia);

COFFEE BREAK

11:30 Conversion of Open Objects to Volumes to Be Analyzed with MoM-CFIE
Javier Moreno (University of Alcala, Spain); Ivan Gonzalez (Universidad de Alcala, Spain); Felipe Cátedra (University of Alcala, Spain)

11:50 Issues in the Evaluation of Method of Moments Reaction Integrals
Francesca Vipiana (Politecnico di Torino, Italy); Donald Wilton (University of Houston, USA); William Johnson (Private Consultant, USA)

12:10 Planar Layered Media Closed-form Green's Functions as a Series of Cylindrical Waves
David González-Ovejero (Università degli Studi di Siena, Italy); Francisco Mesa (University of Seville, Spain); Christophe Craeye (Université Catholique de Louvain, Belgium)

12:30 A Web-Based Tool for Benchmarking the Accuracy of Solutions of Some Canonical Electromagnetics Problems
Levent Gürel (Bilkent University, Turkey); Ozgur Ergul (Middle East Technical University, Turkey)

CA12: Microwave based diagnostics and treatment

Room: R24+R25
Chairs: Ian Craddock (University of Bristol, United Kingdom), Andreas Fhager (Chalmers University of Technology, Sweden)

09:00 - 12:50

09:00 Robust Differential Multi-frequency Microwave Imaging for Breast Cancer Detection
Marta Guardiola (Universitat Politècnica de Catalunya (UPC), Spain); Santiago Capdevila (Universitat Politècnica de Catalunya, Spain); Luis Jofre (UPC, Spain)

09:20 Bladder-State Monitoring Using Ultra Wideband Radar
Dallan Byrne (University of Bristol, United Kingdom); Martin O'Halloran (National University of Ireland, Galway, Ireland); Raquel C. Conceição (Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências, Universidade de Lisboa, Portugal)

09:40 Coherent Summation of Monostatic Radar Signals
Charlotte Curtis (University of Calgary, Canada); Elise Fear (University of Calgary, Canada)

10:00 Novel Multimodal PEM-UWB Approach for Breast Cancer Detection: Initial Study for Tumour Detection and Consequent Classification
Raquel C. Conceição (Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências, Universidade de Lisboa, Portugal); Ricardo M Capote (Instituto de Biofísica e Engenharia Biomédica, Faculdade de Ciências, Universidade de Lisboa, Portugal); Bárbara L Oliveira (Instituto de Biofísica e Engenharia Biomédica, FCUL, Portugal); Pedro Almeida (Instituto de Biofísica e Engenharia Biomédica - Faculdade de Ciências da Universidade de Lisboa, Portugal); Martin Glavin (National University of Ireland, Galway, Ireland); Edward Jones (National University of Ireland, Galway, Ireland); Martin O'Halloran (National University of Ireland, Galway, Ireland)

10:20 Challenges of the Clinical Application of Hyperthermia for Head and Neck Tumors
Gerard C. van Rhoon (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands)

11:10 A Clinical Prototype for Microwave Breast Imaging Using Time-Domain Measurements
Emily Porter (McGill Universtiy, Canada); Evgeny

COFFEE BREAK

(McGill University, Canada); Milica Popovic (McGill University, Canada)

11:30 Systems for Ultra-wideband Microwave Sensing and Imaging of Biological Tissues
Jeremie Bourqui (University of Calgary, Canada); Elise Fear (University of Calgary, Canada)

11:50 MUSIC Processing for Permittivity Estimation in a Delay-And-Sum Imaging System
Mantalena Sarafianou (University of Bristol, United Kingdom); Ian Craddock (University of Bristol, United Kingdom); Tommy Henriksson (University of Bristol, United Kingdom)

12:10 Computational Investigation of Nonlinear Microwave Tomography on Anatomically Realistic Breast Phantoms
Peter Jensen (Technical University of Denmark, Denmark); Tonny Rubæk (Technical University of Denmark, Denmark); Johan Jacob Mohr (Technical University of Denmark, Denmark)

12:30 Stroke Diagnostics 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); Mikael Persson (Chalmers University of Technology, Sweden)

A07: Conformal Antennas
Room: R2
Chairs: Juraj Bartolić (University of Zagreb, Croatia), Kimmo Rasilainen (Aalto University, Finland)

Tuesday, April 9

09:00 - 10:40

09:00 Study of Interaction Between Monopole Antenna Operating in TM Mode and Human Tissue
Petr Vsetula (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic)

09:20 Effect of Ground Plane Bending on Mobile Terminal Antenna Performance
Kimmo Rasilainen (Aalto University, Finland); Janne Ilvonen (Aalto University School of Electrical Engineering, Finland); Jari Holopainen (Aalto University School of Electrical Engineering, Finland); Risto Valkonen (Aalto University, Finland); Antti V. Räisänen (Aalto University, Finland)

09:40 Fast Analysis of Flush-Mounted Cylindrical Microstrip Structures
Marcos Heckler (Universidade Federal do Pampa, Brazil); Achim Dreher (German Aerospace Center (DLR), Germany)

10:00 3-Faceted Array with Low Side Lobe Levels Using Tuneable Windows
Nurul Hazlina Noordin (University of Edinburgh, United Kingdom); Brian Flynn (The University of Edinburgh, United Kingdom); Tughrul Arslan (University of Edinburgh, United Kingdom)

10:20 Conformal Antenna Array for 60 GHz Applications
Vasilii Semkin (Aalto University School of Electrical Engineering, Finland); Veli-Matti Kolmonen (Aalto University & School of Electrical Engineering, Finland); Mikko Kyrö (Aalto University School of Electrical Engineering, Finland); Cyril Luxey (University Nice Sophia-Antipolis, France); Antti V. Räisänen (Aalto University, Finland); Aimeric Bisognin (University Nice Sophia-Antipolis, France); Henri Happy (IEMN, France); Fabien Ferrero (University of Nice & CREMANT CNRS, France)

M2: Antenna Measurement Techniques
Room: R2

COFFEE BREAK

11:10 - 12:50

11:10 Advances in Automated Error Assessment of Spherical Near-Field Antenna Measurements
Patrick Pelland (Nearfield Systems Inc, USA); Allen Newell (Nearfield Systems Inc., USA); Greg Hindman (Nearfield Systems Inc., USA)

11:30 Comparison of Antenna Poles Extracted From Radiated and Scattered Fields
Francois Sarrazin (University of Rennes 1, France); Ala Sharaiha (Université de Rennes 1 & IETR, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France); Patrick Potier (DGA/Maîtrise de l'Information, France); Janic Chauveau (DGA/Maîtrise de l'Information, France)

11:50 Improved Calibration for an Experimental Time-Domain Microwave Imaging System
Adam Santorelli (McGill University, Canada); Evgeny Kirshin (McGill University, Canada); Emily Porter (McGill Universtiy, Canada); Milica Popović (McGill University, Canada); Joshua D Schwartz (Trinity University, USA)

12:10 New Industrial Testing and Maintenance for AESA Radars
Stephane Kemkemian (THALES AIRBORNE SYSTEMS, France); Cyrille Enderli (Thales Airborne Systems, France); Alain Larroque (Thales Airborne Systems, France)

12:30 Fast and Accurate Measurement of On-axis Gain and On-axis Polarization At a Finite Distance
Sergey Pivnenko (Technical University of Denmark, Denmark); Olav Breinbjerg (Technical University of Denmark, Denmark)

A02: Adaptive and reconfigurable antennas 1
Room: R31
Chairs: Mats Gustafsson (Lund University,

Sweden), Dragos Dancila (Uppsala University, Sweden)

09:00 - 12:50

09:00 A Modified Maximum Likelihood Technique for DOA Estimation of Wideband Signals
Mahmoud Abdelrahman Abdalla (MTC, Cairo, Egypt); Mohamed Alsholle (MTC, Egypt); Hesham Elregaily (MTC, Egypt); Abdelazez Mitkees (MTC University, Egypt)

09:20 A MEMS-based Adaptive Downtilt Antenna for Cellular Base Stations
Teis J. Coenen (Eindhoven University of Technology, The Netherlands); Rob Mestrom (Eindhoven University of Technology, The Netherlands); A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands)

09:40 Cooperative Interference Management by Beam Tilt and Power Controls in an Indoor Multi-Cell Environment
Tomoki Murakami (NTT Corporation, Japan); Riichi Kudo (NTT Corporation & University of Bristol, Japan); Koichi Ishihara (NTT Corporation, Japan); Naoki Honma (NTT corporation, Japan); Masato Mizoguchi (NTT, Japan)

10:00 Optimization of Antenna Arrays for Near Field Multifocusing with Multifrequency Specifications
Jana Álvarez (University of Oviedo, Spain); Rafael Ayestarán (University of Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

10:20 Lens Based 24 GHz SiGe IQ Radarsensor for a Multitude of Applications
Steffen Lutz (University of Applied Sciences Ulm, Germany); Klaus Baur (University of Applied Sciences Ulm, Germany); Alexander Schmidt (University of Applied Sciences Ulm, Germany); Thomas Walter (University of Applied Sciences Ulm, Germany)

11:30 Synthesis of Arbitrary Planar Arrays with Optimised Polarisation Under Directivity Pattern Constraints Using Genetic Algorithms
Rafał Głogowski (Instituto Superior Tecnico/Ecole Polytechnique Federale de Lausanne, Switzerland); Custodio Peixeiro (IST-TUL, Portugal); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

11:50 Tuning A Cognitive Radio Antenna System with Motion Detection
Joseph Costantine (California State University Fullerton & American University of Beirut- Electrical and Computer Engineering Department, USA); Youssef Tawk (Notre Dame University Louaize & Configurable Space Microsystems Innovations & Applications Center, University of New Mexico, USA); Christos Christodoulou (University of New Mexico, USA)

12:10 Frequency-Agile On-Channel Repeater Using a Reconfigurable Pixel Layer
Daniel Rodrigo (Universitat Politècnica de Catalunya, Spain); Edgar Diaz (Universidad Politecnica de Cataluña & Universidad Politecnica de Cataluña (UPC) T.S.C, Spain); Jordi Romeu (Universitat Politècnica de Catalunya, Spain); Luis Jofre (UPC, Spain)

12:30 Dual-Band Dual-Polarized Reconfigurable Unit-Cell for Reflectarray Antenna in Ku-Band
Hamed Hasani (Universidad Tecnica de Lisboa, Instituto Superior Tecnico, Portugal); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland); Custodio Peixeiro (IST-TUL, Portugal); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

COFFEE BREAK

Michal Pokorný (Brno University of Technology, Czech Republic); Tomáš Urbanec (Brno University of Technology, Czech Republic)

Tue_Wall1: Antennas and measurement technology for cellular, high data rates and backbone
Room: See exhibition hall map

Tuesday, April 9

14:00 - 16:50

1. Spatial Fading Emulator: Each Probe Antenna Emits Signals with Multiple Doppler Frequencies
Yoshichika Ohta (Softbank Mobile Corp., Japan); Teruya Fujii (Softbank Mobile, Japan)

2. Diversity Gains of Multiport Mobile Terminals in Multipath for Talk Positions on Both Sides of the Head
Ahmed Hussain (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Ulf Carlberg (SP Technical Research Institute of Sweden, Sweden); Jan Carlsson (SP Technical Research Institute of Sweden, Sweden)

3. Antenna Pattern in a Multipath Environment Emulated in a Reverberating Chamber
Antonio Sorrentino (Università Parthenope, Italy); Giuseppe Ferrara (Università Parthenope, Italy); Angelo Gifuni (Universita di Napoli PArthenope, Italy); Maurizio Migliaccio (Universita' Napoli Parthenope, Italy)

4. Analysis of Wavefront Generation in A Reverberation Chamber for Antenna Measurements
Philippe Meton (CEA, France); Florian Monsef (L2S, France); Andrea Cozza (Supélec, France); Marc Lambert (CNRS, France); Jean-Christophe Joly (CEA, France);

5. Throughput Improvement by Combined Tilting of Base Station Antenna;
Ryo Yamaguchi (SOFTBANK MOBILE Corp., Japan); Yoshichika Ohta (Softbank Mobile Corp., Japan); Hideki Omote (Softbank Mobile Corp., Japan); Yosuke Sugita (Softbank Mobile Corp., Japan); Teruya Fujii (Softbank Mobile, Japan)

6. Double-Ellipse Circular Array Antenna for Cellular-Phone Localization
Ahmad El sayed Ahmad (IETR, France); Jean-marie Floch (IETR, France); Philippe Morgand (Thales Communication, France)

7. Soldering Effect on High-Q Antennas
Pevand Bahramzy (Aalborg University & Intel Mobile Communications, Denmark)

8. Co-designing a Compact Antenna with a Variable Matching Network Using Varactors
Thanh Nga Mai (Mines-Telecom Paristech, France); Anne-Claire Lepage (Institut Mines-Telecom, Telecom ParisTech, France); Bernard Huyart (Ecole Nationale Supérieure de Télécommunications, France)

9. On the Miniaturization Strategies for Strip-Type Soft Surfaces
Luis Inclan-Sanchez (University Carlos III of Madrid, Spain); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain); Oscar Quevedo-Teruel (Queen Mary, University of London, United Kingdom); Jose-Luis Vazquez-Roy (University Carlos III of Madrid, Spain)

10. Circular Polarized Planar Elliptical Antenna Array
Luis Bras (University of Aveiro, Portugal); Nuno Borges Carvalho (University of Aveiro/IT Aveiro, Portugal); Pedro Pinho (IT - Instituto de Telecomunicações & ISEL - Instituto Superior de Engenharia de Lisboa, Portugal)

11. Constraints and Performances of Various Antenna Types in Commercial Mobile Terminals
Chi-Yuk Chiu (Sony Mobile Communications, P.R. China)

12. Reconfigurable Truncated Rhombus-like Microstrip Slotted Antenna with Parasitic Elements
Suzilawati Muhamud-Kayat (Universiti Teknologi Mara, Malaysia); Mohd Tarmizi Ali (Universiti Teknologi Mara, Malaysia); Mohd Khairul Mohd Salleh (Universiti Teknologi MARA & Microwave Technology Centre, Malaysia); Nurulazlina Ramli (Universiti Teknologi Mara, Malaysia); Mohd Hazri Mohd Rusli (Universiti Teknologi Mara, Malaysia)

13. ESPAR Loads Calculation for Achieving Desired Radiated Patterns with a Genetic Algorithm
Vagelis Thomatos (University of Piraeus, Greece);

Panagiotis N. Vasileiou (University of Piraeus, Greece); Athanasios G. Kanatas (University of Piraeus, Greece)

14. Investigation of Compensating the Ground Plane Effect Through Array's Inter-element Coupling
Christos Kolitsidas (KTH Royal Institute of Technology, Sweden); Lars Jonsson (Royal Institute of Technology (KTH), Sweden)

15. Broadband Small Patch Antenna Array for Ka-band Application
David Wolansky (Brno University of Technology, Czech Republic); Petr Vsetula (Brno University of Technology, Czech Republic); Jan Puskely (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic)

16. Dual-band Dielectric Resonator Antenna for ISM, HIPERLAN and UNII Applications
Ming-De Chen (Lunghwa University of Science and Technology, Taiwan); Yih-Chien Chen (Lunghwa University of Science and Technology, Taiwan); Da-Yeah Tsai (Lunghwa University of Science and Technology, Taiwan)

17. A Low Profile Wideband Slotted Square Dielectric Resonator Antenna
Ravi Kumar Gangwar (Indian School of Mines, India); Suryaprakash Singh (Institute of Technology Banaras Hindu University, India)

18. Use of a Block Hand Phantom for Mobile Phone Specific Absorption Rate Measurements
Chinthana J Panagamuwa (Loughborough University, United Kingdom); Ian Howells (Loughborough University, United Kingdom); Amir O Kotb (Loughborough University, Egypt)

19. Frequency Switchable L/S-Band Antenna Element
Nadia Haider (Delft University of Technology, The Netherlands); Alexander Yarovoy (Delft University of Technology, The Netherlands); Diego Caratelli (Delft University of Technology, The Netherlands)

20. Reconfigurable Antenna Using Smart Material
Khalid Aljonubi (University of Sheffield, United Kingdom); Ahmed AlAmoudi (King Abdulaziz City for Science and Technology, Saudi Arabia); Richard Langley (University of Sheffield, United Kingdom); Ian Reaney (University of Sheffield, United Kingdom)

21. Numerical Analysis of a Detailed Moving-Coil Speaker Model for Antenna-Speaker Integration
Xi Lin Chen (IT'IS Foundation & Schmid and Partner Engineering AG, Switzerland); Roger Tay (Motorola Electronics Private Ltd., Singapore); Erdem Ofli (Schmid & Partner Engineering AG, Switzerland); Nicolas Chavannes (Schmid & Partner Engineering AG, Switzerland); Niels Kuster (IT'IS Foundation, Switzerland)

Tue_Wall2: Antennas and propagation for cellular, high data rates and backbone
Room: See exhibition hall map

Tuesday, April 9

14:00 - 16:50

1. A Beam Steering Patch Array Antenna for WiFi Application

Muzammil Jusoh (Universiti Malaysia Perlis & School of Computer and Communiction Engineering, Malaysia); Faizal Jamlos (Universiti Malaysia Perlis, Malaysia); Muhammad Ramlee Kamarudin (Universiti Teknologi Malaysia, Malaysia); Nabil Nabil (Universiti Malaysia Perlis, Malaysia); Mohd Fareq Abd Malek (Universiti Malaysia Perlis, Malaysia); Mohd Jais (School of Computer and Communication Engineering, Universiti Malaysia Perlis (UNIMAP), Malaysia)

2. 60 GHz Liquid Crystal Phased Array Using Reflection-Type 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)

3. Combined Pattern and Frequency Reconfiguration of Single-Element Ultra-Wideband Monopole Antenna for Cognitive Radio Devices

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

4. Compact Ultrawideband Slotted Patch Antenna

Ahmed Radwan (Politecnico di Torino, Italy); Ehab Hamad (Aswan University, Egypt)

5. Compact Independent Tri- Band Printed-IFA Loaded with Inspired Metamaterial for Wireless Communication Applications

Dalia Elsheakh, dalia (Electronics Research Institute & ElTahrir St. Dokki Giza, Egypt)

6. Implementation of a New Propagation Model for 5.8GHz Systems in OPNET Simulator

Allan Braga (Federal University of Pará, Brazil); Jasmine Priscyla Leite de Araújo (Federal University of Pará, Brazil); Josiane do Couto Rodrigues (Federal University of Pará, Brazil); Allan Barbosa Costa (Federal University of Pará, Brazil); Ramz Fraiha (Federal University of Pará UFPA, Brazil); Hermínio Gomes (Federal University of Pará, Brazil); Simone da Gra?a de Castro Fraiha (Federal University of Pará, Brazil); Bruno Castro (Federal University of Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

7. On the Power Delay Profile and Delay Spread for Physics-Based Simulated Mobile Channel

Maryam Dehghani Estarki (Simon Fraser University, Canada); Rodney Vaughan (Simon Fraser University, Canada)

8. Propagation Path Loss Prediction Using Parabolic Equations for Narrow and Wide Angles

João Souza (Universidade Federal do Pará, Brazil); Fátima Magno (Universidade Federal do Pará, Brazil); Klaus Cozzolino (Universidade Federal do Pará, Brazil); Romulo Oliveira (INSTITUTO FEDERAL DO PARA & IFPA, Brazil); Gervásio Cavalcante (UFPA, Brazil)

9. On Wind Influence on FSO Link Attenuation

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); Zuzana Chladova (Institute of Atmospheric Physics, Czech Republic); Juraj Poliak (Brno University of Technology & Faculty of Electrical Engineering, Czech Republic); Vladimir Schejbal (University of Pardubice, Czech Republic)

10. Loop-to-loop Pulsed Electromagnetic Field Signal Transfer in Layered Configurations - Application to Inter-chip Wireless Communication

Vincent Voogt (Delft University of Technology, The Netherlands); Ioan E. Lager (Delft University of Technology, The Netherlands); Bert Jan Kooij (Delft University of Technology, The Netherlands)

11. New Norwegian Hydrometeor Precipitation Rate Maps Derived From Long Term Measurements

Jostein Mamen (Norwegian Meteorological Institute, Norway); Terje Tjelta (Telenor, Norway)

12. Dynamic MIMO Channel Modeling in Urban Environment Using Particle Filtering
Kentaro Saito (NTT DoCoMo, Inc., Japan); Koshiro Kitao (NTT DoCoMo, Japan); Tetsuro Imai (NTT DOCOMO, Inc., Japan); Yukihiko Okumura (NTT DOCOMO, INC., Japan)

13. Serrodyne RF Frequency Translators for Doppler Shift in Multipath Propagation Simulators
Niklas Arabäck (SP Technical Research Institute of Sweden, Sweden); Paul Hallbjörner (SP Technical Research Institute of Sweden, Sweden)

14. Modifications of the IST-WINNER Channel Model for Beamspace Processing and Parasitic Arrays
Konstantinos Maliatsos (National Technical University of Athens, Greece); Athanasios G. Kanatas (University of Piraeus, Greece)

15. Path Loss Modelling for Location Service Applications
Slawomir J. Ambroziak (Gdansk University of Technology, Poland); Ryszard Katulski (Gdansk University of Technology, Poland); Jaroslaw Sadowski (Gdansk University of Technology, Poland); Jacek Stefanski (Gdansk University of Technology, Poland)

16. Climate Change Investigation Applying Microwave Measurements
Péter Kántor (Budapest University of Technology and Economics, Hungary); János Bitó (Budapest University of Technology and Economics, Hungary)

17. Empirical Delay Profile Model for Low Antenna Height Base Stations in Broadband Mobile Communication Systems
Teruya Fujii (Softbank Mobile, Japan); Yoshichika Ohta (Softbank Mobile Corp., Japan); Hideki Omote (Softbank Mobile Corp., Japan); Yosuke Sugita (Softbank Mobile Corp., Japan)

18. Software Tool to Aid the Definition of Protection Zones of Non-Ionizing Radiating in UHF Range
Charllene Guerreiro (Federal University of Pará, Brazil); Ramz Fraiha (Federal University of Pará UFPA, Brazil); Igor Gomes (Federal University of Pará, Brazil); Josiane do Couto Rodrigues (Federal University of Pará, Brazil); Simone da Gra?a de Castro Fraiha (Federal University of Pará, Brazil); Hermínio Gomes (Federal University of Pará, Brazil); Jasmine Priscyla Leite de Araújo (Federal University of Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

19. A Physical Layer Simulator Based on Radio Wave Propagation for LTE Cellular Networks
Xiang Xu (RWTH Aachen University, Germany); Florian Schröder (RWTH Aachen University & Lehrstuhl für Theoretische Informationstechnik, Germany); Bayram Gevrekce (RWTH Aachen University Germany, Turkey); Gledi Kutrolli (RWTH-Aachen University, Germany); Mingjian Ni (RWTH Aachen University, Germany); Rudolf Mathar (RWTH Aachen University, Germany)

20. Use of Multiband-OFDM UWB for High Data Rate Transmission in Powerline Communication System
Masood Ur Rehman (University of Bedfordshire, United Kingdom); Imran Shoaib (Queen Mary University of London, United Kingdom); Shuxian Chen (Queen Mary University of London, United Kingdom); Shihua Wang (QMUL, United Kingdom); Xiaodong Chen (Queen Mary, University of London, United Kingdom); Clive Parini (QMUL, United Kingdom)

21. On the Influence of Moving Objects on DVB-H Systems with an Antenna on Top of a Wind Turbine
Emmanuel H. Van Lil (Katholieke Universiteit Leuven, Belgium); Jordi Bracke Manzanares (UPC, Spain); Jan-willem De Bleser (Katholieke Universiteit Leuven, Belgium)

22. Interpolation of Channel Impulse Responses Combining the Brownian Bridge with a Modified Birth and Death Process
Bastian Meiners (Ruhr-Universität Bochum, Germany); Sven Dortmund (Ruhr-Universität Bochum, Germany); Sebastian Sczyslo (Ruhr-Universität Bochum, Germany); Ilona Rolfes (Ruhr-Universität Bochum, Germany)

Tue_Wall3: On-the-move antennas

Room: See exhibition hall map

Tuesday, April 9

14:00 - 16:50

1. A Wideband Microstrip Array Based on Air Substrate for Wireless Base-Station Applications
Chi-Fang Huang (Tatung University, Taiwan); Wei-Yu Chen (Tatung University, Taiwan)

2. Design of a Low Profile Multi-Band Antenna for Vehicular Communication System
Jagath Kumara Halpe Gamage (SINTEF ICT, Norway); Morten Engjom (Q-Free ASA, Norway); Irene Jensen (SINTEF ICT, Norway)

3. Design of Filtenna with Fractal Defected Ground Structure
Martin Kufa (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic)

4. Design of Light and Low-Profile Antennas for Vehicular Applications
Leonardo Lizzi (LEAT, University of Nice-Sophia Antipolis, CNRS, France); Fabien Ferrero (University of Nice & CREMANT CNRS, France); Jean Marc Ribero (LEAT, France); Robert Staraj (University of Nice-Sophia Antipolis, France)

5. On the Use of Amplitude Tapering for Pattern Correction of Conformal (Curved) Antennas
Sanjay Nariyal (North Dakota State University, USA); Irfan Ullah (North Dakota State University, USA); Syed Naqvi (North Dakota State University, USA); Bilal Ijaz (North Dakota State University, USA); Muhammad Masud (North Dakota State University, USA); Brian Booth (North Dakota State University, USA); Koby Asirvatham (North Dakota State University, USA); Benjamin Braaten (North Dakota State University, USA)

6. Investigation of Human Exposure Due to Unintended Electromagnetic Emissions in Electric Vehicles
Lester Low (MIRA LTD, United Kingdom); Alastair R. Ruddle (MIRA Ltd, United Kingdom)

7. U-Helix: On-Chip Short Conical Antenna
Paolo Nenzi (Università di Roma „La Sapienza“ & Rise Technology Srl, Italy); Volha Varlamava (Sapienza Università di Roma, Italy); Frank S. Marzano (Sapienza University of Rome, Italy); F. Palma (Later, Italy); Marco Balucani (Università di Roma „La Sapienza“, Italy)

8. Verification of Focal Plane Array for STEAMR Through CEM Simulations and Quasi-optical Beam Pattern Measurements
Matthias Renker (University of Bern, Switzerland); Mark Whale (University of Bern & Institute for Applied Physics, Switzerland); Axel Murk (University of Bern, Switzerland)

9. All Dielectric Superstrate to Control the Half-Power-BeamWidth of A Dual Polarized Patch Antenna
Mark Clemente Arenas (Institut Mines Telecom, Telecom ParisTech & LTCI CNRS UMR 5141, France); Xavier Begaud (Institut TELECOM, TELECOM ParisTech, France); Anne-Claire Lepage (Institut Mines-Telecom, Telecom ParisTech, France)

10. 20-GHz Single-bit Active Elementary Cell
Muhammad Nazrol Zawawi (Université Nice Sophia Antipolis, France); Jerome Lanteri (Université Nice Sophia Antipolis, France); Claire Migliaccio (Université Nice Sophia Antipolis, France)

11. Conical Horn Antenna with Spiral Phase Plate for Difference Pattern Generation
Efstratios Doumanis (Queen's University Belfast, United Kingdom); Dmitry E Zelenchuk (Queen's University of Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); George Goussetis (Reader, United Kingdom)

12. Reconfigurable Half-Width Microstrip Leaky-Wave Antenna for Fixed-Frequency Beam Scanning
Debabrata Kumar Karmokar (Macquarie University, Australia); Dushmantha Thalakotuna (Macquarie University, Australia); Karu Esselle (Macquarie University, Australia); Ladislau Matekovits (Politecnico di Torino, Italy); Michael Heimlich (Macquarie University, Australia)

13. D-Band Grid-Array Antenna Integrated in the Lid of a Surface-Mountable Chip-Package

Stefan Beer (Karlsruhe Institute of Technology, Germany); Christian Rusch (Karlsruhe Institute of Technology, Germany); Benjamin Goettel (Karlsruhe Institute of Technology, Germany); Heiko Gulan (Karlsruhe Institute of Technology, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

14. A Tiny Double-Ridged Horn Antenna for Subsurface Radar Applications
Berthold Panzner (Otto-von-Guericke University, Germany); Andreas Jöstingmeier (Otto-von-Guericke University Magdeburg, Germany)

15. Evaluation of Coupling Among Large Vivaldi Antenna Arrays with Fast Full-wave Techniques
Giovanni Galgani (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); Patrizio De Vita (IDS Ingegneria Dei Sistemi, Italy); Alessandro Mori (IDS Ingegneria Dei Sistemi S. p. A, Italy); Luca Pandolfo (IDS Ingegneria Dei Sistemi S. p. A, Italy); Mauro Bandinelli (Ingegneria dei Sistemi, IDS, Italy)

16. Multi-layer Design of SWCNTs Composites for X-Band
Apostolos Sotiropoulos (University of Patras, Greece); Stavros Koulouridis (University of Patras, Greece); Hristos Anastassiu (Technological and Educational Institute of Serres, Greece)

17. Single-Objective Genetic Algorithm for Dynamic Optimization of Reconfigurable Antenna Systems
Laura Resteghini (Politecnico di Milano, Italy); Pier Luca Lanzi (Politecnico di Milano, Italy); Roberto Nebuloni (Ieiit - Cnr, Italy); Carlo Riva (Politecnico di Milano, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Piero Gabellini (Space Engineering S.p.a., Italy)

18. Empirical ARMA Indoor Propagation Model for WLAN Signals in 2.4GHz
Ramz Fraiha (Federal University of Pará UFPA, Brazil); Allan Barbosa Costa (Federal University of Pará, Brazil); Hermínio Gomes (Federal University of Pará, Brazil); Nadson Welkson de Souza (Universidade Federal do Pará, Brazil); Bruno Martins (Universidade Federal do Pará & UFPA, Brazil); Gervásio Cavalcante (UFPA, Brazil)

19. Multipath Propagation Simulator for V2X Communication Tests on Cars
Mikael Nilsson (Lund University & Volvo Car Corporation, Sweden); Paul Hallbjörner (SP Technical Research Institute of Sweden, Sweden); Niklas Arabäck (SP Technical Research Institute of Sweden, Sweden); Bjorn Bergqvist (EESE & Volvo Car Group, Sweden); Fredrik Tufvesson (Lund University, Sweden)

20. Empirical ARMA Outdoor Propagation Model for Amazon Cities
Ramz Fraiha (Federal University of Pará UFPA, Brazil); Allan Barbosa Costa (Federal University of Pará, Brazil); Allan Braga (Federal University of Pará, Brazil); Hermínio Gomes (Federal University of Pará, Brazil); Simone da Gra?a de Castro Fraiha (Federal University of Pará, Brazil); Josiane do Couto Rodrigues (Federal University of Pará, Brazil); Jasmine Priscyla Leite de Araújo (Federal University of Pará, Brazil); Bruno Castro (Federal University of Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

Tue_Wall4: Fundamental research on antennas

Tuesday, April 9

14:00 - 16:50 Room: See exhibition hall map

1. Bloch Mode Analysis by Even-Odd-Mode Simulations
Mark A. Eberspächer (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

2. MRFD Method for Scattering From Chiral Bodies
Ahmet F Yagli (Turksat International Satellite and Cable Operator, Turkey); Mesut Gokten (Turksat International Satellite and Cable Operator, Turkey); Lokman Kuzu (Turksat International Satellite and Cable Operator, Turkey); Senol Gulgonul (Sakarya University & Turksat Satellite Communication and Cable TV AS, Turkey)

3. On the Validity of Two-Dimensional Models for Radiation of Optical Sources in Stratified Media
Ariel Epstein (Technion - Israel Institute of Technology, Israel); Pinchas Einziger (Technion - Israel Institute of Technology, Israel)

4. Loss Reduction in Planar Circuits and Antennas Over a Ground Plane Using Engineered Conductors
Lotfollah Shafai (University of Manitoba, Canada); Saeed Latif (University of Manitoba, Canada); Cyrus Shafai (The University of Manitoba, Canada)

5. Evaluation of Directivity of Antenna Arrays Using an Iterative Method
Damien Rialet (Royal Military College of Canada, Canada); Michel Clénet (Defence R&D Canada, Canada); Yahia Antar (Royal Military College of Canada, Canada)

6. Analysis of Different Feeding Methods for Resonant Composite Right/Left-handed (CRLH) Antenna
Nurul Hafizah Mohd Hanafi (Universiti Kebangsaan Malaysia (UKM), Malaysia); Mimi Aminah Wan Nordin (International Islamic University Malaysia, Malaysia); Mohammad Tariqul Islam (Institute of Space Science (ANGKASA) & Universiti Kebangsaan Malaysia, Malaysia); Norbahiah Misran (UKM, Malaysia)

7. Interests of a 1D EBG Matrix Compared to a Patch Array in Terms of Mutual Coupling and Grating Lobe
Hussein Abou Taam (University of Limoges & XLIM, France); Moustapha Salah Toubet (XLIM - UMR 6172 – CNRS, University of Limoges, France); Thierry Monediere (University of Limoges & CNRS, France); Bernard Jecko (University of Limoges, France); Mohamed Rammal (Lebanese University, Lebanon)

8. Whistler Wave Radiation From a Pulsed Loop Antenna Located in a Cylindrical Density Duct
Alexander Kudrin (University of Nizhny Novgorod, Russia); Natalya Shkokova (University of Nizhny Novgorod, Russia); Vasiliy Es'kin (University of Nizhny Novgorod, Russia); Tatyana Zaboronkova (Technical University of Nizhny Novgorod, Russia)

9. Withdrawn

10. Gain Enhancement of Microstrip Patch Antenna Using Fractal Metamaterial Unit Cell
Parviz Hajizadeh (Shahed University, Iran); Hamid Reza Hassani (Shahed University, Iran)

11. Surface Impedance for Scattered Field on a Dielectric-Coated Circular Cylinder
Andrés G. Aguilar (Technical University of Madrid, Spain); Prabhakar Pathak (The Ohio State University, USA); Manuel Sierra-Pérez (Universidad Politécnica de Madrid, Spain)

12. MmCn-BBO Schemes for Electromagnetic Problem Optimization
Marco Mussetta (Politecnico di Milano & Politecnico di Torino, Italy); Paola Pirinoli (Politecnico di Torino, Italy)

Tue_Wall5: Fundamental research on

14:00 - 16:50 **antennas**
Room: See exhibition hall map

1. Efficient Analysis of Lossy Substrate Integrated Waveguides Based on the Parallel-Plate Waveguide Green's Function
G. Amendola (Universita della Calabria, Italy); Emilio Arnieri (Universita' della Calabria, Italy); Luigi Boccia (University of Calabria, Italy); Alireza Shamsafar (University of Calabria, Italy)

2. The Diffraction Problem of E Polarized Wave on the pre-Cantor Periodic Grating with Reflector and Its Discrete Mathematical Model
Kateryna Nesvit (Department of Mathematical Physics and Calculus Mathematics. Karazin Kharkiv National University, Ukraine)

3. Analysis of Effectiveness of Low Rank IE-QR Algorithm Applied to Antenna Arrays
Pawel Gluchowski (Wroclaw University of Technology, Poland); Andrzej Kucharski (Wroclaw University of Technology, Poland)

4. An Efficient Analysis of Lossy Substrate Integrated Waveguide Resonators
G. Amendola (Universita della Calabria, Italy); Emilio Arnieri (Universita' della Calabria, Italy); Luigi Boccia (University of Calabria, Italy); Ali Imran Sandhu (University of Calabria, Italy)

5. A BCS-Based Approach for the Synthesis of Conformal Arrays
Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Matteo Carlin (University of Trento, Italy); Ephrem Teshale Bekele (University of Trento & Eledia Research Center, DISI, University of Trento, Italy); Andrea Massa (University of Trento, Italy)

6. Finite Volume Analysis of Eccentered Borehole Sensors in Anisotropic Earth Formation
Sueli Nascimento (Federal University of Bahia, Brazil); Marcela Novo (Federal University of Bahia, Brazil); Fernando Teixeira (Ohio State University, USA)

7. Analytical Model for the Rectangular Patch Antenna is Close to Numerical Simulations
René Meys (Université libre de Bruxelles, Belgium); Ammar Rouibah (Université libre de Bruxelles, Belgium)

8. Closed-Form Expression for Mutual Impedance of the Short Not-Too-Closely Spaced Dipoles with Constant Current Distribution
Milan Polivka (Czech Technical University in Prague, Czech Republic)

9. An Efficient Technique to Model Volumetric Antennas by a Set of Elementary Sources on the Ground Plane
Juan F. Izquierdo (Universidad de Extremadura, Spain); Jesús Rubio (University of Extremadura, Spain)

Tue_Wall6: Antennas and propagation for

Tuesday, April 9

14:00 - 16:50 biomedical
Room: See exhibition hall map

1. Four-Leaf-Clover-Shaped EBG Structure to Improve the H/E Field Ratio of Stripline Coil for 7Tesla MRI
Gameel Saleh (University of Duisburg-Essen, Germany); Klaus Solbach (UDE, Germany); Daniel Erni (University of Duisburg-Essen, Germany); Andre Rennings (University of Duisburg-Essen, Germany)

2. An Innovative Inverse Scattering Technique for Critical Applications
Elia Attardo (Istituto Superiore Mario Boella, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy)

3. Breast-Tumor Shape Estimation Using the Jump- Diffusion Algorithm
Marija Nikolic (University of Belgrade, Serbia); Arye Nehorai (Washington University in St. Louis, USA); Symeon Nikolaou (Frederick Research Center, Cyprus); Antonije Djordjevic (University of Belgrade, Serbia)

4. Novel Rapid Detection of Different Viruses in Blood Using Microimmuno-sensor
Dalia Elsheakh, dalia (Electronics Research Institute & ElTahrir St. Dokki Giza, Egypt)

5. Design of an Implantable Broadband Antenna for Medical Telemetry Applications
Neus Vidal (University of Barcelona, Spain); Jose López-Villegas (University of Barcelona, Spain); Sergio Curto (University of Barcelona, Spain); Jordi Colomer (University of Barcelona, Spain); Saiyd Ahyoune (University of Barcelona, Spain); Aleix Garcia (University of Barcelona, Spain); Javier Sieiro (University of Barcelona, Spain); Francisco Ramos (Francisco Albero S.A., Spain)

6. UWB Loop Antenna for In-Body Wireless Body Area Network
Kamya Yekeh Yazdandoost (National Institute of Information and Communications Technology, Japan)

7. An MR-compatible Printed Yagi-Uda Antenna for a Phased Array Hyperthemia Applicator
Bedilu Adela (Eindhoven University of Technology, The Netherlands); A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands); Maarten Paulides (Erasmus MC Daniel den Hoed Cancer Center, The Netherlands); Rob Mestrom (Eindhoven University of Technology, The Netherlands)

8. On the Impulse Response of the Folded Dipole
Renata Valério de Freitas (University of São Paulo, Brazil); Silvio E. Barbin (University of Sao Paulo, Brazil)

9. Nonorthogonal FDTD for SAR Estimation in Case of Body Deformation
Mame Diarra Mbaye (Université Paris-Est Marne-la-Vallée, France); Shermila Mostarshedi (Université Paris-Est Marne-la-Vallée, France); Stéphane Protat (Université Marne La Vallée, France); Joe Wiart (France Telecom R&D, France); Odile Picon (Université Paris-Est Marne-la-Vallée, France)

10. Heating Control Method for Resonant Cavity Applicator Using Divided Type of Dielectric Bolus for Effective Hyperthermia Treatment
Yuya Iseki (Meiji University, Japan); Yasuhiro Shindo (Meiji University, Japan); Kazuki Watanabe (Meiji University, Japan); Jiro Arakawa (Graduate School of Meiji University, Japan); Kazuo Kato (Meiji University, Japan)

11. Investigation of Small Tumor Response in Microwave Tomographic Sensing of the Breast
Seong-Ho Son (ETRI, Korea); Laxmikant Minz (Member Of engg. Staff, India); Nikolai Simonov (ETRI, Korea); Soon Ik Jeon (ETRI Radio Technology Group, Korea); Hyung Do Choi (ETRI, Korea)

12. 2-D Scattered Field Analysis of Four Breast Types in Microwave Tomography System
Bo-Ra Kim (ETRI, Korea); Taek kyung Lee (Korea Aerospace University, Korea); Soon Ik Jeon (ETRI Radio Technology Group, Korea)

13. Thermotherapy for Rheumatoid Arthritis Using Resonant Cavity Applicator
Yasuhiro Shindo (Meiji University, Japan); Kazuki Watanabe (Graduate shool of Meiji University, Japan); Yuya Iseki (Meiji University, Japan); Kazuo Kato (Meiji University, Japan)

14. The Effect of Arm Movement on Walking

Action in Wireless Body Area Network Channel
Srijittra Swaisaenyakorn (University of kent, United Kingdom); Kruthi Chitradurga-Nanjaraj (The University of Kent, United Kingdom); Steve Kelly (University of Kent, United Kingdom); John Batchelor (University of Kent, United Kingdom)

15. Inspecting Safety Level of Bluetooth Headset Radiation in the Vicinity of Human Head: A Numerical Study
Reza Aminzadeh (Sharif University of Technology-International Campus, Iran); Mehrangiz Ashiri (Sharif University of Technology International Campus, Iran); Khosrow Sadeghi (Sharif University of Technology, Iran); Sarah Naghedi Hosseinzadeh (Sharif University of Technology-International Campus, Iran); Hadi Hosseinzadeh Khaligh (University of Waterloo, Canada)

14:00 - 16:50 application
Room: See exhibition hall map

1. Experimental Study of RF/Microplasma Interaction Using an Inverted Microstrip Line
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)

2. A Very Compact Novel Power Divider for GPR Large Target Detection
Tamer Gaber Aboelnaga (Researcher, Egypt); Esmat Abdallah (Former President of the Electronics Research Institute, Egypt)

3. Design of a Low Profile Phased Array Filtenna with Frequency Agility and Wide Spurious Rejection Band
Lorenzo Cifola (TNO - Defence, Security and Safety & Università Politecnica della Marche, The Netherlands); Giampiero Gerini (TNO - Defence, Security and Safety, The Netherlands); Antonio Morini (Università Politecnica delle Marche, Italy)

4. A Two Curved PIFA System for MIMO Application
Hafedh Hamouda (Laboratoire d'Electronique, Antennes et Télécommunications & Université de Nice-Sophia Antipolis - CNRS, France); Philippe Lethuc (University of Nice, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Georges Kossiavas (University of Nice, France)

5. Effect of Partial Ground Plane Removal on the Front-to-Back Ratio of a Microstrip Antenna
Hongmin Lee (Kyonggi University, Korea)

6. Slot Turnstyle Antenna
Denis Klygach (Southern Ural State University, Russia); Nikolay Voytovich (Southern Ural State University, Russia); Nikolay Repin (Southern Ural State University, Russia)

Tue_Wall7: Antennas for no specific

7. Wideband Dipole Antenna

Tuesday, April 9

Aleksey Ershov (Southern Ural State University, Russia); Nikolay Voytovich (Southern Ural State University, Russia)

8. Approximate Evaluation of Effective Permittivity for Metal Dummies in a CMOS Chip Using Electrostatic Capacitor Model
Takuichi Hirano (Tokyo Institute of Technology, Japan); Kenichi Okada (Tokyo Institute of Technology, Japan); Jiro Hirokawa (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan)

10. Wideband Zeroth-Order Resonance Antenna Combined with TM010 Mode Having Folded Mushroom Structure
Jeong Hae Lee (Hongik University, Korea); SeungTae Ko (Hongik University, Korea)

11. Dual-Band E-Slot Microstrip Antenna with Frequency Tuning Capability
Nadia Haider (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Alexander Yarovoy (Delft University of Technology, The Netherlands)

12. Probe-Fed Transparent Dielectric Resonator Antennas
Maria Castillo Solis (University of Manchester, United Kingdom); Zhipeng Wu (University of Manchester, United Kingdom); Cheng-Guo Liu (Wuhan University of Technology, P.R. China); Wenzhong Lu (Huazhong University of Science and Technology, P.R. China); Fei Liang (Huazhong University of Science and Technology, P.R. China)

13. Self Matched Spiral Printed Antenna with Unidirectional Pattern
Jérôme Massiot (ONERA, France); Cedric Martel (ONERA, France); Olivier Pascal (Université de Toulouse - UPS INPT CNRS, France); Nathalie Raveu (Laplace - Université de Toulouse - UPS INPT CNRS, France)

14. A Novel Reconfigurable ZOR Antenna
Michele D'Amico (Politecnico di Milano, Italy); Marco Feo (Politecnico di Milano, Italy)

15. Analysis of Circularly Symmetric Antenna Using a FDTD-Bidimensional Method
Fabrício Barros (Universidade Federal do Pará, Brazil); Sandro R. Zang (PUC-Rio, Brazil); Samara da Silva (UFPA, Brazil); Jose R Bergmann (PUC-Rio, Brazil)

16. Wideband Omnidirectional Dual-Polarized Biconical Antennas: A Comparison of Two Approaches
Ebrahim Bagheri-Korani (University of Tehran, Iran); Ehsan Arbabi (University of Tehran, Iran); Mehdi Ahmadi-Boroujeni (University of Tehran, Iran); Mohammad Hossein Nemati (Sabanci University, Turkey); Karim Mohammadpour-Aghdam (University of Tehran & KUL, Iran)

17. Design of Reconfigurable Radiation Pattern Ring-Dipole Antenna for Wireless Communication
Imen Ben Trad (Innov'COM Laboratory, Sup'COM, Tunis, Tunisia); Jean-marie Floch (IETR, France); Hatem Rmili (King Abdulaziz University & Faculty of Engineering, Saudi Arabia); M'hamed Drissi UEB (INSA of Rennes, France); F. Choubani (SUP'COM, Tunisia)

18. Terahertz Quarter-Wave Plate Based on Subwavelength Hole Arrays
Miguel Navarro-Cía (Imperial College London, United Kingdom); Pablo Rodríguez-Ulibarri (Universidad Pública de Navarra, Spain); Víctor Torres (Universidad Publica de Navarra, Spain); Miguel Beruete (Universidad Publica de Navarra, Spain)

19. Surface Impedance Measurements of Thin Flexible Metallization At Millimeter-Waves
Pietro Romano (EPFL, Lausanne, Switzerland); Samuel Rosset (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Luc Maffli (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Herbert Shea (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

20. Investigation of Compensating the Ground Plane Effect Through Array's Inter-element Coupling
Christos Kolitsidas (KTH Royal Institute of Technology, Sweden); Lars Jonsson (Royal Institute of Technology (KTH), Sweden)

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Tuesday, April 9

15:00 - 16:20 Room: G1
Chairs: Cyril Luxey (University Nice Sophia-Antipolis, France), Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

15:00 Innovate in a 4G World: RFIC Designers Discovering Antennas
Frédéric Gianesello (STMicroelectronics, France)

15:40 Antenna Ideas At the Nanoscale: Single Quantum Emitters At Visible Wavelengths Controlled Using Plasmonics and Metamaterials
Femius Koenderink (FOM Institute AMOLF, The Netherlands)

IL2.2: Invited speaker 4

15:00 - 16:20 Room: G2
Chairs: Gunnar Elgered (Chalmers University of Technology, Sweden), Claude Oestges (Université Catholique de Louvain, Belgium)

15:00 From Heterogeneous Wireless Networks to Sustainable Efficient ICT Infrastructures
Yves Lostanlen (SIRADEL & University of Toronto, Canada)

15:40 European Collaborative Propagation Research - A Tribute to Aldo Paraboni and Gert Brussaard
Bertram Arbesser-Rastburg (ESA - Estec, The Netherlands)

COFFEE BREAK

CM5: AMTA/EurAAP measurements/

16:50 - 18:30 **Satellite and aerospace antenna testing**
Room: E1
Chairs: Laurent Le Coq (University of Rennes 1 & IETR, France), Luca Salghetti Drioli (European Space Agency-ESTEC, The Netherlands)

16:50 New Trend in Antenna Design and Testing for Space Missions: Aquarius and SMAP
Paolo Focardi (Jet Propulsion Laboratory & California Institute of Technology, USA); Jefferson Harrell (Jet Propulsion Laboratory, USA); Joseph Vacchione (Jet Propulsion Laboratory, USA)

17:10 Time Efficient NF Technique with Application in Satellite Antenna Integration and Test/ Verification
Giorgio Giordanengo (ISMB, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Lars Jacob Foged (SATIMO, 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)

17:30 Improved Test Range Acquisition System and Control Software for Satellite Antenna Measurements
Javier Herreros (TTI Norte, Spain); Vicente Garcia (EADS-CASA Espacio, Spain); Carlos Montesano (EADS-CASA Espacio, Spain)

17:50 Application of Quality Improvement Techniques to Cylindrical Near-field Radome Testing
Leili Shafai (Canadian Space Agency & David Florida Laboratory, Canada); Shantnu Mishra (Canadian Space Agency, Canada)

18:10 Time Efficient Antenna & Payload Measurement Technique for Future Multi-Spot-Beam Antennas
Josef Migl (Astrium GmbH, Germany); Winfried Seitz (Astrium GmbH, Germany); Engin Guelten (Astrium GmbH, Germany); Hans-Juergen Steiner (Astrium GmbH & Measurement Technology, Germany); Erica Meniconi (University of Perugia, Germany)

P6: Radio Climatology

16:50 - 18:30 Room: E2
Chairs: Carlo Capsoni (Politecnico di Milano, Italy), Laurent Castanet (ONERA, France)

16:50 Use of WRF Model to Characterize Propagation Effects in the Troposphere
Maura Outeiral García (ONERA & ONERA, The French Aerospace Lab, France); Nicolas Jeannin (ONERA, France); Laurent Féral (Laboratoire LAPLACE, France); Laurent Castanet (ONERA, France)

17:10 The SC EXCELL Model for the Prediction of Monthly Rain Attenuation Statistics
Carlo Capsoni (Politecnico di Milano, Italy); Lorenzo Luini (Politecnico di Milano, Italy)

17:30 Prediction of Microwave Attenuation Across a Satellite Link From the ERA-Interim Global Atmospheric Database
Roberto Nebuloni (Ieiit - Cnr, Italy); Carlo Capsoni (Politecnico di Milano, Italy); Carlo Riva (Politecnico di Milano, Italy); Laura Resteghini (Politecnico di Milano, Italy)

17:50 Analysis and Improvements of Methodologies for Discriminating Atmospheric Conditions From Radiometric Brightness Temperatures
Vinia Mattioli (Sapienza University of Rome / Perugia, Italy); Ada Vittoria Bosisio (CNR-IEIIT & c/o Politecnico di Milano, Italy); Alberto Graziani (University of Bologna, Italy); Paolo Tortora (University of Bologna, Italy); Laurent Castanet (ONERA, France)

18:10 Applying Weibull Mixtures to Model the Duration of Rainfall Events in Brazil
Erasmus Miranda (Catholic University of Petropolis, Brazil); Luiz A R da Silva Mello (PUC/RIO & Inmetro, Brazil); Marlene S Pontes (Pontifical Catholic University of Rio de Janeiro, Brazil); Marta Almeida (Inmetro, Brazil)

16:50 - 18:30 **architectures**
Room: E3
Chairs: Ernst Bonek (Vienna University of Technology, Austria), Jean-Claude Kedzia (ESI Group, France)

16:50 Engineering of Source Appearance Via Transformation Optics Concept
Paul-henri Tichit (Institut d'Electronique Fondamentale - Université Paris-Sud, France); Shah Nawaz Burokur (Institut d'Electronique Fondamentale - Université Paris-Sud, France); André de Lustrac (Institut d'Electronique Fondamentale - Université Paris-Sud, France)

17:10 A Multi-Scale Hybrid Modeling Strategy for Automotive RADAR Sensors
Jean-Claude Kedzia (ESI Group, France); Bo Strand (Efield AB, ESI Group, Sweden); Erik Abenius (Efield AB, ESI Group Sweden, Sweden)

17:30 Modeling the Radiation Characteristics of Plane Waveguide Array Using the Variational Approach and Aperture Orthogonal Polynomi als Method
Mykhaylo Andriychuk (Pidstryhach Institute for Applied Problems in Mechanics and Mathematics, Ukraine); Olga Sushko (Pidstryhach Institute for Applied Problems in Mechanics and Mathematics, Ukraine)

17:50 Failure Detection in Large Arrays Through Bayesian Compressive Sensing
Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

18:10 Sensitivity Optimization for Electromagnetic Measurement Systems by Sensor Selection
Oskar Talcoth (Chalmers University of Technology, Sweden); Gustav Risting (Chalmers University of Technology, Sweden); Thomas Rylander (Chalmers University of Technology, Sweden)

A05: Antenna systems and

M1: Advances in OTA Testing of Wireless

Tuesday, April 9

16:50 - 18:30 Devices

Room: G1

Chairs: Benoit Derat (Field Imaging, France), Peter Knott (Fraunhofer FHR, Germany)

16:50 MIMO Performance Evaluation of Automotive Qualified LTE Antennas
Levent Ekiz (BMW Group Research and Technology, Germany); Andreas Thiel (Delphi Deutschland GmbH, Germany); Oliver Klemp (BMW Group Research and Technology, Germany); Christoph F Mecklenbräuker (Vienna University of Technology, Austria)

17:10 Test Setup for Anechoic Room Based MIMO OTA Testing of LTE Terminals
Xavier Carreño (Intel Mobile Communications, Denmark); Wei Fan (Aalborg University, Denmark); Jesper Ø Nielsen (Aalborg University, Denmark); Jagjit Ashta (Intel Mobile Communications, Denmark); Gert Pedersen (Aalborg University, Denmark); Mikael Knudsen (Intel Mobile Communications, Denmark)

17:30 Probe Configurations for 3D MIMO Over-the-Air Testing
Pekka Kyösti (Anite Telecoms Oy, Finland); Afroza Khatun (Aalto University School of Electrical Engineering, Finland)

17:50 Clarification of Uncertainties in MIMO Over-the-air Multi-Probe Test Systems
Afroza Khatun (Aalto University School of Electrical Engineering, Finland); Veli-Matti Kolmonen (Aalto University & School of Electrical Engineering, Finland); Tommi Laitinen (Aalto University School of Electrical Engineering, Finland); Keijo Nikoskinen (Aalto University, Finland)

18:10 Measurement of V2X Prototypes Performance. Comparison with Simulation Results
Iulia Ivan (Renault sas, France); Philippe Besnier (IETR, France); Xavier Bunlon (Renault sas, France); Philippe Boutier (Renault sas, France)

16:50 - 18:30 Room: G2

Chairs: Christophe Craeye (Université Catholique de Louvain, Belgium), Patrik Persson (Ericsson Research, Sweden)

16:50 Design of Radome-Covered Substrate Integrated Waveguide Slot Antenna Array
Tomas Mikulasek (Brno University of Technology, Czech Republic); Jan Puskely (Brno University of Technology, Czech Republic); Jaroslav Lacik (Brno University of Technology, Czech Republic)

17:10 Simplified Model of a Fabry-Perot Antenna
Giuseppe Di Massa (University of Calabria, Italy); Oswaldo Moreno (University of Calabria & Escuela Superior Politecnica de Chimborazo, Ecuador); Sandra Costanzo (University of Calabria, Italy)

17:30 Microstrip Series-Fed Array Based on the Strip-Slot Element
Elena Abdo-Sánchez (University of Málaga & E.T.S.I. Telecomunicación, Spain); Jaime Esteban (Universidad Politécnica de Madrid, Spain); Teresa María Martín-Guerrero (University of Málaga, Spain); Juan Page (Universidad Politecnica de Madrid, Spain); Carlos Camacho-Peñalosa (University of Málaga, Spain)

17:50 Shaped-Beam Synthesis for Microstrip Antenna Arrays Via Finite-Element Method, Active Element Pattern and Convex Programming
Jose Ignacio Echeveste (Universidad Politecnica de Madrid & ETSI de Telecomunicacion, Spain); Miguel A. González (Universidad Politécnica de Madrid, Spain); Juan Zapata (Universidad Politécnica de Madrid, Spain)

18:10 Analysis of Pattern Null-fill in Linear Arrays
Björn Lindmark (Powerwave Technologies, Sweden)

A32: Array antenna technology

A23: Ultra wide band antennas and time

16:50 - 18:30 domain techniques
Room: J1
Chairs: Martin Berggren (Umeå University, Sweden), Chi-Chih Chen (The Ohio State University & ElectroScience Laboratory, USA)

16:50 Cavity-backed Dual-polarized Antenna for Ultra-wideband Radar Systems
Fuguo Zhu (University of Surrey, United Kingdom); Steven Gao (University of Surrey, United Kingdom); Anthony T S Ho (University of Surrey, United Kingdom); Tim Brown (University of Surrey, United Kingdom); Jianzhou Li (Northwestern Polytechnical University, P.R. China); Gao Wei (Northwestern Polytechnical University, P.R. China); Jiadong Xu (Northwestern Polytechnical University, P.R. China)

17:10 Optimization and Fabrication by 3D Printing of a Volcano Smoke Antenna for UWB Applications
Aida Lopez (Politecnica de Madrid Institute of Technology, Spain); Ernesto Canelon (Carlos III Institute of Technology, Spain); Rohit Chandra (Lund University, Sweden); Anders Johansson (Lund University, Sweden)

17:30 Dual-Circular Polarized Dumbbell-Shaped Crossed-Dipole Planar Antenna for UWB Application
Rupesh Kumar (TELECOM ParisTech, France); Bernard Huyart (Ecole Nationale Supérieure de Télécommunications, France); Jean Cousin (COMELEC, France); Kais Mabrouk (GIS AllianSTIC, France)

17:50 A Compact ECC-Band Horn Antenna for Remote Monitoring of Vital Signs At Home Environments
Robert Müller (TU Ilmenau, Germany); Ralf Herrmann (Ilmenau Technical University, Germany); Frank Wollenschläger (Ilmenau University of Technology, Germany); Alexander Schulz (Ilmenau University of Technology, Germany); Matthias Hein (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany)

18:10 Topology Optimization of UWB Monopole Antennas
Emadeldeen Hassan (Umeå University, Sweden); Eddie Wadbro (Umeå University, Sweden); Martin Berggren (Umeå University, Sweden)

P3: Indoor radio propagation

16:50 - 18:10 Room: J2
Chairs: Jorge R. Costa (Instituto de Telecomunicações / ISCTE-IUL, Portugal), Wout Joseph (Ghent University, Belgium)

16:50 Acquisition of EM Propagation Parameters Onboard Trains At UHF Frequencies
Bertrand Nkakanou (LRTCS-UQAT, Canada); Gilles Delisle (LRTCS-UQAT, Canada); Nadir Hakem (Université du Québec en Abitibi Témiscamingue & LRTCS Research Laboratory Télébec in Underground Communications, Canada); Yacouba Coulibaly (University du Quebec en Abitibi Téminscamigue, Canada)

17:10 Exposure Minimization Algorithm in Homogeneous Indoor Networks
David Plets (IBBT-Ghent University, Belgium); Wout Joseph (Ghent University, Belgium); Kris Vanhecke (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

17:30 On-Body Ultra-Wideband Radio Propagation Channels in Closed Spaces: An Experiment with Elevator Passengers
Miyuki Hirose (Tokyo Denki University, Japan); Takehiko Kobayashi (Tokyo Denki University, Japan)

17:50 Realistic Prediction of BER for Adaptive OFDM Systems
Meiling Luo (Ranplan Wireless Network Design Ltd. & INSA-Lyon, CITI, United Kingdom); 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)

M4: Microwaves in Medical Diagnostics

Tuesday, April 9

16:50 - 18:30 and Treatment
Room: R24+R25
Chairs: Achim Dreher (German Aerospace Center (DLR), Germany), Tommaso Isernia (University of Reggio Calabria, Italy)

16:50 Withdrawn

17:10 Micromachined Near-Field Millimeter-Wave Medical Sensor for Skin Cancer Diagnosis
Fritzi Töpfer, Sergey Dudorov, Dragos Dancila, Robin Augustine, Xin Hu, Anders Rydberg (Uppsala University, Sweden); Lennart Emtestam (Karolinska Institutet, Sweden); Lars Tenerz (Optiga AB, Sweden); Joachim Oberhammer (KTH, Sweden)

17:30 A Model Approach to the Analytical Analysis of Stroke Detection Using UWB Radar
Malyhe Jalilvand , Xuyang Li, Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

17:50 Easy to Use Real Time SAR Measurements System
Romain Butet, Yann Toutain, Sylvie Le Dall (Microwave Vision, France); Jerome Luc (SATIMO US, USA); John Estrada (MVG, USA); Per Noren (Microwave Vision Group, Sweden); Lars Jacob Foged (SATIMO, Italy)

18:10 Numerical Evaluation of Clinical Applicator for Microwave Hyperthermia Treatment of Head & Neck Tumors
Hana Dobšíček Trefná, Pegah Takook, Johanna Gellermann (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Shirin Abtahi (Chalmers University of Technology, Sweden); Mikael Persson (Chalmers University of Technology, Sweden)

A26: Mode-based EM methods

16:50 - 18:30
Room: R22+R23
Chairs: Jonas Fridén (Ericsson AB, Sweden), Ahmed Kishk (Concordia University, Canada)

16:50 Calculation of Antenna Radiation Center Using Angular Momentum
Jonas Fridén (Ericsson AB, Sweden); Gerhard Kristensson (Lund University, Sweden)

17:10 EM-Simulation-Based Antenna Design Using Adaptive Response Correction
Slawomir Koziel (Reykjavik University, Iceland); Stanislav Ogurtsov (Reykjavik University, Iceland)

17:30 Modeling of Wideband Antennas Using Space-Mapping-Corrected Kriging Surrogates
Slawomir Koziel (Reykjavik University, Iceland); Stanislav Ogurtsov (Reykjavik University, Iceland); J. Pieter Jacobs (University of Pretoria, South Africa)

17:50 Resonance Behaviour of Characteristic Modes Due to the Presence of Dielectric Objects
Eugen Safin (University of Kiel, Germany); Dirk Manteuffel (University of Kiel, Germany)

18:10 Electromagnetic Scattering From 2D Dielectric Objects Using Randomly Distributed Sources
Mohamed A. Moharram (Concordia University, Canada); Ahmed Kishk (Concordia University, Canada)

A33: Array antenna technology

16:50 - 18:30 Room: R2
Chairs: Anders Derneryd (Ericsson AB & Lund University, Sweden), Karl Warnick (Brigham Young University, USA)

16:50 High Gain 60 GHz Stacked Microstrip Patch Array Antenna
Anders Derneryd (Ericsson AB & Lund University, Sweden); Lars Manholm (Ericsson AB, Sweden); Syed Kashan Ali (Tieto Sweden AB, Sweden)

17:10 A Novel Circular Direction Finding Antenna Array for Unknown Polarizations
Rainer Mueller (Cassidian, Germany); Steffen Lutz (University of Applied Sciences Ulm, Germany); Ralf Lorch (Cassidian Electronics, Germany)

17:30 Compact Wideband Vivaldi Antenna Array for Microwave Imaging Applications
Jan Puskely (Brno University of Technology, Czech Republic); Tomas Mikulasek (Brno University of Technology, Czech Republic)

17:50 Compressive Sensing as Applied to Electromagnetics: Advances, Comparisons, and Applications
Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Andrea Massa (University of Trento, Italy)

18:10 Connected Spiral Antennas for Wideband Circularly Polarized Antenna Array, Experimental Investigations
Mohammed Serhir (Departement de Recherche en Electromagnetisme, Supelec, France); Regis Guivarc'h (SONDRA, Supelec, France)

16:50 - 18:30 Room: R31
Chairs: Robin Augustine (Uppsala University, Sweden), Alexandru Tatomirescu (Aalborg University, Denmark)

16:50 High-Q Antennas: Simulator Limitations
Samantha Caporal Del Barrio, Gert Pedersen (Aalborg University, Denmark)

17:10 Innovative MEMS-MMIC Components for Agile Antenna Frontends
Rens Baggen, Marta Arias Campo (IMST GmbH, Germany); Robert Malmqvist (FOI Swedish Defence Research Agency, Sweden); Tauno Vähä-Heikkilä (VTT Electronics, Finland); Winfried Simon (IMST GmbH, Germany); Brice Grandchamp (OMMIC, France); Paul-Alain Rolland (University of Lille, France)

17:30 Wide Band On-Chip Slot Antenna with Back-Side Etched Trench for W-band Sensing Applications
Dragos Dancila (Uppsala University, Sweden); Robert Malmqvist (FOI Swedish Defence Research Agency, Sweden); Shakila Bint Reyaz, Robin Augustine (Uppsala University, Sweden); Carl Samuelsson (FOI Swedish Defence Research Agency, Sweden); Mehmet Kaynak (IHP Microelectronics, Germany); Anders Rydberg (Uppsala University, Sweden)

17:50 Reconfigurable Micromachined On-Chip Antenna with Radiation Pattern Diversity
Mai Sallam, Ezzeldin Soliman (The American University in Cairo, Egypt)

18:10 The 24-GHz Band Beam Switchable Triple-Plane Active Sector Antenna
Goh Fukuda (Tokyo University of Science, Japan); Satoshi Yoshida, Yuta Kobayashi (Japan Aerospace Exploration Agency, Japan); Syuntaro Tashiro (Tokyo University of Science, Japan); Takumasa Noji (Tokyo Metropolitan University, Japan); Toshifumi Shirosaki, Masami Hasegawa , Takashi Suzuki, Tamotsu Suda (Japan Radio Co., Ltd., Japan); Masahiro Muraguchi (Tokyo University of Science, Japan); Shigeo Kawasaki (Japan Aerospace Exploration Agency, Japan)

A01: Active and Integrated Antennas

A34: Array antenna design
Room: E1

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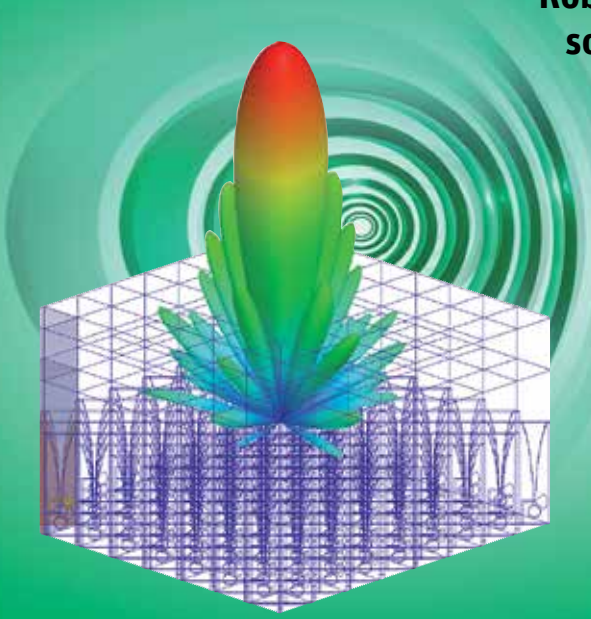

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09:00 - 12:50 Chairs: Benedetta Fiorelli (ASTRON, the Netherlands Institute for Radio Astronomy, The Netherlands), Benjamin Fuchs (University of Rennes 1 - IETR, France)

09:00 An Injection-Molded Circular Polarized Horn Array Antenna with Low Axial Ratio
Jun Goto (Mitsubishi Electric Corporation, Japan)

09:20 Retrodirective Terminal Antenna for Satellite and Terrestrial Mobile Communications
Oleksandr Malyuskin (Queens University Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); Neil Buchanan (Queens University Belfast, United Kingdom)

09:40 Using a Synthesis Methodology for the Design of Automotive Antenna Systems
Lars Reichardt (Karlsruhe Institute of Technology, Germany); Tobias Mahler (Karlsruhe Institute of Technology, Germany); Leen Sit (Karlsruhe Institute of Technology (KIT), Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

10:00 Ku-band Hybrid Phased Array Antennas for Mobile Satellite Communication Systems
Ferdinando Tiezzi (JAST SA, Switzerland); Stefano Vaccaro (JAST SA, Switzerland); Cesar Domínguez (JAST SA, Switzerland); Manuel Fajardo (JAST SA, Switzerland); Daniel Llorens del Río (JAST, Switzerland)

10:20 Invisible Antenna Embedded in the Roof of a Car with High Efficiency for Reception of Satellite Digital Audio Radio Services (SDARS)
Johannes Kammerer (Universität der Bundeswehr, Germany); Stefan Lindenmeier (Universität der Bundeswehr, Germany)

COFFEE BREAK

11:10 A Dual-Polarization Frequency Scanning Microstrip Array Antenna for Weather Radar Applications
Shaya Karimkashi (Advanced Radar Research Center & University of Oklahoma, USA); Guifu Zhang (University of Oklahoma, USA); Ahmed Kishk (Concordia University, Canada)

11:30 Withdrawn

11:50 A Simple Method for Optimal Antenna Array Thinning Using a Broadside MaxGain Beamformer
Carlo Bencivenni (Chalmers University of Technology, Sweden); Marianna Ivashina (Chalmers University of Technology, Sweden); Rob Maaskant (CHALMERS, Sweden)

12:10 Design and Measurements of a C-Band Array for High Power High Bandwidth SAR Application
Alberto Di Maria (German Aerospace Center (DLR), Germany); Markus Limbach (German Aerospace Center (DLR), Germany); Ralf Horn (German Aerospace Center (DLR), Germany); Andreas Reigber (German Aerospace Center (DLR), Germany)

12:30 Improved Compact Genetic Algorithm for Thinned Array Design
Bui Van Ha (Politecnico di Milano, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy); Marco Mussetta (Politecnico di Milano & Politecnico di Torino, Italy); Paola Pirinoli (Politecnico di Torino, Italy)

A10: Lens antenna
Room: E2

Wednesday, April 10

09:00 - 10:40 Chairs: Jorge R. Costa (Instituto de Telecomunicações / ISCTE-IUL, Portugal), Ronan Sauleau (University of Rennes 1, France)

09:00 Ground Terminal Antenna for Ka-Band Satellite Communications
Joana S. Silva (ISCTE - Lisbon University Institute & Instituto de Telecomunicacoes, Portugal); Jorge R. Costa (Instituto de Telecomunicações / ISCTE-IUL, Portugal); Eduardo B. Lima (Instituto de Telecomunicações & Instituto Superior Técnico, Portugal); Carlos A. Fernandes (Instituto de Telecomunicacoes, Instituto Superior Tecnico, Portugal)

09:20 Enhanced Spiral Feeds for Dielectric Lens Antennas
Alessandro Garufo (TU Delft, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

09:40 Design of Spherical Lens Antennas Including Realistic Feed Model
Dario Bojanjac (University of Zagreb, Croatia); Zvonimir Sipus (University of Zagreb, Croatia)

10:00 Coated Dielectric Lens Design, Modelling and Measurements for Future CMB Polarimetry Missions
Peter Hargrave (Cardiff University, United Kingdom); Giorgio Savini (University College London, United Kingdom); Neil Trappe (NUI Maynooth, Ireland); Anthony Challinor (Cambridge University, United Kingdom); Stig Sørensen (TICRA, Denmark); Peter Ade (Cardiff University, United Kingdom); Rashmikant Sudiwala (Cardiff University, United Kingdom); Ian Walker (Cardiff University, United Kingdom); Marcin Gradziel (National University of Ireland, Maynooth, Ireland); Maarten van der Vorst (European Space Agency, The Netherlands)

10:20 „Lensters" At mm-Wave Frequencies
Paul Moseley (UCL, United Kingdom); Giorgio Savini (University College London, United Kingdom); Peter Ade (Cardiff University, United Kingdom); Jin Zhang (Cardiff University, United Kingdom); Elena Saenz (European Space Agency, The Netherlands)

COFFEE BREAK

11:10 - 12:50 **components**
Room: E2
Chairs: Stuart G Hay (CSIRO ICT Centre, Australia), Manuel Sierra-Pérez (Universidad Politécnica de Madrid, Spain)

11:10 Lightweight Waveguide and Antenna Components Using Plating on Plastics
Erik G Geterud (Chalmers University of Technology, Sweden); Pontus Bergmark (Art & Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden)

11:30 N-Way Unequal Power Divider with Balanced Excitation
Alex Mestezky (RADA, Israel); Haim Matzner (HIT-Holon Institute of Technology, Israel); Ely Levine (AFEKA, Academic College of Engineering, Israel)

11:50 K KA Q Band RF Chain for Satellite Antennas
Rodolfo Ravanelli (Thales Alenia Space Italy SpA, Italy); Pierluigi Cecchini (Thales Alenia Space Italia S.p.A., Italy); Oscar Peverini (Istituto di Elettr. e di Ingegneria dell'Inform. e delle Telecom. (IEIIT- CNR), Italy); Giuseppe Addamo (Istituto di Elettr. e di Ingegneria dell'Inform. e delle Telecom. (IEIIT- CNR), Italy)

12:10 A Multiband Feed-Horn Antenna with Broadband Probes for Feeding the Lower Band
Ehsan Arbabi (University of Tehran, Iran); Mehdi Ahmadi-Boroujeni (University of Tehran, Iran); Ebrahim Bagheri-Korani (University of Tehran, Iran); Mohammad Hossein Nemati (Sabanci University, Turkey); Karim Mohammadpour-Aghdam (University of Tehran & KUL, Iran)

12:30 Domain-Decomposition Technique for Efficient Analysis of Rotationally Symmetric Reflector Systems Containing 3D Structures
Erik Jørgensen (TICRA, Denmark); Peter Meincke (TICRA, Denmark)

CA4: Reconfigurable Electromagnetics through Metamaterials

09:00 - 12:50 Room: E3
Chairs: Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy), Douglas H Werner (Pennsylvania State University, USA)

09:00 Beam Scanning Antenna Enabled by a Spatially Reconfigurable Near-Zero Index Metamaterial
Jeremiah P Turpin (The Pennsylvania State University, USA); Douglas H Werner (Pennsylvania State University, USA)

09:20 Switchable Faraday Rotation by Artificial Electric Gyrotropy in a Slot-Ring Metamaterial Structure
Toshiro Kodera (Yamaguchi University, Japan); Dimitrios L. Sounas (Ecole Polytechnique de Montreal, Canada); Christophe Caloz (Ecole Polytechnique de Montreal, Canada)

09:40 Switchable Surface Wave Antenna for On/off-body Communications
Qiang Bai (University of Sheffield, United Kingdom); Kenneth Lee Ford (University of Sheffield, United Kingdom); Richard Langley (University of Sheffield, United Kingdom)

10:00 Active Metasurface for Low-Profile Reconfigurable Antennas
Shah Nawaz Burokur (Institut d'Electronique Fondamentale - Université Paris-Sud, France); André de Lustrac (Institut d'Electronique Fondamentale - Université Paris-Sud, France); Guy Sabanowski (EADS IW, France); Gerard-Pascal Piau (EADS CCR, France)

10:20 Low-Reflection Inhomogeneous Microwave Lens Based on Loaded Transmission Lines
Joni Vehmas (Aalto University, Finland); Pekka Alitalo (Aalto University, Finland); Sergei Tretyakov (Helsinki University of Technology, Finland)

COFFEE BREAK

11:10 Transformation Optics Applied to Metasurfaces
Enrica Martini (University of Siena, Italy); Stefano Maci (University of Siena, Italy)

11:30 Annular Reconfigurable Metasurface for Omnidirectional Dual-Pol Leaky-Wave Antennas
Paolo Baccarelli („Sapienza" University of Rome, Italy); Paolo Burghignoli (Sapienza University of Rome, Italy); Davide Comite (Sapienza University of Rome, Italy); David Di Ruscio (Sapienza University of Rome, Italy); Alessandro Galli (Sapienza University of Rome, Italy); Paolo Lampariello (Sapienza University of Rome, Italy); David R. Jackson (University of Houston, USA)

11:50 Asymmetric Flat Reflector From Transformation Optics
Tim M McManus (Queen Mary University of London, United Kingdom); Rui Yang (Queen Mary University of London & Xidian University, United Kingdom); Oscar Quevedo-Teruel (Queen Mary, University of London, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

12:10 Efficient Integral Equation Approach for Metamaterials Made of Core-Shell Nanoparticles At Optical Frequencies
Nilufer Ozdemir (Universite Catholique de Louvain, Belgium); Christophe Craeye (Université Catholique de Louvain, Belgium); Kévin Ehrhardt (CNRS, Université de Bordeaux, France); Ashod Aradian (Centre de Recherche Paul Pascal, France)

12:30 Ultra-thin Reconfigurable Electromagnetic Metasurface Absorbers
Idellyse Martinez (The Pennsylvania State University, USA); Anastasios Panaretos (The Pennsylvania State University, USA); Douglas H Werner (Pennsylvania State University, USA); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy)

CM4: AMTA Measurement of mobile devices

Wednesday, April 10

09:00 - 12:50 Room: G1
Chairs: Dirk Heberling (RWTH Aachen University, Germany), Manuel Sierra-Castañer (Technical University of Madrid, Spain)

09:00 Antenna Effect on LTE Terminals Exposed to Realistic Fading Conditions
Juan Diego Sánchez-Heredia (Universidad Politécnica de Cartagena, Spain); Thomas Bolin (Sony Mobile Communications, Sweden); Dmytro Pugachov (Sony Mobile Communications, Sweden); Antonio Martínez-González (Universidad de Cartagena, Spain)

09:20 Impact of Non-Ideal System on Spatial Correlation in a Multi-Probe Based MIMO OTA Setup
Wei Fan (Aalborg University, Denmark); Jesper Ø Nielsen (Aalborg University, Denmark); Xavier Carreño (Intel Mobile Communications, Denmark); Jagjit Ashta (Intel Mobile Communications, Denmark); Gert Pedersen (Aalborg University, Denmark); Mikael Knudsen (Intel Mobile Communications, Denmark)

09:40 Measuring 4x4 MIMO Capability in a Reverberation Chamber
Robert Rehammar (Bluetest AB, Sweden); Anton Skårbratt (Bluetest AB, Sweden); Charlie Orlenius (Bluetest AB, Sweden)

10:00 A Practical Method to Measure Total Radiated Power of a Mobile Device Handled by a Live Person
John Kvarnstrand (Bluetest AB, Sweden); Robert Rehammar (Bluetest AB, Sweden); Anton Skårbratt (Bluetest AB, Sweden); Christian Lötbäck (Bluetest AB, Sweden)

10:20 MIMO OTA Testing Using a Multiprobe System Approach
Lars Jacob Foged (SATIMO, Italy); Alessandro Scannavini (SATIMO, Italy); Nicolas Gross (SATIMO, France); John Estrada (MVG, USA)

11:30 Over the Air MIMO Channel Model Validati on
Lin Guo (CATR of MIIT, P.R. China); Can Sun (CATR of MIIT, P.R. China); Xudong An (CATR of MIIT, P.R. China); Xiao Zhang (CATR of MIIT, P.R. China); Meng Yang (CATR of MIIT, P.R. China)

11:50 OTA Measurement Analysis Using a Small Reverb Chamber
Garth D'Abreu (ETS-Lindgren, Germany)

12:10 On the Comparison Between Anechoic and Reverberation Chambers for Wireless OTA Testing
Martin Wiles (ETS-Lindgren, United Kingdom)

12:30 Performance Analysis of Channel Model Simplifications for MIMO Over-The-Air LTE UE Testing
Markus Landmann (Fraunhofer Institute for Integrated Circuits IIS, Germany); Marcus Grossmann (Fraunhofer Institute for Integrated Circuits IIS, Germany); Naveen Phatak (Ilmenau University of Technology, Germany); Christian Schneider (Ilmenau University of Technology, Germany); Reiner S. Thomä (Ilmenau University of Technology, Germany); Giovanni Del Galdo (Fraunhofer Institute for Integrated Circuits IIS, Germany)

COFFEE BREAK

11:10 Withdrawn

P7: Stochastic and deterministic channel modeling

09:00 - 12:50 Room: G2
Chairs: Athanasios D. Panagopoulos (National Technical University of Athens, Greece), Alain Sibille (Telecom Paris Tech & ENSTA PARISTECH, France)

09:00 Stochastic Modeling of Non-Stationary Channels
Snjezana Gligorevic (German Aerospace Center (DLR), Germany)

09:20 On the Route Diversity Improvement Modeling for Broadband Radio Access Networks
Charilaos Kourogiorgas (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

09:40 Withdrawn

10:00 Fast Generation of Correlated Large-scale Variations Caused by Vehicular Scattering in Small Cells
Laurent Maviel (CITI Laboratory & SIRADEL, France); Yves Lostanlen (SIRADEL & University of Toronto, Canada); Jean-Marie Gorce (INSA-Lyon, France)

10:20 Investigations Into the Initial Refractivity Gradients and Signal Strengths Over the English Channel
Naveed Mufti (University of Engineering & Technology, Pakistan); David Siddle (University of Leicester, United Kingdom)

COFFEE BREAK

11:10 Choice of Probability Distribution Function for Fading in Channels with Variable Bandwidth
Vit Sipal (Dublin Institute of Technology, Ireland); Ben Allen (University of Bedfordshire, United Kingdom); David Edwards (University of Oxford, United Kingdom)

11:30 A Channel Feedback Model with Robust SINR Prediction for LTE Systems
Mingjian Ni (RWTH Aachen University, Germany); Xiang Xu (RWTH Aachen University, Germany); Rudolf Mathar (RWTH Aachen University, Germany)

11:50 Delay Spread Control Hiding First Hit Objects
Andres Navarro (Universidad Icesi, Colombia); Dinael Guevara (Francisco de Paula Santander University, Colombia); Diego Tami (Francisco de Paula Santander University, Colombia); Narcis Cardona (Universidad Politecnica Valencia, Spain)

12:10 Virtual Source Modeling for Diffraction in Reference Channel Models
Ana Katalinic Mucalo (Croatian Post and Electronic Communications Agency, Croatia); Radovan Zentner (University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia); Tihana Delač (University of Zagreb, Faculty of Electrical Engineering and Computing, Croatia)

12:30 Statistical Characterization of Channel Polarization for RFID Backscattering Channels
Zeinab Mhanna (Telecom ParisTech, France); Alain Sibille (Telecom Paris Tech & ENSTA PARISTECH, France); Richard Contreras (Telecom ParisTech, France); Christophe Roblin (TELECOM ParisTech & ENSTA ParisTech, France)

A21: Small antenna and RF sensors
Room: J1

Wednesday, April 10

09:00 - 12:50 Chairs: Giuseppe Vecchi (Politecnico di Torino, Italy), Tim Brown (University of Surrey, United Kingdom)

09:00 Robust UHF RFID Antennas in Complex Environments
Aleksei Dubok (Eindhoven University of Technology, The Netherlands); Teis J. Coenen (Eindhoven University of Technology, The Netherlands); Abolghasem Zamanifekri (Eindhoven Unversity of Tehnology, The Netherlands); A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands)

09:20 A Novel Wireless Crack Sensor Exploiting the Phase Signal of UHF RFID Tags
Stefano Caizzone (German Aerospace Center (DLR), Germany); Gaetano Marrocco (University of Rome Tor Vergata, Italy); Emidio Di Giampaolo (University of L'Aquila, Italy)

09:40 Phase Compensated Transmission Line for Leakage Field Coupling in UHF RFID Applications
Markus Frank (Chalmers University of Technology & SATO Techno Lab Europe, Sweden); Peter Enoksson (Chalmers University of Technology, Sweden)

10:00 Miniature Antenna for Micro SD Card
Laure Huitema (CEA Leti, France); Christophe Delaveaud (CEA-LETI, France); Raffaele D'Errico (CEA, LETI, Minatec Campus, France)

10:20 Automatic Optimization of Multichip RFID Tags
Yuanhe Xiong (Politecnico di Torino, Italy); Stefano Caizzone (German Aerospace Center (DLR), Germany); Cecilia Occhiuzzi (University of Rome „Tor Vergata", Italy); Gaetano Marrocco (University of Rome Tor Vergata, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy); Javier Araque Quijano (Universidad Nacional de Colombia, Colombia)

COFFEE BREAK

11:10 Investigation on Antenna's Miniaturization Using Spherical Wave Expansion
Kawtar Belmkaddem (CEA-LETI, Grenoble INP, France); Lionel Rudant (CEA-LETI & MINATEC, France); Tan Phu Vuong (Grenoble INP, France)

11:30 Application of the Theory of Characteristic Modes to the Design of Compact Metallic Strip Antenna with Multilayer Technology (LTCC)
Francois Gallée (Télécom Bretagne, France); Thomas Bernabeu (Iteam Institute - Universitat Politècnica de Valencia, Spain); Marta Cabedo-Fabrés (Universidad Politécnica de Valencia, Spain); Eva Antonino-Daviu (Universidad Politecnica de Valencia, Spain); Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain)

11:50 Evaluation of HF Band NFC/RFID Antennas for Smart Shelf Applications
Soheyl Soodmand (University of Surrey, United Kingdom); Tim Brown (University of Surrey, United Kingdom); Alexander Gluhak (The University of Surrey, United Kingdom)

12:10 Coplanar Non-Resonant Elements for Multiband Operation
Aurora Andújar (Fractus, Spain); Jaume Anguera (Fractus, Spain)

12:30 Non-Resonant Elements with a Simplified Radiofrequency System for Handset Devices
Aurora Andújar (Fractus, Spain); Jaume Anguera (Fractus, Spain)

CA22: Wireless Sensor Networks (WSNs)

09:00 for Ambient Intelligence Applications
- Room: J2
12:50 Chairs: Manos M. Tentzeris (Georgia Institute of Technology, USA), Federico Viani (University of Trento & ELEDIA Research Center, Italy)

09:00 Wireless Remote Sensing Based on RADAR Cross Section Variability Measurement of Passive Electromagnetic Sensors
Hervé Aubert (Laboratory of Analysis and Architecture of Systems & Institut National Polytechnique de Toulouse, France); Patrick Pons (LAAS-CNRS, University of Toulouse, France); Manos M. Tentzeris (Georgia Institute of Technology, USA)

09:20 Ambient Sensing by Chemical-loaded UHF-RFIDs
Sabina Manzari (University of Rome Tor Vergata, Italy); Alexandro Catini (University of Roma Tor Vergata, Italy); Corrado Di Natale (Università di Roma Tor Vergata, Italy); Gaetano Marrocco (University of Rome Tor Vergata, Italy)

09:40 Inkjet-printing and Performance Evaluation of UHF RFID Tag Antennas on Renewable Materials with Porous Surfaces
Toni Björninen (Tampere University of Technology, Finland); Johanna Virkki (Tampere University of Technology, Finland); Juha Virtanen (Tampere University of Technology, Finland); Lauri Tapio Sydänheimo (Tampere University of Technology, Finland); Leena Ukkonen (Tampere University of Technology, Finland); Manos M. Tentzeris (Georgia Institute of Technology, USA)

10:00 Slot Antenna for RFID Readers
Mónica Ramírez (Autonomous University of Barcelona, Spain); Josep Parrón (Universitat Autònoma de Barcelona, Spain)

10:20 A Silver Ink-Jet Printed UHF Booster Antenna on Flexible Substratum with Magnetically Coupled RFID Die On-Chip Antenna
Walther Pachler (Graz University of Technology, Austria); Günter Hofer (Infineon Technologies Austria AG, Austria); Gerald Holweg (, Austria); Martin Mischitz (Infineon Technologies Austria AG, Austria); Wolfgang Boesch (Graz University of Technology & Institute of Microwave and Photonic Engineering, Austria); Ivan Russo (Graz University of Technology, Austria)

COFFEE BREAK

11:10 Characterization of UWB Backscattering Propagation for Passive Tags Identification and Localization
Raffaele D'Errico (CEA, LETI, Minatec Campus, France); Julien Keignart (CEA - LETI, France); Lionel Rudant (CEA-LETI & MINATEC, France)

11:30 WSN-based Early Alert System for Preventing Wildlife-Vehicle Collisions in Alps Regions - From the Laboratory Test to the Real-World Implementation
Federico Viani (University of Trento & ELEDIA Research Center, Italy); Fabrizio Robol (ELEDIA Research Center, Italy); Marco Salucci (ELEDIA Research Center, Italy); Enrico Giarola (ELEDIA Research Center, Italy); Stefano De Vigili (Autonomous Province of Trento, Italy); Michele Rocca (Associazione Cacciatori Trentini, Italy); Fabrizio Boldrini (Associazione Cacciatori Trentini, Italy); Guido Benedetti (Autonomous Province of Trento, Italy); Andrea Massa (University of Trento, Italy)

11:50 Passive RFID Switches for Assistive Technologies
Osman Rakibet (University of Kent, United Kingdom); Dumtoochukwu Oyeka (University of Kent., United Kingdom); John Batchelor (University of Kent, United Kingdom)

12:10 Dual-Band Patch Antenna with Monopole-Like Radiation Patterns for BAN Communications
Andrey S Andrenko (Fujitsu Laboratories LTD., Japan); Ichirou Ida (Fujitsu Ltd, Japan); Tatsuya Kikuzuki (Fujitsu Laboratories LTD., Japan)

12:30 Inkjet-printed Wearable Microwave Components for Biomedical Applications
Sangkil Kim (Georgia Institute of Technology, USA); Moro Riccardo (University of Pavia, Italy); Maurizio Bozzi (University of Pavia, Italy); Symeon Nikolaou (Frederick Research Center, Cyprus); Manos M. Tentzeris (Georgia Institute of Technology, USA)

CA26: EurAAP Software

Wednesday, April 10

09:00 - 12:50 Room: R22+R23
Chair: Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

09:00 Benchmarking of Optimally Used Commercial Software Tools for Challenging Antenna Topologies
Raphael Gillard (IETR & INSA, France); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

09:20 Plasma-facing Antennas: An Overview- Part 1
Giuseppe Vecchi (Politecnico di Torino, Italy)

09:40 Plasma-facing Antennas: An Overview- Part 2
Giuseppe Vecchi (Politecnico di Torino, Italy)

10:00 Proposal for a New Advanced Structure and Mesh Data Dictionary for the Electromagnetic Data Exchange
Francesca Mioc (Consultant, Switzerland); Poul Erik Frandsen (TICRA, Denmark); Marco Sabbadini (Esa Estec, The Netherlands)

10:20 Computational Electromagnetics in BIG Science
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

COFFEE BREAK

11:10 Discussion Slot 1
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

11:30 Discussion Slot 2
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

11:50 Modeling Optical Nanontennas for Nonlinearity Enhancement, Polarization Control, Communications and Energy Harvesting (Part 1)
Andrea Alù (The University of Texas at Austin, USA)

12:10 Modeling Optical Nanontennas for Nonlinearity Enhancement, Polarization Control, Communications and Energy Harvesting (Part 2)
Andrea Alù (The University of Texas at Austin, USA)

12:30 Benchmarking of Optimally Used Commercial Software Tools for Challenging Antenna Topologies: Part II
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Raphael Gillard (IETR & INSA, France)

CM1: SAR simulation & measurements

09:00 - 12:50 Room: R24+R25
Chairs: Benoit Derat (Field Imaging, France), Teruo Onishi (NTT DOCOMO, Japan)

09:00 Product Compliance Assessments of Low Power Radio Base Stations with Respect to Whole-Body Radiofrequency Exposure Limits
Björn Thors (Ericsson AB, Sweden); Lovisa Nord (Ericsson AB, Sweden); Davide Colombi (Ericsson AB, Sweden); Christer Törnevik (Ericsson AB, Sweden)

09:20 Considerations on SAR Measurement for Recent Trend of the Usages and New Technologies
Teruo Onishi (NTT DOCOMO, Japan)

09:40 SAR in a Simplified Human Model Due to Wireless Power Transfer with Inducation Coupling
Akimasa Hirata (Nagoya Institute of Technology, Japan); Tetsu Sunohara (Nagoya Institute of Technology, Japan); Ilkka Laakso (Nagoya Institute of Technology, Japan); Teruo Onishi (NTT DOCOMO, Japan)

10:00 Whole-Body Averaged SAR Measurements Using Cylindrical-External Field Scanning for 2 GHz Plane Wave Irradiation of Human Models
Takashi Hikage (Hokkaido University, Japan); Yoshifumi Kawamura (Hokkaido University, Japan); Toshio Nojima (Hokkaido University, Japan); Tomoaki Nagaoka (National Institute of Information and Communications Technology, Japan); Soichi Watanabe (National Institute of Information and Communications Technology, Japan)

10:20 Dipole RF Element for 7 Tesla Magnetic Resonance Imaging with Minimized SAR
Zhichao Chen (General and Theoretical Electrical Engineering (ATE) University of Duisburg-Essen, Germany); Klaus Solbach (UDE, Germany); Daniel Erni (University of Duisburg-Essen, Germany); Andre Rennings (University of Duisburg-Essen, Germany)

COFFEE BREAK

11:10 Analysis of Vector E-field Sensor Array for Real-Time SAR Assessment
Lyazid Aberbour (Art-Fi, France); Benoît Derat (Art-Fi, France); Andrea Cozza (Supélec, France)

11:30 Computational Modeling of Human Fetuses for Electromagnetic Dosimetry
Tomoaki Nagaoka (National Institute of Information and Communications Technology, Japan); Tetsu Niwa (Tokai University School of Medicine, Japan); Soichi Watanabe (National Institute of Information and Communications Technology, Japan)

11:50 Standardized Methods for the Application of the FDTD Method in Numerical Dosimetry
Andreas Christ (IT'IS Foundation, Switzerland); Mark Douglas (IT'IS Foundation ETH Zurich, Switzerland); Wolfgang Kainz (CDRH, FDA, USA); Niels Kuster (IT'IS Foundation, Switzerland)

12:10 Handle Variability in Numerical Exposure Assessment: The Challenge of the Stochastic Dosimetry
Joe Wiart (Orange- France Telecom, France); Emmanuelle Conil (France Telecom R&D, France); Abdelhamid Hadjem (France Telecom R&D, France); Nadège Varsier (Orange, France)

12:30 Standardization of SAR Simulation Techniques for RF Exposure Compliance in and Around Vehicles
Antonio Faraone (Motorola Solutions Inc., USA); Giorgi Bit-Babik (Motorola Solutions Inc., USA)

CA25: Terahertz Science and Technology:

Wednesday, April 10

09:00 - 12:30 Antennas, Detectors, and Systems
Room: R2
Chairs: Arttuu Luukanen (VTT, Finland), Nuria LLombart (Delft University of Technology, The Netherlands)

09:00 THz Demonstration of the Leaky Lens Antenna
Andrea Neto (Delft University of Technology, The Netherlands); Jochem Baselmans (SRON, The Netherlands); Andrey Baryshev (SRON & University of Groningen, Kapteyn Astronomical Institute, The Netherlands); Stephen Yates (SRON, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands)

09:20 Sub-Terahertz Mixer Based on Heterostructure Field Effect Transistor with Integrated Antennas
Alessandra Di Gaspare (National Research Council of Italy CNR-IFN, Italy); Valeria Giliberti (Sapienza University of Rome, Italy); Ennio Giovine (National Research Council of Italy CNR-IFN, Italy); Roberto Casini (National Research Council of Italy CNR-IFN, Italy); Florestano Evangelisti (Università Roma Tre, Italy); Michele Ortolani (National Research Council of Italy CNR-IFN & Sapienza University of Rome, Italy)

09:40 Toward Room-Temperature All-Silicon Integrated THz Active Imaging
Janusz Grzyb (University of Wuppertal, Germany); Richard Al Hadi (University of Wuppertal, Germany); Yan Zhao (University of Wuppertal, Germany); Ullrich Pfeiffer (University of Wuppertal, Germany)

10:00 Silicon Microlens Antenna for Multi-Pixel THz Heterodyne Detector Arrays
Choonsup Lee (JPL, USA)

10:20 Si-based Imaging Receivers for Mm-wave and THz Applications
Jae-Sung Rieh (Korea University, Korea); Daekeun Yoon (Korea University, Korea)

COFFEE BREAK

11:10 Characterization of Pharmaceuticals Using Terahertz Time Domain Spectral-Tomography
Enrique Nova (Universitat Politècnica de Catalunya, Spain); Gemma Roqueta (Universitat Politècnica de Catalunya & University of California, Irvine, Spain); Jordi Romeu (Universitat Politècnica de Catalunya, Spain); Luis Jofre (UPC, Spain)

11:30 Micromachined Gap Waveguides for 100GHz Applications
Sofia Rahiminejad (Chalmers University of Technology, Sweden); Hasan Raza (Chalmers University of Technology, Sweden); Ashraf Uz Zaman (Chalmers University of Technology, Sweden); Sjoerd Haasl (Royal Institute of Technology, Sweden); Peter Enoksson (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden)

11:50 Distributed Active Radiation: Terahertz Power-Generation and Beam-steering in CMOS
Kaushik Sengupta (California Institute of Technology, USA)

12:10 Multi-Band Imaging and Adaptive Beam Steering Techniques for the Submillimetre-Wave Range
Arttu Luukanen (MilliLab, Finland)

CA07: Emerging Reconfigurable

09:00 - 12:50 Antenna Technologies
Room: R31
Chairs: Alexandros Feresidis (University of Birmingham, United Kingdom), George Goussetis (Heriot-Watt University, United Kingdom)

09:00 Tunable Graphene-Based Reflectarray Element for Reconfigurable Beams
Eduardo Carrasco (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Michele Tamagnone (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

09:20 Reconfigurable Unit-cells for Beam-Scanning Transmitarrays in X Band
Antonio Clemente (CEA-LETI Minatec & IETR, Université Rennes 1, France); Laurent Dussopt (CEA, LETI, Minatec, France); Bruno Reig (CEA-LETI, France); Ronan Sauleau (University of Rennes 1, France); Patrick Potier (DGA/Maîtrise de l'Information, France); Philippe Pouliguen (DGA/Direction de la Stratégie, France)

09:40 Real-Time Sector Detection Based on a Reconfigurable Leaky-Wave Antenna
Babak Nikfal (Polytechnique Montreal, Canada); Christophe Caloz (Ecole Polytechnique de Montreal, Canada)

10:00 Nematic Liquid Crystals for Reconfigurable Millimeter Wavelength Antenna Technology
Efstratios Doumanis (Queen's University Belfast, United Kingdom); Raymond Dickie (Queen's University Belfast, United Kingdom); Paul Baine (Queen's University of Belfast, United Kingdom); Gerardo Perez-Palomino (Universidad Politécnica de Madrid, Spain); Robert Cahill (Queen's University Belfast, United Kingdom); George Goussetis (Reader, United Kingdom); Jose A. Encinar (Universidad Politecnica de Madrid, Spain); Mariano Barba (Universidad Politecnica de Madrid, Spain); Steven Christie (Queens University of Belfast, United Kingdom); Neil Mitchell (Queen's University Belfast, United Kingdom); Michael Baine (Queen's University of Belfast, United Kingdom); Giovanni Toso (European Space Agency, The Netherlands)

10:20 Liquid Crystals for Microwave Applications
Atsutaka Manabe (Merck KGaA, Germany)

COFFEE BREAK

Stepan Lucyszyn (Imperial College London, United Kingdom); Suneat Pranonsatit (Kasetsart University & Faculty of Engineering, Thailand)

11:30 A Reconfigurable Chassis-mode MIMO Antenna
Krishna Kishor (University of Toronto, Canada); Sean V Hum (University of Toronto, Canada)

11:50 A Reconfigurable Band-Reject MIMO for Cognitive Radio
Youssef Tawk (Notre Dame University Louaize & Configurable Space Microsystems Innovations & Applications Center, University of New Mexico, USA); Christos Christodoulou (University of New Mexico, USA); Joseph Costantine (California State University Fullerton & American University of Beirut- Electrical and Computer Engineering Department, USA)

12:10 Advances in Electronically Reconfigurable LWAs in Fabry-Pérot and SIW Technologies
Raúl Guzmán Quirós (Universidad Politécnica de Cartagena, Spain); Jose-Luis Gómez-Tornero (Polytechnic University of Cartagena, Spain); María García-Vigueras (EPFL, Spain); Andrew R Weily (CSIRO ICT Centre, Australia); Y Jay Guo (CSIRO, Australia)

12:30 Frequency Reconfiguration in Single and Dual Antenna Modules
Peter Gardner (University of Birmingham, United Kingdom); Alexandros Feresidis (University of Birmingham, United Kingdom); Peter S Hall (University of Birmingham, United Kingdom); Timothy Jackson (The University of Birmingham, United Kingdom); Oluwabunmi Tade (University of Birmingham, United Kingdom); Marina Mavridou (University of Birmingham, United Kingdom); Yasin Kabiri (The University of Birmingham, United Kingdom); Xiang Gao (The University of Birmingham, United Kingdom)

Wed_Wall1: Antennas for cellular systems

Wednesday, April 10

14:00 - 16:50 Room: See exhibition hall map

1. Cross Polarization Level Reduction of a Millimeter-Wave Microstrip Antenna Array
Jose Enriquez Gonzalez (Telecom ParisTech & Bluwan S.A., France); Xavier Begaud (Institut TELECOM, TELECOM ParisTech, France); Bernard Huyart (Ecole Nationale Supérieure de Télécommunications, France); François Magne (Bluwan S.A., France); Friedman Tchoffo-Talom (Thales Communications & Security, France)

2. A Printed MIMO Antenna System with CLLs for Isolation Enhancement
Ahmed B. Numan (KFUPM, Saudi Arabia); Oualid Hammi (KFUPM, Saudi Arabia); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals, Saudi Arabia); Daniel Aloi (Oakland University, USA)

3. A 4-element MIMO Antenna System Loaded with CSRRs and Patch Antenna Elements
Muhammad U. Khan (King Fahd University of Petroleum & Minerals, Saudi Arabia); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals, Saudi Arabia); Ashley Steffes (Oakland University, USA); Daniel Aloi (Oakland University, USA)

4. Design of A Printed Multiband MIMO Antenna
Di Wu (City University of Hong Kong, Hong Kong); William S. W. Cheung (The University of Hong Kong, Hong Kong); Ti Yuk (The University of Hong Kong, Hong Kong); Li Liu (The University of Hong Kong, Hong Kong)

5. Further on the True Polarization Diversity for MIMO Systems and Channel Capacity Enhancement
Santiago Gonzalez-Aurioles (Universidad de Extremadura, Spain); Pablo Padilla (University of Granada, Spain); Juan F. Valenzuela-Valdés (Universidad de Extremadura, Spain); Luis Landesa (University of Extremadura, Spain)

6. Utilization of Multiantenna Full-Duplex Relay for Post-Disaster Cellular Network Recovery
Tetsuki Taniguchi (University of Electro-Communications, Japan); Yoshio Karasawa (The University of Electro-Communications, Japan); Nobuo Nakajima (The University of Electro-Communications, Japan)

7. Theoretic SIR for Multicarrier MISO Beamforming Cellular Systems
Dimitra Zarbouti (University of Peloponnese, Greece); George Tsoulos (University of Peloponnese, Greece); Georgia Athanasiadou (University of Peloponnese, Greece)

8. Artificial Neural Networks Modeling Technique for Fast Analysis and Design of Multi-Antenna Systems
Rafik Addaci (IFSTTAR, LEOST, France); Robert Staraj (University of Nice-Sophia Antipolis, France)

9. Base Station Antenna Tilt for Load Balancing
Vlad-Ioan Bratu (KTH Royal Institute of Technology, Sweden); Claes Beckman (KTH Royal Institute of Technology, Sweden)

10. A Printed Hybrid Loop Planar Inverted-F Antenna for Next Generation Handheld Terminals
Iftikhar Ahmed (COMSATS Institute of Information Technology, Pakistan); Imran Shoaib (Queen Mary University of London, United Kingdom); Nosherwan Shoaib (Politecnico Di Torino, Italy); Arslan Rasheed (COMSATS Institute of Information Technology, Pakistan); Sultan Shoaib (Queen Mary University of London, United Kingdom)

11. A Study of Multiband Planar Monopole Antenna Integrated for 4G Terminals
Hélio Ferreira (Universidade Federal do Pará, Brazil); Miércio Cardoso de Alcântara Neto (Federal University of Pará & Telecommunications and Computing Laboratory, Brazil); Diego Silva (Universidade Federal do Pará, Brazil); Fabrício Barros (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil); Alexandre Rocha (IESAM, Brazil); Ronaldo Oliveira Santos (IESAM, Brazil)

12. Influence of the Feed Position in Quasi Self Complementary Antennas Dedicated to

Multistandard Software Radio System
Cedric Requin (University of Nice Sophia Antipolis, France); Georges Kossiavas (University of Nice, France); Robert Staraj (University of Nice-Sophia Antipolis, France)

13. Frequency Reconfigurable Antenna Using a PIN Diode for Mobile Handset Application
Sung Woo Lee (Kyonggi University, Korea); Young Je Sung (Kyonggi University, Korea); Seung jae Lee (HCT, Korea); Bong Jae Hur (HCT, Korea); Ji Young Park (HCT, Korea)

14. A Single-Element Frequency and Radiation Pattern Reconfigurable Antenna
Imran Shoaib (Queen Mary University of London, United Kingdom); Sultan Shoaib (Queen Mary University of London, United Kingdom); Xiaodong Chen (Queen Mary, University of London, United Kingdom); Clive Parini (Queen Mary University of London, United Kingdom)

15. Moved to oral session

16. Isolation Potential of Capacitive Coupling Elements for Smartphones Using Spatial Duplexing
Mauro Pelosi (Aalborg University, Denmark); Osama Alrabadi (AAU, Denmark); Alexandru Tatomirescu (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

17. Compact Multiband Antenna System for Smartphone Platforms
Jaume Anguera (Fractus, Spain); Cristina Picher (Fractus, Spain); Aurora Andújar (Fractus, Spain); Carles Puente (Fractus, Spain); Sungtek Kahng (University of Incheon, Korea)

Wed_Wall2: Antennas and propagation

14:00 - 16:50 **for wireless networks, RFID, on-body antennas and sensor networks**
Room: See exhibition hall map

1. Dual Band Circularly Polarized Patch Antenna Using Ferrimagnetic Material
Theodore Zervos (NCSR „Demokritos“, Institute of Informatics & Telecommunications, Greece); Fotis Lazarakis (NCSR Demokritos, Institute of Informatics & Telecommunications, Greece); Antonis A Alexandridis (NCSR „Demokritos“, Greece); Kostas Dangakis (NCSR „Demokritos“, Greece); George Fikioris (National Technical University of Athens, Greece); Michael Pissas (NCSR „Demokritos“, Institute of Materials Science, Greece); J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

2. Adaptive Array Antenna Used for Signal to Noise Ratio and Angle of Arrival Estimation
Bassim Sayed Mohammed (University of Technology, Iraq); Noori Hussein Noori (Al-Mansour University College, Iraq)

3. Integrated Two Textile Dipole Antenna with Dual-band Textile Artificial Magnetic Conductor
Muhammad Azfar Abdullah (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Mohd Ezwan Jalil (Universiti Teknologi Malaysia, Malaysia); Noor Asmawati Samsuri (Universiti Teknologi Malaysia, Malaysia); Noor Asniza Murad (Universiti Teknologi Malaysia, Malaysia)

4. Directivity-Enhanced Log-Spiral Antenna Through a Chiral Metamaterial Superstrate
Dimitrios K. Rongas (Aristotle University of Thessaloniki, Greece); Stamatios A. Amanatiadis (Aristotle University of Thessaloniki, Greece); Alexandros I. Dimitriadis (Aristotle University of Thessaloniki, Greece); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki, Greece)

5. Circularly Polarized Patch Antenna Using UC-PBG Structure for RFID Readers
Sylvain Pflaum (LEAT CNRS University of Nice Sophia Antipolis, France); Georges Kossiavas (University of Nice, France); Robert Staraj (University of Nice-Sophia Antipolis, France); Philippe Le Thuc (University of Nice-Sophia Antipolis, France)

6. Bandwidth Enhanced Split-Ring Resonator

Wednesday, April 10

Antenna Using Metamaterial-Inspired Loading
Mimi Aminah Wan Nordin (International Islamic University Malaysia, Malaysia)

7. Broadband Dual-Polarized Cross V-Shaped Dipole Antenna with High Isolation for Wireless Applications
Mohsen Kaboli (K. N. Toosi University of Technology, Iran); Abdullah Mirtaheri (K. N. Toosi University, Iran); Seyed Mostafa Mousavi Roknabadi (K. N. Toosi University of tech., Iran); mohammad Sadegh Abrishamian (K. N. Toosi Univerity, Iran); Seyed mohsen Aboutorab (K. N. Toosi University of Technology, Iran)

8. A Series-fed Microstrip Patch Array with Interconnecting CRLH Transmission Lines for WLAN Applications
Bilal Ijaz (North Dakota State University, USA); Sayan Roy (North Dakota State University, USA); Muhammad Masud (North Dakota State University, USA); Adnan Iftikhar (North Dakota State University, USA); Sanjay Nariyal (North Dakota State University, USA); Irfan Ullah (North Dakota State University, USA); Koby Asirvatham (North Dakota State University, USA); Brian Booth (North Dakota State University, USA); Benjamin Braaten (North Dakota State University, USA)

9. A Novel Waveguide Fed Slot Array Antenna Using Groove Gap Waveguide Technology
Hossein Sarbandi Farahani (K. N. Toosi University of Technology, Iran); Naser Gharanfeli (AmirKabir University of Technology, Iran); Ramezan Ali Sadeghzadeh (K. N. Toosi University of Technology, Iran)

10. Maximum Directivity of Azimuthal Modes Antenna
Maciej Smierzchalski (IETR - University of Rennes 1, France); Kourosh Mahdjoubi (University of Rennes 1, France); Ala Sharaiha (Université de Rennes 1 & IETR, France)

11. Compact Dual-fed Slotted Circular Polarization Antenna with Reflector for RF Energy Harvesting
Muhammad Faizal Ismail (Universiti Teknologi Malaysia, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Mohamad Rijal Hamid (Universiti Teknologi Malaysia, Malaysia); Mohd Fairus Mohd Yusof (Faculty of Electrical Engineering, Universiti Teknologi Malaysia, Malaysia); Huda A. Majid (Universiti Teknologi Malaysia, Malaysia)

12. Design and Evaluation of Conformal Patch Antenna Array for Use with Wireless Sensor Network Inside Jet Engines
Mathias Grudén (Uppsala University, Sweden); Magnus Jobs (Uppsala University, Sweden); Anders Rydberg (Uppsala University, Sweden)

13. Novel Compact Monopole RDRA for UWB Wireless Communication Applications
Hany Atallah (South Valley University, Egypt)

14. Investigations of Corrugation Issues in SIW Based Antipodal Linear Tapered Slot Antennas At 60 GHz
T. RAMA RAO (SRM University, India); Purva Shrivastava (SRM University, India); Nishesh Tiwari (SRM Uniuversity, India)

15. Design of Compact UWB MIMO Antenna for Two Different Stub Structures
Nandita Saha (University of Kiel, Germany); Shuvashis Dey (American International University-Bangladesh & Queen Mary, University of London, Bangladesh); Md. Shaad Mahmud (American International University-Bnagladesh, Bangladesh)

16. Compact Size Closely Spaced Meta-Material MIMO Antenna with High Isolation for Wireless Applications
Mahmoud Abdelrahman Abdalla (MTC, Cairo, Egypt); Ahmed Ibrahim (El-Minia University, Egypt)

17. A Compact Ultrawideband MIMO Antenna
Li Liu (The University of Hong Kong, Hong Kong); William S. W. Cheung (The University of Hong Kong, Hong Kong); Ti Yuk (The University of Hong Kong, Hong Kong); Di Wu (City University of Hong Kong, Hong Kong)

18. Analysis of Antenna Pattern Overlap

Matrix in Correlated Nonuniform Multipath Environments
Nima Jamaly (Chalmers University of Technology, Sweden); Anders Derneryd (Ericsson AB & Lund University, Sweden); Tommy Svensson (Chalmers University of Technology, Sweden)

19. Block Diagonalization with User Antenna Selection for Multiuser MIMO Systems
Kentaro Nishimori (Niigata University, Japan); Rryochi Kataoka (Niigata University, Japan); Hideo Makino (Niigata University, Japan)

20. A Defected Ground Structure for Isolation Enhancement in a Printed MIMO Antenna System
Ahmed B. Numan (KFUPM, Saudi Arabia); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals, Saudi Arabia); Ashley Steffes (Oakland University, USA); Daniel Aloi (Oakland University, USA)

21. Evaluation of Software Tools for Urban Wireless Network Designing and Planning
Talha Ali Khan (King Saud University, Saudi Arabia); Faraz Mahmood (Ericsson AB & Linköping University, Sweden); Muhammad Kamran Asif (King Saud University, Saudi Arabia); Talha Ahmed Taj (King Saud University, Saudi Arabia); Nadeem Ashraf (King Saud University, Saudi Arabia)

Wed_Wall3: Antennas for space 2

14:00 - 16:50

Room: See exhibition hall map

1. Dual Frequency Band Integrated Antenna Array
Pavel Bezousek (University of Pardubice, Czech Republic); Milan Chyba (University of Pardubice, Czech Republic); Vladimir Schejbal (University of Pardubice, Czech Republic); Jan Pidanic (University of Pardubice, Czech Republic)

2. A Linear to Circular Polarization Converter Based on Jerusalem-Cross Frequency Selective Surface
Irfan Sohail (Macquarie University, Australia); Yogesh Ranga (CSIRO, ICT Centre, Australia); Karu Esselle (Macquarie University, Australia); Stuart G Hay (CSIRO ICT Centre, Australia)

3. A Frequency Selective Surface with A Very Wide Stop Band
Irfan Sohail (Macquarie University, Australia); Yogesh Ranga (CSIRO, ICT Centre, Australia); Karu Esselle (Macquarie University, Australia); Stuart G Hay (CSIRO ICT Centre, Australia)

4. Metamaterial Waveguide with Reduced Cross Section
Nicolas Capet (CNES, France); Benedikt Byrne (CNES, France); Ludovic Claudepierre (CNES, France); Nathalie Raveu (Laplace - Université de Toulouse - UPS INPT CNRS, France)

5. Electrically Small Complementary Split Ring Resonator-Loaded on Eighth-Mode Substrate Integrated Waveguide Antenna
Sungjoon Lim (Chung-Ang University, Korea); Somarith Sam (Chung-Ang University, Korea)

6. Fan-Beam Array Synthesis
Milan Chyba (University of Pardubice, Czech Republic); Pavel Bezousek (University of Pardubice, Czech Republic); Jan Pidanic (University of Pardubice, Czech Republic); Vladimir Schejbal (University of Pardubice, Czech Republic)

7. Grid Type Vs Scanning Performance of Planar Dual-Band Arrays
A Shenario Ezhil Valavan (Delft University of Technology, The Netherlands); D Tran (IRCTR & TU Delft, The Netherlands); Alexander Yarovoy (Delft University of Technology, The Netherlands)

8. On the Design of Microstrip Patch Antenna Array for Uniform Power Density in a Wide Spatial Range
Alberto Reyna (Universidad Tecnológica de Tamaulipas Norte, Mexico); Marco Panduro (, Mexico); Carlos Del-Río (Public University of Navarra & Antenna Group, Spain)

9. CP Retrodirective Antenna Array Performance Degradation At Large Elevation Angles
Oleksandr Malyuskin (Queens University Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); Neil Buchanan (Queens University Belfast, United Kingdom)

10. Simulation-Driven Design of A Microstrip

Wednesday, April 10

Antenna Array by Means of Surrogate-Based Optimization
Slawomir Koziel (Reykjavik University, Iceland); Stanislav Ogurtsov (Reykjavik University, Iceland)

11. Study of a L2 Patch Antennas Array for GNSS/GPS Network
Hocine Hamoudi (Institut National de la Poste et des Technologies de l'Information et de la Communication, Algeria); Boualem Haddad (USTHB, Algeria); Phillipe Lognonné (IPGP, France)

12. Virtual Conformal Arrays Using Quasi-Conformal Transformation Optics Lenses
Do-Hoon Kwon (University of Massachusetts Amherst, USA)

13. Designing an Engineering Model of Reconfigurable Antenna for 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); Yasuhiro Ito (NHK, Japan)

14. Mutual Coupling and Sensitivity Investigations of SIW-Based Antipodal Linear Tapered Slot Antennas in1-D and 2-D Array Configurations
Farzaneh Taringou (University of Victoria, Canada); Thomas Weiland (Technische Universität Darmstadt, Germany); Jens Bornemann (University of Victoria, Canada)

15. Design of an Ultra-Wideband Monocone Circular Antenna Array for Vehicle-Integrated Industrial Local Positioning Applications
Markus Gardill (Friedrich-Alexander University of Erlangen-Nuremberg, Germany); Georg Fischer (University Erlangen-Nuremberg & Eesy-id, Germany); Robert Weigel (University of Erlangen-Nuremberg, Germany); Alexander Koelpin (University of Erlangen-Nuremberg & Institute f. Electronics Engineering, Germany)

16. Innovative GA-based Strategy for Polyomino Tiling in Phased Array Design
Roman Chirikov (ELEDIA Research Center, Italy); Paolo Rocca (University of Trento, Italy); Luca Manica (University of Trento, Italy); Scott Santarelli (Air Force Research Laboratory, USA); Robert Mailloux (Arcon Corporation, USA); Andrea Massa (University of Trento, Italy)

17. Calibration of Linear Array Antenna Using Restoration Technique with Near-Field Compressed Sensing
Kavya Korada (Department of ECE & KL University, India); Sarat Kotamraju (K L University, India); Habibulla Khan (KL University, India)

18. Man-pack Antenna At X-band
José Manuel Inclán-Alonso (Universidad Politécnica de Madrid, Spain); Manuel Sierra-Pérez (Universidad Politécnica de Madrid, Spain)

Wed_Wall4: Antennas and propagation for space

14:00 - 16:50 Room: See exhibition hall map

1. Performance Analysis of Beamspace MUSIC with Beamforming Angle
Dong-Jin Yeom (Agency for Defense Development, Korea); Sang-Hyun Park (Agency for Defense Development, Korea); Jeong-Ryul Kim (Agency for Defense Development, Korea); Min-Joon Lee (Agency for Defense Development, Korea)

2. Wideband, Phase-stable Antenna for Navigation Applications
Carolina Vigano (JAST SA, Switzerland); Charles Gigandet (JAST SA, Switzerland); Stefano Vaccaro (JAST SA, Switzerland)

3. A Simple Broadband FSS Polarizer
Marianna Biscarini (University of La Sapienza, Italy); Giovanni Maria Sardi (University of Siena, Italy); Enrica Martini (University of Siena, Italy); Francesco Caminita (University of Siena, Italy); Stefano Maci (University of Siena, Italy)

4. Low Interaction of an Arbitrarily Large PEC

Cylinder with EM Waves Filtered Through a Layered Structure
Constantinos A Valagiannopoulos (Aalto University, Finland)

5. UWB SAR Imaging of Near-Field Object for Industrial Process Applications
Seyedeh Shaghayegh Fayazi (Umea University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Hoi-Shun Lui (The University of Queensland, Australia)

6. Time Reversal-MUSIC and Degrees of Freedom of Scattered Field
Angela Dell'Aversano (via Roma, 29 & Seconda Università degli Studi di Napoli, Italy); Raffaele Solimene (Second University of Naples, Italy); Rocco Pierri (SUN, Italy)

7. A Clutter Rejection Based on Entropy in TWI
Raffaele Solimene (Second University of Naples, Italy); Antonio Cuccaro (Seconda Università degli Studi di Napoli, Italy); Rocco Pierri (SUN, Italy)

8. On the Comparison Between Radar Cross Sections of 2-D and 3-D Scatterers
Dragan I. Olcan (University of Belgrade, Serbia); Branko Kolundzija (University of Belgrade, Serbia)

9. X-shape Array for Joint DOA Estimation
Rahmat Sanudin (The University of Edinburgh, United Kingdom)

10. Slant Path Attenuation At 72.5 GHz and 82.5 GHz
George Brost (Air Force Research Lab, USA); William Cook (AFRL, USA); Kevin Magde (AFRL, USA)

11. Ray Tracing Multipath Modelling in GNSS with a Single Reflector
Marcos Liso Nicolás (Technische Universität Braunschweig, Germany); Marios Smyrnaios (Leibnitz Universität Hannover, Germany); Steffen Schön (Leibnitz Universität Hannover, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

12. Withdrawn

13. Analysis of a Rain Attenuation Time Series Synthesizer Based on UIT-R Recommendations
Juan Antonio Romo (University of the Basque Country, Spain); Ignacio Anitzine (University of Basque Country, Spain); Josu Escolar (University of the Basque Country, Spain); Jianpei Ye (University of the Basque Country, Spain)

14. Moved to oral session

15. Aircraft Channel Modeling for Wireless Applications
Alexandre Piche (EADS France, France); Olivier Urrea (EADS France, France); Gilles Peres (EADS - Innovation Works, France)

16. Research on Field-to-Circuit Signal Characteristics of Train Antennas in Railway Communication Environment Using Integrative Modeling Technique
Shi Pu (National University of Singapore, Singapore)

Wed_Wall5: Propagation for space and

Wednesday, April 10

14:00 - 16:50 on-the-move antennas

Room: See exhibition hall map

1. Investigation of Rain Fade Dynamic Properties Using Simulated Rain Attenuation Data with Synthtetic Storm Technique
Charilaos Kourogiorgas (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece); Spiros Livieratos (ASPETE, Greece); George Chatzarakis (ASPETE, Greece); John D. Kanellopoulos (National Technical University of Athens, Greece)

2. Parametric Study of Pin Surface Used to Suppress Undesired Modes in a Packaged W-band Microstrip Receiver
Ainara Rebollo (Public University of Navarra, Spain); Itziar Maestrojuán (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)

3. Modeling Radio Propagation Effects At V- And W-Band Using Physical-Statistical Approaches and Ground-Based Data
Vinia Mattioli (Sapienza University of Rome / Perugia, Italy); Frank S. Marzano (Sapienza University of Rome, Italy); Nazzareno Pierdicca (DIE - Sapienza University of Rome, Italy); George Brost (Air Force Research Lab, USA); Patrizia Basili (University of Perugia, Italy); Piero Ciotti (University of L'Aquila, Italy)

4. SISO, MIMO and SIMO Characterisation of the Land Mobile and Nomadic Satellite Propagation Channels
Frederic Lacoste (CNES, France); Joel Lemorton (ONERA, France); Laurent Casadebaig (ONERA, France); Mehdi Ait-Ighil (ONERA/CNES Toulouse & Onera / CNES / TAS, France); Belen Montenegro Villaceiros (ONERA, France); Guillaume Carrie (ONERA, France); Franck Rousseau (CNES, France)

5. Geometry-Based Modeling of Cross-Polarization Discrimination in HAP Propagation Channels
Emmanouel T. Michailidis (University of Piraeus, Greece); Paraskevi Petropoulou (University of Piraeus, Greece); Athanasios G. Kanatas (University of Piraeus, Greece)

6. Low-Cost USRP SDR Receiver for the Investigation of Multipath Influence on GNSS Systems
Marcos Liso Nicolás (Technische Universität Braunschweig, Germany); Ivan Artamonov (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

7. Singular Value Decomposition and Fuzzy Logic Based Ground Penetrating Radar Image Enhancement
Mohsin Riaz (National University of Sciences and Technology, Pakistan); Abdul Ghafoor (National University of Sciences and Technology, Pakistan)

8. Akaike Information Criterion Based Through Wall Image Enhancement
Mohsin Riaz (National University of Sciences and Technology, Pakistan); Abdul Ghafoor (National University of Sciences and Technology, Pakistan)

9. Real-Time Data Acquisition and Signal Processing of a Multistatic mm-Wave Radar System
Jochen Moll (Goethe University Frankfurt am Main, Germany); Marion Böswirth (Robo Technology GmbH, Germany); Viktor Krozer (Goethe University of Frankfurt am Main, Germany); Jürgen Bosse (Robo Technology GmbH, Germany)

10. Efficient Ray Tracing Tool for UWB Propagation and Localization Modeling
Mohamed Laaraiedh (University of Rennes 1, France); Nicolas Amiot (Université Rennes I & Institut d' Electronique et de Télécommunications de Rennes, France); Bernard Uguen (University of Rennes I, France)

11. Analyzing Corona Breakdown with a Finite Element-based Electromagnetic Solver
Ioannis D Koufogiannis (EPFL, Switzerland); Francisco Eden Sorolla (EPFL, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland); Michael Mattes (EPFL, Switzerland)

12. Modelling Radio Wave Propagation in Tunnels with Ray-Tracing Method
Cheng-Guo Liu (Wuhan University of Technology, P.R. China); Er Tao Zhang (Wuhan Zhongyuan Electronic Information Corporation, P.R. China); Zhi Wu (Wuhan University of Technology, P.R. China); Bin Zhang (Wuhan University of Technology, P.R. China)

13. Experimental Estimation of Propagation

Impairments of a 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 Española, Spain)

14. LTE MIMO Performance Measurements on Trains
Mohammad Alasali (KTH: Royal Institute of Technology, Jordan); Claes Beckman (KTH Royal Institute of Technology, Sweden)

15. Experimental Characterization of the UWB Channel for an Underground Mining Vehicle
Yacouba Coulibaly (University du Quebec en Abitibi Téminscamigue, Canada); Gilles Delisle (LRTCS-UQAT, Canada); Nadir Hakem (Université du Québec en Abitibi Témiscamingue & LRTCS Research Laboratory Télébec in Underground Communications, Canada); Akakpo Dodji (Ecole Polytechnique de Montreal, Canada)

16. Space Diversity Analysis for Low Elevation Links in a Wooded Area
Michal Simunek (Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Fernando Pérez-Fontán (University of Vigo, Spain)

Wed_Wall6: Fundamental research on antennas and propagation

14:00 - 16:50
Room: See exhibition hall map

1. Application of Discrete Green's Function in Modelling of Planar Antennas
Salma Mirhadi (Iran University of Science and Technology, Iran); Mohammad Soleimani (Iran University of Science and Technology, Iran); Ali Abdolali (IUST, Iran)

2. HFSS Hybrid - the Advent of 3D System Simulation
Lars Eric Rickard Petersson (ANSYS, Inc., USA); Kezhong Zhao (ANSYS, Inc., USA); Istvan Bardi (ANSYS, Inc., USA)

3. Scattering by an Infinite Circular Metallic Cylinder Coated by a Lossless or Lossy Elliptical Cylinder: Closed-Form Solutions
Grigorios Zouros (National Technical University of Athens, Greece); Demetrios Kanoussis (National Technical University of Athens, Greece); John Roumeliotis (National Technical University of Athens, Greece)

4. GRECO Code Rejuvenated: Hybrid CPU-graphical Processing
Juan M. Rius (Universitat Politècnica de Catalunya, Spain); Alex Carbo (Universitat Politècnica de Catalunya, Spain); Eduard Ubeda (Universitat Politècnica de Catalunya (UPC), Spain); Alexander Heldring (Polytechnical University of Catalunya, Spain)

5. Spectral Domain: A Numerical Ray Launching
Elias Rachid (Saint Joseph University, USJ, Lebanon)

6. A 2D Finite Difference/Finite Element Analysis of Reconfigurable mm-Wave Circuits in the Presence of Nematic Liquid Crystals
Anastasis C Polycarpou (University of Nicosia, Cyprus); Marios Christou (University of Nicosia, Cyprus); Nectarios Papanicolaou (University of Nicosia, Cyprus)

7. Compressive Sensing Applied to Ultra-Wideband Radio Channel Measurements
Itziar de la Torre (IMST GmbH, Germany); Jürgen Kunisch (IMST GmbH, Germany)

8. Dispersion Analysis of Open Periodic Structures Using Reflection Pole Method
Sakineh Tooni (Technical University of Munich & Iran University of Science and Technology, Germany); Thomas F. Eibert (Technische Universität München, Germany); Majid Tayarani (Iran University of Science and Technology, Iran); Larissa Vietzorreck (Technische Universitaet Muenchen, Germany); Kun Wang (Technische Universität München, Germany)

9. Optimization Method of Higher Order (2,4) FDTD Method for Low Dispersion Error
Yongjun Hong (Agency for Defense Development, Korea); Jong-Gwan Yook (Yonsei University, Korea)

10. RAPIDS II-version PASTEL: a User Friendly

Wednesday, April 10

Software for the Analysis of Space Communication
Carlos Pereira (Université Catholique de Louvain, Belgium); Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium); Belén Montenegro-Villacieros (Université Catholique de Louvain, Belgium); Michael Cheffena (University Graduate Center - UNIK, Norway); Laurent Castanet (ONERA, France); Benoit Segaert (UNIWAY, Belgium); Luc Lechien (AETHIS, Belgium); Antonio Martellucci (European Space Agency, The Netherlands)

11. Compressed Sensing Based Detection of Localized Heavy Rain Using Microwave Network Attenuation
Gemalyn Abrajano (Nara Institute of Science and Technology, Japan); Minoru Okada (Nara Institute of Science and Technology, Japan)

12. Measurement of Atmospheric Refractivity Using Digital Audio Broadcast Radio Signals
Robert J Watson (University of Bath, United Kingdom); Nathan Dumont (University of Bath, United Kingdom)

Wed_Wall7: Antennas for no specific application

14:00 - 16:50

Room: See exhibition hall map

1. Broadband Low Profile Substrate-Integrated Antenna Based on Gradient Index Lens
Abdallah Dhouibi (LEME, France); Shah Nawaz Burokur (Institut d'Electronique Fondamentale - Université Paris-Sud, France); André de Lustrac (Institut d'Electronique Fondamentale - Université Paris-Sud, France); Alain Priou (LEME, France)

2. Intertwined Spiral Array on Magnetized Ferrite Substrate
Gwendal Cochet (University of Brest & Queen's University of Belfast, France); Andrea Vallecchi (University of Siena, Italy); Alex Schuchinsky (Queen's University of Belfast, United Kingdom); Patrick Quéffélec (LEST - UBO University of Brest, France); Vincent Laur (Lab-STICC, France); Robert Cahill (Queen's University Belfast, United Kingdom)

3. Microstrip-Fed Embedded Cylindrical Dielectric Resonator Antenna
Maria Castillo Solis (University of Manchester, United Kingdom); Zhipeng Wu (University of Manchester, United Kingdom); Cheng-Guo Liu (Wuhan University of Technology, P.R. China)

4. A New Reconfigurable Single-Feed Microstrip Antenna with Polarization Diversity
Ailar Sedghara (Tarbiat Modares University, Iran); Zahra Atlasbaf (Tarbiat Modares University, Iran)

5. Control of Surface Reflection Phase by Multiple Embedded Width-Modulated Microstrip Resonators
Yogesh Ranga (CSIRO, ICT Centre, Australia); Ladislau Matekovits (Politecnico di Torino, Italy); Stuart G Hay (CSIRO ICT Centre, Australia); Trevor S. Bird (Antengenuity & CSIRO, Australia)

6. Wide Band Antenna for Millimeter Wave Applications
Roman Chernobrovkin (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine, Ukraine); Denis Ivanchenko (Usikov Institute of Radio Physics and Electronics, Ukraine); Igor Ivanchenko (A. Usikov Institute of Radio Physics and Electronics, Ukraine); Nina Popenko (A. Usikov Institute of Radio Physics and Electronics, Ukraine); Vyacheslav I Pishikov (Usikov Institute of Radio Physics and Electronics, Ukraine)

7. Comparison on the Coupling Between Substrate Integrated Waveguide and Microstrip Transmission Lines for Antenna Arrays
Layne Berge (North Dakota State University & Center for Nanoscale Science and Engineering, USA); Benjamin Braaten (North Dakota State University, USA)

8. Complementary Frequency Selective Surfaces in a Waveguide Simulator
Chinwe Njoku (Loughborough University, United Kingdom); J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom); William Whittow (Loughborough University, United Kingdom)

9. Design and Optimization of Reconfigurable Reflectarray Element with MEMS Phase Shifter
Zhou Du (Aalto University, Finland); Aleksi Tamminen (Aalto University, Finland); Juha Ala-Laurinaho (Aalto University, Finland); Jussi Säily (VTT Technical Research Centre of Finland, Finland); Pekka Rantakari (VTT Technical Research Centre of Finland,

Finland); Arttu Luukanen (MilliLab, Finland); Antti V. Räisänen (Aalto University, Finland)

10. Design of Circularly Polarized Terahertz Antenna with Interdigital Electrode Photomixer
Kamil Pítra (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic); Hans L. Hartnagel (Technische Universität Darmstadt, Germany)

11. Design and Measurements of a Double Ridged Guide Horn Feed for P-Band Direct Path Measurements
Alberto Di Maria (German Aerospace Center (DLR), Germany); Alicja Kość (German Aerospace Center, Germany); Markus Limbach (German Aerospace Center (DLR), Germany); Ralf Horn (German Aerospace Center (DLR), Germany); Andreas Reigber (German Aerospace Center (DLR), Germany)

12. An Ultralow Cross Polarization Uniform Long Slot Leaky-Wave Antenna
Alireza Mallahzadeh (Shahed University, Iran); Mohammad Hosein Amini (University of Shahed, Iran)

13. A Single-Fed Printed Slot Antenna with Switchable Polarization
Alireza Mallahzadeh (Shahed University, Iran); Mohammad Hosein Amini (University of Shahed, Iran); Sajad Mohammad ali nezhad (Shahed university, Iran)

14. New Hybrid Design for a Broadband High Gain 60-GHz Dielectric Resonator Antenna
Taieb Elkarkraoui (Université Laval, Canada); Gilles Delisle (LRTCS-UQAT, Canada); Nadir Hakem (Université du Québec en Abitibi Témiscamingue & LRTCS Research Laboratory Télébec in Underground Communications, Canada); Yacouba Coulibaly (University du Quebec en Abitibi Téminscamigue, Canada)

15. Design of an Electrically Small CP Antenna with Application to Alleviating Orientation Dependence in Near-Field Wireless Power Transfer
Ick-Jae Yoon (Technical University of Denmark, Denmark); Hao Ling (The University of Texas at Austin, USA)

16. Design of Compact UWB Monopoles Using Dielectric Loading and Numerical Optimization
Slawomir Koziel (Reykjavik University, Iceland); Stanislav Ogurtsov (Reykjavik University, Iceland)

17. Vivaldi Antenna with Low Frequency Resonance for Reduced Dimensions
Torbjörn Ödman (Self Employed, Sweden); Paul Hallbjörner (SP Technical Research Institute of Sweden, Sweden)

18. Aerosol-Printed Horn-Shaped Antenna on LTCC
Jordi Balcells-Ventura (IMST GmbH, Germany); Jens Leiß (IMST GmbH, Germany); Martin Ihle (Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany); Steffen Ziesche (Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Germany); Peter Uhlig (IMST GmbH, Germany)

19. A Band-notched UWB Antenna Using Uni-Planar EBG Structure
Lalithendra Kurra (Indian Institute of Technology Delhi, India); Mahesh Abegaonkar (IIT Delhi, India); Ananjan Basu (Indian Institute of Technology, Delhi, India); Shiban K Koul (Indian Institute of Technology Delhi, India)

20. Phase Shifting Diagram of 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)

21. A Novel Dual-Frequency Rectifier Based on a 180° Hybrid Junction for RF Energy Harvesting
Hakim Takhedmit (Université de Paris-Est Marne-la-Vallée, France); Laurent Cirio (Université de Paris-Est Marne-la-Vallée, France); Zied Saddi (Université de Paris-Est Marne-la-Vallée, France); Jean Daniel Lan Sun Luk (University of La Reunion, France); Odile Picon (Université Paris-Est Marne-la-Vallée, France)


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MIMO OTA
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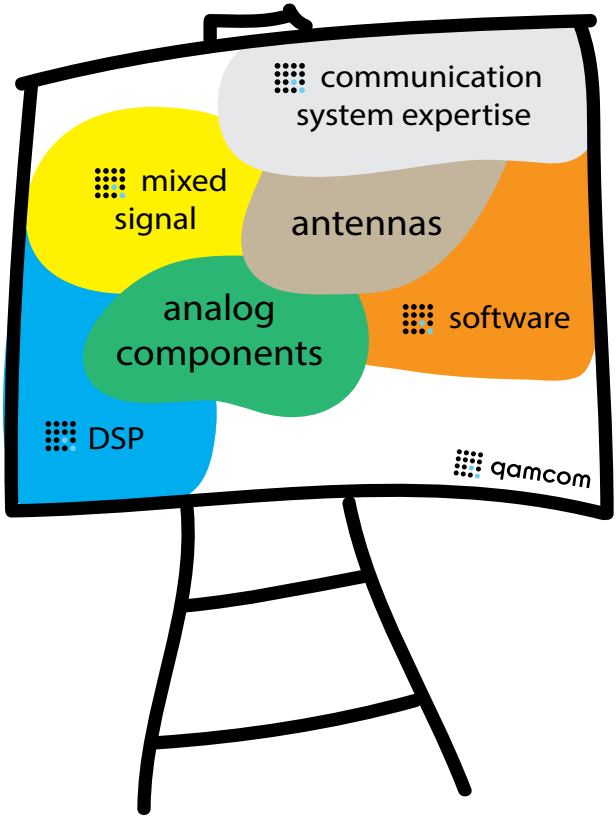

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15:00 - 16:20 Room: G1
Chairs: Stefano Maci (University of Siena, Italy), Eva Rajo-Iglesias (University Carlos III of Madrid, Spain)

15:00 Electromagnetic Simulation of a Multi-Scale World- And Beyond
Giuseppe Vecchi (Politecnico di Torino, Italy)

15:40 Progress in Reflectarray Antenna Research: From Enhanced Frequency Features to Advanced Radiation Capabilities
Fan Yang (Tsinghua University, P.R. China)

IL3.2: Invited speaker 6
Room: G2
15:00 - 16:20 Chairs: Carlo Rizzo (Tecnologica Ltd., United Kingdom), Manuel Sierra-Castañer (Technical University of Madrid, Spain)

15:00 MIMO Propagation Channel Modeling
Ernst Bonek (Vienna University of Technology, Austria)

15:40 Estimating Uncertainties in Antenna Measurements
Mike Francis (NIST, USA)

COFFEE BREAK

A04: Advanced RF materials, meta-materials and EBG
16:50 - 18:30 Room: E1
Chairs: Peter de Maagt (European Space Agency, The Netherlands), Oscar Quevedo-Teruel (Queen Mary, University of London, United Kingdom)

16:50 Development of a 23-230 GHz Frequency Selective Surface for the Microwave Sounder Instrument on the MetOp Second Generation Mission
Raymond Dickie (Queen's University Belfast, United Kingdom); Robert Cahill (Queen's University Belfast, United Kingdom); Peter Huggard (Rutherford Appleton Laboratory, United Kingdom); Manju Henry (Rutherford Appleton Laboratory, United Kingdom); Ville Kangas (European Space Agency, The Netherlands); Peter de Maagt (European Space Agency, The Netherlands)

17:10 Multiple Layer Fabry-Perot Cavity Antennas
Konstantinos Konstantinidis (University of Birmingham, United Kingdom); Alexandros Feresidis (University of Birmingham, United Kingdom); Peter S Hall (University of Birmingham, United Kingdom)

17:30 Dual Band Compact and Light EBG Superstrate Based Antenna for TT&C Applications
Amagoia Tellechea (Public University of Navarra, Spain); JuanCarlos Iriarte (Public University of Navarra, Spain); Iñigo Ederra (Universidad Publica de Navarra, Spain); Ramon Gonzalo (Public University of Navarra, Spain); Fernando Monjas (EADS CASA Espacio, Spain); Silvia Arenas (EADS-CASA Espacio, Spain); Rodrigo Manrique (EADS CASA Espacio, Spain); Antonio Montesano (EADS-CASA Espacio, Spain)

17:50 Multi-band Artificial Magnetic Conductors with High Angular Stability
María Elena de Cos (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

18:10 Wide Flare-Angle Horn Antenna with Enhanced Directivity Using a Third-Order Bandpass Frequency Selective Surface
Adrien Cottin (Universite de Rennes 1 & Institut d'Electronique et de Telecommunications de Rennes, France); Ronan Sauleau (University of Rennes 1, France); Hervé Legay (Thalès Alenia Space, France); Patrick Potier (DGA/Maîtrise de l'Information, France)

CP4: Propagation Aspects in Remote

Wednesday, April 10

16:50 - 18:30 Sensing

Room: E2

Chairs: Ovidio Mario Bucci (University of Naples, Italy), Andreas Danklmayer (Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany), Jose M Riera (UPM, Spain)

16:50 Estimation of Atmospheric Attenuation At 99 GHz Using a Total Power Radiometer
Gustavo Siles (Universidad Politecnica de Madrid, Spain); Jose M Riera (Universidad Politécnica de Madrid, Spain); Pedro García-del-Pino (Universidad Politecnica de Madrid, Spain); Beatriz Mencia-Oliva (Universidad Politecnica de Madrid & ETSI Telecomunicacion, Spain); Jesús Grajal (Universidad Politécnica de Madrid, Spain)

17:10 Simulation of Multiple Scattering Effect in Atmospheric Hydrometeors by Monte Carlo Method
Martin Grabner (Czech Metrology Institute, Czech Republic); Vaclav Kvicera (Czech Metrology Institute, Czech Republic)

17:30 Multi-frequency Propagation Measurements Over a Horizontal Path Above the Sea Surface in the Baltic Sea
Andreas Danklmayer (Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany); Thorsten Brehm (Fraunhofer FHR, Germany); Gregor Biegel (Fraunhofer FHR, Germany); Jörg Förster (Technical Center for Ships and Naval Weapon, Germany)

17:50 Tropospheric-Propagation Induced Distortion of Wideband Signals
Madhukar Chandra (TU-chemnitz, Germany)

18:10 Examples of DSD Products to Study Radio Wave Propagation
Ondrej Fiser (Institute of Atmospheric Physics & Fac. of Electrical Engineering and Informatics/Uni of Pardubice, Czech Republic); Zuzana Chladova (Institute of Atmospheric Physics, Czech Republic); Vladimir Brazda (Institute of Atmospheric Physics Prague, Czech Republic); Vladimir Schejbal (University of Pardubice, Czech Republic)

16:50 - 18:10 Room: E3

Chairs: Juha Ala-Laurinaho (Aalto University, Finland), Zvonimir Sipus (University of Zagreb, Croatia)

16:50 ε-Near-Zero Graded Index Structure as a Bi-concave Metallic Lens Using Stacked Rectangular Near Cut-Off Waveguides
Victor Pacheco Peña (Universidad Pública de Navarra, Spain); Víctor Torres (Universidad Publica de Navarra, Spain); Miguel Navarro-Cía (Imperial College London, United Kingdom); Miguel Beruete (Universidad Publica de Navarra, Spain); Mario Sorolla (Universidad Publica de Navarra, Spain); Nader Engheta (University of Pennsylvania, USA)

17:10 Extended Hemispherical Integrated Lens Antenna with Feeds on a Spherical Surface
Aki Karttunen (Aalto University, Finland); Juha Ala-Laurinaho (Aalto University, Finland); Ronan Sauleau (University of Rennes 1, France); Antti V. Räisänen (Aalto University, Finland)

17:30 Artificial Dielectric Layers for Efficient Feeding of Lens Antennas: Rigorous Analysis and Experimental Validation
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)

17:50 Graded Index Photonic Crystal Lens for Microwave Applications
Fabian Gaufillet (Université Paris Sud, France); Eric Akmansoy (Université Paris Sud & Institut d'Electronique Fondamentalez, France)

16:50 - 18:30 Room: G1
Chairs: Thomas Bolin (Sony Mobile Communications, Sweden), Pekka Kyösti (Anite Telecoms Oy, Finland)

16:50 Multiplexing Index and MIMO Band Index: Two Novel Metrics for MIMO Antenna Evaluation
Elpiniki Tsakalaki (Aalborg University, Denmark); Osama Alrabadi (AAU, Denmark); Elisabeth de Carvalho (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

17:10 Characterization of MIMO OTA Link Level Performance of Dipole Antenna Array
Yong-Sang Cho (LG Electronics, Korea); Pekka Kyösti (Anite Telecoms Oy, Finland); In-Kyung Kim (LG Electronics, Korea)

17:30 Investigation of the Distribution of the Random LOS Component in a Reverberation Chamber
Xiaoming Chen (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden); Jan Carlsson (SP Technical Research Institute of Sweden, Sweden)

17:50 Selection Schemes for Orthogonal Tripole Antennas
Jesús Gutiérrez (University of Cantabria, Spain); Aamir Habib (Vienna University of Technology, Austria); Markus Rupp (Vienna University of Technology, Austria)

18:10 MIMO Reference Antennas for OTA Applications
Shuai Zhang (KTH-Royal Institute of Technology, Sweden); Kun Zhao (Royal Institute of Technology & Sony Ericsson, Sweden); Bangguo Zhu (Sony Mobile Communication, Sweden); Zhinong Ying (Sony Mobile, Sweden); Sailing He (Royal Institute of Technology, Sweden)

P1: Fixed propagation modeling and measurement campaigns

16:50 - 18:30 Room: G2
Chairs: Filiberto Bilotti (University Roma Tre, Italy), Gunnar Elgered (Chalmers University of Technology, Sweden)

16:50 Multiple-Cylinder Diffraction Measurements At 60 GHz
Maria Teresa Martinez-Ingles (Universidad Politecnica de Cartagena, Spain); José-Víctor Rodríguez (Universidad Politécnica de Cartagena, Spain); Jose-Maria Molina-Garcia-Pardo (Universidad Politécnica de Cartagena, Spain); Juan Pascual-García (Technical University of Cartagena, Spain); Leandro Juan-Llacer (Universidad Politécnica de Cartagena, Spain)

17:10 Measurement and Simulation of the Bistatic Radar Cross Section of Traffic Signs for Vehicle-to-X Communications
Ke Guan (Technische Universität Braunschweig, Germany); Zhangdui Zhong (Beijing Jiaotong University, P.R. China); Marcos Liso Nicolás (Technische Universität Braunschweig, Germany); Robert Geise (Technische Universität Braunschweig, Germany); Björn Neubauer (Technische Universität Braunschweig, Germany); Georg Zimmer (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

17:30 Field Strength Measurements in Vegetated Residential Environments
Kin Lien Chee (Technische Universität Braunschweig, Germany); Johannes Baumgarten (Technische Universität Braunschweig, Germany); Peter Zahn (LS Telcom AG, Germany); Michael Rohner (LS Telcom AG, Germany); Michael Braun (LS Telcom, Germany); Saúl Torrico (Comsearch & The George Washington University, USA); Thomas Kürner (Technische Universität Braunschweig, Germany)

17:50 Validation of a High Resolution Geolocation Database for UK White Space
Nathan Dumont (University of Bath, United Kingdom); Robert J Watson (University of Bath, United Kingdom); Stephen Pennock (University of Bath, United Kingdom)

18:10 Radio Channel Analysis for a RFID System Employing a Leaky Coaxial Cable as a Reader End
Chi-Fang Huang (Tatung University, Taiwan); Wei-Tzuu Lee (Tatung University, Taiwan)

A13: MIMO, antenna diversity, smart and

Wednesday, April 10

16:50 - 18:30 signal processing antennas
Room: J1
Chairs: Hui Li (Lund University, Sweden), Werner L. Schroeder (RheinMain University of Applied Sciences, Germany)

16:50 Upper Bound on Pattern Correlation of Lossy N-port Antennas in Terms of Modal Efficiencies
Aleksander Krewski (RheinMain University of Applied Sciences, Germany); Werner L. Schroeder (RheinMain University of Applied Sciences, Germany); Klaus Solbach (UDE, Germany)

17:10 Adaptive Impedance Matching Performance of MIMO Terminals with Different Bandwidth and Isolation Properties in Realistic User Scenarios
Ivaylo Vasilev (Lund University, Sweden); Ehsan Foroozanfard (Lund University, Sweden); Buon Kiong Lau (Lund University, Sweden)

17:30 On-Body and Off-Body 2.45 GHz MIMO Communications for Hearing Instrument Applications
Søren H Kvist (Technical University of Denmark & GN ReSound A/S, Denmark); Pablo Fernández Medina (Technical University of Denmark, Denmark); Jesper Thaysen (GN ReSound A/S, Denmark); Kaj Bjarne Jakobsen (Technical University of Denmark, Denmark)

17:50 Antenna Design Considerations for MIMO TV White-Space Handsets
Elpiniki Tsakalaki (Aalborg University, Denmark); Osama Alrabadi (AAU, Denmark); Elisabeth de Carvalho (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

18:10 A Switched-Beam Three-Element Printed Loop Antenna Array for MIMO Systems
Iftikhar Ahmed (COMSATS Institute of Information Technology, Pakistan); Imran Shoaib (Queen Mary University of London, United Kingdom); Sultan Shoaib (Queen Mary University of London, United Kingdom); Nosherwan Shoaib (Politecnico Di Torino, Italy)

16:50 - 18:30 Room: J2
Chairs: Snjezana Gligorevic (German Aerospace Center (DLR), Germany), Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

16:50 Short Term Propagation Analysis in a Deciduous Tree Forest
José Antonio Gay-Fernández (University of Vigo, Spain); Iñigo Cuiñas (University of Vigo, Spain); Isabel Expósito (University of Vigo, Spain)

17:10 In-Cabin Aircraft Channel Temporal Variations Due to Moving Human Bodies: Measurements and Channel Characterization
Nektarios Moraitis (National Technical University of Athens & Institute of Communications and Computers Systems, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

17:30 Performance Loss Due to Multipath Propagati on for IEEE 802.11 Systems
Frederic Heereman (Ghent University & IBBT, Belgium); Wout Joseph (Ghent University, Belgium); Emmeric Tanghe (Ghent University, Belgium); David Plets (IBBT-Ghent University, Belgium); Aliou Bamba (University of Ghent, Belgium); Leen Verloock (IBBT - Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

17:50 Near Vertical Incidence Skywave Field Strength Time Variability Characterization in the Medium Wave Band
Unai Gil (University of the Basque Country, Spain); José García Merino (Radio Nacional de España, RNE, Spain); José García Hernán-Pérez (Radio Nacional de España, RNE, Spain); Javier Sánchez Pérez (Radio Nacional de España, RNE, Spain); David Guerra (University of the Basque Country, Spain); Iván Peña (University of the Basque Country, Spain); David de la Vega (University of the Basque Country, Spain)

18:10 Satellite-Based Wireless Sensor Networks: Radio Communication Link Design
Marios I. Poulakis (National Technical University of Athens, Greece); Stavroula Vassaki (National Technical University of Athens, Greece); Athanasios D. Panagopoulos (National Technical University of Athens, Greece)

P5: Propagation measurements

CA03: COST IC1102 FA- C Parallelization

16:50 - 18:50 **and cloud computing**
Room: R22+R23
Chairs: Dragan I. Olcan (University of Belgrade, Serbia), Francesca Vipiana (Politecnico di Torino, Italy)

16:50 Acceleration Techniques in Matlab for EM Community
Miloslav Capek, Pavel Hazdra, Jan Eichler, Pavel Hamouz, Milos Mazanek (Czech Technical University in Prague, Czech Republic)

17:10 GPU-Accelerated Computations of FDTD-Compatible Green's Function
Tomasz P Stefanski, Katarzyna Krzyzanowska (Gdansk University of Technology, Poland)

17:30 On the Development and Optimization of Hybrid Parallel Codes for Integral Equation Formulations
Alejandro Alvarez-Melcon, Fernando D Quesada Pereira (Technical University of Cartagena, Spain); Domingo Gimenez , Carlos Perez Alcaraz, Tomás Ramírez García (University of Murcia, Spain); Jose-Gines Picon (Supercomputing Center, Scientific Park Foundation of Murcia, Spain)

17:50 Material Matrix Generation for FDTD Simulations Using OpenGL
Slawomir Orlowski (Gdansk University of Technology, Poland); Tomasz P Stefanski (Gdansk University of Technology, Poland)

18:10 GPU Accelerated Computation of Radar Cross Sections with Multiple Excitations
Dusan Zoric (WIPL-D, Serbia); Dragan I. Olcan, Branko Kolundzija (University of Belgrade, Serbia)

18:30 Scalable Cloud Computing Infrastructure for Electromagnetic Virtual Prototyping
Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Olivier Terzo, Pietro Ruiu, Lorenzo Mossucca, Giuseppe Caragnano (Istituto Superiore Mario Boella & IInfrastructures and Systems for Advanced Computing, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy)

A08: Imaging and inverse scattering

16:50 - 18:30 Room: R24+R25
Chairs: Jochen Moll (Goethe University Frankfurt am Main, Germany), Mikael Persson (Chalmers University of Technology, Sweden)

16:50 Time-Difference-of-Arrival Imaging for Ultra-Wideband Microwave Mammography
Jochen Moll (Goethe University Frankfurt am Main, Germany); Viktor Krozer (Goethe University of Frankfurt am Main, Germany)

17:10 Microwave Medical Imaging Techniques
George Cheng (Allwave Corporation & Allwave Corporation, USA); Yong Zhu (Allwave Corporation, USA); Jan Grzesik (Allwave Corporation, USA)

17:30 Microwave Imaging of Extended Targets
Gregory Samelsohn (Shamoon College of Engineering, Israel)

17:50 The Maxwell Fish Eye Lens
Rhiannon C Mitchell-Thomas (Queen Mary, University of London, United Kingdom); Oscar Quevedo-Teruel (Queen Mary, University of London, United Kingdom); Yang Hao (Queen Mary, University of London, United Kingdom)

18:10 Microwave Technology Shows Potential for Detecting Traumatic Intracranial Bleedings
Stefan Candefjord (Chalmers University of Technology, Sweden); Ahzaz Malik Ahmad (Chalmers University of Technology, Sweden); Stefan Kidborg (Medfield Diagnostics AB, Sweden); Yinan Yu (Chalmers University of Technology, Sweden); Tomas McKelvey (Chalmers University of Technology, Sweden); Andreas Fhager (Chalmers University of Technology, Sweden); Mikael Persson (Chalmers University of Technology, Sweden)

A29: Millimeterwave antennas

Wednesday, April 10

16:50 - 18:30 Room: R2
Chairs: Benjamin Fuchs (University of Rennes 1 - IETR, France), Robin Augustine (Uppsala University, Sweden)

16:50 Multilayer Holographic Antenna with Beam Scanning in Two Dimensions At W-Band
Christian Rusch (Karlsruhe Institute of Technology, Germany); Stefan Beer (Karlsruhe Institute of Technology, Germany); Philipp Pahl (Karlsruhe Institute of Technology, Germany); Thomas Zwick (Karlsruhe Institute of Technology (KIT), Germany)

17:10 Dielectric Lens Fed by Coherent Connected-Slot Array as Wideband Reflector Feed
Ozan Yurduseven (Delft University of Technology, The Netherlands); Daniele Cavallo (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

17:30 A 60 GHz CMOS-SOI Integrated Antenna with Coupled Patch in a QFN Package
Jose Alberto Zevallos Luna (Universite de Grenoble & CEA, France); Laurent Dussopt (CEA, LETI, Minatec, France); Alexandre Siligaris (Cea, Leti, Minatec, France)

17:50 Choke Ring Antenna for Bioelectromagnetic Experiments At 60 GHz
Artem V. Boriskin (IETR, Université de Rennes 1, France); Maxime Zhadobov (University of RENNES 1, France); Ronan Sauleau (University of Rennes 1, France); Yves Le Dréan (University of Rennes 1, France)

18:10 77-GHz CMOS Artificial-Magnetic-Conductor On-Chip Yagi-Antenna with Integrated Balun-Bandpass-Filter
Yung-Hsiang Chuang (National Cheng Kung University, Taiwan); Yi Wu (National Cheng Kung University, Taiwan); Hsin-Chih Kuo (National Cheng Kung University, Taiwan); Huey-Ru Chuang (National Cheng Kung University, Taiwan)

16:50 - 18:30 Room: R31
Chairs: Ozlem Aydin Civi (Middle East Technical University, Turkey), Marc Hélier (UPMC Univ Paris 6, France)

16:50 Enhancing Field Strength in HF Propagation by Using a Transition Between a Metamaterial and the Sea
Nicolas Bourey (Onera - The French Aerospace Lab, France); Florent Jangal (Onera - The French Aerospace Lab, France); Muriel Darces (UPMC Univ Paris 6, France); Marc Hélier (UPMC Univ Paris 6, France)

17:10 Radiation and Propagation in the Context of HF Over-The-Horizon Radar
Yannick Béniguel (IEEA, France); Nicolas Payet (UPMC Univ Paris 6, France); Muriel Darces (UPMC Univ Paris 6, France); Marc Hélier (UPMC Univ Paris 6, France)

17:30 HF Radars and HF Propagation Simulations
Florent Jangal (Onera - The French Aerospace Lab, France); Philippe Dorey (Onera - The French Aerospace Lab, France); Michel Menelle (Onera - The French Aerospace Lab, France); Nicolas Bourey (Onera - The French Aerospace Lab, France)

17:50 Oblique Propagation of HF Signals in the Polar Cap Ionosphere
Alan Stocker , David Siddle, Michael Warrington (University of Leicester, United Kingdom); Nikolay Zaalov (St. Petersburg State University, Russia); Mariyam Jamilah Homam (Universiti Tun Hussein Onn Malaysia, Malaysia); David Boteler (Geomagnetic Laboratory, Geological Survey of Canada, Canada); Donald Danskin (Geomagnetic Laboratory, Geological Survey of Canada, Canada); Giorgiana De Franceschi (Istituto Nazionale di Geofisica e Vulcanologia, Italy); Svend Erik Ascanius (Geophysical Observatory, Qaanaaq, Greenland)

18:10 Measurements of Doppler and Multipath Spreads of HF Signals Received Over Several Northerly Paths
Michael Warrington, Alan Stocker, David Siddle (University of Leicester, United Kingdom)

CP6: HF Propagation

09:00 - 12:50 A17: Reflectarray and transmitarray

Room: E1

Chairs: Jose A. Encinar (Universidad Politecnica de Madrid, Spain), Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

09:00 Metamaterial Absorber-Backed Reflectarray Antenna to Improve a Front-Back Ratio
Jae Sik Kim (Yonsei University, Korea); Ji Hwan Yoon (Yonsei University, Korea); Young Joong Yoon (Yonsei University, Korea); Woo-sang Lee (Agency for Defense Development, Korea); Joon-ho So (Agency for Defense Development, Korea)

09:20 Split Ring FSS Reflectarray with Spiral Phase Distribution
Dmitry E Zelenchuk (Queen's University of Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom); Oleksandr Malyuskin (Queens University Belfast, United Kingdom)

09:40 Polarimetric Control of the Scattering Parameters of Reflectarray Cells
Xavier Artiga (Centre tecnològic de Telecomunicacions de Catalunya (CTTC), Spain); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland); Daniele Bresciani (Thales Alenia Space, France); Hervé Legay (Thalès Alenia Space, France)

10:00 A Simple Reflectarray Cell with 1-bit Phase Control and Polarization Flexibility
Tomislav Debogovic (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Srecko Susac (Faculty of Electrical Engineering, Croatia); Julien Perruisseau-Carrier (Ecole Polytechnique Fédérale de Lausanne & EPFL, Switzerland)

10:20 An Improved Topology for Reconfigurable CPSS-based Reflectarray Cell
Simon Mener (IETR & CNES/DGA, France); Raphael Gillard (IETR & INSA, France); Ronan Sauleau (University of Rennes 1, France); Cecile Cheymol (CNES, France); Patrick Potier (DGA/Maîtrise de l'Information, France)

COFFEE BREAK

11:10 Active Cell for 8-zone Reconfigurable Fresnel Reflector Using PLL-based Phase Shifter
Mikael Lombard (LEAT, University of Nice Sophia Antipolis, France); Jerome Lanteri (Université Nice Sophia Antipolis, France); William Tatinian (LEAT, University of Nice Sophia Antipolis, France)

11:30 Design of an X-Band Reflectarray Using Double Circular Ring Elements
Lu Guo (National University of Singapore, Singapore); Peng-Khiang Tan (National University of Singapore, Singapore); Tan-Huat Chio (National University of Singapore, Singapore)

11:50 Efficient Optimization of Large Reflectarrays Using Continuous Functions
Min Zhou (TICRA & Technical University of Denmark, Denmark); Stig Sørensen (TICRA, Denmark); Erik Jørgensen (TICRA, Denmark); Peter Meincke (TICRA, Denmark)

12:10 A Reconfigurable Microfluidic Transmitarray Unit Cell
Emre Erdil (Middle East Technical University, Turkey); Kagan Topalli (TED University, Turkey); Ozge Zorlu (METU-MEMS Research and Applications Centre, Turkey); Taylan Toral (METU-MEMS Research and Applications Centre, Turkey); Ender Yildirim (Cankaya University & Leiden/Amsterdam Center for Drug Research - Division of Analytical Biosciences, Turkey); Haluk Kulah (METU, Turkey); Ozlem Aydin Civi (Middle East Technical University, Turkey)

12:30 An Offset-Fed 20/30 GHz Dual-Band Circularly Polarized Reflectarray Antenna
Thomas Smith (Thrane and Thrane & Technical University of Denmark, Denmark); Oleksiy S. Kim (Technical University of Denmark, Denmark); Ulrich Gothelf (Thrane and Thrane, Denmark); Olav Breinbjerg (Technical University of Denmark, Denmark); Niels Vesterdal (Ticra, Denmark)

Thursday, April 11

09:00 - 12:50 CA13: NATO Vibration Control and Structure Integration of Antennas

Room: E2

Chairs: Peter Knott (Fraunhofer FHR, Germany), Harmen Schippers (National Aerospace Laboratory NLR, The Netherlands)

09:00 Vibration Control and Structure Integration of Antennas on Aircraft - Research in NATO SET-131
Peter Knott (Fraunhofer FHR, Germany); Claudius Loecker (Fraunhofer FHR, Germany); Stephan Algermissen (German Aerospace Center (DLR), Germany); Robert Sekora (Cassidian, Germany)

09:20 Analysis of Vibration Effects on Surface Matched Cylindrical IFF Array Antenna
Bahattin Turetken (TUBITAK BILGEM, Turkey); Mehmet Celik (ASELSAN MGEO Group, Ankara, Turkey)

09:40 Smart Antenna Technology for Airborne Communication
Harmen Schippers (National Aerospace Laboratory NLR, The Netherlands); Rasmus Cornelius (RWTH Aachen University, Germany); Guus Vos (National Aerospace Laboratory NLR, The Netherlands); Adriaan Hulzinga (National Aerospace Laboratory (NLR), The Netherlands)

10:00 Defining the Position of the Antennas of an Interferometer in the Presence of Electromagnetic Coupling
Thierry Deloues (ONERA, France); Dominique Medynski (ONERA, France); André Barka (ONERA -The French Aerospace Lab, France)

10:20 Wideband and Very Wideband Thin Structural Tiles for Airborne Active Antennas
Stephane Kemkemian (THALES AIRBORNE SYSTEMS, France); Isabelle LeRoy-Naneix (THALES AIRBORNE SYSTEMS, France); Stéphane Mallégol (THALES Systèmes Aéroportés, France); Bernard Perpère (THALES AIRBORNE SYSTEMS, France); Christian Renard (Thales Systèmes Aéroportés, France)

COFFEE BREAK

11:10 Towards Structural Integration of Airborne Ku-band SatCom Antenna
Harmen Schippers (National Aerospace Laboratory NLR, The Netherlands); Jaco Verpoorte (National Aerospace Laboratory NLR, The Netherlands); Adriaan Hulzinga (National Aerospace Laboratory (NLR), The Netherlands); Chris Roeloffzen (University of Twente, The Netherlands); Rens Baggen (IMST GmbH, Germany)

11:30 S-Band Antenna for Airborne Polarimetric and Interferometric SAR-Applications
Markus Limbach (German Aerospace Center (DLR), Germany); Alberto Di Maria (German Aerospace Center (DLR), Germany); Andreas Reigber (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)

11:50 Rapid Assessment of Suitable Antenna Positions on Flying Platforms
Martin Vogel (Cassidian, EADS Deutschland GmbH, Germany); Andreas Patrovsky (Cassidian, EADS Deutschland GmbH, Germany); Wolfgang Poisel (Cassidian, EADS Deutschland GmbH, Germany)

12:10 Analysis of Cylindrical Microstrip Array Antennas with Patches of a Complex Shape
Alexander Svezhentsev (Institute of Radio Physics and Electronics, NAS of the Ukraine, Ukraine); Guy Vandenbosch (Katholieke Universiteit Leuven, Ukraine)

12:30 System and Integration Aspects of a Controlled Radiation Pattern Structurally Integrated GPS Antenna
Robert Sekora (Cassidian, Germany)

09:00 - 12:50 A03: Advanced RF materials, meta-materials and EBG

Room: E3

Eva Rajo-Iglesias (University Carlos III of Madrid, Spain), Daniel Sjöberg (Lund University, Sweden)

09:00 Novel Antenna Configurations with Non-Uni form EBG Lattices for Wireless Communication Networks
Christos Mourtzios (Dept. of Physics, Aristotle University of Thessaloniki, Greece); Katherine Siakavara (Aristotle University, Greece)

09:20 Frequency Selective Surface Design for Blinds Applications
Ic Pyo Hong (Kongju National University, Korea); In Gon Lee (Kongju National University, Korea)

09:40 A Novel Artificial Magnetic Material Based on a CPW Series-Connected Resonator and Its Implementation in Original Applications
Ousama Abu Safia (Université du Québec en Outaouais, Canada); Larbi Talbi (University of Quebec - Outaouais, Canada); Khelifa Hettak (Communications Research Centre, Canada)

10:00 Analysis and Optimization of Doubly Periodic Matching Dielectric Structures with Longitudinally Nonuniform Elements
Olga Smolnikova (Moscow Aviation Institute, Russia); Sergei Skobelev (Company „Radiophyzika", Russia)

10:20 Compact and Multi-Band Metamaterial-Inspired Dipole Antenna
Dakhli Saber (SYSCOM Laboratory, ENIT, University of Tunis El Manar Tunisia, Tunisia)

COFFEE BREAK

11:10 Electromagnetic Characterization of TiO2 Microsphere Metamaterials for Submillimeter Applications
Sylvain Lannebère (University of Siena, Italy); Salvatore Campione (University of California, Irvine, USA); Ashod Aradian (Centre de Recherche Paul Pascal, France); Filippo Capolino (University of California, Irvine, USA); Matteo Albani (University of Siena, Italy)

11:30 Transformation-Optics PT Metamaterials
Giuseppe Castaldi (University of Sannio, Italy); Silvio Savoia (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)

11:50 Generalized Lorentz-Lorenz Method for the Retrieval of Plasmonic Nanocluster Metamaterial Effective Parameters
Andrea Vallecchi (University of Siena, Italy); Valentina Sozio (University of Siena, Italy); Matteo Albani (University of Siena, Italy); Filippo Capolino (University of California, Irvine, USA)

12:10 The Radiation and Scattering Properties of the Split-Ring and Other Resonators
Steven R Best (The MITRE Corporation, USA)

12:30 Study of the Characteristic Impedance of Gap Waveguide Microstrip Line
Hasan Raza (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden)

Thursday, April 11

09:00 - 12:30 CA11: Small antennas and matching circuits 1

Room: G1

Chairs: Fabien Ferrero (University of Nice & CREMANT CNRS, France), Cyril Luxey (University Nice Sophia-Antipolis, France), Richard W. Ziolkowski (University of Arizona, USA)

09:00 Advances in Electrically Small Antennas Augmented with Internal Non-Foster Elements
Ning Zhu (University of Arizona, USA); Richard W. Ziolkowski (University of Arizona, USA)

09:20 Innovative LDS Antenna for 4G Applications
Florence Sonnerat (STMicroelectronics, Technology R&D, STD, TPS Lab, France); Romain Pilard (STMicroelectronics, Technology R&D, STD, TPS Lab, France); Frédéric Gianesello (STMicroelectronics, France); François Le Pennec (Telecom Bretagne & Lab-STICC/MOM, France); Christian Person (Lab-STICC/MOM UMR CNRS, France); Daniel Gloria (STMicroelectronics, France)

09:40 Simultaneous Multiport Matching Circuit Optimization for Multiantenna Systems
Jussi Rahola (Optenni Ltd, Finland)

10:00 Antenna Bandwidth Optimization by Genetic Algorithms with Single Frequency Simulation
Marius Cismasu (Lund University, Sweden); Mats Gustafsson (Lund University, Sweden)

10:20 A Bandwidth-Enhanced Antenna in LDS Technology for LTE700 and GSM850/900 Standards
Aykut Cihangir (University of Nice Sophia Antipolis, France); Fabien Ferrero (University of Nice & CREMANT CNRS, France); Cyril Luxey (University Nice Sophia-Antipolis, France); Gilles Jacquemod (University of Nice, France); Patrice Brachat (Orange Labs & France Telecom, France)

COFFEE BREAK

11:10 Sensitivity and Stability Analysis of Non-Foster Matched Two-Port Antennas
Eduardo Ugarte-Muñoz (Universitiy Carlos III in Madrid, Spain); Fernando Albarracín-Vargas (Universidad Carlos III de Madrid, Spain); Francisco Javier Herraiz-Martínez (Carlos III University in Madrid, Spain); Daniel Segovia-Vargas (Universidad Carlos III de Madrid, Spain)

11:30 Linear and Circular Polarized Electrically Small Antennas Based on the Employment of Metamaterial-Inspired Sub-Wavelength Resonators
Filiberto Bilotti (University Roma Tre, Italy); Mirko Barbuto („Roma Tre" University, Italy); Luca Di Palma („Roma Tre" University, Italy); Davide Ramaccia (University of Rome RomaTre, Italy); Alessandro Toscano (University Roma Tre (IT), Italy); Lucio Vegni (University of Roma Tre, Italy)

11:50 Distributed Impedance Matching with Foster and Non-Foster Elements
Roberto G. Rojas (The Ohio State University, USA); Aseim Elfrgani (The Ohio State University, USA); Ezdeen Elghannai (The Ohio State University, USA)

12:10 Adaptive Tuning Topologies to Overcome Losses in Matching Circuits for Small Antennas
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)

09:00 - 12:50 CP1: Multidimensional propagation modelling for future wireless systems (IC 1004) 1

Room: G2
Chairs: Vittorio Degli-Esposti (University of Bologna, Italy), Claude Oestges (Université Catholique de Louvain, Belgium)

09:00 Characterization and Modeling of Indoor Wideband MIMO Channels At 11 GHz
Minseok Kim (Tokyo Institute of Technology, Japan); Yohei Konishi (Tokyo Institute of Technology, Japan); Yuyuan Chang (Tokyo Institute of Technology, Japan); Jun-ichi Takada (Tokyo Institute of Technology, Japan)

09:20 Indoor Radio Channel Characterization At 60 GHz
Maria Teresa Martinez-Ingles (Universidad Politecnica de Cartagena, Spain); Juan Pascual-García (Technical University of Cartagena, Spain); José-Víctor Rodríguez (Universidad Politécnica de Cartagena, Spain); Jose-Maria Molina-Garcia-Pardo (Universidad Politécnica de Cartagena, Spain); Leandro Juan-Llacer (Universidad Politécnica de Cartagena, Spain); Davy Gaillot (University of Lille, France); Martine Liénard (University of Lille, France); Pierre Degauque (University of Lille, France)

09:40 Dynamics of Spatial Degrees-of-Freedom in MIMO Mobile Channels
Katsuyuki Haneda (Aalto University, Finland); Afroza Khatun (Aalto University School of Electrical Engineering, Finland); Veli-Matti Kolmonen (Aalto University & School of Electrical Engineering, Finland); Jussi Salmi (Aalto University, Finland)

10:00 Extension and Validation of the IEEE 802.11ad 60 GHz Human Blockage Model
Martin Jacob (Technische Universität Braunschweig, Germany); Sebastian Priebe (Technische Universität Braunschweig, Germany); Michael Peter (Fraunhofer HHI, Germany); Mike Wisotzki (Fraunhofer Heinrich Hertz Institute, Germany); Robert Felbecker (Fraunhofer Heinrich-Hertz-Institut, Germany); Wilhelm Keusgen (Fraunhofer Heinrich Hertz Institute, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

10:20 Channel Modeling for the Stationary UE Scenario
Jonas Medbo (Ericsson Research, Sweden); Fredrik Harrysson (Ericsson Research & Ericsson AB,

COFFEE BREAK

11:10 Channel Modeling for Backscattering Based UWB Tags in a RTLS System with Multiple Readers
Alain Sibille (Telecom Paris Tech & ENSTA PARIS-TECH, France); Zeinab Mhanna (Telecom ParisTech, France); Moussa Sacko (Telecom Paristech, France); Richard Contreras (Telecom ParisTech, France); Valerio Casadei (University of Bologna, Italy); Raffaele D'Errico (CEA, LETI, Minatec Campus, France)

11:30 Measurements of Large-Scale Parameters of a Distributed MIMO Antenna System in a Microcell Environment At 2.6 GHz
Jose Flordelis (Lund University, Sweden); Ghassan S Dahman (Lund University, Sweden); Fredrik Tufvesson (Lund University, Sweden)

11:50 Impact of Human Crowds on the Radio Wave Propagation in Large Concert Halls
Sven Dortmund (Ruhr-Universität Bochum, Germany)

12:10 Ultrawideband Near-Ground Outdoor Propagation Channel Measurements and Modeling
Seun Sangodoyin (University of Southern California, USA); Andreas Molisch (University of Southern California, USA); Somasundaram Niranjayan (University of Southern California, USA)

12:30 Implementation of a Fast Distributed Scattering Model for Ray Tracing Prediction
Vittorio Degli-Esposti (University of Bologna, Italy); Franco Fuschini (DEIS - Bologna, Italy); Enrico M. Vitucci (University of Bologna, Italy)

Thursday, April 11

09:00 - 10:40 A30: Millimeterwave antennas

Room: J1

Chairs: Robin Augustine (Uppsala University, Sweden), J (Yiannis) Vardaxoglou (Loughborough University, United Kingdom)

09:00 Dielectric Resonator Antenna Inside a Package for Millimeter Wave Transmitter System
Shoaib Muhammad (Université de Rennes1, France); Juan Pablo Guzman (Telecom Bretagne University, France); Michel Ney (TELECOM Bretagne Institute, France); Christian Person (Lab-STICC/ MOM UMR CNRS, France); Romain Pilard (STMicroelectronics, Technology R&D, STD, TPS Lab, France)

09:20 System in Package Solution with Dielectric Resonator Antenna and Power Amplifier for a 60 GHz High Data Rate Transmitter
Shoaib Muhammad (Université de Rennes1, France); Juan Pablo Guzman (Telecom Bretagne University, France); Michel Ney (TELECOM Bretagne Institute, France); Christian Person (Lab-STICC/ MOM UMR CNRS, France); Romain Pilard (STMicroelectronics, Technology R&D, STD, TPS Lab, France); Eric Kerhervé (University of Bordeaux, France); Nejdat Demirel (IMS, France)

09:40 Design of a Reconfigurable 60-GHz On-Chip CMOS-SOI Pattern-Diversity Antenna
Shynu Nair (CEA LETI, France); Laurent Dussopt (CEA, LETI, Minatec, France); Alexandre Siligaris (Cea, Leti, Minatec, France)

10:00 Efficient Model for Computing the Mutual Coupling Between Millimeter-Wave Antennas in Wire-Bond Technology
Rick van Kemenade (Eindhoven University of Technology, The Netherlands); Ulf Johannsen (Eindhoven University of Technology, The Netherlands); A. B. (Bart) Smolders (Eindhoven University of Technology, The Netherlands)

10:20 In-wafer Helical Antenna for Automotive Radars
Nauroze Syed (National University of Computer & Emerging Sciences, Pakistan)

COFFEE BREAK

11:10 - 12:50 M5: RFID's, mmID's and Power Scavenging

Room: J1

Chairs: Dragan I. Olcan (University of Belgrade, Serbia), Alberto Toccafondi (University of Siena, Italy)

11:10 The Influence of the Wearable Antenna Type on the On-Body Channel Modeling At 2.45 GHz
Asimina Michalopoulou (NCSR-Demokritos, Greece); Theodore Zervos (NCSR „Demokritos", Institute of Informatics & Telecommunications, Greece); Kostas Peppas (NCSR „Demokritos", Greece); Fotis Lazarakis (NCSR Demokritos, Institute of Informatics & Telecommunications, Greece); Antonis A Alexandridis (NCSR „Demokritos", Greece); Kostas Dangakis (NCSR „Demokritos", Greece); Dimitra I Kaklamani (National Technical University of Athens, Greece)

11:30 Coplanar Waveguide-fed Compact Antenna for UWB RFID Applications
Alberto Toccafondi (University of Siena, Italy); Alessandro Garufo (TU Delft, The Netherlands); Cristian Della Giovampaola (University of Pennsylvania, USA)

11:50 Numerical Exposure Assessment of an RFID Reader
Ioannis Markakis (Aristotle Uniersity of Thessaloniki, Greece); George Tsanidis (THESS S.A., Greece); Theodoros Samaras (Aristotle University of Thessaloniki, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

12:10 Chipless RFID Tag Based on Split-Wheel Resonators
Md. Shakil Bhuiyan (Monash University, Australia); Nemai Karmakar (MONASH University, Australia)

12:30 Chip Impedance Matching for UHF-Band RFID TAG
Mondher Dhaouadi (GRESCOM, SUPCOM de Tunis, Tunisia); Mohamed Mabrouk (GRESCOM (SUPCOM) and ISETCOM de Tunis, Tunisia); Tan Phu Vuong (Grenoble INP, France); Dahbia Hamzaoui (University of Bejaia & IMEP-LAHC, Algeria); Adel Ghazel (SUPCOM, Tunisia)

09:00 - 12:30 CA21: Wireless Power Transmission and Energy Harvesting

Room: J2

Chairs: Yi Huang (University of Liverpool, United Kingdom), Huib J. Visser (IMEC Netherlands, The Netherlands)

09:00 London RF Survey for Radiative Ambient RF Energy Harvesters and Efficient DC-load Inductive Power Transfer
Manuel Pinuela (Imperial College London, United Kingdom); David Christopher Yates (Imperial College London, United Kingdom); Paul Mitcheson (Imperial College, Germany); Stepan Lucyszyn (Imperial College London, United Kingdom)

09:20 Wireless Power Supplying Flexible and Wearable Systems
Alessandra Costanzo (DEIS, University of Bologna, Italy); Diego Masotti (University of Bologna, Italy); Massimo Del Prete (University of Bologna, Italy)

09:40 Improving the Efficiency of Electrodynamic Wireless Power Transmission
Jose Oscar Mur-Miranda (Franklin W. Olin College of Engineering, USA); Shuo Cheng (Massachusetts Institute of Technology, USA); David P Arnold (University of Florida, USA)

10:00 Printed Folded Dipole Antenna Design for Rectenna and RFID Applications
Huib J. Visser (IMEC Netherlands, The Netherlands)

10:20 On the Efficiency of Solar Energy Harvesting with Nano-dipoles
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Xuezhi Zheng (Katholieke Universiteit Leuven, Belgium)

COFFEE BREAK

11:10 Multi-band Simultaneous Radio Frequency Energy Harvesting
Shady Keyrouz (Eindhoven University of Technology & imec / Holst Centre - The Netherlands, The Netherlands); Huib J. Visser (IMEC Netherlands, The Netherlands); Anton G. Tijhuis (TU/e Eindhoven University of Technology, The Netherlands)

11:30 A Wideband Cross Dipole Rectenna for RF Wireless Harvesting
Jingwei Zhang (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Ping Cao (University of Liverpool, United Kingdom)

11:50 Small-Size Large-Aperture Antenna Using Multilayered Spherical Dielectric Resonators
Naoki Shinohara (Kyoto University, Japan)

12:10 Analysis of Near-Field Power Transfer Using Scattering Parameters
Qiaowei Yuan (Sendai National College of Technology, Japan); Mingda Wu (Tohoku University, Japan); Qiang Chen (Tohoku University, Japan); Kunio Sawaya (Tohoku University & School nof Engineering, Japan)

Thursday, April 11

09:00 - 10:20 A22: Ultra wide band antennas and time domain techniques

Room: R22+R23

Chairs: Oscar Quevedo-Teruel (Queen Mary, University of London, United Kingdom), Jian Yang (Chalmers University of Technology, Sweden)

09:00 Planar Ultra-wideband Antenna with Wideband Notched Characteristics

Fuguo Zhu (University of Surrey, United Kingdom); Steven Gao (University of Surrey, United Kingdom); Anthony T S Ho (University of Surrey, United Kingdom); Tim Brown (University of Surrey, United Kingdom); Jianzhou Li (Northwestern Polytechnical University, P.R. China); Gao Wei (Northwestern Polytechnical University, P.R. China); Jiadong Xu (Northwestern Polytechnical University, P.R. China)

09:20 Novel Shapes of Vivaldi Antenna for Ground Pentrating Radar (GPR)

Dalia Elsheakh, dalia (Electronics Research Institute & ElTahrir St. Dokki Giza, Egypt)

09:40 A Novel Low Profile Tapered Slot Antenna with Absorbing Material for Radar Imaging System

Guillaume Clementi (Université de Nice-Sophia Antipolis, France); Nicolas Fortino (University of Nice, France); Jean-Yves Dauvignac (Université de Nice-Sophia Antipolis, France)

10:00 Ultra-wideband Miniaturised High Permittivity-Matched Antennas for Biomedical Diagnostic

Francesco Scotto di Clemente (Ilmenau University of Technology, Germany); Ralf Stephan (Technische Universität Ilmenau, Germany); Matthias Hein (Ilmenau University of Technology, Germany)

10:00 UWB Coplanar-Waveguide-Fed Spiral Slot Antenna

Amjad Omar (King Faisal University, Saudi Arabia); Abdullah Qaroot (Jordan University of Science and Technology, Jordan); Maximilian C Scardelletti (NASA Glenn Research Center, USA)

COFFEE BREAK

A15: Multiband and wideband antennas

11:10 - 12:50 CA6: COST IC1102 FA-A - Medical and

Room: R22+R23

Chairs: Christophe Craeye (Université Catholique de Louvain, Belgium), Erkki T. Salonen (University of Oulu, Finland)

11:10 Conformal and Green Electronics: A Wideband Inkjet Printed Antenna on Paper Substrate

Hattan F. AbuTarboush (Bristol University & Communication Systems & Networks Laboratory, Centre for Communications Research, United Kingdom); Atif Shamim (King Abdullah University of Science and Technology, Saudi Arabia)

11:30 Integrated Dual-band Monopole and Wide Slot UWB Antenna for Diversity Applications Using the Centre Feed Method

Atieh Talebzadeh (Amirkabir University of Technology, Iran); Ali Foudazi (University Cape Town & Iran Telecommunication Research Center, South Africa); Michael R Inggs (University Cape Town & Centre for High Performance Computing, South Africa)

11:50 Integrated Broadband Planar Monopole Antenna with Additional Frequency Bands

Atieh Talebzadeh (Amirkabir University of Technology, Iran); Ali Foudazi (University Cape Town & Iran Telecommunication Research Center, South Africa); Michael R Inggs (University Cape Town & Centre for High Performance Computing, South Africa)

12:10 Performance Comparison of Planar Wideband Quasi-Complementary Antennas with Dipole and Monopole Excitation

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)

12:30 A Compact Super Wideband Monopole Antenna

Ping Cao (University of Liverpool, United Kingdom); Yi Huang (University of Liverpool, United Kingdom); Jingwei Zhang (University of Liverpool, United Kingdom); Rula Alrawashdeh (The University of Liverpool, United Kingdom)

09:00 - 12:50 Biological Applications of EMF
Room: R24+R25
Chairs: Ovidio Mario Bucci (University of Naples, Italy), John Sahalos (University of Nicosia, Cyprus)

09:00 Development of Surgical Devices Using Microwave Energy
Kazuyuki Saito (Chiba University, Japan); Koichi Ito (Chiba University, Japan); Samon Ishikawa (Chiba University, Japan); Mizuki Inoue (Chiba University, Japan); Masaharu Takahashi (Chiba University, Japan)

09:20 Characterization and Detection of Breast Cancer Using Ultra Wideband Polarimetric Electromagnetic Transients
Hoi-Shun Lui (The University of Queensland, Australia); Andreas Fhager (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Mikael Persson (Chalmers University of Technology, Sweden)

09:40 Propagation Aspects of a Wireless Capsule Endoscopy Link
Emmeric Tanghe (Ghent University, Belgium); Patrick Van Torre (University College Ghent & Ghent University, Belgium); Gunter Vermeeren (Ghent University, Belgium); Sam Agneessens (Ghent University, Belgium); Wout Joseph (Ghent University, Belgium); Hendrik Rogier (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

10:00 Comparing Two Focusing Methods for Microwave Hyperthermia Beamforming
Domenica A. M. Iero (Università Mediterranea di Reggio Calabria, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Tommaso Isernia (University of Reggio Calabria, Italy)

10:20 Feasibility Issues in Breast Cancer Microwave Imaging Enhanced with Magnetic
Gennaro Bellizzi (University of Naples Federico II, Italy); Ilaria Catapano (CNR - National Research Council of Italy, Italy); Lorenzo Crocco (CNR - National Research Council, Italy); Rosa Scapaticci (CNR-National Research Council of Italy, Italy); Ovidio Mario Bucci (University of Naples, Italy)
Coffee Break

COFFEE BREAK

11:10 Computational Study of the Performance of Single Applicators and Antenna Arrays Used in Liver Microwave Ablation
Andreas Karampatzakis (THESS S.A., Greece); Sven Kuhn (IT'IS Foundation, Switzerland); George Tsanidis (THESS S.A., Greece); Esra Neufeld (IT'IS Foundation, ETH Zurich, Switzerland); Theodoros Samaras (Aristotle University of Thessaloniki, Greece); Niels Kuster (IT'IS Foundation, Switzerland)

11:30 Electromagnetics for Medical Applications: New Paradigms?
Giuseppe Vecchi (Politecnico di Torino, Italy)

11:50 Microwave Based Diagnostics and Treatment
Mikael Persson (Chalmers University of Technology, Sweden); Andreas Fhager (Chalmers University of Technology, Sweden); Hana Dobšíček Trefná (Chalmers University of Technology, Sweden); Tomas McKelvey (Chalmers University of Technology, Sweden)

12:10 EM Field Based Microwave Technologies in Medicine
Jan Vrba (Czech Technical University in Prague, Czech Republic)

12:30 Microwave Thermotherapy: Study of Hot-Spots Induced by Electromagnetic Surface Waves
Jan Vrba (Czech Technical University in Prague, Czech Republic)

CM2: Tribute to Doren Hess AMTA/EurAAP

Thursday, April 11

09:00 - 12:50 measurements/Automotive, telematics and defence antenna testing

Room: R31

Chairs: Lars Jacob Foged (SATIMO, Italy), Jeffrey A. Fordham (MI Technologies, USA)

09:00 Adaptive Rectangular Spiral Acquisition Technique for Planar Near-Field Antenna Measurements
Muhammad Ayyaz Qureshi (Technische Universität München, Germany); Carsten H Schmidt (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany)

09:20 Fast Measurements and Diagnostics on Radar Antennas Using Compact Cylindrical NF Range
Lars Jacob Foged (SATIMO, Italy); Fabrice Herbinière (SATIMO Main Office, France); Lucia Scialacqua (SATIMO, Italy); Per Noren (Microwave Vision Group, Sweden)

09:40 ISAR Measurements At Saab
Omid Sotoudeh (Saab Group Sweden, Sweden); Christer Larsson (Lund University, Sweden); Anders Sundberg (SaabGroup, Italy); Karin Brage (SaabGroup, Sweden)

10:00 Outdoor Far-Field Antenna Measurement System for Testing of Large Vehicles
Douglas. Kremer (US Army, USA); Anthony Sanchez (United States Army, USA)

COFFEE BREAK

11:10 Calibration Techniques for Active RCS-Targets
Bernd Gabler (German Aerospace Center (DLR), Germany); Alberto Di Maria (German Aerospace Center (DLR), Germany); Ralf Horn (German Aerospace Center (DLR), Germany); Markus Limbach (German Aerospace Center (DLR), Germany); Andreas Reigber (German Aerospace Center (DLR), Germany)

11:30 Measuring Accurate Low Cross Polarization Using Broad Band, Dual Polarized Probes
Patrick Pelland (Nearfield Systems Inc, USA); Allen Newell (Nearfield Systems Inc., USA)

11:50 Performance Evaluation of C2C Antennas on Car Body
Michele Gallo (Calearo Antenne SpA & Politecnico di Bari, Italy); Simona Bruni (Calearo Antenne SpA, Italy); Massimo Pannozzo (Calearo Antenne S.p.A., Italy); Daniel Zamberlan (Calearo Antenne S.p.A., Italy)

12:10 Impact of Specular Patches in Elongated Anechoic Chamber Design
John Aubin (Orbit/FR, USA); Per Iversen (Orbit/FR, USA); Russell Soerens (Orbit/FR, USA)

12:30 Deployment of an All-in-One Millimetre-wave Anechoic Chamber
Jose Luis Besada (Antenna System Solution (ASYSOL), Germany)

CA02: Gap waveguides and SIW

09:00 - 12:50 antennas
Room: R2
Chairs: Maurizio Bozzi (University of Pavia, Italy), Jiro Hirokawa (Tokyo Institute of Technology, Japan), Eva Rajo-Iglesias (University Carlos III of Madrid, Spain)

09:00 140-GHz SIW LTCC Antenna Array Using a Large Via-Fenced and Slotted Dielectric Loading
Junfeng Xu (Massachusetts Institute of Technology, USA); Zhi Ning Chen (National University of Singapore & Institute for Infocomm Research, Singapore); Xianming Qing (Institute for Infocomm Research, Singapore); Hong Wei (Southeast University, P.R. China)

09:20 Substrate Integrated Waveguide Couplers for Tapered Slot Antennas in Adaptive Receiver Applications
Lisa Locke (University of Victoria, Canada); Zamzam Kordiboroujeni (University of Victoria, Canada); Jens Bornemann (University of Victoria, Canada); Stephane Claude (Herzberg Institute for Astrophysics, Canada)

09:40 Enhancing the Performances of H-plane SIW Horn Antennas
Marc Esquius Morote (Ecole Polytechnique Fédérale de Lausanne, Switzerland); Benjamin Fuchs (University of Rennes 1 - IETR, France); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

10:00 Wideband Design of a 2x2-slot Sub-array in a Double-layer Corporate-feed Waveguide Antenna
Jiro Hirokawa (Tokyo Institute of Technology, Japan); Takashi Tomura (Tokyo Institute of Technology, Japan); Takuichi Hirano (Tokyo Institute of Technology, Japan); Makoto Ando (Tokyo Institute of Technology, Japan)

10:20 A Fast and Slow Wave Combined-Mode Metamaterial Ridged Waveguide for Array Antenna Applications
Hideki Kirino (Panasonic Healthcare Co., Ltd., Japan)

COFFEE BREAK

11:10 Ku Band Linear Slot-Array Design in Ridge Gap Waveguide Technology
Ashraf Uz Zaman (Chalmers University of Technology, Sweden); Per-Simon Kildal (Chalmers University of Technology, Sweden)

11:30 Excitation of Untilted Narrow-Wall Slot in Groove Gap Waveguide by Using a Parasitic Dipole
Sara Martínez Giner (Universidad Politécnica de Valencia, Spain); Alejandro Valero-Nogueira (Universidad Politécnica de Valencia, Spain); José Ignacio Herranz-Herruzo (Universidad Politécnica de Valencia, Spain); Mariano Baquero-Escudero (Universidad Politécnica de Valencia, Spain)

11:50 Design of a Dual-Mode Horn Element for Microstrip Gap Waveguide Fed Array
Elena Pucci (Chalmers University of Technology, Sweden); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain); Per-Simon Kildal (Chalmers University of Technology, Sweden)

12:10 Evaluation of Cross-coupling Inside Gap-waveguides
Zvonimir Sipus (University of Zagreb, Croatia); Marko Bosiljevac (University of Zagreb, Croatia); Per-Simon Kildal (Chalmers University of Technology, Sweden)

12:30 SIW Cavity-Backed Patch Antenna for Ku Band Applications
Onofrio Losito (Politecnico di Bari, Italy); Luciano Mescia (Politecnico di Bari, Italy); Davide Mencarelli (Università Politecnica dell Marche, Italy); Giuseppe Venanzoni (Università Politecnica delle Marche, Italy); Francesco Prudenzano (Politecnico di Bari, Italy)

Wrkshp1: The History of Antennas in

Thursday, April 11

14:00 - 17:30 Sweden
Room: E1
Chairs: Claes Beckman (KTH), Per Ingvarson (RUAG Space AB, Sweden), Carl-Henrik Walde (SNRV, Sweden), Per-Simon Kildal (Chalmers)

14:00 The Early Days of Radio in Sweden, Ernst F.W. Alexanderson and Grimeton Radio Station SAQ, UNESCO World Heritage
Joakim Johansson (RUAG Space AB, Sweden)

14:20 Swedish Radio Astronomy
Hans Olofsson (Chalmers University of Technology, Sweden)

14:40 The EISCAT Antenna Systems for Swedish and International Ground-Based Space Radio Science
Gudmund Wannberg (Wannberg Radarkonsult AB & Swedish Institute of Space Physics, Sweden)

15:00 Swedish Space Antenna Projects
Per Ingvarson (RUAG Space AB, Sweden); Jan Zackrisson (RUAG Aerospace Sweden, Sweden)

15:20 Radar Antenna R&D in Sweden
Lars Josefsson (Consultant, Sweden)

15:40 The Story of Allgon: HF, VHF, Cellular and Microwave Antennas During Allmost 60 Years
Claes Beckman (KTH Royal Institute of Technology, Sweden); Bo Karlsson (CellMax, Sweden)

16:00 The Industrial Story of the Hat-Fed Reflector Antenna for Global Microwave-Link Market - The 25 Years From Invention Via Comhat to Mass Production in Arkivator
Tomas Östling (Arkivator AB, Sweden)

COFFEE BREAK

for Over-the-Air Measurements: The Story of Bluetest From Crazy Idea to Commercial Success
Charlie Orlenius (Bluetest AB, Sweden)

17:10 Erik Hallén and His Integral Equation, Swe dish Defence Activities, Stealth Craft Smyge
Carl-Henrik Walde (SNRV, Sweden); Gunnar Petersson (KTH, Sweden)Friday, April 12

Wrkshp2: COST IC0802 Final Workshop
Room: E2

14:00 - 15:40 Chairs: Antonio Martellucci (European Space Agency, The Netherlands), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

14:00 Modelling and Analysis of FSO Ground-to-Train Communications for Straight and Curved Tracks
Rupak Paudel (Northumbria University & Northumbria University, United Kingdom); Juraj Poliak (Brno University of Technology & Faculty of Electrical Engineering, Czech Republic); Zabih Ghassemlooy (Northumbria University, United Kingdom); Erich Leitgeb (TUG, Austria)

14:20 Channel Models for Aeronautical and Low Elevation Radio Links
Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium); Pierre Bouchard (Communications Research Centre Canada, Canada); Lars Erling Bråten (Norwegian Defence Research Establishment (FFI), Norway); Vincent Fabbro (ONERA, France); Charilaos Kourogiorgas (National Technical University of Athens, Greece); David V. Rogers (Communications Research Centre Canada & CRC, Canada)

14:40 Measurement and Estimation of Propagation Loss in Vegetation At Microwave Frequencies
Adesoye Adegoke (University of Leicester, United Kingdom)

15:00 Ionosphere Electron Density Models - Present Trend and Validation Issues
Sandro M. Radicella (International Centre for Theoretical Physics, Italy)

15:20 Electromagnetic Inverse Scattering Based on Null Space Reconstruction Using Sequential Quadratic Programming
Hamidreza Siampour Ashkavandi (Isfahan University of Technology, Iran); Abolghasem Zeidaabadi Nezhad (Isfahan University of Technology, Iran)

COFFEE BREAK

Thu_Wall1: Antennas for cellular, high data rates and backbone
Room: See exhibition hall

14:00 - 16:50

1. Withdrawn

2. Silver Paste Printed Dipole Antenna for UHF RFID Applications
Daniel Marques (IM2NP, France); Emmanuel Bergeret (IM2NP, France); Philippe Pannier (IM2NP, France); Abdelkader Aliane (CEA/LITEN Grenoble, France); Romain Coppard (CEA-LITEN, France)

3. Design and Realization of Printed on Paper Antennas
Ines Kharrat (IMEP LAHC GRenoble INP France, France); Pascal Xavier (UJF Grenoble, France); Tan Phu Vuong (Grenoble INP, France); Guy Eymin-Petot-Tourtollet (CTP Grenoble, France); Jean-Marc Duchamp (Grenoble INP, France); Benech Philippe (IMEP Grenoble Institute of Technology, France)

4. A Small Frequency Reconfigurable Printed Slot Antenna for WLANWIMAX Application
Mohammad Javad Tavakoli (Shahed University, Iran); Hamid Reza Hassani (Shahed University, Iran); Mohammad Hosein Amini (University of Shahed, Iran)

5. Flat Plate for OAM Generation in the Millimeter Band
Anass Bennis (Université de Rennes 1, France); 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)

6. Passive RFID Systems: Eigen-Mode Analysis
Donia Oueslati (University Tunis El Manar, Tunisia); Shambhu Nath Jha (Université Catholique de Louvain, Belgium); Hatem Rmili (King Abdulaziz University & Faculty of Engineering, Saudi Arabia); Christophe Craeye (Université Catholique de Louvain, Belgium)

7. Miniaturized Inverted-F Antenna with Capacitive Loading
Loizos Loizou (Tyndall National Institute & University College Cork, Ireland); John Laurence Buckley (Tyndall National Institute, University College Cork, Ireland); Marco Belcastro (Tyndall National Institute, Ireland); John Barton (Tyndall National Institute, Ireland); Brendan O'Flynn (Tyndall National Institude, Ireland); Cian Ó Mathúna (Tyndall National Institute, Ireland)

8. Effect of Parasitic Elements on Spherical Aperture-Coupled Antennas
Javad Soleiman Meiguni (Faculty of Electrical and Computer Engineering, K. N. Toosi University of Technology & K. N. Toosi University of Technology, Iran); Manoochehr Kamyab (K.N.Tossi university, Iran); Ahmad Hosseinbeig (University of K. N. Toosi, Iran)

9. Miniaturized Antenna for Body Centric Communication
Kamil Pítra (Brno University of Technology, Czech Republic); Zbynek Raida (Brno University of Technology, Czech Republic)

10. Novel Spiral Antennas Design Using Swarm Intelligence for Passive UHF RFID Tags
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)

11. Very Low Profile High Gain Helix Antenna with Fabry-Perot Cavity for UHF RFID
Narcisse Rimbault (University of Rennes 1, France); Ala Sharaiha (Université de Rennes 1 & IETR, France); Sylvain Collardey (University of Rennes 1, France)

12. Investigation of Minkowski Patch Antenna with Meander Line Split Ring Resonator (ML-SRR) Structure

Nornikman Hassan (Universiti Teknikal Malaysia Melaka, Malaysia); Badrul Hisham Ahmad (Universiti Teknikal Malaysia Melaka, Malaysia); Mohamad Zoinol Abidin Bin Abd Aziz (Universiti Teknikal Malaysia Melaka & Hang Tuah Jaya, Malaysia); Mohamad Kamal A. Rahim (Universiti Teknologi Malaysia, Malaysia); Abdul Rani Othman (, Malaysia)

13. A Manufacture-Friendly Multi-Layer RFID Tag Antenna Design
Jingtian Xi (Hong Kong R&D Centre for Logistics and Supply Chain Management, Hong Kong); Terry Ye (Hong Kong R/D Center for Logistics and Supply Chain Management, Hong Kong)

14. A Novel CPW-fed UWB Antenna for Body Area Networks
Jian Wang (McGill University, Canada); Milica Popović (McGill University, Canada)

15. A Comparitive Study of Microstrip and CPW Antenna with Novel Resonators for WBAN
Tahsin Mullick (North South University, Bangladesh); Mohammad Ershad (North South University, Bangladesh); Atiqur Rahman (Queen Mary, University of London, United Kingdom)

14:00 - 16:50 Room: See exhibition hall map

1. Implanted Antenna Efficiency
Shaozhen Zhu (University of Sheffield, United Kingdom); Saeed M Alamri (University of Sheffield, United Kingdom); Ahmed AlAmoudi (King Abdulaziz City for Science and Technology, Saudi Arabia); Richard Langley (University of Sheffield, United Kingdom)

2. Comparison of Fabric and Embroidered Dipole Antennas
Thomas Kaufmann (The University of Adelaide, Australia); Ilse-Marie Fumeaux (The University of Adelaide, Australia); Christophe Fumeaux (The University of Adelaide, Australia)

3. A Low Profile UWB Antenna for Wearable Applications: The Tripod Kettle Antenna (TKA)
Dea Dorina Cara (Ecole Polytechnique Fédérale de Lausanne/ UNIL, Switzerland); Jovanche Trajkovikj (EPFL, Switzerland); Roberto Torres-Sánchez (LEMA-EPFL, Switzerland); Jean-François Zürcher (EPFL, Switzerland); Anja K. Skrivervik (EPFL, Switzerland)

4. A Miniaturized Rectangular-Spiral Bi-band Coplanar Antenna for Off-Body Communications
Walid El Hajj (Telecom Bretagne / Lab-STICC / MOM, France); Christian Person (Lab-STICC/MOM UMR CNRS, France); Joe Wiart (France Telecom R&D, France)

5. An Electrically-Small Wearable Textile Antenna for Security Applications
Mario Orefice (Politecnico di Torino, Italy); Daniele Pedrazzi (Politecnico di Torino, Italy); Paola Pirinoli (Politecnico di Torino, Italy); Gianluca Dassano (Politecnico di Torino, Italy)

6. Human Body Effects on the Matching of a 2.45 GHz Coplanar-fed Antenna
Jorge Roças (Instituto Superior Técnico, Portugal); Nuno Pires (Instituto Superior Técnico & École Polytechnique Fédérale de Lausanne, Portugal); Antonio A Moreira (I.S.T. - Technical U. Lisbon / I.T. Lisbon, Portugal)

Thu_Wall2: Antennas and measurement technology for cellular, high data rates and backbone

7. Influence of Deformations on the Matching of a Flexible Dual-Band Antenna
José Mesquita (Instituto Superior Técnico, Portugal);

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

8. Dual Band Inkjet Printed Bow-Tie Slot Antenna on Leather
Muhammad Farooqui (King Abdullah University of Science and Technology, Saudi Arabia); Atif Shamim (King Abdullah University of Science and Technology, Saudi Arabia)

9. Flexible Dual-band CPW-Fed Monopole Antenna
María Elena de Cos (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

10. The Impact of Shape and Size of Air Cavity on Extended Hemispherical Lens Characterization for Wireless Applications At 61 GHz
Mehran PourMousavi (University of Erlangen, Germany)

11. Accurate Pattern Prediction of Very Closely Spaced Mismatched Antennas Using Measured Active Element Patterns
Xinyi Tang (National University of Singapore, Singapore); Koen Mouthaan (National University of Singapore, Singapore); Jacob Coetzee (Queensland University of Technology, Australia)

12. An Evolutionary-Approach for Material Parameter Determination in a Broad Frequency Range
Stefan Fraedrich (Dresden University of Technology, Germany); Michael Jenning (Dresden University of Technology, Germany); Christoph Statz (Dresden University of Technology, Germany); Dirk Plettemeier (Dresden University of Technology, Germany)

13. Planar Antenna in Proximity of Human Body Models
Vladimír Hebelka (Brno University of Technology, Czech Republic)

14. Investigating Multi-Antenna RFID Systems by Means of Time-Varying Scattering Parameters
Eckhard Denicke (Leibniz Universität Hannover, Germany); Dominic Härke (Leibniz Universität Hannover, Germany); Bernd Geck (Leibniz Universität Hannover, Germany)

15.Withdrawn

16. Complex Permittivity of Concrete in the Frequency Range 0.8 to 12 GHz
Martta-Kaisa Olkkonen (Aalto University, Finland); Valeri Mikhnev (Aalto University, Finland); Eeva Huuskonen-Snicker (Aalto University, Finland)

17. RCS Measurement Accuracy in the U/VHF Range: Measurement of the Electromagnetic Field Decrease Rate in an Indoor Anechoic Chamber
Pierre Massaloux (CESTA, France); Genevieve Maze merceur (CEA, France)

Thu_Wall3: Propagation for cellular, high data rates and backbone

Thursday, April 11

14:00 - 16:50 Room: See exhibition hall map

1. A Methodology for Evaluation of Video Quality Loss on OFDM-Based Networks Due to Propagation Losses
Bruno Castro (Federal University of Pará, Brazil); Igor Gomes (Federal University of Pará, Brazil); Paulo Souza (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

2. Inversion Method for Obtaining Electrical Parameters for Soil and Vegetation in the Amazon Region
Romulo Oliveira (INSTITUTO FEDERAL DO PARA & IFPA, Brazil); João Souza (Universidade Federal do Pará, Brazil); Fátima Magno (Universidade Federal do Pará, Brazil); Klaus Cozzolino (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

3. Planning Single Frequency Networks for Broadcasting Digital TV
Panagiotis N. Vasileiou (University of Piraeus, Greece); Constantine G. Kakoyiannis (National Technical University of Athens & Institute of Communication and Computer Systems, Greece); Nektarios Moraitis (National Technical University of Athens & Institute of Communications and Computers Systems, Greece); Athanasios Marousis (National Technical University of Athens, Greece); Athanasios G. Kanatas (University of Piraeus, Greece); Philip Constantinou (National Technical University of Athens, Greece)

4. Topological Analysis of Performance of Zigbee Systems in Commercial Environments
Eduardo Salinero (Universidad Publica de Navarra, Spain); Leire Azpilicueta (Universidad Publica de Navarra, Spain); Francisco Falcone (Universidad Publica de Navarra, Spain)

5. A Comparison of MLP and RBF Neural Network Architectures for Location Determination in Indoor Environment
Ivan Vilovic (University of Dubrovnik, Croatia); Niksa Burum (University of Dubrovnik, Croatia)

6. Indoor Localization Using ISM Band Radio Modules
Lajos Nagy (Budapest University of Technology and Economics, Hungary); Zoltán Szalay (BME, Hungary)

7. Propagation Model for Small Urban Macrocell in Actual Vegetation Scenarios
Iñigo Cuiñas (University of Vigo, Spain); Jose Acuna (Universidad de la República, Uruguay); Manuel García Sánchez (Universidade de Vigo, Spain)

8. Full Mesh Channel Measurements on Body Area Networks Under Walking Scenarios
Matthieu Lauzier (INRIA - CITI Laboratory, France); Paul Ferrand (INSA-Lyon, France); Antoine Fraboulet (INSA de Lyon / INRIA, France); Herve Parvery (INRIA, France); Jean-Marie Gorce (INSA-Lyon, France)

9. A Phase-Based Indicator for Discriminating Near LOS Reverberating Chamber Channel Conditions
Antonio Sorrentino (Università Parthenope, Italy); Giuseppe Ferrara (Università Parthenope, Italy); Maurizio Migliaccio (Universita' Napoli Parthenope, Italy)

10. A Wireless Sensor Netwok for RF Characterisation of Buildings
Kangni Guo (University of Sheffield, United Kingdom); Jonathan Michael Rigelsford (The University of Sheffield, United Kingdom)

11. Evaluating the Eavesdropping Range of Varying Magnetic Field Strengths in NFC Standards
Tim Brown (University of Surrey, United Kingdom); Thomas Diakos (University of Surrey, United Kingdom); Johann A. Briffa (University of Surrey, United Kingdom)

12. Measurement and Estimation of Propagation Loss in Vegetation At Microwave Frequencies
Adesoye Adegoke (University of Leicester, United Kingdom)

13. Space-Time Correlation for On-to-Off Body Channels At 2.45 GHz
Ramona Rosini (DEI - University of Bologna & CEA - Leti Grenoble, Italy); Raffaele D'Errico (CEA, LETI, Minatec Campus, France)

14. Characterization for a Electrically Small Antenna in Proximity to Human Body

Takahiro Aoyagi (Tokyo Institute of Technology & Graduate School of Decision Science and Technology, Japan); Minseok Kim (Tokyo Institute of Technology, Japan); Jun-ichi Takada (Tokyo Institute of Technology, Japan)

15. Efficient Traceability Solutions in the Wine Production by RFID and WSN
Isabel Expósito (University of Vigo, Spain); Iñigo Cuiñas (University of Vigo, Spain); José Antonio Gay-Fernández (University of Vigo, Spain)

16. Performance Analysis of On-Body Backscatter RFID Systems
Jasmin Grosinger (Vienna University of Technology & Institute of Telecommunications, Austria)

17. Quantum Genetic Optimization Applied to Coverage Optimization for Indoor Access Point Networks
Lajos Nagy (Budapest University of Technology and Economics, Hungary)

18. Short-Range Near Floor RF Propagation Experiments in Indoor Corridors for Wirless Sensor Communications
T. RAMA RAO (SRM University, India); D Balachander (SRM University, India)

19. Matching Experimental Measurements and Successive Numerical Approximations of SPE, WAPE and VWAPE for Indoor 2D Model At 900 MHz
Klaus Cozzolino (Universidade Federal do Pará, Brazil); Fátima Magno (Universidade Federal do Pará, Brazil); João Souza (Universidade Federal do Pará, Brazil); Jessé Costa (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

20. Wearable Finger Ring Dual Band Antenna Made of Fabric Cloth for BAN Use
Hisao Iwasaki (Shibaura Institute of Technology, Japan)

21. Antenna Pattern in a Multipath Environment Emulated in a Reverberating Chamber

14:00 - 16:50

1. Connected Arrays of Slots as Feed of a Dielectric Lens: Analysis, Design and Experimental Validation
Daniele Cavallo (Delft University of Technology, The Netherlands); Ozan Yurduseven (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands); Giorgio Carluccio (University of Siena, Italy); Matteo Albani (University of Siena, Italy)

2. Reconfigurable Proximity Coupled Elevated Patch Antenna
Adel Emhemmed (University of Tripoli, Libya); Nuredin Ali Salem Ahmed (Azzaytuna University, Libya); Khaled Elgaid (University of Glasgow, United Kingdom)

3. Withdrawn

4. Circular Polarization Patch Antenna with Low Axial Ratio in a Large Beamwidth
Diana Navarro Méndez , Fernando Carrera Suárez (Universidad Politécnica de Valencia & Escuela Politécnica Nacional, Spain); Mariano Baquero-Escudero (Universidad Politécnica de Valencia, Spain)

5. A 3D Reconstruction Algorithm for the Location of Foundations in Demolished Buildings
Anand Sengodan, Paul Cockshott, Carmen Cuenca-Garcia (University of Glasgow, United Kingdom)

6. Scattering for Singly Curved Functional Surfaces and Corresponding Planar Designs
Daniel Sjöberg (Lund University, Sweden)

8. Design of a Stacked Stub-Loaded Patch Element for X-band Reflectarray Antenna with True Time Delay
Arash Sarshar (Ferdowsi University of Mashhad & Communication and Computer Research Center, Iran); Amir Etbaeitabari (KTH Royal Institute of Technology, Sweden)

9. A Bowl-Shaped Beam Reflectarray Antenna for Satellite Communication

Thu_Wall4: Antennas for space
Room: See exhibition hall map

Thursday, April 11

Seyed Mostafa Mousavi Roknabadi (K. N. Toosi University of tech., Iran); Abdullah Mirtaheri (K. N. Toosi University, Iran); Mohsen Kaboli (K. N. Toosi University of Technology, Iran)

10. Withdraw

11. Study of Different Dual-Reflectarray Antenna Configurations for Beam-Scanning Applications
Carolina Tienda (German Aerospace Center, Germany); Jose A. Encinar (Universidad Politecnica de Madrid, Spain); Manuel Arrebola (Universidad de Oviedo, Spain)

12. Bifocal Reflector Antenna Design Procedure for Wide-Angle Multi-Beam Applications
Andrey Plastikov (National Research University Moscow Power Engineering Institute, Russia); Boris Kogan (National Research University Moscow Power Engineering Institute, Russia)

13. Double Resonance Transition From Rectangular Waveguide to Substrate Integrated Waveguide
Rafał Głogowski (Instituto Superior Tecnico/Ecole Polytechnique Federale de Lausanne, Switzerland); Jean-François Zürcher (EPFL, Switzerland); Custodio Peixeiro (IST-TUL, Portugal); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

14. Efficient Simulation of Radiometric Noise in Offset Gregorian Antenna Systems
Dirk de Villiers (Stellenbosch University, South Africa); Robert Lehmensiek (EMSS Antennas (Pty) Ltd & Cape Peninsula University of Technology, South Africa)

14:00 - 16:50 Room: See exhibition hall map

1. A Dual Polarised Slotted Waveguide Antenna for Satellite Based Wind Scatterometer Instruments
Per Magnusson (Ruag Space Sweden, Sweden); Manuela Di Salvo (Thales Alenia Space Rome, Italy); Claudio Scarchilli (Thales Alenia Space Italia, Italy)

2. Analysis of Partially Dielectric-Filled Rectangular Waveguide with Transverse Slots Using Green's Function Method
Renat Abdullin (Ural Federal University, Russia); Sergey Knyazev (Ural Federal University, Russia); Lubov Lesnaya (Ural Federal University, Russia); Sergey Shabunin (Ural Federal University, Russia)

3. Space GNSS Antennas
Johan Wettergren (RUAG Aerospace Sweden, Sweden); Mikael Öhgren (RUAG Space AB, Sweden)

4. Nonlinear Modeling of PMSE Receiver Frontends Using Volterra Series
Jan Barowski (Ruhr-University of Bochum, Germany); Sven Dortmund (Ruhr-Universität Bochum, Germany); Sebastian Sczyslo (Ruhr-Universität Bochum, Germany); Ilona Rolfes (Ruhr-Universität Bochum, Germany)

5. Height Reduction Using Mutual Coupling for the Multimode Horn Phased Array
Ailian Cai (University of Surrey, United Kingdom); C Underwood (University of Surrey, United Kingdom); Martin N Sweeting (University of Surrey, United Kingdom)

6. New Antenna Measurement Technologies Used to RATAN-600 Radio Telescope
Vladimir Khaikin (2Special Astrophysical Observatory of the Russian Academy of Science, Russia); Nikolai Bursov (The Special Astrophysical Observatory of RAS, Russia); Dmitry Vikoruk (JSC Neva Technology, Russia); Michael Druzhinin (JSC Neva Technology, Russia); Sergej Yakovlev (JSC Neva Technology, Russia); Vyacheslav Yakunin (JSC Neva Technology, Russia); Andrei Kornev (JSC SSTC, Russia)

7. A High Precision Holographic Phaseless Near-Field Method

Thu_Wall5: Antennas and measurements for space

Zhiping Li (Beihang University, P.R. China); Zhengpeng Wang (Beihang University, P.R. China); Jianhua Wu (Beihang University, P.R. China)

8. A Comparision Between Different Evolutionary Algorithms for Pattern Synthesis of Multi-Feed Reflector Antenna
Atieh Talebzadeh (Amirkabir University of Technology, Iran); Michael R Inggs (University Cape Town & Centre for High Performance Computing, South Africa); Ali Foudazi (University Cape Town & Iran Telecommunication Research Center, South Africa)

9. An Electronically Controlled Polarization Generator At Ka-band
Steven R Nichols (MI Technologies, USA)

10. Radar Target Identification by Histogram Analysis of Resonant Frequencies
Chad Hargrave (CSIRO, Australia); Amin M Abbosh (The University of Queensland, Australia); Nick Shuley (University of Queensland, Australia); Vaughan Clarkson (The University of Queensland, Australia)

11. Investigating the Influence of Rotating Steel Platform in the RCS Measurement of Vehicles At 22-26 GHz for Automotive Radar Application
Pengfei Chen (European University of Bretagne & Renault S.A.S, France); Stéphane Méric (Institut of Electronic and Telecommunications of Rennes, France); Raed El-Makhour (Renault, France); Olivier Lafond (IETR, France); Mohamed Himdi (Université de Rennes 1, France)

12.. Withdrawn

13. A Review of Recent Antenna Developments At MDA
Eric Amyotte (MDA, Canada); Yves Demers (MDA Corporation, Canada); Michel Forest (MDA, Canada); Louis Hildebrand (MDA, Canada); Sylvain Richard (MDA Corporation, Canada)

14:00 - 16:50 **ments for no specific application**
Room: See exhibition hall map

1. Numerical Study on the Critical Detection of Subsurface Dielectric Scatterers with GPR Systems
Alessandro Galli (Sapienza University of Rome, Italy); Davide Comite (Sapienza University of Rome, Italy); Guido Valerio (Université de Rennes 1, France); Elena Pettinelli (Roma Tre University, Italy)

2. Occurrense of GPS Phase Fluctuations in the High Latitude Ionosphere
Irk Shagimuratov (IZMIRAN, Russia); Iurii Cherniak (WD IZMIRAN, Russia); Ivan Ephishov (IZMIRAN, Russia); Nadezda Tepenitsyna (IZMIRAN, Russia); Luiza Koltunenko (IZMIRAN, Russia)

3. Unveiling the Mode Structure of Terahertz Oversized Electrically-thin-AgI-lined Cylindrical Waveguides Via Near-field Time-Domain Microscopy
Miguel Navarro-Cía (Imperial College London, United Kingdom); Carlos Bledt (Rutgers University, USA); Miriam Vitiello (CNR-Istituto Nanoscienze and Scuola Normale Superiore, Italy); Harvey Beere (University of Cambridge, United Kingdom); Dave Ritchie (University of Cambridge, United Kingdom); James Harrington (Rutgers University, USA); Oleg Mitrofanov (University College London, United Kingdom)

4. Dielectric Properties Measurement of Carbon Nanotubes on Dielectric Rod Waveguide
Irina Nefedova, Dmitri Lioubtchenko (Aalto University School of Electrical Engineering, Finland); Vladimir Parshin (The Institute of Applied Physics of the Russian Academy of Sciences, Russia); Ilya Anoshkin, Antti V. Räisänen (Aalto University, Finland)

5. Measurement for TV Digital in Amazon City
Miércio Cardoso de Alcântara Neto, Hélio Ferreira, Fabrício Barros (Universidade Federal do Pará, Brazil); Pedro Gonzalez, Michele Almeida, Wellington Pereira (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil)

Thu_Wall6: Propagation and measure-

6. Spectrum Occupancy Modeling on the 450

Thursday, April 11

MHz Band for Cognitive Radio Application
Angelo Canavitsas, Eng. (Pontificia Universidade Catolica - Rio de Janeiro & PETROBRAS, Brazil); Luiz A R da Silva Mello (PUC/RIO & Inmetro, Brazil); Marco Antonio Grivet Mattoso Maia (Pontifical Catholic University of Rio de Janeiro, Brazil)

7. Comparison of Different Methodologies for the Computation of Ground Conductivity in Brazil
Marcio Rodrigues (Federal University of Rio Grande do Norte - UFRN, Brazil); Antonio Luiz Pereira de Siqueira Campos, Diego Medeiros, Arthur Henrique Leão (Universidade Federal do Rio Grande do Norte, Brazil)

8. 9-year Hydrometeors Intensity Distributions in Prague
Vaclav Kvicera, Martin Grabner (Czech Metrology Institute, Czech Republic)

9. Measurement Based NVIS Channel Model in the Medium Wave Band
David Guerra (University of the Basque Country, Spain); Miguel Coleto Muñoz, Luis Melgar García (Radio Nacional de España, RNE, Spain); Unai Gil, Iván Peña, Gorka Prieto, Itziar Angulo (University of the Basque Country, Spain)

10. An Improved Vector Fitting Approach for Obtaining a Novel Impulse Response for a Diffraction on a Dielectric Convex Obstacle
Piotr Górniak, Wojciech Bandurski (Poznań University of Technology, Poland)

11. Laboratory Proofs on the NF-FF Transformation with Spherical Spiral Scanning Optimized for Quasi-planar Antennas
Francesco D'Agostino, Flaminio Ferrara, Claudio Gennarelli, Rocco Guerriero, Massimo Migliozzi (University of Salerno, Italy)

12. The Measurement of Antenna Group Delay
Philip Miller (UK, National Physical Laboratory, United Kingdom)

13. Capacity of MIMO Propagation Indoor Channel
Nadine Malhouroux (France Telecom Research & Development, France); Patrice Pajusco (TELECOM Bretagne, France)

Thu_Wall7: Fundamental research on

14:00 - 16:50 antennas and propagation
Room: See exhibition hall map

1. New Modules and Features Introduced in NEWFASANT
Javier Moreno (University of Alcala, Spain); Carlos Delgado (Alcala University, Spain); Eliseo García (Alcala University, Spain); Lorena Lozano (University of Alcala, Spain); Ivan Gonzalez (Universidad de Alcala, Spain); Gabriel Caballero Tena (Alcala University, Spain); Felipe Cátedra (University of Alcala, Spain)

2. Causality of Diamagnetic Materials
Arthur D Yaghjian (Research Consultant, USA); Andrea Alù (The University of Texas at Austin, USA); Mario Silveirinha (Universidade de Coimbra - Instituto de Telecomunicações, Portugal)

3. Electromagnetic Inverse Scattering Based on Null Subspace Reconstruction Using Sequential Quadratic Programming
Hamidreza Siampour Ashkavandi (Isfahan University of Technology, Iran); Abolghasem Zeidaabadi Nezhad (Isfahan University of Technology, Iran)

4. Study of Transitions for the Single-Wire Waveguide At THz Frequencies
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); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain)

5. TeraHertz Photonic Band-Gap Devices: Analysis and Design Via Low-Rank Kernel
Theodoros Kaifas (Aristotle University of Thessaloniki, Greece); Fanourios Fakoukakis (Democritus University of Thrace, Microwaves Lab Xanthi, Greece); George Kyriacou (Democritus University of Thrace, Greece)

6. Left Handed MM-wave Magnetically Tuned Antenna on Ferrite Substrate
Gheorghe Ioan Sajin (National Institute for Research and Development in Microtechnologies, IMT Bucharest, Romania); Iulia Mocanu (Politechnica University Bucharest, Romania); Florea Craciunoiu (IMT Bucharest, Romania)

7. Systematic Synthesis of Uniform and

Non-uniform Reflectarrays Using Optimization
Jana Álvarez (University of Oviedo, Spain); Manuel Arrebola (Universidad de Oviedo, Spain); Rafael Ayestarán (University of Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

8. Synthesis of Reflectarrays with Mutual Couplings - Fast Electromagnetic Studies with Databases
Cyrille Menudier (XLIM - UMR CNRS 6172 - University of Limoges & Antenna and Associated Waves Dept, France); Marc Thevenot, Yasser Abdallah, Thierry Monediere (XLIM-UMR 6172-CNRS, University of Limoges, France)

9. Modeling of Reflectarray Elements by Means of MetaPSO-based Artificial Neural Network
Ho Linh (Politecnico di Milano, Italy); Marco Mussetta (Politecnico di Milano & Politecnico di Torino, Italy); Paola Pirinoli (Politecnico di Torino, Italy); Riccardo Enrico Zich (Politecnico di Milano, Italy)

10. On Enhancing the Field in the Vicinity of a Metamaterial Wedge with Use of an Auxiliary Dielectric Tip
Constantinos A Valagiannopoulos (Aalto University, Finland); Ari Sihvola (Aalto University of Science and Technology, Finland)

11. Theory and Simulations of a Beam-Scanning Plasma Antenna
Asma Kallel (Université Paul Sabatier-CNRS-LAPLACE, France); Jerome Sokoloff (University Paul Sabatier of Toulouse, France); Thierry Callegari (Université de Toulouse - UPS INPT CNRS, France)

12. Input Impedance of Electrically Small Dipole in the Presence of Bottom Half-space
Dmitriy Penkin, Alexander Yarovoy, Gerard J.M. Janssen (Delft University of Technology, The Netherlands)

13. Stochastic Techniques for Antennas Statistics in Uncertain Electromagnetic Environments
Sebastien Lalléchère (Clermont University, France); Laurent Patier (CNES, France); Pierre Bonnet (Blaise Pascal University, France); Françoise Paladian (Blaise Pascal University, France)

14. Efficient Integral Equation Characterization of Substrate Integrated Waveguide Components
Thomas Vaupel (Fraunhofer FHR, Germany)

15. Improving Series Convergency in Analysis of Conformal Antennas
Zvonimir Sipus (University of Zagreb, Croatia); Marko Bosiljevac (University of Zagreb, Croatia)

16. Equivalent Circuits of Compact Monopole Arrays Based on Scattering Parameters
Kun Wang, Li Li, Thomas F. Eibert, Sakineh Tooni (Technical University of Munich & Iran University of Science and Technology, Germany)

17. The Hi Monopole Model for Applications in the Brazilian System of Digital TV
Miércio Cardoso de Alcântara Neto (Federal University of Pará & Telecommunications and Computing Laboratory, Brazil); Hélio Ferreira (Universidade Federal do Pará, Brazil); Gervásio Cavalcante (UFPA, Brazil); Fabrício Barros (Universidade Federal do Pará, Brazil); Karlo Costa (Federal University of Para, Brazil)

18. Introducing a Novel Defected Ground Structure for Microstrip Applications
Yusef Hajilou, Hamid Reza Hassani, Bahman Rahmati (Shahed University, Iran)

19. A Simple Harmonic Reduction Technique in Inset-fed Microstrip Patch Antennas
Pooja Prakash, Mahesh Abegaonkar, Ananjan Basu, Shiban K Koul (Indian Institute of Technology Delhi, India)

20. ASYTRAIN: a New Methodology for Teaching and Learning Antennas
Jose Luis Besada, Leandro de Haro, Belen Galocha (Universidad Politecnica de Madrid, Spain); Jose Luis Besada (Antenna System Solution (ASYSOL), Germany); Miguel Salas Natera (Antenna System Solutions, Spain)

IL4.1: Invited speaker 7

Thursday, April 11

15:00 - 16:20 Room: G1
Chairs: Makoto Ando (Tokyo Institute of Technology, Japan), Ahmed Kishk (Concordia University, Canada)

15:00 Metamaterial Surfaces for Near and Far-Field Applications
Anthony Grbic (University of Michigan, Ann Arbor, USA); Gurkan Gok (University of Michigan, USA); Mohammadreza Imani (University of Michigan, USA); Amit Patel (University of Michigan, USA); Carl Pfeiffer (University of Michigan, USA); Mauro Ettorre (University of Rennes 1 & UMR CNRS 6164, France)

15:40 Natural and Metamaterial Low-profile Antennas with Emphasis on Realization of Wideband Characteristics
Hisamatsu Nakano (Hosei University, Japan)

15:00 - 16:20 Chairs: Jan Carlsson (SP Technical Research Institute of Sweden, Sweden), Marta Martínez-Vázquez (IMST GmbH, Germany)

15:00 Implantable Antennas: The Challenge of Efficiency
Anja K. Skrivervik (EPFL, Switzerland)

15:40 Antenna Tuners for Mobile Applications
Kevin Boyle (EPCOS, United Kingdom); Theo Bakker (EPCOS, The Netherlands); Shunya Sato (EPCOS, The Netherlands); Erwin Spits (EPCOS, The Netherlands); Maurice de Jongh (Epcos, The Netherlands); Andre van Bezooijen (EPCOS, The Netherlands)

IL4.2: Invited speaker 8
Room: G2

CA10: Non-uniform array antennas
Room: E1

09:00 - 12:50 Chairs: Ioan E. Lager (Delft University of Technology, The Netherlands), Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy)

09:00 Withdrawn

09:20 Synthesis of Uniform Amplitude Focused Beam Arrays
Benjamin Fuchs (University of Rennes 1 - IETR, France); Anja K. Skrivervik (EPFL, Switzerland); Juan R Mosig (Ecole Polytechnique Federale de Lausanne, Switzerland)

09:40 Inter-Chip Wireless Communication
Hsin-Ta Wu (Richwave Technology Corporation, Taiwan); Jau-Jr Lin (Dept. of EE, National Changhua University of Education, Taiwan); Kenneth O (The University of Texas at Dallas, USA)

10:00 A Hybrid Deterministic/Metaheuristic Synthesis Technique for Non-Uniformly Spaced Linear Printed Antenna Arrays
Carolina Vigano (JAST SA, Switzerland); Giovanni Toso (European Space Agency, The Netherlands); Diego Caratelli (Delft University of Technology, The Netherlands)

10:20 A Combined Deterministic and Stochastic Approach for the Design of Non-Uniform Arrays
Theodoros Kaifas (Aristotle University of Thessaloniki, Greece); Dimitrios G. Babas (Aristotle University of Thessaloniki, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

COFFEE BREAK

11:30 Analytically-Designed Planar Aperiodic Arrays in the Presence of Mutual Coupling
Marco Salucci (ELEDIA Research Center, Italy); David González-Ovejero (Università degli Studi di Siena, Italy); Giacomo Oliveri (University of Trento & ELEDIA Research Center, Italy); Andrea Massa (University of Trento, Italy); Christophe Craeye (Université Catholique de Louvain, Belgium)

11:50 Phased Array Integrated with Frequency Selective Surfaces for Angular Filtering
Darwin Blanco (University Carlos III of Madrid, Spain); Nuria LLombart (Delft University of Technology, The Netherlands); Eva Rajo-Iglesias (University Carlos III of Madrid, Spain); Stefano Maci (University of Siena, Italy)

12:10 Recent Advances in the Optimal Synthesis of Multibeam Satellite Antennas
Andrea Francesco Morabito (University Mediterranea of Reggio Calabria, Italy); Tommaso Isernia (University of Reggio Calabria, Italy); Antonia Rita Laganà (University of Reggio Calabria, Italy); Loreto Di Donato (University of Reggio Calabria, Italy); Ovidio Mario Bucci (University of Naples, Italy)

12:30 Fast Analysis and Database Generation in Aperiodic Reflectarrays
Amedeo Capozzoli (Università di Napoli Federico II, Italy); Claudio Curcio (Università di Napoli Federico II, Italy); Angelo Liseno (Università di Napoli Federico II, Italy); Marzia Migliorelli (Space Engineering S.p.A, Italy); Giovanni Toso (European Space Agency, The Netherlands)

CP2: Trans Ionosphere Propagation
Room: E2

Friday, April 12

09:00 - 12:50 Chairs: Bertram Arbesser-Rastburg (ESA - Estec, The Netherlands), Yannick Béniguel (IEEA, France)

09:00 Trans-ionospheric Ray Tracing by Means of a Direct Approach to Fermat's Principle
Christopher Coleman (University of Adelaide, Australia)

09:20 The Effect of Ionospheric Scintillation on Phase Gradient Autofocus Processing of Synthetic Aperture Radar
Dennis Knepp (NorthWest Research Associates, USA); Keith Groves (Air Force Research Laboratory, USA)

09:40 Physical and Statistical Analysis of Clustered Multipath Radio Channel Data
Susana Mota (University of Aveiro & Institute of Telecommunications, Portugal); Armando C Rocha (University of Aveiro & Institute of Telecommunications, Portugal); Fernando Pérez-Fontán (University of Vigo, Spain)

10:00 TUB Software Tools for Monitoring Ionospheric Irregularities in a Single Station Mode and First Results
Marija Cokrlic (Technishe Universitat Berlin, Germany); Roman Galas (Technishe Universitat Berlin, Germany)

10:20 Solar EUV Flux Rate Estimation During Mid and Strong Flares From the Ionospheric Electron Content Response Signature in GNSS Observations
Manuel Hernández Pajares (gAGE/UPC, Spain); Alberto Garcia-Rigo (gAGE/UPC, Spain); José Miguel Juan Zornoza (gAGE/UPC, Spain); Jaume Sanz (gAGE/UPC, Spain); Enric Monte (TSC / UPC, Spain); Angela Aragon Angel (Technical University of Catalonia, Spain)

COFFEE BREAK

11:10 Comparison of 4 Methods for Transionospheric Scintillation Evaluation
Hal J Strangeways (University of Newcastle & University of Leeds, United Kingdom); Nikolay Zernov (University of St. Petersburg, Russia); Vadim Gherm (University of St. Petersburg, Russia)

11:30 Faraday Rotation Correction for the ESA BIOMASS P-band Synthetic Aperture Radar
Neil C Rogers (University of Sheffield, United Kingdom); Shaun Quegan (University of Sheffield, United Kingdom)

11:50 Propagation Errors and Scintillation on Trans - Ionospheric Links
Yannick Béniguel (IEEA, France)

12:10 Ionospheric Perturbations and Their Impact on GNSS Investigated by DLRs High-Rate Receiver Chain
Nikolai Hlubek (German Aerospace Center (DLR), Germany); Volker Wilken (German Aerospace Center, Germany); Stefan Gewies (German Aerospace Center, Germany); Mogese Wassaie (Bahir Dar University, Ethiopia); Baylie Damtie (Bahir Dar University, Ethiopia); Norbert Jakowski (German Aerospace Center, Germany)

12:30 Multiple Bounces Ionospheric Links for Earth-Satellite Communications in the HF Band
Frederic Lacoste (CNES, France); Vincent Fabbro (ONERA, France); Rolland Fleury (Telecom Bretagne, France); Joel Lemorton (ONERA, France); Patrick Lassudrie-duchesne (Telecom Bretagne, France); Kevin Decneudt (CNES, France); Françoise Carvalho (CNES, France); Eric Peragin (CNES, France)

CA16: NATO- Metamaterials for Defense and Security Applications
Room: E3
Chairs: Andrzej A. Kucharski (Wroclaw Uni-

09:00 - 12:50

versity of Technology, Poland), Ekmel Ozbay (Nanotam; Bilkent University, Turkey)

09:00 Real-World Design of Thin Absorbers for RCS Reduction of Arbitrarily Shaped Radar Targets Over A Wide Band and for Arbitrary Incident Angles and Polarization Using the Concepts of Transformation Optics
Raj Mittra (Penn State University, USA); Yuda Zhou (EMC Laboratory, The Pennsylvania State University, USA)

09:20 Chiral Metamaterials: From Negative Index to Asymmetric Transmission
Ekmel Ozbay (Nanotechnology Research Center & Bilkent University, Turkey)

09:40 Various Types of Homogenization for Metamaterials
Giovanni Maria Sardi (University of Siena, Italy); Enrica Martini (University of Siena, Italy); Stefano Maci (University of Siena, Italy)

10:00 Modeling and Simulation of Electromagnetic Scattering From Electrically Large Bodies Coated with CLS-based Metamaterial Absorbers
Andrey Osipov (German Aerospace Center (DLR), Germany); Ali E Culhaoglu (German Aerospace Center (DLR), Germany); Erich Kemptner (German Aerospace Center (DLR), Germany)

10:20 Infrared Core-shell-based Metamaterials to Control Thermal Emissions
Sawyer D. Campbell (University of Arizona, USA); Richard W. Ziolkowski (University of Arizona, USA)

COFFEE BREAK

11:10 Planar EBG Technology Chessboard Configuration to Reduce RCS in W Band
Ramon Gonzalo (Public University of Navarra, Spain); Amagoia Tellechea (Public University of Navarra, Spain); JuanCarlos Iriarte (Public University of Navarra, Spain); Iñigo Ederra (Universidad Publica de Navarra, Spain)

11:30 Numerical Simulation of Tensorial Impedance Metasurfaces
Matteo Alessandro Francavilla (Istituto Superiore Mario Boella, Italy); Enrica Martini (University of Siena, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Stefano Maci (University of Siena, Italy); Giuseppe Vecchi (Politecnico di Torino, Italy)

11:50 Performance of Spiral Antenna Over Broadband Uniform-Height Progressive EBG Surface
Sandeep Palreddy (Microwave Engineering Corporation, USA); Amir Zaghloul (Virginia Polytechnic Institute and State University, USA); Steven Weiss (US Army Research Lab, USA)

12:10 Using Metamaterials to Exploit Lateral Waves for RF Microwave Applications
Steven Weiss (Army Research Lab, USA)

12:30 Active, Nonlinear, and Anisotropic Artificial Impedance Surfaces
Dan Sievenpiper (University of California, San Diego, USA)

A14: Multiband and wideband antennas

Room: G1

Chairs: Werner Wiesbeck (Karlsruhe Institute

Friday, April 12

09:00 - 12:50

of Technology, Germany), Ahmed Kishk (Concordia University, Canada)

09:00 Improving Handset Antenna Performance by Wideband Matching Optimization
Anu Lehtovuori (Aalto University & School of Electrical Engineering, Finland); Risto Valkonen (Aalto University, Finland); Martti Valtonen (Aalto University, Finland)

09:20 A Compact Shorted Printed Monopole Antenna for TV White Space Trials
Matthias John (Trinity College Dublin & Dublin Institute of Technology, Ireland); Max James Ammann (Dublin Institute of Technology, Ireland)

09:40 Solar Cell Stacked Modified Z-Double L-Slot Quad-Band PIFA
Okan Yurduseven (Northumbria University, United Kingdom); David Smith (Northumbria University, United Kingdom); Nicola Pearsall (Northumbria University, United Kingdom)

10:00 Wide Band Suspended Plate Antenna with High Power Efficiency for Green Communications
Lingjian Li (University of Bristol, United Kingdom); Dominique L Paul (University of Bristol, United Kingdom); Geoffrey Hilton (University of Bristol, United Kingdom)

10:20 The Double-Sided 4-Port Bow-Tie Antenna:A New Compact Wideband MIMO Antenna
Ali Al-Rawi (Chalmers University of Technology, Sweden); Jian Yang (Chalmers University of Technology, Sweden); Charlie Orlenius (Bluetest AB, Sweden); Magnus Franzén (Bluetest AB, Sweden)

COFFEE BREAK

11:10 Dual-feed, Single-CCE Antenna Facilitating Inter-Band Carrier Aggregation in LTE-A Handsets
Risto Valkonen (Aalto University, Finland); Anu Lehtovuori (Aalto University & School of Electrical Engineering, Finland); Clemens Icheln (Aalto University & SMARAD CoE, Finland)

11:30 A GSM-900 MHz and WiFi-2.45 GHz Dual-Polarized, Dual-Frequency Antenna Dedicated to RF Energy Harvesting Applications
Walid Haboubi (Marne-la-Vallée University, France); Hakim Takhedmit (Université de Paris-Est Marne-la-Vallée, France); Odile Picon (Université Paris-Est Marne-la-Vallée, France); Laurent Cirio (Université de Paris-Est Marne-la-Vallée, France)

11:50 Design of a Cavity Backed Spiral Antenna with Improved Pattern Symmetry
Sarah Mohamad (Queen's University Belfast, United Kingdom); Robert Cahill (Queen's University Belfast, United Kingdom); Vincent Fusco (Queen's University Belfast, United Kingdom)

12:10 UHF-UWB Tag Antenna for Passive RFID Applications
Mélusine Pigeon (CEA-LETI, France); Raffaele D'Errico (CEA, LETI, Minatec Campus, France); Christophe Delaveaud (CEA-LETI, France)

12:30 A Dipole-Fed Multi-Polarization Spiral Antenna Including a Coaxial Feeding Element
Mayumi Matsunaga (Ehime University, Japan)

A25: Antenna interactions and coupling

Room: G2

Chairs:Michael Jensen (Brigham Young University, USA), Zbynek Raida (Brno University of

Technology, Czech Republic)

09:00 - 10:40

09:00 Design, Optimization and Characterization of a Superdirective Antenna Array
Jose Lugo (Technicolor, France); Juliana de Almeida Goes (Technicolor, France); Ali Louzir (Technicolor, France); Philippe Minard (Technicolor, France); Dominique Lo Hine Tong (Technicolor, Germany); Christian Person (Lab-STICC/MOM UMR CNRS, France)

09:20 A New Perspective for Decoupling Closely Spaced Polarized Antennas
Osama Alrabadi (AAU, Denmark); Jorgen Andersen (APNET, Denmark)

09:40 Shifting the Paradigm of Duplex Filter Designs with Spatial Duplexing
Osama Alrabadi (AAU, Denmark); Alexandru Tatomirescu (Aalborg University, Denmark); Mauro Pelosi (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

10:00 A Simple Method to Estimate the Antenna Efficiency Over a Lossy Medium
Thierry Alves (University of Paris-Est Marne-la-Vallée, France); Jean-Marc Laheurte (Université de Paris Est Marne La Vallée (UPEMLV), France); Benoit Poussot (Université Paris-Est, France)

10:20 Body-loss for Popular Thin Smart Phones
Alexandru Tatomirescu (Aalborg University, Denmark); Gert Pedersen (Aalborg University, Denmark)

COFFEE BREAK

(Durham University, United Kingdom)

11:10 - 12:50

11:10 Comparative Evaluation of Macrocellular and In-Building Wireless Coverage Performance At 700 and 2500 MHz
Yvo de Jong (Communications Research Centre Canada, Canada); David V. Rogers (Communications Research Centre Canada & CRC, Canada)

11:30 Impact of Realistic Indoor Mobility Modelling in the Context of Propagation Modelling on the User and Network Experience
Dennis M. Rose (Technische Universität Braunschweig, Germany); Thomas Jansen (Technische Universität Braunschweig, Germany); Sören Hahn (Technische Universität Braunschweig & Institut für Nachrichtentechnik, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

11:50 On the Use of OpenStreetMap Data for V2X Channel Modeling in Urban Scenarios
Jörg Nuckelt (Technische Universität Braunschweig, Germany); Dennis M. Rose (Technische Universität Braunschweig, Germany); Thomas Jansen (Technische Universität Braunschweig, Germany); Thomas Kürner (Technische Universität Braunschweig, Germany)

12:10 Indoor and Outdoor Coverage Measurements Up to 6 GHz
Sana Salous (Durham University, United Kingdom)

12:30 Advanced Topics in Accurate Propagation Modelling for Heterogeneous Wireless Network Planning
Yves Lostanlen (SIRADEL & University of Toronto, Canada)

CP3: Propagation aspects of wireless networks design & optimization (IC 1004)
Room: G2
Chairs: Dennis M. Rose (Technische Universität Braunschweig, Germany), Sana Salous

A19: Slotted, guided wave and leaky wave antennas
Room: J1
Chairs: Jiro Hirokawa (Tokyo Institute of Technology, Japan), Joakim Johansson (RUAG Space AB, Sweden)

Friday, April 12

09:00 - 09:00 12:30 Dual-operating Band and High-Gain Planar Horn Antenna At E-Band
Unai Beaskoetxea (Universidad Pública de Navarra (UPNA), Spain); Miguel Beruete (Universidad Publica de Navarra, Spain); Mario Sorolla (Universidad Publica de Navarra, Spain)

09:20 Low Profile Metallic Self-Polarizing Fabry-Perot Cavity Antenna
Shoaib Muhammad (Université de Rennes1, France); Ronan Sauleau (University of Rennes 1, France); Hervé Legay (Thalès Alenia Space, France)

09:40 Short Horn Antenna Fed by Two Waveguides
Oren Dabah (Elta, Israel); Haim Matzner (HIT-Holon Institute of Technology, Israel); Ely Levine (AFEKA, Academic College of Engineering, Israel)

10:00 Conjugate-Matched Metasurface Antennas for Space Applications
Gabriele Minatti (European Space Agency, The Netherlands); Patrizio De Vita (IDS Ingegneria Dei Sistemi, Italy); Marco Sabbadini (Esa Estec, The Netherlands); Stefano Maci (University of Siena, Italy)

COFFEE BREAK

11:10 Circular Polarized RLSA Optimization: a Physics Based Approach
Matteo Albani (University of Siena, Italy); Agnese Mazzinghi (University of Florence, Italy); Angelo Freni (University of Florence, Italy)

11:30 Investigation of the Performance of Antennas for Interference Detection in Aircraft
Rafael Rennó Nunes (German Aerospace Center (DLR), Germany); Jens Schüür (Technische Universität Braunschweig, Germany)

11:50 Rotman Lens with Ridge Gap Waveguide Technology for Millimeter Wave Applications
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)

12:10 A Wideband SIW-based Slot Array Antenna
Hojat Saeedi (Shahed University, Iran); Hamid Reza Hassani (Shahed University, Iran); Bahman Rahmati (Shahed University, Iran)

P8: Urban & indoors propagation
Room: J2
Chairs: John Sahalos (University of Nicosia, Cyprus), Koji Akita (Toshiba Corp, Japan)

09:00

09:00 12:30

Empirical Path-Loss Model in Train Car
Sam Aerts (Ghent University, Belgium); David Plets (IBBT-Ghent University, Belgium); Leen Verloock (IBBT - Ghent University, Belgium); Emmeric Tanghe (Ghent University, Belgium); Wout Joseph (Ghent University, Belgium); Luc Martens (Ghent University, Belgium)

09:20 Characterization of 60 GHz Proximity Desktop Channels with Electronic Device Chassis
Koji Akita (Toshiba Corp, Japan); Takayoshi Ito (Toshiba Corporation, Japan); Hideo Kasami (Toshiba Corporation, Japan)

09:40 Reconfigurable Antenna Terminals for Energy Efficient Routing and Propagation Path Optimization Applied to Mobile Ad Hoc Networks (MANETs)
Pablo Padilla (University of Granada, Spain); Juan F. Valenzuela-Valdés (Universidad de Extremadura, Spain)

10:00 Measurement of Window Blind Attenuation At 5-50 GHz
Pavel Valtr (Faculty of Electrical Engineering, Czech Technical University in Prague, Czech Republic); Pavel Pechac (Czech Technical University in Prague, Czech Republic); Tomas Korinek (Czech Technical University in Prague, Czech Republic); Ondrej Moravek (Czech Technical University in Prague & Faculty of Electrical Engineering, Czech Republic); Milan Prihoda (CTU in Prague, Faculty of Electrical Engineering, Czech Republic)

10:20 Optimal Artificial Neural Network Design for Propagation Path-Loss Prediction Using Adaptive Evolutionary Algorithms
Sotirios Sotiroudis (Aristotle University of Thessaloniki, Greece); Sotirios Goudos (Aristotle University of Thessaloniki, Greece); Konstantinos Gotsis (Aristotle University of Thessaloniki, Greece); Katherine Siakavara (Aristotle University, Greece); John Sahalos (Aristotle University of Thessaloniki, GR, Thessaloniki & University of Nicosia, CY, Nicosia, Greece)

11:10 Impact of the Microwave Oven Power Leakage on 802.15.4 Networks
Peio Lopez Iturri (Universidad Publica de Navarra, Spain); Juan Antonio Nazabal (Universidad Pública

COFFEE BREAK

Publica de Navarra, Spain); Carlos Fernandez (Universidad Publica de Navarra, Spain); Francisco Falcone (Universidad Publica de Navarra, Spain)

11:30 Ray-Tracing Urban Picocell 3D Propagation Statistics for LTE Heterogeneous Networks
Evangelos Mellios (University of Bristol, United Kingdom); Geoffrey Hilton (University of Bristol, United Kingdom); Andrew Nix (University of Bristol, United Kingdom)

11:50 Impulsive Noise Measurements in Indoor Locations in Medium Wave Band
Iratxe Landa (University of the Basque Country, Spain); Amaia Arrinda (University of the Basque Country, Spain); Manuel Velez (University of the Basque Country, Spain)

12:10 MIMO Channel Estimation for Secret Key Establishment
Britton Quist (Brigham Young University, USA); Michael Jensen (Brigham Young University, USA)

CA24: Novel Methods in Applied Computational Electromagnetics

Room: R22+R23
Chairs: Rob Maaskant (CHALMERS, Sweden), Raj Mittra (Penn State University, USA)

Friday, April 12

09:00

09:00 A Plane Wave Approximation in the Computation of Multiscattering Effects in Reflector Systems
12:30 Oleg Iupikov (Chalmers University of Technology, Sweden); Rob Maaskant (CHALMERS, Sweden); Marianna Ivashina (Chalmers University of Technology, Sweden)

09:20 Complex Patterns Devoted to Physical Compression of MoM Matrices
Christophe Craeye (Université Catholique de Louvain, Belgium); Enrica Martini (University of Siena, Italy); Stefano Maci (University of Siena, Italy); Nilufer Ozdemir (Universite Catholique de Louvain, Belgium)

09:40 A Dedicated Volumetric Method of Moments Implementation for Plasmonic Nano Topologies
Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium); Xuezhi Zheng (Katholieke Universiteit Leuven, Belgium)

10:00 Two-dimensional Domain-decomposition FDTD Method to Simulate Wave Scattering by Rough Surfaces
Zhi-Hong Lai (National Taiwan University, Taiwan); Jean-Fu Kiang (National Taiwan University, Taiwan); Raj Mittra (Penn State University, USA)

10:20 A Full-Wave Hybrid Method for the Fast Analysis of SIW-based Antennas
Massimiliano Casaletti (University of Rennes1, France); Guido Valerio (Université de Rennes 1, 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)

11:10 Numerical Issues in the Analysis of Large BoR

COFFEE BREAK

Francesco Caminita (University of Siena, Italy); Marco Faenzi (University of Siena, Italy); David González-Ovejero (Università degli Studi di Siena, Italy); Stefano Maci (University of Siena, Italy)

11:30 A Surface Integral Equation Discontinuous Galerkin Method for Electromagnetic Scattering Problems
Zhen Peng (ElectroScience Lab, The Ohio State University, USA); Jin-Fa Lee (Ohio State University, USA)

11:50 An Automatic H-refinement Scheme for Discontinuous Galerkin Integral Equations in the Analysis of Multi-Scale Structures
Jorge Tobon Vasquez (Politecnico di Torino, Italy); Francesca Vipiana (Politecnico di Torino, Italy); Zhen Peng (ElectroScience Lab, The Ohio State University, USA); Jin-Fa Lee (Ohio State University, USA); Giuseppe Vecchi (Politecnico di Torino, Italy)

12:10 Novel Technique for Speeding the Analysis of Electrically Large Electromagnetics Problems
Eliseo García (Alcala University, Spain); Carlos Delgado (Alcala University, Spain); Javier Moreno (University of Alcala, Spain); Ivan Gonzalez (Universidad de Alcala, Spain); María Fernández Villanueva (University of Alcala, Spain); Felipe Cátedra (University of Alcala, Spain)

A09: Imaging and inverse scattering

Room: R24+R25
Chairs: Giuseppe Di Massa (University of Calabria, Italy), Thomas Rylander (Chalmers University of Technology, Sweden)

09:00
09:00 Phaseless Imaging of Dielectric Scatterers - Preliminary Experimental Results
10:40 Sandra Costanzo, Antonio Borgia, Giuseppe Di Massa (University of Calabria, Italy); Matteo Pastorino, Andrea Randazzo (University of Genoa, Italy)

09:20 Development and Measurements of Ferroelectric Ceramic-Polymer Composites for Sub-THz Range
Konrad Godziszewski, Yevhen Yashchyshyn (Warsaw University of Technology & Institute of Radioelectronics, Poland); Emilia Pawlikowska (Warsaw University of Technology & Faculties of Chemistry, Poland); Ewa Bobryk, Mikołaj Szafran (Warsaw University of Technology, Poland)

09:40 Exact Solutions in Microwave Holography Validated by Measurements
George Cheng, Yong Zhu, Jan Grzesik (Allwave Corporation, USA)

10:00 Image Acquisition At W-band Using a Frequency Scanning Antenna Array
Belen Larumbe-Gonzalo, Asier Ibanez-Loinaz, Ainara Rebollo, Ramon Gonzalo, Jorge Teniente (Public University of Navarra, Spain)

10:20 Microwave Measurements for Metal Vessels
Livia Cerullo, Johan Nohlert, Johan Winges, Thomas Rylander, Tomas McKelvey (Chalmers University of Technology, Sweden); Lubomir Gradinrasky (AstraZeneca R&D, Sweden); Mats Viberg (Chalmers University of Technology, Sweden); Staffan Folestad (AstraZeneca R&D, Sweden)

11:10
11:10 Target Speed Estimation Using Revised Range Point Migration for Ultra Wideband Radar Imaging
12:30 Takuya Sakamoto (Delft University of Technology, The Netherlands); Toru Sato (Kyoto University, Japan); Pascal Aubry (IRCTR, The Netherlands); Alexander Yarovoy (Delft University of Technology, The Netherlands)

11:30 Microwave Phaseless Inverse Scattering Setup Based on Indirect Holography
Jaime Laviada (Universidad de Oviedo, Spain); Yuri Álvarez (Universidad de Oviedo, Spain); Ana Arboleya Arboleya (Universidad de Oviedo, Spain); Cebrián García (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

11:50 An Identification Method Using ESPRIT and PCA for Radar Targets in Resonance Region
Salih Poyraz (Yasar University, Turkey); Mustafa Secmen (Yasar University, Turkey)

12:10 Experimental Investigations of Accuracy Improvement and Limitations of a Free Space Measurement System
Alireza Ajami (RWTH Aachen & IHF, Germany); Taipark Akkara-Aketalin (KMUTNB University, Thailand); Hammam Shakhtour (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany)

COFFEE BREAK

M3: Measurement Imaging, Algorithms and Processing Techniques
Room: R24+R25
Chairs: Jaime Laviada (Universidad de Oviedo, Spain), Takuya Sakamoto (Delft University of Technology, The Netherlands)

A31: THz antennas
Room: R2
Chairs: Dirk Heberling (RWTH Aachen University, Germany), Andrea Neto (Delft University of Technology, The Netherlands)

Friday, April 12

09:00

09:00-12:30 Leaky-Wave Antenna on Planar Goubau Line At THz Frequencies
Daniel Sanchez-Escuderos (Universidad Politécnica de Valencia, Spain); Miguel Ferrando-Bataller (Universidad Politecnica De Valencia, Spain); Mariano Baquero-Escudero (Universidad Politécnica de Valencia, Spain); Antonio Berenguer (Universitat Politecnica de Valencia & Instituto de Telecomunicaciones y Aplicaciones Multimedia, Spain)

09:20 Input Impedance of Optical Metallic Nano Dipole Over 300 nm - 1200 nm Wavelength
Zhongkun Ma (Katholieke Universiteit Leuven, Belgium); Guy A. E. Vandenbosch (Katholieke Universiteit Leuven, Belgium)

09:40 Bifocal Reflector Antenna System for Radar Imaging At 300 GHz
Antonio García-Pino (University of Vigo, Spain); Borja Gonzalez-Valdes (University of Vigo, Spain); Beatriz Mencia-Oliva (Universidad Politecnica de Madrid & ETSI Telecomunicacion, Spain); Jesús Grajal (Universidad Politécnica de Madrid, Spain); Oscar Rubiños-López (University of Vigo, Spain); Jose Luis Besada (Universidad Politécnica de Madrid (Technical University of Madrid), Spain)

10:00 Quasioptical Time-Delay Multiplexing of a Linear Array for a Terahertz Imaging Radar
Nuria LLombart (Delft University of Technology, The Netherlands); Beatriz Blázquez (Delft University of Technology, The Netherlands)

10:20 Lens Coupled LEKIDs: Theoretical Characterization and Measurements
Beatriz Blázquez (Delft University of Technology, The Netherlands); Nuria LLombart (Delft University of Technology, The Netherlands); Andrea Neto (Delft University of Technology, The Netherlands)

11:10 On the Design of Nanoantennas with Surface Integral Equations

COFFEE BREAK

Luis Landesa (University of Extremadura, Spain); Fernando Obelleiro (University of Vigo, Spain); Oscar Rubiños-López (University of Vigo, Spain)

11:30 Electromagnetic Devices Based on Graphene and Carbon Nanotubes: a Numerical Approach
Mario F Pantoja (University of Granada, Spain); Salvador G. García (University of Granada, Spain); Hai Lin (Central China Normal University, Spain); Amelia Rubio Bretones (University of Granada, Spain); Rafael Gómez Martín (Universidad de Granada, Spain)

11:50 Power Received by a Focal Plane Array in a General Focalization System for THz Imaging
Andrea Neto (Delft University of Technology, The Netherlands); Angelo Freni (University of Florence, Italy); Nuria LLombart (Delft University of Technology, The Netherlands)

12:10 Design and Analysis of a Gate-Tunable Graphene-Based Nanoantenna
Stamatios A. Amanatiadis (Aristotle University of Thessaloniki, Greece); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki, Greece)

CM3: AMTA/EurAAP measurements/Antenna diagnostics and post processing

Room: R31
Chairs: Lars Jacob Foged (SATIMO, Italy), Sergey Pivnenko (Technical University of Denmark, Denmark)

09:00

09:00-12:50 Higher Order Mode Probes in Spherical Near-Field Measurements
Allen Newell (Nearfield Systems Inc., USA); Stuart Gregson (Nearfield Systems Inc. & Queen Mary, University of London, USA)

09:20 Phaseless Antenna Diagnosis Based on a Novel Antenna Measurement Setup
Jaime Laviada (Universidad de Oviedo, Spain); Yuri Álvarez (Universidad de Oviedo, Spain); Ana Arboleya Arboleya (Universidad de Oviedo, Spain); Cebrián García (Universidad de Oviedo, Spain); Fernando Las-Heras (Universidad de Oviedo, Spain)

09:40 Multi-Probe Measurement Technique for Echo Suppression in Near-field Measurements
Kazeem A. Yinusa (Technische Universität München, Germany); Thomas F. Eibert (Technische Universität München, Germany); Muhammad Ayyaz Qureshi (Technische Universität München, Germany)

10:00 A Reflection Suppression Technique for Far Field Antenna Measurements
Manuel Sierra-Castañer (Technical University of Madrid, Spain); Francisco José Cano (SATIMO, France); Lars Jacob Foged (SATIMO, Italy); Francesco Saccardi (SATIMO, Italy); Guilherme Nader Kawassaki (Instituto Nacional de Pesquisas Espaciais, Brazil); Lucas dos Reis Raimundi (Instituto Nacional de Pesquisas Espaciais, Brazil); Stefano Vilela Rezende (Instituto Nacional de Pesquisas Espaciais, Brazil)

10:20 Comparison of Echo Suppression Techniques in Near Field Antenna Measurement Applications
Lars Jacob Foged (SATIMO, Italy); Lucia Scialacqua (SATIMO, Italy); Francesco Saccardi (SATIMO, Italy); Francesca Mioc (Consultant, Switzerland); Per Iversen (Orbit/FR, USA); Lior Shmidov (Orbit/FR, USA); Roni Braun (Orbit/FR, USA); Javier Leonardo Araque Quijano (Universidad Nacional de Colombia & Politecnico di Torino, Colombia); Giuseppe Vecchi (Politecnico di Torino, Italy)

11:10 Advanced Diagnostics on Array Antennas From Reconstructed Equivalent Current Distribution
Lars Jacob Foged (SATIMO, Italy); Lucia Scialacqua

COFFEE BREAK

Francesca Mioc (Consultant, Switzerland); Javier Leonardo Araque Quijano (Universidad Nacional de Colombia & Politecnico di Torino, Colombia); Giuseppe Vecchi (Politecnico di Torino, Italy)

11:30 Diagnostics of the BIOMASS Feed Array Prototype
Cecilia Cappellin (TICRA, Denmark); Sergey Pivnenko (Technical University of Denmark, Denmark); Knud Pontoppidan (TICRA, Denmark); Erik Jørgensen (TICRA, Denmark); Peter Meincke (TICRA, Denmark)

11:50 Antenna Pattern Comparisons Used in NIST 18-Term Error Assessments on Numerous Near-field Ranges
Greg Hindman (Nearfield Systems Inc., USA); Stuart Gregson (Nearfield Systems Inc. & Queen Mary, University of London, USA); Allen Newell (Nearfield Systems Inc., USA)

12:10 Comparison of APC and Feed-APC Using Field Probing Measurements of the Quiet Zone
Marc Dirix (RWTH Aachen University, Germany); Thomas Dallmann (RWTH Aachen University, Germany); Dirk Heberling (RWTH Aachen University, Germany); Joerg Pamp (RWTH Aachen University, Germany)

12:30 Performance Evaluation of a Robotically Controlled Millimeter-Wave Near-Field Pattern Range At the NIST
David Novotny (National Institute of Standards and Technology, USA); Joshua Gordon (National Institute of Standards and Technology, USA); Jeffrey Guerrieri (National Institute of Standards and Technology, USA); Mike Francis (NIST, USA); Jason Coder (National Institute of Standards and Technology, USA)

ESoA-EuCAP student paper awards

Room: R21
Chairs: Stefano Maci (University of Siena, Italy), Anja K. Skrivervik (EPFL, Switzerland), Ross Stone (IEEE Antennas and Propagation Magazine, USA)

Friday, April 12

09:00 - 13:10 **Finalist of the ESoA-EuCAP student contest**

09:00 - 10:40: Five student finalists
10:40 - 11:10: Coffee break
11:10 - 12:50: Five more student finalists

14:00 - 17:30 Wrkshp1: The History of Antennas in Sweden

Room: E1

Chairs: Claes Beckman (KTH), Per Ingvarson (RUAG Space AB, Sweden), Carl-Henrik Walde (SNRV, Sweden), Per-Simon Kildal (Chalmers)

14:00 The Early Days of Radio in Sweden, Ernst F.W. Alexanderson and Grimeton Radio Station SAQ, UNESCO World Heritage
Joakim Johansson (RUAG Space AB, Sweden)

14:20 Swedish Radio Astronomy
Hans Olofsson (Chalmers University of Technology, Sweden)

14:40 The EISCAT Antenna Systems for Swedish and International Ground-Based Space Radio Science
Gudmund Wannberg (Wannberg Radarkonsult AB & Swedish Institute of Space Physics, Sweden)

15:00 Swedish Space Antenna Projects
Per Ingvarson (RUAG Space AB, Sweden); Jan Zackrisson (RUAG Aerospace Sweden, Sweden)

15:20 Radar Antenna R&D in Sweden
Lars Josefsson (Consultant, Sweden)

15:40 The Story of Allgon: HF, VHF, Cellular and Microwave Antennas During Allmost 60 Years
Claes Beckman (KTH Royal Institute of Technology, Sweden); Bo Karlsson (CellMax, Sweden)

16:00 The Industrial Story of the Hat-Fed Reflector Antenna for Global Microwave-Link Market - The 25 Years From Invention Via Comhat to Mass Production in Arkivator
Tomas Östling (Arkivator AB, Sweden)

COFFEE BREAK

16:50 A Short History of Reverberation Chambers for Over-the-Air Measurements: The Story of Bluetest From Crazy Idea to Commercial Success
Charlie Orlenius (Bluetest AB, Sweden)

17:10 Erik Hallén and His Integral Equation, Swe dish Defence Activities, Stealth Craft Smyge
Carl-Henrik Walde (SNRV, Sweden); Gunnar Petersson (KTH, Sweden)Friday, April 12

14:00 - 15:40 Wrkshp2: COST IC0802 Final Workshop

Room: E2

Chairs: Antonio Martellucci (European Space Agency, The Netherlands), Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium)

14:00 Modelling and Analysis of FSO Ground-to-Train Communications for Straight and Curved Tracks
Rupak Paudel (Northumbria University & Northumbria University, United Kingdom); Juraj Poliak (Brno University of Technology & Faculty of Electrical Engineering, Czech Republic); Zabih Ghassemlooy (Northumbria University, United Kingdom); Erich Leitgeb (TUG, Austria)

14:20 Channel Models for Aeronautical and Low Elevation Radio Links
Danielle Vanhoenacker-Janvier (Université catholique de Louvain, Belgium); Pierre Bouchard (Communications Research Centre Canada, Canada); Lars Erling Bråten (Norwegian Defence Research Establishment (FFI), Norway); Vincent Fabbro (ONERA, France); Charilaos Kourogiorgas (National Technical University of Athens, Greece); David V. Rogers (Communications Research Centre Canada & CRC, Canada)

14:40 Measurement and Estimation of Propagation Loss in Vegetation At Microwave Frequencies
Adesoye Adegoke (University of Leicester, United Kingdom)

15:00 Ionosphere Electron Density Models - Present Trend and Validation Issues
Sandro M. Radicella (International Centre for Theoretical Physics, Italy)

15:20 Electromagnetic Inverse Scattering Based on Null Space Reconstruction Using Sequential Quadratic Programming
Hamidreza Siampour Ashkavandi (Isfahan University of Technology, Iran); Abolghasem Zeidaabadi Nezhad (Isfahan University of Technology, Iran)

COFFEE BREAK

Workshops

CST Workshop on Advanced Antenna System Simulation

Workshop Room: **R24+25**
Date: **9 April**
Time: **14:00 – 15:00**

Simulation is well established as an essential part of the design of modern antenna systems. With its "Complete Technology" and "System Assembly and Modeling" approaches, CST offers state-of-the-art technology to simulate not only the electromagnetic properties, but also the full circuit and system behavior with incomparable speed and flexibility.

This workshop will consist of various application examples and live demonstrations. All aspects of the antenna design workflow will be discussed, from making the right choice of antenna type and its initial dimensioning, through choosing the optimal solver technology, to optimizing the antenna performance for a specific application. The design of feeding and matching circuits will be discussed, along with multiphysics effects, human exposure to fields, and finally the antenna placement in its environment. The range of antennas demonstrated will include small antennas as used in mobile communication (also in MIMO configuration), reconfigurable and conformal body wearable types, UWB, reflector antennas, and array antennas both large and small.

The workshop will conclude with a look at the new features of the upcoming version CST MICROWAVE STUDIO® 2013.

Speakers: Dr Tilmann Wittig and Dr Marc Rütschlin

EurAAP WG5 Meeting
Application of Numerical Techniques to the Solution of Practical Antenna Problems with FEKO

Meeting Room: **R22+23**
Date: **11 April**
Time: **15:30 – 17:00**

The EurAAP working group 5 on antenna measurements constitutes a framework for cooperation to advance research and development of antenna measurements in support of the ever-increasing use of wireless technology in modern society. You are cordially invited to the 2013 Annual EurAAP WG 5 meeting where the progress of the next tasks will be discussed:

- TASK 1 "**Recommendations for antenna Near and Far field measurement procedures**".
- TASK 2 "**Antenna Measurement Intercomparison**".
- TASK 3 "**Small Antenna Measurements**".

EMSS Workshop
Application of Numerical Techniques to the Solution of Practical Antenna Problems with FEKO

Workshop Room: **R22+23**
Date: **11 April**
Time: **14:00 – 15:00**
Dr. Markus Schick, Dipl.-Ing. Benian Chand, EM Software & Systems GmbH, Germany
Cost: The workshop is provided at no cost. If you are interested in participating, please send an email to events@emss.de or visit us directly at our booth on the EuCAP.

FEKO is a leading electromagnetic (EM) analysis software suite, based on multiple state of the art computational EM (CEM) techniques for solving a wide range of EM problems for a large variety of industries. It enables you to profit from its outstanding capabilities in numerical field computation with the combination of different methods like Method of Moments (MoM), Multi-Level Fast Multipole Method (MLFMM), Unified Theory of Diffraction (UTD), Physical Optics (PO), Geometrical Optics (GO) and Finite Element Method (FEM) within one software package.

The workshop will start with an overview about different numerical methods. Thereby the frequency based techniques in FEKO like MoM will be described (not going too much into mathematical details, but rather just a more illustrative description). A main part of the workshop illustrates the application of these methods to the solution of typical antenna problems such as antenna design or antenna placement. Different antenna applications will be given and also comparisons with measurements will be presented. Also extensions to the standard numerical methods will be demonstrated such as adaptive frequency interpolation techniques for the fast solution of broadband antenna problems or the coupling of different antennas or cables.

Workshops

AMTA WORKSHOP at EuCAP 2013 - High Power Electromagnetics

Workshop Room: **R31**
Date: **9 April**
Time: **13:30 – 15:30**
Co-Chairs: Dr. Vince Rodriguez, ETS-Lindgren, Cedar Park, Texas, Mr. Michael H. Francis, National Institute of Science and Technology (NIST), Boulder, Colorado

In recent years, there has been an increasing need for products and testing related to high power electromagnetics. This has impacted the military and aerospace RF and microwave communities. The need is driven by testing of high power active antenna systems, immunity and the effects of EM pulse, among others – the interest shows no signs of slowing down.

The AMTA workshop will provide an overview and discussion of high power electromagnetics in the international RF and microwave communities. One of the goals of the workshop is to educate attendees on the challenges of high power electromagnetics test and measurement and how to avoid potential problems and hazards at the higher frequencies. Antennas are a critical component for high power measurements; a novel design for an optimal antenna will be discussed. Methodologies used to measure the performance of microwave absorber at high frequencies will be reviewed. Concepts and measurement data for some absorbers will be presented along with some basic theory of absorber both through measurements and numerical modeling. Standards, simulators and test facilities will be reviewed to further educate attendees on the methodology behind and compliance with these high power measurements.

This workshop brings together a number of different viewpoints on high power electromagnetics in order to provide a well-rounded discussion of the topic.Speakers include a professor involved with high power R&D at a leading university, an absorber designer and manufacturer, and a member of the Federal Armed Forces Scientific Institute for Protective Technologies and NBC Protection who is an active contributor to the IEC and IEEE standards committees addressing high power electromagnetics.

Scheduled presentations:

Professor Yahya Rahmat-Samii, Distinguished Professor, holder of the Northrop Grumman Chair in Electromagnetics of the University of California, Los Angeles (UCLA) , USA
"Novel Optimized Septum Horn Design for HPM Applications: Concept, Optimization, and Performance Visualization"
Dr. Vince Rodriguez, Antenna Product Manager, ETS-Lindgren, Cedar Park, Texas, USA
"Important Considerations for Performance Measurements of RF/MW Absorber at High Power"
Dr. Frank Sabath, Head of the directorate on Balanced Nuclear Protection Measures and Nuclear Hardening, Electro-Magnetic Effects, Fire Protection, Bundeswehr Research Institute for Protective Technologies and NBC-Protection (WIS), Germany
"High Power Electromagnetic (HPEM) Simulators, Test Facilities and Standards"

Sunday		R22+23	R24+25	R2	R31	R21	R26
09:30	**13:00**	**SC**	**SC**	**SC**	**SC**	**SC**	**SC**
13:00	14:00	Lunch					
14:00	**18:00**	**SC**	**SC**	**SC**	**SC**	**SC**	**SC**

Full day courses

SC 1 Dielectric Resonator Antennas, Theory, Design and Applications with Recent Advancement

Course Lecturer Ahmed Kishk (Concordia University, Canada)

Time 9:30 – 18:00

SC 2 Multibeam Antennas and Beamforming Networks

Course Lecturer Piero Angeletti, Giovanni Toso (EUROPE AN SPACE AGENCY (ESA,The Netherlands)

Time 9:30 – 18:00

SC 3 The Art and Science of Antenna Near-Field Measurements and Diagnostics: From Fundamentals to Recent Developments (AMTA Short Course)

Course Lecturer Yahya Rahmat-Samii (University of California, Los Angeles)

Time 9:30 – 18:00

Short Courses

Half day courses

SC 1 State-of-the-Art in the Design of Electrically Small Antennas

Course Lecturer	Steven R. Best(MITRE, US)
Time	9:30 – 13:00

SC 2 Antennas in Cognitive Radio Applications

Course Lecturer	Christos Christodoulou, Joseph Costantine
Affiliation	University of New Mexico, USA
Mail	christos@ece.unm.edu
Time	9:30 – 13:00

SC4 Modern Hybrid Numerical-Ray Method for the Analysis/Synthesis of Large Convex Conformal Antenna Arrays

Course Lecturers	Prabhakar H. Pathhak 1, Federico Puggelli 2 (1Ohio State University, USA, 2Università di Siena, Italy)
Time	9:30 – 13:00

SC9 On Performance Metrics for MIMO Antennas

Course Lecturers	Buon Kiong Lau and Hui Li (Department of Information and Electrical Engineering, Lund University, Sweden)
Time	9:30 – 13:00

SC 3 Latest Advances in Antenna Design for UHF RFID Systems and Applications

Course Lecturer	Andrey S. Andrenko (Fujitsu Laboratories LTD., Kawasaki, Japan)
Time	14:00 – 18:00

SC5 Measuring on wireless MIMO devices and antennas with a Reverberation Test System

Course Lecturers	Christian Lötbäck Patané, Klas Arvidsson (Bluetest AB)
Time	14:00 – 18:00

SC6 Radio and Optical Wave Propagation Modelling for Scientists and Engineers

Course Lecturer	Ondrej Fiser (Institute of Atmospheric Physics (UFA))
Time	14:00 – 18:00

SC7 Design and Characterization of On-Chip Antennas for System-on-Chip Applications

Course Lecturer	Atif Shamim (King Abdullah University of Science & Technology, Saudi Arabia)
Time	14:00 – 18:00

SC8 Advanced impedance matching and impedance analysis for antenna applications

Course Lecturer	Jussi Rahola (Optenni Ltd)
Time	14:00 – 18:00

SC10 Engineering and Design of Phased Array Antennas

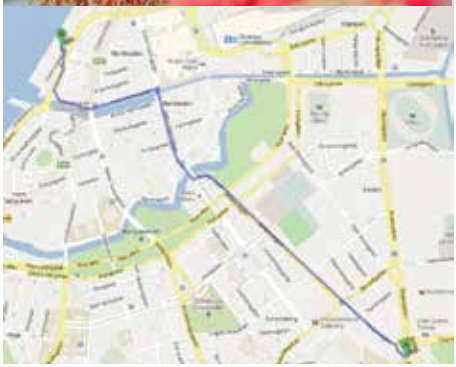
Course Lecturers	Winfried Simon, (IMST GmbH)
Time	14:00 – 18:00

Social Events

WELCOME RECEPTION

Venue: Exhibition Hall
Date: Monday, 8th April 2013
Time: 18:30
Price: Free of charge for all registered participants of EuCAP 2013. Registration required.

The City of Gothenburg sponsors a welcome reception on 8th April in the Exhibition hall in the Convention Center. Please sign up for this free event when you register, in order to get entrance and drink tickets. Use this opportunity to mingle with your colleagues and exhibitors in an informal atmosphere eating from a buffet of typical food from the Swedish West Coast.
Chalmers students will entertain you as well: The Chalmersbaletten and the AllianceOrchestret have become famous after their previous performances at previous antenna events in Gothenburg such as COST meetings. Once you have seen them dancing Brazil, Can Can, Charleston, Bond and Czardas in their own humorous style you will understand why and never forget it. This entertainment is sponsored by RUAG Space AB.



AWARDS BANQUET

Venue: Kajskjul 8, Packhusplatsen 11, 411 13 Göteborg
Date: Thursday, 11th April 2013
Time: Buses leaving from Entrance No. 8 at Convention Center between 18:00 and 18:40 hours.
Price: 70€ (to be paid during registration).

We hope that many of you will attend the banquet this year. We will all be seated and eat well. There will be a couple of short speeches, the 1st EurAAP Award will be granted, and after the dinner you will be entertained by Swedish popular music. Bluetest AB sponsors the spectacular ARRIVAL of Sweden with The World's Greatest ABBA Show Ever, see www.themusicofabba.com. Many of the older generation of antenna specialists will remember ABBA and their music, and many of you may have been remotely in love with Agnetha and Anni-Frid. The original ABBAs will not be present, but we can guarantee that their music will, together with a really spectacular show. Please come and enjoy yourself by singing along or dancing, or just watching and listening.

The Kajskjul 8 is close to the Gothenburg Opera house, 2.7 km from the Convention Center, about 30 minutes by foot (see map below). There will also be buses leaving regularly from Entrance No. 8 at the Convention Center between 18:00 and 18:40 hours. Drinks at Kajskjul 8 from 18:30. Dinner starts 19:00 hours. ABBA show starts ca. 21:30 hours. Return to hotel with buses from Kajskjul 8 between 23:00 and 23.40 hours.

Social Events

Swedish Antenna Veterans Day 11th April

It is our pleasure to invite Swedish Antenna Veterans to this social event on Thursday 11th April 2013. The program is as follows:

08:30-13:00: Visit to Grimeton radio station SAQ, Unesco World Heritage, see såecial announcement under Technical Tours. Price SEK 200. Bus departure from Entrance 8 at 08.30.

13:00-14:00: Individual lunch

14:00-17:30: Attendance to Special EuCAP2013 session about "The History of Antennas in Sweden" in room E1 in conference center. Free attendance. See program below.

18:30-23:00: Awards banquet with entertainment by "The Greatest ABBA Show ever", see www.themusicofabba.com

Price SEK 600 (€70) covering food and drinks. Note that the ABBA show is of international format and is sponsored by Bluetest AB. You will as an antenna veteran get a reserved table in a good location relative to the scene.
Please attend to celebrate Sweden's largest international contributions to antenna technology and popular music. The special session is formally arranged as a workshop, and therefore we can let visitors in without paying any conference registration fee. The "workshop" will also attract many international conference delegates.
Please register for the Antenna Veterans day at the registration desk if you have not done it already, for the whole or part of the program. You may of course also attend together with your spouse.

The History of Antennas in Sweden on 11 April 2013

This social-event workshop is open for anyone who is interested in antennas and antenna history, and you do not need to pay any conference registration fee, because it is organized as a workshop. Thus, feel free to bring your spouse, children, friends and colleagues. The program is listed below, and you will also find it among the technical sessions.

1. Joakim F Johansson, RUAG Space AB, „The early days of radio in Sweden, Ernst F W Alexanderson and Grimeton radio station SAQ, Unesco World Heritage."
2. Hans Olofsson, Director Onsala Space Observatory, „Swedish Radio Astronomy".
3. Gudmund Wannberg, Wannberg Radar Consulting AB, formerly Swedish Institute of Space Physics (IRF), „The EISCAT antenna systems for Swedish and international ground-based space radio science".
4. Per Ingvarson, formerly Ericsson Radar Electronics and RUAG Space, „Swedish space antenna projects"
5. Lars Josefsson, Lars Microwave, formerly Ericsson Radar Electronics, and Saab, „Radar antenna R&D in Sweden"
6. Claes Beckman, KTH and Bo Karlsson, Cellmax, formerly Allgon, „The story of Allgon: HF, VHF, cellular and micro wave antennas during almost 60 years"
7. Tomas Östling, Arkivator AB, „The industrial story of the hat-fed reflector antenna for global microwave-link market: The 25 years from invention via Comhat to mass production in Arkivator"

Coffee break

8. Charlie Orlenius, Bluetest AB, „The Bluetest story: the 12 years from a crazy idea to commercial success"
9. Carl-Henrik Walde, Secretary of Swedish URSI, and Gunnar Petersson, KTH, „Personal recollections and interviews covering Swedish antenna history: Hallén and his integral equation, defense activities, ANTENN conferences, stealth craft Smyge"

Chairman: Claes Beckman
Organizers: Carl-Henrik Walde, Per-Simon Kildal, Per Ingvarson
Session/workshop name: The History of Antennas in Sweden
Time: 14:00 - 17:30

Technical Tours

Please note that the given departure times are by bus from Entrance No. 8 to the Convention Centre. You should be there at least 15 min before departure. Note that the number of attendees for each tour is limited, so that the first reservations will be prioritized unless otherwise described below.

Visit to Onsala Space Observatory

Date & time: Wednesday, April 10, departure at 14:00, back at 18:00.

Price: €20,00 (to be paid at registration)

Onsala Space Observatory, the Swedish National Facility for Radio Astronomy, provides scientists with equipment to study the Earth and the rest of the Universe. It operates several radio telescopes in Onsala, 45 km south of Gothenburg, and takes part in several international projects such as ALMA, LOFAR and preparations for SKA (square kilometer array). The observatory is a geodetic fundamental station. Onsala Space Observatory was founded in 1949. It is operated by Chalmers University of Technology and is associated with the Department of Radio and Space Science. The activities are supported by the Swedish Research Council. For more information, see http://www.chalmers.se/rss/oso-en.
The number of participants is limited to 50.

Industrial visit to RUAG SPACE AB and SAAB AB, Electronic Defense System

Date & time:

Tuesday, April 9, departure at 14.00, back at 17:00

Thursday, April 11, departure at 14.00, back at 17:00

Price: Free of charge for all registered participants of EuCAP 2013.

RUAG Space AB is the largest space company in the Nordic countries and develops all kinds of antennas for satellites, deep space probes and launchers. The company has a total of 378 employees in Gothenburg.
Saab AB, Electronic Defence Systems specializes in sensors systems and is primarily active in the defence and crisis management market. The business area Electronic Defence Systems has around 2500 employees.
Antenna systems development together with microwave technology is part of the core business.
The number of participants is limited to 50 on each tour. The industrial visits are sponsored by AMTA.

Visit to Radio station SAQ at Grimeton, a UNESCO World Heritage Site

Date & time:

Tuesday, April 9, departure at 14:00, back at 18:30.

Thursday, April 11, departure at 08:30, back at 13:00

Price: €20,00 (to be paid at registration)

In 2004, Varberg Radio station SAQ at Grimeton, 55 minutes south of Göteborg, was put on the UNESCO world heritage List. It is the only remaining pre-electronic transmitter for transatlantic operation and is kept in perfect working order.
On few occasions, such as at this EuCAP 2013 Technical Tour, the 80 year old 200 kW Alexandersson alternator will be started. The cooling water fountains, the clicking relays, the liquid variable resistors and the rumbling 50 ton alternator will recall the atmosphere of the 1920´s. The VLF (17.2 kHz) antenna system of the station consists of six 127 m high steel towers, standing in a row over a distance of 2.2 km. For more information, see http://www.grimeton.info/

Guest Programm

In Gothenburg you feel the wind from the sea and from the old days. Old is mixed with the new and the city offers something for everybody. Via the link http://goteborg.com/en/ you find information about sightseeing, shopping, theatres, museums, sports, restaurants etc. that comprises a large menu of what makes Gothenburg to a nice tourist city, which offers something for everybody.

Scan the code and discover Gothenburg

Gothenburg is full of life. Everything is within easy walking distance of the EuCAP 2013 venue. Download the official cityguide app for smartphones using the QR Code and begin your experience in Gothenburg:

- Explore the area around you and see what's on in the city
- Easy to plan your stay, create lists and save your favorites offline
- Share with friends on facebook

Available in Swedish and English" Or download from http://www.goteborg.com

General Information

EuCAP 2013 website:

http://www.eucap2013.org

Registration fees:

Registration includes attending the full conference and scientific sessions. Coffee during the official breaks is included as well as the lunch refreshments. Lunch for Students/ Retired is not included and can be booked additionally.

Short Courses and Workshops:

For last minute Workshop- or Short Course- Registrations, please apply at the registration counter.
Fees Short Courses:
Half day € 100,00
Full day € 150,00

On-Site Registration Desk (Office Hours):

The registration desk on site will be open as follows

Sunday, 07th April:	16:00 – 19:00
Monday, 08th April	08:00 – 17:00
Tuesday, 09th April	08:00 – 17:00
Wednesday, 10th April	08:00 – 17:00
Thursday, 11th April	08:00 – 17:00
Friday, 12th April	08:00 – 17:00

Badges:

All delegates will receive a badge and tickets for the booked events. Participants are kindly requested to wear their badges throughout the conference, even at the social events. The replacement of lost or forgotten badges carries a € 25 charge. In order to facilitate the duplication of the badge, please present a copy of your registration confirmation as proof.

Official Language:

All sessions will be held in English only. No translation will be provided.

EuCAP 2013 Conference Venue:

Svenska Mässan - The Swedish Exhibition and Congress Centre
Mässans Gata/Korsvägen
SE-412 94 Göteborg, Sweden
Phone: +46 (31) 708 8000
Fax: +46 (31) 708 8630
E-mail for general information: infomaster@svenskamassan.se
Website: www.svenskamassan.se

Lunches, coffee breaks, dining:

The lunches are served in Estrad during Monday to Thursday for those who have them included in the registration or who have paid separately for them. The coffee breaks are in the exhibition hall.
There are a few dining restaurants in the buildings, such as Incontro near entrance 5 and Heaven 23 on level 23.
There are a variety of different dining restaurant within 5-10 minutes walking distance from the conference center.

General Information

Shopping:

Most shops normally are open between 10.00 am and 6.00 pm, and weekends until 14.00 pm. Food stores, department stores and shopping centres are usually open longer. Many grocery stores are open until 9.00 pm or 10.00 pm. For example, next to the main convention center, there is ICA Focus that is open between 7.00 am and 11.00 pm.
Post Offices: In general MON - FRI 8.00 am – 7.00 pm, SAT 8.00 am – 2.00 pm
Gothenburg is a lively city for shopping, where delegates can find just about everything within an easy walk from the convention center.
Located in the heart of the city is everything from fashionable boutiques and department stores, to picturesque markets selling crafts, souvenirs and antiquities. The city offers an exciting mixture of modern warehouses and specialist shops, pedestrian areas, galleries and arcades. NK and Nordstan are the two most well-known indoor shopping malls in the city center.
Nordstan, has 150 specialist shops and warehouses under one roof. Visitors also often find arts and crafts exhibitions, fashion shows and other activities. Immediately outside Nordstan is the start of a three kilometer-long shopping area with the pedestrian precincts of Fredsgatan, Kungsgatan and Korsgatan, several shopping galleries and arcades. Here, inside Vallgraven (the old moat), is the greatest concentration of shops in Gothenburg. Along Vallgatan and Magasinsgatan are several design, furniture and arts and crafts shops as well as restaurants and cafés. Kungstorget has a lively market square where delegates find Saluhallen. It was opened in 1889 and, with its architecture and variety of shellfish, fruit, vegetables, cheese and cooked meats, is a real experience. Slightly further to the west along the canal lies Feskekörkan, with its ecclesiastical architecture and with top quality fresh fish and shellfish.
For all permanent non-EU residents there is a VAT refund available on all purchases made in Sweden

Currency:

The official Swedish currency is the Swedish Krona (SEK) which is divided into 100 öre. Bank notes are available in denominations of 20, 50, 100, 500 and 1000 Krona, and coins in denominations of 50 öre and 1, 5, 10 Krona.
The Krona is about nine Krona to a Euro or seven Krona to a Dollar. For an update on exchange rates please look up www.oanda.com.

Banks, Credit and Debit Cards:

Banks usually open from 10.00 am to 3.00 pm.
Some days banks may stay open until 6 pm. All banks are closed on weekends and on public holidays. Banks at airports, ports and main railway stations are generally open longer.
Exchange offices usually have longer opening hours. Exchange service available from Forex Bank and X-Change with offices located at the Gothenburg-Landvetter Airport, the Avenue, Kungsportsplatsen and the Central Station.
All major credit cards are accepted in Sweden. ATM`s are located at the airports and all over the city including the EuCAP venue. Look for “Bankomat” or “Minuten”.
Most hotels, shops, restaurants and usually taxis accept VISA and MasterCard. American Express may not be accepted in some cases

Time Zone:

The time zone in Sweden is UTC/GMT +1 hour

Telephone code:

The International country calling code of Sweden is +46. Please dial this number before a local Swedish number. Each city in Sweden has its own city code. The city code of Gothenburg is 31. So when you make a call from another country than Sweden to Gothenburg dial 0046 + 31 + the phone number.

Presentation Upload:

Please bring your presentation on a USB memory stick in MS-Power Point or Adobe PDF format to EuCAP 2013 and submit it in the Session Room at the conference venue NO LATER than 15 minutes prior to your session! You can of course bring it earlier, during one of the coffee/ lunch breaks. A video projector and a notebook will be available in all conference rooms. The use of personal notebooks has to be announced in advance to the technician in each Session Room. In order to avoid any problems with your presentation, please make sure it fulfills the necessary needs, and read carefully the instructions below:

PowerPoint Instructions

- If preparing your presentation in PowerPoint, please use the following versions only: PP 97-2003 and 95 (*.ppt) or 2007, 2010 to guarantee it will be opened successfully on an on-site PC.
- We recommend you to save your PowerPoint presentation using PPT format instead of PPS.
- All videos or animations in the presentation must run automatically!

Pictures/Videos

- JPG images are the preferred file format for inserted images.
- GIF, TIF or BMP formats will be accepted as well.
- Images inserted into PowerPoint are embedded into the presentations. Images that are created at a dpi setting higher than 200 dpi are not necessary and will only increase the file size of your presentation.
- We cannot provide support for embedded videos in your presentation; please test your presentation with the on-site PC several hours before your presentation. Generally, the WMV format should work with no difficulties.
- In case, that your video is not inserted in PowerPoint it is possible to have it in other formats – MPEG 2, 4, AVI (codecs: DivX, XviD, h264) or WMV. Suggested bitrate for all mpeg4 based codecs is about 1Mbps with SD PAL resolution (1024x576pix with square pixels, AR: 16/9).
- In case of Full HD videos, please let us know before the meeting and we'll test it.
- Videos that require additional reading or projection equipment (e.g., VHS cassettes) will be not accepted.

Fonts

- Only fonts that are included in the basic installation of MS-Windows will be available (English version of Windows). Use of other fonts not included in Windows can cause wrong layout / style of your presentation.
- Suggested fonts: Arial, Times New Roman, Tahoma
  If you insist on using different fonts, these must be embedded into your presentation by choosing the right option when saving your presentation, see details below:
- Click on „File", then „Save As"
- Check the „Tools" menu and select „Embed True Type Fonts"

Poster Presentations

Three poster sessions will be organized on Tuesday, Wednesday and Thursday (with sub-sessions for Antennas, Propagation and Measurement). Posters will be on display in the Poster Hall located next to the exhibition area on the 2nd Floor. Each poster board is marked with the poster ID-number. Your poster number has been sent to you in the Presentation Schedule.

Authors are required to use only the boards corresponding to their posters.

Poster presenters have to hang up their poster on the day of their presentation from 10:00 to 14:00.

The authors will need to stay personally just during their poster session from 14:00 to 15:00 and during the coffee break from 16:20 to 16:50. Posters have to be removed from the boards from 16:50 to 18:00. Posters left on the boards after the poster sessions, will not be returned by the organizers.

General Information

Wireless Access:

The Swedish Exhibition & Congress Center has got a wireless network. For accessing this network, please contact the registration desk.

Weather:

In April, the average daytime temperature is around 9°C (48°F). The sun rises at 6:30 am and sets approximately at 20:00 pm.

Safety and Insurance:

As in all major cities, people should be aware of safety risks. You are advised not to wear your conference badge outside congress activities. It is highly recommended that all participants carry adequate personal travel and health insurance. The organizers do not accept responsibility for individual medical, travel or personal insurance. All participants are strongly advised to take out their own personal insurance before travelling to the Convention.

Emergency Service:

General emergencies, Ambulance, Fire and Police: 112

Destination Gothenburg:

Situated on the beautiful west coast of Sweden, Gothenburg lies right in the heart of Scandinavia. The strategic location between the Swedish, Danish and Norwegian capitals, makes it a true gateway.
Gothenburg is a world-class meeting and events city, it is easily accessible from around the world, close to the sea with a stunning archipelago and, outstanding restaurants. Gothenburg is characterized by international style, local creativity and a natural, relaxed charm. A wide selection of meeting venues, accommodating efficient friendly service and care are other qualities that make Gothenburg the perfect venue for work and play. Meeting venues, hotels, restaurants and shops are all located within easy walking distance.

Gothenburg is a quite valuable destination with a lot of touristic sites. It is actually rated as the 2nd „Best value destination in 2013“ by Lonely Planet, next after Rio de Janeiro.

Gothenburg has a long and successful tradition of trade and industry. Ever since the city was founded in 1621, it has been characterized by trade, shipping and international contacts. Already in 1731, the Swedish East India Company began trading with China and the East.
In the 19th century, the city became industrialized, largely thanks to the arrival of Scottish and English businessmen. Many of them donated fortunes which founded a hospital,
library and university. A significant proportion of Sweden's exports and imports pass through the Gothenburg port and cutting-edge industries and world-renowned brands, such as Volvo, SKF and Hasselblad have their origins and head offices here.
Gothenburg today, is a city of industry and expertise, with two universities and many service companies. New city districts are also emerging with offices, university grounds and residential areas.

Getting to the Gothenburg Congress Center

By Air

Gothenburg has two international airports: Göteborg Landvetter Airport (GOT), served by all major European airlines, and Göteborg City Airport (GSE), mainly served by low fare airlines. Non-stop flights are available from more than 50 European cities and international flights generally stop over at major hubs such as Paris, London, Amsterdam, Frankfurt or Copenhagen.
The EUCAP 2013 venue "the Swedish Exhibition & Congress Centre" is located in the center of Gothenburg there are airport buses from both airports bringing visitors to the city center in about 20 minutes.

Arriving the Landvetter Airport (GOT):

Landvetter Airport is located 26 km east of Gothenburg. Flygbussarna Airport Coaches runs frequently to the city center. The trip takes approximately 20 minutes and the first stop "Korsvägen" is just in front of the EuCAP venue. Tickets may be purchased online www.flygbussarna.se. Credit cards are accepted on board. Price per person: SEK 80 one way and SEK 150 for return ticket.

Recommended taxis are: Taxi Göteborg, Minitaxi or Taxi Kurir. Ask for fixed price, approx. SEK 400 to/from the airport and the city center. The journey takes 20 minutes.

Car rental services are Avis, Budget, Hertz and Europcar.

Arriving the City Airport (GSE):

City Airport is located approximately 15 km north from the city center. The timetable of the airport coaches correspond with all regular flights. The bus awaits arriving passengers after each flight and leaves for the Nils Ericson Terminal (by the Central Station) 50 minutes after the scheduled flight arrival. The bus ride takes approximately 30 minutes and the fee for adults is SEK 60, one way, or SEK 110 for return. www.flygbussarna.se.

There is a taxi station at the airport. Ask for fixed price. Approximate fixed prices by taxi from Göteborg City Airport to the Central Station: SEK 350. If you would like to pre-book, please call the taxi companies: Taxi Göteborg or Taxi Kurir.

By train

If you arrive at the train station you will find a bus and tram stop just outside at Drottningtorget. Take tram No. 2, 4 or 13. From nearby Brunnsparken, you can take tram No. 4 or 5. The trams stop at Korsvägen, just opposite the Swedish Exhibition & Congress Centre.
Ticket vending machines are available on board the trams, accepting major credit cards and Swedish coins only. You can also purchase single tickets and travel cards at Seven-eleven or Pressbyrån.

By car

When arriving in Gothenburg on E6 motorway, exit at the sign „Mässan Scandinavium Liseberg". In the Gårda Shopping Centre Multi-store car parking is available, adjacent to the Swedish Exhibition & Congress Centre and Hotel Gothia Towers where a foot bridge to the EuCAP venue is available.

Taxi

There are several companies to choose from. You can phone for a taxi or hail one on the street. The driver should have a taxi ID card clearly displayed in the vehicle. Service is included in the price. We recommend:

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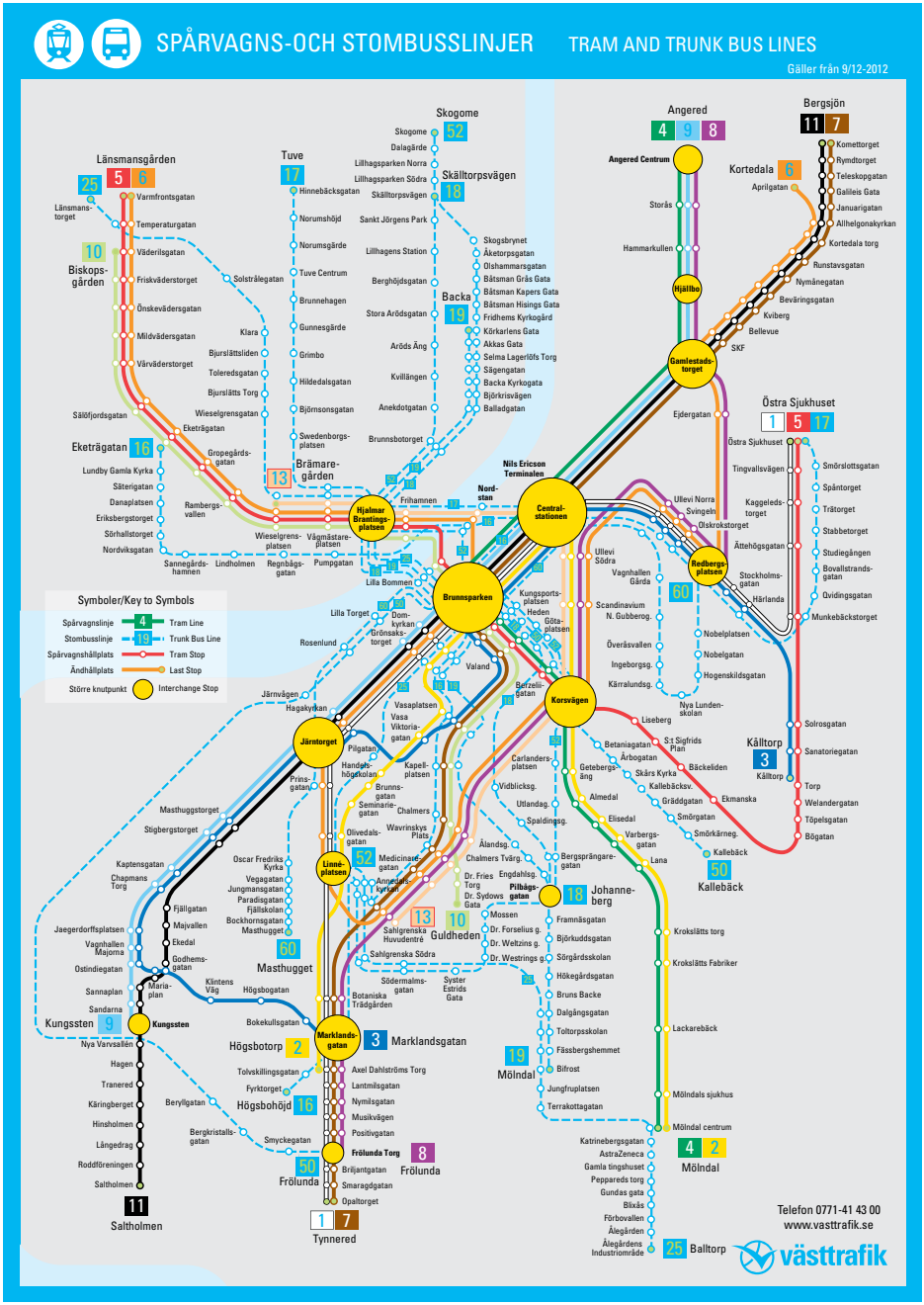
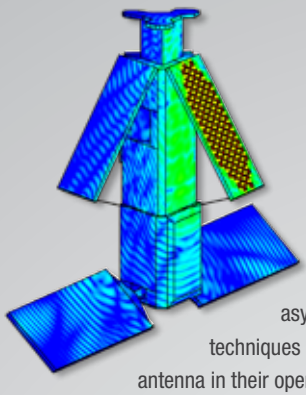
Getting to the Gothenburg Congress Center



The Complete Antenna Design and Placement Solution



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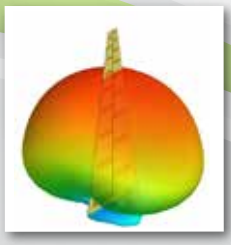

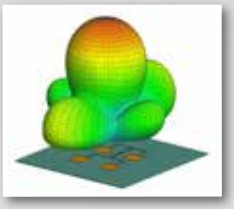

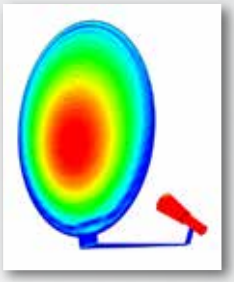

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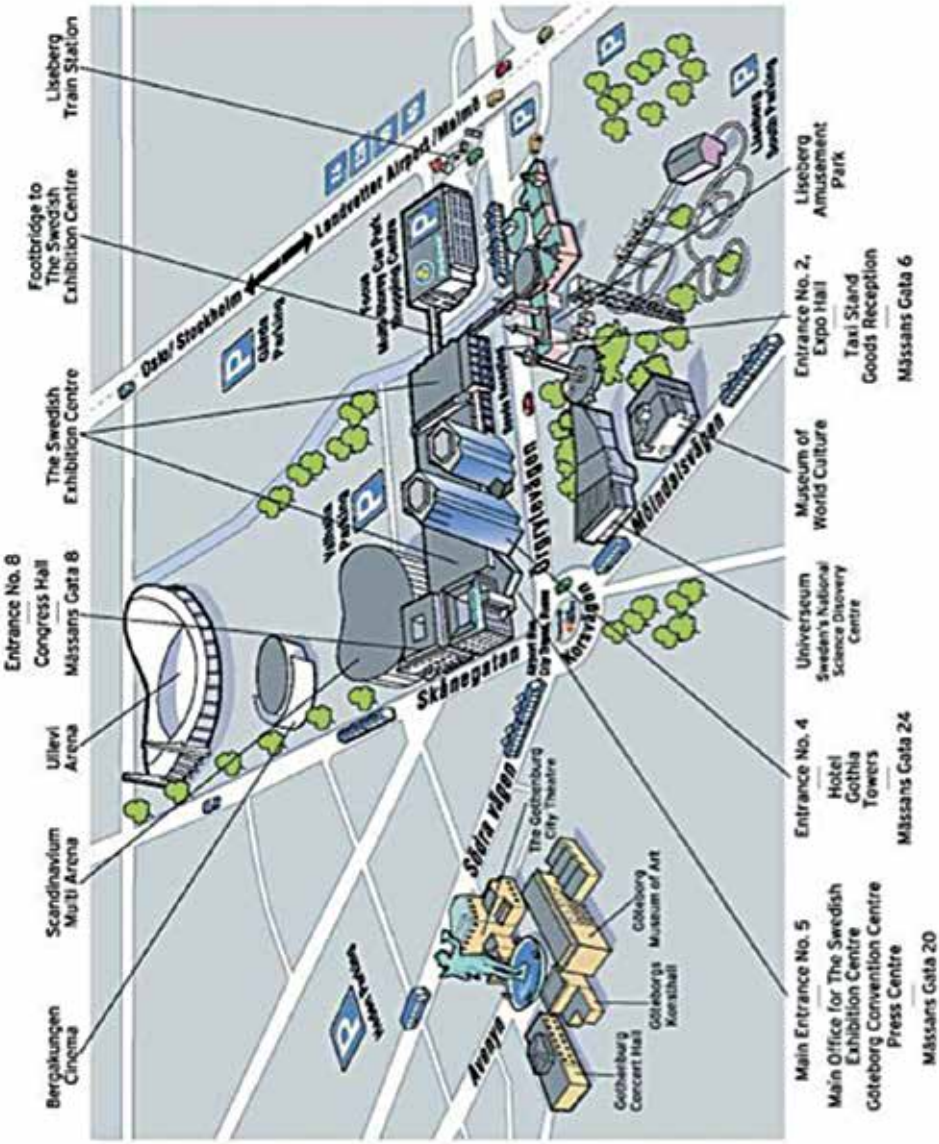

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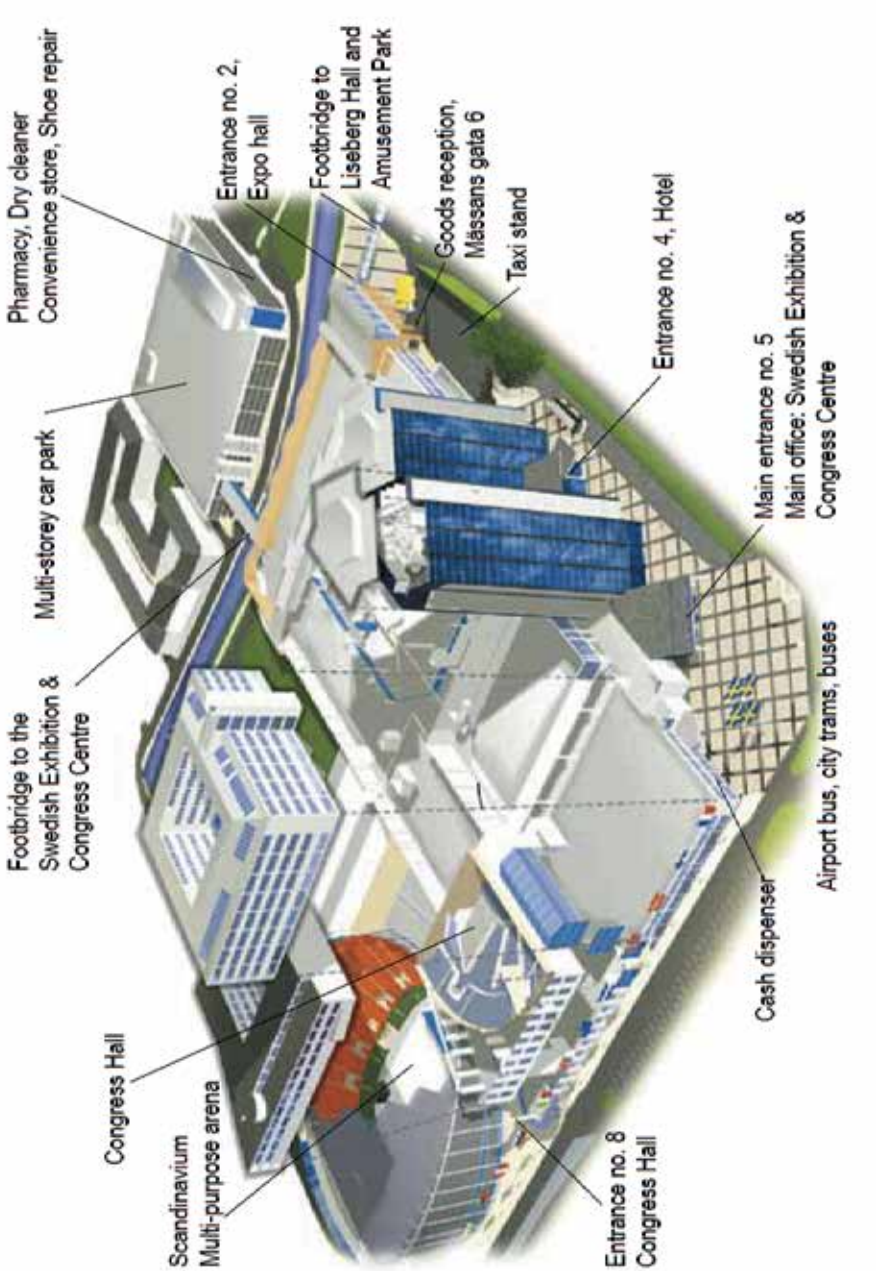

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Sweden
Webpage: http://www.huawei.com

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Webpage: http://www.microwavevision.com/

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SWEDEN
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Webpage: http://www.ets-lindgren.com

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Webpage: http://www.idscorporation.com

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Germany
Webpage: http://www.mician.com

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ViaSat, Inc. (Corporate Headquarters)
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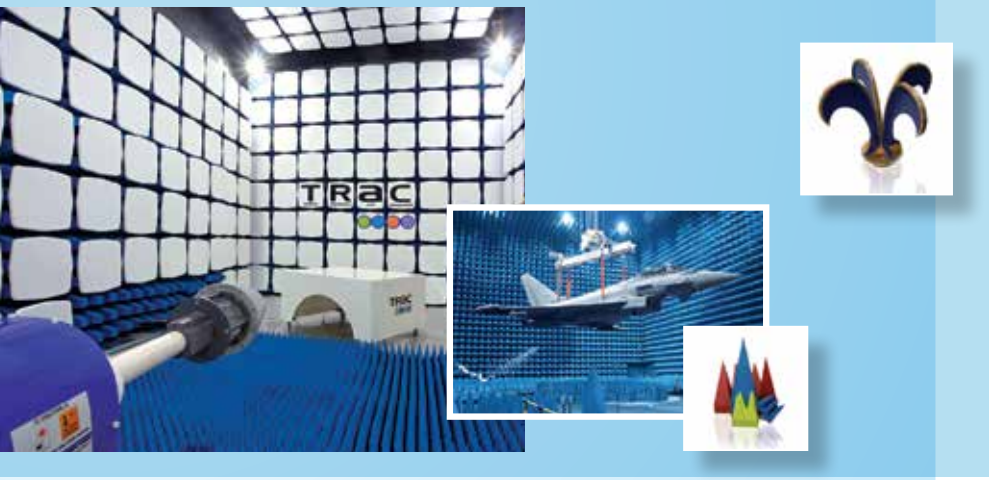

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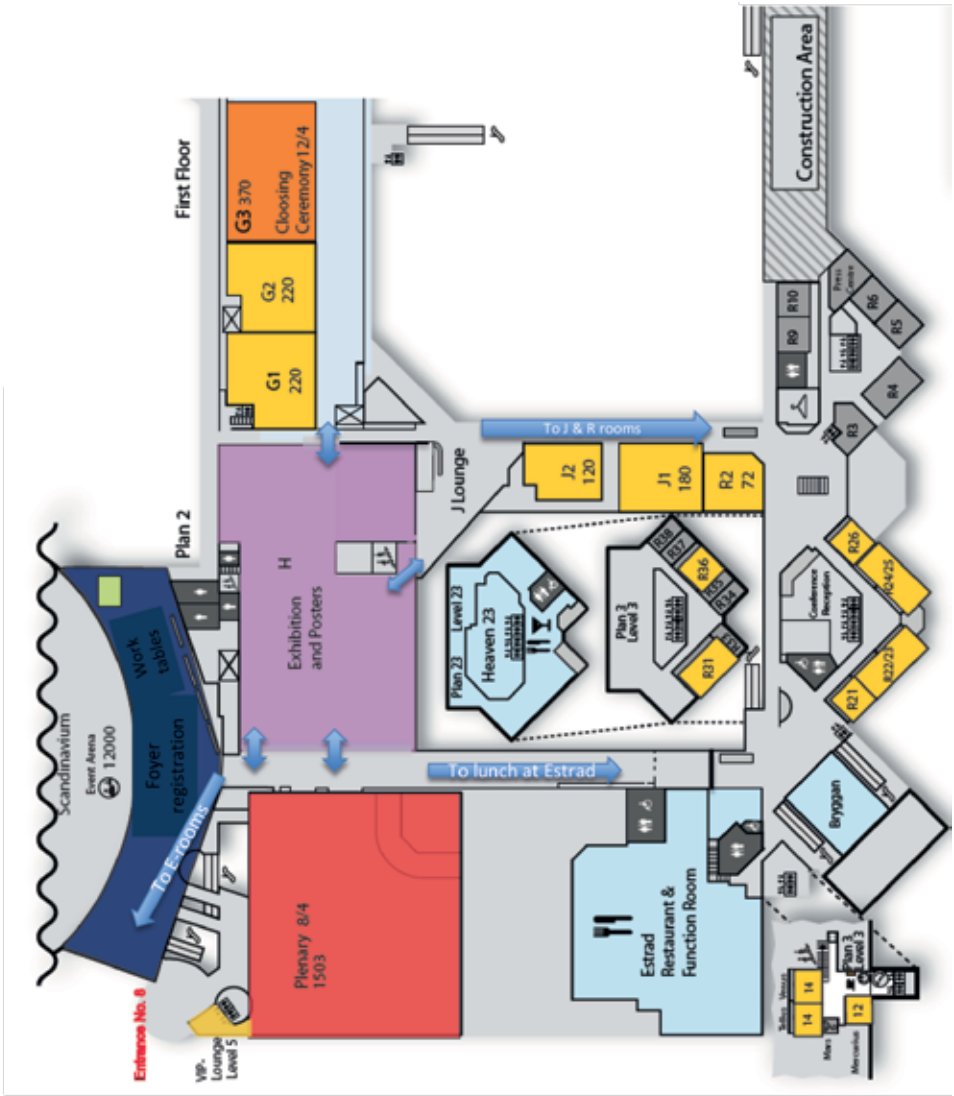

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Floor plan: Entrance/ground level

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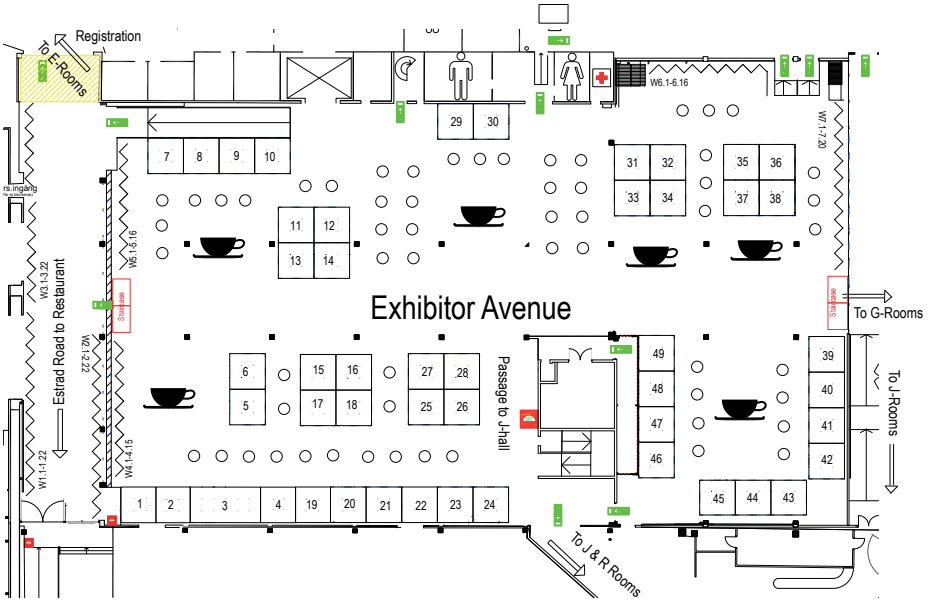

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Booth Number	Exhibitor
28	Huawei
29 + 30	CST - Computer Simulation Technology AG
31	IDS Ingegneria dei Sistemi S.p.a
32	WIPL-D
33	EM Software & System GmbH
34	ViaSat
35	Artech House
36	Wiley
37	ETS-Lindgren
38	TICRA
39	IMST GmbH
40	Qamcom Research & Technology AB
41	Business Region Göteborg & Microwave Road
42	Apple Inc.
43	ESoA
44	Q-par Angus Ltd
45	Nec multi companies pty ltd
46	COST IC1102 VISTA
47	The IET
48	EuCAP2014
49	ESA

Program Overview

Program Overview Sunday & Monday

Lecture rooms / time	Sunday 09:00-18:00	09:30-10:00	10:00-10:40	Coffee Break	11:20-12:40	Lunch	14:00-14:40	14:40-16:20	Coffee Break	16:50-18:30	18:30-20:30
Congress Hall	10 half-day and 5 full-day short courses	Conference Opening	Keynote speech: Prof. Nader Engheta		Keynote speech: Henrik Lind & Mikael Höök		Invited Speaker: Ke Wu				Welcome reception in exhibition hall
G1							Invited Speaker: Rodney Vaughan	CA17 OTA		CA17 OTA	
G2								CA08 60 GHz		CA08 60 GHz	
J1								CA19 4D arrays		CA19 4D arrays	
J2								A20 Small antennas		A16 Printed & baluns	
E1								A06 Systems architecture		A06 Systems architecture	
E2								P2 Fixed prop models and tests		P2 Fixed prop models and tests	
E3								CA18 Inverse scattering		A27 Scattering & penetration	
R22+ R23								A28 IE & MoM		A28 IE & MoM	
R24+ R25								A24 wearable		A24 wearable	
R2								CA20 Research in Asia		CA20 Research in Asia	
R31								CA01 EurAAP small antennas		CA01 EurAAP small antennas	
Exhibition Hall											
R21										ESoA Board 16:30 - 18:30	
R36								EuCAP StC 14:40 - 18:00			
G3											
Bryggan											

Note the color and letter coding:
The color indicates application track, the session numbering shows session topic: C=Convened, A=Antennas, P=Propagation, M=Measurements (antennas)
The sessions are given by their codes and short names. The full names are given in the detailed program.

APPLICATION TRACKS and other color codes

Cellular	Other wireless	Space & vehicle-based	Fundamental	Biomedical	No specific

Breaks	Opening & Closing Ceremony, Social Events	Workshops & other meetings	Poster Sessions

Program Overview Tuesday

Lecture rooms / time	09:00-10:40		11:10-12:50		14:00-15:00	15:00-15:40	15:40-16:20		16:50-18:30	18:30 - 20:30
Congress Hall										
G1	A12 MIMO		A12 MIMO			Invited Speaker: Frederic Gianesello	Invited Speaker: Femius Koenderink		M1 OTA	
G2	C09 THz (COST IC1102)		C09 THz (COST IC1102)			Invited Speaker: Yves Lostanlen	Invited Speaker: Bertram Arbesser-Rastburg		A32 Array	
J1	CA05 UWB		CA05 UWB						A23 UWB	
J2	CP5 Body		CP5 Body		EurApp WG Propagation				P3 Indoor	
E1	CA14 Radio astronomy arrays		CA14 Radio astronomy arrays						CM5 AMTA/ EurAAP	
E2	P4 Mobile channel models		P4 Mobile channel models						P6 Climatology	
E3	CA15 Graphene & nano		CA15 Graphene & nano						A05 Systems architecture	
R22+ R23	CA23 INTELEC IE	Coffee Break	CA23 INTELEC IE	Lunch				Coffee Break	A26 Modal methods	
R24+ R25	CA12 diagnostics		CA12 diagnostics		CST Workshop				M4 Diagnostics	
R2	A07 Conformal		M2 Antenna testing						A33 Array technology	
R31	A02 Reconfigurable		A02 Reconfigurable		AMTA Workshop 13:30 - 15:30				A01 Active integrated	
Exhibition Hall					Poster Session					
R21									EurAAP Delegates Assembly	
R36										
G3										
Bryggan										IET Reception

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APPLICATION TRACKS and other color codes

Cellular	Other wireless	Space & vehicle-based	Fundamental	Biomedical	No specific

Breaks	Opening & Closing Ceremony, Social Events	Workshops & other meetings	Poster Sessions

Program Overview Wednesday

Lecture rooms / time	09:00-10:40	11:10-12:50	Coffee Break	Lunch	14:00-15:00	15:00-15:40	15:40-16:20	Coffee Break	16:50-18:30
Congress Hall									
G1	CM4 AMTA	CM4 AMTA				Invited Speaker: Guiseppe Vecchi	Invited Speaker: Fan Yang		M6 OTA and MIMO testing
G2	P7 Channel modeling	P7 Channel modeling				Invited Speaker: Ernst Bonek	AMTA Invited Speaker: Mike Francis		P1 Model & testing
J1	A21 Small antennas	A21 Small antennas							A13 MIMO
J2	CA22 WSNs	CA22 WSNs							P5 Measurements
E1	A34 Array design	A35 Array design							A04 Metamaterials
E2	A10 Lens antennas	A18 Reflector, feed systems							CP4 Remote sensing
E3	CA4 Metamaterials	CA4 Metamaterials							A11 Lens
R22+ R23	CA26 EurAAP software	CA26 EurAAP software							CA03 Cloud computing (COST IC1102)
R24+ R25	CM1 SAR	CM1 SAR							A08 Imaging
R2	CA25 THz systems	CA25 THz systems							A29 mmwave
R31	CA07 Reconfigurable	CA07 Reconfigurable			COST FA-C meeting				CP6 HF ropagation
Exhibition Hall					Poster Session				
R21					EurAAP WG on Small Antennas 14:00 - 16:00				
R36									
G3									
Bryggan									Exhibitors Reception

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APPLICATION TRACKS and other color codes

Cellular	Other wireless	Space & vehicle-based	Fundamental	Biomedical	No specific

Breaks	Opening & Closing Ceremony, Social Events	Workshops & other meetings	Poster Sessions

Program Overview Thursday

Lecture rooms / time	09:00-10:40	11:10-12:50	14:00-15:00	15:00-15:40	15:40-16:20	16:50 - 17:30	18:00 - 23:00
Congress Hall							Conference dinner with ABBA show, bus departure 18:00 - 18:30 from entrance 8
G1	CA11 small antennas	CA11 small antennas		Invited Speaker: Anthony Grbic	Invited Speaker: Hisamatsu Nakano		
G2	CP1 Models (IC1004)	CP1 Models (IC1004)		Invited Speaker: Anja Skrivervik	Invited Speaker: Kevin Boyle		
J1	A30 mmwave	M5 RFID & mmID					
J2	CA21 Power & harvest	CA21 Power & harvest					
E1	A17 Reflect- & transmit arrays	A17 Reflect- & transmit arrays	The History of Antennas in Sweden 14:00 - 17:40				
E2	CA13 NATO integration	CA13 NATO integration	COST VISTA IC0802 14:00 - 17:30				
E3	A03 Meta-materials	A03 Meta-materials					
R22+ R23	A22 UWB	A15 Multi- & wideband	EMSS Workshop	EurAAP WG 5 15:00 - 17:00			
R24+ R25	CA6 COST IC1102	CA6 COST IC1102		IEEE Chapter Chairs Meeting 15:00 - 16:00			
R2	C02 Gap & SIW	C02 Gap & SIW					
R31	CM2 AMTA/ EurAAP tribute D Hess	CM2 AMTA/ EurAAP tribute D Hess					
Exhibition Hall			Poster Session				
R21							
R36							
G3							
Bryggan							

Coffee Break (09:00-10:40 / 11:10-12:50)

Lunch (14:00-15:00)

Coffee Break (15:40-16:20 / 16:50 - 17:30)

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APPLICATION TRACKS and other color codes

Cellular	Other wireless	Space & vehicle-based	Fundamental	Biomedical	No specific

Breaks	Opening & Closing Ceremony, Social Events	Workshops & other meetings	Poster Sessions

Program Overview Friday

Lecture rooms / time	09.00-10.40	Coffee Break	11.10-12.50	12.50-13.30
Congress Hall				
G1	A14 Multi- & wideband		A14 Multi- & wideband	
G2	A25 Coupling		CP3 Design (IC1004)	
J1	A19 Guided & leakywave		A19 Guided & leakywave	
J2	P8 Urban		P8 Urban	
E1	CA10 non-uniform array		CA10 non-uniform array	
E2	CP2 Trans ionosphere		CP2 Trans ionosphere	
E3	CA16 NATO meta-materials		CA16 NATO meta-materials	
R22+ R23	CA 24 Novel CEM		CA 24 Novel CEM	
R24+ R25	A09 Imaging, inv scattering		M3 Imaging	
R2	A31 THz antennas		A31 THz antennas	
R31	CM3 AMTA/ EurAAP diagnostics		CM3 AMTA/ EurAAP diagnostics	
Exhibition Hall				
R21	ESoA-EuCAP student awards		ESoA-EuCAP student awards	
R36				
G3				Closing Ceremony
Bryggan				

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APPLICATION TRACKS and other color codes

Cellular	Other wireless	Space & vehicle-based	Fundamental	Biomedical	No specific

Breaks	Opening & Closing Ceremony, Social Events	Workshops & other meetings	Poster Sessions

	Tuesday	Wednesday	Thursday
Wall1	Antennas & Measurements Application: Cellular	Antennas Application: Cellular	Antennas Application: Cellular
Wall2	Antennas & Propagation Application: Cellular	Antennas & Propagation Application: Other wireless	Antennas & Measurements Application: Cellular
Wall3	Antennas Application: Space & vehicle-based	Antennas Application: Space & vehicle-based	Propagation Application: Cellular
Wall4	Antennas Fundamental Research	Antennas & Propagation Application: Space & vehicle-based	Antennas Application: Space & vehicle-based
Wall5	Antennas Fundamental Research	Propagation Application: Space & vehicle-based	Propagation & Measurements Not specific to one application
Wall6	Antennas & Propagation Application: Biomedical	Antennas & Propagation Application: Biomedical	Antennas & Measurements Application: Space & vehicle-based
Wall7	Antennas Not specific to one application	Antennas Not specific to one application	Antennas Fundamental Research

Notes

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