Marina Forum on Metantennas

20 – 22 March 2022, Singapore

(Hybrid)

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Metantennas 2022

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Morning Session - 21 March

- **Session Chairs:** Prof. Liang Feng, Dr. En-Xiao Liu

SN	Singapore Time [GMT+8]	Presentations
AM-1	9:00 AM - 10:00 AM	**[KEYNOTE] Advanced Inverse-Design Methodologies for Electromagnetic and Optical Metantennas** ***Prof. Douglas H. Werner***, The Pennsylvania State University, USA
AM-2	10:00 AM - 11:00 AM	**[KEYNOTE] From EBG's to Meta-Surfaces and Beyond: Recent Developments and Novel Engineering Applications** ***Prof. Yahya Rahmat-Samii***, University of California Los Angeles, USA
	11:00 AM - 11:20 AM	Session Break
AM-3	11:20 AM - 12:00 PM	**[INDUSTRY TALK] Metantenna Technology for 5G/6G Base Stations: Opportunities and Challenges** ***Mr. Weihong Xiao***, Huawei Technologies Co., Ltd., China
	12:00 PM - 1:20 PM	Lunch Break

21 March (9:00-10:00 AM): Keynote Talk

MON-AM1: Advanced Inverse-Design Methodologies for Electromagnetic and Optical Metantennas

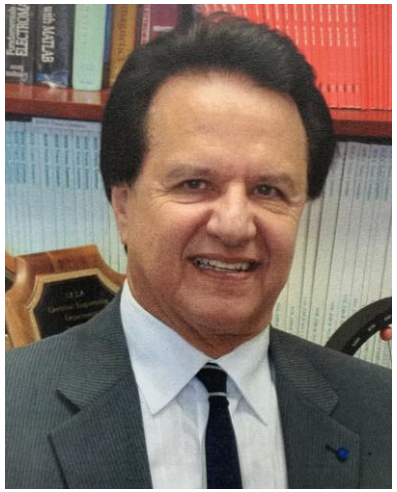
Speaker: ***Prof. Douglas H. Werner***, The Pennsylvania State University, USA

Douglas H. WERNER received the B.S., M.S., and Ph.D. degrees in electrical engineering and the M.A. degree in mathematics from The Pennsylvania State University (Penn State), University Park, PA, in 1983, 1985, 1989, and 1986, respectively. He holds the John L. and Genevieve H. McCain Chair Professorship in The Pennsylvania State University Department of Electrical Engineering. He is the director of the Computational Electromagnetics and Antennas Research Lab (CEARL: http://cearl.ee.psu.edu/) as well as a faculty member of the Materials Research Institute (MRI: https://www.mri.psu.edu/) at Penn State. Prof. Werner was presented with the 1993 Applied Computational Electromagnetics Society (ACES) Best Paper Award and was also the recipient of a 1993 International Union of Radio Science (URSI) Young Scientist Award. In 1994, Prof. Werner received the Pennsylvania State University Applied Research Laboratory Outstanding Publication Award. He was a co-author of a paper published in the IEEE Transactions on Antennas and Propagation which received the 2006 R. W. P. King Award. He received the inaugural IEEE Antennas and Propagation Society Edward E. Altshuler Prize Paper Award and the Harold A. Wheeler Applications Prize Paper Award in 2011 and 2014 respectively. In 2018, he received the DoD Ordnance Technology Consortium (DOTC) Outstanding Technical Achievement Award. He also received the 2015 ACES Technical Achievement Award, the 2019 ACES Computational Electromagnetics Award, and the IEEE Antennas and Propagation Society 2019 Chen-To Tai Distinguished Educator Award. He is a Fellow of IEEE, IET, OPTICA, SPIE, ACES, and the PIER Electromagnetics Academy. He is also a Senior Member of the National Academy of Inventors (NAI), and URSI. Prof. Werner holds 20 patents, has published over 950 technical papers and proceedings articles, and is the author of 7 books and 35 book chapters. He is also the Editor for the IEEE Press Series on Electromagnetic Wave Theory & Applications.

21 March (10:00-11:00 AM): Keynote Talk

MON-AM2: From EBG's to Meta-Surfaces and Beyond: Recent Developments and Novel Engineering Applications

Speaker: ***Prof. Yahya Rahmat-Samii***, University of California Los Angeles, USA



Yahya RAHMAT-SAMII is a Distinguished Professor, a holder of the Northrop-Grumman Chair in electromagnetics, a member of the U.S. National Academy of Engineering (NAE), a Foreign Member of the Chinese Academy of Engineering (CAE) and the Royal Flemish Academy of Belgium for Science and the Arts, the winner of the 2011 IEEE Electromagnetics Field Award, and the Former Chairman of the Electrical and Computer Engineering Department, University of California at Los Angeles (UCLA), Los Angeles, CA, USA. He was a Senior Research Scientist with the Caltech/NASA's Jet Propulsion Laboratory. He was the 1995 President of the IEEE Antennas and Propagation Society and 2009–2011 President of the United States National Committee (USNC) of the International Union of Radio Science (URSI). He has also served as an IEEE Distinguished Lecturer presenting lectures internationally. He has authored or co-authored more than 1100 technical journal and conference papers and has written over 35 book chapters and seven books. He has more than 20 cover-page IEEE publication articles. His research contributions cover diverse areas of modern electromagnetics and antennas spanning from small medical antennas to large space deployable antennas. His research interests include electromagnetics, antennas, measurements and diagnostics techniques, numerical and asymptotic methods, satellite and personal communications, human/antenna interactions and medical application, meta-materials and periodic structures, and nature inspired optimization algorithms. Dr. Rahmat-Samii is a fellow of IEEE, AMTA, ACES, EMA, and URSI. He was a recipient of the Henry Booker Award from URSI, in 1984, the Best Application Paper Prize Award (Wheeler Award) of the IEEE Transactions on Antennas and Propagation in 1992 and 1995, the University of Illinois ECE Distinguished Alumni Award in 1999, the IEEE Third Millennium Medal and the AMTA Distinguished Achievement Award in 2000. In 2001, he received an Honorary Doctorate Causa from the University of Santiago de Compostela, Spain. He received the 2002 Technical Excellence Award from JPL, the 2005 URSI Booker Gold Medal presented at the URSI General Assembly, the 2007 IEEE Chen- To Tai Distinguished Educator Award, the 2009 Distinguished Achievement Award of the IEEE Antennas and Propagation Society. He was also a recipient of the Distinguished Engineering Educator Award from The Engineers Council in 2015, the John Kraus Antenna Award of the IEEE Antennas and Propagation Society and the NASA Group Achievement Award in 2016, the ACES Computational Electromagnetics Award and the IEEE Antennas and Propagation S. A. Schelkunoff Best Transactions Prize Paper Award in 2017, and the prestigious Ellis Island Medal of Honor in 2019. He is the Designer of the IEEE Antennas and Propagation Society logo which is displayed on all IEEE AP-S publications.

21 March (11:20 AM – 12:00 PM): Industry Talk

MON-AM3: **Metantenna Technology for 5G/6G Base Stations: Opportunities and Challenges**

Speaker: ***Mr. Weihong Xiao***, Huawei Technologies Co., Ltd., China

Weihong XIAO received the Bachelor and Master degrees from the University of Electronic Science and Technology of China (UESTC), Chengdu, China, both in Electronic Engineering, in 2003 and 2006 respectively. Mr. Xiao has been with Huawei Technologies since 2006, where he is the CTO for Base Station Antenna. Under his leading of the antenna R&D, Huawei has become the Market Leader in base station antenna. The newly launched Huawei BladeAAU Pro has been widely recognized in the industry, packaging the iF Design Award, Red Dot Design Award, and Best Mobile Network Infrastructure Award. His research interests include the theory and design of antennas and arrays for base station, and the integration of antenna, filter and wireless algorithm for 5G mobile communications. He holds over 130 granted and pending US/WO/PCT/CN patents.

Afternoon Session - 21 March: Student Paper Contest

Award Committee: Prof. Hisamatsu Nakano, Prof. Minghui Hong

SN	Singapore Time [GMT+8]	Paper Title, Presenting Author and Affiliation
SPC-1	1:20 PM - 1:35 PM	**Low-Profile Uniplanar Dual-Band and Dual-Polarized Microstrip Patch Antenna Using Embedded MTM-EBGs** ***Braden P. Smyth***, University of Alberta, Canada
SPC-2	1:35 PM - 1:50 PM	**A High-Efficiency Conformal Transmitarray Antenna Employing Dual-Layer Ultrathin Huygens Element** ***Li-Zhao Song***, University of Technology Sydney, Australia
SPC-3	1:50 PM - 2:05 PM	**Broadband Dual-Polarized Single-Layer Reflectarray Antenna With Independently Controllable 1-Bit Dual Beams** ***Jiexi Yin***, Southeast University, China
SPC-4	2:05 PM - 2:20 PM	**Arbitrary and Dynamic Poincaré Sphere Polarization Converter with a Time-varying Metasurface** ***Qi Hu***, Nanjing University, China
SPC-5	2:20 PM - 2:35 PM	**Scanning Range Expansion of Planar Phased Arrays Using Metasurfaces** ***Yan-He Lv***, University of Electronic Science and Technology of China, China
	2:35 PM - 2:40 PM	Session Break

Afternoon Session - 21 March: Student Paper Contest

Award Committee: Prof. Hisamatsu Nakano, Prof. Minghui Hong

SN	Singapore Time [GMT+8]	Paper Title, Presenting Author and Affiliation
SPC-6	2:40 PM - 2:55 PM	**Reactive Impedance Surface-Loaded Wideband Wide-scanning Phased Array in Triangular Lattice** ***Binyun Yan***, Nanjing University of Science and Technology, China
SPC-7	2:55 PM - 3:10 PM	**A Hemispherical Wide-Angle Beamsteering Near-Surface Focal-Plane Metamaterial Luneburg Lens Antenna Using Transformation-Optics** ***Ruolei Xu***, National University of Singapore, Singapore
SPC-8	3:10 PM - 3:25 PM	**1 Bit Electronically Reconfigurable Folded Reflectarray Antenna Based on p-i-n Diodes for Wide-Angle Beam-Scanning Applications** ***Zhenglong Wang***, Huaqiao University, China
SPC-9	3:25 PM - 3:40 PM	**Revealing Topology with Transformation Optics** ***Lizhen Lu***, Xi'an Jiaotong University, China / Imperial College London, United Kingdom

Afternoon Session - 21 March: Student Interactive Forum

Session Chairs: Prof. Hisamatsu Nakano, Prof. Minghui Hong

SN	Singapore Time [GMT+8]	Title, Presenting Author and Affiliation
SIF-1	3:40 PM - 3:45 PM	**Feedless Mode Tracking Optimization of Metasurface Antenna Using Characteristic Mode Analysis** ***Kuang Yu***, National University of Singapore, Singapore / Southern University of Science and Technology, China
SIF-2	3:45 PM - 3:50 PM	**Decoupling Technology Based on Irregular Metasurface** ***Danyu Yang***, National University of Singapore, Singapore
SIF-3	3:50 PM - 3:55 PM	**Artificial Neural Network with Active Element Pattern Technique for Finite Periodic Array Design** ***Yang Hong***, University of Electronic Science and Technology of China, China
SIF-4	3:55 PM - 4:00 PM	**Improved Radiation Pattern and Port Isolation of Multiple Henge Monopole Antennas on Finite Ground** ***Zhang Bo***, National University of Singapore, Singapore

Afternoon Session - 21 March

- **Session Chairs:** Prof. Xavier Begaud, Dr. Xinyi Tang

SN	Singapore Time [GMT+8]	Presentations
PM-1	4:20 PM - 5:20 PM	**[KEYNOTE] Self Complementary Metasurfaces** ***Prof. Stefano Maci***, University of Siena, Italy
PM-2	5:20 PM - 6:00 PM	**[INVITED] Strategies to Extend the Bandwidth of Wideband Antennas Over Artificial Magnetic Conductors** ***Prof. Xavier Begaud***, LTCI, Télécom Paris, Institut Polytechnique de Paris, France

21 March (4:20-5:20 PM): Keynote Talk

MON-PM1: Self-Complementary Metasurfaces

Speaker: ***Prof. Stefano Maci***, University of Siena, Italy

Stefano MACI received the Laurea Degree cum Laude at University of Florence in '87 and from '97 is a Professor at the University of Siena. Since 2000, he was member the Technical Advisory Board of 13 international conferences and member of the Review Board of 6 International Journals. In 2004-2007 he was WP leader of the Antenna Center of Excellence (ACE, FP6-EU) and in 2007-2010 he was International Coordinator of a 24-institution consortium of a Marie Curie Action (FP6). In 2004 he was the founder of the European School of Antennas (ESoA), a post graduate school that presently comprises 34 courses on Antennas, Propagation, Electromagnetic Theory, and Computational Electromagnetics and 150 teachers coming from 15 countries. Since 2004 is the Director of ESoA. Since 2010 he has been Principal Investigator of 6 cooperative projects financed by European Space Agency. Professor Maci has been a former member of the AdCom of IEEE Antennas and Propagation Society (AP-S), associate editor of AP-Transaction, Chair of the Award Committee of IEEE AP-S, and member of the Board of Directors of the European Association on Antennas and Propagation (EurAAP). From 2008 to 2015 he has been Director of the PhD program in Information Engineering and Mathematics of University of Siena, and from 2013 to 2015 he was member of the first National Italian Committee for Qualification to Professor. He has been former member of the Antennas and Propagation Executive Board of the Institution of Engineering and Technology (IET, UK). He founded and has been former Director of the consortium FORESEEN, involving 48 European Institutions. He was the principal investigator of the Future Emerging Technology project "Nanoarchitectronics" of the 8th EU Framework program, and he is presently principal investigator of the EU program "Metamask". He was co-founder of 2 Spin-off Companies. He has been a Distinguished Lecturer of the IEEE Antennas and Propagation Society (AP-S), and EuRAAP distinguished lecturer in the ambassador program. He was recipient of the EurAAP Award in 2014, of the IEEE Schelkunoff Transaction Prize in 2016, of the Chen-To Tai Distinguished Educator award in 2016, and of the URSI Dellinger Gold Medal in 2020. He has been TPC Chair of the METAMATERIAL 2020 conference and designed Chairperson of EuCAP 2023. In the last ten years he has been invited 25 times as key-note speaker in international conferences. He is President Elect of the IEEE Antennas and Propagation Society 2022. The research interest of Prof Maci includes high-frequency and beam representation methods, computational electromagnetics, large phased arrays, planar antennas, reflector antennas and feeds, metamaterials and metasurfaces. His research activity is documented in 180 papers published in international journals, (among which 100 on IEEE journals), 10 book chapters, and about 450 papers in proceedings of international conferences. The papers he coauthored have been cited about 8800 times (h index 48, source: Google Scholar).

21 March (5:20-6:00 PM): Invited Talk

MON-PM2: Strategies to Extend the Bandwidth of Wideband Antennas Over Artificial Magnetic Conductors

Speaker: ***Prof. Xavier Begaud***, LTCI, Télécom Paris, Institut Polytechnique de Paris, France

Xavier BEGAUD was born in Chateaudun, France, in 1968. He received a M.S. degree in optics, optoelectronics and microwaves, from Institut National Polytechnique de Grenoble (INPG) in 1992. He received the Ph.D. degree from the University of Rennes in 1996 and the habitation degree from Pierre and Marie Curie University (Paris 6) in 2007. He joined the Télécom Paris in 1998 (formerly Ecole Nationale des Télécommunications, Télécom ParisTech), where he is presently professor. From 2013 to 2017, he was Head of the RF & Microwave group (RFM) at COMELEC Department. He teaches electromagnetics and microwaves in initial training, in continuing education, and in Masters. His research topics in the RF Microwave and Millimeter wave team (RFM²) include theory, conception, modeling, and characterization of wideband, bipolarized, and 3D antennas with special emphasis on numerical methods. Currently, research activities are focused on the design of artificial materials and metamaterials for antennas and radar absorbing materials from GHz to mmWaves. He has published over 250 journal papers, patents, book chapters, and conference articles. He has organized two international conferences (Meta'12 and AES 2012) as the general chairman and edited 2 books.

Morning Session - 22 March (TUE)

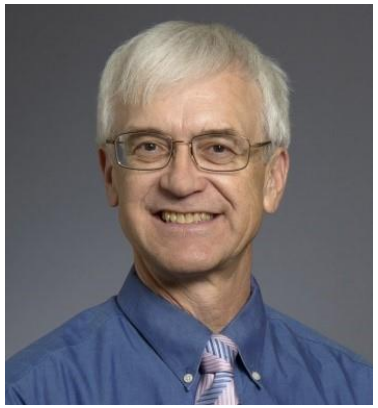
- **Session Chairs:** Prof. Yijun Feng, Dr. Xianming Qing

SN	Singapore Time [GMT+8]	Presentations
AM-1	9:00 AM - 10:00 AM	**[KEYNOTE] Metamaterial-inspired Electrically Small Directive Antennas and Their NextG Applications** ***Prof. Richard W. Ziolkowski***, University of Technology Sydney, Australia
AM-2	10:00 AM - 10:40 AM	**[INVITED] Combining Metamaterials and Electromagnetic Bandgap Structures to Enable Multifunctional Compact Antennas and Systems** ***Prof. Ashwin K. Iyer***, University of Alberta, Canada
	10:40 AM - 11:00 AM	Session Break
AM-3	11:00 AM - 11:40 PM	**[INVITED] Time-varying Coding Metasurface and Its Potential Application in Wireless Communication** ***Prof. Yijun Feng***, Nanjing University, China
	12:00 PM - 2:30 PM	Lunch Break

22 March (9:00-10:00 AM): Keynote Talk

TUE-AM1: Metamaterial-inspired Electrically Small Directive Antennas and Their NextG Applications

Speaker: ***Prof. Richard W. Ziolkowski***, University of Technology Sydney, Australia



Richard W. ZIOLKOWSKI received the B. Sc. (magna cum laude) degree (Hons.) in physics from Brown University, Providence, RI, USA, in 1974 the M.S. and Ph.D. degrees in physics from the University of Illinois at Urbana-Champaign, Urbana, IL, USA, in 1975 and 1980, respectively and an Honorary Doctorate degree from the Technical University of Denmark, Kongens Lyngby, Denmark in 2012. He is currently a Distinguished Professor in the Global Big Data Technologies Centre in the Faculty of Engineering and Information Technologies (FEIT) at the University of Technology Sydney, Ultimo NSW Australia. He became a Professor Emeritus at the University of Arizona in 2018, where he was a Litton Industries John M. Leonis Distinguished Professor in the Department of Electrical and Computer Engineering in the College of Engineering and was also a Professor in the College of Optical Sciences. He was the Computational Electronics and Electromagnetics Thrust Area Leader with the Engineering Research Division of the Lawrence Livermore National Laboratory before joining The University of Arizona, Tucson, AZ, USA, in 1990. Prof. Ziolkowski was the recipient of the 2019 IEEE Electromagnetics Award (IEEE Technical Field Award). He is an IEEE Life Fellow as well as a Fellow of OPTICA (previously the Optical Society of America, OSA) and the American Physical Society (APS). He was the 2014-2015 Australian DSTO Fulbright Distinguished Chair in Advanced Science and Technology. He served as the President of the IEEE Antennas and Propagation Society (AP-S) in 2005 and has had many other AP-S leadership roles. He is also actively involved with the International Union of Radio Science (URSI), the European Association on Antennas and Propagation (EurAAP), and the International Society for Optics and Photonics (SPIE) professional societies. He is the co-Editor of the best-selling 2006 IEEE-Wiley book, Metamaterials: Physics and Engineering Explorations.

22 March (10:00-10:40 AM): Invited Talk

TUE-AM2: Combining Metamaterials and Electromagnetic Bandgap Structures to Enable Multifunctional Compact Antennas and Systems

Speaker: ***Prof. Ashwin K. Iyer***, University of Alberta, Canada

Ashwin K. IYER received the Ph.D. degree in electrical engineering from the University of Toronto, Canada in 2009. He joined the faculty of the University of Alberta Dept. of Electrical & Computer Engineering the same year and now holds the titles of Professor and Associate Chair (Undergraduate). He leads a team of talented graduate students in several areas of RF/microwave/millimeter-wave and antenna engineering. A large focus of his research involves the analysis, characterization, and experimental validation of metamaterial/metasurface phenomena and their applications. Dr. Iyer was part of the pioneering effort at the University of Toronto in the early 2000s in developing metamaterials that exhibit a negative refractive index and demonstrating free-space subdiffraction imaging. He is an author of nearly 150 refereed contributions in the fields of RF/microwave engineering, antennas, physics, and optics, and he has co-authored 4 invited chapters appearing in the earliest textbook references on the subject of metamaterials. Dr. Iyer has received the IEEE AP-S R. W. P. King Award (2008) and Donald G. Dudley Jr. Undergraduate Teaching Award (2015) and both of the University of Alberta's premier undergraduate teaching awards. He was an Associate Editor of the IEEE Transactions on Antennas and Propagation (T-AP) from 2012 to 2018 and now serves as a Track Editor. He was also Guest Editor for the IEEE T-AP Special Issue on Recent Advances in Metamaterials and Metasurfaces, which was the largest special issue in the history of the T-AP. He was the TPC Co-Chair for the AP-S/URSI Symposium three times (2015, 2016, 2020) and currently serves on the AP-S Administrative Committee, Education Committee, and Member Benefits Committee.

22 March (11:00-11:40 AM): Invited Talk

TUE-AM3: Time-varying Coding Metasurface and Its Potential Application in Wireless Communication

Speaker: ***Prof. Yijun Feng***, Nanjing University, China

Yijun FENG received the Ph.D. degrees from the Department of Electronic Science and Engineering, Nanjing University, in 1992. Since then he has been a faculty member and is currently a full professor and the Deputy Dean of the School of Electronic Science and Engineering, Nanjing University. From September 1995 to July 1996, he was a visiting scientist with the Physics Department, Technical University of Denmark. From August 2001 to August 2002, he was a visiting researcher with the University of California at Berkeley. Prof. Feng's research interests include the electromagnetic metamaterial and application to microwave and photonic devices, electromagnetic wave theory, and novel microwave functional materials. He has conducted more than twenty scientific research projects including National 973, 863 Projects, the National Natural Science Foundation projects and the National Key Research and Development Program in China. He has received the 2010 Science and Technology Award (First grade) of Jiangsu Province, and the 2021 Science and Technology Award (First grade) of Shanxi Province, China. He has authored or co-authored over 200 peer-reviewed journal papers including in Science, Adv. Mater., Phys. Rev. Applied, Appl. Phys. Lett., Opt. Lett, IEEE TAP, IEEE AWPL, etc, and over 150 referred international conference papers.

Afternoon Session - 22 March

- **Session Chairs:** Prof. Chengwei Qiu, Dr. Terence See

SN	Singapore Time [GMT+8]	Presentations
PM-1	2:30 PM - 3:00 PM	***Student Paper Contest Award Ceremony***
PM-2	3:00 PM - 4:00 PM	**[KEYNOTE] Metasurfaces 3.0 As A Key Enabling Technology For Future Wireless Systems** ***Prof. Filiberto Bilotti***, Roma Tre University, Italy
	4:00 PM - 4:20 PM	Session Break
PM-3	4:20 PM - 5:00 PM	**[INVITED] Modulated Metasurface Antennas: Models, Design Procedures and Practical Realizations** ***Prof. Enrica Martini***, University of Siena, Italy
PM-4	5:00 PM - 5:40 PM	**[INVITED] Reconfigurable Metasurfaces and Beamsteered Metantennas for Millimetre-wave and SubTHz Communications** ***Prof. Alexandros Feresidis***, University of Birmingham, UK

22 March (3:00-4:00 PM): Keynote Talk

TUE-PM2: Metasurfaces 3.0 As A Key Enabling Technology For Future Wireless Systems

Speaker: ***Prof. Filiberto Bilotti***, Roma Tre University, Italy

Filiberto BILOTTI is a Full Professor of electromagnetic field theory and the Director of the Antennas and Metamaterials Research Laboratory at the Department of Industrial, Electronic, Mechanical Engineering of ROMA TRE University. His research is recently focused on the modelling and applications of reconfigurable intelligent metasurfaces. He has published 500+ papers in international journals, conference proceedings, book chapters, and 3 patents. Filiberto Bilotti was a founding member of the Virtual Institute for Artificial Electromagnetic Materials and Metamaterials – METAMORPHOSE VI in 2007 and led the society as the President in 2013-2019. He also served as an Associate Editor for the IEEE Transactions on Antennas and Propagation and the journal Metamaterials and as a member of the Editorial Board of the International Journal on RF and Microwave Computer-Aided Engineering, Nature Scientific Reports, and EPJ Applied Metamaterials. He hosted in 2007 the inaugural edition of the International Congress on Advanced Electromagnetic Materials in Microwaves and Optics – Metamaterials Congress, served as the Chair of the Steering Committee of the same conference for 8 editions, and was elected as the General Chair of the Metamaterials Congress for 4 editions. He has been also serving as the chair or a member of the technical program, steering, and organizing committee of the main national and international conferences in the field of applied electromagnetics. Prof. Bilotti was the recipient of a number of awards and recognitions, including the elevation to the IEEE Fellow grade for contributions to metamaterials for electromagnetic and antenna applications, outstanding Associate Editor of the IEEE TAP, NATO SET Panel Excellence Award, Finmeccanica Group Innovation Prize, IET Best Poster Paper Award (Metamaterials 2011 and 2013), Raj Mittra Travel Grant Senior Researcher Award.

22 March (4:20-5:00PM): Invited Talk

TUE-PM3: **Modulated Metasurface Antennas: Models, Design Procedures and Practical Realizations**

Speaker: ***Prof. Enrica Martini***, University of Siena, Italy

Enrica MARTINI received the Laurea degree (cum laude) in telecommunication engineering from the University of Florence, Italy, in 1998. From 1998 to 1999 she worked at the University of Florence under a one-year research grant from the Alenia Aerospazio Company, Rome, Italy. In 2002, she received the PhD degree in informatics and telecommunications from the University of Florence and the Ph.D. degree in electronics from the University of Nice-Sophia Antipolis, under joint supervision. In 2002, she was appointed Research Associate at the University of Siena, Italy. In 2005, she received the Hans Christian Ørsted Postdoctoral Fellowship from the Technical University of Denmark, Lyngby, Denmark, and she joined the Electromagnetic Systems Section of the Ørsted•DTU Department until 2007. From 2007 to 2017 she was a Postdoctoral Fellow at the University of Siena, Italy. In 2012, she co-founded the start-up Wave Up Srl, Siena, Italy, of which she was the CEO from 2016 to 2018. From 2019 to 2021 she was an assistant professor at the University of Siena, Italy. She is currently an Associate Professor with the Department of Information Engineering and Mathematics, University of Siena, Siena, Italy Dr. Martini coordinated tasks of various research projects funded by national and international governmental institutions, as well as by industry. Her research interests include metasurfaces and metamaterial characterization, metasurface-based antennas and microwave devices, electromagnetic scattering, antenna measurements and tropospheric propagation. Dr. Martini was a co-recipient of the 2016 Schelkunoff Transactions Prize Paper Award, of the Best Paper Award in Antenna Design and Applications at the 11th European Conference on Antennas and Propagation in 2017, of the Best Poster Award at the Metamaterials Congress in 2019 and of the Best Paper Award in Electromagnetics at the 15th European Conference on Antennas and Propagation in 2021.

22 March (5:00-5:40PM): Invited Talk

TUE-PM4: Reconfigurable Metasurfaces and Beam-steered Metantennas for Millimetre-wave and Sub-THz Communications

Speaker: ***Prof. Alexandros Feresidis***, University of Birmingham, UK

Alexandros FERESIDIS is a Professor of Microwave and Terahertz Communications and Head of the Metamaterials Engineering Laboratory in the School of Engineering, University of Birmingham, UK. He leads research on electromagnetic metamaterial structures, antennas, microwave, mm-wave and THz circuits. He is an expert on the analysis and design of artificial periodic metamaterials and metasurfaces, electromagnetic band gap (EBG) structures and frequency selective surfaces (FSS), high-gain and base station antennas, leaky wave antennas, small/compact antennas, computational electromagnetics, microwave/mm-wave/THz circuits and bio-electromagnetic systems. He has authored five book chapters on artificial electromagnetic surfaces and antennas and has published over 180 papers in peer reviewed international journals and conference proceedings. He has presented a number of invited papers and seminars in international conferences and European PhD schools. He has held a Senior Research Fellowship Award from the U.K. Royal Academy of Engineering and The Leverhulme Trust. He is a member of the UK EPSRC Peer Review College, he was on the editorial board of IET Microwaves, Antennas and Propagation journal (2014-2018) and he is currently an Associate Editor in the IEEE Transactions on Antennas and Propagation.