



Time	Room 1: Session	Paper ID	Paper Title	Authors	Room 2: Session	Paper ID	Paper Title	Authors	Room 3: Session	Paper ID	Paper Title	Authors		
8:00-8:30 8:30-8:40 8:40-9:00	Special session 4, "Focus Session on Commercial Topics"	157088890	Uncertainty Quantification in Commercial Software Tools for Electrically Large Antennas and Platforms	Erik Jørgensen, Mustafa Murat Bilgi, Oscar Borrás, Peter Meincke, Tony Rubæk and Min Zhou (TICA, Denmark)	PLENARY TALK 1: Oscar Brune (CalTech) Special session 1, The 30th Anniversary of space mapping: Retrospective, Applications and Advances	157088778	Port Tuning Optimization with EM Accuracy and Circuit Theory Speed	James C. Rautio (Sonnet Software, Inc., USA)	157088904	Nanometric HDZ as dielectric material in Metal-insulator-Metal devices: experimental characterization and DFT. Pierluigi Stria (University of Arcona, Italy), Davide Mercarelli (Università Politecnica delle Marche, Italy), Luca Pierantoni (Università Politecnica delle Marche, Italy), Martino Aldrigo (IMT Bucharest, Romania), Mircea Dragoman (National Institute for Research and Development in Microtechnology (IMT), Romania), George Deligeorgis (Foundations for Research and Technology Hellas, Greece), Ehab Mohabbi (Marche Polytechnic University, Italy)	Eleonora Pavoni (Marche Polytechnic University, Italy), Emiliano Laudadio and Pierluigi Stria (University of Arcona, Italy), Davide Mercarelli (Università Politecnica delle Marche, Italy), Luca Pierantoni (Università Politecnica delle Marche, Italy), Martino Aldrigo (IMT Bucharest, Romania), Mircea Dragoman (National Institute for Research and Development in Microtechnology (IMT), Romania), George Deligeorgis (Foundations for Research and Technology Hellas, Greece), Ehab Mohabbi (Marche Polytechnic University, Italy)			
9:00-9:20	Paper 1	157088913	Efficient design of 5G and 6G front ends using EMPREXPU	Winfried Simon, Marta Acías Campo, Aline Friedrich, Oliver Lütkeke, Andreas Lauer and Simon Brun (AMT GmbH, Germany)	157088830	Recent Advances in Mesh Morphing Embedded Space Mapping Optimization	Di Zhou and Feng Feng (Tianjin University, China), Jianan Zhang (Southeast University, China), Jing Jiu (Central China Normal University, China), Wei Zhang (Beijing University of Posts and Telecommunications, Canada), Shoua Yin (Tianjin Polytechnic University, China), Qian Zhang (Carleton University, Canada)	157088920	Tunneling Nonreciprocity in Metal Contacts with Rough Surfaces	Ates Schuchinsky (University of Liverpool, United Kingdom (Great Britain))				
9:20-9:40	Paper 2	157088918	Advanced CEM Solutions in Altair Feko	Cl Raddy (Altair, USA)	157089168	Port Tuning and Tuning Space Mapping	Guangyong Wang (Southern University of Science and Technology, China), Zhen Zhang (Guangzhou University, China), Qinghua Cheng (Southern University of Science and Technology, Shenzhen, China)	1570891803	A Fast Modelling Based Technique for the Characterization of Graphene-Based Polymer Composites	Lukasz Nowicki (ZSWED Sp. z o.o., Poland), Karolina Fijał (Warsaw University of Technology, Poland), Malgorzata Celuch (ZSWED, Poland), Marisuz Zbrójek (Warsaw University of Technology, Poland), Marzena Oszwalska-Fijał and Janusz Rudnicki (ZSWED Sp. z o.o., Poland)				
9:40-10:00	Paper 3	157088977	Cutting Edge Analysis of RAN/Edge Compute Nodes for 5G Systems	Laila Salman (ANSYS Inc., Canada) ANSYS Canada USA, Canada	157088820	Surrogate-Assisted Electromagnetic-Focused Multiphysics Modeling and Optimization: An Overview	Tong Zhai and Wei Zhang (Beijing University of Posts and Telecommunications, Canada), Feng Feng (Tianjin University, China), Housia Zhang and Zhiguo Zhang (Beijing University of Posts and Telecommunications, China)	1570892277	Bi-layered Magnetic Interference Shields with Thinner Metals	Ghaleb Al Duhi and Mariameha Raj Pulugurtha (Florida International University, USA)				
10:00-10:20	Paper 4	COFFEE BREAK				157088966	Method of Signaling Analysis Including Jitter Effect for Large Scale Nonlinear Channel and Links	Yuhang Dou (Xiamen University, China), Dong Jiao (Purdue University, USA), Jianfeng Zhu (Intel Corporation, USA)	1570889212	Microwave Heating of the water film coated on the metal surface based on the microwave-coupled energy	Zihan Huang (Sichuan University, China), Haosheng Zhu (Sichuan University, China), Ce Wang and Yang Tang (Sichuan University, China)			
10:40-11:00	Paper 5	157089280	Addressing EM Simulation Challenges for 2.5D/3D IC Designs	Jonathan Annonson (EDMWorks Inc., Canada), Feng Ling (Xpedient Technology Inc., USA)	Analysis and Design Methods for Communication Systems and Antennas	1570893249	Virtual Transceiver Matrix for Future Programmable Wireless Sensing and Communication Frontends	Seyed Ali Khorasani (Ecole Polytechnique de Montreal, Canada), Pascal Bursac (Ecole Polytechnique, Canada), Xu Wu (Polytechnique Montreal, Canada)	1570893274	Enhancement of Sensitivity of Radio Frequency based Biosensitric Detection in the Presence of Gold Nanoparticles: A Feasibility Study	Aneeta Masumder (IIT, Hyderabad, India), Prabhakar Bhimadrapati (IIT, Hyderabad, India), Aseemuddin Syed (International Institute of Information Technology (IIT) Hyderabad, India), Tapan Kumar Sahu (IIT-Hyderabad, India)			
11:00-11:20	Paper 6	157089545	Design and Analysis of Reconfigurable Cylindrical Dielectric Resonator Antenna for Sub-5 GHz 5G Application	Prinka Ranjan (Indian Institute Of Information Technology & Management, India), Jayant Rai (ABV-ITM GWALIOR, India)	1570888769	Mutual Coupling Reduction Between Closely Packed Microstrip Patch Antennas Using Parallel Coupled-Line Resonators	Baytulhah Bodur (Itisbanul Inc., Turkey)	1570879747	Effects of focalization length and spatial disorder on a charge carrier mobility in organic disordered semiconductors	Seyfan Kelli Shukri (Sidaa University, Ethiopia)				
11:20-11:40	Paper 7	157088944	Method of Signaling Analysis Including Jitter Effect for Large Scale Nonlinear Channel and Links	Yuhang Dou (Xiamen University, China), Dong Jiao (Purdue University, USA), Jianfeng Zhu (Intel Corporation, USA)	1570893249	Virtual Transceiver Matrix for Future Programmable Wireless Sensing and Communication Frontends	Seyed Ali Khorasani (Ecole Polytechnique de Montreal, Canada), Pascal Bursac (Ecole Polytechnique, Canada), Xu Wu (Polytechnique Montreal, Canada)	1570893274	Enhancement of Sensitivity of Radio Frequency based Biosensitric Detection in the Presence of Gold Nanoparticles: A Feasibility Study	Aneeta Masumder (IIT, Hyderabad, India), Prabhakar Bhimadrapati (IIT, Hyderabad, India), Aseemuddin Syed (International Institute of Information Technology (IIT) Hyderabad, India), Tapan Kumar Sahu (IIT-Hyderabad, India)				
11:40-12:00	Paper 8	157088944	Method of Signaling Analysis Including Jitter Effect for Large Scale Nonlinear Channel and Links	Yuhang Dou (Xiamen University, China), Dong Jiao (Purdue University, USA), Jianfeng Zhu (Intel Corporation, USA)	1570893249	Virtual Transceiver Matrix for Future Programmable Wireless Sensing and Communication Frontends	Seyed Ali Khorasani (Ecole Polytechnique de Montreal, Canada), Pascal Bursac (Ecole Polytechnique, Canada), Xu Wu (Polytechnique Montreal, Canada)	1570893274	Enhancement of Sensitivity of Radio Frequency based Biosensitric Detection in the Presence of Gold Nanoparticles: A Feasibility Study	Aneeta Masumder (IIT, Hyderabad, India), Prabhakar Bhimadrapati (IIT, Hyderabad, India), Aseemuddin Syed (International Institute of Information Technology (IIT) Hyderabad, India), Tapan Kumar Sahu (IIT-Hyderabad, India)				
12:00-12:30 12:30-12:40 12:40-13:00 13:00-13:20 13:20-13:40 13:40-14:00	LUNCH BREAK - 15/PI Expert Panel: W. Beyene (Metal, K. Cel (Intel), C. Cheng (HP Enterprise), J. Hejazi (Nvidia), R. Murgan (TI)													
14:00-14:20	Paper 1	157088832	Finite Element Time Domain Discretization of a Semi-classical Maxwell-Schrodinger Model of a Transmon Qubit	Thomas B. Roth (Purdue University, USA)	Numerical Methods for Periodic Structures, Metasurfaces and Metamaterials	157088861	Eigenvalue Analysis of Multilayer Periodic Photonic Structures Using the Scattering Matrix Method with FD Staircase	Yijia Cheng (Zhejiang University, China), Wei E. I. Sha (Zhejiang University, China)	1570889342	Fast Volume Integral Equation Based Modeling of Quantum Gate Circuitry	Runwei Zhou, Dan Jiao and Zubin Jacob (Purdue University, USA)	157088830	Efficient Equivalent Circuits Approach for Millimeter Wave Metamaterial Resonators	N. Joseph Christopher and Davide Mercarelli (Università Politecnica delle Marche, Italy), Luca Matamantoni (Università Politecnica delle Marche, Italy), Paolo Russo (Università Politecnica delle Marche, Italy), Leonardo Zappelli (Givonim, Italy)
14:20-14:40	Paper 2	1570891289	Solving the Fully Coupled Time-Dependent Maxwell-Dirac System: A Second-Order Accurate Numerical Scheme	Jul Van den Broeck, Emile Vanderstraeten, Pieter Declercq and Dries Vande Ginste (Ghent University, Belgium)	1570895536	Design and Experimental Evaluation of a Refracting Metasurface	Max Kelly, Mario Phaneuf and Puyan Mojabbi (University of Manitoba, Canada)	1570895416	AC-Quigley Gradient Algorithm for the Design of PEC-Metasurface Pairs for Beam Shaping and Matching	Hans P. Schreineckebach and Puyan Mojabbi (University of Manitoba, Canada)				
14:40-15:00	Paper 3	1570892206	Hybrid Classical-Quantum Computing Framework for RIS-assisted Wireless Network	Charan Ravi (University of Illinois at Urbana-Champaign, USA), Gabriele Orlandi (University of Nottingham, United Kingdom (Great Britain)), Zhen Feng (University of Illinois at Urbana-Champaign, USA)	1570892206	Hybrid Classical-Quantum Computing Framework for RIS-assisted Wireless Network	Charan Ravi (University of Illinois at Urbana-Champaign, USA), Gabriele Orlandi (University of Nottingham, United Kingdom (Great Britain)), Zhen Feng (University of Illinois at Urbana-Champaign, USA)	1570892206	Hybrid Classical-Quantum Computing Framework for RIS-assisted Wireless Network	Charan Ravi (University of Illinois at Urbana-Champaign, USA), Gabriele Orlandi (University of Nottingham, United Kingdom (Great Britain)), Zhen Feng (University of Illinois at Urbana-Champaign, USA)				
15:00-15:20	Paper 4	COFFEE BREAK												
15:20-15:40	Special session 7, "Industry Applications of Fast Algorithms"	157088679	Challenges Faced in Commercial CEM Development	Johann van Tonder (Altair, South Africa), Ulrich Jakobus (Altair Engineering GmbH, Germany)	1570888519	Topological states in the Staircase Triangle photonic crystals	Tianjun Liu (Hunan University, China), Yuchen Feng (Hunan University, Singapore), Bei Van (Hunan University, China)	1570892203	Rapid Optimization of Dielectric Rod Arrays for Microwave Radiation Shaping Applications	Siva Sivar (Middle East Technical University, Turkey), Murat Enes Hatipoğlu (Gebze Technical University, Turkey), Oguz Eris and Cagay Ergul (Middle East Technical University, Turkey), Fatih Dikmen (Gebze Technical University, Turkey)				
15:40-16:00	Paper 5	1570888919	Meshing Challenges in the Higher-Order Multithreaded Fast Multipole Method	Peter Meincke, Erik Jørgensen and Oscar Borrás (TICA, Denmark)	1570892229	On Regularized T-Matrix Method and its MM- Acceleration Incorporating Oblique Plane mmWave Scattering by Dielectric Cylinders for Antisubreflective DRNG Materials	Murat Enes Hatipoğlu and Fatih Dikmen (Gebze Technical University, Turkey)	1570892229	On Regularized T-Matrix Method and its MM- Acceleration Incorporating Oblique Plane mmWave Scattering by Dielectric Cylinders for Antisubreflective DRNG Materials	Murat Enes Hatipoğlu and Fatih Dikmen (Gebze Technical University, Turkey)				
16:00-16:20	Paper 6	1570890040	On the Implementation of Laplace and a Broadband Helmholtz Fast Multipole Method as an Application Independent Library	Sanjay Velampararnil (ANSYS Inc., USA)	1570892229	On Regularized T-Matrix Method and its MM- Acceleration Incorporating Oblique Plane mmWave Scattering by Dielectric Cylinders for Antisubreflective DRNG Materials	Murat Enes Hatipoğlu and Fatih Dikmen (Gebze Technical University, Turkey)	1570892229	On Regularized T-Matrix Method and its MM- Acceleration Incorporating Oblique Plane mmWave Scattering by Dielectric Cylinders for Antisubreflective DRNG Materials	Murat Enes Hatipoğlu and Fatih Dikmen (Gebze Technical University, Turkey)				
16:20-16:40	Paper 7	PLENARY TALK 2: Larry Williams (ANSYS)												
16:40-17:00	Paper 8	PLENARY TALK 2: Larry Williams (ANSYS)												
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PLENARY TALK 1: Joe Lovvri (University of Manitoba)

Room 1: Session	Paper ID	Paper Title	Authors	Room 2: Session	Paper ID	Paper Title	Authors	Room 3: Session	Paper ID	Paper Title	Authors
Special session 6: "Machine Learning and AI Methods"	157088683	Performance Investigation of Different Optimization Algorithms in neuro-CMF based Intelligent Design of Metasurfaces	Long Chen, Jianan Jiang, Jingyuan Zhang, Jian Wei You and Tie Jun Cui (Southeast University, China)	Special session 8: "Numerical Methods and Optimization for Detection and Imaging"	1570894855	Feature Based Supervised Deep Method for 2-D Microwave Imaging of Metallic Targets	Zhiqiao Lin, Rui Guo, Zekui Liu, Mookun Li, Fan Yang and Shenheng Xu (Dinghua University, China); Aria Abubakar (Schlumberger-Doll Research, USA)				
Paper 1	1570887078	An Overview of Deep Learning Techniques for Inverse Design of Metasurface	Junjie Hou, Jing Jin, Hai Lin, Xian Liu and Jiaping Fu (Central China Normal University, China); Feng Feng (Tianjin University, China)		1570895093	A Multi-Branch Data-to-Image Neural Network for Electromagnetic Imaging	Keelley Edwards, Ben J Martin, Joe Lovvri, Colin Gleason and Ian Jeffrey (University of Manitoba, Canada)				
Paper 2	1570888313	The Progress and Prospects of Bayesian-based Automated ANN Model Generation Method for Microwave Modeling	Feng Feng and Jinjun Cui (Tianjin University, China); Xin Liu (Harbin Institute of Technology, China); Wenyuan Liu (Shaanxi University of Science and Technology, China); Weicong He (Beijing University of Technology, China); Qijun Zhang (Carleton University, Canada)		1570895392	A New Learning Method for Millimeter-Wave Short-Range Imaging	Tianfan Hu, NUS, Singapore; Xudong Chen (National University of Singapore, Singapore)				
Paper 3	1570888322	Samplitude Assisted Multi-State Tuning Driven EM Optimization for Tunable Cavity Filter	Xudong Liu (Beijing University of Posts and State Tuning Driven EM Telecommunications, China); Wei Zhang (Beijing University of Posts and Telecommunications, Canada); Zhiqiao Zhang and Huiqin Zhang (Beijing University of Posts and Telecommunications, China)		1570896513	Electromagnetic Inversion in Enclosed Imaging Systems at Resonance: Thoughts and Paths Forward	Colin Gilmore, Seth J Cuthers, Ian Jeffrey and Joe Lovvri (University of Manitoba, Canada)				

COFFEE BREAK

Paper 4	1570888815	Study of X-parameters Modeling for Microwave Power Devices based on ANNs	Lin Qian (Dinghai Nationalities University & No. 10, China); Shaoyang Wang and Xiaodong Wang (Qinghai Minzu University, China); Hanfeng Wu (Gansu Technology Co Ltd, China)		1570895270	Multiple-Space Deep Learning Schemes for Inverse Scattering Problems	Yuesong Wang, Junyue Jiang, Zhongdong Siyuan He and Zhun Wei (Zhejiang University, China)				
Paper 5	1570888813	3-D Modeling and FEA for MCM by APDL	Lin Qian (Dinghai Nationalities University & No. 10, China); Peng-Fei Zhao (Gansu Minzu University, China); Hanfeng Wu (Gansu Technology Co Ltd, China)		1570889131	A Fully Numerical Environment for Evaluating the Robustness of the Short Open Load Calibration for Capacitance Measurements in Scanning Microwave Microscopy	Daniel Richert (Laboratoire National de Métrologie Et d'Essais, France); Shafiq Kga and Josu Morán Mesa (LNE, in Scanning Microwave Microscopy, France); Damien Delavayolle (MSA de Lyon & Institut des Nanotechnologies de Lyon (INL) UMR CNRS 5270, France); François Piquemal (LNE, France)				
Paper 6	15708892255	Recent Advances in Generalizable Neural Network Propagation Models	Aristides Seretis and Costas D Sarris (University of Toronto, Canada)		1570888874	Early Detection of Breast Cancer using Diffuse Optical Probe and Ensemble Learning Method	Maryam Morrtahar, Shadi Mousavian and Ramin Ramesshan (Dimon Fraser University, Canada); Fraser Gohrangiz (SPL, Canada)				
Paper 7	15708890335	Simulation-Inserted Optimization of Four-order Waveguide Filter using Combined Quasi-Newton Method with Lagrangian Method	Xiaolong Li and Feng Feng (Tianjin University, China); Shukai Yao (Tianjin Polytechnic University, China); Wei Zhang (Beijing University of Posts and Telecommunications, Canada); Qijun Zhang (Carleton University, Canada)		1570891364	Dielectrophoresis Characterization of Particles and Cells using Imaging Flow Cytometry	Baham Arzhang, Justyna Liu, James Dietrich, Sara Abouzar, Emrah Kocak, Ehsan Salimi, Douglas Thomson and Greg Bridges (University of Manitoba, Canada)				

LUNCH BREAK

PLENARY TALK 2: Dan Jiao (Purdue University)

Paper 1	1570886874	Efficient Implementation of the Vector-Valued Kernel Ridge Regression for the Uncertainty Quantification of the Scattering Parameter of a 2 GHz Low Noise Amplifier	Nastaran Soleimani, Paolo Manfredi and Riccardo Trincherò (Politecnico di Torino, Italy)	Fast Algorithms	1570892247	Tuning Parameters in the Genetic Algorithm Optimization of Electrostatic Electron Lenses	Neda Hesam Mahmoudi, Nezhad, Mohammad Aboufarhan, Cornelis W. Hagena and Pieter Krut (Delft University of Technology, The Netherlands)				
Paper 2	1570887515	Reinforcement Learning Applied to the Optimization of Power Delivery Networks with Multiple Voltage Domains	Sunghyup Han and Olaya Waqar Bhatti (Georgia Institute of Technology, USA); Woo Jin Na (Samsung Electronics, Korea (South)); Madhava Swaminathan (Georgia Institute of Technology)		1570895481	On the Investigation of the Kernels in Gaussian Process Regression for the RCS Prediction of a Conducting Object	Nihat Nebil Gökçepil, Akın Altınoklu, Mehmet Erni İnal and Gökül Sever (ASELSAN Inc., Turkey)				
Paper 3	1570888861	PCU Gen's Physical Layer Equalization Tuning by Using r-emax Clustering	Francisco E. Rangel-Patino (Intel Corporation & ITSD - The Jesuit University of Guadalajara, Mexico); Andres Viveros-Warner (Intel Corporation, Mexico); Chintan Rajyavardhan (Intel Corporation, USA); Edgar A Viga-Ochoa, Sofia D. Rodriguez-Santa and Johana L. Sierra Cortes (Intel Corporation, Mexico); Mananath Shival (Intel Corporation, USA); Jose E. Rayas-Sanchez (ITSD - The Jesuit University of Guadalajara, Mexico)		1570895502	Resonance Frequency Analysis of the 2D Dielectric Objects with Rigorous Algorithm Based on the Analytical Regularization Method	Emrah Sever (ASELSAN Inc., Turkey); Fatih Dikmen and Murat Emre Hatipoğlu (Sakarya Technical University, Turkey); Yury A. Tuchin (Gökbay Institute of Technology, Turkey)				
Paper 4	15708892150	Multi-Physics Reliability Modeling of Flip-Chip Package Build-Up Film Passivation Crack	Yutaka Suzuki (Texas Instrument Incorporated, USA)		1570891751	Analysis of a circularly polarized circular and hexagonal dielectric element on a parallel-plate waveguide with perpendicular corporate feed	Takashi Tomura, Hiroki Nishimoto and Jiro Hirokawa (Tokyo Institute of Technology, Japan)				

COFFEE BREAK

Paper 5	1570892114	Circuit Modeling of Resonant Cavity Formed by Return Viase	Mika Steinberger (The MathWorks Inc., USA); Donald Talian (SI GLPS, USA); Orlando Baff (Giga Test Lab, USA); Kevin Rowett (KODNN TECH, USA)	Advances in Numerical Techniques	1570891368	The Quantum Matrix Equation Solver for Computational Electromagnetic Problems: Challenges in the NISG Era	Xinbo Li, Ian Jeffrey and Vladimir Okhmatovskii (University of Manitoba, Canada)				
Paper 6	1570892048	An Efficient Electrical-Thermal Co-Design Methodology for Analysis of High-Speed PCB Interconnects	Suyash Kushwaha and Sunil Pathania (Indian Institute of Technology Roorkee, India); Rohit Y. Sharma (Indian Institute of Technology Roorkee & Department of Electrical Engineering, India); Sameeh Kumar (ABV Indian Institute of Information Technology & Management Gwalior, India); Bhrav Malhotra (IIT, R & D, USA); Mitharjan Vasa (IIT, R & D, India); Ashish Shivastava and Vijender Kumar (Delhi Bangalore, India)		1570887122	Non-relativistic Finite Difference Time Domain method for electromagnetic problems with moving bodies	Muhammad Marvasti and Gaurav Srivastava (Université du Québec en Outaouais, Canada)				
Paper 7	1570888725	Parasitic Parameters Extraction and Compensation for Broadband High-Efficiency mm-Wave GAN MMIC PA Design	Ziming Zhao and Xiao-Wei Zhu (Southeast University, China)		1570880834	Implementation of the MLFMM for Solving Scattering of an Electromagnetic Wave from 3D PEC Surfaces Using Fourier Series	Moh'd Ahmad (Applied Science University, Bahrain)				
Paper 8	1570889350	Modeling of Si Rib and Photonic Crystal Metasurface Modulators for Electro-Optic Co-Simulation up to 64 Gbaud	Keisuke Kawahara and Toshihiko Baba (Tokohama National University, Japan)		1570891328	A Stochastic Radial Point Interpolation Method for Uncertainty Analysis in Geometry	Kiran R (Indian Institute of Space Science and Technology, India)				