



2024 IEEE 7th International Workshop on Radio Frequency and Antenna Technologies



Shenzhen University

Shenzhen, China, May 31 - June 3, 2024

FINAL PROGRAM

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IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

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Table of Contents

Welcome Message from the General Chairs	4
Greetings from the TPC Chairs	5
Committees	7
Oral Sessions	10
Technical Program at a Glance	11
Technical Program	14
Saturday, June 1, 2024	14
Sunday, June 2, 2024	30
Monday Morning, June 3, 2024	44
Conference Venue	51
Floor Plans	52

IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

Welcome Message from General Chair and Executive Chair



Prof. Junfa Mao

IEEE iWRF&AT 2024 General Chair



Prof. Yejun He

IEEE iWRF&AT 2024 Executive Chair

On behalf of the Organizing Committee of the 2024 IEEE 7th International Workshop on Radio Frequency & Antenna Technologies (IEEE iWRF&AT 2024), it is our great pleasure to welcome each participant in Shenzhen, one of the most beautiful cities in China. The conference is held in Sentosa Hotel Shenzhen Feicui Branch, from 31 May (Friday) to 3 June (Monday) 2024. The event is organized by Shenzhen University under the auspices of the IEEE and the IEEE Antennas and Propagation Society-Shenzhen Chapter.

Shenzhen, a beautiful coastal city situated just across the border from Hong Kong, is a showcase of China's reforms and opening up to the rest of the world. Over the past 45 years, Shenzhen has developed from a small fishing village into a modern city with a population of 17 million and a gross domestic product (GDP) ranking among the highest in China. SHENZHEN — Shenzhen, once again, is at the vanguard of China's development, harking back to more than three decades ago, when it became the nation's first special economic zone to lead the reform and opening-up.

Now the southern Chinese city is embracing a new unparalleled role as "a pilot demonstration area of socialism with Chinese characteristics." The setting of IEEE iWRF&AT 2024 in Shenzhen will enable you to explore the most recent advances and new techniques in wireless communications, antennas and radio frequency applications and so on, to explore famous tourist attractions in Shenzhen, and to network with friends, colleagues, and customers from around the world.

Prof. Junfa Mao

General Chair

Prof. Yejun He

Executive Chair

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Shenzhen, China, May 31 - June 3, 2024

Greetings from the TPC Chairs



Prof. Amir Boag

IEEE iWRF&AT 2024 TPC Chair



Prof. Xiuyin Zhang

IEEE iWRF&AT 2024 TPC Chair



Prof. Mohsen Guizani

IEEE iWRF&AT 2024 TPC Chair



Prof. Chaoyun Song

IEEE iWRF&AT 2024 TPC Chair

On behalf of the Technical Program Committee, We would like to welcome all the participants of the 2024 IEEE 7th International Workshop on Radio Frequency and Antenna Technologies (IEEE iWRF&AT 2024, or RFAT 2024) . It is great honor for us to welcome researchers and scientists coming from all around the world.

RFAT 2024's mission is to bring together innovative researchers, developers, and practitioners from academia, industry, and governments to disseminate their significant research findings and to expand their innovative research ideas. Whether you are a seasoned expert or a budding scholar, your presence enriches the discourse and propels us toward new frontiers of knowledge.

The conference received more than 168 paper submissions to 3 regular track sessions and 22 special sessions. All papers were rigorously and independently peer-reviewed by more than 50 Technical Program Committee (TPC) members and a large number of reviewers. The program committee had a difficult task to select 138 papers among many high-quality submissions for presentation and publication, representing an overall acceptance rate of about 82.1%. We distribute these accepted papers in 30 sessions where 12 invited speeches are included.

The final technical program of RFAT 2024 is the result of the devotion and hard work of many people. We would like to extend our sincere thanks to all the authors who submitted their work, the Track Chairs/Special Session Organizers/TPC members, and reviewers, who greatly contributed to the success of the RFAT 2024 paper review process under a tight schedule, and everyone else who contributed to putting together a comprehensive and inspiring program. In particular, we would like to thank the Sponsors, Shenzhen University, IEEE Antennas and Propagation Society, and IEEE Antennas and Propagation Society- Shenzhen Chapter for their generous support to RFAT 2024.

IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

We cordially invite all of you to join us and interact with our outstanding keynote speakers, invited speakers and experts in the conference. Our goal is to make your participation in RFAT 2024 one of the most productive and memorable experiences of your life from both professional and personal perspectives.

Welcome to beautiful Shenzhen!

Prof. **Amir Boag**

TPC Chair

Prof. **Xiuyin Zhang**

TPC Chair

Prof. **Mohsen Guizani**

TPC Chair

Prof. **Chaoyun Song**

TPC Chair

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Shenzhen, China, May 31 - June 3, 2024

Committees



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Junfa Mao

Shenzhen University, Shenzhen, China



Executive Chair

Yejun He

Shenzhen University, Shenzhen, China



Technical Program Chair

Amir Boag

Tel Aviv University, Israel



Technical Program Chair

Xiuyin Zhang

South China University
of technology, China



Technical Program Chair

Mohsen Guizani

Mohamed Bin Zayed University
of Artificial Intelligence, UAE



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Chaoyun Song

Shenzhen University, China



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Publication Chair

Lei Ge

Shenzhen University, China



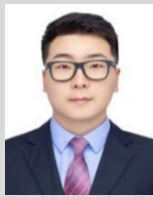
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Yejun He

Shenzhen University, China

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Shenzhen, China, May 31 - June 3, 2024



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Shenzhen, China, May 31 - June 3, 2024



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Shenzhen, China, May 31 - June 3, 2024

Oral Sessions

- Session 1:** Advanced Antenna Design for IoT Terminals
- Session 2:** Advanced MIMO Antenna Technology for 5G and Beyond
- Session 3:** Advanced Technologies of Space-Air-Ground-Integrated Communications
- Session 4:** AI-assisted & motivated Antenna and RF Design
- Session 5:** Wireless Communication and Intelligent Spectrum Management
- Session 6:** Collaborative Machine Learning for Next-generation Intelligent Applications
- Session 7:** Antenna Arrays for 5G/6G and Satellite Communication Systems I
- Session 8:** Emerging Technologies for Hierarchical Edge Computing and Wireless Communications
- Session 9:** Reconfigurable Antennas and Arrays
- Session 10:** Machine Learning-Based Electromagnetic Modeling and Optimization Technologies
- Session 11:** Microwave and Millimeter-wave Passive Devices and Circuits I
- Session 12:** Microwave and Millimeter-wave Passive Devices and Circuits II
- Session 13:** Microwave and Millimeter-wave Passive Devices and Circuits III
- Session 14:** Emerging Technologies for Internet of Vehicles and Extremely Large-Scale MIMO
- Session 15:** Smart Spectrum Sensing and Wireless Coexistence Technologies in Industrial IoT
- Session 16:** Microwave/mmWave Devices and Antennas Enabled by Novel Electromagnetic Materials I
- Session 17:** Microwave/mmWave Devices and Antennas Enabled by Novel Electromagnetic Materials II
- Session 18:** Microwave/mmWave Devices and Antennas Enabled by Novel Electromagnetic Materials III
- Session 19:** MICROWAVE/MM-WAVE/THZ ANTENNAS I
- Session 20:** MICROWAVE/MM-WAVE/THZ ANTENNAS II
- Session 21:** MICROWAVE/MM-WAVE/THZ ANTENNAS III
- Session 22:** MICROWAVE/MM-WAVE/THZ DEVICES/CIRCUITS
- Session 23:** Antenna Arrays for 5G/6G and Satellite Communication Systems II
- Session 24:** Compact Antennas and Their High-density Arrays for Modern Wireless Communications
- Session 25:** Mode Combination-Based Microwave Filters and Antennas for 5G/B5G Communication
- Session 26:** OTA Tests and Antenna Measurements Radar and Communication Applications
- Session 27:** Recent Advances in Antenna Design for Mobile Terminals
- Session 28:** Reconfigurable Intelligent Surfaces-aided Communications and Sensing
- Session 29:** Wireless Communications and Networks I
- Session 30:** Wireless Communications and Networks II

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Technical Program at a Glance

TIME	AGENDA	ROOM
Friday, May 31, 2024		
15:00--20:00	REGISTRATION	Hotel Lobby
18:00--20:00	WELCOME RECEPTION	Diamond Room
Saturday, June 1, 2024		
08:30--08:50	OPENING CEREMONY	Jade Room
08:50--09:30	KEYNOTE 1: Prof. Zhi Ning Chen, National University of Singapore, Singapore TITLE: Metantennas: Shaping Electromagnetic Waves Using Metamaterial, Metasurface, and Metaline	Jade Room
09:30--10:10	KEYNOTE 2: Prof. Amir Boag, Tel Aviv University, Israel TITLE: Fast Solvers Based on Generalized Source Integral Equations With Improved Kernels	
10:10--10:30	COFFEE BREAK	Corridor
10:30--11:10	KEYNOTE 3: Prof. Branislav M. Notaros, Colorado State University, CO, USA TITLE: RF and Antenna Technologies: Computation, Design, and Biomedical Applications	Jade Room
11:10--11:50	KEYNOTE 4: Dr. Wen Tong, Huawei Canada R&D TITLE: Centimetre-Wave-MIMO: Enabling Technologies for A-RAN	
12:00--13:30	LUNCH BREAK	Western Canteen
14:00--15:40	Session 1	Crystal Room
	Session 2	Pearl Room
	Session 3	Jade Room 1-B
	Session 4	Jade Room 3-A
	Session 5	Jade Room 3-B
15:40--16:00	COFFEE BREAK	Corridor
16:00--17:40	Session 6	Crystal Room

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

	Session 7	Pearl Room
	Session 8	Jade Room 1-B
	Session 9	Jade Room 3-A
	Session 10	Jade Room 3-B
18:00--20:00	DINNER BANQUET	Jade Room
Sunday, June 2, 2024		
08:50--09:30	KEYNOTE 5: Prof. Hiroyuki Arai, Yokohama National University, Japan TITLE: Advanced Pattern Synthesis of Leaky Wave Antenna in Millimeter Wave for Cellular Base Stations	Jade Room
09:30--10:10	KEYNOTE 6: Prof. Wei Hong, Southeast University, China TITLE: Research Advances in mmWave WiFi	
10:10--10:30	COFFEE BREAK	Corridor
10:30--11:10	KEYNOTE 7: Prof. Khaled B. Letaief, The Hong Kong University of Science and Technology TITLE: On the Path to 6G	Jade Room
11:10--11:50	KEYNOTE 8: Prof. Andrea Massa, University of Trento, Italy TITLE: On the Role of AI-Based Technologies and Methods for the Implementation of Smart EM Environments	
12:00--13:30	LUNCH BREAK	Western Canteen
14:00--15:40	Session 11	Crystal Room
	Session 12	Pearl Room
	Session 13	Jade Room 1-B
	Session 14	Jade Room 3-A
	Session 15	Jade Room 3-B
15:40--16:00	COFFEE BREAK	Corridor
16:00--17:40	Session 16	Crystal Room
	Session 17	Pearl Room

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

	Session 18	Jade Room 1-B
	Session 19	Jade Room 3-A
	Session 20	Jade Room 3-B
18:00--20:00	DINNER BREAK	Western Canteen
Monday, June 3, 2024		
8:30--10:10	Session 21	Crystal Room
	Session 22	Pearl Room
	Session 23	Jade Room 1-B
	Session 24	Jade Room 3-A
	Session 25	Jade Room 3-B
10:10--10:30	COFFEE BREAK	Corridor
10:30--12:10	Session 26	Crystal Room
	Session 27	Pearl Room
	Session 28	Jade Room 1-B
	Session 29	Jade Room 3-A
	Session 30	Jade Room 3-B
12:10--13:40	LUNCH BREAK	Western Canteen
END OF PROGRAM		

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Technical Program

Saturday, June 1, 2024

Opening Session — (08:30 - 08:50)

Jade Room

Speakers: Junfa Mao, Shenzhen University, China

Yejun He, Shenzhen University, China

KEYNOTE 1 — (08:50 - 09:30)

Jade Room

- Speaker: Prof. Zhi Ning Chen, National University of Singapore, Singapore
- Title: Metantennas: Shaping Electromagnetic Waves Using Metamaterial, Metasurface Metaline
- Chair: Yi Huang, Liverpool University, UK

KEYNOTE 2 — (09:30 - 10:10)

Jade Room

- Speaker: Prof. Amir Boag, Tel Aviv University, Israel
- Title: Fast Solvers Based on Generalized Source Integral Equations With Improved Kernels
- Chair: Chaoyun Song, Shenzhen University, China

COFFEE BREAK — (10:10 --10:30)

KEYNOTE 3 — (10:30 - 11:10)

Jade Room

- Speaker: Prof. Branislav M. Notaros, Colorado State University, CO, USA
- Title: Ubiquitous Communication and Sensing in the Age of IoT
- Chair: Steven Gao, The Chinese University of Hong Kong

KEYNOTE 4 — (11:10 - 11:50)

Jade Room

- Speaker: Dr. Wen Tong, President, Huawei Canada R&D
- Title: Centimetre-Wave-MIMO: Enabling Technologies for A-RAN
- Chair: Celimuge Wu, The University of Electro-Communications, Japan

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

KEYNOTE 1: Metantennas: Shaping Electromagnetic Waves Using Metamaterial, Metasurface, and Metaline

Prof. Zhi Ning Chen, National University of Singapore, Singapore

Abstract: The advent of metamaterials has marked a significant paradigm shift in electromagnetic research across various frequencies, spanning from microwaves to terahertz and optics, since the late 1990s. As scientific exploration continues to unveil exciting phenomena, the next phase of metamaterials promises to catalyze innovation in electromagnetic engineering, particularly in antenna technology. This presentation provides an overview of the distinctive electromagnetic properties inherent to metamaterials and addresses the unique challenges encountered in antenna design. Furthermore, it delves into the latest advancements in metamaterial-based antenna technologies, showcasing successful instances of translating research in metamaterials, metasurfaces, and metalines into practical solutions for antenna engineering. Finally, the talk concludes with insights into the future trajectory of metantennas, offering valuable commentary on forthcoming developments in the field.

About the Speaker:



Prof. Zhi Ning Chen received his two PhD degrees in 1993 from Institute of Communications Engineering, China and in 2003 from University of Tsukuba, Japan, respectively. Dr. Chen has worked in academic, research organizations, and industry since 1988. During 1997-1999, he conducted his research at the University of Tsukuba, Japan with the Japan Society for the Promotion of Science (JSPS) Fellowship Award. In 2001 and 2004, he visited the University of Tsukuba twice under the JSPS Fellowship Program as Senior Fellows. He is currently a Provost Chair Professor and the Director of the Advanced Research and Technology Innovation Center at the National University of Singapore (NUS). He also worked in City University of Hong Kong, Institute for Infocomm Research, Singapore, and IBM Watson Research Center, USA before joining the NUS. Dr. Chen is the founding General Chair of several international workshops and symposiums, including the International Workshop on Antenna Technology (iWAT in 2005), International

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Symposium on InfoComm & Mechatronics Technology in Bio-Medical & Healthcare Application (IS 3Tin3A in 2010), International Microwave Forum (IMWF in 2010), Asia-Pacific Conference on Antennas and Propagation (APCAP in 2012), and Marina Forum (Mar-For in 2021). He has also been involved in many international events as a general chair, chair, and member of technical program committees and international advisory committees. He has been invited to deliver over 110 keynote, plenary, and invited speeches at international academic and industry events. Dr. Chen has published over 700 academic papers and seven books, as well as held over 36 granted/filed patents and completed over 42 technology licensing deals with industry. He is a pioneer in developing small and ultra-wideband antennas, wearable/implanted medical antennas, package antennas, near-field antennas/coils, three-dimensional integrated LTCC arrays, microwave metamaterial-metasurface antennas. Currently, Dr. Chen is focusing on the translational research of metasurfaces into antenna engineering as well as the development of algorithms, particularly machine-learning-enabled synthesis methods for metantennas. Dr. Chen is the recipient of the IEEE John Kraus Antenna Award (2021) and many other academic and engineering awards. He was elevated to the Fellow of the Academy of Engineering, Singapore in 2019, Fellow of the Asia-Pacific Artificial Intelligence Association (AAIA), and is serving as Vice President of AAIA. He was also elevated to Fellow of the IEEE for his contribution to small and broadband antennas for wireless applications in 2007. He is serving as a Member of the AdCom of the IEEE Antennas and Propagation Society (since 2023). He served on the IEEE Council on RFID as a Vice President and a Distinguished Lecturer (2015-2021), as well as on the IEEE Transactions on Antennas and Propagation as an Associate Editor (2012-2018, 2023-), and the IEEE Antennas and Propagation Society as a Distinguished Lecturer (2009-2012).

KEYNOTE 2: Fast Solvers Based on Generalized Source Integral Equations With Improved Kernels

Prof. Amir Boag, Tel Aviv University, Israel

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Abstract: Recent years have seen an increasing interest in the development of fast direct integral equation solvers. These do not rely on the convergence of iterative procedures for obtaining the solution. Instead, they compute a compressed factorized form of the impedance matrix resulting from the discretization of an underlying integral equation. The compressed form can then be applied to multiple right-hand sides, at a relatively low additional cost. The most common class of direct integral equation solvers exploits the rank-deficiency of the off-diagonal blocks of the impedance matrix, in order to express them in a compressed manner. However, such rank deficiency is inherent to problems of small size compared to the wavelength as well as to problems of reduced dimensionality, e.g., elongated and quasi-planar problems.

The present work proposes a class of Generalized Source Integral Equation (GSIE) formulations, which aim to extend the range of problems exhibiting inherent rank-deficiency. The new formulations effectively reduce the problem's dimensionality and, thus, allow for efficient low-rank matrix compression. When these formulations are used with hierarchical matrix compression and factorization algorithms, fast direct solvers are obtained. Shielded-source and multipole-based types of directional kernels to be employed in the GSIEs are proposed. The computational bottlenecks introduced by the shielded-source kernels are reduced by using non-uniform grid (NG) sampling techniques. The NG techniques, originally developed for fast iterative solvers, are employed for efficient computation of fields produced by the shielded sources. On the other hand, recently developed multipole-based kernels facilitate simpler and more efficient field computation. The two formulations' properties and limitations are studied and their use for the development of fast direct solvers is showcased.

About the Speaker:



Prof. Amir Boag received the B.Sc. degree in electrical engineering and the B.A. degree in physics in 1983, both Summa Cum Laude, the M.Sc. degree in electrical engineering in 1985, and the Ph.D. degree in electrical engineering in 1991, all from Technion - Israel Institute of Technology,

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Haifa, Israel.

From 1991 to 1992, he was on the Faculty of the Department of Electrical Engineering at the Technion. From 1992 to 1994, he has been a Visiting Assistant Professor with the Electromagnetic Communication Laboratory of the Department of Electrical and Computer Engineering at the University of Illinois at Urbana-Champaign. In 1994, he joined Israel Aircraft Industries as a research engineer and became a manager of the Electromagnetics Department in 1997. Since 1999, he is with the Physical Electronics Department of the School of Electrical Engineering at Tel Aviv University, where he is currently a Professor.

Dr. Boag's interests are in computational electromagnetics and acoustics, numerically efficient algorithms for quantum-electromagnetic simulations, radar imaging, and design of antennas and optical devices. He has published over 130 journal articles and presented more than 300 conference papers on electromagnetics and acoustics. Prof. Boag served as an Associate Editor for IEEE Transactions on Antennas and Propagation. He is a Fellow of the Electromagnetics Academy. In 2008, Amir Boag was named a Fellow of the IEEE for his contributions to integral equation based analysis, design, and imaging techniques.

KEYNOTE 3: RF and Antenna Technologies: Computation, Design, and Biomedical Applications

Prof. Branislav M. Notaros, Colorado State University, CO, USA

Abstract: RF, antennas, wireless, microwave, radar, microelectronics, and lightwave technologies are exploding! The importance of electromagnetic theory, computation, and design to these technologies can hardly be overstated. This keynote talk presents several novel methodologies and computational technologies for RF and antenna analysis and design including uncertainty quantification, error control, and adaptive refinement, which are essential for modern effective and reliable simulation-based design in mission-critical RF and antenna applications. Our novel approaches constituted by accelerated, rigorous,

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

adaptive, goal-oriented error estimation and control, sensitivity and uncertainty quantification, and model refinement for RF and antennas and engineering in general show unparalleled accuracy, efficiency, robustness, and versatility of analyses and simulations. The talk also presents advanced engineering applications combining RF and antenna concepts, techniques, and technologies with emerging interdisciplinary biomedical topics, with impacts on medical imaging and diagnostics. The applications include design of RF coils/antennas for next-generation high-field, high-frequency magnetic resonance imaging scanners, which provide higher spatial resolution of images and thus better diagnostics, as well as higher parallel imaging performances allowing faster scanning. We also present direct electromagnetic coupling system for orthopaedic fracture-healing diagnostics with telemedicine framework, with specially designed noninvasive external radio antenna sensors measuring bone/hardware deflections under loading and providing reliable and affordable predictions and diagnostics of bone healing in a matter of several weeks rather than several months using radiographic methods (X rays).

About the Speaker:



Branislav M. Notaros is a Professor of Electrical and Computer Engineering, Director of Electromagnetics Laboratory, and University Distinguished Teaching Scholar at Colorado State University. Previously, he held assistant/associate-professor positions at the University of Massachusetts Dartmouth and University of Belgrade. His research contributions are in computational and applied electromagnetics. His publications include about 330 journal and conference papers, and textbooks “Electromagnetics” (2010) and “MATLAB-Based Electromagnetics” (2013) with Pearson Prentice Hall and “Conceptual Electromagnetics” (2017) with CRC Press. Prof. Notaros serves as President of the IEEE Antennas and Propagation Society (AP-S), Immediate Past President of the Applied Computational Electromagnetics Society (ACES), Immediate Past Chair of the USNC-URSI Commission B,

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

and Track Editor of the IEEE Transactions on Antennas and Propagation. He served as General Chair of the IEEE APS/URSI 2022 Denver Conference, Chair of the IEEE AP-S Meetings Committee, Chair of the Joint Meetings Committee, and AP-S AdCom member. He was the recipient of the 1999 IEE Marconi Premium, 2005 IEEE MTT-S Microwave Prize, 2022 IEEE Antennas and Propagation Edward E. Altshuler Prize Paper Award, 2019 ACES Technical Achievement Award, 2014 Carnegie Foundation Colorado Professor of the Year Award, 2015 ASEE ECE Distinguished Educator Award, 2015 IEEE Undergraduate Teaching Award, and many other research and teaching awards. He is Fellow of IEEE and ACES.

KEYNOTE 4: Centimetre-Wave-MIMO: Enabling Technologies for A-RAN

Dr. Wen Tong, CTO, Wireless Network, Huawei Technologies Co., Ltd.

Abstract: In this talk, we present the development of massive MIMO antenna technologies for the 5G and associated challenges. The overall system performance and antenna design-choice in terms of spectrum and channel propagation properties are discussed. In particular. The novel massive MIMO antenna design to achieve higher capacity with same antenna aperture size and the field trial results are presented. We explore the centimeter wave for 6G, and the next generation of massive MIMO. The candidate frequency range is from 7GHz to 15GHz, we discuss the new propagation properties and ultra-large antenna element array architecture for both base-station and user-equipment, the architecture of Centimeter-Wave-MIMO will be the foundational enabling technology for A-RAN to support the emerging AI services.

About the Speaker:



Prof. Dr. Wen Tong is the CTO, Huawei Wireless and a Huawei Fellow. He is the head of Huawei wireless research, and the Huawei 5G chief scientist and led Huawei's 10-year-long 5G wireless technologies research and development.

Dr. Tong is the industry recognized leader in invention of advanced

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

wireless technologies, Dr. Tong was elected as a Huawei Fellow and an IEEE Fellow. He was the recipient of IEEE Communications Society Industry Innovation Award in 2014, and IEEE Communications Society Distinguished Industry Leader Award for “pioneering technical contributions and leadership in the mobile communications industry and innovation in 5G mobile communications technology” in 2018. He is also the recipient of R.A. Fessenden Medal. For the past three decades, he had pioneered fundamental technologies from 1G to 6G wireless and WiFi with more than 550 awarded US patents.

Prior to joining Huawei in 2009, Dr. Tong was the Nortel Fellow and head of the Network Technology Labs at Nortel. He joined the Wireless Technology Labs at Bell Northern Research in 1995 in Canada.

Dr. Tong is a Fellow of Canadian Academy of Engineering, and a Fellow Royal Society of Canada. Dr. Tong is based at Ottawa, Canada.

LUNCH BREAK — (12:00 -- 13:30)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Saturday Afternoon Sessions — (14:00 -- 15:40)

Session 1: Crystal Room

- **Session Title:** Advanced Antenna Design for IoT Terminals
- **Session Chairs:** Yongxin Guo, City University of Hong Kong, China
Sen Yan, Xi'an Jiaotong University, China
Chang Jiang You, University of Electronic Science and Technology of China

-
- | | |
|------------|--|
| 1570980864 | A Broadband Patch and SIW Cavity Hybrid Antenna for Millimeter-Wave Applications
<i>Xingfu Zhu, Wenting Liang, Tiansheng Ge, Kuan Zhai, Lehua Liang, Hanbin Wang, Junying Wang, Wenjing Dong, Hao Wang, and Yiheng Rao</i> (Mainland, China) |
| 1570982903 | Polarization-Insensitive and Simple-Structured Rectifying Metasurface for Energy Harvesting
<i>Haihao Gui, Haipeng Xie, Lianwen Deng, and Lei-Lei Qiu</i> (Mainland, China) |
| 1570983240 | Design of Button Antenna for Wearable Applications in Bluetooth Band
<i>Jiabei Zhang, Buyun Wang, Sen Yan, and Jiahao Zhang</i> (Mainland, China) |
| 1570983257 | A Novel Surface-Integral-Equation-Based Characteristic Mode Formulation for N Penetrable Objects and N PECs
<i>Hongwei Ren, Juan Chen, and Sen Yan</i> (Mainland, China) |
| 1570983327 | A High-Gain Dual-Polarized MIMO Patch Antenna Array With Intrinsic High Isolation at Both E-/H-Planes
<i>Yi-Feng Zhang, Kai-Dong Hong, Xiao Zhang, Tao Yuan, and Xianqin Hu</i> (Mainland, China; Singapore) |
-

Session 2: Pearl Room

- **Session Title:** Advanced MIMO Antenna Technology for 5G and Beyond
- **Session Chairs:** Jinwei Zhang, Wuhan University of Technology, China

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Longyue Qu, Harbin Institute of Technology (Shenzhen), China

Shuai Zhang, Aalborg University, Denmark

- 1570980658** Miniaturized 2 x 2 MIMO Monopole-Antenna Design Using Multi-Resonance for Wi-Fi 7 Mobile Handsets
Rui Li, Longyue Qu, Huanxuan Ren, and Hyeongdong Kim (Korea; Mainland, China)
- 1570981910** Mutual Coupling Reduction for A Miniaturized MIMO Antenna at 6G Millimeter-Wave Band
Han Cao, Yanzhao Xie, Yuying Wu, Chen Gao and Yin-hui Cheng (Mainland, China)
- 1570983295** A Novel Decoupling Branch Based on Current Control, Intended for Two-In-One MIMO Antennas
Huibin Wu, Longyue Qu, and Han Chen (Mainland, China)
- 1570983350** Design of a Circularly Polarized Dielectric Rod Antenna for Millimeter-Wave Applications
Ying Xue, and Kaixu Wang (Mainland, China)
- 1570984282** Design of Dual-Band Separately Fed and Dual-Polarized Stacked Patch Antenna
Songzhao Lv, and Hui Li (Mainland, China)

Session 3: Jade Room 1-B

- **Session Title: Advanced Technologies of Space-Air-Ground-Integrated Communications**
- **Session Chairs:** Xu Zhu, Harbin Institute of Technology(Shenzhen), China
Nan Zhao, Dalian University of Technology, China
Daniel Ka Chun So, University of Manchester, UK

Invited

- 1570985249** MSE Lower Bounds for Parameter Estimation: From Cramer-Rao to Ziv-Zakai
Zhiguo Shi (Mainland, China)
- 1570985249** Bidirectional Q-Learning Based Multi-Objective Optimization Routing Protocol for Multi-Destination FANETs
Liang Xue, Jie Tang, Jiaying Zhang, and Juncheng Hu (Mainland, China)
- 1570985471** Power Consumption Minimization in Grid Tower Tilt Monitoring System
Liyi Chen, Guangzheng Lin, Jie Tang, Tian Zheng, Yi Bei, and Juncheng Hu (Mainland, China)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

1570990926	Optimizing Beam Hopping in Multibeam NGSO Constellations With Multi-Agent Reinforcement Learning <i>Yifan Zhang, Ying Wang, Qiuyang Zhang, Huaiqi Jia, and Linqing Feng</i> (Mainland, China)
1570991182	Access Control and Collision Resolution for Massive Random Access in Satellite Internet of Things Networks <i>Hao Yuan, Ying Wang, Huaiqi Jia, Qiuyang Zhang, Yifan Zhang, and Linqing Feng</i> (Mainland, China)

Session 4: Jade Room 3-A

- **Session Title: AI-assisted & motivated Antenna and RF Design**
- **Session Chairs: Wei LIN, The Hong Kong Polytechnic University, China**
Luyu Zhao, Xidian University, China
Yingsong Li, Anhui University, China

Invited	Prior Knowledge-Guided Deep Learning-Enabled Synthesis Method for Metalens Antennas <i>Peiqin Liu</i> (Singapore)
1570983260	AI-Assisted Automatic Design Methods for Antennas and RF Circuits Based on Deep Learning <i>Haowen Cai, and Wei Lin</i> (Hong Kong, China)
1570984523	Low Sidelobe Optimization of Reconfigurable Transmitarray Based on Genetic Algorithm <i>Changhao Li, Mengkai Xi, Xiaosheng Zhang, and Luyu Zhao</i> (Mainland, China)
1570981039	Simulation-Inserted Optimization of Fourth-Order Waveguide Filter Using Combined Lagrangian Method With Newton's Method <i>Yan Zhong, Feng Feng, Xiaolong Li, Wei Liu, and Qijun Zhang</i> (Mainland, China; Canada)
1570984422	Double-XL-IRS Aided Near-Field Communications <i>Liujia Yao, Zixuan Huang, and Changsheng You</i> (Mainland, China; Singapore)

Session 5: Jade Room 3-B

- **Session Title: Wireless Communication and Intelligent Spectrum Management**

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

➤ **Session Chairs:** Fuhui Zhou, Nanjing University of Aeronautics and Astronautics, China

Wei Wu, Nanjing University of Posts and Telecommunications, China

Qun Wang, San Francisco State University, USA

Invited

Plasmonic Vortex Beam Emitter

Chao-Hai Du (Mainland, China)

1570984443

FDW-YOLOv8: A Lightweight Unmanned Aerial Vehicle Small Target Detection Algorithm Based on Enhanced YOLOv8

Wei Chai, Dongjun Han, Haonan Zhou, Shujie Wang, and Fuhui Zhou (Mainland, China)

1570984703

A USRP-Based Testbed for Spectrum Sensing and Spectrum Sharing

Sixiang Chen, Bowen Zhang, Ming Xu, Hongtao Liang, Lu Yuan, and Fuhui Zhou (Mainland, China)

1570986250

An Inter-carrier Interference Self-Cancellation Scheme for Space-Time/Frequency Line Coded OFDM

Caiyi Huang, Chaowu Wu, and Yue Xiao (Mainland, China)

1570989236

Research on AMCL Algorithm Coupled With DWA Algorithm in Logistics Scenarios

Gongyu Shang, Gong Gu, Fan Jiang, and Xiaoting Hu (Mainland, China)

COFFEE BREAK — (15:40 --16:00)

Saturday Afternoon Sessions — (16:00 -- 17:40)

Session 6: Crystal Room

➤ **Session Title:** Collaborative Machine Learning for Next-generation Intelligent Applications

➤ **Session Chairs:** Yueyue Dai, Huazhong University of Science and Technology, China

Mingzhe Chen, University of Miami, USA

Zehui Xiong, Singapore University of Technology and Design, Singapore

1570975241

Few-Shot Classification With Shared and Private Branches for Cow Face Recognition

IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

Qin Meng, Xinping Gao, Yuchao Wen, Xin Fang, and Xin Su (Mainland, China)

- 1570983305** Deep Reinforcement Learning-Based Social Welfare Maximization for Collaborative Edge Computing
Xingqiu He, Chaoqun You, Yuhang Shen, Hongxi Zhu, Yueyue Dai, and Yunlong Lu (Mainland, China)
- 1570983421** Cooperative Vehicular Intelligent Control System Based on Federated Learning
Shangchen Li, Qirui Yu, Jiewei Du, Yanrong Xu, Xueming Zheng, and Huan Yin (Mainland, China)
- 1570991130** DRL-Based Joint Trajectory Planning and Beamforming Optimization in Aerial RIS-Assisted ISAC System
Xipeng Chen, Xiaowen Cao, Lifeng Xie, and Yejun He (Mainland, China)
- 1570991091** A Two-Layer Federated Learning for LEO Constellation in IoT
Ai Zhou, Ying Wang, and Qiuyang Zhang (Mainland, China)
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Session 7: Pearl Room

- **Session Title:** Antenna Arrays for 5G/6G and Satellite Communication Systems I
- **Session Chairs:** Lei Ge, Shenzhen University, China
Zihao Chen, Harbin Institute of Technology (Shenzhen), China
Huifen Huang, South China University of Technology

Invited

- Development of Passive and Reconfigurable Reflectarray Antennas
Qiang Chen (Japan)
- 1570984498** Low Profile Millimeter-Wave Dual-Frequency Dual-Polarization Circular Airy OAM MultiBeams Based on Tensor Holographic Impedance Metasurface
Huifen Huang, and Ying Jing Ma (Mainland, China)
- 1570988711** Dual-Beam Reflect-Array Antenna With Independent Polarization and Amplitude Control for Millimetre Wave Communication Systems
Shu Ge, Peng Gao, Feng Gao, Shimeng Wang, and Chenxi Zhang (Mainland, China)
- 1570989343** A Magneto-Electric Dipole Antenna Array for Satellite Communication
Jingtao Zeng, Jixing Wang, Wen Ding, Yun Chen, Hua Yang, and Yao Zhang (Mainland, China)
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IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

- 1570990418** Wideband Single-Layer Dual-Polarized End-Fire Phased Array Antenna for 5G mmWave Mobile Terminal Applications
Yang Cai, Hong Ma, Tao Wu, Yufan Cao, Yu Tian, Sen Li, Lijun Bu, and Siyu Qi (Mainland, China)
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Session 8: Jade Room 1-B

- **Session Title:** Emerging Technologies for Hierarchical Edge Computing and Wireless Communications
- **Session Chairs:** Xiaowen Cao, Shenzhen University, China
Boya Di, Peking University, China
Xidong Mu, Queen Mary University of London, UK

Invited

- Beamforming Design for Massive MIMO-ISAC Systems
Bin Liao (Mainland, China)
- 1570983119** A Cloud-Edge Computing Approach for Epidemic Close Contact Tracing Based on Spatial-Temporal Trajectory
Shaohua Yue, Zhuocheng Xu, and Boya Di (Mainland, China)
- 1570984310** Design of Cloud-Edge-Gateway Collaborative Zero-Trust Architecture and Workflow for Smart Factories
Zhuocheng Xu, Boya Di, and Lingyang Song (Mainland, China)
- 1570983359** Spectrum Efficiency Optimization in V2X Communications: A NOMA-Based Solution
Peng Liu, Haixia Cui, Nan Zhang, and Chujun Zheng (Mainland, China)
- 1570983356** Impact of Different Network Parameters on Federated Learning Performance in Vehicular Networks
Tuliga Busqin, Celimuge Wu, Yangfei Lin, and Zhaoyang Du (Japan)
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Session 9: Jade Room 3-A

- **Session Title:** Reconfigurable Antennas and Arrays
- **Session Chairs:** Yanhui Liu, University of Electronic Science and Technology of China

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Geng-Bo Wu, City University of Hong Kong

Xuexuan Ruan, University of Electronic Science and Technology of China

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| 1570984283 | Animate Amplitude-Modulated Leaky-Wave Antennas for Unidirectional Frequency Conversion
<i>Geng-Bo Wu, and Chi Hou Chan</i> (Hong Kong, China) |
| 1570984306 | Design of the One-Bit Unit Cell for A Broadband Reflectarray
<i>Zhikang Ai, Wenting Li, Yejun He, Long Zhang, and Sai-Wai Wong</i> (Mainland, China) |
| 1570984440 | Parameter Extraction Methods for Reconfigurable Device Applications
<i>Shichen Liang, and Yanhui Liu</i> (Mainland, China) |
| 1570984463 | Wideband Multi-Polarization Reconfigurable Antenna Fed by Switchable Printed L-Probes
<i>Qian Ren, Pan Guo, Shichen Liang, Dingzhao Chen, and Yanhui Liu</i> (Mainland, China) |
| 1570990955 | A Dynamic Beam-Steering Antenna Based on Reconfigurable Transmitarray
<i>Li Li Sheng, YuMei Luo, and WeiPing Cao</i> (Mainland, China) |
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Session 10: Jade Room 3-B

- **Session Title:** Machine Learning-Based Electromagnetic Modeling and Optimization Technologies
- **Session Chairs:** Feng Feng, Tianjin University, China
Jianan Zhang, Southeast University, China
Wei Zhang, Beijing University of Posts and Telecommunications, China

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| Invited | 3D Printed High Gain Wideband Antenna Arrays for Millimeter Wave Applications
<i>Yujian Li</i> (Mainland, China) |
| 1570980914 | Mesh Space Mapping for a Three-Pole H-Plane Coupled Cavity Filter With Rounded Corners
<i>Mutian Li, Feng Feng, Jianguo Xue, Kaixue Ma, Qijun Zhang</i> (Mainland, China; Canada) |
| 1570983346 | Magnetic Resonance Wireless Charging Based on Fiber-Optic Power Transmission
<i>Jihang Wu, Wei Zhang, and Zhiguo Zhang</i> (Mainland, China; Canada) |
| 1570983347 | EM Topology Optimization for Waveguide Filter |
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IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

Yuying Liu, Wei Zhang, Zhiguo Zhang, and Feng Feng (Mainland, China; Canada)

1570984377

Research on Shielding Effectiveness of UAV Based on Neural Network

Jiaqi Yang, Huaji Zhou, Yao He, Le Xu, and Xiao Wei Shi (Mainland, China)

DINNER BANQUET — (18:00 -- 20:00)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Technical Program

Sunday, June 2, 2024

KEYNOTE 5 — (08:50 - 09:30)

Jade Room

- Speaker: Prof. Hiroyuki Arai, Yokohama National University, Japan
- Title: Advanced Pattern Synthesis of Leaky Wave Antenna in Millimeter Wave for Cellular Base Stations
- Chair: Qiang Chen, Tohoku University, Japan

KEYNOTE 6 — (09:30 - 10:10)

Jade Room

- Speaker: Prof. Wei Hong, Southeast University, China
- Title: Research Advances in mmWave WiFi
- Chair: Wenting Li, Shenzhen University, China

COFFEE BREAK — (10:10 --10:30)

KEYNOTE 7 — (10:30 - 11:10)

Jade Room

- Speaker: Prof. Khaled B. Letaief, The Hong Kong University of Science and Technology
- Title: On the Path to 6G
- Chair: Chau Yuen, Nanyang Technological University, Singapore

KEYNOTE 8 — (11:10 - 11:50)

Jade Room

- Speaker: Prof. Andrea Massa, University of Trento, Italy
- TITLE: On the Role of AI-Based Technologies and Methods for the Implementation of Smart EM Environments
- Chair: Long Zhang, Shenzhen University, China

KEYNOTE 5: Advanced Pattern Synthesis of Leaky Wave Antenna in Millimeter Wave for Cellular Base Stations

Prof. Hiroyuki Arai, Yokohama National University, Japan

Abstract: The 5G and beyond system utilizes millimeter wave to enhance the channel capacity. To compensate high attenuation loss in extremely high frequency, the base station antenna gain should be very high, resulting in Line Of Sight (LOS) propagation environment. The vertical plane pattern needs to be well controlled to provide uniform field distribution in the coverage area. The cosecant-squared pattern solving this problem is given by several pattern synthesis techniques with amplitude and phase control, while is also achieved by the simple procedure, controlling only the element amplitude for null fill and the phase adjustment of the first and second elements. This talk explains the theory of this novel pattern synthesis method and applies it to design leaky wave base station antenna. An example of the sector antenna in millimeter frequency is also demonstrated.

About the Speaker:



Prof. Hiroyuki Arai received the B.E. degree in Electrical and Electronic Engineering, M.E. and D.E. in Physical Electronics from Tokyo Institute of Technology in 1982, 1984 and 1987, respectively. After research associate in Tokyo Institute of Technology, he joined Yokohama National University as lecturer in 1989. Now he is professor in Department of Electrical and Computer Engineering, Yokohama National University. He

investigated microwave passive components for high power handling applications such as RF plasma heating in large Tokamaks. He developed a flat diversity vehicular mounted antenna, a polarization diversity base station antenna for cellular systems, small base station antennas of indoor micro cellular system, and a lot of antenna systems for wireless applications. He received the Young Engineers Award from the IEICE of Japan in 1989, and the "Meritorious Award on Radio" by the Association of Radio Industries and Businesses in 1997, 2006, 2011, 2022, respectively. He was editor-in-chief of IEICE Trans. on

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Communications, 2005 -2007, and was chair of IEEE AP-S Japan Chapter, 2009 - 2010. He was associate editor of IEEE Transactions on Antennas and Propagation, 2011-2013, and the chair of Technical Group on Antennas and Propagation of IEICE, 2013-2014, and the general chair of ISAP 2020, Osaka. He is Fellow of IEEE and IEICE.

KEYNOTE 6: Research Advances in mmWave WiFi

Prof. Wei Hong, Southeast University, China

Abstract: In this talk, the research advances in mmWave WiFi, especially a hybrid high-throughput wireless access architecture based on WiFi and 5G/6G mmWave technologies in the State Key Laboratory of Millimeter Waves (SKLMMW) of Southeast University and cooperative enterprises are reviewed, including the development of key technologies and field trial test.

About the Speaker:



Prof. Wei Hong received the B.S. degree from the University of Information Engineering, Zhengzhou, China, in 1982, and the M.S. and PhD degrees from Southeast University, Nanjing, China, in 1985 and 1988, respectively, all in radio engineering.

He is currently a professor of the School of Information Science and Engineering, Southeast University. In 1993, 1995, 1996, 1997 and 1998, he was a short-term visiting scholar with the University of California at Berkeley and at Santa Cruz, respectively. He has been engaged in numerical methods for electromagnetic problems, millimeter wave theory and technology, antennas, RF technology for wireless communications etc. He has authored and co-authored over 400 technical publications and two books. He twice awarded the National Natural Prizes of China, four times awarded the first-class Science and Technology Progress Prizes issued by the Ministry of Education of China and Jiangsu Province Government, the 2023 CIE Science and Technology Innovation Team Award and 2021 IEEE MTT-S Microwave Prize etc.

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Dr. Hong is a Fellow of IEEE, Fellow of CIE, the vice presidents of the CIE Microwave Society and Antenna Society, and was an elected IEEE MTT-S AdCom Member during 2014-2016, served as the Associate Editor of the IEEE Trans. on MTT from 2007 to 2010.

KEYNOTE 7: On the Path to 6G

Prof. Khaled B. Letaief, The Hong Kong University of Science and Technology

Abstract: As we stand at the threshold of the 6G era, we find ourselves on the verge of a remarkable transformation in wireless communication. The advent of 6G technology promises a paradigm shift, bringing forth unprecedented advancements that redefine the possibilities of connectivity. With the potential to achieve terabit data rates, ultra-low latency in the microsecond range, seamless connectivity for an abundance of devices, and seamless integration with cutting-edge technologies such as AI, quantum communication, holographic communication, and augmented reality, 6G represents a new frontier of innovation. Leveraging the low-latency, high-bandwidth, and ultra-reliable communication promised by 6G, Edge AI empowers real-time local decision-making, privacy-preserving algorithms, and distributed intelligence in resource-constrained environments. This is done by combining the power of AI, machine learning, and edge computing to enable intelligent decision-making and data processing at the network's edge. However, deploying Edge AI in 6G networks presents challenges related to scalability, security, energy efficiency, and standardization. In this talk, we aim at providing valuable insights into the 6G vision, ongoing research efforts, and innovative use cases. We shall also delve into the transformative paradigm of Edge AI as we move towards 6G networks.

About the Speaker:



Dr. Khaled B. Letaief is an internationally recognized leader in wireless communications and networks with research interest in artificial intelligence, task-oriented and semantic communications, tactile Internet, and 6G systems. He is a Member of the United States National Academy of Engineering, Fellow of IEEE, Fellow of Hong Kong

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Institution of Engineers, and Member of the Hong Kong Academy of Engineering Sciences. He is also recognized by Thomson Reuters as an ISI Highly Cited Researcher and was listed among the 2020 top 30 of AI 2000 Internet of Things Most Influential Scholars.

He is the founding Editor-in-Chief of the prestigious IEEE Transactions on Wireless Communications. He is the recipient of many distinguished awards and honors including the 2022 IEEE Edwin Howard Armstrong Achievement Award; 2021 IEEE Communications Society Best Survey Paper Award; 2019 IEEE Communications Society and Information Theory Society Joint Paper Award; 2018 IEEE Signal Processing Society Young Author Best Paper Award, 2016 IEEE Marconi Prize Paper Award in Wireless Communications, 2011 IEEE Harold Sobol Award, 2010 Purdue University Outstanding Electrical and Computer Engineer Award; and 2007 IEEE Joseph LoCicero Publications Exemplary Award.

He is well recognized for his dedicated service to professional societies and in particular IEEE where he has served in many leadership positions. These include the IEEE Communications Society President, the world's leading organization for communications professionals with headquarter in New York City and members in 162 countries. Since 1993, he has been with HKUST in Hong Kong where he has held many administrative positions, including Acting Provost, Dean of Engineering, and Head of the Electronic and Computer Engineering department.

Dr. Letaief received the BS degree with distinction, MS and Ph.D. Degrees in Electrical Engineering from Purdue University at West Lafayette, Indiana, USA. He also received a Ph.D. Honoris Causa from the University of Johannesburg, South Africa.

KEYNOTE 8: On the Role of AI-Based Technologies and Methods for the Implementation of Smart EM Environments

Prof. Andrea Massa, University of Trento, Italy

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Abstract: The implementation of smart EM environments (SEMEs) is a key challenge, but also a need, for establishing reliable and high-performance pervasive communication and distributed sensing. The complexity of the problem at hand, starting from the modelling of the wireless propagation environment through the implementation of innovative micro-scale devices with macro-scale EM manipulation effects up to the planning of the smart EM entities within the communication site, is very hard to be faced only with analytic or standard numerical techniques. The recent literature is proving that AI-based technologies and design methods are pillars for the real implementation and deployment of SEMEs.

This talk will review the more advanced AI-based and methodologies in such a framework by presenting some real-world implementation of the SEME towards the building of the metaverse.

About the Speaker:



Prof. Andrea Massa (IEEE Fellow, IET Fellow, Electromagnetic Academy Fellow) has been a Full Professor of Electromagnetic Fields @ University of Trento since 2005. At present, Prof. Massa is the director of the network of federated laboratories "ELEDIA Research Center" located in Brunei, China, Czech, France, Greece, Italy, Japan, Perù, Tunisia with more than 150 researchers. Moreover, he is holder of a Chang-Jiang Chair Professorship @ UESTC (Chengdu - China), Visiting Research Professor @ University of Illinois at Chicago (Chicago - USA), Distinguished Visiting Professor@ Tsinghua (Beijing - China), Visiting Professor and IAS Distinguished Scholar@Tel Aviv University (Tel Aviv - Israel), and Professor@CentraleSupélec (Paris-France). He has been holder of a Senior DIGITEO Chair at L2S-CentraleSupélec and CEA LIST in Saclay (France), UC3M-Santander Chair of Excellence @ Universidad Carlos III de Madrid (Spain), Adjunct Professor at Penn State University (USA), Guest Professor @ UESTC (China), and Visiting Professor at the Missouri University of Science and Technology (USA), the Nagasaki University (Japan), the University of Paris Sud (France),

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

the Kumamoto University (Japan), and the National University of Singapore (Singapore). He has been appointed IEEE AP-S Distinguished Lecturer (2016-2018) and served as Associate Editor of the "IEEE Transaction on Antennas and Propagation" (2011-2014). His research activities are mainly concerned with inverse problems, antenna analysis/synthesis, radar systems and signal processing, cross-layer optimization and planning of wireless/RF systems, system-by-design and material-by-design (metamaterials and reconfigurable-materials), and theory/applications of optimization techniques to engineering problems (coms, medicine, and biology). Prof. Massa published more than 900 scientific publications among which more than 350 on international journals (> 16.000 citations - h-index = 66 [Scopus]; > 13.500 citations - h-index = 61 [ISI-WoS]; > 25.500 citations - h-index = 90 [Google Scholar]) and more than 570 in international conferences where he presented more than 210 invited contributions (>50 invited keynote speaker) (www.eledia.org/publications). He has organized more than 100 scientific sessions in international conferences and has participated to several technological projects in the national and international framework with both national agencies and companies (18 international prj, > 5 M € ; 8 national prj, > 5 M € ; 10 local prj, > 2 M € ; 63 industrial prj, > 10 M € ; 6 university prj, > 300K €).

LUNCH BREAK — (12:00 -- 13:30)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Sunday Afternoon Sessions — (14:00 -- 15:40)

Session 11: Crystal Room

➤ **Session Title: Microwave and Millimeter-wave Passive Devices and Circuits I**

➤ **Session Chairs: Ke Gong, Xinyang Normal University, China**

Yan Zhang, Southeast University, China

Xiao Ming Liu, Anhui Normal University, China

1570979152	Polarization Reconfigurable Antenna Array With Enhanced Bandwidth and Simplified Feed Network <i>Shu Han Liu, Chang Jiang You, Ran Bao, Yi Xin Gao, Xi Wang, and Qin Yu Li (Mainland, China)</i>
1570981538	An RF Front-End Module Using Transmission Line Impedance Matching Technique <i>Chuang Chen, Xiaocha Liu, Guomin Yang, and Long Bai (Mainland, China)</i>
1570982707	Planar Resonators for Small Sample Characterization of Permittivity and Permeability <i>Xiaoming Liu, and Chen Wang (Mainland, China)</i>
1570982886	A Radio Frequency Magnetic Field Generator for Magnetic Resonance Compatibility Testing of Active Implantable Medical Devices <i>Qiaoyan Chen, Jiasheng Wang, Xinwei Rong, and Ye Li (Mainland, China)</i>
1570982896	Automated Surrogate Modeling and Optimization for 4th-Order Transformer-Based Resonator <i>Hongzhen Yi, Qingsha Cheng, and Quan Pan (Mainland, China)</i>

Session 12: Pearl Room

➤ **Session Title: Microwave and Millimeter-wave Passive Devices and Circuits II**

➤ **Session Chairs: Chaoyun Song, Shenzhen University, China**

Fu-Chang Chen, South China University of China

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

1570983104	Wideband Absorptive Frequency-Selective Reflector Based on Hybrid 2-D and 3-D Structures <i>Bingyan Zhou, Binchao Zhang, Baihong Chi, Hong-Wei Gao, and Cheng Jin</i> (Mainland, China)
1570983215	Compact Tunable Bandpass Filters Based on Lambda/4 Coaxial Resonator and Capacitive Loading Sleeve <i>Jun-Jie Yan, and Fu-Chang Chen</i> (Mainland, China)
1570983297	Utilization of Loaded Stripline Technology in Hybrid Substrate Integrated Waveguide Filter <i>Ke Gong, Sensen Ma, Xue Hui Hu, and ChunFeng Fan</i> (Mainland, China)
1570983891	Planar Resonant Sensors for the Characterization of Low Dielectric Materials <i>Zijian Gao, Qiaoyu Li, Sihui Jia, and Youjin Zhou</i> (Mainland, China)
1570984123	A Low-Pass Filter With Miniaturized Size and Broad-Stopband Using Helical Transmission Line and Dielectric Rings <i>Zhi-Chong Zhang, Ming-Hua Liu, and Ying Liu</i> (Mainland, China)

Session 13: Jade Room 1-B

- **Session Title:** Microwave and Millimeter-wave Passive Devices and Circuits III
- **Session Chairs:** Yan Wang, Fudan University, China

Zhi-Chong Zhang, Jinggangshan University, China

Qingfeng Zhang, Southern University of Science and Technology

1570991078	Design of Multistate Cavity Diplexer Based on Triple-Mode Resonators <i>Yu-Ming Li, Hong-Ji Li, Sai-Wai Wong, and Yejun He</i> (Mainland, China)
1570992990	A V-Band Oscillator Using GaN HEMTs <i>Jiayou Wang, Yin-Cheng Chang, Yeke Liu, Shawn S. H. Hsu, and Yi Huang</i> (United Kingdom; Taiwan, China)
1570982301	Design of the Air-Filled Coaxial Diplexer <i>Zheming Li, Ying-Qian He, Xiao Zhang, and Sai-Wai Wong</i> (Mainland, China)
1570983129	The Effect of All-Textile Metasurface on Cellphone Antenna Radiation in On-Body Scenario <i>Wandai Tian, Chen Xu, Jingchen Wang, Wenzhang Zhang, Rui Pei, and Menglin Zhai</i> (Mainland, China)
1570983256	Simulation Analysis of Short Distance Transmission of Millimeter Waves in Rain Environment <i>Haitian An, Yuan Chen, Le Xu, and Wei Li</i> (Mainland, China)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Session 14: Jade Room 3-A

- **Session Title:** Emerging Technologies for Internet of Vehicles and Extremely Large-Scale MIMO
- **Session Chairs:** Celimuge Wu, The University of Electro-Communications, Japan
Soufiene Djahel, University of Huddersfield, UK
Kok-Lim Alvin Yau, Universiti Tunku Abdul Rahman, Malaysia

Invited

Efficient Wireless Power Transfer for IoTs and Biomedical Applications

Yongxin Guo (Hong Kong, China)

1570983302

Integrating Localization and Communication for Multiple Backscatter Tags With Commodity WiFi

Yijie Wu, HuiXin Dong, Xianan Zhang, and Wei Wang (Mainland, China)

1570983320

Learning or Non-Learning: Effective Access Traffic Prediction in Random Access

Changwei Zhang, Cheng Zhang, Wenchao Xia, Ruochen Huang, Hongbo Zhu, and Yongming Huang (Mainland, China)

1570984593

Two-Stage DOA Estimation for ISAC System Based on a MIMO OFDM Radar

Zhengyu Huang, Danpu Liu, and Zhilong Zhang (Mainland, China)

1570985254

Design of A Progressive Image Compression Algorithm and Its Implementation on Multi-Level Archives Management System

Zhi Zhang, Xin Guo, Peijing Dong, and Liuguo Yin (Mainland, China)

Session 15: Jade Room 3-B

- **Session Title:** Smart Spectrum Sensing and Wireless Coexistence Technologies in Industrial IoT
- **Session Chairs:** Yan Yang, Beijing Jiaotong University, China
Danpu Liu, Beijing University of Posts and Telecommunications, China
Xu Zhu, Harbin Institute of Technology(Shenzhen), China

Invited

A Multiband Rectenna For Ultra-Low RF Energy Harvesting

Jingwei Zhang (Mainland, China)

IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

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| 1570984241 | Integrated Sensing and Communication Waveform Design for mmWave Vehicular Networks:
A Subcarrier Classified Modulation Approach
<i>Ze Yu, and Yan Yang (Mainland, China)</i> |
| 1570984291 | Secure and Efficient Collaborative Machine Learning Frameworks for 6G Intelligent
Applications
<i>Wai Yie Leong (Malaysia)</i> |
| 1570991084 | Research on Base Station Antenna Blockage Detection
<i>Xidian Wang, Jinpeng Xu, Wentao Zhu, Yonghong Zhao, Chenxi Zhang, and Qian Wang</i>
(Mainland, China) |
| 1570984402 | Graph-Regularization-Based Low-Rank Matrix Completion for Multi-User mmWave
3D-MIMO Channel Estimation

<i>Tianyu Jiang, and Yan Yang (Mainland, China)</i> |
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COFFEE BREAK — (15:40 --16:00)

Sunday Afternoon Sessions — (16:00 -- 17:40)

Session 16: Crystal Room

- **Session Title: Microwave/mmWave Devices and Antennas Enabled by Novel Electromagnetic Materials I**
- **Session Chairs: Ming-Chun Tang, Chongqing University, China**

Changjiang Deng, Beijing Institute of Technology, China
Xiao Zhang, Shenzhen University, China

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|-------------------|---|
| 1570983002 | Design of Broadband Tunable Frequency Selective Rasorber Structure
<i>Kaili Wei, Bian Wu, and Weixi Xu (Mainland, China)</i> |
| 1570983060 | A 2-D Multi-Beam GRIN Lens Using Multilayer Metasurfaces |
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IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Lizhao Song, Peiyuan Qin, and Y. Jay Guo (Australia)

- 1570983188** A Wideband Reflectarray Antenna Employing Novel Phase Delay Line Loading Method
Sen Li, Yang Cai, Hong Ma, Lijun Bu, Siyu Qi, and Tao Wu (Mainland, China)
- 1570983301** Ultrathin Single-Substrate Metasurface With High Transmission Efficiency
Lijun Bu, Hong Ma, Yang Cai, Tao Wu, Siyu Qi, and Sen Li (Mainland, China)
- 1570983328** Reflecting/Absorbing Reconfigurable Textile Metasurface Designs
Tian Zhang, Wandai Tian, Jingchen Wang, Wenzhang Zhang, Rui Pei, and Menglin Zhai (Mainland, China)
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Session 17: Pearl Hal

- **Session Title: Microwave/mmWave Devices and Antennas Enabled by Novel Electromagnetic Materials II**
- **Session Chairs: Bian Wu, Xidian University, China**

Daping He, Wuhan University of Technology, China

Peiyuan Qin, University of Technology Sydney, Australia

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- 1570983362** A Wideband Millimeter Wave Metasurface Antenna Array Fed by A Substrate Integrated Waveguide
Ying Wang, and Zihao Chen (Mainland, China)
- 1570983371** Polarization-Insensitive Active Frequency Selective Surface and Its Spectrum Conversion
Weilong Wang, Jiaping Fu, and Hai Lin (Mainland, China)
- 1570984251** A Conformal Tri-Band Band Notched Antenna for WLAN/WiMAX Applications
Xin Yi Liu, Biao Chen, Rongguo Song, and Daping He (Mainland, China)
- 1570984486** Millimeter-Wave High-Aperture-Efficiency Conformal Impedance Metasurface for OAM Generation Using Blackman Function Optimization Algorithm
Huifen Huang, and Ying Jing Ma (Mainland, China)
- 1570983363** A Millimeter Wave Circularly Polarized Filtering Antenna Array With High Gain and Low Axial Ratio
Jiahui Yao, Sifan Wu, and Jianxing Li (Mainland, China)
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IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Session 18: Jade Room 1-B

- **Session Title:** Microwave/mmWave Devices and Antennas Enabled by Novel Electromagnetic Materials III
- **Session Chairs:** Sai-Wai Wong (Shenzhen University, China)
Yujian Li (Beijing Jiaotong University, China)
Weiwen Li, Xiamen University, China

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| 1570984501 | Tensor Holographic Impedance Coding Metasurface for Millimeter-Wave Circular Airy OAM Multibeam Generation
<i>Huifen Huang, and Ying Jing Ma (Mainland, China)</i> |
| 1570984563 | Near-Field Shaped Focusing Based on 1-Bit Coded Tensor Holographic Impedance Metasurface
<i>Huifen Huang, and Ziyi Xiang (Mainland, China)</i> |
| 1570991047 | A Low-Profile Dual-Polarized Dielectric Resonator Antenna for 2G/3G/4G Base Station Applications With Gain Enhancement
<i>Qihua Wu, Hongji Li, Sai-Wai Wong, Yecong Lin, and Yejun He (Mainland, China)</i> |
| 1570991118 | Wideband Single-Layer Reflectarray Antenna Using Planar Monopole Elements for mm-Wave Applications
<i>Mengzhi Hou, Long Zhang, Chunxu Mao, and Yejun He (Mainland, China)</i> |
| 1570991122 | A Novel Single-Feed Tri-Band PIFA Antenna for WLAN and WiMAX Applications
<i>Xulin Xu, Long Zhang, Jinfeng Zhang, and Yejun He (Mainland, China)</i> |
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Session 19: Jade Room 3-A

- **Session Title:** MICROWAVE/MM-WAVE/THZ ANTENNAS I
- **Session Chairs:** Tianwei Deng, Sun Yat-sen University (Shenzhen), China
Neng-Wu Liu, Xidian University, China
Chunxu Mao, South China University of Technology

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|-------------------|---|
| 1570980358 | A Low RCS Millimeter-Wave Antenna Based on Frequency Selective Absorber |
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IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

1570980705	<i>Youquan Wen, Sai-Wai Wong, and Yejun He</i> (Mainland, China) A Wideband Circularly Polarized Crossed Dipole Antenna With Circular Loop and Vertical Pillars
1570982630	<i>Qin Zhou, and Xue Ren</i> (Mainland, China) A Novel Base Station Antenna Array With Electromagnetic Transparent Radiator
1570982768	<i>Li Zhang, Tianrui Liu, and Yejun He</i> (Mainland, China) A Miniaturized Omnidirectional Circularly Polarized Antenna Using Double Torsion Coil Feeding Structure
1570983161	<i>Yuzhou Li, Zhang Zhen-Yuan, and Ming Yu</i> (Mainland, China; Canada) A Novel Flexible Low-Profile Double-Notch Reconfigurable UWB Antenna Design
	<i>Zhen Wang, Jinfei Zheng, Jun Zhou, Jian Dong, Meng Wang, and Heng Luo</i> (Mainland, China)

Session 20: Jade Room 3-B

- Title: MICROWAVE/MM-WAVE/THZ ANTENNAS II
- Session Chairs: Gang Zhang, Nanjing Normal University, China
Kaixu Wang, Harbin Institute of Technology (Shenzhen), China
Rui-Sen Chen, Foshan Univesity, China

1570983318	A Millimeter-Wave Grid Array Antenna (GAA) Based on Organic Substrate <i>Mingtao Huang, and Zihao Chen</i> (Mainland, China)
1570983389	Dual-Beam MIMO Antenna Design Based on a Simple Decoupling Inductor <i>Haoliang Li, Han Chen, Yang Liu, Hongqian Fang, Hyeongdong Kim, and Longyue Qu</i> (Mainland, China; Korea)
1570983611	A Water-Based Dielectric Resonator Antenna With Wide Bandwidth and High Radiation Efficiency <i>Xuan-Ji Wu, Ke Deng, Zhe Chen, Tao Yuan, Fu-Gui Yan, Qinjuan Zhang</i> (Mainland, China)
1570983813	A Wideband Fabry-Pérot Cavity Filtering Antenna <i>Shu-Qing Zhang, Sai-Wai Wong, Yejun He, and Zhonghe Zhang</i> (Mainland, China)
1570983821	Multidimensional Beam Coverage Millimeter-Wave Phased Antenna Array <i>Zhonghe Zhang, Jiupei Shi, Sai-Wai Wong, and Yejun He</i> (Mainland, China)

DINNER BREAK — (18:00 -- 20:00)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Monday, June 3, 2024

Monday Morning Sessions — (8:30 -- 10:10)

Session 21: Crystal Room

➤ Session Title: MICROWAVE/MM-WAVE/THZ ANTENNAS III

➤ Session Chairs: Zhe Chen, Shenzhen University, China

Yongjin Zhou, Shanghai University, China

Changjiang Deng, Beijing Institute of Technology, China

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| 1570984303 | Millimeter Wave Omnidirectional High Gain Transmit-Array Antenna
<i>Dongyu Wang, Yue Zhao, and Lei Ge (Mainland, China)</i> |
| 1570984380 | Vortex Wave Antenna Based on Slot Radiation
<i>Wanli Li, Jun Lei and Weiwen Li (Mainland, China)</i> |
| 1570984438 | Multi-Path Coupled Base-Station Filtenna With Enhanced Filtering Performance
<i>Jiwen Wang, Chunxu Mao, Huifen Huang, and Xiuyin Zhang (Mainland, China)</i> |
| 1570984452 | Wide Beamwidth RDRA With Metal Patches and Semi-Arc Slot
<i>Chenxue Zhang, Chen Luo, and Yu Jiao Zhang (Mainland, China)</i> |
| 1570983287 | Multiband Circular Patch Frequency Reconfigurable Antenna
<i>Khujasta Khalid, Hidayatullah, Wardah Ali Haider, Waqar Ahmed Malik (Pakistan)</i> |
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Session 22: Pearl Room

➤ Session Title: MICROWAVE/MM-WAVE/THZ DEVICES/CIRCUITS

➤ Session Chairs: Qingfeng Zhang, Southern University of Science and Technology, China

Luyu Zhao, Anhui University, China

Xue Ren, Shenzhen University, China

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

1570983354	A Single-Layer Wideband Differentially-Fed Filtering Antenna With Controllable Radiation Nulls <i>Xiao-Fei Wu, Kun-Zhi Hu, Dajiang Li, Zhiyuan Chen, Dong Yan, Ming-Chun Tang</i> (Mainland, China)
1570990797	A Reconfigurable Van Atta Array for BPSK Radio Echo Modulation <i>Yu Qin, Yang Wang, Feng Lin, Yang Hu, and Xi Liao</i> (Mainland, China)
1570983329	Effect of Multilayer Coating Material on Electromagnetic Stealth Performance of Target <i>Xiaolong Zi, Huaji Zhou, Yuangang Zhu, and Le Xu</i> (Mainland, China)
1570990361	Ray-Enhanced Numerical Scheme for Complex Target Scattering Analysis in the High-Frequency <i>Haoqiang Feng, Caipin Li, and Qiwei Zhan</i> (Mainland, China)
1570990817	Generic Luneburg Lens With Focus- Radius Ratio $Fs \geq 1$ <i>Wen Ding, Cheng Yang, Ren-Ming Lu, Jian-Ping Guo, and Hua Yang</i> (Mainland, China)

Session 23: Jade Room 1-B

- Session Title: Antenna Arrays for 5G/6G and Satellite Communication Systems II
- Session Chairs: Long Zhang, Shenzhen University, China
Qingsha Cheng, Southern University of Science and Technology, China
Qi Luo, University of Hertfordshire, United Kingdom

Invited	High-Gain Microbump Antenna-on-Chips for Highly-Integrated Sub-THz Systems <i>Tianwei Deng</i> (Mainland, China)
1570982712	A Compact, High Gain, Dual-Band Meta Surface Antenna <i>Xiao-cha Liu, Guomin Yang, Yaobang Yang, Na Yan, and Lirong Zheng</i> (Mainland, China)
1570982777	Millimeter-Wave Dual Circularly Polarized Multibeam Antenna Array Based on 3D-Printed Luneburg Lens <i>Zhen Wang, Kuikui Fan, and Guo Qing Luo</i> (Mainland, China)
1570983218	Dual-Fed Polarization Reconfigurable Antenna <i>Yi-Wen Wu, and Yi Wang</i> (United Kingdom)
1570983311	A Sub-6 GHz and Millimeter Wave Dual-Band Aperture-Sharing Antenna by Reusing Mushroom-Shaped Structure <i>Qinghu Zhang, Xin Geng, Wenwen Yang, and Jian-Xin Chen</i> (Mainland, China)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Session 24: Jade Room 3-A

➤ **Session Title: Compact Antennas and Their High-density Arrays for Modern Wireless Communications**

➤ **Session Chairs: Ming-Chun Tang, Chongqing University, China**

Wenjun Lu, Nanjing University of Posts and Telecommunications, China

Ming Su, Beijing University of Posts and Telecommunications, China

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| 1570983314 | A Switchable Transmissive Metasurface Based on Polarization Conversion
<i>Rui Ming, Yanting Zhang, Jianing Yang, and Ming-Chun Tang (Mainland, China)</i> |
| 1570983787 | Miniaturized Multi-Beam Antenna Based on Gradient Metasurface
<i>Zhen Zhao, and Wenmei Zhang (Mainland, China)</i> |
| 1570984042 | A Multi-Mode OAM Planar Annular Array With Low Sidelobe
<i>Feiyang Yin, Li Na Zhang, and Xianling Liang (Mainland, China)</i> |
| 1570984506 | A Broadband Circularly Polarized Antenna Array Based on Sequential Rotation Feeding
<i>Guizhi Tian, Li Zhang, and Gaosheng Li (Mainland, China)</i> |
| 1570980509 | A Symmetrical Decoupling Method for Differentially-Fed Antennas (DFA)
<i>Xichen Wang, Can Ding, Guoqiang Zhao, Shiyong Li, and Yuenian Chen (Mainland, China; Australia)</i> |
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Session 25: Jade Room 3-B

➤ **Session Title: Mode Combination-Based Microwave Filters and Antennas for 5G/B5G Communication**

➤ **Session Chairs: Zihao Chen (Harbin Institute of Technology, China)**

Jingwei Zhang (Wuhan University of Technology, China)

Chaoyun Song (University of Liverpool, United Kingdom)

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| 1570978879 | A Multi-Mode Horn Antenna With Increased Gain and Reduced Cross-Polarization
<i>Yong Jian Wu, and Neng-Wu Liu (Mainland, China)</i> |
| 1570981063 | Impact of Ground via Placement and Size in Grounded Coplanar Waveguide Interconnects
<i>Xinni Hu, Chengji Zhao, Jie Tian, Wanchun Tang, and Gang Zhang (Mainland, China)</i> |
| 1570983221 | Wideband and Wide-Beam $\pm 45^\circ$ Dual-Polarized Microstrip Patch Antenna
<i>Xiang Gao, and Neng-Wu Liu (Mainland, China)</i> |
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IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

1570984492	A Differential-Fed Dual-Polarized Microstrip Patch Filtering Antenna Based on Dual-Mode SIW Cavity <i>Hao Yu, Suchuan Qian, Xin Zhou, Hongtao Gu, and Gang Zhang</i> (Mainland, China; Macau, China)
1570984300	On the High-Gain Planar Endfire Circularly Polarized Antennas <i>Yifan Yin, Wenjun Lu</i> (Mainland, China)

COFFEE BREAK — (10:10 --10:30)

Monday Morning Sessions — (10:30 -- 12:10)

Session 26: Crystal Room

- **Session Title:** OTA Tests and Antenna Measurements Radar and Communication Applications
- **Session Chairs:** Xiaoming Chen, Xi'an Jiaotong University, China

Yuxin Ren, China Academy of Information and Communications Technology, China

Jing-Yu Lin, Xiamen University, China

1570982814	On the Feasibility of Antenna Pattern Measurement Using Arbitrarily Polarized/Orientated Probe in Reverberation Chamber <i>Fangyun Peng, Xiaoming Chen, Bingyi Qian, Junhao Zheng, Yuxin Ren, and Xiaobo Liu</i> (Mainland, China)
1570982849	An Antenna Array Design for Over-The-Air Testing Evaluation With Automated Test Equipment <i>Jose Moreira, Sergey Churkin, and Margarita Kirillova</i> (Germany and Armenia)
1570982984	A Sparse Phased Array and Its Fast Multibeam Measurement <i>Shuxin Zheng, Huaqiang Gao, and Xiaoming Chen</i> (Mainland, China)
1570983315	Comparison of Radiated A-GNSS Sensitivity Measurement and Stand-Alone GNSS Tracking Sensitivity Measurement <i>Ying Zhu, Yuchen Ma, Xiaobei Chen, Yali Yang, and Siyuan Yang</i> (Mainland, China)
1570991013	Local Low Sidelobes Orthogonal Unimodular Discrete Phase Sequences and Receiving Filter Bank Design for PMCW Automotive Radar <i>Yun Chen, Wen Ding, Jingtao Zeng, Yutao Zhang, and Hua Yang</i> (Mainland, China; Hong Kong, China)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Session 27: Pearl Room

➤ **Session Title: Recent Advances in Antenna Design for Mobile Terminals**

➤ **Session Chairs: Wenting Li, Shenzhen University, China**

Le Chang, Xi'an Jiaotong University, China

Qiwei Zhan, Zhejiang University, China

Invited

MIMO Antennas and MM-Wave Phased Array Antennas for 5G Mobile Terminals

Changjiang Deng (Mainland, China)

1570982876

An Endfire Circularly Polarized Antenna for GNSS Mobile Phone Application

Huiwen Tan, Changjiang Deng, Yuxuan Zhang, and Hongmin Gao (Mainland, China)

1570988996

Multibeam Antennas Handover Algorithm Based on Multi-Objective Bayesian Optimization

Zhenke Ding, Xiang Chen, Hanyan Huang, and Ruihong Zhu (Mainland, China)

1570989969

Antenna Electromagnetic Parameters Prediction Based on Data Augmentation and Neural Network

Wu Xie, and Xinrui Xie (Mainland, China)

1570991255

Radiator-Shared Self-Decoupled Antennas Designed for Adjacent Frequency Bands

Yongkang Peng, Jiangwei Sui, Du Li and Junru Li, and Xiangwei Zhu (Mainland, China)

Session 28: Jade Room 1-B

➤ **Session Title: Reconfigurable Intelligent Surfaces-aided Communications and Sensing**

➤ **Session Chairs: Bin Liao, Shenzhen University, China**

Haifan Yin, Huazhong University of Science and Technology, China

Kezhi Wang, Brunel University London, UK

Invited

Stacked Intelligent Metasurfaces Enabled Joint Signal Processing and Communication in the Wave Domain

Chau Yuen (Singapore)

1570983400

An Expectation Maximization-Aided Bayesian Beam Tracking Approach for RIS in Mobility Scenarios

Kai Wang, Haifan Yin, and Li Tan (Mainland, China)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

1570983876	Secure Wireless Communication in Active RIS-Assisted MISO DFRC System <i>Yang Zhang, Hong Ren, Cunhua Pan, Boshi Wang, Zhiyuan Yu, Ruisong Weng, and Tuo Wu</i> (Mainland, China; United Kingdom)
1570991131	Energy Consumption Minimization for UAV-Mounted Active RIS-Assisted Mobile Edge Computing <i>Jiabin Shuai, Yejun He, Xiaowen Cao, and Lifeng Xie</i> (Mainland, China)
1570983882	Joint Beamforming Design for Double Active RIS-Assisted Radar-Communication Coexistence <i>Mengyu Liu, Hong Ren, Cunhua Pan, Boshi Wang, Zhiyuan Yu, Ruisong Weng, and Kangda Zhi</i> (Mainland, China; United Kingdom)

Session 29: Jade Room 3-A

- **Session Title: Wireless Communications and Networks I**
- **Session Chairs: Xiaowen Cao, Shenzhen University, China**
Cunhua Pan, Southeast University, China
Kezhi Wang, Brunel University London, UK

Invited	Low Cost Reconfigurable One-Bit Phased Array Antenna for Mobile System <i>Yan Wang</i> (Mainland, China)
1570991068	A Novel Dual-Band Programmable Reflectarray Antenna Unit Cell <i>Ning Yang, Yuxin Wang, Yi Chen Zhong, Yongtao Jia, and Ying Liu</i> (Mainland, China)
1570983444	Delay Minimization in NOMA-Based Cooperative Mobile Edge Computing(MEC) Offloading <i>Luyao Zhang, and Li Hao</i> (Mainland, China)
1570983422	Ray-Tracing Based Multi-Path Clustering and Channel Tracking for 6G UAV Communications <i>Xinrong Zhang, Zhaolei Zhang, Yi Zhang, Yu Liu, Ji Bian, Ruisi He</i> (Mainland, China)
1570983355	A Channel Modeling Method for Small-Scale Fading in Satellite Communications <i>Xiayu Li, Yujuan Ma</i> (Mainland, China)

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Session 30: Jade Room 3-B

➤ Session Title: Wireless Communications and Networks II

➤ Session Chairs: Chongtao Guo, Shenzhen University, China

Jinbei Zhang, Sun Yat-sen University, China

Ying Wang, Beijing University of Posts and Telecommunications, China

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| 1570983367 | Modeling and Analysis of Sensitive Probe Using FDTD Method
<i>Jiawen Lan, Liangqi Gui, Liang Lang, and Quanliang Huang</i> (Mainland, China) |
| 1570983427 | UrFatigue: Ultra-Wideband Radar Based Contactless Fatigue Monitoring
<i>Lingyi Meng, Jinhui Zhang, Xikang Jiang, Kun Wang, Lei Li, and Lin Zhang</i> (Mainland, China) |
| 1570983429 | AP-HR: Amplitude and Phase Joint Optimization-Based Heartbeat and Respiration Separation Algorithm Using IR-UWB Radar
<i>Wenyao Mu, Jinhui Zhang, Xikang Jiang, Kun Wang, Lei Li, and Lin Zhang</i> (Mainland, China) |
| 1570984318 | AI-Based 6G Space-Air-Ground Integrated Network Resource Allocation Algorithm
<i>Mingxiang Guan, Zhou Wu, Changwei Lv, Yuxi Gan, Bin Guo, Xing Liu, Chen Lu, Le Wang, Kuandong Gao, and Yongpan Feng</i> (Mainland, China) |
| 1570984572 | Localization Accuracy Under Age of Information Influence for Industrial IoT
<i>Zhuyin Li, Xu Zhu, Jie Cao</i> (Mainland, China; United Kingdom) |
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LUNCH BREAK — (12:10 -- 13:40)

END OF PROGRAM

IEEE iWRF&AT 2024

Shenzhen, China, May 31 - June 3, 2024

Conference Venue

2024 IEEE 7th International Workshop on Radio Frequency & Antenna Technologies (IEEE iWRF&AT 2024) will be held at Sentosa Hotel Shenzhen Feicui Branch near Shenzhen University, China.

Sentosa Hotel Shenzhen Feicui Branch is a renowned hotel conveniently located within walking distance of Taoyuan Station on metro line 1.

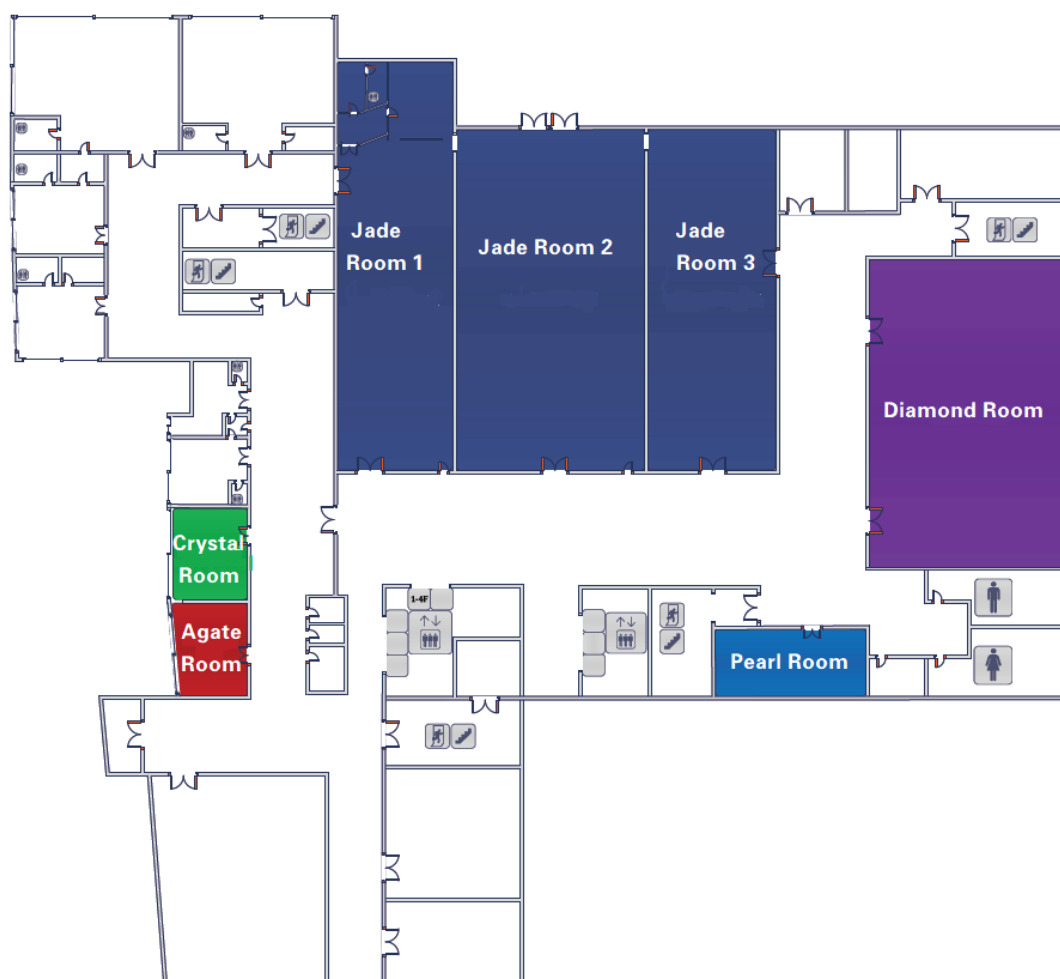


Address: Tiansha Emerald Pearl Garden, NO.1, Jinji Road, Nanshan District, Shenzhen, China.

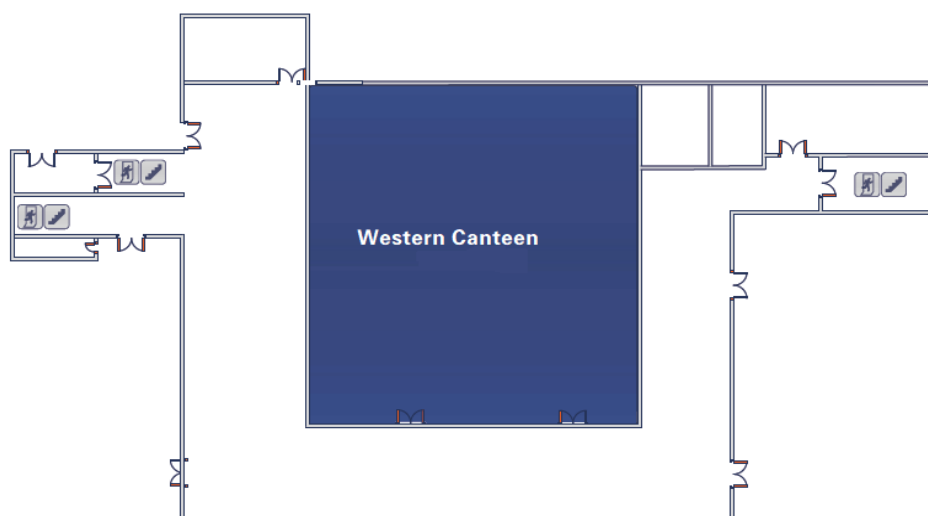
Hotel Reservation: https://rfat.szu.edu.cn/Hotel_Reservation.htm

IEEE iWRF&AT 2024
Shenzhen, China, May 31 - June 3, 2024

Floor Plans



Level-4



Level-1

IEEE iWRF&AT 2024 (RFAT2024)



Shenzhen University, Shenzhen, China
31 May-3 June, 2024

