

# Singapore Workshop on Antennas

27 - 28 October 2022, Sheraton Towers, Singapore

[www.swa2022.org](http://www.swa2022.org)



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Zoom Meeting ID: 836 9934 9338 , Passcode: SWA2022

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## Morning Session 27 Oct 2022

08:30 – 08:40 Opening Speech by General Chair Prof Zhongxiang Shen

**Chairs: Yueping Zhang, Yeehui Lee**

08:40 – 09:40 [Keynote] Design of Planar Waveguide Arrays and System Implementation:  
Planetary Exploration and B5G Heterogeneous Network  
Prof. Makoto Ando, Tokyo Institute of Technology, Japan

09:40 – 10:40 [Keynote] Miniaturized and Low-Profile Antennas for Mobile and Robotic Platforms  
Prof. Kamal Sarabandi, University of Michigan, USA

10:40 – 11:00 Coffee Break

11:00 – 12:00 [Keynote] Characteristic Mode Decomposition Using MoM, FEM, and FDTD Solvers  
Prof. Mats Gustafsson, Lund University, Sweden

12:00 – 13:20 Lunch Break

## Afternoon Session 27 Oct 2022

**Chairs: Yilong Lu, Richard Xianke Gao**

13:30 – 14:30 [Keynote] The Role of Electronically Reconfigurable Reflectarrays, Transmitarrays,  
and Metasurfaces in Future Phased-Array Antenna Applications  
Prof. Nader Behdad, University of Wisconsin, USA

14:30 – 15:30 [Keynote] Multifunctional Magnetic Metasurfaces with Absorbing, Reflecting  
and High Impedance Properties for ICT, Defense and  
Biomedical Applications  
Prof. Agostino Monorchio, University of Pisa, Italy

15:30 – 15:50 Coffee Break

15:50 – 16:50 [Keynote] Meta-Atoms for 3D Printing Metamaterials  
Prof. J. Yiannis Vardaxoglou, Loughborough University, UK

16:50 – 17:50 [Keynote] RF Planar Filter Technologies  
Prof. Jiasheng Hong, Heriot Watt University, UK

18:30 – 20:30 Reception

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## Morning Session 28 Oct 2022

**Chairs: Zhongxiang Shen, Ziliang Liu**

08:30 – 09:30 [Keynote] Overview of Microstrip Antennas

Prof. David R. Jackson, University of Houston, USA

09:30 – 10:30 [Keynote] Topological Antennas

Prof. Daniel Sievenpiper, University of California, USA

10:30 – 11:00 Coffee Break

11:00 – 12:00 [Industrial Talk] Efficiency Revolution of Future Base Station Antennas

Mr. Weihong Xiao, Huawei Technologies, China

12:00 – 13:20 Lunch Break

## Afternoon Session 28 Oct 2022

**Chair: Richard Xianke Gao**

13:30 – 13:50 A Compact Self-Multiplexing Antenna for Quad-band Applications  
Sounik Kiran Kumar Dash, National University of Singapore, Singapore

13:50 – 14:10 A Deployable Wideband Differential-Fed Dual-Polarized Patch Antenna Array  
Ankang Liu, National University of Singapore, Singapore

14:10 – 14:30 A Printed Monopole Antenna with Integrated Broadband Noise-Shaping Networks for UHF Partial Discharge Monitoring Application  
Zhou Shu, Nanyang Technological University, Singapore

14:30 – 14:50 A Physics-assisted Neural Network Solver for 3D Dielectric Scattering Problems  
Tiantian Yin, National University of Singapore, Singapore

14:50 – 15:10 Vortex Beams Improve IRS Low Rank Channel Transmission: Principle Analysis and Prototype  
Yufei Zhao, Nanyang Technological University, Singapore

15:10 – 15:30 Ka-Band Huygens Antenna Array with Ultrahigh Aperture Efficiency  
Wei Lin, The Hong Kong Polytechnic University, China

15:30 – 15:50 Coffee Break

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## Afternoon Session 28 Oct 2022

**Chair: Ziliang Liu**

- 15:50 – 16:05 Low-RCS Transmitarray Based on 2.5-Dimensional Cross-Polarization Converter  
Mengyao Li, Nanyang Technological University, Singapore
- 16:05 – 16:20 Wideband Dual-Polarized Angle-Selective Surface Based on a Triple-Layer Structure  
Chao Du, Nanyang Technological University, Singapore
- 16:20 – 16:35 Design of a Vivaldi Phased Array Antenna For Tree Trunk Scanning  
Kaixuan Cheng, Nanyang Technological University, Singapore
- 16:35 – 16:50 Free-Positioning and Omnidirectional Wireless Power Transfer System using Self Decoupled Planar Transmitter Coils  
Yi Li, National University of Singapore, Singapore
- 16:50 – 17:05 Millimetre-Wave Frequency Modulated Continuous Wave Radar-based Soft Fall Detection using Pattern Contour-Confined Doppler-Time Maps  
Bo Wang, National University of Singapore, Singapore
- 17:05 – 17:20 Dual-Polarized Bandpass Absorptive Frequency Selective Structure with Wide Absorption Bands  
Weiliang Yu, Hangzhou Dianzi University, China
- 17:20 – 17:35 Radome-less and Low RCS Antenna Based on Multimodal Stealth Metasurface  
Bingzhao Zhang, Tsinghua University, China
- 17:30 – 17:50 Broadband Angle-Independent Metasurfaces  
Qihao Lv, Tsinghua University, China
- 19:00 – 21:00 Workshop Banquet



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