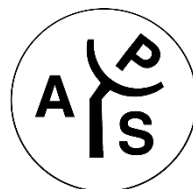




The 21st IEEE (HK) AP/MTT Postgraduate Conference

21st November, 2020, Virtual Event, Shenzhen & Hong Kong

Program Book



About the Conference

IEEE (HK) AP/MTT Postgraduate Conference is a dedicated local non-peer-review and non-publication conference for postgraduate students in the fields of Microwave and Antennas. This year is the 21th anniversary postgraduate conference and will be held virtually on 21st November, 2020. The conference is jointly organized by IEEE Hong Kong Section AP/MTT Joint Chapter, The Chinese University of Hong Kong (Shenzhen) and The Chinese University of Hong Kong. The main purpose is to enhance the communications between the postgraduate students in the region and to provide a platform for ideas exchange. This unique occasion will help our students to gain a deeper understanding on the current research focus of the related fields.

Topics includes microwave theory and techniques, antennas and propagation, but are not limited to

Broadband and Multi-Frequency Antennas	Ultra Wideband Antenna and Systems
Mobile and Base Station Systems	RFIC/MMIC
Metamaterials	Novel Microwave and Millimeter Wave Components
EM and Multiphysics Modeling	RF and Microwave Power Amplifiers Design
Integrated Passive Devices	Waveguiding Structures
Microstrip Antennas, Arrays, and Circuits	Dielectric Resonator Antennas
Remote Sensing	Terahertz Technology
MIMO Antennas for Base Stations and Mobile Systems	Internet of Things and Smart City

Zoom Instruction

- 1 Download ZOOM: <https://zoom.us/meetings.html> or <https://zoom.us/zh-cn/meetings.html> (PC client is mandatory)
- 2 **Instructions for Session Chairs**
 - 2.1 Please arrive at your room using the respective Zoom Meeting link at least 10 mins before the session.
 - 2.2 Rename yourself as “**AP-Session Chair-XXX**” or “**MTT-Session Chair – XXX**”, where XXX stands for your name in English.
 - 2.3 Our helpers with name “**AP-Support-XXX**” or “**MTT-Support-XXX**” will brief you on the session information with a PowerPoint slide; This slide will be displayed until the session starts.
 - 2.4 The helper will also make you “co-host” so that you can share your screen when you want to present or help manage the session. please also read Section 4 of this instruction for more information on how to share screen in Zoom;
 - 2.5 When the session starts, the helper will mute the rest participants.
 - 2.6 After you let a speaker present his/her paper; the student helper will make the speaker “co-host” so that he/she can share the slides.
 - 2.7 Please keep each presentation to the allotted time slot; the helper will notify you when time is running out
 - 2.8 During the Q&A, you can encourage audiences to “raise hand”; when you choose an audience, the helper will unmute him/her.
- 3 **Instructions for Speakers**
 - 3.1 Please arrive at your room using the respective Zoom Meeting link at least 10 mins before the session.
 - 3.2 Rename yourself as “**AP-X-Speaker-YYY**” or “**MTT-X-Speaker-YYY**”, where X is the ordinal number of your paper in this session; YYY stands for your name in English.
 - 3.3 Our helpers with name “**AP-Support-XXX**” or “**MTT-Support-XXX**” will help test the Share Screen function of Zoom with you; please also read Section 4 of this instruction for more information on how to share screen in Zoom.
 - 3.4 Once the session chair let you present your work, the helper will make you “co- host” and you will be able to share your screen

4 Instructions on How to Share Screen in Zoom

4.1 When you are in a Zoom meeting, you can share your screen by clicking Share Screen button on the bottom of Zoom (see Fig. 1).

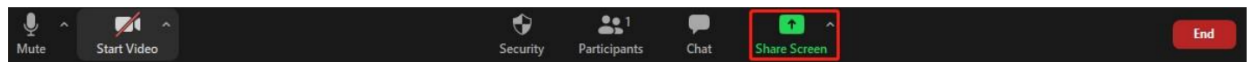


Fig. 1. Bottom control buttons of Zoom.

4.2 A pop-up window will show to let you choose the screen to share (see Fig. 2).

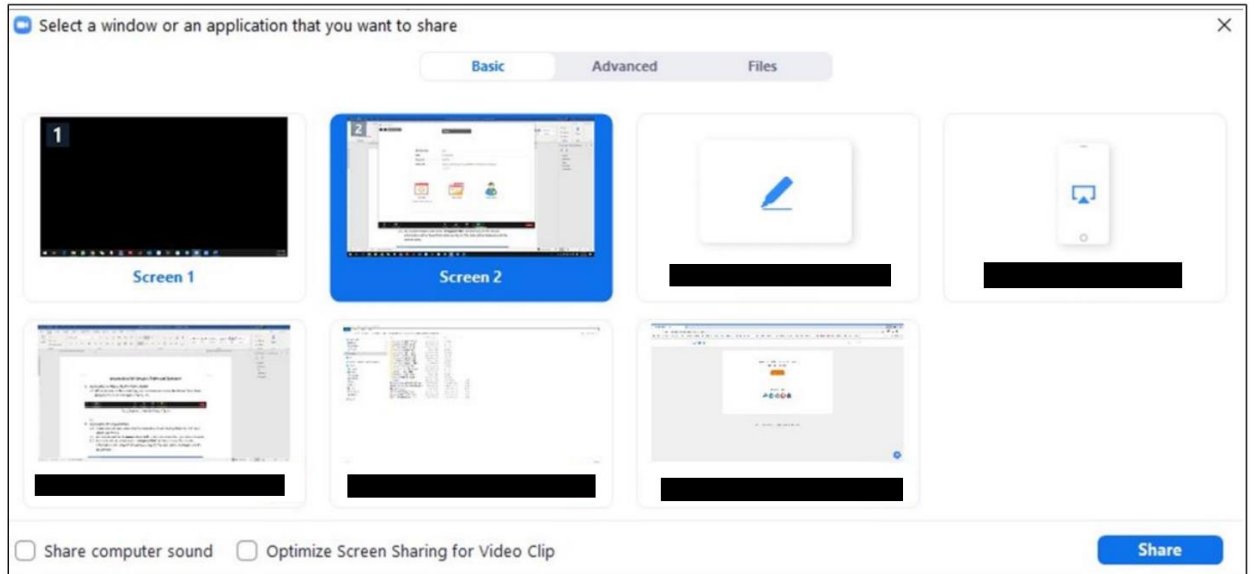


Fig. 2. Pop-up window to select the screen/application to share.

4.3 Be sure to share the window containing your presentation slides.

Program

Session		Antenna and Propagation (AP) 21 st November, 2020 Session Co-Chairs: Dr. Yunfei Cao <i>South China University of Technology, P. R. China</i> Dr. Kai Xu Wang <i>Harbin Institute of Technology Shenzhen, P. R. China</i> Zoom Meeting ID: 864 8596 4119 Zoom Password: 1234 Zoom link: https://us02web.zoom.us/j/86485964119?pwd=Qitqc0NUUXg2RG5tUXhgOEZlR05OU09
13:00-13:20	AP-01	160 GHz Dual-Polarized LTCC Based Antenna with Enhanced Bandwidth and Gain King-Tung Lo, Qing-Yi Guo, Jing Yang, Hang Wong <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i>
13:20-13:40	AP-02	Design a Compact Low-Profile UWB Antenna for Wireless Body Area Network Abdul Rashid.O. Mumin, R. Alias, Akrem Abdulhakim, Asad Abdi, Mohamed A. Al-olofi <i>Universiti Tun Hussein Onn Malaysia, Johor, Malaysia</i>
13:40-14:00	AP-03	A Terahertz On-Chip Antenna with Wide Impedance and Gain Bandwidths Shangcheng Kong, Kam Man Shum, Chi Hou Chan <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i>
14:00-14:20	AP-04	CP-Patch-Based Strain Sensor with High Sensitivity for Structural Health Monitoring Lingling Wang, Kwok L. Chung <i>Qingdao University of Technology, Qingdao, P.R. China</i>
14:20-14:40	AP-05	Terahertz High-gain Open Resonator Antenna Based on Silicon-Etching and Imprinting Yuan-long Li, Kwai-man Luk, Shu-yan Zhu, Stella W. Pang <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i>
14:40-15:00	AP-06	A Dual-Polarized Lens Antenna Using Gradient Refractive Index (GRIN) Metasurface Yat-Sing TO, Quen-Wei LIN, Hang WONG <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i>
15:00-15:20	Break	
15:20-15:40	AP-07	Compact Absorptive Filtering Patch Antenna Yan-Ting Liu, Zhi-Yi Zhang, Kwok Wa Leung <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i>
15:40-16:00	AP-08	Study of Mutual Coupling Between Artistic Chinese Character-Shaped Patch Antennas Aiqi Cui, Kwok L. Chung <i>Qingdao University of Technology, Qingdao, P.R. China</i>

16:00-16:20	AP-09	A Wideband Dual-Polarized Antenna for Millimeter Wave Applications Xin Dai, Kwai-Man Luk <i>City University of Hong Kong, Hong Kong SAR, P.R. China Qingdao University of Technology, Qingdao, P.R. China</i>
16:20-16:40	AP-10	A 3-D Printed Dual Circularly Polarized Bidirectional Antenna of the Same Sense Xin Feng Xiao, Zi Long Ma <i>South China University of Technology, Guangzhou, P.R. China</i>
16:40-17:00	AP-11	Wideband Substrate Integrated Waveguide Fed Circularly Polarized End-Fire Antenna with Tilted Beam Peiwen Tang, Hang Wong <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i>

Session	Microwave Theory and Techniques (MTT) 21 st November, 2020 Session Co-Chairs: Dr. Liang Wu <i>The Chinese University of Hong Kong, Shenzhen, P.R. China</i> Dr. Jun Yin <i>University of Macau, P. R. China</i> Zoom Meeting ID: 893 9925 3837 Zoom Password: 1234 Zoom link: https://us02web.zoom.us/j/89399253837?pwd=WisvTFpUMzE1cE1STTdnSGE3UUUvZz09	
	13:00-13:20	MTT-01 Minimum Subset Search in Automatic Microwave Filter Tuning with Support of Convolutional Neural Network Junyi Liu, Ke-Li Wu <i>The Chinese University of Hong Kong, Hong Kong SAR, P.R. China</i>
	13:20-13:40	MTT -02 Parametric Study of Frequency Selective Surface based on Ring Slot structure for Material Sensing Application at THz Region N.S.Ishak, M. Hashim Dahri, F.C. Seman, N. A. Awang, C.F Soon, N Zainal <i>Universiti Tun Hussein Onn Malaysia, Parit Raja, Malaysia</i>
	13:40-14:00	MTT -03 A Direct Preconditioner for Reconfiguration of Bandpass Filters with Irregular Couplings Using Continuation Method Yan Zhang, Ke-Li Wu <i>The Chinese University of Hong Kong, Hong Kong SAR, P.R. China</i>
	14:00-14:20	MTT -04 Highly Reconfigurable Dual-band Coupler with Independently Tunable Frequency and Coupling Coefficient at the Lower Band Ye YANG ¹ , Y. F. PAN ¹ , W. S. CHAN ¹ , S. Y. Zheng ² ¹ <i>City University of Hong Kong, Hong Kong SAR, P.R. China</i> ² <i>Sun Yat-Sen University, Guangzhou, P.R. China</i>
	14:20-14:40	MTT -05 Analysis of Electromagnetic Vortex Beams using Modified Dynamic Mode Decomposition Yanming Zhang, Lijun Jiang <i>The University of Hong Kong, Hong Kong SAR, P.R. China</i>

14:40-15:00	MTT -06	A Dual-mode Monoblock Dielectric Resonator Based on Two Dissimilar Modes Yuliang Chen, Ke-Li Wu <i>The Chinese University of Hong Kong, Hong Kong SAR, P.R. China</i>
15:00-15:20	Break	
15:20-15:40	MTT -07	Low Profile and High-Selectivity Frequency-Selective Surface using Bent Waveguides Guo-Wen Chen, Sai-Wai Wong, Zhi-Min Du, Lin Wang, Yin Li, Long Zhang <i>Shenzhen University, Shenzhen, P.R. China</i>
15:40-16:00	MTT -08	OTA Throughput Evaluation of MIMO Wireless Devices by Simulated Realistic Channel Model Xide Mei, Ke-Li Wu <i>The Chinese University of Hong Kong, Hong Kong SAR, P.R. China</i>
16:00-16:20	MTT -09	A 30-GHz Low-power CMOS LNA for 5G Communication Systems Jiye Liu ¹ , Liang Wu ² , Zhangming Zhu ¹ , Shubin Liu ¹ ¹ <i>Xidian University, Xi'an, Shaanxi, P.R. China</i> ² <i>The Chinese University of Hong Kong, Shenzhen, P.R. China</i>