IEEE VTC 2023-Fall

W5: Emerging physical-layer security technologies and applications for BG5 and 6G

Co-organizer: Eduard Axel Jorswieck, Technische Universitaet Braunschweig, Germany
Co-organizer: Liquan Chen, Southeast University, China
Co-organizer: Guyue Li, Southeast University, China
Co-organizer: Junqing Zhang, University of Liverpool, United Kingdom
Co-organizer: Weitao Xu, City University of Hong Kong, China

Workshop Program Outline		
09:00 – 09:10	**10min**	**Welcome/Opening**
09:10 – 09:55	**45min**	**Keynote Talk 1: Secret key Generation over Wireless Channel from a Non-quantization Perspective** **Hongbo Liu,** ***School of Computer Science and Engineering, University of Electronic Science and Technology of China***
09:55 – 10:40	**45min**	**Keynote Talk 2: Reinforcement Learning Based Maritime Communications Against Jamming and Interference** **Liang Xiao,** ***Department of Communication Engineering, Xiamen University***
10:40 – 11:00	**20min**	**Refreshments, Coffee Break, and Exhibits**
11:00 – 11:20	**20min**	**Implementation and Evaluation of Physical Layer Key Generation on SDR based LoRa Platform** Yingying Hu, Dongyang Xu and Tiantian Zhang *School of Information and Communications Engineering, Xi'an Jiaotong University*
11:23 – 11:43	**20min**	**Angular-domain Secret Key Generation for RIS-aided mmWave MIMO systems** Hongyuan Li*, Liquan Chen*†, Tianyu Lu* , Aiqun Hu*† **School of Cyber Science and Engineering, Southeast University, Nanjing, 210096, China †Purple Mountain Laboratories, Nanjing, 210096, China*
11:46 – 12:06	**20min**	**Covert Wireless Communication Against Surveillance With Detection and Localization** Menghan Lin†‡, Chaowen Liu*, Tong-Xing Zheng†‡, Yi He⋆, and Wenjie Wang†‡ *†School of Information and Communications Engineering, Xi'an Jiaotong University, Xi'an, P. R. China* *‡MoE Key Laboratory for Intelligent Networks and Network Security, Xi'an Jiaotong University, Xi'an, P. R. China* **School of Telecommunication and Information Engineering, Xi'an University of Posts & Telecommunications, Xi'an, China* *⋆Test Center, National University of Defense Technology, Xi'an, China*
12:10 – 12:30	**20min**	**Secure and Timely Status Updates in the IoT using Short-Packet Permutation-Based Transmissions** Yuli Yang *School of Computer Science and Electronic Engineering, University of Essex*
12:30 – 14:00	**90min**	**Lunch**

14:00 – 14:20	**20min**	**Analysis and Optimization of Spatially-Correlated RIS-Aided Secure Massive MIMO Systems with Low-Resolution DACs** Dan Yang[1,2], Wei Xu[1,2], Bin Sheng[1,2], Xiaohu You[1,2], Derrick Wing Kwan Ng[3] and Yijian Chen[4,5] *[1]National Mobile Communications Research Laboratory, Southeast University, [2]Purple Mountain Laboratories, [3]School of Electrical Engineering and Telecommunications, The University of New South Wales, Australia, [4]ZTE Corporation, [5]State Key Laboratory of Mobile Network and Mobile Multimedia Technology*
14:23 – 14:43	**20min**	**Securing Double-RIS Aided Multi-User Communication Against Multiple Eavesdroppers** Qiangqiang Yang[1], Yufeng Chen[1], Hongwen Yu[1], Zhichao Sheng[1], and Yong Fang[1] *[1]School of Communication and Information Engineering, Shanghai University Shanghai 200444, China*
14:46 – 15:06	**20min**	**Time Slot Allocation for RIS-Assisted Physical Layer Key Generation in OTP** Yufan Song*, Liquan Chen*†, Wanting Ma, Tianyu Lu*, Peng Zhang **School of Cyber Science and Engineering, Southeast University, Nanjing, 210096, China †Purple Mountain Laboratories, Nanjing, 210096, China*
15:10 – 15:30	**20min**	**On Converged Secrecy Outage Performance for RIS-Aided Communications** Junming Li[*], Shuping Dang[†], Zhenrong Zhang[*] and Lie Wang[*] *[*]School of Computer, Electronics and Information, Guangxi University, [†]Department of Electrical and Electronic Engineering, University of Bristol*
15:30 – 16:00	**30min**	**Refreshments, Coffee Break, and Exhibits**
16:00 – 16:20	**20min**	**RIS-Assisted Physical-Layer Key Generation with Discrete Phase Shift Optimization** Haoyu Li[*], Guyue Li[*†], Lei Hu[*], Aiqun Hu[†‡], and Derrick Wing Kwan Ng[§] *[*]School of Cyber Science and Engineering, Southeast University, [†]Purple Mountain Laboratories for Network and Communication Security, [‡]National Mobile Communications Research Laboratory, Southeast University, [§]School of Electrical Engineering and Telecommunications, University of New South Wales*
16:23 – 16:43	**20min**	**Secure Uplink Spatial Modulation Enabled by IRS** Fei Yu†, Zhengmin Shi†, Chaowen Liu†, Menghan Lin♯, Tong-Xing Zheng♯, Boyang Liu†, and Guangyue Lu† *†Xi'an University of Posts and Telecommunications, Xi'an, 710121, China* *♯Xi'an Jiaotong University, Xi'an 710049, China*
16:46 – 17:06	**20min**	**STAR-RIS Assisted Secret Key Generation: Joint Active and Passive Precoding Design (Online)** Zheng Wan[*], Yajun Chen[*], Xiaoyan Hu[*], Kaizhi Huang[*†], Liang Jin[*†] and Jinmei Yang[†] *[*] Information Engineering University, [†] Purple Mountain Laboratories*
17:10 – 17:20	**10min**	**Closing Remarks**