



**IEEE International Conference on Advanced Networks
and Telecommunications Systems**
14-17 December 2020 // Virtual Conference
ICT for Connecting Humanity



Call for Papers

SPARC Sponsored Workshop on “New Advances on Vehicle-to-Everything (V2X) Communications and Networking” in Conjunction with IEEE ANTS 2020

V2X communications are expected to bring in a series of far-reaching benefits for transformative changes to our society such as significantly improved roadway safety and efficiency, drastically reduced traffic jams and carbon monoxide emission, as well as optimized routes and unprecedented travel experiences. With 5G networks starting to roll out and the 6G research just begun, V2X, as one of the most promising vertical industries, has attracted tremendous investment worldwide and will be a game changer which opens the door to numerous opportunities for new services and businesses. A major objective of this workshop is to bring together state-of-the-art innovations, research activities (both in academia and industry), and the corresponding standardization impacts of V2X for the next generation intelligent transportation systems, so as to understand the inspirations, requirements, and the promising technical options to boost and enrich activities in the area of V2X. The scope of workshop includes (but not limited to) the following topics:

- V2X resource allocation and management;
- V2X communication and networking for Internet of Vehicles (IoV);
- Artificial intelligence and machine learning for V2X system optimization and decision making;
- Coding, modulation, and signal processing for high mobility communications such as orthogonal time-frequency space (OTFS);
- Training sequence and waveform design over doubly selective channels;
- Grant-free V2X communications for ultra-low latency;
- Mission critical V2X communications such as ultra-reliable low-latency communications (URLLC);
- Non-orthogonal multiple access (NOMA) such as sparse-code multiple access (SCMA) and resource spread multiple access (RSMA) for densely connected V2X networks;
- Cross-layer optimization for V2X communication and networking;
- Full duplex (FD) radios for V2X Communication;
- Cloud/edge/fog/dew computing and applications/services for V2X networks;
- UAV-assisted V2X communications;
- Cellular V2X with 5G New Radio and beyond;
- Dedicated short-range communications (DSRC) and its evolution;
- Hybrid V2X networks with RF and visible light communications (VLC);
- Network slicing for V2X networks;
- Security issues and designs for V2X (e.g., physical layer security, blockchain based wireless networks);
- Standardizations, use-cases, field-trials, prototypes, deployment and performance evaluation of V2X.

Workshop Committee:

- Zilong Liu, School of Computer Science and Electronics Engineering, University of Essex, UK.
- Vivek Bohara, Department of Electronics and Communications Engineering, IIIT-Delhi, India.

- Anand Srivastava, Department of Electronics and Communications Engineering, IIT-Delhi, India.
- Pei Xiao, 5G Innovation Centre, University of Surrey, UK.
- Md. Noor-A-Rahim, School of Computer Science and IT, University College Cork, Ireland.
- Zhengguo Sheng, Department of Engineering and Design, University of Sussex, UK.

Key dates:

- Submission deadline: **08 November 2020**
- Acceptance date: **16 November 2020**
- Final paper uploading date: **25 November 2020**

Paper submission: Please refer to ANTS'2020 website for more details. Papers should be submitted via EDAS at: <https://edas.info/newPaper.php?c=27510&track=104081>