# Call for Papers for Special Session on
# Emerging Trends in IoT, 5G, Tactile Internet and NOMA

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### Theme of Special Session:

The rapid growth of the mobile-based Internet and Internet-of-Things (IoT) is going to increase by 1000 folds by 2020. Such tremendous traffic growth poses a challenging requirement for future IoT based applications. The future IoT applications will encompass human-to-machine and machine-to-machine interactions to form real-time complex environments. Thus, the Internet needs to combine features of ultra-low latency with high availability, reliability, and security in wireless communications. Such an Internet is termed as Tactile Internet which will allow humans and devices to communicate in real time over 5G communication systems on a certain spatial communication range. The users interact in wireless environments on the basis of access techniques. The multiple access systems were used to be orthogonally divided into time, frequency and space. This poses a limitation of scalability of users and channel induced impairments, leading to wastage of scarce resources in low-powered wireless environments. Hence, Orthogonal Multiple Access (OMA) techniques are becoming redundant with time. This leads us to the development of Non-Orthogonal Multiple Access (NOMA) based solutions which provides a non-orthogonal division of resources among various users on the cost of increased receiver transmitter complexity, which is required to separate the non-orthogonal signals. Thus, NOMA provides increased strength to communication systems fuelled in 5G and the tactile Internet as well as maintaining power requirements as specified by the IoT protocol stack. This Special session looks at the possible emerging trends related to possible integration of the above communication system like 5G and Tactile Internet, IoT Protocol stack and NOMA techniques.

### Topics of interest include, but not limited to, the following:

- Legacy Networks in IoT infrastructure
- 5G Networks in IoT
- IPv6, 6LoWPAN, RPL, 6TiSCH, W3C in IoT
- Network Coding in the IoT environment
- D2D and M2M Communications in IoT
- High Band, Narrow Band Networks in IoT
- Software Defined Networks deployment in IoT applications
- Sensor Network using IoT
- Massive IoT
- Embedded Computer and System using IoT devices
- Interfaces using IoT
- Software for IoT
- Storage and Data Management for IoT
- Computing for IoT
- New waveforms in 5G communication
- NOMA in 5G scenarios
- Multi-user superposition transmission (MUST) in 5G
- Beamforming based radio access in 5G
- Radio resource and interference management for eMBB using 5G
- URLLC and mMTC IEEE 802.11ax, 802.11ad, 802.11ay, 802.11ah in 5G
- Next generation Wi-Fi technologies
- Ultra-dense network using 5G
- Multiple TRPs in 5G
- Cloud radio access network using 5G
- Massive MIMO
- Network slicing in 5G
- Open architecture for next-generation core Simulation platform, prototypes and field-try in 5G Standardizations of 5G radios and networks Impacts
- Air interface and signal processing concepts in Tactile Internet Applications
- Redundant or multi-point transmission, multi-point connectivity in Tactile Internet Applications
- Novel approaches towards session management and protocol stack in Tactile Internet Applications
- Network infrastructure and core network concepts in Tactile Internet Applications
- Cloud-RAN and mobile edge-cloud concepts in the context of latency- or reliability-critical applications
- Architectural enablers for distributed or edge computing in Tactile Internet Applications
- Co-existence of traffic with stringent latency/reliability requirements in Tactile Internet Applications
- Haptic codecs
- New waveform design
- Ad-hoc networking, routing, handover, and meshing in Tactile Internet Applications
- Novel deployment concepts and system architectures
- Machine learning and big data aided adaptive NOMA
- Multiple antenna signal processing techniques for NOMA
- Cooperative signal processing for NOMA
- Resource allocation for NOMA assisted wireless caching and mobile edge computing
- Security provisioning for NOMA with interference exploitation
- Advanced signal processing algorithms for the cross-layer design of NOMA
- Energy-efficient signal processing design for NOMA
- Signal detection and joint transceiver design for NOMA
- Low-complexity channel estimation for NOMA
- NOMA for Internet-of-Things (IoT)
- Signal processing for NOMA aided UAV and V2X communications
- Invoking NOMA techniques towards ultra-reliable low-latency communications
- Compatibility of NOMA with other 5G key technologies
- The advanced design of channel coding and modulation for interference exploitation in NOMA.

### Important Dates

**Start of Paper Submission: 15th March, 2019**
**Last date of paper Submission: Extended 30th June, 2019**
**Paper Acceptance Notification: 15th June, 2019**
**Submission of final copy: 15th July, 2019**
**Registration Deadline (Early Bird): 15th July, 2019**

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### Steps to submit the Paper in the Special Session of IEEE-ISCON2019:

Please submit your paper (in pdf file of your full length paper in IEEE format) at https://easychair.org/conferences/?conf=iscon2019 with a copy of the paper to pronoya.bhattacharya@nirmauni.ac.in, sudeep149@rediffmail.com with "***Name of Special Session a*nd Easy chair Paper ID**" mentioned in subject line.

### Publication Ethics:

Every paper submitted to the ISCON2019 will be checked for plagiarism by using anti-plagiarism software (Turnitin), before being sent to a pre-conference review. Authors should observe high standards with respect to publication ethics. Falsification or fabrication of data, plagiarism, including duplicate publication of the author's own work without proper citation, and misappropriation of the work are all unacceptable.

### Proceedings Publication

All Accepted and presented papers of the conference by duly registered author(s), will be submitted to IEEE Xplore digital library for publication. (IEEE Conference Record: #47742)

For any inquiry related to special session papers submission, please Contact:


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