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IEEE
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Call for Papers for
Making the Tactile Internet Happen - A Workshop Within the Series of ULTRA2 -
Ultra-Low Latency and Ultra-High Reliability in Wireless Communications

Workshop Co-Chairs

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http://icc2016.ieee-icc.org/cfw

Scope
Human interaction with technical systems is highly sensitive to delays and interruptions. Thus, in order to enable completely new applications where tactile and haptic feedbacks are an integral part of the signal processing chain, the underlying wireless communication networks need to be adapted to our human reaction time and perception. Some crucial requirements are extremely high reliability and low latency in the order of 1 ms.

Existing wireless technologies cannot address those requirements, and hence, new solutions that significantly improve resilience and decrease latency in wireless communication systems are required. Due to the challenging requirements of Tactile Internet applications, almost all parts of today's communication networks are affected and have to be radically redesigned, ranging from silicon systems, through PHY and MAC layers to the overall network architecture and cloud computing. Other important cross-layer aspects are security and carrier-grade reliability to enhance the Quality of Experience (QoE) of users.

This workshop provides a platform for researchers and technical experts to elaborate on the enormous potentials of the Tactile Internet, to present recent research results, and to provide innovative solutions to make the Tactile Internet and real-time, highly reliable interaction between humans and technical systems happen. We highly encourage novel and previously unpublished work.

Topics of Interest
Tactile Codecs

- Digitizing tactile signals
- Multiplexing of audio, visual, and tactile streams
- Error-resilient and multi-layer tactile coding

Network & Cloud

- Context-aware computing
- Cloud-based mobile architectures
- Multi-service architectures and interworking
- Network function virtualization
- (Secure) network coding
- Mobile edge cloud computing, personal clouds & cloudlets
- Network edge intelligence

Wireless

- New waveform design
- Enabling high reliability and availability in mission critical communication
- New deployment concepts and system architectures
- Transmission with very low latency.

Silicon Systems & Revolutions in Hardware
- Low latency and low power circuits

- Reconfigurable multi-standard systems
- Heterogeneous seamless positioning
- Design of new 3D chips and haptic devices
- Embedded optical connectivity

Tactile Internet applications

- Steering & control communications
- Internet of Things & vehicular communication
- Wireless communication in industrial environments
- Audio-haptic perception & new tactile user interfaces
- Virtual or augmented reality for sensory and haptic controls
- Multi-modal perceptual data compression & reproduction
- Real-time interaction between humans and real or virtual objects

Technical Program Committee
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Important Dates
Paper submission deadline: December 4, 2015
Acceptance notification: February 21, 2016
Camera-ready paper: March 13, 2016