

# The First ACM International Workshop on Wireless Sensing Systems for Extreme Conditions

November 5, 2017, Delft, The Netherlands

## Call For Papers

Conventional wireless sensor networks are slowly but surely transforming into the Internet of Things (IoT). The capability of sensing and communication in extreme operating conditions and environments are one of the last frontiers yet to be conquered to enable a wider variety of machine-machine and large-scale sensing and communication systems in realistic settings for applications in smart cities and smart industry. Extreme conditions and constraints pose significant challenges for sensing and wireless communication and will require the application of a broad range of state of the art wireless sensor networks, IoT, Big Data and Deep Learning solutions and their interaction in order to generate reliable, robust, and cost-effective solutions. Examples of extreme conditions faced by real applications of smart sensing and communication include, but are not limited to, deep underground, deep underwater, in presence of extreme dynamic geometry, high-speed vibrating equipment, energy constraints, extremely large-scale systems, extreme data quantities, and extreme noise.

The First ACM International Workshop on Wireless Sensing Systems for Extreme Conditions (XtremeSys 2017) provides an excellent opportunity to researchers and practitioners working in different areas of IoT, Big Data and Deep Learning and their interaction to come together, discuss, and exchange their expertise and knowledge related to wireless sensing systems for extreme conditions. This workshop is an initiative to allow better understanding and solving the daunting challenges those extreme conditions and environments pose for sensing, communication, and entire system operation.

Topics of interest include, but are not limited to:

- Harsh environments
  - Underground smart sensing and wireless communication
  - Underwater smart sensing and wireless communication
  - In-body smart sensing and wireless communication
- Extreme dynamicity and mobility
  - Large-scale indoor localization and tracking
  - Crowd monitoring
  - Self-driving vehicles and traffic infrastructure sensor systems
- Extreme resource constraints
  - Deep learning for embedded systems
  - Very long and collision-free communication networks using LoRa, Sigfox, NB-IoT
  - Virtual and augmented reality for smartphones
- Extreme rotation and vibration
  - Reliable sensing and robust wireless communication
  - Distributed network management for energy harvested embedded networks

## Important Dates (**Extended!**)

- Paper Submission: August 06, 2017 (23:59 AOE)
- Acceptance/rejection notification: September 4, 2017
- Camera Ready: September 18, 2017
- Workshop: November 5, 2017

## Organization

- Paul Havinga, University of Twente, The Netherlands
- Nirvana Meratnia, University of Twente, The Netherlands
- Chiara Petrioli, University of Rome 'La Sapienza', Italy
- Duc Le, University of Twente, The Netherlands

Colocated with SenSys 2017 and BuildSys 2017