IEEE pimrc'17

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08-13 OCTOBER 2017 // MONTREAL, QUEBEC, CANADA

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WORKSHOP WS-11 ON V2X CHANNEL MEASUREMENTS AND MODELING (WVCM 2017)

SCOPE

Vehicular communication is characterized by diverse environments, high mobility of both the communicating entities and their surroundings, and comparatively low antenna heights on vehicles. These characteristics are very different from classical cellular cases and make the vehicular propagation and channel modeling particularly challenging. Additionally, the ultimate goal of next generation Vehicle-to-everything (V2X) communication systems is enabling accident-free cooperative automated driving. To achieve this goal, the communication system will need to enable a diverse set of use cases, which can result in channel conditions not fully explored in the past (e.g., blockage effects caused by densely packed platooning vehicles, communication between vehicles and vulnerable road users such as pedestrians and cyclists, etc.). Finally, in recent years, different frequency bands have been proposed for V2X communications (e.g., in centimeter wave bands, millimeter wave bands, and in visible light spectrum). The impact of frequency band and the propagation characteristics of high frequency (millimeter wave) V2X channels, etc. become very important objects of investigation.

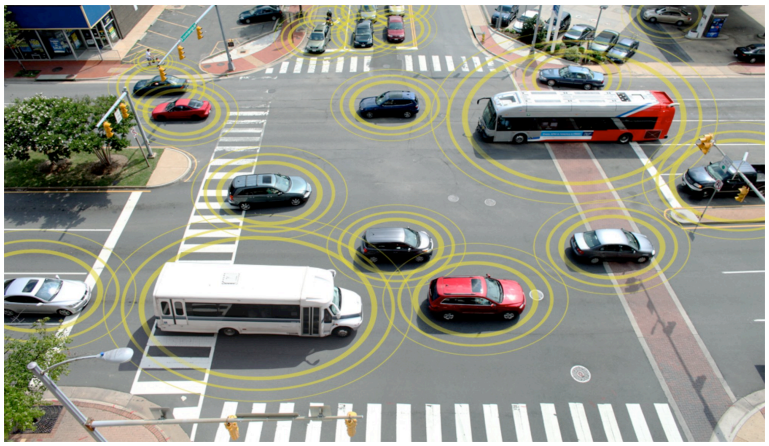
TOPICS

Consequently, this workshop solicits papers that address the following V2X channel measurements and modeling issues:

- Channel models and measurements for V2V, V2I, V2P, and V2N communications
- Measurement campaigns in
  - Sub-6 GHz (centimeter wave in 700 MHz – 6 GHz)
  - Higher frequencies incl. millimeter wave (6 GHz – 100 GHz)
  - In visible light spectrum
- Measurement campaigns in
  - Urban environments
  - Highway environments
  - Rural/suburban environments
  - Indoor (parking garages)
  - Train/Railway environments
- Effects of highly mobile scatterers on V2X channels
- Impact of dual mobility on V2X channels
- Blockage modeling
- Channel modeling and characterization in platooning scenarios
- Modeling spatial and temporal consistency for V2X channels
- Frequency-dependent parametrization of V2X channel models
- Comparison of different frequency bands for V2X
- Simulation environments in support of more realistic channel modeling (mobility modeling, environment modeling, modeling of new communication modes such as V2P)
- Implementation of V2X-specific channel models in existing frameworks
- Results from large experimental testbeds and field operational tests related to V2X channel modeling
- V2X-specific antenna design and placement, and their impact on channel
- Channel models for multi-antenna systems
- Advances in geometry-based stochastic V2X channel modeling
- Advances in geometry-based deterministic V2X channel modeling

EDAS submission link: http://edas.info/N23915

Accepted and presented papers will be published in the IEEE PIMRC 2017 Conference Proceedings and submitted for inclusion in IEEEXplore®.



IMPORTANT DATES

Review paper submission: **28 July 2017**
Notification of acceptance**: 11 August 2017**
Camera-ready submission: **18 August 2017**

WORKSHOP WS-11 CO-CHAIRS

Taimoor Abbas, Volvo Cars, Sweden
Mate Boban, Huawei Technologies Duesseldorf GmbH, Germany (***Lead Co-Chair***)
Jian Luo, Huawei Technologies Duesseldorf GmbH, Germany
Reiner Thomä, TU Ilmenau, Germany
Fredrik Tufvesson, Lund University, Sweden

MORE INFO

E-mail: workshop.ws-11.co-chairs@pimrc2017.org
Workshops webpage: http://pimrc2017.ieee-pimrc.org/authors/call-for-workshop-papers/