
Sunday, 24 September 2017 09:00-17:30 Jackson

W5: 5G Millimeter-Wave Channel Measurement, Models, and Systems

Millimetre-wave wireless technology represents both a tremendous opportunity and a significant challenge for the 5G wireless community. Many industry, academic and government labs are developing the insights, methods and techniques that will be required to realize the full benefits of this ground-breaking technology. The National Institute of Standards and Technology (NIST) recently formed a broad-based 5G mm-Wave Channel Model Alliance and the U.S. National Science Foundation (NSF) recently sponsored a Research Coordination Network on mm-Wave Wireless. Their objective is to bring together a broad cross-section of mm-wave wireless researchers from around the world in order to promote both: 1) development and dissemination of best practices in these important fields and 2) intra- and cross-disciplinary cooperation. This workshop provides researchers in propagation and channel modelling, antennas and hardware, communications theory and signal processing, and networking and protocols with an opportunity to share recent accomplishments and best practices, learn about challenges in other disciplines and pursue opportunities for intra- and cross-disciplinary cooperation.

General Chairs:

David G. Michelson, University of British Columbia

Akbar Sayeed, University of Wisconsin - Madison

David W. Matolak, University of South Carolina

Technical Program Committee:

Anmol Bhardwaj, University of British Columbia

Camillo Gentile, NIST

Hongmei Zhao, Zhengzhou University of Light Industry

Ismail Guvenc, North Carolina State University

Mai Vu, Tufts University

Naveed Iqbal, Huawei Technologies

Robert Heath, University of Texas – Austin

Ruise He, Beijing Jiaotong University

Ruoyu Sun, National Institute for Standards and Technology

Yahong Rosa Zheng, Missouri University of Science & Technology

Program

Sunday, 24 September 2017 09:00-09:30 Jackson

Keynote I

Meeting the 5G Channel Measurement Challenge

Roger Nichols, Keysight Technologies

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Session I

1 Methods for Channel Sounder Measurement Verification

Kate Remley, Camillo Gentile, National Institute of Standards and Technology; Alenka Zajic, Georgia Institute of Technology; Jeanne Quimby, NIST

2 Fast Link Configuration for mmWave Multiuser MIMO Downlink Using Spatial AoD Angular Supports

Gilwon Lee, Robert W. Heath Jr., The University of Texas at Austin

3 Measurements and Characterization of Surface Scattering at 60 GHz

Angelos A. Goulianos, University of Bristol; Moray Rumney, Keysight Technologies, UK; Mark Beach, Andrew Nix, Evangelos Mellios, Alberto Loaiza Freire, Thomas Barrat, University of Bristol; Pete Cain, Keysight Technologies, UK

Sunday, 24 September 2017 11:00-12:00 Jackson

Session II

1 A Compact, Wide Field-of-View Gradient-index Lens Antenna for Millimeter-wave MIMO on Mobile Devices

Wenlong Bai, Jonathan Chisum, University of Notre Dame

2 UAV Air-to-Ground Channel Measurements and Modeling at 60 GHz

Wahab Ali Gulzar, NCSU; Ozgur Ozdemir, Ismail Guvenc, North Carolina State University

3 Unsupervised Clustering for Millimeter-Wave Channel Propagation Modeling

Jian Wang, National Institute of Standards and Technology

Sunday, 24 September 2017 12:00-12:30 Jackson

Panel Session

New and Emerging mmWave Usage Scenarios

Moderator: David Michelson, University of British Columbia

Panelists: Ismail Guvenc, North Carolina State University

Yvo de Jong, Communications Research Centre, Canada

Mikko Valkama, Tampere University of Technology

Sunday, 24 September 2017 14:00-14:30 Jackson

Keynote II

Meeting the 5G Channel Modelling Challenge using

MATLAB

Amit Kansal, The MathWorks

Sunday, 24 September 2017 14:30-15:30 Jackson

Session III

1 Modeling of Directional Fading Channels for Millimeter Wave Systems

Naveed Iqbal, Huawei; Christian Schneider, Technische Universität Ilmenau; Jian Luo, Huawei Technologies Duesseldorf GmbH; Diego Dupleich, Robert Mueller, Reiner Thomä, Technische Universität Ilmenau

2 Beamwidth-Dependent Directional Propagation Loss Analysis based on 28 and 38 GHz Urban Micro-Cellular (UMi) Measurements

Juyul Lee, Jinyi Liang, Jae Joon Park, Myung-Don Kim, ETRI

3 Effect of Human Crowd Obstruction on the Performance of an Urban Small-Cell Millimeter-Wave Access Network

Mohammed Zahid Aslam, Yoann Corre, SIRADEL; Yves Lostanlen, ENGIE - SIRADEL

Sunday, 24 September 2017 16:00-17:30 Jackson

5G mmWave Channel Model Alliance Meeting

1 Alliance Business Meeting

Kate Remley, NIST

2 White Paper on Modelling

Camillo Gentile, NIST

3 White Paper on Measurement

Kate Remley, NIST

4 Ecosystem Tools

Nada Golmie, NIST

5 Reflections on Modelling & Measurement

Akbar Sayeed, University of Wisconsin - Madison