5th International Workshop on Emerging Technologies for 5G Wireless Cellular Networks

In conjunction with IEEE GLOBECOM 2016, Sunday, December 4, 2016, Washington, DC, USA, http://wcsp.eng.usf.edu/5g/2016/

Workshop Chairs

Wei Yu, University of Toronto, Canada
Tommy Svensson, Chalmers U. of Technology, Sweden
Lingjia Liu, University of Kansas, USA

Technical Program Chairs

Halim Yanikomeroglu, Carleton University, Canada
Charlie (Jianzhong) Zhang, Samsung Electronics, USA
Peiying Zhu, Huawei Technologies, Canada

Keynote Speakers

TBA

Panel Program

TBA

Technical Program Committee

Abdulkareem Adinoyi, Carleton University
Raviraj Adve, University of Toronto
İbrahim Altunbaş, Istanbul Technical University
Sergey Andreev, Tampere University of Technology
Imran Ansari, Texas A&M University at Qatar (TAMUQ)
Jonathan Ashdown, U.S. Air Force Research Lab. (AFRL)
Erdem Bala, InterDigital
Anantharaman Balasubramanian, Interdigital Communications
Hadi Baligh, Huawei Technologies Canada co. Ltd.
Federico Boccardi, Ofcom
Shengrong Bu, University of Glasgow
Daniel Calabuig, Universidad Politecnica de Valencia
Houda Chafnaji, INPT Rabat
Rong-Rong Chen, University of Utah
Runhua Chen, China Academy of Telecomm. Technology
Julian Cheng, University of British Columbia
Hayssam Dahrouj, Effat University
Oussama Damen, University of Waterloo
Zhiguo Ding, Lancaster University
Qinghe Du, Xi'an Jiaotong University
Lutfiye Durak-Ata, Yildiz Technical University
Salman Durrani, The Australian National University
Ozgur Ertug, Gazi University
Carlo Fischione, KTH
Ramy Gohary, Carleton University
David González G, Aalto University
Ekram Hossain, University of Manitoba
Kianoush Hosseini, Qualcomm Inc.
Salama Ikki, Lakehead University
Hazer Inaltekin, Antalya International University
Omneya Issa, Communications Research Centre Canada
Gunes Karabulut Kurt, Istanbul Technical University
Mehmet Kemal Karakayali, Bell Labs, Alcatel-Lucent
Witold Krzymień, University of Alberta / TRLabs
Michel Kulhandjian, State University of New York at Buffalo
Yicheng Lin, University of Toronto
Liang Liu, University of Toronto
Liangping Ma, Interdigital
Behrooz Makki, Chalmers University of Technology
Nicholas Mastronarde, University at Buffalo
Hani Mehrpouyan, Boise State University
Keivan Navaie, Lancaster University
Apostolos Papathanassiou, Intel Corporation
Nikolaos Pappas, Linköping University
Benoit Pelletier, InterDigital Canada
Yinan Qi, Samsung R & D Institute UK
Sandra Roger, Universitat Politècnica de València
Hamid Saeedi, Tarbiat Modares University
Karim Seddik, American University in Cairo
Nima Seifi, Ericsson Research
Cong Shen, University of Science and Technology of China
Gokul Sridharan, Rutgers University
Leszek Szczecinski, INRS-EMT
Chintha Tellambura, University of Alberta
Milos Tesanovic, Samsung Electronics R&D Institute UK
Antti Tölli, University of Oulu
Stefan Valentin, Huawei Technologies
Xianbin Wang, University of Western Ontario
Joerg Widmer, IMDEA Networks Institute
Jingxian Wu, University of Arkansas
Xiaodong Xu, Beijing Univ. of Posts and Telecommunications
Yang Yi, University of Kansas
Di Yuan, Linköping University
Wolfgang Zirwas, Nokia Siemens Networks GmbH&CoKG
Yaning Zou, Technische Universität Dresden

Important Dates

Full Paper Submission: 1 July 2016, 11:59 pm (NYT)

Acceptance Notification: 1 September 2016, 11:59 pm (NYT)

Camera-Ready Submission: 1 October 2016, 11:59 pm (NYT)

Workshop: 4 December 2016

Submit papers using EDAS: https://edas.info/N22545
Authors should follow Globecom submission guidelines (maximum 6 pages).

Call for papers

The wireless cellular network has been one of the most successful communications technologies of the last three decades. The advent of smartphones and tablets over the past several years has resulted in an explosive growth of data traffic over the cellular network not seen in previous generations. With the proliferation of more smart terminals communicating with servers and each other via broadband wireless networks, numerous new applications have also emerged to take advantage of wireless connectivity. As the fourth generation (4G) networks, namely 3GPP LTE-A, mature and become great commercial success, the research community is now increasingly looking beyond 4G and into future 5G technologies both in standardization body such as 3GPP, and in research programs such as 5GPPP in EU Horizon2020.

Fundamental requirements that have emerged for radio access networks in the 2020 and beyond era include: 1) Capabilities for supporting massive capacity and massive connectivity; 2) Support for an increasingly diverse set of services, application and users – all with extremely diverging requirements for work and life; 3) Flexible and efficient use of all available non-contiguous spectrum for wildly different network deployment scenarios. These requirements bring a number of challenges to the design of future wireless networks, including the capability of supporting diverse traffic characteristics, massive connectivity due to massive number of devices (including machine-type terminals), and the densification and heterogeneity of such networks.

This workshop will be a venue to brainstorm on and to identify the emerging concepts, technologies, and analytical tools for 5G cellular networks. We aim to bring together leading researchers in both academia and industry, and to provide a forum for researchers from diverse backgrounds to share their views on what 5G should be and to have an open dialogue on the future of wireless research. The goal is to identify key 5G technology drivers that can deliver significant capacity, coverage and user-experience benefits. Topics of interest include, but are not limited to the following:

- Novel radio access network (RAN) architectures
  - HetNets with overlay of high- and low-power nodes
  - CoMP (coordinated multi-point) transmission and reception
  - Distributed antenna systems
  - Advanced relaying, user terminal relaying
  - Small cell deployment, femtocells, picocells
  - Terminal intelligence, Context awareness
- Advanced radio resource management (RRM) techniques
  - Interference management, interference awareness
  - Inter-cell interference coordination (ICIC, eICIC)
  - Artificial intelligence in wireless communications
  - Congestion management
- Emerging technologies in physical layer
  - Interference-robust air interface
  - Higher-order massive MIMO, Active antenna systems (AAS)
  - Multiuser communications, Network information theory
  - Novel modulation and coding schemes, Waveforms beyond OFDM(A)
- Novel services
  - Enhanced voice and video, Telepresence
  - Machine-to-machine (M2M), machine-type communications (MTC)
  - Point-to-point (P2P) / device-to-device (D2D) communications
- mmWave communications
  - Channel characteristics and modeling, Feasibility studies
  - Initial access; Beamforming, beam tracking; Mobility solutions;
  - System design aspects
- Energy efficiency
  - Energy consumption models
  - Joint RF-baseband optimization; End-to-end energy optimization
- Spectrum
  - Aggregation of intra and inter-band carriers for both FDD and TDD
  - Cognitive radio and dynamic spectrum access,
  - Adaptive radio access techniques
- Prototype and test-bed for emerging 5G technologies