## PROGRAM AT A GLANCE

**WOCC, Friday, May 9, 2014**

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<th>Time</th>
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<td>08:00–17:00</td>
<td>Registration</td>
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| 09:00–10:40 | **O1** High Speed Transmission                                           | Chair: (Jessica) Xin Jiang  
College of Staten Island, CUNY                                            |          |
|          | **W1** Wireless Mobile Ad-hoc and Wireless Sensor Networks               | Chair: Qian Zhang  
Ohio University                                                       |          |
|          | **N1** Optical Networks                                                 | Chair: Hong Zhao  
FDU                                                       |          |
| 10:40–11:00 | Break                                                                   |                                                                         |          |
| 11:00–12:00 | **P1** Plenary Session  
Management: Transition From Land to Sea Approach (Chair: Russell Sun) | Rajendra Singh, Senior Regulatory Specialist, ICT Policy Division, The World Bank |          |
|          | **K1** Keynote Session (Chair: Russell Sun)                             | Dr. Junyi Li, VP of Engineering, Qualcomm  
“Device-to-device Communications in LTE” |          |
| 13:00–14:00 | Lunch                                                                   |                                                                         |          |
| 14:00–15:40 | **O2** Optical Interconnection and Networks                             | Chair: Chongjin Xie  
Bell Labs, Alcatel-Lucent                                                |          |
|          | **W2** 4G/5G: Technology and Standard Development                       | Chair: Ananth Kini  
InterDigital Communications                                              |          |
|          | **N2** Internet of Things                                               | Chair: Xiaowen Zhang  
CUNY                                                                   |          |
|          | **B2** Visual Analytics                                                 | Chair: Wendy Wang  
Stevens Institute of Technology                                          |          |
| 15:40–16:10 | Break                                                                   |                                                                         |          |
| 16:10–17:50 | **O3** System Design and Modeling                                       | Chair: Mark Feuer  
College of Staten Island, CUNY                                            |          |
|          | **W3** PHY/MAC technologies for future wireless systems I               | Chair: V. K. Varma Gottumakkala  
Qualcomm, USA                                                            |          |
|          | **N3** Network Analysis in Systems Biology                              | Chair: Hong Zhao  
FDU                                                                   |          |
|          | **B3** Data Mining Methods and Applications                             | Chair: Zhu Liu  
AT&T Labs Research                                                   |          |

**WOCC, Saturday, May 10, 2014**

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| 09:00–10:40 | **O4** Optical Devices                                                  | Chair: Benyuan Zhu  
OFS Labs                                                                |          |
|          | **W4** Wireless Cognitive Radio and Networks                            | Chair: Yu-dong Yao  
Stevens Institute of Technology                                          |          |
|          | **N4** Network Planning and QoS Provisioning                             | Chair: Yuanqiu Luo  
Huawei Technologies                                                      |          |
| 10:40–11:00 | Break                                                                   |                                                                         |          |
| 11:00–12:00 | **P2** Plenary Session (Chair: Grace Wang)                             | Winston I. Way, Chief System Architect, NeoPhotonics  
“A Pragmatic View of Optical Fiber Communication Systems and Components” |          |
|          | **P3** Plenary Session (Chair: Grace Wang)                             | Dr. Chinlon Lin, Scientific Advisor, Lightel  
“Photonics and Broadband Evolution”                                        |          |
| 12:20–13:00 | **P4** Plenary Session (Chair: Grace Wang)                             | Dr. Li-Chun Wang, ECE Dept., National Chiao Tung University  
“5G Wireless: Trend and Challenges”                                      |          |
| 13:00–14:00 | Lunch                                                                   |                                                                         |          |
| 14:00–15:40 | **O5** Silicon Photonic Devices                                         | Chair: Nicholas Madamopoulos  
City College, CUNY                                                          |          |
|          | **W5** Emerging mobile applications and services                         | Chair: Moutaz Saleh  
Qatar University                                                           |          |
|          | **N5** Cloud Computing                                                   | Chair: Yuanqiu Luo  
Huawei Technologies                                                      |          |
|          | **B5** Network Service Quality and Security                             | Chair: Rong Duan  
AT&T Labs                                                            |          |
| 15:40–16:10 | Break                                                                   |                                                                         |          |
| 16:10–17:50 | **O6** OFDM and Visible Light Communications                             | Chair: Zhongyi Pan  
Univ. of Louisiana at Lafayette                                             |          |
|          | **W6** PHY/MAC technologies for future wireless systems II               | Chair: Ramiro Samano-Robles  
Instituto de Telecomunicaciones                                           |          |
|          | **N6** Network Planning and Optimization                                | Chair: Jungwoo Ryoo  
Penn State University                                                       |          |
|          | **B6** Data Sensing and Modeling                                        | Chair: Ye Ouyang  
Verizon Wireless                                                        |          |
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<td>O1</td>
<td>High Speed Transmission</td>
<td>(Jessica) Xin Jiang</td>
<td>College of Staten Island, CUNY</td>
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<td>High Spectral Efficiency Nyquist Optical Superchannel Transmission</td>
<td>Fan Zhang* (Invited), D. Wang, R. Ding, T. Zhang, Z. Zheng, Z. Chen</td>
<td>*Peking University, P.R.China</td>
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<td>Directly Modulated VCSELs for 100-Gb/s and Beyond Metro Network Applications</td>
<td>Chongjin Xie (Invited)</td>
<td>Bell Labs, Alcatel-Lucent</td>
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<td>Terabit Superchannels: Enabling Next Generation Optical Transmission and Networking</td>
<td>S. Chandrasekhar (Invited)</td>
<td>Bell Labs, Alcatel-Lucent</td>
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<td>W1</td>
<td>Wireless Mobile Ad-hoc and Wireless Sensor Networks</td>
<td>Qian Zhang</td>
<td>Ohio University</td>
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<td>Implementation of High Precision Synchronization Protocols in Wireless Sensor Networks</td>
<td>Diamel Dienouri, Miloud Bagaa</td>
<td>CERIST Research Center, Algeria</td>
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<td>A Novel Collision Detection Scheme for Wireless Sensor Networks using Received Signal Dynamic Range Statistics</td>
<td>Fawaz Alasser, Stevens Tech, USA</td>
<td>Walid Ahmed, Broadcom Inc., USA</td>
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<td>Quantifying Performance of Duplexing, Multiplexing and Multiple Access in Mesh, Relay, and Ad-hoc Networks</td>
<td>Mohsen Sarraf, Applied Communication Sciences, USA</td>
<td>Victor Lawrence, Stevens Institute of Technology, USA</td>
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<td>Low Latency MAC Protocol with Adaptive Sleeping for Wireless Sensor Networks, Lulu Liang, Jing Song, Yongtao Wang, Guangyang Qi, Zou Xiaofang Ban, Li Zhang, China Information Technology Security Evaluation Center, P.R. China</td>
<td>David W Matolak, University of South Carolina, USA</td>
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<td>N1</td>
<td>Optical Networks</td>
<td>Hong Zhao</td>
<td>Fairleigh Dickinson Univ.</td>
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<td>Advances in Passive Optical Network Technologies for Broadband Access</td>
<td>Naresh Chand (Invited Speaker)</td>
<td>Huawei Technologies</td>
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<td>Hybrid Directional OFDM-PON Supporting 60/120 GHZ RoF using OQPSK</td>
<td>Chongfu Zhang</td>
<td>Chen Chen</td>
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<td>University of Electronic Science and Technology of China</td>
<td>Qiaoyan Zhang</td>
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<td>Latency Analysis of the Improved Fast Handoff for MIPv6</td>
<td>Hamid Taghizadeh</td>
<td>Middle East Technical University</td>
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### Optical Interconnection and Networks
Chair: Chongjin Xie
Bell Labs, Alcatel-Lucent, USA

- **Space: Is It the Final Frontier of Photonics?**
  - Mark D. Feuer (Invited)
  - College of Staten Island, CUNY

- **Optical Interconnect Architecture for Data Center Networks**
  - Yawei Yin (Invited)
  - NEC Labs USA

- **Optical Virtual Switching (OvS): A Distributed Optical Switching Fabric for Intra-Data Center Networking**
  - Shan Zhong (Invited), Z. Zhu
  - CoAdna Photonics

- **Flexible Ring-tree TWDM Network Architecture for Next Generation Optical Access Network**
  - Xintian Hu*, X. Chen, Z. Zhang, L. Wang, J. Bei
  - *Beijing Univ. of Posts and Telecoms, P.R.China

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### 4G/5G: Technology and Standard Development
Chair: Ananth Kini
InterDigital Communications

- **Mobile Broadband Evolution Roadmap: from 4G to 5G**
  - Christopher Cave (Invited), Director, R&D, InterDigital Communications

- **Performance Analysis of Adjustable Discontinuous Reception (DRX) Mechanism in LTE Network**
  - Yu Liu, University of California, Davis, USA; Minh Huynh, AT&T Labs, USA; Ashima Mangla, AT&T Labs, USA; Dipak Ghosal, University of California, Davis, USA

- **A Dynamic Subframe Set Power Control Scheme for Interference Mitigation in Reconfigurable TD-LTE Systems**
  - Ananth Kini, Mohsen Hosseini, Pouriya Sadeghi, Janet Stern-Berkowitz, InterDigital Communications

- **Significant Gains in Coverage and Downlink Capacity from Optimal Antenna Downtilt for Closely-spaced Cells in Wireless Networks**
  - Asif Gandhi, Bell Laboratories, USA

- **Hybrid Framework For No-Reference Video Quality Indication Over LTE Networks**
  - Songqing Zhao, Alcatel-Lucent USA

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### Internet of Things
Chair: Xiaowen Zhang
CUNY

- **On the Role of Software Defined Networking in Mobile Networks**
  - Harish Viswanathan, Colin Kahn (Invited Speaker)
  - Alcatel-Lucent

- **Identifying User Clicks Based on Dependency Graph**
  - Jun Liu*, Cheng Fang, Nirwan Ansari

- **User Behavior Based Automatical Navigation System on Android Platform**
  - Jie Tian, Guiling Wang, Xin Gao and Kaixuan Shi
  - NJIT

- **ARRP: An Augmented Reality 3D Ping-pong Game System on Android Mobile Platform**
  - Xin Gao, Jie Tian, Xiaoyuan Liang and Guiling Wang
  - NJIT

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### Visual Analytics
Chair: Wendy Wang
Stevens Institute of Technology

- **Bigger data and bigger models for visual recognition and social media**
  - Liangliang Cao
  - IBM T. J. Watson Research Center

- **Video Event Detection By Temporal Sequence Modeling**
  - Quanfu Fan
  - IBM T. J. Watson Research Center

- **Web-scale mobile content search**
  - Zhu Liu
  - AT&T Labs Research

- **Computer Vision based Assistive Technology for Visually Impaired People**
  - Yingli Tian
  - City University of New York
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<td><strong>College of Staten Island, CUNY</strong></td>
<td><strong>Qualcomm, USA</strong></td>
<td><strong>FDU</strong></td>
<td><strong>AT&amp;T Labs Research</strong></td>
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<td>Frequency Domain Equalizer in Few-Mode Fiber SDM Systems Zhongqi Pan (Invited) University of Louisiana at Lafayette</td>
<td>Energy-harvesting wireless communications in fading channels Zhe Wang, Columbia Univ.; Vaneet Aggarwal, AT&amp;T Labs; Xiaodong Wang (Invited), Columbia Univ. Throughput Optimized Multi-Source Cooperative Networks With Compute-and-Forward Chen Zhi, Tsinghua University; Pingyi Fan Tsinghua University, P.R. China; Khaleed B. Letaief, The Hong Kong University of Science and Technology, Hong Kong Differential Space-Time Modulation Using DAPSK Chi-Hua Huang, National Taiwan University, Taiwan; Char-Dir Chung Communication Society, Taiwan Pilot-Data Power Allocation for OFDM Systems with Amplify and Forward Relays V. K. Varma Gottumukkala, Qualcomm, USA; Hlaing Minn, University of Texas at Dallas, USA Performance of Relay with Multilayer STBC Uplink Wireless Communication for Multiple Access Channel, M M Kamruzzaman, Southwest Jiaotong University, P.R. China</td>
<td><strong>Tutorial:</strong> Network Analysis in Systems Biology Avi Ma’ayan (Invited Speaker) Icahn School of Medicine at Mount Sinai A Cognitive Hierarchical Framework for Evaluating Emergency Response Activities Mark Rahmes Rick Pemble Kevin Fox John Delay Harris Corporation Verifiable Outsourcing of Big Data Mining Computations Wendy Wang Stevens Institute of Technology A case study for social media application Jin Xu Behaviormatrix Detecting Asset Pricing Bubbles: From Small Data to Big Data Approaches Haobo Lai Mengchu Zhou New Jersey Institute of Technology</td>
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**Optical Devices**

Chair: Benyuan Zhu
OFS Laboratories, USA

- Review and Challenges of High Frequency Cavity-assisted Electro-optic Modulator
  Nicholas Madamopoulos (Invited)
  City College, CUNY

- Performance Improvement of Mapping Multiplexing Technique (MMT) Using Dual-drive Mach-Zehnder Modulator at 40Gb/s
  Mohamed Asaad Elsherif, A. Malekmohammadi
  The University of Nottingham, Malaysia

- Tunable and flat optical frequency comb generated by two cascaded intensity modulators
  Lei Shang*, G. Lin, A. Wen
  *Xidian University, P.R.China

- Recent Advances in Optical Splicing and Glass Processing Technologies for Specialty Fibers and Photonic Devices
  Baishi Wang (Invited)
  Vytran, LLC.

**Wireless Cognitive Radio and Networks**

Chair: Yu-dong Yao
Stevens Institute of Technology

- Cooperative Routing for Cognitive Radio Networks using Mutual-Information Accumulation
  Lingjia Liu (Invited) University of Kansas, USA; Hao Chen The University of Kansas, USA; John D. Matyjas
  Air Force Research Laboratory, USA; Michael Medley Air Force Research Laboratory, USA

- FSMC-Based User Selection Scheme for Cooperative Spectrum Sensing
  Hongzhi Luan, Ou Li, Xiaovi Zhang
  National Digital Switching System Engineering & Technology R&D Center, P.R. China

- A Weighted Cooperative Spectrum Sensing Scheme Based on Dynamic Double Energy Thresholds In Cognitive Radio Networks
  Tanasen Huang
  South China University of Technology, P.R. China

- Algorithm and Experimentation of Frequency Hopping, Band Hopping, and Transmission Band Selection Using a Cognitive Radio Test Bed
  Hasan Shahid, Yu-Dong Yao
  Stevens Institute of Technology, USA

- Cooperative Spectrum Sensing with Energy-Efficient Sequential Decision Fusion Rule
  Hongzhi Luan, Ou Li Xiaovi Zhang
  National Digital Switching System Engineering & Technology R&D Center

**Network Planning and QoS Provisioning**

Chair: Yuanqiu Luo
Huawei Technologies

- Message Passing Delay in Network Congestion Management
  Hengky Susanto
  Byung Gu Kim
  University of Massachusetts at Lowell

- Network-as-a-service in Software defined Networks for End-to-End QoS provisioning
  Qiang Duan
  Pennsylvania State University

- Tree-Based Energy-Efficient Data Gathering in Wireless Sensor Networks Deploying Compressive Sensing
  Minh Nguyen
  Keith Teague
  Oklahoma State University

- Vector Quantization based QoS Evaluation in Cognitive Radio Networks
  Osama Tameemi*
  Mainak Chatterjee
  Kevin Kwiat
  *University of Central Florida

- RCM-BR: An Efficient Rate Control Protocol for Multimedia Delivery in Wireless Internet
  Venkata Kumar, Sudipta Mahapartra, Kinshuk Bairagi and Kantubukta Vasu
  Indian Institute Technology
### Silicon Photonic Devices
**Chair:** Nicholas Madamopoulos, City College, CUNY

- Monolithic Silicon Photonic Integrated Circuits for Coherent Optical Receivers and Transmitters (Po Dong, Invited)
  - Bell Labs, Alcatel-Lucent
- Silicon Photonics for Telecommunications (Long Chen, Invited)
  - Acacia Communications
- Function-Transformable Photonics Integrated Devices for Intelligent, Flexiblegrid, Multi-rate DWDM Optical Networks (Benjamin Dingel, Invited)
  - Nasfine Photonics Inc.
- An Integrated Optical Interference Cancellation System (Matthew Chang, A. Tait, J. Chang, P. Prucnal)
  - Princeton University

### Emerging Mobile Applications and Services
**Chair:** Moutaz Saleh, Qatar University

- Distance Measurement using Narrowband ZigBee devices
  - Florian Barrau, STMicroelectronics, France; Bruno Paille
  - STMicroelectronics, France; Edith Kussener
  - IM2NP/ISEN Toulon, France
  - Didier Gosguenheim
  - IM2NP/ISEN Toulon, France

- Use of Field and Lab-Calibrated Real-Time Communications Effects to Assess End-to-End System of Systems (SoS) Performance
  - Dennis Bushmitch, US Army CECOM, USA; Kirk Chang, Applied Communication Sciences, USA; Vivek Agnish, Army SOSI, USA; Michael Badger, Army SOSI Directorate, USA; Richard Cozby, Army, USA; Yevgeny Ivanvutin, CERDEC S&TCD, USA

- Pervasive Mobile Gaming System for Obesity Treatment
  - Moutaz Saleh, Jihad Mohamad Aljaam
  - Qatar University, Qatar

### Cloud Computing
**Chair:** Yuanqiu Luo, Huawei Technologies

- A Centralized Trust Model Approach for Cloud Computing
  - Syed Rizi, Jungwoo Ryoo
  - Yuhong Liu, Dustin Zazworsky
  - Anthony Cappeta
  - Pennsylvania State University

- Ensuring Data Confidentiality in Cloud Computing: An Encryption and Trust-based Solution
  - Yuhong Liu
  - Jungwoo Ryoo
  - Syed Rizi
  - Pennsylvania State University

### Network Service Quality and Security
**Chair:** Rong Duan, AT&T Labs

- Predicting Web Service QoS via Matrix-factorization-based Collaborative Filtering under Non-negativity Constraint
  - Xin Luo
  - YunNi Xia
  - QingSheng Zhu
  - Chongqing University
  - Mengchu Zhou
  - New Jersey Institute of Technology

- Estimation of Missing Measurements in Computer Networks: Matrix Completion vs. Compressed Sensing
  - Ziqian (Cecilia) Dong
  - New York Institute of Technology

- A Study of LTE Network Performance based on Data Analytics and Statistical Modeling
  - Sanging Hu
  - Ye Ouyang
  - Yu-dong Yao
  - M. Hosein Fallah
  - Wenyuan Lu
  - Stevens Institute of Technology

- A Hidden Markov Model Detection of Malicious Android Applications at Runtime
  - Yang Chen
  - Mo Ghorbandezeh
  - Kevin Ma
  - Charles Clancy
  - Robert McGwier
  - Virginia Tech
### OFDM and Visible Light Communications

**Chair:** Zhongqi Pan  
**Univ. of Louisiana at Lafayette**

- D-C ACO-OFDM and DCO-OFDM for Passive Optical Network: Performance Comparison in IM/DD Fiber Link  
  Max Frejus Sanya*, L. Djigbe, A. Vianou, C. Auptet-berthelemot  
  *University of Limoges, France

- Brightness Control in Dynamic Range Constrained Visible Light OFDM Systems  
  Zhenhua Yu*, R.J. Baxley, G. T. Zhou  
  *Georgia Institute of Technology

### PHY/MAC Technologies for Future Wireless Systems II

**Chair:** Ramiro Samano-Robles  
**Instituto de Telecomunicaciones**

- Some Properties for Single Antenna Vector OFDM Systems  
  Xiang-Gen Xia (Invited)  
  University of Delaware

- Linear Diversity Analyses for QAM in Rician Fading Channels  
  Russell Sun  
  Alcatel-Lucent, USA

- Trade-Off Performance Regions of Random Access Protocols with Multi-Packet Reception (MPR) via Multi-Objective Optimization  
  Ramiro Samano-Robles  
  Instituto de Telecomunicações, Portugal

- A Low Complexity Physical-Layer Network Coding Scheme for Cellular Two-Way Relaying  
  Zhaoxi Fang, Zunyi Wang, Shaozhong Zhang, Jiong Shi  
  Zhejiang Wanli University, P.R. China

### Network Planning and Optimization

**Chair:** Jungwoo Ryoo  
**Pennsylvania State University**

- Optimizing Fast Handover in MIPv6 Through Buffered Packet Forwarding & Out-of-Sequence Packet Reception  
  Sajida Imran  
  Ghulam Ishaq Khan Institute of Engineering Sciences and Tech.

- High-Resolution Hardware-based Packet Capture with High-Layer Pass-Through on NetFPGA Card  
  Roberto Rojas-Cessa  
  New Jersey Institute of Tech.

### Data Sensing and Modeling

**Chair:** Ye Ouyang  
**Verizon Wireless**

- Adjusted KNN Model in Estimating User Density in Small Areas with Poor Signal Strength  
  Rong Duan  
  AT&T Labs

- Tracking Human Queues Using Single-Point Signal Monitoring  
  Yang Wang  
  Stevens Institute of Technology

- Smartphone Based User Verification Leveraging Gait Recognition for Mobile Healthcare Systems  
  Yanzhi Ren  
  Stevens Institute of Technology

- Activation Analysis on fMRI time series using Stochastic Context-Free Model  
  Xingzhong Xu  
  Stevens Institute of Technology