

# Thursday, March 17

8:00 – 9:00am <b>Continental Breakfast</b> Convocation Room	9:00 – 11:30am <b>Sessions</b> TA-01 – TA-06	11:45am – 12:45pm <b>Plenary Talk:</b> <b>Steve H. Low</b> F101	12:45 – 2:30pm <b>Lunch Break</b>  See local suggestions	2:30 – 5:20pm <b>Sessions</b> TP-01 – TP-06	5:30 – 7:30pm <b>Reception Dinner</b> Charter Club  Name tag required for admittance
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## INVITED SESSION

### TA-01 Optimization of Cloud and Fog Networks Room F006

Organizer: Mung Chiang

#### 9:00 – 9:20am Performance Bound Analysis for Crowdsourced Mobile Video Streaming

Lin Gao, The Chinese University of Hong Kong, Hong Kong  
Ming Tang, The Chinese University of Hong Kong, Hong Kong  
Haitian Pang, Tsinghua University, P.R. China  
Jianwei Huang, The Chinese University of Hong Kong, Hong Kong  
Lifeng Sun, Tsinghua University, P.R. China

#### 9:20 – 9:40am Background Traffic Optimization for Meeting Deadlines in Data Center Storage

Tian Lan, George Washington University

#### 9:40 – 10:00am Efficient Load Balancing in Large-Scale Systems

Sem Borst, Eindhoven University of Technology, The Netherlands  
Debankur Mukherjee, Eindhoven University of Technology, The Netherlands  
Johan van Leeuwen, Eindhoven University of Technology, The Netherlands  
Philip Whiting, Macquarie University, Australia

#### 10:00 – 10:30am BREAK

#### 10:30 – 10:50am Max-Min Fair Scheduling of Variable-Length Packet-Flows to Multiple Servers by Deficit Round-Robin

George Kesidis, Pennsylvania State University  
Ioannis Lambadaris, Carleton University, Canada  
Bhuvan Uргаonkar, Pennsylvania State University  
Yiqiang Q. Zhao, Carleton University, Canada  
Jalal Khamse-Ashari, Carleton University, Canada

### TA-02 Machine Learning 1 Room F004

#### 9:00 – 9:20am Quality of Service Timeseries Forecasting for Web Services: A Machine Learning, Genetic Programming-Based Approach

Yang Syu, National Taipei University of Technology, Taiwan  
Yong-Yi FanJiang, Fu Jen Catholic University, Taiwan  
Jong Yih Kuo, National Taipei University of Technology, Taiwan  
Ruei-Long Su, China University of Technology, Taiwan

#### 9:20 – 9:40am Cyclic Stochastic Optimization via Arbitrary Selection Procedures for Updating Parameters

Karla Hernandez, Johns Hopkins University

#### 9:40 – 10:00am Integration of Multiple Adaptive Algorithms for Parallel Decision Fusion

Weiqliang Dong, New Jersey Institute of Technology  
Moshe Kam, New Jersey Institute of Technology

#### 10:00 – 10:30am BREAK

#### 10:30 – 10:50am State Estimation for Flag Hidden Markov Models with Imperfect Sensors

Kyle Doty, Washington State University  
Sandip Roy, Washington State University  
Thomas Fischer, Washington State University

#### 10:50 – 11:10am I/O HSSM: Learning Behavioral Dynamics of a Cognitive Wireless Network Node From Spectrum Sensing

Silvija Kokalj-Filipović, Naval Research Laboratory  
Joel Goodman, Naval Research Laboratory  
Crystal Bertoncini Acosta, Naval Research Laboratory  
George Stantchev, Naval Research Laboratory

### TA-03 Wireless Communications 3 Room F008

#### 9:00 – 9:20am Multiperiod Subscription Pricing for Cellular Wireless Entrants

George Kesidis, Pennsylvania State University  
Saswati Sarkar, University of Pennsylvania  
Serge Fdida, UPMC Sorbonne Universités, France  
Ravi Dhar, Yale University  
Xinyi Hu, Pennsylvania State University  
Yuquan Shan, Pennsylvania State University

#### 9:20 – 9:40am Statistical QoS-Driven Power Adaptation Over Q-OFDMA-Based Full-Duplex D2D 5G Mobile Wireless Networks

Jingqing Wang, Texas A&M University  
Xi Zhang, Texas A&M University

#### 9:40 – 10:00am Symbol Alphabet Modifier for PAPR Reduction in OFDM Communications

Yuewen Wang, New Jersey Institute of Technology  
Ali Akansu, New Jersey Institute of Technology

10:00 – 10:30am

**BREAK**

10:30 – 10:50am

**Beam Selection for Performance-Complexity Optimization in High-Dimensional MIMO Systems**

John Hogan, University of Wisconsin-Madison  
Akbar Sayeed, University of Wisconsin-Madison

10:50 – 11:10am

**Negotiation-Based Gaming for Statistical QoS Guarantee Over Information-Centric Wireless Networks**

Qixuan Zhu, Texas A&M University  
Xi Zhang, Texas A&M University

■ **TA-04  
Networks 3  
Room F108**

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9:00 – 9:20am

**Measurement and Modelling of TCP Downstream Throughput Dependence on SNR in an IEEE802.11b WLAN System**

Ikponmwoza Oghogho, Landmark University OmuAran & University of Benin, Nigeria  
Frederick Edeko, University Of Benin, Nigeria  
Joy Emagbetere, University of Benin, Nigeria

9:20 – 9:40am

**Energy-Aware Optimization and Mechanism Design for Cellular Device-to-Device Local Area Networks**

Mehdi Naderi Soorki, Isfahan University of Technology, Iran  
Mohammad Yaghini, Isfahan University of Technology, Iran  
Mohammad Hossein Manshaei, Isfahan University of Technology, Iran  
Walid Saad, Virginia Tech  
Hossein Saidi, Isfahan University of Technology, Iran

9:40 – 10:00am

**Load Statistics and Required Spectrum in Multi-tier Heterogeneous Networks**

Sanam Sadr, University of Toronto, Canada  
Raviraj Adve, University of Toronto, Canada

10:00 – 10:30am

**BREAK**

10:30 – 10:50am

**Effective-Capacity Based Auctions for Relay Selection Over Wireless Cooperative Communications Networks**

Qixuan Zhu, Texas A&M University  
Xi Zhang, Texas A&M University

10:50 – 11:10am

**Cache Aided Wireless Networks: Tradeoffs between Storage and Latency**

Avik Sengupta, Virginia Tech  
Ravi Tandon, University of Arizona  
Osvaldo Simeone, New Jersey Institute of Technology

■ **TA-05  
Signal Processing 2  
Room F109**

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9:00 – 9:20am

**Estimation Information Bounds Using the I-MMSE Formula and Gaussian Mixture Models**

Bryan Paul, Arizona State University & General Dynamics Mission Systems  
Daniel W. Bliss, Arizona State University

9:20 – 9:40am

**Hard Decision Based Distributed Detection in Multi-Sensor System over Noise Correlated Sensing Channels**

Hadi Kasasbeh, University of Mississippi  
Lei Cao, University of Mississippi  
Ramanarayanan Viswanathan, University of Mississippi

9:40 – 10:00am

**A Probability Neural Network-Jensen-Shannon Divergence for a Fingerprint Based Localization**

Osamah Abdullah, Western Michigan University

10:00 – 10:30am

**BREAK**

10:30 – 10:50am

**Using Approximate Entropy as a Speech Quality Measure for a Speaker Recognition System**

Richard Metzger, II, Pennsylvania State University  
John F. Doherty, Pennsylvania State University  
David Jenkins, Applied Research Laboratory

10:50 – 11:10am

**Efficient Implementation of Enhanced Adaptive Simultaneous Perturbation Algorithms**

Pushpendre Rastogi, Johns Hopkins University  
Jingyi Zhu, Johns Hopkins University  
James Spall, Applied Physics Laboratory

11:10 – 11:30am

**An Adaptive Bacterial Foraging Algorithm For Color Image Enhancement**

Om Verma, Delhi Technological University, India  
Rishi Chopra, Delhi Technological University, India  
Abhinav Gupta, Delhi Technological University, India

**INVITED SESSION**

**TP-01  
Optimization of Network Pricing  
Room F006**

Organizer: Mung Chiang

2:30 – 2:50pm

**Migration to a Non-Neutral Internet: Economics Modeling and Analysis of Impact**

Mohammad Hassan Lotfi, University of Pennsylvania  
Saswati Sarkar, University of Pennsylvania  
George Kesidis, Pennsylvania State University

2:50 – 3:10pm

**Multi-Operator Service Optimization for Fixed Access Network Sharing (FANS)**

Kenneth Kerpez, ASSIA, Inc.  
Haleema Mehmood, Stanford University

3:10 – 3:30pm

**Impact of Network Effect and Congestion Effect on Price Competition among Wireless Service Providers**

Junshan Zhang, Arizona State University  
Lei Yang, University of Nevada, Reno  
Mengyuan Zhang, Arizona State University  
Xiaowen Gong, Ohio State University

3:30 – 4:00pm

**BREAK**

4:00 – 4:20pm

**The Impact of Investment on Small-Cell Resource Allocation**

Cheng Chen, Northwestern University  
Randall A Berry, Northwestern University  
Michael Honig, Northwestern University  
Vijay Subramanian, University of Michigan

**INVITED SESSION**

**TP-02  
Computational Neuroscience  
Room F004**

Organizer: Siamak Sorooshyari

2:30 – 2:50pm

**Neuronal Encoding Models of Complex Receptive Fields:  
A Comparison of Nonparametric and Parametric Approaches**

Sridevi Sarma, Johns Hopkins University  
Rahul Agarwal, Johns Hopkins University  
Zhe Chen, New York University School of Medicine

2:50 – 3:10pm

**A Machine Learning Approach to Predict Episodic Memory Formation**

Gabriel Kreiman, Harvard Medical School  
Gnel Pivazyan, Harvard Medical School  
Jedediah Singer, Harvard Medical School  
Matias Ison, Harvard Medical School  
Hanlin Tang, Harvard Medical School  
Melissa Romaine, Harvard Medical School  
Rosa Frias, Harvard Medical School  
Adrianna Boulton, Harvard Medical School  
James Carroll, Harvard Medical School  
Sarah Dowcett, Harvard Medical School  
Marlise Arlellano, Harvard Medical School  
Elizabeth Meller, Harvard Medical School  
Victoria Perron, Harvard Medical School

3:10 – 3:30pm

**Non-parametric Change Point Detection for Spike Trains**

Thiago Mosqueiro, University of California San Diego  
Martin Strube-Bloss, University of Wuerzburg, Germany  
Rafael Tuma, University of São Paulo, Brazil  
Reynaldo Pinto, University of São Paulo, Brazil  
Brian H. Smith, Arizona State University  
Ramon Huerta, University of California San Diego

3:30 – 4:00pm

**BREAK**

4:00 – 4:20pm

**Dynamic Estimation of Causal Influences in Sparsely-Interacting Neuronal Ensembles**

Alireza Sheikhattar, University of Maryland, College Park  
Behdash Babadi, University of Maryland, College Park

4:20 – 4:40pm

**Computational Mapping of Brain Networks**

Alayar Kangarlu, Columbia University & New York State Psychiatric Institute

4:40 – 5:00pm

**Winning Versus Losing During Gambling and Its Neural Correlates**

Pierre Sacré, Johns Hopkins University  
Matthew Kerr, Johns Hopkins University  
Sandya Subramanian, University of Cambridge, United Kingdom  
Kevin Kahn, Insight Data Science  
J. Gonzalez-Martinez, Cleveland Clinic  
J.T. Gale, Cleveland Clinic  
Sridevi Sarma, Johns Hopkins University

5:00 – 5:20pm

**Controlling Information Flow and Energy Use Via Adaptive Synaptogenesis**

William Levy, University of Virginia  
Robert Baxter, Baxter Research  
Harang Ju, University of Virginia  
Costa Colbert, Informed Simplifications LLC

**TP-03  
Wireless Communications 4  
Room F008**

2:30 – 2:50pm

**Portfolio Theory based Sensor Selection in Wireless Sensor Networks with Unreliable Observations**

Nianxia Cao, Syracuse University  
Swastik Brahma, Syracuse University  
Pramod Varshney, Syracuse University

2:50 – 3:10pm

**Experimental Demonstration of a Distributed Antenna Array Pre-Synchronized for Retrodirective Transmission**

Benjamin Peiffer, University of Iowa  
Raghuraman Mudumbai, University of Iowa  
Anton Kruger, University of Iowa  
Amy Kumar, University of Iowa  
Soura Dasgupta, The University of Iowa

3:10 – 3:30pm

**Matching Theory for Cognitive Spectrum Allocation in Wireless Networks**

Raghed El-Bardan, Syracuse University  
Walid Saad, Virginia Tech  
Swastik Brahma, Syracuse University  
Pramod Varshney, Syracuse University

3:30 – 4:00pm

**BREAK**

■ **TP-04**  
**Networks 4**  
**Room F108**

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2:30 – 2:50pm

**Joint Uplink/Downlink and Offloading Optimization for Mobile Cloud Computing with Limited Backhaul**

Ali N. Al-Shuwaili, New Jersey Institute of Technology  
Alireza Bagheri, New Jersey Institute of Technology  
Osvaldo Simeone, New Jersey Institute of Technology

2:50 – 3:10pm

**Dynamic Node-disjoint Multipath Routing for Millimeter Wave Networks Using Directional Antennas**

Zhuo Chen, InterDigital Communications & WINLAB, Rutgers University  
Roy Yates, Rutgers University  
Dipankar Raychaudhuri, Rutgers University

3:10 – 3:30pm

**Effect of Fading on Maximum Sum Rate of Aloha**

Yitong Li, City University of Hong Kong, Hong Kong  
Lin Dai, City University of Hong Kong, Hong Kong

3:30 – 4:00pm

**BREAK**

4:00 – 4:20pm

**Ultra-Reliable Cloud Mobile Computing with Service Composition and Superposition Coding**

Seyyed Mohammadreza Azimi, New Jersey Institute of Technology  
Osvaldo Simeone, New Jersey Institute of Technology  
Onur Sahin, InterDigital, United Kingdom  
Petar Popovski, Aalborg University, Denmark

4:20 – 4:40pm

**A Markov Chain Model for the Search Time for Max Degree Nodes in a Graph Using a Biased Random Walk**

Jonathan Stokes, Drexel University  
Steven Weber, Drexel University

■ **TP-05**  
**Signal Processing 3**  
**Room F109**

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2:30 – 2:50pm

**Caching Gaussians: Minimizing Total Correlation on the Gray-Wyner Network**

Giel Op 't Veld, École Polytechnique Fédérale de Lausanne, Switzerland  
Michael Gastpar, EPFL Switzerland & University of California, Berkeley

2:50 – 3:10pm

**Computationally Efficient Toeplitz-Constrained Blind Equalization Based on Independence**

Zhengwei Wu, University of Pennsylvania  
Saleem A Kassam, University of Pennsylvania

3:10 – 3:30pm

**Divergence and Bayes Error Based Soft Decision for Decentralized Signal Detection of Correlated Sensor Data**

Roopashree Rajanna, University of Mississippi  
Lei Cao, University of Mississippi  
Ramanarayanan Viswanathan, University of Mississippi

3:30 – 4:00pm

**BREAK**

4:00 – 4:20pm

**Performance Analysis of Eigenportfolios for AR(1) Process**

Onur Yilmaz, New Jersey Institute of Technology  
Ali Akansu, New Jersey Institute of Technology

4:20 – 4:40pm

**Kalman Filtering Based on Maximum Correntropy Criterion in Presence of Non-Gaussian Noise**

Reza Izanloo, Ferdowsi University of Mashhad, Iran  
Seyed Fakoorian, Cleveland State University  
Hadi Sadoghi Yazdi, Ferdowsi University of Mashhad, Iran  
D. Simon, Cleveland State University

4:40 – 5:00pm

**Cramer-Rao Bound and Approximate Maximum Likelihood Estimation for Non-Coherent Direction of Arrival Problem**

Wei Jiang, New Jersey Institute of Technology  
Alexander M. Haimovich, New Jersey Institute of Technology

■ **TP-06**  
**Machine Learning 2**  
**Room F009**

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2:30 – 2:50pm

**Sufficient Conditions for Stable Recovery of Sparse Autoregressive Models**

Abbas Kazemipour, University of Maryland, College Park  
Behdash Babadi, University of Maryland, College Park  
Min Wu, University of Maryland, College Park

2:50 – 3:10pm

**Adaptive Decision Fusion using Genetic Algorithm**

Ji Wang, Drexel University  
Moshe Kam, New Jersey Institute of Technology  
Sayandeep Acharya, Drexel University

3:10 – 3:30pm

**Joint Machine Learning and Human Learning Design with Sequential Active Learning and Outlier Detection for Linear Regression Problems**

Xiaohua (Edward) Li, State University of New York at Binghamton  
Jian Zheng, State University of New York at Binghamton

3:30 – 4:00pm

**BREAK**

4:00 – 4:20pm

**Two-Sided Change Detection under Unknown Initial State**

James Falt, Queen's University, Canada  
Steven D Blostein, Queen's University, Canada