

Thursday, March 17

8:00 – 9:00am Continental Breakfast Convocation Room	9:00 – 11:30am Sessions TA-01 – TA-06	11:45am – 12:45pm Plenary Talk: Steve H. Low F101	12:45 – 2:30pm Lunch Break See local suggestions	2:30 – 5:20pm Sessions TP-01 – TP-06	5:30 – 7:30pm Reception Dinner 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**

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**

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

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

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

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