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

**2:30 – 5:20pm**
Sessions
TP-01 – TP-06

**5:30 – 7:30pm**
Reception Dinner
Charter Club
Name tag required for admittance

**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, PR, China
Jianwei Huang, The Chinese University of Hong Kong, Hong Kong
Lifeng Sun, Tsinghua University, PR, 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 Leeuwaarden, 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 Urgaonkar, 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 Fan, Jiang, 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
Weiqiang 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 HSMM: 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
Multi-period 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

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**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**
Ikponmwosa 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

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**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

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**INVI TED 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 Mehmoond, 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

I N V I T E D  S E S S I O N
TP-02
Computational Neuroscience
Room F004
Organizer: Siamak Sorooshayari

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 Boulin, Harvard Medical School
James Carroll, Harvard Medical School
Sarah Dowcett, Harvard Medical School
Marlise Ariellano, 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 Sao Paulo, Brazil
Reynaldo Pinto, University of Sao 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
Behtash 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 Sacre', Johns Hopkins University
Matthew Kerr, Johns Hopkins University
Sandy 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
Ragheed El-Bardin, 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
Polar 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
Behtash 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