Note: All times shown below are **EDT (Philadelphia, USA, Eastern Daylight Time)**.

Day 1: Monday, October 18, 2021

- Workshop on Caching, Computing and Delivery in Wireless Networks (CCDWN)
- Workshop on Reinforcement Learning and Stochastic Control in Queues and Networks (ReStoq)
- Workshop on Machine Learning in Wireless Communications (WMLC)

Day 2: Tuesday, October 19, 2021

8:30-8:45: **Welcome to WiOpt 2021** - General Chairs: Bo Ji (Virginia Tech), Eytan Modiano (MIT), Jie Wu (Temple University)
8:45- 9:00: **Technical Program and Best Paper Award Announcements** - TPC Chairs: Javad Ghaderi (Columbia University), Elif Uysal (Middle East Technical University), Guoliang Xue (Arizona State University)
9:00-10:00: **Keynote 1**: Ness Shroff (The Ohio State University)
Title: **Delay Optimality in Load-Balancing Systems**
10:00-10:15: Q&A
10:15-10:30: Break
10:30-12:30: **Session**: Resource Allocation, Scheduling, Wireless Networks I
12:30-14:00: Break
14:00-16:00: **Session**: Sampling Over Networks
16:00-16:30: Break
16:30-18:30: **Session**: Federated Learning

Day 3: Wednesday, October 20, 2021

9:00-10:00: **Keynote 2**: Gil Zussman (Columbia University)
Title: **The COSMOS Testbed – a Platform for Advanced Wireless, mmWave, Edge-cloud, and Optical Experimentation**
10:00-10:15: Q&A
10:15-10:30: Break
10:30-12:30: **Session**: Resource Allocation, Scheduling, Wireless Networks II
12:30-14:00: Break
14:00-16:00: **Session**: Age of Information

16:00-16:30: Break

16:30-18:30: **Session**: Caching

Day 4: Thursday, October 21, 2021

9:00-10:30: **Session**: Social Networks, Pricing, Economics

10:30-11:00: Break

11:00-12:00: **Keynote 3**: Athina Markopoulou (University of California, Irvine)

Title: **Auditing Network Traffic for Data Collection Practices**

12:00-12:15: Q&A

12:15-14:00: Break

14:00-16:00: **Session**: Invited Track I

16:00-16:30: Break

16:30-18:30: **Session**: Invited Track II

WiOpt 2021 Main Conference Papers

Session: Resource Allocation, Scheduling, Wireless Networks I

- **Average-Case Analysis of Greedy Matching for D2D Resource Sharing**
  Shuqin Gao (Singapore University of Technology and Design, Singapore), Costas Courcoubetis (The Chinese University of Hong Kong, Shenzhen, China) and Lingjie Duan (Singapore University of Technology and Design, Singapore)
- **An Analysis of Probabilistic Forwarding of Coded Packets on Random Geometric Graphs**
  B. R. Vinay Kumar, Navin Kashyap and D. Yogeshwaran (Indian Institute of Science, Bengaluru, India)
- **Low-Overhead Distributed MAC for Serving Dynamic Users over Multiple Channels**
  Xujin Zhou, Irem Koprulu, Atilla Eryilmaz (The Ohio State University, USA) and Michael J.Neely (University of Southern California, USA)
- **Opportunistic Spectrum Access: Does Maximizing Throughput Minimize File Transfer Time?**
  Jie Hu, Vishwaraj Doshi and Do Young Eun (North Carolina State University, USA)
- **Throughput bound minimization for random access channel assignment**
  Dutta Abhinanda and Steven Weber (Drexel University, USA)

Session: Sampling Over Networks

- **Minimization of Age of Incorrect Estimates of Autoregressive Markov Processes**
  Bhavya Joshi, Rajshekhar V Bhat, B. N. Bharath (IIT Dharwad, India) and Rahul Vaze (TIFR Mumbai, India)

- **Remote Tracking of Distributed Dynamic Sources over A Random Access Channel with One-bit Updates**
  Sunjung Kang, Atilla Eryilmaz and Ness Shroff (The Ohio State University, USA)
- **Aging Wireless Bandits: Regret Analysis and Order-Optimal Learning Algorithm**
  Eray Atay (Bilkent University, Turkey), Igor Kadota (Columbia University, USA) and Eytan Modiano (MIT, USA)
- **Computation and Communication Co-Design for Real-Time Monitoring and Control in Multi-Agent Systems**
  Vishrant Tripathi (MIT, USA), Luca Ballotta (University of Padova, Italy), Luca Carlone and Eytan Modiano (MIT, USA)
- **Optimal Fresh Data Sampling and Trading**
  Junyi He (Chinese University of Hong Kong, Shenzhen, China), Qian Ma (Sun Yat-sen University, China), Meng Zhang (Northwestern University, USA) and Jianwei Huang (Chinese University of Hong Kong, Shenzhen, China)

Session: Federated Learning

- **Data-Free Evaluation of User Contributions in Federated Learning**
  Hongtao Lv, Zhenzhe Zheng, Fan Wu (Shanghai Jiao Tong University, China), Tie Luo (Missouri University of Science and Technology, USA), Shaojie Tang (University of Texas at Dallas, USA), Lifeng Hua, Rongfei Jia and Chengfei Lv (Alibaba Group, China)
- **Quality-Aware Distributed Computation for Cost-Effective Non-Convex and Asynchronous Wireless Federated Learning**
  Yuxi Zhao and Xiaowen Gong (Auburn University, USA)
- **How Valuable Is Your Data? Optimizing Device Recruitment in Federated Learning**
  Yichen Ruan (Carnegie Mellon University, USA), Xiaoxi Zhang (Sun Yat-sen University, China), and Carlee Joe-Wong (Carnegie Mellon University, USA)
- **Quality-Aware Distributed Computation and Communication Scheduling for Fast Convergent Wireless Federated Learning**
  Dongsheng Li, Yuxi Zhao and Xiaowen Gong (Auburn University, USA)
- **CFedAvg: Achieving Efficient Communication and Fast Convergence in Non-IID Federated Learning**
  Haibo Yang, Jia Liu (The Ohio State University, USA) and Elizabeth S. Bentley (Air Force Research Laboratory, USA)

Session: Resource Allocation, Scheduling, Wireless Networks II

- **Experimental measurement of the capacity region of wireless networks**
  Yiannis Thomas, Nikolaos Smyrnioudis and Stavros Toumpis (Athens University of Economics and Business, Greece)
- Distributed Learning for Proportional-Fair Resource Allocation in Coexisting WiFi Networks
  Piotr Gawlowicz (Technical University of Berlin, Germany), Jean Walrand (University of California, Berkeley, USA) and Adam Wolisz (Technical University of Berlin, Germany)
- **Optimal Precoder Design for MIMO-OFDM-based Joint Automotive Radar-Communication Networks**

Ceyhun Deniz Ozkaptan, Eylem Ekici (The Ohio State University, USA), Chang-Heng Wang and Onur Altintas (Toyota Motor North America, USA)

- **BEAMWAVE: Cross-Layer Beamforming and Scheduling for Superimposed Transmissions in Industrial IoT mmWave Networks**
  Luis F. Abanto-Leon, Matthias Hollick and Gek Hong Sim (Technische Universität Darmstadt, Germany)
- **Opportunistic Overlapping: Joint scheduling of uplink URLLC/eMBB traffic in NOMA based Wireless Systems**
  Arjun Anand (Intel Labs, USA), Gustavo De Veciana (The University of Texas at Austin, USA), Derya Malak (Rensselaer Polytechnic Institute, USA), Ayman Elezabi (The American University in Cairo, Egypt) and Aniruddh Venkatakrishnan (The University of Texas at Austin, USA)

Session: Age of Information

- **Age of Sensed Information in a Cognitive Radio Network**
  Clement Kai-Ming Kam, Sastry Kompella (U.S. Naval Research Laboratory, USA) and Anthony Ephremides (University of Maryland, USA)
- **When To Pull Data for Minimum Age Penalty**
  Orhan Tahir Yavaşcan, Elif Tugce Ceran, Zeynep Cakir (METU, Turkey), Onur Kaya (Isik University, Turkey) and Elif Uysal (METU, Turkey)
- **Online Energy Minimization Under A Peak Age of Information Constraint**
  Kumar Saurav and Rahul Vaze (Tata Institute of Fundamental Research, Mumbai, India)
- **Age of Information Minimization with Power and Distortion Constraints in Multiple Access Channels**
  Gagan G B, Jayanth S and Rajshekhar V Bhat (IIT Dharwad, India)
- **Distributional Properties of Age of Information in Energy Harvesting Status Update Systems**
  Mohamed A. Abd-Elmagid and Harpreet S. Dhillon (Virginia Tech, USA)

Session: Caching

- **A Coupon Collector based approximation for LRU cache hits under Zipf requests**
  Pawan Poojary (Northwestern University, USA), Sharayu Moharir (Indian Institute of Technology Bombay, India) and Krishna Jagannathan (Indian Institute of Technology Madras, India)
- **Memory-Rate Tradeoff for Decentralized Caching under Nonuniform File Popularity**
  Yong Deng and Min Dong (Ontario Tech University, Canada)
- **Optimal Load-Splitting and Distributed-Caching for Dynamic Content**
  Bahman Abolhassani (The Ohio State University, USA), John Tadrous (Gonzaga University, USA), and Atilla Eryilmaz (The Ohio State University, USA)

Session: Social Networks, Pricing, Economics

- **Personalized Pricing through User Profiling in Social Networks**

Qinqi Lin (The Chinese University of Hong Kong, Shenzhen, China), Lingjie Duan (Singapore University of Technology and Design, Singapore) and Jianwei Huang (The Chinese University of Hong Kong, Shenzhen, China)

- **Social Influencer Selection by Budgeted Portfolio Optimization**
  Ricardo José López Dawn and Anastasios Giovanidis (Sorbonne Université, NRS-LIP6, France)
- **Edgeconomics: Price Competition and Selfish Computation Offloading in Multi-Server Edge Computing Networks**
  Ziya Chen, Qian Ma (Sun Yat-sen University, China), Lin Gao Harbin Institute of Technology), and Xu Chen (Sun Yat-sen University, China)

Session: Invited Track I

- **The Gittins Policy in the M/G/1 Queue**
  Ziv Scully and Mor Harchol-Balter (Carnegie Mellon University, USA)
- **Signaling Games in Higher Dimensions: Geometric Properties of Equilibrium Partitions**
  Ertan Kazıklı, Sinan Gezici (Bilkent University, Turkey) and Serdar Yüksel (Queen's University, Canada)
- **Federated Few-Shot Learning with Adversarial Learning**
  Chenyou Fan (Shenzhen Institute of Artificial Intelligence and Robotics for Society, China) and Jianwei Huang (The Chinese University of Hong Kong, Shenzhen, China)
- **Federated Learning with Correlated Data: Taming the Tail for Age-Optimal Industrial IoT**
  Chen-Feng Liu and Mehdi Bennis (University of Oulu, Finland)
- **A Framework for Sustainable Federated Learning**
  Basak Guler (University of California, Riverside, USA) and Aylin Yener (The Ohio State University, USA)

Session: Invited Track II

- **Eavesdropping with Intelligent Reflective Surfaces: Threats and Defense Strategies**
  Francesco Malandrino (CNR-IEIIT, Italy), Alessandro Nordio (CNR-IEIIT, Italy) and Carla Fabiana Chiasserini (Politecnico di Torino, Italy)
- **Age of Information in Ultra-Dense Computation-Intensive Internet of Things (IoT) Systems**
  Bo Zhou and Walid Saad (Virginia Tech, USA)
- **Transmission Delay Minimization via Joint Power Control and Caching in Wireless HetNets**
  Derya Malak (Rensselaer Polytechnic Institute, USA), Faruk V. Mutlu, Jinkun Zhang and Edmund M. Yeh (Northeastern University, USA)
- **The Case for Small-Scale, Mobile-Enhanced COVID-19 Epidemiology**
  Fan Yi, Yaxiong Xie and Kyle Jamieson (Princeton University, USA)