5th Buffalo Day *for* 5G and Wireless Internet of Things

October 6, 2023, Buffalo, NY (IN-PERSON)

Scope

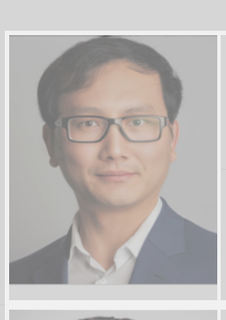
The 5th Buffalo Day for 5G and Wireless Internet of Things aims to provide a unique forum for sharing innovative research ideas, recent results and experiences for researchers and practitioners in 5G and Beyond, Internet of Things, and AI/ML for/by wirelessly networked systems. The event features keynotes, invited talks, panels, and posters/demos from academia, industry and government.

Patrons and Industry Collaborators

Steering Committee

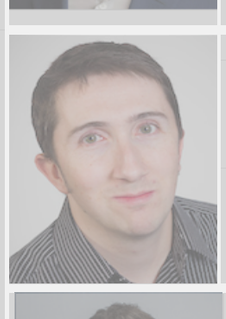
Zhangyu Guan, University at Buffalo, USA
Josep Miquel Jornet, Northeastern University, USA

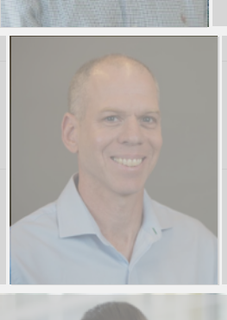
Organizing Committee


Zhangyu Guan
University at Buffalo, USA


Mingyue Ji
The University of Utah, USA


Alan Rae
University at Buffalo, USA


Nicholas Mastronarde
University at Buffalo, USA


Michael Langberg
University at Buffalo, USA


Shaofeng Zou
University at Buffalo, USA


Filippo Malandra
University at Buffalo, USA


Ali Alipour
University at Buffalo, USA


Huamin Li
University at Buffalo, USA

Featured Speakers


Speaker: Jonathan Bird [Website]
Professor, Department Chair
Department of Electrical Engineering
University at Buffalo
Topic: Welcome Remarks

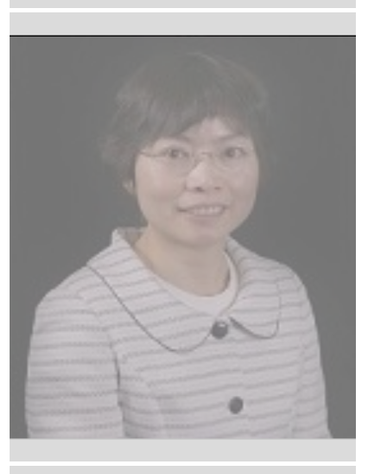

Speaker: Alan Rae [Website]
Director, NYS Centers of Excellence and Advanced Technology
University at Buffalo Business & Entrepreneur Partnerships
Topic: Opening Remarks


Speaker: Alex Sprintson [Website]
Professor, Department of Electrical and Computer Engineering
Texas A&M University
Nokia-Bell Labs
Topic: Keynote Speech


Speaker: Qichao Wang [Website]
Researcher III-Computational Science
National Renewable Energy Laboratory (NREL)
Topic: Wireless Communication Enabled Smoother Road Traffic Systems


Speaker: Mingyue Ji [Website]
Associate Professor, The Department of Electrical & Computer Engineering
The University of Utah
Topic: A New Multi-Agent Deep Reinforcement Learning-enabled Distributed Power Allocation Scheme for mmWave and sub-6GHz Cellular Networks

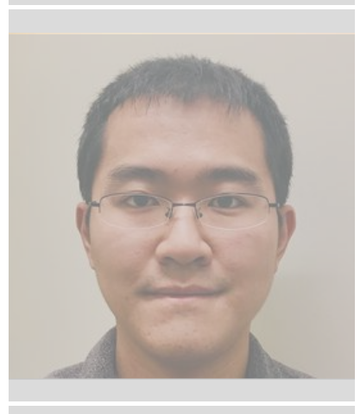

Speaker: Cong Shen [Website]
Assistant Professor
Department of Electrical and Computer Engineering
University of Virginia
Topic: The Role of Random Orthogonality in Federated Learning


Speaker: Rong-Rong Chen [Website]
Associate Professor, Department of Electrical and Computer Engineering
The University of Utah
Topic: Learning-based Beamforming and Phase-Shift Design for RIS-aided Networks

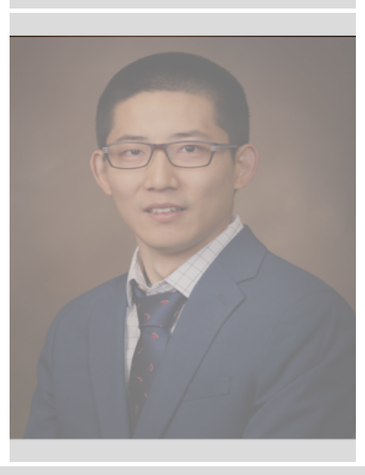

Speaker: Cunxi Yu [Website]
Assistant Professor, Department of Electrical and Computer Engineering
University of Maryland, College Park
Topic: Machine Learning Assisted Electronic Design Automation Systems for Edge Computing


Speaker: Kevin Chan [Website]
Electrical Engineer
Army Research Laboratory
Topic: Network Adaptation in Resource-Constrained Networks


Speaker: Vuk Marojevic [Website]
Associate Professor, Department of Electrical and Computer Engineering
Mississippi State University
Topic: OAIC: Community Research Platform for 6G Wireless


Speaker: Shiqiang Wang [Website]
Staff Research Scientist
IBM T. J. Watson Research Center, NY, USA
Topic: Towards Distributed MLOps: Theory and Practice


Speaker: Eirini Eleni Tsiropoulou [Website]
Associate Professor, Department of Electrical and Computer Engineering
University of New Mexico
Topic: Leveraging Reconfigurable Intelligent Surfaces for Enhanced Position, Navigation, and Timing Solutions: A Game-Theoretic Approach


Speaker: Yi Zhou [Website]
Assistant Professor, Department of Electrical and Computer Engineering
The University of Utah
Topic: Generalized-Smooth Nonconvex Optimization is As Efficient As Smooth Nonconvex Optimization

Program (tentative, all times in EST)

October 5 (Thursday)

18:00 - 20:00 Welcome Reception (Contacts: Zhangyu Guan, Nicholas Mastronarde)
Welcome Remarks, Jonathan Bird (Department of Electrical Engineering, University at Buffalo)

October 6 (Friday, room 330, Student Union)

08:00-08:30 Check-in and Breakfast

08:30-08:40 Opening Remarks (Session Chairs: Zhangyu Guan, Mingyue Ji)
Alan Rae (NYS Centers of Excellence and Advanced Technology, University at Buffalo)

08:45-09:25 Keynote Speech (Session Chair: Michael Langberg)
TBD, Alex Sprintson (Texas A&M University, Nokia-Bell Labs)

09:30-10:30 Session 1 (Session Chair: Mingyue Ji)
The Role of Random Orthogonality in Federated Learning, Cong Shen (University of Virginia)

Towards Distributed MLOps: Theory and Practice, Shiqiang Wang (IBM T. J. Watson Research Center)

10:30-10:45 Coffee Break

10:45-11:45 Session 2 (Session Chair: Filippo Malandra)
OAIC: Community Research Platform for 6G Wireless, Vuk Marojevic (Mississippi State University)

Network Adaptation in Resource-Constrained Networks, Kevin Chan (Army Research Laboratory)

11:50-12:50 Session 3 (Session Chair: Nicholas Mastronarde)
Leveraging Reconfigurable Intelligent Surfaces for Enhanced Position, Navigation, and Timing Solutions: A Game-Theoretic Approach, Eirini Eleni Tsiropoulou (University of New Mexico)

Learning-based Beamforming and Phase-Shift Design for RIS-aided Networks, Rong-Rong Chen (The University of Utah)

12:50-14:00 Lunch Break

14:00-15:00 Session 4 (Session Chair: Shaofeng Zou)
Wireless Communication Enabled Smoother Road Traffic Systems, Qichao Wang (National Renewable Energy Laboratory)

Generalized-Smooth Nonconvex Optimization is As Efficient As Smooth Nonconvex Optimization, Yi Zhou (The University of Utah)

15:05-16:05 Session 5 (Session Chair: Ali Alipour)
Machine Learning Assisted Electronic Design Automation Systems for Edge Computing, Cunxi Yu (University of Maryland, College Park)

A New Multi-Agent Deep Reinforcement Learning-enabled Distributed Power Allocation Scheme for mmWave and sub-6GHz Cellular Networks , Mingyue Ji (The University of Utah)

16:05-16:30 Coffee Break and Poster/Demo Preparation

16:30-17:30 Poster/Demo Session (The Flag Room, Student Union 2nd Floor)
Session Chairs: Nicholas Mastronarde, Zhangyu Guan

Poster 1: *NeXT: A Software-Defined Testbed with Integrated Optimization, Simulation and Experimentation*
Jiangqi Hu, Maxwell McManus, Yuqing Cui, Nicholas Mastronarde, Zhangyu Guan (University at Buffalo)

Poster 2: *Decentralized Intelligent Spectrum Sharing in UAV Networks (DISH-uNET) via Hardware-software Co-design*
Mingyue Ji, Rong-Rong Chen (The University of Utah), Cunxi Yu (University of Maryland, College Park), Zhangyu Guan (University at Buffalo)

Poster 3: *Data-Driven Quickest Change Detection in Markov Models*
Qi Zhang, Shaofeng Zou (University at Buffalo)

Poster 4: *Data-driven Robust Multi-agent Reinforcement Learning*
Yudan Wang, Shaofeng Zou (University at Buffalo)

Poster 5: *Robust Hypothesis Testing with Kernel Uncertainty Sets*
Zhongchang Sun, Shaofeng Zou (University at Buffalo)

Poster 6: *Self-supervised Deep Unrolled Reconstruction Using Regularization by Denoising*
Peizhou Huang, Chaoyi Zhang, Xiaoliang Zhang, Xiaojuan Li, Liang Dong, Leslie Ying (University at Buffalo)

Demo 1: *Conductive Thermal Transfer Printing Based RFID*
Maxwell McManus, Ishita Dhopeshwar, Christopher Janson, Alan Rae, Adrian Levesque, Zhangyu Guan (University at Buffalo), Dan Harrison, Betty Ralston (ARMOR-IIMAK)

Demo 2: *Scaling Out srsRAN Through Interfacing Wirelessly srsENB With srsEPC*
Jiangqi Hu, Nicholas Mastronarde, Zhangyu Guan (University at Buffalo)

17:30-18:00 Dinner (The Flag Room, Student Union 2nd Floor)

Contact Us

E-mail the organizers: Zhangyu Guan (guan@buffalo.edu)

Past Events

4th Buffalo Day for 5G and Wireless Internet of Things, Nov. 2022, Buffalo, NY (Online)
3rd Buffalo Day for 5G and Wireless Internet of Things, Nov. 2021, Buffalo, NY (Online)
2nd Buffalo Day for 5G and Wireless Internet of Things, Nov. 2020, Buffalo, NY (Online)
1st Buffalo Day for 5G and Wireless Internet of Things, Nov. 2019, Buffalo, NY

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