1st Workshop on Edge computing for cyber physical systems (EDGE-CPS)

at the IEEE Global Communications Conference (Globecom 2019), Waikoloa, HI, USA

MONDAY, DECEMBER 9th, 2019 (AFTERNOON)

SCOPE: Cyber-Physical Systems (CPS) are engineered systems with deep intertwined computation, communication, monitoring and control components with physical components of the system. Broad presence of CPS in various domains such as energy, transportation, and healthcare systems as well as many other critical infrastructures has transformed the way we operate and interact with these systems with time sensitive and critical services. The large volume of generated data and the real-time analysis and response requirements of CPSs call for new solutions to address such challenges. The new edge or fog computing technology is emerging as a new alternative to existing computation and cloud-based mechanisms deployed in CPSs. Edge computing provides geographically distributed, latency-sensitive and high-resilience computation and storage resources to the edge of the network, which are essential for many real-time and computationally intensive data handling and data analytics in CPS services. Therefore, it is essential to jointly discuss CPS and edge computing technologies and their co-design and co-implementation to address current CPS challenges. This workshop provides a platform for practitioners and researchers from different backgrounds to exchange and discuss their recent ideas, research achievements, design and implementation experiences in CPS and edge computing. This workshop solicits unpublished research work in the following topics of interest including but not limited to:

- Edge/fog computing applications for CPS
- Architecture design and implementation of edge-based CPS
- Modeling and analysis of CPS and edge computing
- Edge-based distributed analytics for CPS
- Resource management and optimization for CPS edge computing
- Security and privacy for edge-based CPS
- Reliability of edge-based CPS
- QoS/QoE in edge-based CPS
- Network science analysis of edge-based CPS
- Edge-based critical infrastructures
- Experimental evaluations and testbeds for CPS and edge computing
- Real-time data-analytics using CPS

Important date

Paper Submission Deadline: June 30, 2019
Paper Acceptance Notification: August 15, 2019
Camera-Ready: September 15, 2019

Submission guidelines

Technical papers will be presented in the workshop. The authors are encouraged to submit original, unpublished, and proof-of-concept research, not currently under review by another conference or journal, addressing state-of-the-art research development to encourage conversations and suggestions from the community. All submissions should be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures and references. Only PDF files will be accepted for the review process, and all the submissions must be done through EDAS.

Standard IEEE format: https://www.ieee.org/conferences/publishing/templates.html

Submission guideline: https://globecom2019.ieee-globecom.org/authors/call-symposium-papers

Workshop Organizers

General Co-Chairs

Dr. Hana Khamfroush, University of Kentucky
Dr. Mahshid Rahnamay Naeini, University of South Florida

TPC Chairs

Dr. Hana Khamfroush, University of Kentucky, USA
Dr. Konstantinos Poularakis, Yale University, USA
Dr. Mahshid Rahnamay Naeini, University of South Florida, USA

TPC members
Dr. Suzan Bayhan, Technical University of Berlin, Germany
Dr. Hossein Fotouhi, Malardalen University, Sweden
Dr. Derya Malak, MIT, USA
Dr. Simone Silvestrei, University of Kentucky, USA
Dr. Shiqiang Wang, IBM T. J. Watson Research Center, USA
Dr. Diman Zad Tootaghaj, HP Lab, USA
Dr. Tam Chantem, Virginia Tech, USA
Dr. Zongqing Lu, Peking University, China

Publicity chair
Dr. Eren Balevi, University of Texas at Austin, USA

Keynote Speaker

Dr. Ken L. Calvert, National Science Foundation (NSF)