



# The Fifth IEEE International Workshop on Smart & Green Edge Computing and Networking (SmartEdge 2021)

**Kassel, Germany**  
**March 22, 2021**

<http://www.people.vcu.edu/~tnadeem/SmartEdge21/>

## Important Dates

Paper Submission due:

December 5th, 2020 (**extended**)

Notification of acceptance:

January 5th, 2021

Final camera-ready due:

February 5th, 2021

## **Honorary Co-Chairs**

Sumi Helal

*Lancaster University, UK*

Liming Chen

*Ulster University, UK*

Glenn Ricart

*US Ignite, USA*

## **Workshop Co-Chairs**

Tamer Nadeem

*Virginia Commonwealth University, USA*

Zhiyong Yu

*Fuzhou University, China*

Yunji Liang

*Northwestern Polytechnical University, China*

## **CALL FOR PAPERS**

We are approaching a fundamental shift in the computational era as the number of connected smart devices and Internet of Things (IoT) devices (e.g., smartphones, tablets, smart watches, smart glasses, smart meters, connected vehicles, etc.) are expected to exceed several billion in the next few years. Recent studies show that it is expected that the amount of data generated at the edge of the Internet by smart and IoT devices will be vast, incredibly rich, extremely valuable, and becoming the key enabler for data-rich edge systems and applications in several smart computing domains like smart homes, connected health, and smart cities. SmartEdge has taken a leading role in addressing data/systems/applications interests, challenges, and research problems of the edge.

This year, SmartEdge's themes are: Intelligent Edge, and Green Edge. By integrating the advances in smart devices and edge systems with the advances in machine learning (ML) and artificial intelligence (AI), the future role of smart edge systems, networks, and applications are becoming limitless and it's expected to revolutionize the future of the world within the next few years. Green Edge is a recent emerging research field arising from the confluence of edge computing and engineering to make the computing in the edge and in pervasive systems more productive and energy-efficient. Green Edge mainly focuses on architectures and algorithms to support energy-efficient edge operation, and distributed algorithms and optimizations that makes the edge a major contributor to the overall energy efficiency of the entire IoT ecosystem.

While SmartEdge'21 is inviting all submissions relevant to edge computing and networking, we are encouraging submissions that more specifically address the intelligent and green themes. Topics of interest include, but are not limited to:

- Architecture, systems and applications of the edge.
- Architecture, OS, algorithms, and ML for intelligent and energy-efficient edge operations.

## TPC Members (TBF)

Saike He

*Institute of Automation Chinese  
Academy of Sciences, China*

Lia Morra

*Politecnico di Torino, Italy*

Tadashi Okoshi

*Keio University, Japan*

Hannaneh B. Pasandi

*Virginia Commonwealth University,  
USA*

Ahmed Salem

*Amazon Web Services, USA*

Sagar Samtani

*Indiana University, USA*

Wei Shao

*RMIT, Australia*

Mostafa Uddin

*Nokia-Bell Labs, USA*

Jiangtao Wang

*Coventry University, UK*

Xianzhi Wang

*University of Technology Sydney,  
Australia*

Sha Zhao

*Zhejiang University, China*

- Green edge systems, applications and services
- Internet-of-Things, edge computing, and cloud computing.
- Programming models and toolkits for edge computing.
- Resource management, monitoring, and metering at the edge.
- Buffering, queuing, and caching at the edge.
- Edge-based data management and data analytics
- Theoretical foundations of machine learning for edge systems and applications.
- Energy-efficient deep learning algorithms for edge computing.
- Machine learning and data-driven optimization for green edge
- Device-to-Device communication, 5G, and Co-existence of wireless technologies at the edge.
- Wireless communications and networking architecture for machine learning systems at the edge.
- Energy-aware system architecture and networking protocols for the edge.
- Energy-efficient data caching/storage/offloading at the edge.
- Low-power sensing, communication, and processing for the edge.
- Security and privacy for intelligent/green edge systems.
- Fault-tolerance, availability and replication for the edge.
- Human factors for edge computing.
- Augmented reality and virtual reality at the edge.
- Edge-based quality of service and quality of experience.
- Economic or performance tradeoffs for edge computing
- Distributed algorithms and optimizations, distributed OS concepts, and distributed ML for energy efficiency IoT ecosystem.
- Distributed energy generation/harvesting, storage and consumption at the edge.
- Using recyclable or biodegradable materials instead of hazardous materials in IoT
- Applications for environmental sustainability, such as green transportation, green home and green city

Authors are invited to submit original unpublished work, not currently under review by other conferences, workshops, or journals. Full papers are limited to a maximum length of 6 pages and must adhere to IEEE format (in 10pt font, double column, US Letter size, 8.5 x 11 inches), including text, figures, and references. The authors can purchase one additional page for the camera-ready version. The authors must follow the IEEE Computer Society author guidelines. The IEEE conference Latex and Word templates can be found at [https://www.ieee.org/conferences\\_events/conferences/publishing/templates.html](https://www.ieee.org/conferences_events/conferences/publishing/templates.html).

Papers must be submitted electronically as PDF files through the EDAS link <https://edas.info/N27746>. **Workshop papers will be included and indexed in the IEEE digital libraries (Xplore). Each accepted workshop paper requires a full PerCom registration (no registration is available for workshops only).**