Call for Papers: IEEE Embedded Systems Letters

Special Issue on Embedded Systems for Building Management

Overview

Built environments and critical urban infrastructures, account for over half of society's energy consumption and are the mainstay of our nation's economy, security and health. Advances in the effective integration of networked sensors, building controls, and physical infrastructure are transforming our society. In the information age, unprecedented research of cyber physical infrastructures includes: the acquisition, integration, and analysis of big and heterogeneous data such as sensors, devices, vehicles, buildings, and human, to tackle the major issues that cities face, e.g., air pollution, increased energy consumption and traffic congestion.

Systems optimization, data analysis and modeling applied to the built environment are particularly important in improving our society, e.g., by increasing its sustainability and enhancing people's quality-of-life. These systems represent the foundation for emerging "smart cities".

Objective and Scope

The special issue is aligned with the scope of the 5th ACM International Conference on Systems for Built Environments (BuildSys 2018). BuildSys is the premier conference for researchers and practitioners working to develop and optimize smart infrastructure systems that are driven by sophisticated sensing, computing, and control functions. We invite original contributions including, but not limited to the following:

- Applications in smart and connected communities;
- Sensing and control for urban infrastructure systems;
- Novel sensor methodologies, techniques, and tools;
- Sensing and control of electrical, gas, and water loads;
- Improved user interfaces to built infrastructure;
- Modeling, simulation, optimization, and control of heating, cooling, lighting, ventilation, water usage and other resource flows in built environments;
- Sensor systems and applications that enhance energy efficiency, energy reliability, durability and comfort;
- Systems that integrate infrastructure with the smart grid to offer demand response and ancillary services;
- Distributed generation, alternative energy, renewable sources, and energy storage in buildings;
- Emerging standards for data collection, energy control, or interoperability of disparate devices or systems;

- Sensing, modeling, and predicting the urban heartbeat including sounds, movements, and radio spectrum;
- Human in the loop sensing and control for efficient usage of electricity, gas, heating, water;
- Sensor systems for reliable occupancy counting;
- Long-lived and energy harvesting sensor systems;
- Scalable indoor localization and contextual computing;
- Security, privacy, safety, and reliability in built systems;
- Empirical studies of city-scale wireless communications;
- Environmental Sensing;
- Vehicle technologies and Traffic.

Paper Submission Guidelines

Submitted manuscripts must be four pages or fewer, including all figures, tables, and references. Submissions exceeding this length will be returned without review. Papers should use 7.875 in x 10.75 in (20 cm x 27.30 cm) trim size and the IEEE transactions two-column format in 10-pt. font. In word counts, this corresponds to roughly 2200 words. Further details are available at: http://ieeeceda.org/publications/esl/paper-submission

Submissions to IEEE ESL must consist of original work that has not been previously published and is not currently under review elsewhere. Please upload manuscripts using ScholarOne Manuscript Central at https://mc.manuscriptcentral.com/les-ieee

Important Dates

- Paper Submission: April 15, 2019, AOE.
- Acceptance Notification: May 15, 2019, AOE.

Guest Editors

- Marta Gonzalez, UC Berkeley
- Polly Huang, NTU and Keio U.