UCF

COLLEGE OF ENGINEERING AND COMPUTER SCIENCE

FACULTY RESEARCH TALKS

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Zoom talk | Friday, Feb. 11, 2022 | Noon to 1 p.m.

PARTNER SPOTLIGHT:
Florida Solar Energy Center (FSEC)

PRESENTER 1:
ERIC MARTIN
Program Director
FSEC Energy Research Center

Optimizing HVAC Performance in New and Existing Homes

In this talk, Mr. Martin will introduce three ongoing research projects funded by the U.S. Department of Energy (DOE) to optimize design, installation, and operation of HVAC systems for high-performance new and existing homes. The projects involve data collection in occupied homes and full-scale laboratory homes.

Mr. Martin joined FSEC in 1997 after receiving degrees in chemical and environmental engineering from the Florida Institute of Technology. He began in the Advanced Energy Research Division where he was part of a team that developed ultraviolet light photoreactors to remediate point source air pollution, and renewable hydrogen energy systems. Mr. Martin is currently in the Buildings Research Division, where he is the PI for various building science related research projects with a focus on high performance heating/cooling/water heating systems, ventilation and indoor air quality, and moisture management.

PRESENTER 2:
JOHN SHERWIN '88
Program Director
FSEC Energy Research Center

Overview of FSEC Photovoltaic Field Studies

In this talk, Mr. Sherwin will highlight current research projects funded by the DOE Solar Energy Technologies Office and the Florida Energy Office. These will include a field study investigating the performance of floating photovoltaic systems, an overview of FSEC as a DOE Regional Test Center to evaluate the performance and reliability of renewable energy technologies, and the Sun Smart Schools emergency shelter program.

Mr. Sherwin began work at FSEC as an undergraduate UCF student in 1988. After graduating with degrees in engineering and business administration, he worked as a research engineer in the Building Science Division performing laboratory tests and field monitoring of advanced energy efficient building technologies, HVAC systems and solar/thermal appliances. He is the director for the photovoltaic and certification program where he is responsible for verifying code compliance and commissioning of grid tied and stand-alone PV systems. He is also the PI for a number of field evaluation and reliability studies on photovoltaic systems and renewable energy components.

PRESENTER 3:
ISSA BATARSEH
Pegasus Professor
Electrical and Computer Engineering

Integration and Testing of Battery Storage System for Exelon Utilities System

In collaboration between A.F. Mensah, Inc. and UCF, a new battery system will be designed, integrated, and tested to provide a 1MW/4MWh of power and energy storage. The sponsored project is being supported by Exelon Utilities and the Florida High Tech Corridor and will be built at FSEC. The battery system will be utilized for peak shaving on a local substation and ancillary services such as frequency regulation. This project provides a platform for research in new inverter development, advanced systems controls and communications, and product packaging.

Dr. Batarseh is the founder and director of the Florida Power Electronics Center where his team has been leading the design, development, and commercialization of smart microinverters, and smart EV and industrial chargers. He has supervised more than 100 doctorial, masters and honors students. His research focuses on power electronics and energy conversion systems for smart-grid and renewable energy applications. He has founded and co-founded three start-up companies in power electronics technology and education including Petra Systems, ApECOR and Tech-e-Book.com. Dr. Batarseh is Fellow member of the IEEE and AAAS. He is a member of the National Academy of Inventors and has been inducted into the Florida Inventors Hall of Fame.

ZOOM LINK: https://bit.ly/3ILqC1I | PREVIOUS TALKS: www.cecs.ucf.edu/faculty-research-talks