



CALPLUG WORKSHOP #18

OPTIMIZING ENERGY EFFICIENCY IN SPACES

Monday, October 18, 2021



CALIFORNIA PLUG LOAD RESEARCH CENTER
UNIVERSITY of CALIFORNIA • IRVINE



PROGRAM

9:00 AM – 12:05 PM

9:00 – 9:05 AM: Welcome & Introduction

G.P. Li – Calit2/California Plug Load Research Center

9:05 – 9:20 AM: Challenges and Opportunities in Energy Transition, Decarbonization and Electrification: CalPlug's Holistic Approach

Li Zhao – CalPlug

9:20 – 9:45 AM: WiFi smart plugs: the 'gateway drug' to home energy automation

John Anderson – OhmConnect

9:45 – 10:10 AM: Overview of the California Load Flexibility Research and Deployment Hub

Mary Ann Piette – Lawrence Berkeley National Laboratory

10:10 – 10:35 AM: Object Oriented Design in Energy and Decision Management

Paul Campbell – Facil AI





PROGRAM

10:35 AM – BREAK

10:40 – 11:05 AM: Recent field experience and lessons learned related to automatic receptacle controls

Michael Myer – Pacific Northwest National Laboratory

11:05 – 11:30 AM: Buildings of the Future, Today. Planning for Sustainability and Resilience working towards a Healthy Building Environment

Kurt Gokbudak – Schneider Electric

11:30 AM – DISCUSSION

NOON – 12:05 PM: GP Li – wrap up





MEET THE SPEAKERS



GP Li
CalPlug – UC Irvine
Director

G. P. Li is a professor at the University of California, Irvine, with appointments in two departments: Electrical Engineering and Computer Science and Biomedical Engineering, and Materials and Manufacturing Technology program. Dr. Li serves as director of California Institute for Telecommunications and Information Technology (Calit2), which develops solutions for digital transformation of energy and environmental industrial sectors. Dr. Li also serves as director of the Integrated Nanosystems Research Facility (INRF) in The Henry Samueli School of Engineering, which researches and develops sensors and actuators for industry 4.0 applications. Furthermore, he serves as director of California Plug Load Research Center (CalPlug), which research and develop solutions for improving flexible demand plug loads' energy efficiency and their active management.



Li Zhao
CalPlug – UC Irvine
Technical Director

Dr. Li Zhao earned his Ph.D. from Dept. Mechanical and Aerospace Engineering at UC Irvine in 2011, focused on high temperature fuel cell and distributed power generation. He then worked as Research Scientist and Associate Manager in the Advanced Power and Energy Program in UCI. He is an engineer experienced in designing, evaluating, modeling and integrating emerging power and clean energy technologies and integrated systems. Before join CalPlug, he found and built an energy-monitoring-IoT startup, developed cloud-based solutions for customer-side energy sensing, monitoring, and auditing, to increase the energy efficiency and lower the energy cost for residential and industrial users.



John Anderson
OhmConnect
Director of Energy
Markets

John Anderson is Director of Energy Markets at OhmConnect, an Oakland-based residential demand response provider with a fun and engaging app that incentivizes users to reduce electricity while simultaneously controlling Internet of Things (IoT) devices within their homes. He leads the company's efforts on CPUC regulatory proceedings and CAISO stakeholder initiatives to facilitate direct participation by demand response resources in California's wholesale electricity markets. Prior to joining OhmConnect, John was Senior Market Design Analyst at Pacific Gas and Electric Company (PG&E), where he worked on CAISO and FERC wholesale electric market design, analysis, and strategy. John holds a B.A. in Economics from the University of Calgary, an M.Phil. in Economics from the University of Oxford, and a Ph.D. in Economics from Stanford University.



Mary Ann Piette
Lawrence Berkeley
National Laboratory
Director Building
Technology & Urban
Systems Division
Director Demand
Response Research
Center

Mary Ann Piette is a Senior Scientist and the Director of the Building Technology and Urban Systems Division in the Energy Technologies Area at Lawrence Berkeley National Laboratory. She oversees Berkeley Lab's building energy research activities with the U.S. Department of Energy, and she is also the Director of the Demand Response Research Center. Mary Ann's work involves developing and evaluating new technology and building components, windows, controls, operations, simulation, whole building and electric load shape analysis and behavior. Her Division also conducts research in data center energy efficiency, industrial energy efficiency, and federal energy management. Mary Ann has authored over 90 peer reviewed publications related to energy efficiency and demand response and has worked at LBNL since 1983. She is a board member of the American Council for an Energy Efficient Economy and of the OpenADR Alliance. Mary Ann has an MS in Mechanical Engineering from UC Berkeley and a Licentiate in Building Services Engineering from the Chalmers University of Technology in Sweden.



MEET THE SPEAKERS



Paul Campbell
Facil AI
Vice President

An energy data strategist experienced in enterprise energy decision management, data velocity and applied analytics. Current endeavors include quantifying the cost benefit of data velocity optimization as well as developing a fully automated Decision Management system to handle analytics signal traffic. My ultimate objective is a suite of robust programmatic and dynamic energy and decision management methodologies that responds continually to mechanical, environmental and climatological conditions seamlessly through machine learning



Michael Myer
Pacific Northwest
National Laboratory
Energy & Environment
Directorate

Michael Myer is a researcher at the Pacific Northwest National Laboratory where he has worked for the past 14 years. His expertise lies in lighting. Michael Myer supports various programs including the Commercial Equipment Standards, Appliance and Commercial Equipment Standards (ACES), Building Energy Codes, and Commercial Building Integration. As a member of the ASHRAE/IES Standard 90.1 Lighting Subcommittee, Michael has conducted analyses related to automatic receptacle controls. Michael's recent Commercial Building Integration work involved multiple field studies of integrating plug load controls with lighting systems. Michael received his bachelor's from Arizona State University and his Master of Science from Rensselaer Polytechnic Institute. He is currently a member of the Illuminating Engineering Society (IES). Michael also has authored and co-authored many technical publications, along with reports. Michael is a husband, father, and when not working often wrangling the family cats.



Kurt Gokbudak
Schneider Electric
Solution
Architect, Digital
Energy Division

Kurt Gokbudak is a Solution Architect for Schneider Electric's Building Business since 2015. He works with Schneider Electric's flagship Building Management System, SmartStruxure. He specializes in systems integration, energy management, facilities management, cybersecurity, green buildings, and technical presentations. Currently Kurt is involved numerous LEED and Energy Star certified projects. He has a publication for Schneider Electric in regards to new life for aging facilities and future-proofing older buildings. Kurt has a Bachelor of Science in Mechanical Engineering and has performed many roles in his career ranging from Technical Support, to Sales to Business Management. Kurt is a native of Chicago and has called Southern California home for the past 20 years.