

**PANEL 12: SMART AND GRID-INTERACTIVE BUILDINGS**

**(Meeting Room: Acacia)**

**Panel Leaders: Paul Mathew and Therese Peffer**

<b>MONDAY, AUGUST 22</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>	<b>TUESDAY, AUGUST 23</b>	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>The Big Picture: Policy Design and Analysis</b>		<b>Heat Pumps and More</b>
	<i>Making Grid-Interactive Efficient Buildings a “Win” for Both Customers and Utilities</i>		<i>Engaging Contractors: a Critical Partner to Realize the Load Shifting Potential of HPWHs</i>
	<i>Presented by: Ryan Hledik, Brattle (Lead Author: Andrew Satchwell, Lawrence Berkeley National Laboratory)</i>		<i>Christine Riker, Energy Solutions</i>
	<i>Large-scale Simulation of Regional Demand Flexibility Implementation and Customer Economic Impact</i>		<i>Field Study of Grid-connected Heat Pump Water Heaters in the Southeast U.S. - The Next Right Thing</i>
	<i>Hayden Reeve, Pacific Northwest National Laboratory</i>		<i>Joshua Butzbaugh, Pacific Northwest National Laboratory</i>
	<i>Towards an Equitable Grid-Interactive Efficient Building Landscape: Visualizing Technology Adoption in the State of New York</i>		<i>Decarbonization Impact of Grid-Interactive Efficient Buildings – An Affordable Housing Use Case</i>
	<i>Danielle Prezioso, Stevens Institute of Technology</i>		<i>Agatha Kazdan, Electric Power Research Institute</i>
<b>SESSION 2 (10:30 am - 12:00 pm)</b>	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>Metrics and Ratings</b>	<b>Data Analytics</b>		
<i>GridFlex: Introducing Metrics to Benchmark Building-grid Interactivity</i>	<i>A Multi-level Load Shape Clustering and Disaggregation Approach to Characterize Patterns of Energy Consumption Behavior</i>		
<i>Kevin Carbonnier, New Buildings Institute</i>	<i>Samanvitha Murthy, Lawrence Berkeley National Laboratory</i>		
<i>RESNET Load Flexibility Task Group: Developing Ratings that Incentivize Demand Responsive Buildings and a Cleaner Grid</i>	<i>At Long Last: Realizing the Promise of Non-intrusive Load Monitoring</i>		
<i>David Goldstein, NRDC</i>	<i>Jennifer McWilliams, DNV</i>		
<i>Methodology for Modeling Savings for Home Energy Management Systems</i>	<i>Towards a Stronger Foundation: Digitizing Commercial Buildings with Brick to Enable Portable Advanced Applications</i>		
<i>Robert Hendron, Frontier Energy</i>	<i>Carlos Duarte Roa, University of California, Berkeley</i>		

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WEDNESDAY, AUGUST 24	<b>People and Process: Stakeholder Engagement</b>	THURSDAY, AUGUST 25	<b>Where the Rubber Meets the Road: Case Studies and Field Studies</b>
	<i>Smart Home Energy Monitoring: Data-Driven Opportunities and Customer Engagement</i> <i>Amalia Hicks, Cadmus</i>		<i>Field Study Demonstrates Financial and Grid Benefits of EV Bidirectional Charging</i> <i>Daniel Real, Advanced Energy</i>
	<i>Trust, Competence, and Innovation: Understanding Customers' Energy and Smart Home Brand Perceptions</i> <i>Presented by: Dan Burak, Uplight</i> <i>(Lead Author: Beth Karlin, See Change Institute)</i>		<i>Demand Response Capabilities of Refrigerated Warehouses: Experiences in Practical Implementation</i> <i>Ammi Amarnath, EPRI</i>
	<i>Cyber-Physical-Social Digital Platform for Microgrids (CPSDPM): Addressing Design Gaps for Historically Underserved Communities</i>  <i>Ashok Das, SunMoksha Power Private Ltd.</i>		<i>Real-time Carbon Emission Responsive Electric Vehicle Charging Control for Decarbonization</i>  <i>Presented by Dr. Xin Jin, National Renewable Energy Laboratory</i> <i>(Lead: Jing Wang, National Renewable Energy Laboratory)</i>
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>		<b>SESSION 2 (10:30 am - 12:00 pm)</b>
<b>Integrating Storage, PV and Load Management</b>	<b>HVAC Controls Optimization</b>		
<i>Battery Energy Storage Systems and PV/Battery Microgrid Applications for Buildings</i>  <i>David Kaneda, IDeAs Consulting</i>	<i>Evaluating the Performance of HVAC Optimal Control Based on Real-time Floor-by-floor Occupancy Data</i>  <i>Presented by: Jessica Granderson, Lawrence Berkeley National Laboratory</i> <i>(Lead Author: Guanjing Lin, Lawrence Berkeley National Laboratory)</i>		
<i>SunDial Integration of Building Load Management, Solar PV, and Energy Storage to Support the Electric Grid: Lessons from a Field Pilot</i>  <i>Matt Kromer, Fraunhofer USA</i>	<i>Unsupervised Learning for Detecting VAV Anomalies in Commercial Buildings</i>  <i>Presented by: Brad Schultz, Buildings Alive</i> <i>(Lead Author: Hao Huang, Buildings Alive)</i>		
<i>Solar+ Optimizer: Integrated Control of Solar, Batteries, and Flexible Loads for Small Commercial Buildings</i>  <i>Lazlo Paul, Lawrence Berkeley National Laboratory</i>	<i>A Low Cost Centralized HVAC Control Ssystem Solution for Energy Savings, Load Shedding, and Improved Maintenance</i>  <i>Nicolas Fauchier-Magnan, University of California, Davis</i>		

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FRIDAY, AUGUST 26	<b>SESSION 1 (8:30 am - 10:00 am)</b>
	<b>Load Flexibility: New Frontiers</b>
	<i>Retargeting Demand Response for Carbon Positive Flexible Buildings</i> Craig Roussac, Buildings Alive
	<i>Accelerating Load Flexibility with the California Flex Hub and Automated Price Response</i> Presented by: Jingjing Liu, Lawrence Berkeley National Laboratory (Lead Author: Mary Ann Piette, Lawrence Berkeley National Laboratory)
	<i>Impact and Incentives for Load Management Strategies in Multifamily Buildings</i> Mark Frankel, Ecotope
	<b>SESSION 2 (10:30 am - 12:00 pm)</b>
	<b>The Smarts in Components and Controls</b>
	<i>Enhancing the Role of Plug Loads in Grid-Interactive Buildings Using Smart Plugs</i> Yao-Jung Wen, Energy Solutions
	<i>Cloud-Control of Legacy Building Automation System: A Case Study</i> Anand Krishnan Prakash, Lawrence Berkeley National Laboratory
	<i>When Smart Thermostats are Dumb: Lessons Learned from Evaluating Eight Advanced Thermostats</i> Therese Peffer, UC Berkeley