

PANEL 3: COMMERCIAL BUILDINGS: TECHNOLOGIES, DESIGN, OPERATIONS, AND INDUSTRY TRENDS

(Meeting Room: Oak Shelter)

Panel Leaders: Alexi Miller and Shanti Pless

MONDAY, AUGUST 22	SESSION 1 (8:30 am - 10:00 am)	TUESDAY, AUGUST 23	SESSION 1 (8:30 am - 10:00 am)
	Decarbonizing Existing Buildings		The Healthy Buildings and Energy Nexus
	<i>Automated Anomaly Detection and Diagnosis for Real Time Carbon Minimization</i> <i>Presented by: Craig Roussac, Buildings Alive (Lead Author: Hao Huang, Buildings Alive)</i>		<i>How Does Lighting for Wellness Affect Energy Use? Results from Simulation and Laboratory Studies, and a Look Ahead.</i> <i>Jordan Shackelford, Lawrence Berkeley National Laboratory</i>
	<i>Decarbonization Training for Facility Managers</i> <i>Jillian Winterkorn, Eversource</i>		<i>Energy Implications of Using Germicidal Ultraviolet Radiation to Combat SARS-CoV-2</i> <i>Belal Abboushi, Pacific Northwest National Laboratory</i>
	<i>Can Electrification Find a Sweet Spot? Summarizing Field Data from Electrification Audits in Commercial and Industrial Buildings.</i> <i>Carl Samuelson, Michaels Energy</i>		<i>Energy Efficiency Measures to Improve Indoor Air Quality and Reduce the Spread of the SARS-CoV-2 Virus</i> <i>Robert Mowris, Verified Inc.</i>
	SESSION 2 (10:30 am - 12:00 pm) SESSION TO BE BROADCASTED		SESSION 2 (10:30 am - 12:00 pm)
	What's after Zero: Net Zero Energy Buildings and Beyond		Taking Electrification to Scale - Cities, States, and Beyond
<i>Challenges and Lessons Learned from an Analysis of Three Zero Energy Buildings</i> <i>Kate Hickcox, Pacific Northwest National Laboratory</i>	<i>Audit Template Tool: Facilitating Data Driven Decision Making for Jurisdictions</i> <i>Supriya Goel, Pacific Northwest National Laboratory</i>		
<i>Competition Between Ventilation and Cooling in Commercial Buildings and Implications for Energy Flexibility</i> <i>Caitlin McMahon, Stanford University</i>	<i>What's in Stock: Integrated Modeling of Building Electrification, Energy Efficiency, and Stock Turnover for New York City</i> <i>William Prindle, ICF</i>		
<i>Cutting Carbon with Codes: Reducing the Worst Climate Impacts of Construction</i> <i>Webly Bowles, New Buildings Institute</i>	<i>Cold Climate Packaged Heat Pumps – Finding Sasquatch</i> <i>Evan Hallas, Taitem Engineering</i>		

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WEDNESDAY, AUGUST 24	SESSION 1 (8:30 am - 10:00 am)	THURSDAY, AUGUST 25	SESSION 1 (8:30 am - 10:00 am)
	High Performance HVAC Opportunities		Cooking and Cultivation: (de)Carbonizing Comestibles and Consumables
	<i>Heat Pump Controls: Decarbonizing Buildings While Avoiding Electric Resistance Heating and Higher Net Peak Demand</i> Jonathan McHugh, McHugh Energy Consultants		<i>Data-Driven Energy Efficiency in Controlled Environment Agriculture</i> Jennifer Amann, ACEEE
	<i>Including Economizer Efficiency in the Unitary Next Generation Test Procedure Standards</i> Robert Mowris, Verified		<i>The Nexus of Energy Efficiency and Low GWP Refrigerants; Can We Meet Our Greenhouse Gas Emission Goals in Commercial Refrigeration?</i> Jim Kelsey, kW Engineering
	<i>DO AS We Say (and As We Do): Maximizing HVAC Efficiency, Flexibility and Resiliency with High Efficiency Dedicated Outdoor Air Systems</i> Jordan Pratt, Energy 350		<i>Cooking Up Carbon Reductions: Equipment Upgrades and Fuel Switching Strategies to Reduce Emissions from Commercial Kitchens</i> Adam Spitz, ICF
SESSION 2 (10:30 am - 12:00 pm)	SESSION 2 (10:30 am - 12:00 pm)		SESSION 2 (10:30 am - 12:00 pm)
Can We Control It?	Smart Controls and Big Data		
<i>Towards a Digital and Performance-Based Control Delivery Process</i> Amir Roth, US Department of Energy	<i>Existing Wireless Infrastructure is a Low-cost Path to Occupancy-based Commercial Building Control</i> Cecil Scheib, New York University		
<i>Hot Mess or Cool Tech? Secrets to Success for Advanced Building Controls Integration</i> Nathan Hinkle, Cadmus	<i>Qualitative Evaluation of Barriers, Awareness, and Adoption of LLLC Technologies</i> Shelby Ruiz, Washington State University		
<i>A Demonstration and Evaluation of Commercial Building Occupancy Sensing Using Wi-Fi Location-Based Services (LBS)</i> Lester Shen, Center for Energy and Environment.	<i>Network Lighting Controls (NLC) 2.0</i> Welsey Whited, DNV		

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FRIDAY, AUGUST 26	SESSION 1 (8:30 am - 10:00 am)
	Modeling EE, DR, and DERs in Commercial Buildings
	<i>Probabilistic Modeling of Commercial Building Occupancy and Electric Vehicle Charging Behavior Using Location-Based Map Data</i>
	<i>Rawad El Kontar, National Renewable Energy Laboratory</i>
	<i>Peak Demand in the Brave New World of Building Decarbonization and Distributed Energy Resources</i>
	<i>Randall Higa, Southern California Edison</i>
	TBD
	SESSION 2 (10:30 am - 12:00 pm)
	Energy Design in Commercial Buildings
	<i>Measuring and Benchmarking Demand Flexibility in Commercial Buildings and Flattening the Duck – Addressing Baseline and Commissioning Challenges</i>
<i>Jingjing Liu, Lawrence Berkeley National Laboratory</i>	
<i>Integrating Embodied Carbon Knowledge for Design Decisions</i>	
<i>Heather Goetsch, National Renewable Energy Laboratory</i>	
<i>What We Learned From Analyzing 15 Millions Rows of Commercial Buildings' HVAC Fault Data</i>	
<i>Eliot Crowe, Lawrence Berkeley National Laboratory</i>	