

**DRAFT - schedule changes weekly**

**PANEL: 1 - Residential Buildings: Technologies, Design, Performance Analysis, Construction, and Building Industry Trends**

Day	SESSION	LEAD AUTHOR/ORGANIZATION	TITLE
Mon 8/22	Session 1 8:30 am - 10:00 am Manufactured Housing & Multi-Split Heat Pumps	Christopher Dymond, Northwest Energy Efficiency Alliance	High Performance Manufactured Homes: Field and Factory Results from Eight Demo Homes Built in Six Factories
		Emanuel Levy, Systems Building Research Alliance	Integrated Design for Affordable, Factory Built Homes
		John Walczyk, Cadmus	Ductless Heat Mini-Split Systems: The Answers to Questions about Efficiency You Didn't Know You Had
	Session 2 10:30 am - 12:00 pm Domestic Hot Water Systems	Carlos Colon, Florida Solar Energy Center	Measured Performance of Ducted and Space Coupled Heat Pump Water Heaters in a Cooling Dominated Climate
		Gary Klein, Gary Klein & Associates	Getting into Hot Water
		Farhad Farahmand, TRC Companies, Inc.	Residential Compact Domestic Hot Water Distribution Design: Balance Among Energy Savings, Water Waste Reduction, and Building Design Flexibility
Tues 8/23	Session 1 8:30 am - 10:00 am Targeted & Packaged Measures for Residential Retrofits	Dave Korn, Cadmus	Interaction of Cold Weather Ductless Heat Pumps and Primary Fossil Systems
		Joseph Petersen, Pacific Northwest National Laboratory	Mind the Gap: Summary of Residential Window Retrofit Solutions
		John Proctor, Proctor Engineering Group, Ltd.	Deep Energy Retrofits: Lessons Learned in the Central Valley Research Homes Project
	Session 2 10:30 am - 12:00 pm Multi-Family Building Solutions	Gabe Ayala, EnovativeGroup.com	Energy Impact of Fixture Crossover in Multifamily Central DHW Distribution
		Samara Larson, LINC Housing	Replicable and Scalable Near-Zero Energy Retrofits for Low-Income Multifamily Housing: An Update
		Dave Bohac, Center for Energy and Environment	Using an Aerosol Sealant to Reduce Multifamily Envelope Leakage

Day	SESSION	LEAD AUTHOR/ORGANIZATION	TITLE
Wed 8/24	Session 1 8:30 am - 10:00 am Development in Appliance Technologies	Viral Patel, Oak Ridge National Laboratory	Experimental Evaluation of a Residential Refrigerator with a Novel Rotating Heat Exchanger as an Evaporator
		Eric Martin, Florida Solar Energy Center	Measured Performance of Eight Heat Pump Clothes Dryers in a 56 Home Sample with Sub-metered Data
		Dennis Heidner, ASHRAE	My world is Spinning, Stop the Drum, I want out! A Field Study of Residential Dryers in Situ
	Session 2 10:30 am - 12:00 pm Improving and Applying Energy Modeling	David Korn, Cadmus	Exactly What is a Full Load Cooling Hour and Does Size Really Matter
		Ron Judkoff, National Renewable Energy Laboratory	A Method to Test Model Calibration Techniques
		Truong Nguyen, Department of Built Environment and Energy Technology	Costs and Primary Energy Use of Energy Supply Options to Buildings of Different Energy Efficiency Levels
Thurs 8/25	Session 1 8:30 am - 10:00 am Performance of Emerging Heat Pump Technologies	Ben Schoenbauer, Center for Energy and Environment	Field Assessment of Cold-Climate Air Source Heat Pumps
		Robert Davis, Ecotope	Performance Testing of Ducted Variable Capacity Heat Pumps
		Karen Sutherland, Florida Solar Energy Center	Evaluation of Supplemental Mini-Split Heat Pumps as a Retrofit Measure in a Hot-Humid Climate
	Session 2 10:30 am - 12:00 pm Combined Residential Mechanical Systems	Ken Eklund, Washington State University Energy Program	What Does the Future of Space and Water Heating Look Like? Field Test Results of Combined Space and Water Heating in Low Load Homes Using CO2 Refrigerant Heat
		Anayo Ezeamama, BTU, Germany	Micro Combined Heat and Power Systems: Evaluation of a Sample Application
		Paul Glanville, Gas Technology Institute	The Role of Gas Heat Pumps in Zero Net Energy Buildings
Fri 8/26	Session 1 8:30 am - 10:00 am Residential Electrical System Challenges	Alan Meier, Lawrence Berkeley National Laboratory	Permanent Electrical Loads in New Homes
		Michael Fournier, Hydro-Quebec Research Institute	Winter DR Using Baseboard Heaters: Achieving Substantial Load Reduction without Sacrificing Comfort
		Doug Lindsey, Electric Power Research Institute	The Inconsistency of Dimmers with LED Lamps
	Session 2 10:30 am - 12:00 pm Smart Residential Systems	William Goetzler, Navigant Consulting, Inc.	Smart Technologies and Connected Products: Early Adopter Toys or Gateways to Energy Savings?
		Eric Rubin, Energy Solutions	A Plug Load and Lighting Model for ZNE Residential Buildings
		Phillip Kelsven, Bonneville Power Administration	A Look Inside the Eye on the Wall: Sub-metering Data Analysis of the Nest Thermostat

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	<b>ALTERNATES</b>	Stephen Pantano, CLASP	Demand DC: Adoption Paths for DC Power Distribution in Homes
		Theresa Pistochni, University of California Davis	Sub Wet Bulb Evaporative Chillers for Building Cooling Systems
		Ebony Mayhorn, Pacific Northwest National Laboratory	Load Disaggregation Technologies: Real World and Laboratory Performance