

**Panel on Review of Selected Divisions of the
National Institute of Standards and Technology (NIST)
Engineering Laboratory (EL)
May 14-16, 2024**

**SUB-PANEL AGENDA
ENERGY-EFFICIENT, HIGH-PERFORMANCE BUILDINGS GOAL
(All times are EDT)**

For activities before 12:30 p.m., please see the master agenda.

DATA GATHERING SESSIONS (OPEN TO THE PUBLIC)

Location: Building 226, Room B205

12:30 – 1:30 p.m. **Goal Overview: Energy-Efficient, High-Performance Buildings**, William Healy, Chief, Building Energy and Environment Division, Engineering Laboratory (EL)

1:30 – 2:15 p.m. **Net-Zero Energy, High-Performance Buildings Program Overview**, Gregory Linteris, Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC&R) Equipment Performance Group, EL

2:15 – 2:30 p.m. *Break/Transition*

Location: Building 208

2:30 – 3:15 p.m. **Tour: Net Zero Energy Residential Test Facility**, Brian Dougherty, Heat Transfer and Alternative Energy Systems Group, EL

3:15 – 3:30 p.m. *Break/Transition*

Location: Building 226, Room B205

3:30 – 4:15 p.m. **Embedded Intelligence in Buildings Program Overview**, William Healy, Chief, Building Energy and Environment Division, Engineering Laboratory (EL)

Location: Building 226, Room A122

4:15 – 4:45 p.m. **Tour: Intelligent Building Agents Laboratory**, Amanda Pertzborn, Mechanical Systems and Controls Group, EL

4:45 – 5:00 p.m. *Break/Transition*

For activities after 5:00 p.m., please see the master agenda.

Wednesday, May 15, 2024

DATA GATHERING SESSIONS (OPEN TO THE PUBLIC)

Location: Building 226, Room B205 (Meet at Building 101 – to get on the NIST bus to Lab Tour)

9:00 – 9:15 a.m. **Overview of Day**, William Healy, Chief, Building Energy and Environment Division, EL

Location: Building 226, Room B313

9:15 – 9:35 a.m. **Photovoltaic Characterization Laboratory**, Behrang Hamadani, *Heat Transfer and Alternative Energy Systems Group, EL*

Location: Building 226, Room A310

9:35 – 9:55 a.m. **Indoor Air Quality Laboratory**, Dustin Poppendieck, *Indoor Air Quality and Ventilation Group*

9:55 – 10:00 a.m. *Transition*

Location: Building 226, Room B205

10:00 – 10:45 a.m. **Poster Session**

- **Metrics & Tools for Sustainable Buildings**, Joshua Kneifel, *Applied Economics Office, EL*
- **Ventilation for Novel Sustainability and Resilience Challenges**, Lisa Ng, *Indoor Air Quality and Ventilation Group, EL*
- **Ventilation and Indoor Air Quality in Low-Energy Buildings**, William Dols, *Indoor Air Quality and Ventilation Group, EL*

10:45 – 11:00 a.m. *Break/Transition*

Location: Building 226, Room B115

11:00 – 11:20 a.m. **Guarded Hot Plate Laboratory**, Jae Hyun Kim, *Heat Transfer and Alternative Energy Systems Group, EL*

Location: Building 226, Room B127

11:20 – 11:40 a.m. **Refrigerant Measurements**, Gregory Linteris, *HVAC&R Equipment Performance Group, EL*

11:40 a.m. – noon *Break/Transition*

Location: Building 101, Heritage Room

Noon – 1:00 p.m. **Working Lunch with Postdocs and Early Career Staff**

1:00 p.m. – 1:15 p.m. *Break/Transition*

Location: Building 226, Room A106

1:15 – 1:30 p.m. **Plumbing Hydraulics Laboratory**, Lingnan Lin, *HVAC&R Equipment Performance Group, EL*; Tania Ullah, *Heat Transfer and Alternative Energy Systems Group, EL*

Location: Building 226, Room B05

1:30 – 1:45 p.m. **Water Heater Laboratory**, Tania Ullah, *Heat Transfer and Alternative Energy Systems Group, EL*

Location: Building 226, Room A126

1:45 – 2:25 p.m. **Ground Source Heat Pump Laboratory**, Harrison Skye, *HVAC&R Equipment Performance Group*

2:25 – 2:30 p.m. *Transition*

Location: Building 226, Room B205

2:30 – 3:15 p.m.

Poster Session

- **Semantic Interoperability for Building Data**, Parastoo Delgoshaei, *Mechanical Systems and Controls Group, EL*
- **Automated Fault Detection and Diagnostics for Mechanical Systems in Commercial Buildings**, Daniel Veronica, *Mechanical Systems and Controls Group, EL*
- **Transactive Energy for Effective Integration of Customer Flexibility**, David Holmberg, *Mechanical Systems and Controls Group, EL*

3:15 – 3:30 p.m.

Break/Transition

Location: Building 226, Room A114

3:30 – 3:50 p.m.

Fault Detection and Diagnostics for Air Conditioners and Heat Pumps,
Vance Payne, *HVAC&R Equipment Performance Group, EL*

Location: Building 226, Room B125

3:50 – 4:30 p.m.

Virtual Cybernetic Building Testbed and Electrical Measurements,
Michael Galler and Farhad Omar, *Mechanical Systems and Controls Group, EL*

Location: Building 226, Room B205

4:30 – 5:00 p.m.

Wrap-up

For activities after 5:00 p.m., please see the master agenda.