

Industry Advisory Board Meeting Fall 2024

Industry Partner Happy Hour: Wednesday, October 23, 5-7 pm PDT

Join us for networking and tours of our research facilities at 390 Wurster Hall, UC Berkeley Open to Industry Partners and Invited Guests. Drinks and appetizers will be served.

Plenary Session: Thursday, October 24, 8:15 am-5:00 pm PDT

Pauley Ballroom East, UC Berkeley at 2495 Bancroft Way [Hybrid sessions also via Zoom] Open to Industry Partners, Invited Research Affiliates and Guests

8:15 am **Registration and Breakfast**

9:00 am **Session One: Design Standards and Methods [begin Zoom webinar]**

9:00 am **Welcome and Participant Introductions**

> **Indoor Environmental Quality in WELL and LEED-Certified Buildings** Stefano Schiavon, Prof. of Architecture and Civil & Environmental Engineering

A comparison of occupant satisfaction as measured by the CBE Occupant Survey

in LEED and WELL-certified buildings.

9:40 am

9:20 am

Factors Shaping View Satisfaction:

Insights from a Human Subject Experiment Sun Woo Chang, PhD Student in Building Science, Technology and Sustainability

Key findings from human-subject experiments on how factors such as observer

proximity, window size and shading affect view satisfaction.

10:00 am Computational Approaches for Sustainable Design

Ramon Weber, Assistant Professor of Architecture

Graph-based algorithms and generative design methods unlock new insights into

building performance.

10:25 am Networking Break (25 min.)

10:50 am **Keynote** [Hybrid]



10:50 am Keynote Presentation: Prof. Daniel Kammen

Prof. Kammen is the James & Katherine Lau Distinguished Professor of Sustainability, with appointments in the Energy and Resources Group, Goldman School of Public Policy and the Dept. of Nuclear Engineering at UC Berkeley.

11:30 am Lightning Presentations [Hybrid]



Mainstreaming Personal Comfort Devices (PCDs) with Modular Controls Charlie Huizenga, Research Specialist

New work will advance the design and adoption of PCDs with a new generation of devices, a personal control hub and a digital PCD ecosystem.

Overheating Risk and Energy Impacts in California Residential Buildings Harry Jiang, MS Student in Building Science, Technology and Sustainability We assessed heat resiliency to identify communities at risk and analyzed the energy impacts of the additional mechanical cooling needed in millions of homes.

Embodied Water Impacts for Landscape Architecture

Angela Kou, MS Student in Building Science, Technology, and Sustainability A pilot investigation and methodology for assessing strategies to reduce impacts of landscaped and hardscaped areas.

Mapping Advanced Facades

Vito Lamberti, PhD Student from Polytechnic of Bari, Italy Creating a facade taxonomy and documentation of case studies.

New OpenStudio Tools for Radiant System Design

Carlos Duarte, Assistant Professional Researcher

We present new software tools created in collaboration with the National Renewable Energy Laboratory, applicable to any whole-building energy model.

12:00 pm Lunch

1:00 pm Session Two: Partner Presentations and New Research Directions [Hybrid]



1:05 pm Partner Presentations

1:25 pm Spatial Thermal Autonomy: Enhancing Building Design Towards Comfort, Heat Resilience and Energy Autonomy

Tobias Kramer, Postdoctoral Researcher

We introduce a novel Spatial Thermal Autonomy metric that addresses variability in thermal comfort and emphasizes energy autonomy.



Recirculating Range Hoods

Jiayu Li, Postdoctoral Researcher

A laboratory study revealed unexpected air pollutant concentrations resulting from gas or induction cooktops, with and without recirculating range hoods.

Comparison of Gas and Induction Cooktops and the Effectiveness of



2:05 pm

1:45 pm

Life Cycle Assessment Research Program and a Critical Review of LCA Studies on MEP Systems

Matt Roberts, Postdoctoral Researcher

Key findings from past LCA studies focused on building MEP systems, plus updates on two large upcoming LCA projects.

2:25 pm Networking Break (20 min.)

Session Three: Controls and HVAC Research [Hybrid] 2:45 pm



2:50 pm Full-Scale Laboratory Test of a Convection-Enhanced Radiant Ceiling Panel System

Ying Li, Senior Research Engineer at Sanken Setsubi Kogyo Co. Ltd. A study in the CBE controlled environment chamber assessed the effects of chilled water supply temperature and varying the radiant ceiling panel coverage.



3:05 pm **Evaluation of an Improved Cost-Responsive Supply Air Temperature Control Strategy**

Yan Wang, Postdoctoral Researcher

We used simulations to evaluate energy cost savings of a lightweight version of a cost-responsive supply air temperature reset strategy for VAV systems.



3:20 pm **Decarbonizing Existing Large Commercial Buildings Through Heat Recovery and Storage**

Paul Raftery, Professional Researcher

Upcoming opportunities to collaborate on a multi-year project to evaluate emissions reduction pathways in existing and new buildings: interviews, case studies, simulation studies, data analysis and demonstration work.

3:40 pm Closing Remarks for Zoom Participants [Conclude Zoom webinar]

3:45 pm Break (15 min)

4:00 pm **Breakout Sessions**

4:00 pm **Breakout Table Topics**

CBE staff and partners will lead roundtable discussions with in-person participants, focusing on current topics of concern to research and industry. (Topics will be made available soon.)

4:50 pm **Conclude Plenary Session**

5:00 pm **Cocktail Hour and Dinner,** Cal Alumni House, UC Berkeley Campus

Executive Session: Friday, October 25, 8:30 am-12:00 pm PDT

The Magnes Collection, 2121 Allston Way, Berkeley, CA [Hybrid sessions also via Zoom] Open to Industry Partner Representatives (two per supporting firm or membership team)

Optional Lunch in Downtown Berkeley

8:30 am	Continental Breakfast
9:00 am	Introductions and Director's Message [begin Zoom webinar]
9:30 am	Advisory Board Meeting
	Moderated by CBE Partner Vice Chair Shruti Kasarekar. Faculty and research staff will seek feedback and ideas for collaboration related to CBE's FY 2025-2026 research portfolio.
10:30 am	Break [conclude Zoom webinar]
10:45 am	Breakout Discussion
	To advance interaction we will break into smaller groups centered around related topical areas.
12:00 pm	Conclude Executive Session