

Plenary Session: Wednesday, April 27, 8:15 am-4:45 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 – 10:25 am

Morning Session: Architectural Systems and Devices [\[Hybrid\]](#)

9:00 am

Welcome and Participant Introductions

9:20 am



Use of Electric Fans During Heatwaves: Research Results and a New CBE Online Tool

Charlie Huizenga, Research Specialist

A heat-balance model was used to predict under which thermal condition electric fans are beneficial in preventing heat strain during heatwaves. The model is now included in the CBE thermal comfort tool.

9:40 am



A Cassette for Personal Heating and Cooling in Office Chairs

Edward Arens, CBE Director

An interdisciplinary team of Berkeley students recently created new prototypes for a personal comfort ‘cassette’ that can be added to several off-the-shelf office chairs.

10:00 am



Life Cycle Impacts of Timber Unitized Curtain Wall

Isabelle Hens, Atelier 10 and MS Graduate

This MS thesis study compared the embodied carbon impacts of conventional metal curtainwall construction with a timber prototype, using potential construction sites in North America and global supply chains.

10:20 am

Break (20 min.)

10:40 am – 12:10 pm

Mid-Morning Session: Building Decarbonization [\[Hybrid\]](#)

10:45 am



Getting Out of Hot Water: Results from Standby Heating Tests

Paul Raftery, Professional Researcher

We performed standby heat loss testing to measure hot water distribution losses in large commercial buildings in operation. This presentation will discuss the results and implications

11:05 am



Scalable Fault Detection Using the BRICK Schema

Carlos Duarte, Assistant Professional Researcher

This metadata schema can standardize semantic descriptions of the physical, logical and virtual assets in buildings and the relationships between them. We will showcase a new fault detection application facilitated with BRICK.

11:30 am



Boiler Retrofits and Decarbonization in Existing Buildings: HVAC Designer Interviews

Emily Lamon, MS Student

This work presents final results from our investigation of challenges to electrification of existing buildings, based on a series of interviews with expert mechanical engineers.

11:50 am



Modeling Energy Efficiency and Grid Flexibility of Community Building-Vehicle Networks

Yingdong He, Postdoctoral Scholar

We present results from a recent study to provide understanding, practical tools and instructive guidelines to support the development of energy-flexible building-vehicle networks.

12:10 pm

Lunch and Networking (60 min)

1:10 pm

Keynote and Partner Presentations [Hybrid]

1:10 pm



Living in a Material World: How the Surfaces that Surround You Affect What You Breathe

Richard L. Corsi, Dean of College of Engineering, UC Davis

This presentation will address indoor air quality, including how materials impact IAQ using several examples that reflect interfacial phenomena and influencing factors. The potential for smart use of materials for improvement of IAQ will also be discussed as a rich topic for future research.

2:10 pm

New Partner Presentations: CallisonRTKL and Clark Pacific

2:20 pm

Short Break (15 min)

2:35 – 4:00 pm

Afternoon Session: Creating Healthy, Sustainable Environments

2:40 pm



Impacts of Personal Factors on Satisfaction with the Indoor Environment

Stefano Schiavon, Assoc. Prof. of Architecture and Civil & Environmental Eng.

We will present interesting new results showing that people with higher job and life satisfactions are more likely to be satisfied with aspects of the indoor environment.

3:00 pm



How Dissatisfaction with Privacy and Space Influences Overall Workspace Satisfaction

Thomas Parkinson, Assistant Professional Researcher

New analysis of the CBE Occupant Survey data in the context of contemporary office designs reveals that the overall dissatisfaction with workspaces is largely influenced by two key issues.

3:15 pm



Results That Matter: Reflections on a Career of Applied Research to Support Comfortable and Low-Energy Buildings

Fred Bauman, Research Scientist (retired)

Fred Bauman will reflect on his 40-year career creating and leading cross-cutting research programs on important topics including radiant systems, underfloor air distribution, displacement ventilation and more.

3:45 pm

Closing Remarks for Zoom Participants [[Conclude Zoom webinar](#)]

Break (15 min)

4:00 pm – 4:45 pm

Breakout Session

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.

4:45 pm

Conclude Plenary Session

5:00 pm

Cocktail Hour and Dinner at the Berkeley City Club

2315 Durant Avenue, Berkeley

Executive Session: Thursday, April 28, 8:00 am-12:00 pm PDT

Brower Center 2150 Allston Way, Berkeley, CA [[Hybrid via Zoom](#)]

Open to Industry Partner Representatives (two per supporting firm or team; one for small business partners)

8:00 am **Continental Breakfast**

8:30 am **Introductions and Director's Message [[begin Hybrid webinar](#)]**

9:00 am **Advisory Board Meeting**

Moderated by CBE Partner Chair, Andrew Reilman; and CBE Partner Vice Chair, Isabelle Lavedrine. CBE staff will present and solicit feedback regarding CBE's 2022-23 research portfolio.

10:30 am **Break**

11:00 am **Advisory Board Meeting, continued**

Continue discussion of 2022-23 research proposals and also additional topics for the future.

12:00 pm **Conclude Executive Session [[Conclude Zoom webinar](#)]**

Optional Lunch in Downtown Berkeley