



## Industry Advisory Board Meeting: October 19-21, 2020

### Monday, October 19, 11:00 am-12:30 pm PDT: Research Update #1

Optional: 12:30 pm-1:00 pm PDT: Breakout Discussion Groups with Researchers

*Open to Industry Partners, Invited Research Affiliates, and Guests.*

- 11:00 am**      **Welcome and Announcements**  
Breakout Rooms
- 11:15 am**      **Effect of Carbon Dioxide on Occupant Cognitive Performance and Physiological Parameters** (*Stefano Schiavon*)  
Some studies found that CO<sub>2</sub> may affect cognitive performance, while others did not. We conducted a literature review and performed studies with human subjects on the effects of CO<sub>2</sub> on cognitive performance and physiological parameters.
- 11:35 am**      **Improved Long-Term Thermal Comfort Indices using Continuous Monitoring** (*Thomas Parkinson*)  
Most existing indices for assessing long-term thermal comfort have weak correlations with observed satisfaction. We used continuous temperature measurements and occupant surveys to develop a new index which better matched occupant comfort.
- 11:50 am**      **Targeted Occupant Surveys: A Novel Method to Trigger Feedback Based on IEQ Measurements** (*Carlos Duarte*)  
We developed a survey platform that uses real-time feedback to push out targeted occupant surveys when specific indoor environmental conditions occur. Our goal is to minimize collected data redundancy and disruptions to participants.
- 12:05pm**      **Communicating Information About Indoor Air Quality** (*Lindsay Graham*)  
New findings reveal how occupants understand information on indoor air quality. We will provide both quantitative and qualitative results on how people use various visualization concepts and how they interpret the information provided.
- 12:25 pm**      **Closing Announcements**
- 12:30 pm**      **Breakout Rooms:** Today's speakers will be available to respond in more detail to questions about their talks and to discuss related topics.
- 1:00 pm**      **Conclude**

## **Tuesday, October 20, 11:00 am-12:30 pm PDT: Research Update #2**

**Optional: 12:30 pm-1:00 pm PDT: Breakout Discussion Groups with Researchers**

*Open to Industry Partners, Invited Research Affiliates, and Guests.*

- 11:00 am**      **Welcome and Announcements**  
Breakout Rooms
- 11:15 am**      **Perspectives on Environmental Analysis and Design** (*Giovanni Betti*)  
Giovanni Betti, who joins Berkeley's architecture faculty this fall, will present examples of his professional work, and insights on building performance, sustainability, and integrating architectural design and building physics.
- 11:30 am**      **Acoustical Intervention Study in Wurster Hall** (*Felipe Tavera, Salter Associates*)  
We will present results of a retrofit for improving speech intelligibility in a conference room, which can inform the design of teleconferencing spaces. The discussion will focus on comparing actual results with common prediction methods.
- 11:45 am**      **Reducing the Risk of Mold Growth on Humid Surfaces** (*Rachel Adams, California Dept. of Public Health, and Hui Zhang*)  
Mold in indoor environments is associated with negative health effects, and technological developments are needed for its detection and elimination. We will give an overview of the current state of research and present results from a recent laboratory study.
- 12:05 pm**      **A Window View Quality Assessment Framework** (*Won Hee Ko*)  
We have developed a framework that provides designers with a comprehensive approach for evaluating window view quality. This combines various sources (current daylighting standards, green certification systems and scientific literature) with three underlying categorical variables (content, access and clarity).
- 12:25 pm**      **Closing Announcements**
- 12:30 pm**      **Breakout Rooms:** Today's speakers will be available to respond in more detail to questions about their talks and to discuss related topics.
- 1:00 pm**      **Conclude**

## Wednesday, October 21, 11:00 am-12:30 pm PDT: Executive Session

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

### 11:00 am **Welcome and Announcements**

Director's Message  
Overview of 2021-22 research ideas

### 11:30 am **Focus Groups to Discuss Future Research Ideas**

Proposed topic areas, led by CBE research staff (see pages 45-49 in booklet):

#### **Breakout #1: Energy and HVAC Systems**

*Moderators: Andy Reilman (Integral Group), Paul Raftery*

*Additional presenters: Carlos Duarte, Tom Parkinson, Yingdong He, Fred Bauman*

1. Guide for Commercial Office Building Electrification
2. Overcooling in Offices
3. Balancing Energy Efficiency and Storage Degradation of a Community Building-vehicle Network
4. Rad Tool Feature Addition

#### **Breakout #2: Facades and Architectural Systems**

*Moderators: Mark Perepelitza (SERA), David Lehrer*

*Additional presenters: Giovanni Betti, Stefano Schiavon*

5. Potential of Textile Exhaust Cavity Facades (TECF) in the North American Market
6. Between Clothes and Walls
7. Occupant Satisfaction with Window Views
8. Acoustical Integration Case Study at AIASF Offices

#### **Breakout #3: Indoor Environment and Occupant Experience**

*Moderators: Isabelle Lavedrine (CPP Wind), Lindsay T. Graham*

*Hui Zhang, Ed Arens, Gail Brager, Charlie Huizenga*

9. Impact of Ceiling and Desk Fans on Spread of Airborne Pathogens
10. Minimizing CO2 Inhalation During Sleep
11. Developing an Evidence Based Indoor Heat Threshold for Residential Buildings
12. Room Air Ultrasonic Anemometer

### 12:30 pm **Conclude**