



Industry Advisory Board Meeting: October 24-25, 2019

Thursday, October 24: Plenary Session

Pauley Ballroom at UC Berkeley, 2495 Bancroft Way

*Open to Industry Partners (seven per supporting firm or team; three for small business partners),
Invited Research Affiliates, and Guests*

- 8:30 am** Continental breakfast and registration
- 9:00 am** Welcome and Director's message
- 9:10 am** Announcements and introductions
- 9:40 am** **RESEARCH PRESENTATIONS AND DISCUSSION**
- 1. Surveys for Measuring Workplace Wellbeing** (*Lindsay Graham*)
New survey tools for assessing occupant wellness for WELL certification and biophilia within the workplace.
 - 2. Air Movement Program**
Air Movement in Hot and Humid Climates (*Stefano Schiavon*)
Overview of the research in Singapore focused on increased air movement.
HVAC Room Air Distribution Using Ceiling Fans (*Hui Zhang*)
Results from a human subject thermal comfort study.
Introducing the CBE Fan Tool (*Paul Raftery*)
A new web tool for designing with ceiling fans.
- 10:40 am** Morning Break / Demos in Lobby
- 11:10 am** **RESEARCH PRESENTATIONS AND DISCUSSION (CONTINUED)**
- 3. Autonomous Systems Using Infrared Vision** (*Ali Ghahramani*)
Development of comfort sensing-based technologies for minimizing energy consumption and improving comfort.
 - 4. Personal Comfort Systems in Cool Environments** (*Ed Arens and Yingdong He*)
Subject test results with local heating devices in cool environmental conditions to investigate thermal pleasure.

5. **The Impact of a View from a Window on Thermal Comfort, Emotion, and Cognitive Performance** (*Won Hee Ko*)
Results of a laboratory study investigating the effects of visual connection to the outdoors.
- 12:00 pm **NEW PARTNER PRESENTATION:** Red Car Analytics and KieranTimberlake
- 12:15 pm Lunch
- 1:15 pm **KEYNOTE: New Science on Biophilic Design**
Bill Browning, Co-Founder, Terrapin Bright Green
- 2:15 pm **BREAKOUT SESSION: Roundtable Research Discussions**
CBE team members and industry partners will moderate roundtable discussions on research topics for feedback and discussion of potential resources and collaborations.
- 3:15 pm Afternoon Break / Demos in Lobby
- 3:45 pm **RESEARCH PRESENTATIONS AND DISCUSSION (CONTINUED)**
6. **Using the Internet of Things to Advance Indoor Air Quality Sensing** (*Jovan Pantelic*)
Guideline for the application of IoT air quality sensing.
7. **Nudging the Adaptive Comfort Model** (*Gail Brager*)
New analysis revisiting the original adaptive comfort model and suggesting nudges to theory, standards, and practice.
8. **How Do You Control This Thing Anyway?** (*Hwakong Cheng, Taylor Engineering*)
Demonstrating the benefits of HVAC control with ASHRAE Guideline 36.
- 4:25 pm **LIGHTNING SESSIONS (FIVE-MINUTE PROJECT UPDATES AND SUMMARY RESULTS)**
9. **Zero Carbon Buildings Feasibility Study** (*Bill Eisenstein, Center for Resource Efficient Communities (CREC), UC Berkeley*)
A new tool to explore the feasibility of zero carbon building construction across California by 2050 using established strategies of low-carbon construction.
10. **Uniform Thermal Comfort from Ceiling Fans** (*Tom Parkinson*)
Results of air speed measurements in an office with fans blowing up and down.
11. **Is Anyone Home?** (*Ben Taube*)
Using simulation to evaluate the energy and comfort effects of errors from occupancy sensing thermostats.
12. **New Funding: Cal-EPE Hub and CalTestBed Initiative** (*Fred Bauman*)
Introduction to two new grants, including \$9M in funding opportunities for entrepreneurs to evaluate innovative clean energy technologies.
- 5:00 pm **ADJOURN PLENARY SESSION**
- 5:30 pm **HAPPY HOUR AND DINNER:** Berkeley City Club, 2315 Durant Avenue

Friday, October 25: Executive Session
David Brower Center, 2150 Allston Way, Berkeley

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

- 8:00 am** Continental breakfast
- 8:15 am** Introductions and partner impressions
- 9:00 am** Director's Report: Edward Arens
- 9:15 am** **ADVISORY BOARD MEETING**
Moderators: CBE Partner Chair, Andrew Reilman; and CBE Partner Vice Chair, Isabelle Lavedrine
Review new research ideas for FY 2020-21
- 10:30 am** Break
- 10:45 am** **ADVISORY BOARD MEETING CONTINUED**
Review new research ideas for FY 2020-21 (continued)
Partner discussion
- 11:45 am** Confirm next Industry Advisory Board Conference: April 21-23, 2020
Closing comments
- 12:00 pm** **ADJOURN EXECUTIVE SESSION**