



NSF BEST Center - National Workshop

High Performance Building Technician Education: Skill Requirements and National Certification

January 7-10, 2015 – Lawrence Berkeley National Lab & Laney College

AGENDA

- January 7** **Lawrence Berkeley National Lab - Perseverance Hall**
- 8:30 Registration and continental breakfast
- 9:00 Welcome – Mary Ann Piette, Head of LBNL Building Technology & Urban Systems Dept.
- 9:10 Introduction of Participants
- 9:30 *Workshop Objectives and Overview of NSF BEST Center*– Peter Crabtree, *BEST Center PI*;
Larry Chang, BEST Center Program Manager
- 10:00 ***Defining the Skills of Technicians in High Performance Buildings: An Energy Manager’s
Perspective*** - Chuck Frost, Energy Manager, UC Berkeley and ECT Instructor, Laney
College; Dianne Cariger and Chris Aurima, Stationary Engineers, UC Berkeley
- 11:00 Break
- 11:15 *Existing Building Commissioning: Current practices and new developments* – David Jump,
QuEST
The Role of the Technician in Ensuring the Persistence of Savings - Mary Ann Piette
- 12:30 Lunch/networking
- 1:15 Lunch Presentation
Lighting Controls - Opportunities for low-energy lighting systems, combining occupancy
sensing and daylighting dimming - Peter Schwartz, LBNL
- 1:45 Break
- 2:00 ***Benchmarking and the Building Performance Database:*** Overview and demo of
traditional and new web-based Building Performance Database tools for presenting
building data and exploring low-energy systems performance – Andrea Mercado, LBNL
- 3:00 *Facilitated Discussion: Reflections on Presentations and Implications for Technician
Education* - led by Brian Lovell, GA Piedmont Tech. College & BEST co-PI
- 4:00 Shuttle to FLEXLAB

- 4:15 **Facility for Low-Energy Experiments in Buildings (FLEXLAB) Tour** – test facility for integrated systems (façade, lighting, HVAC, plug loads) and potential model for commercial instructional lab space and system - Cindy Regnier, LBNL
- 5:30 Networking dinner - Faculty Club, UC Berkeley
- Living in a Carbon Constrained World* - Ashok Gadgil, Professor of Civil and Environmental Engineering, UC Berkeley, Director of the Energy and Environmental Technologies Division of LBNL
- Presentations: *Commercial HVAC BAS Lab Prototype* - Bob Clark, College of Dupage
 BAS Lab Package with Kele, Inc. - Brian Lovell
- 7:30 Adjourn, return to hotel
- January 8 Lawrence Berkeley National Lab - Perseverance Hall**
- 8:30 Breakfast/networking
- 9:00 ***Energy Management and Information Systems*** – *Use of monitoring systems and control data to present actionable information for building operations. Applications in both large and small buildings* - Jessica Granderson, LBNL
- 10:00 *Facilitated Discussion* - led by Ted Wilinski, Milwaukee Area Tech. College & BEST co-PI
- 11:00 Break
- 11:15 *Indoor Air Quality - Summary of current LBNL work in the US DOE Building America program*, Iain Walker, LBNL
IAQ instructional best practices, Craig Barnett, LA Trade Tech College
- 12:30 Lunch/ networking
- 1:30 ***Automated Demand Response*** – *Overview of DR automation around the US, trends in technology, practical issues for facility operations*, Mary Ann Piette
- 2:30 *Facilitated Discussion* - led by Joe Jacobsen, Energy Innovation Center & BEST co-PI
- 3:30 Break
- 3:45 ***Behavior and Energy Use*** – *Summary of current R&D and implications for low-energy buildings* - Rick Diamond, LBNL
- 4:45 **Demand to Grid Lab Tour**, Janie Page LBNL
- 5:30 Dinner, UC Faculty Club
- Industry Panel Discussion: Emerging Trends in Building Performance Technology
- 7:30 Adjourn, return to hotel

January 9 **Laney College - Bistro**

8:30 Breakfast/networking

9:00 ***Overview of DOE Better Bldgs. Workforce Initiative and Job Task Analysis*** – Peter Crabtree

9:30 ***Supporting the Transition to High Performance Buildings: New Skill Standards for Building Technicians*** - Paul Ehrlich, Building Intelligence Group

11:00 Break

11:15 **First Draft of Proposed High Performance Bldg. Technician Certification** – Paul Ehrlich

12:15 Lunch/ networking

1:00 Facilitated small group discussions of draft certification

2:30 Groups finish and report out/ discussion

4:30 Break/ tour of Laney ECT labs

5:30 Dinner and special event (or free evening)

January 10 **Laney College - Bistro**

8:30 Breakfast/ Instructors complete presentations

9:00 ***Action Plan presentations*** – instructors and college teams

12:30 Working lunch

1:00 Wrap-up discussion, feedback and evaluations

1:45 Adjourn and depart