

1) Attendees:

- In person: Alison Farmer (kW Engineering), Dan Doyle (Grumman Butkus), Craig Wray (LBNL), Brad Cochran (CPP), Sam Cole (UC Davis), Justin Lewis (UC Davis), Chuck McKinney (Aircuity), Emily Dietrich (U Alberta), Terence Alcorn (ZGF), Patrick Dwyer (UCSF), Sweta Agarwal (UC Davis), Paul Leitch (U Toronto), Geethadevi Kulamarva (Gradus).
- Call-in: Michelle Ruda (BR+A), Vikram Sami (ZGF), Tim Deak (ZGF)
- Apologies received from many group members who could not be at the conference or whose travel schedules made it impossible to stay beyond the closing reception.

2) History and intros:

- Alison gave an overview of the group's mission and progress during its first year of existence. (See past meeting minutes at <http://i2sl.org/working/benchmarking.html>.)
- Thanks to all group members for a great first year!
- Great energy at the conference and lots of productive conversations about benchmarking.
- Proposed path forward is open for discussion, but discussion will close and action will begin by the end of the year.

3) Announcements:

- Energy Star is coming for pharma labs. The EPA is requesting data submissions ONLY from pharma R&D facilities. Data will be used to develop the regressions used for Energy Star ratings. The input spreadsheet is based on that used by the Labs21 tool. The deadline for submission is currently Nov 1. Please contact Alison if you know of a facility with data and she'll send you the spreadsheet.
- I²SL is planning more collaboration between the working groups. In particular, there should be good synergy between this group and the continuous improvement program group. Stay tuned.
- Michelle mentioned her involvement with the cities of Boston and Cambridge regarding energy use disclosure ordinances. Desire among lab facilities to make sure their energy use is presented in context. Michelle will keep us updated as to how we can help. Dan mentioned opportunity to reach out to other cities with such ordinances to make them aware of Labs21 tool as a resource.
- Alison will be reprising her presentation from Monday (plus some of Craig's presentation) next Tuesday (1pm-2pm Eastern) as a webinar for the Better Buildings Alliance labs team. Let Alison know if you would like details on how to listen in.
- Craig Wray is retiring from LBNL at the end of this month. Thank you Craig for all of your contributions to the work of the group (and to our field as a whole!). We all very much hope you will stay in touch.

4) Conference presentations and discussion:

- Craig summarized his excellent presentation of the 2010 ACEEE paper on lab benchmarking (with updates).
- Alison summarized her presentation and her proposed path forward based on the year's discussions, on the survey responses, and on what can be achieved using limited funding.
- Very brief summary of 2 proposed parallel paths (much more can be said about each of these):
 - i. **Future of Labs21 tool:**
 1. **Establish home on LBNL server**
 2. **Train external data validation team (working group members)**
 3. **Make incremental improvements to interface and documentation (PHP programmer needed), and re-run regression analysis to validate approach**
 4. **Use I²SL network to promote data submission and continued use**
 - ii. **Answering important questions with statistical and demographic data:**
 1. **Targeted, specific investigations**
 2. **Collate info from other studies**
 3. **Present information alongside link to benchmarking tool on I²SL website**
 4. **Examples: lab plug loads, total lab area, min ACH policies**
- The two presentations will be archived on the group's website for future reference.
- The Tableau file with some survey results data will also be posted to the website.
- Dan suggested publicizing the group's work via Lab Design Newsletter. Alison will follow up with Lindsay Hock.
- Group discussion of ownership of and access to the existing Labs21 benchmarking tool. The tool and the database are owned and maintained by LBNL. Funding is expiring. Group discussion about the pros and cons of maintaining LBNL as host. Alison, Phil Wirdzek, and Paul Mathew are working on establishing the best path forward for the medium term (next few years). Long-term the solution may be different.

- Geetha offered to submit data from labs in India – this would be most welcome.
- Alison mentioned a suggestion from Z Smith (session moderator on Monday) to do building “speed dating” as an alternative to traditional benchmarking – matching buildings up with a facility with similar functional requirements to enable discussion of their differences. This is a great idea.
- Thanks to Justin, the group was able to project the Labs21 tool on the screen and use it “live” to identify areas for improvement. We need a “wishlist” to start building a spec for tool improvements.
- Discussion of confusion around “operating hours” as a question.
- Dan suggested including water usage, CO₂ emissions, and energy cost as metrics. The survey did not reveal these to be high priority, but if low effort then we should consider them anyway.
- Discussion of weather normalization of energy data (not currently done) and associated complications. This needs thought. Dan pointed out that Energy Star recently removed HDD normalization for hospitals.
- Source energy is confusing and can be skewed by e.g. campus cogen plants.
- Emily suggested providing examples of tool use (by user type) alongside documentation. Also provide estimated time to use tool (like form “reporting burdens”).
- Possibility of “EZ” and long-form data entry options. Let’s keep references to taxes at a minimum...
- UC Davis team said it is not currently clear whether submitting more of the “optional” data yields more useful benchmarks (it does not).
- Automatic uploading of data from e.g. Portfolio Manager to Labs21 tool may be possible with facility permission.

5) Action items:

Item	Who	Due date
Redo regression analysis with current labs dataset.	Tim/Vikram	TBD (Alison will be in touch to discuss)
“Redline” Labs21 tool and associated documentation to identify useful upgrades. Focus on edits to existing tool and not on tool replacement.	UC Davis (led by Justin) U Alberta (led by Emily) Any other volunteers? This is your chance.	Next call (~1 month)
Search for PHP programmer, ideally volunteer. Student? Intern?	All	Ongoing
Work on LBNL permissions and access	Alison/Phil/Paul	Ongoing
LDN article – follow up with Lindsay Hock	Alison	1 week

6) Next call:

- Conference call in approx. 1 month
- In a few weeks, Alison will send out Doodle poll to establish convenient time for members.
- Alison will check in on action items ~1 week before next call.

Minutes prepared by Alison (afarmer@kw-engineering.com)

using excellent notes from Michelle and Dan

25 September 2015