

# UNC Green Labs

## Meeting Agenda

### Bondurant Rm. 3076

### 10/24/16

- ❖ Energy: Lab computers -

- Rob Noel & centralized rules. - 1) Power settings through group policy objects (domains - like a gang. Gang bosses tell computers how to act through group policy objects (GPO). Anything on computer can be forced. Sys prefs - power settings. Aside from the obvious common ones like hibernation, screen power, etc.; there are also rules with everything else and can customize it between groups. [Network card may not wanna mess with]; Newer stuff is more efficient. Much stuff comes stock with some energy management settings. 2) Desktop computers, 3) Servers (Two big and two little rooms - ITS Manning (big), 440 West Franklin. Have racks that are 6 ft tall and ~100 ft long); Used for storage, computing power, etc. Ongoing costs. Use power - many hundreds. It adds up. Reliable air conditioning because they generate heat. Web server doesn't need a lot of power or storage but needs to be on the network. \$1200 for typical physical server - go to virtual servers that exist within other computers, saved money. 80-90 virtual servers that run all the time/each. CofA&S 85% saved by going virtual. Available commercially as well - a server that's not on campus from somewhere else. Still more room to "virtualize". P to V conversion. Especially when life cycling. Matt Conley - runs ITS VM farm. Some things can't be virtualized - storage and computing power (e.x. clusters). Can get tour of server farm with Rob. 75% of labs are in School of Medicine. Virtualizing may be the best bang for the buck and have the least amount of push-back. Security reasons, cost savings, etc. Director of School of Med - audit - virtualized and not? Virtualizing in different ways.

- David Eckert - Hardware selection committee. In charge of CCI (students & departments).

- ❖ Energy: Stirling freezer -

- Thermo freezer testing - Jessica O'Hara - Thermo vastly outperforming the Stirling. 25 min recovery from 1 min. Going with the Thermo.

- ❖ Energy: Shut the sash competition in the Fall -

- Obie St. George (Energy Mgmt.)

- Cindy Register (Energy Manager)

- Everyone will be evaluating who should spearhead this. May have to put off until the Fall 2017.

- ❖ Energy: Smart labs accelerator - Bigger than Green Labs. Looking at the HVAC system as well as process load.

- ❖ Energy: Capstone for Spring 2017 -

- Capstone course around an energy audit.

- Have fume hood data in the new buildings that could be audited and analyzed. Partner with labs, gather data. Have energy meters. Learning objectives. Old vs. new for budgetary reasoning.
- Once figure this out, find partner labs/buildings. - Want to get buy in from higher ups so that the effort builds in on itself. Managers of the equipment. Med School Planning Office. Talk to lab first and then move up. Marsico & Genetic Medicine Genome Sciences for location.
- Cindy suggested to make it relevant to other labs in RTP. EPA and NIEHS has done a lot of energy reworking - fume hoods, etc. Talk to someone there. Christina contacted someone at NIEHS. Cathy will talk to EPA.
- Residual Current - best practices? Maybe measure common lab equipment (check out Boulder and Santa Barbara) - Still do this. Combine with earlier goal? What can we do now and what should we save for the students in the Spring? Small equipment can be on strips but not large equipment. Should and should not be on strips? Encourage use of strips for the equipment that can be.
- Overall goals with perhaps too large a scope for a single capstone: Operating practices, draw, storage, alarms on freezers, air changes, **plug load**, old equipment vs. new equipment, how well **managed the lab spaces** are, identify funding after and incentivize those actions, **scopes and mercury bulbs**. Page description - form. Meet with David if possible. Bold = proposed focus.
  - ❖ ReduceReuseRecycle: Glass waste issues -
    - Cathy could get out the word about overfilling and working out the best way to do that about the medium sized boxes.
    - Greenlabs and Cathy's newsletter could talk about it for promotion.
    - Have the option to take out the box yourself? Most people also aren't aware that housekeeping just takes it to the trash.
    - Educational campaign to make people aware of the consequences of overfilling.
    - Have been speaking to Vickie from housekeeping and she agrees that it is a serious concern.
    - Medium ones fit well under benches. You can use ANY cardboard box lined with a trashbag. Tape and put glass waste. Put this on the informational posters or whatever.
  - ❖ ReduceReuseRecycle: Pipet box recycling awareness campaign? -
    - Partly through Graduate Orientation. Maybe also through the storeroom and inserts that go into boxes.
    - Make something
    - Amy has contacted David Anderson in the Fisher Scientific supply storeroom. There was some reluctance and it would need to be approved by some higher-ups so we should talk about whether we think it is worth it to pursue.
  - ❖ ReduceReuseRecycle: Styrofoam boxes to the Vector Core & Gearing up for Recycling

in Aug -

- Big coolers at quota. Med and small, can take. Matt to be contact person. Email [msmith5@med.unc.edu](mailto:msmith5@med.unc.edu).

➤ Christina is drafting a succinct version of the Vector cooler needs from Matt. (ugh I need to do this!!)

❖ Energy: Green Guide checklist -

➤ Nita will do gap analysis for her lab (Chemistry).

➤ Someone from School of Medicine and Lineberger - have we heard back from them? ;

No updates. Table till Nita can come.

➤ Christina has analysis for Davie Hall labs.

❖ Energy, RRR: Virtual Green Lab Project! -

➤ Kristin's project; On sustainability website under resources.

<http://sustainability.unc.edu/resources/videos/>

❖ Energy: Meeting with RESPC to get ideas about next project or an energy audit -

➤ Might be doing prep and purchasing guide to get ready for the capstone.

❖ Energy: Toolkit partnership with NIEHS

➤ Trisha Castranio, Program Analyst, Global Environmental Health Program, National

Institute of Environmental Health Sciences (NIEHS)

➤ Way to get grant funding to encourage sustainability and resilience after a disaster.

➤ Green building perspective

➤ Common space - lights on shakers, multiple shakers not being used. Where the equipment is and how to share it. On campus, long distance. Sharing resources. Cold rooms - issue of getting there first and when goes down, begging others for space and not getting it because they were denied room at first.

➤ Would like: University perspective - size, politics,

➤ Kit: research preservation, does it have to happen in multiple spaces, what are the vulnerabilities of your space, people, research. Audit by GreenLabs.

➤ Spreadsheet with -

➤ Objective - get EHS to do an official audit but need a clear objective and approval etc.

➤ 85% recycling rate, compost in cafeteria, tip boxes, foil from autoclave, paper, reuse area - leave for a month, then give to scrap exchange.

❖ ReduceReuseRecycle: Todd O'Buckley - Lab Equipment Share/ Inventory-

➤ Do we want to do a campaign to raise awareness?

➤ In the directory: Lab Equipment Assistance Procurement, [leap@unc.edu](mailto:leap@unc.edu);

➤ anyone with UNC email can join. For lyris listserv, find and subscribe by

labequipmentassistanceprocurement.

➤ As long as it's not tagged and tracked no requirements - still can use transfer form for tagged things.

➤ How do we spread the word?? Expand to non-lab supplies? Christina will talk to Todd about other materials (hey Todd, let's talk!). Then sustainability could spread the word.

➤ Procurement office: new blood. Maybe talk to them about defaults or preferred practices.

Beau?

Nationwide study - plug loads - Stanford

Next meeting: WED Nov 30th, 2016- Bondurant 4076

**Attendees:**

Christina L., Amy P., Kristin B., Cindy Shea, Jessica O'Hara, Obie St. George, Cathy B., Jayne B. & another lab manager whose name I don't know because I didn't do introductions until after the meeting (LOL), Olivia  
Guest- Rob Noel, College of Arts & Sciences ITS