Sustainable Laboratories: A Vision for the Future



Laboratory Research And Technical Support (LabRATS)

The LabRATS program at UCSB assists lab managers and researchers to optimize resource conservation and research quality while using sustainable practices that leave the smallest environmental footprint. We bridge between academics and operations for optimal learning and efficiency. We include laboratory researchers in the UCSB campaign to make our campus sustainable. There is no other program like it. See Our Site!

Who we are: Staff and Students http://sustainability.ucsb.edu/LARS/people.php

Our Programs: (cooperating departments or links)

- Laboratory Assessments: Comprehensive; Behavior & Technology
 Surplus Equipment Exchange (Purchasing, Office of Research)
- Surplus Chemical Exchange (EH&S)Mercury Thermometer Exchange (EH&S)
- Campus Network (http://tech.groups.yahoo.com/group/LabRATS_UCSB/)
- o Hoods Off (EH&S, Facilities Management)
- o Efficient Appliances (EPA, LBNL, UCOP, Stanford, UNC, Harvard, etc.)
- Freezer RebatesBulb Free(Southern California Edison)(Facilities Management)

Best Practices in your lab:

- o Energy
- Water
- Solid Waste
- o Electronics and Equipment
- o Transportation
- Communications
- Chemicals

LabRATS Support comes from ... you!

Volunteers (Staff and Students)

Paid interns

Geography Department

Office of Research—workshop exchange

TGIF grants (Three successful in 2007)

Foundation grants

California Green Campus

LabRATS Outreach

UC Davis Laboratory Management Institute

UC Berkeley Chemistry Department

UC Sustainability conferences

Labs21 conference: San Antonio, TX; Charlotte, SC

Nationwide conference calls

Science feature article, October 5, 2007

Departmental Campaigns

Engineers Without Borders

Campuses across the United States (GRNSCH-L@listserv.brown.edu)

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LARS

Laboratory Assessments for Research Sustainability (LARS) evaluates lab procedures and assists researchers in conservation. Through voluntary enrollment, LARS goals are to 1) find out what conservation steps you already take, 2) brainstorm to find additional conservation measures 3) provide your lab with a product, service or information that will make your operation more efficient, 4) create a culture of collaboration and conservation in the research setting.

Assessment Process

The LARS assessment takes place in five simple steps.

Step 1: Informational Meeting

LARS representatives will walk through the laboratory with a lab member and gather basic information in areas of equipment, maintenance, lab safety, and experimental precautions.

Approximate Time Commitment: -Lab Staff: 30 minutes-1 hour

-LARS Representatives: 30 minutes-1 hour

 $Q_{u_{q_{lity}}}$ Communication Anality

Conservation Efficiency

Step 2: Data Collection

With permission from the lab manager, LARS representatives will collect data on equipment energy use, and general observations. While the lab manager's presence is encouraged, he/she does not have to be present for this step.

This step can be split up over multiple days if necessary.

Approximate Time Commitment: -Lab Staff: 0-3 hours

-LARS Representatives: 2-3 hours

Step 3: Interview

LARS representatives will have a sit-down interview with the lab manager. Information will be gathered on equipment, materials, water, training and awareness, communication, travel and commuting, fieldwork and innovation.

Approximate Time Commitment: -Lab Staff: 30 minutes-1 hour

-LARS Representatives: 30 minutes-1 hour

Step 4: Analysis

LARS representatives will compile and analyze the data gathered in Steps 1-3, recognize achievements, and evaluate opportunities for sustainable practices.

Approximate Time Commitment: -Lab Staff: 0 hours

-LARS Representatives: 4 days

Step 5: Certification and Next Steps

LARS representatives will schedule a meeting with all members of the laboratory to discuss findings and next steps. Full participation of PIs, staff, and student researchers is recommended and will bring remarkable results!

Lab personnel will have the opportunity to ask questions, offer feedback, and set their own goals for implementing sustainable practices. The lab will receive a certificate to acknowledge its participation in the program.

Approximate Time Commitment: -Lab Staff: ½-1 hour

-LARS Representatives: 1-2 hours