

LABORATORY & RADIATION SAFETY

Cornell University Department of Environmental Health & Safety

125 Humphreys Service Building, Ithaca, NY (Phone: 255-8200)

201 Palm Road, Ithaca, NY (Phone: 255-8200)

Web site <http://www.ehs.cornell.edu>

NEWS

Winter 2005

ENERGY CONSERVATION IN LABORATORIES

Laboratories are well known to be energy intensive facilities, consuming many times the energy use of the average non-lab academic buildings. Laboratories use large quantities of heated and cooled, one-pass air for ventilation and fume hoods; electricity to operate fans, lighting, and specialized lab equipment; and large quantities of water and process chilled water. Some laboratory facilities also use substantial quantities of natural gas.

For many years it has been assumed that lab buildings were always going to be expensive to operate. In the early years of the 21st Century we have experienced substantial, rapid increases in energy costs and an increased consciousness of the pending scarcity of natural resources and our responsibility to be good environmental stewards. Reduction in energy use results in more responsible resource management and pollution prevention while avoiding staggering energy costs.

Many improvements to facility design, including the computerized control of lab buildings, have led to very substantial energy savings in recently constructed lab buildings. However, many of these energy saving improvements are only fully effective if the people working in the labs are also involved in the energy conservation efforts. There are a number of things that YOU can do to reduce the overall consumption of energy in YOUR laboratory:

- Turn off the lights when you leave for any meetings during the day and at the end of every day, especially if your lights do not have a setback (turn off themselves after a few minutes).
- Whenever possible, turn off all electrical equipment when not in use, especially before you leave for the day.
- Use timers to turn other pieces of equipment on and off automatically.
- Turn off your computer's monitor when not in use. The monitor consumes over half of the energy used by the average computer. If for some reason you can't turn your computer off, then set your computer's energy saving features to put your computer and monitor to "sleep" after 10 minutes, which cuts power use nearly to zero.
- Keep the sash closed on your fume hood, especially if you have a VAV type fume hood. This promotes both energy conservation and safety. A typical five-foot fume hood uses \$3500 per year in heating and cooling costs. Keeping your VAV hood sash closed can cut the air volume and cost by two thirds!

- Promptly report room comfort conditions that are not normal. Rooms that are too hot or too cool may be due to faulty thermostats or other controls that are malfunctioning or have drifted from set points, resulting in wasted energy as well as uncomfortable conditions for you.
- Report drips of water from sink taps, chilled water connections, or High Purity Water faucets.
- Buy energy efficient equipment. Look for the Energy Star logo or other statements that an electrical device is designed to be energy efficient. Each 1000 watts cost \$700 per year in electricity. If the extra cost of a "high efficiency" unit can be paid for in 5 to 7 years or less, then you should purchase the high efficiency unit.
- When purchasing natural gas powered or consuming devices, buy equipment that uses an electronic ignition instead of a pilot light. Pilot lights waste over 20 percent of the gas used in the United States.
- Use shades and blinds as provided to help keep your space cool on sunny days. The shade can reduce the amount of cooling required in a south or west facing room by over 30%.

Reducing energy consumption not only conserves precious natural resources, but also reduces energy costs for the University, which results in more funds being available for other research endeavors. Additional information on selecting energy efficient products can be obtained at the EPA Pollution Prevention website for Green products and the Energy Star website. Additional information on energy conservation for both work and home can be found on the Department of Energy's website: Energy Efficiency and Renewable Energy.

IS YOUR FUME HOOD TOO FULL?

Many fume hoods this past year were too full of equipment or chemicals. If a hood has excessive chemicals or equipment, this congestion can block the rear opening and impede air flow. When this happens a hood may have poor capture of chemical fumes and these can reach the breathing area of the user. There are some ways to avoid this:

- Don't store unnecessary chemicals in a hood but only what is needed for the experiment.
- If you must have large equipment inside the hood, then elevate it an inch or two off the surface to allow air flow to the rear opening.
- If you must have more than a few bottles inside the hood, store them on an elevated rack an inch or two off the surface for adequate air flow.
- If a hood is too full, EH&S will not test the hood until congestion is reduced or items are elevated. Please

*****Please share with your graduate students*****

LABORATORY & RADIATION SAFETY

Cornell University Department of Environmental Health & Safety

125 Humphreys Service Building, Ithaca, NY (Phone: 255-8200)

201 Palm Road, Ithaca, NY (Phone: 255-8200)

Web site <http://www.ehs.cornell.edu>

NEWS

Winter 2005

make sure that your hood has optimal function
because what you can't see can hurt you.

*****Please share with your graduate students*****



SUPER EAGLE AWARD



The Laboratory and Radiation Safety section is pleased to announce that **J. Roberts, Molec. Biology & Genetics, Biotech Bldg**, has been awarded the new Super Eagle Award. To achieve this award the lab group must maintain a spotless record for eight consecutive radioactive materials permit inspections. That translates to four years with no violations or recommended improvements to the lab group's internal management of their regulatory and permitted obligations. Living up to this high standard for such an extended period of time is truly a remarkable accomplishment and requires the participation of everyone within the lab group.

CHEMICAL SAFETY TRAINING

The next regularly scheduled **new employee** laboratory worker OSHA Laboratory Standard training program, "Chemical Safety for Laboratory Workers", will be held in 118 Humphreys Service Building on:

Wednesday, March 9, 9 – 11 a.m., followed by the EPA-Chemical Waste Disposal Program from 11:15 a.m. to 12:15 p.m.

Using your Cornell NetID, you can register on-line at <http://www.ehs.cornell.edu/>. Select Training, then **Register Now in SafetyBase**. To use Safetybase, you will need to sign into Kerberos, Side Car, or CUWebLogin to access Cornell University restricted electronic services. If you do not have a Cornell NetID, you can register from the EH&S home page at <http://www.ehs.cornell.edu/>; select Training; select the desired class; then fill out the On-Line Class Registration form, and submit. For help please contact Czora Pagsolingan by e-mail at cpp5@cornell.edu or by phone at 254-4693.



RADIATION SAFETY TRAINING

Individuals must receive radiation safety training **prior** to starting work with radioactive materials. This training is required by law. The course is given in two separate presentations; both sessions must be attended. There is a short exam, which can be taken either at the end of the second day, or later at our office during normal business hours. *Prior registration for this course is necessary, as seating is assigned on a first come first served basis.* The next Radiation Safety training programs are scheduled for:

March 21 & 23 from 1:00 p.m. to 4:00 p.m.

April 20 & 22 from 1:00 p.m. to 4:00 p.m.

To register please use the online form available on our EH&S Web site, or call the EH&S main desk, at 5-8200. For the online form go to <http://www.ehs.cornell.edu/>, select "Training", then select the course under "Class Times & Registration". Please fill in all fields before you submit your registration.



Radiation Safety Eagle Awards



We are pleased to recognize the following laboratories for receiving radiation safety awards:

October

- A. Bell**, Animal Science, Morrison Hall
- * **A. Bensadoun**, Nutritional Sciences, Kinzelberg Hall
- M. Jahn**, Plant Breeding, Bradfield Hall
- J. Nasrallah**, Plant Biology, Emerson Hall
- S. Tanksley**, Plant Breeding, Emerson Hall

November

- * **A. Bretscher**, Molec. Biology & Genetics, Biotech Bldg.
- W. Brown**, Molec. Biology & Genetics, Biotech Bldg.
- L. Kraus**, Molecular Biology & Genetics, Biotech Bldg.
- J. Lis**, Molecular Biology & Genetics, Biotech Bldg.
- D. Manor**, Nutritional Sciences, Kinzelberg Hall
- S. McCouch**, Plant Breeding, Emerson Hall
- J. Peters**, Microbiology, Wing Hall

December

- Biochemistry class**, S. Jones, Wing Hall
- J. Fortune**, Biomedical Sciences, VRT
- J. Helmann**, Microbiology, Wing Hall
- J. Hua**, Plant Biology, Plant Science Building
- R. MacIntyre**, Molec. Biol. & Genetics, Biotech Bldg.
- N. Noy**, Nutritional Sciences, Kinzelberg Hall
- T. Setter**, Crop & Soil Sciences, Bradfield Hall
- M. Sorrells**, Plant Breeding, Bradfield Hall
- R. Turgeon**, Plant Biology, Plant Science Building
- * **S. Winans**, Microbiology, Wing Hall

January

- D. Antczak**, VM Administration, Baker Institute
- J. Baines**, Microbiology & Immunology, VMC
- T. Brutnell**, Boyce Thompson Institute
- E. Dubovi**, Pop. Med. & Diag. Sci., Vet. Diagnostic Lab
- T. Gunn**, Biomedical Sciences, VRT
- J. Jacob**, Vet. Clinical Sciences, VMC
- * **D. Lin**, Biomedical Sciences, VRT
- G. Martin**, Boyce Thompson Institute
- A. Nikitin**, Biomedical Sciences, VRT
- A. Nixon**, Vet. Clinical Sciences, VMC
- M. Roberson**, Biomedical Sciences, VMC
- J. Roberts**, Molec. Biology & Genetics, Biotech Bldg.
- D. Shalloway**, Molec. Biology & Genetics, Biotech Bldg.
- D. Stern**, Boyce Thompson Institute
- B. Tye**, Molecular Biology & Genetics, Biotech Bldg.
- M. Villa-Garcia**, Molecular Biology & Genetics, Biotech
- H. Wang**, Boyce Thompson Institute
- M. Wang**, Physics, Clark Hall
- R. Weiss**, Biomedical Sciences, VRT
- * **Winner of Meal Deal from Pizza Hut**

ADVANCED RECORD KEEPER TRAINING

This special radiation safety training is held monthly, on the last Friday of every month. It is geared just for those who perform inventory record-keeping tasks. The survey class, taught by Wayne Westmiller, is from 1:00 to 2:00 p.m., and the inventory class, taught by Marlene Larson, is from 2:15 to 3:15 p.m. The next classes are scheduled for

Please share with your graduate students

Friday, March 25 (register by March 18). **Use our website to register or call Agnes Morris at 5-5600.**

*****Please share with your graduate students*****