



Safety Matters

<http://www.ehs.uci.edu/>
(949) 824-6200

Save tomorrow -
Think safety today!

University of California, Irvine
Environmental Health & Safety
4600 Bison Avenue, Irvine, CA
92697-2725

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Inside This Issue...

Rewarding Safe Acts Awardees	pg. 2
Ultraviolet Lamps	pg. 2
EH&S Directory	pg. 3
Ground Fault Circuit Interrupters	pg. 3
Biosafety News	pg. 3
Tips on Office Moves	pg. 4
Space Heaters	pg. 4

Environmental Health and Safety (EH&S) is proactively working with the campus community to collect and manage e-waste in an efficient and environmentally responsible manner. Through free electronic waste recycling events, EH&S is:

- Raising awareness of proper electronic waste recycling
- Promoting environmental stewardship
- Reducing the health and environmental risks of electronic waste pollution
- Making recycling easy and convenient



EH&S staff (from top): Arthur Yabes, Christian Ritter, Steve Eros Ricardo Cruz and Kirk Matin

BEING PC UCI's Electronic Waste Recycling Initiative

Each year at UCI, hundreds of computers, monitors, televisions, and other electronic items become "obsolete" due to rapid advances and demand for new technology. While safe for everyday use, this "old" electronic equipment, often know as "e-waste", can contain hazardous materials such as lead, mercury, chromium, and cadmium. A typical TV or computer monitor may contain 4 pounds of lead. Responsible recycling of unwanted e-waste items keeps these environmentally-damaging hazardous materials from ending up in our air and water.

Although electronic waste is less than 10% of the current solid waste stream, it is growing 2-3 times faster than any other waste stream. In 1998, of the 20 million computers taken out of service, only 2.3 million, which is slightly more than 10%, were recycled. Between 2000 and 2007, as many as 500 million personal computers will become obsolete.¹

In just three events, EH&S has collected over 80,000 pounds of unwanted electronics, including over 900 computer monitors. The effects of this on the environment are very positive – CO₂ greenhouse gas emissions have been reduced by approximately 184 tons per year. These events also promote the purchase and use of more energy efficient LCD monitors. In addition, all electronic waste collected is sent to a UC approved recycler where electronic waste is dismantled and re-useable components and materials can be recycled into new products.

For information about electronic waste and upcoming Free E-Waste Recycling events, visit the EH&S web site at

<http://www.ehs.uci.edu>.

For information on campus efforts toward energy conservation and environmental stewardship visit, UCI Sustainability at <http://www.sustainability.uci.edu/>.

The UCI community drops off e-waste to EH&S



¹ "eCycling", 28 May 2006,

<<http://www.epa.gov/region9/waste/solid/ecycling/index.html>

Rewarding Safe Acts Awardees

EH&S has recently recognized and rewarded the following people for engaging in activities and behavior that foster a safe work environment.

Biological Sciences:

Rudy Limberg

Safe Act: Identified the need for and installed emergency lighting in work area.

Rudy Munoz

Safe Act: Cleaned up and is attaining a superior level of housekeeping in machine shop.

Career Center:

Robert Gomez, Sheila Fortman-Craun

Safe Act: Safely evacuated Student Services I building during an emergency.

Facilities Management:

Amy Provorse

Safe Act: Promoted health and safety to staff by providing necessary training for employees and creating ongoing safety awareness to staff.

Tom DeSantis

Safe Act: Performed a thorough evaluation of potential hazards of upcoming projects.

INRF:

David Crosly, Albert Eberhardt, Jake Hes, Vu Phan

Safe Act: Provided excellent safety training and holds continuing discussions of safe work practices.

Chris Rutherglen

Safe Act: Demonstrated and implemented best safety practices to other students during training.

Pharmacology:

Pamela Bhalla, Janet Deshaw, Paolo Sassone-Corsi

Safe Act: Provided leadership and support to implement Safety-On-Site at the School of Medicine.

Advanced Power and Energy Program, Chemistry, Engineering, Risk Management:

Kathryn Haq, Daniel Rego, Elias Bordcosh, William Evans, Ashley John, Rachel Gamby

Safe Act: Assisted UCOP camera crew to ensure their safety while filming on campus.

Ultraviolet Lamps

Ultraviolet (UV) lamps are used in a variety of applications. Common UV sources include germicidal lamps, curing lamps, black lights, transilluminators, and crosslinkers. Caution must be exercised when using UV lamps in order to avoid painful eye (cornea) and skin burns. In fact, there have been several recent cases in which people at UCI have been injured by UV radiation. In one instance, two people were burned when they inadvertently entered a room while overhead germicidal lamps were operating. In another instance, a lab researcher was not wearing proper protective attire when using a transilluminator.



Engineering controls, such as enclosing the UV radiation, should be used to reduce hazards. In many cases, an interlocked enclosure is incorporated into the UV-emitting equipment. Such equipment must never be operated when the protective shield is not in place. UV is easily shielded by opaque materials like metal, wood, and cardboard. Translucent polycarbonate plastic effectively blocks near and far UV radiation, but common glass is only useful for shielding far UV radiation (i.e. germicidal lamps) and will not completely shield against near UV radiation (i.e. black lights).



Administrative controls include training of users, labeling of UV equipment/lamp switches and UV-affected areas (such as when overhead germicidal lamps are present), isolating UV equipment well away from other lab areas, and limiting the time UV equipment is used when personnel can be exposed. For example, UV lamps in biosafety cabinets/hoods and in overhead fixtures must only be operated when no one is present.

Personal protective controls must be used when engineering and administrative controls alone do not adequately reduce the UV hazard. Commonly used protective attire includes a UV face shield or goggles (normally polycarbonate; stamped with ANSI Z87.1 certification), long-sleeved tightly-woven clothing, and gloves. Nitrile gloves are inexpensive and readily available; they block a large percentage of UV radiation.

For UV caution signs or consultation regarding UV hazards, contact Rick Mannix, x46098, or rcmannix@uci.edu.

EH&S Directory

Administration and Information Technology

Marc Gomez	magomez@uci.edu	4-6889
Jenifer Swann	jmnorthr@uci.edu	4-4818
Terri Warren	twarren@uci.edu	4-5828
Glenda Beckett	gebecket@uci.edu	4-8234
Kim Do	nklam@uci.edu	4-6200
Armi Estrada	aestrada@uci.edu	4-2250
Alice Lee	alicecl@uci.edu	4-4815
Carol Lu	cblu@uci.edu	4-6311

Biosafety

Sheila Hedayati	s.hedayati@uci.edu	4-9888
Karla Cornejo	karla.cornejo@uci.edu	4-3069

EH&S Coordinators

Hamid Arabzadeh	hamid@uci.edu	4-1575
Chris Haug	chris.haug@uci.edu	4-4660
David Melitz	dmelitz@uci.edu	4-2941
Joseph Rizkallah	jar@uci.edu	4-6579
Alan Sahussanun	asahussa@uci.edu	4-0155
Rama Singh	rsingh@uci.edu	4-2518

Environmental Management

Dick Sun	dick.sun@uci.edu	4-2188
Kirk Matin	kmatin@uci.edu	4-4578
Ricardo Cruz	rcruz@uci.edu	4-2811
Steven Eros	seros@uci.edu	4-9929
Christian Ritter	crritter@uci.edu	4-6085

Emergency Management

Linda Bogue	lbogue@uci.edu	4-7147
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Fire Safety

Dale Saunders	dsaunder@uci.edu	4-4077
Gerald Abbott	gabbott@uci.edu	4-6093
Aaron Adams	asadams@uci.edu	4-0137
Scott Jackson	jacksons@uci.edu	4-9665
Alan Sahussanun	asahussa@uci.edu	4-0155

Industrial Hygiene

Lisa Mahar	lmahar@uci.edu	4-8342
Rebecca Lally	rrlally@uci.edu	4-5730
Rito Rincon	mxrincon@uci.edu	4-8586
Susan Robb	srobb@uci.edu	4-8791
Alvin Samala	amsamala@uci.edu	4-4817

Occupational Health

Karen Shore	shorek@uci.edu	4-8024
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Radiation Safety

Debra Hamano	dhamano@uci.edu	4-1081
Rick Mannix	rcmannix@uci.edu	4-6098
Anna Chung	achung1@uci.edu	4-4862
Rocky Dendo	ridendo@uci.edu	4-4557
Dana Gold	goldd@uci.edu	4-6349

Safety

Sandra Conrard	sconrard@uci.edu	4-6982
Belinda Manalac	bmanalac@uci.edu	4-9524
David Mori	dkmori@uci.edu	4-9940
James Pack	jgpack@uci.edu	4-4170
Jesse Wallace	jwallace@uci.edu	4-9864

Training

Jessica Drew		
de Paz	drewj@uci.edu	x46634
Manjeet Randhawa	mrandhaw@uci.edu	x48805

Ground Fault Circuit Interrupters

Some UCI buildings were completed before the current code requirement for Ground Fault Circuit Interrupters (GFCIs) was in place. GFCIs protect people from shock and electrocution far better than circuit breakers, which are designed more to prevent fires. Many people are familiar with GFCIs, now both required and commonplace in kitchens, bathrooms, garages and outdoor electrical outlets.



(a) (b) (c)

GFCIs can be found on the outlet (a), on the circuit breaker (b) or as part of an extension cord (c).

This year, EH&S has been awarded small capital funding of \$50,000 to begin replacing outlets that are within 6 feet of a water source, such as sinks and lavatories. EH&S is working with campus Facilities Management to systematically go through buildings, beginning with laboratories, to upgrade these outlets.

If you know of an outlet needing an upgrade, work with your facility manager to include that outlet in your building's list of outlets to replace. Note: if a room is emptied or vacated, Facilities Management electricians can come in and replace out-of-code outlets with GFCI outlets at no charge (no pun intended) and with the least disruption. The electricians prefer to work when the room is vacated for best access to all appropriate outlets. If you are aware of a room needing GFCI outlets, especially if the room is or will be empty, please contact your EH&S coordinator or Facilities Manager.



BIOSAFETY NEWS



Administrative oversight and responsibility for the Institutional Biosafety Committee (IBC) has been transferred from the Office of Research Administration (ORA) to Environmental Health and Safety (EH&S) effective immediately. In addition to the review and approval of recombinant DNA studies, the charge of the IBC has been expanded to include oversight for the use of all biological agents including infectious agents, biological toxins, human material including established human cell lines, and CDC Select Agents.

Please check the EH&S website, www.ehs.uci.edu for instructions regarding submission of protocols. Questions regarding the Institutional Biosafety Committee should be directed to the Campus Biosafety Officer Sheila Hedayati, s.hedayati@uci.edu or the IBC administrator, Karla Cornejo, karla.cornejo@uci.edu.

TIPS ON OFFICE MOVES

Courtesy of
Lawrence Livermore National Laboratories



Plan the Move

- Schedule enough time to pack over several days.
- Get adequate rest - fatigue induces injury.
- Identify items that others will handle.
- Plan so pathways will be open.

Get the Appropriate Materials

- Order appropriately sized boxes.
- Obtain a stepstool for over shoulder reaching.
- Use a cart to position and move boxes.
- Stage a recycling box for purged paper.

Use Good Body Mechanics

- Use appropriate lifting and bending techniques: tighten your abdominal muscles and bend at the hips, maintaining the natural curves in your back - lift with your knees, not with your back - turn with your feet to prevent twisting your body.
- Use proper carrying techniques: test item for reasonable weight - hold item close and waist high - keep view unobstructed by items.
- Use proper body techniques: use both hands - grip small amounts that are neither too heavy nor too awkward - bend at the hips when reaching - avoid overreaching.

Pack Effectively

- Spring clean - do you really need to take it all with you?
- Leave frequently used items until the end.
- Label boxes with both destination and contents to aid unpacking.
- Mark boxes with items needed immediately after the move.
- Pack from the top down and unpack from the bottom up to keep cabinets stabilized.
- Use a cart or dolly, or have co-workers help move heavier items.
- Place packed boxes in a location that will minimize bending and twisting.
- Take breaks - use several short packing periods during the day. Mix packing with other activities.
- Spread unpacking over several days.

Space Heaters



For more information, contact Dale Saunders at dsaunder@uci.edu.

When needed, portable electric space heaters can help you stay warmer. But it is vital to keep safety in mind. Even though an open flame is not produced with electric models, the heating elements can become hot enough to ignite combustible materials that are too close.

Here are some tips and information regarding the safe use of space heaters:

- The heater must be tested & approved by a nationally recognized laboratory. A "UL" mark means that the model has met stringent safety standards.
- The heater must have an automatic shut-off switch if the unit tips over and falls on its side.
- Use space heaters only as a supplemental source of heat, and only for temporary purposes. Do not leave them on while unattended.
- Keep all potentially combustible materials at least 3 feet away.
- Avoid using space heaters in damp or wet areas to minimize the chance of electric shock accidents.
- Do not use space heaters to dry anything.
- Space heaters with exposed heating elements, such as metal filaments or coils, should not be used.
- Inspect the power cord periodically to ensure that it has not become worn or frayed. Place the cord so that it isn't a trip hazard, but avoid running it under rugs or carpeting.