MEMORANDUM

To: USC Research Community

From: Randolph Hall
Vice President of Research

Charles Lane
Associate Senior Vice President, Career and Protective Services

Date: February 14, 2012

Subject: USC Laboratory Safety Awareness

In January of 2009, we were all saddened to learn that a UCLA chemistry laboratory technician died from injuries she sustained in a chemical fire. This tragic incident has drawn the attention of research institutions around the country, who are seeking to ensure that accidents like this do not happen again. Though an accident, it is also clear that the death was preventable had normal laboratory safety measures been followed.

The importance of laboratory safety was highlighted in December when the Los Angeles District Attorney’s Office filed criminal charges against the supervising professor and the Regents of the University of California for willful violation of Cal-OSHA safety regulations, including failure to provide: 1) chemical safety training; 2) procedures for correcting unsafe conditions; and 3) appropriate protective clothing. The supervising professor faces up to four years in prison and UCLA faces up to four million dollars in fines.

The tragedy at UCLA serves as a reminder that we must all remain vigilant to maintain safe laboratories, protecting our students, faculty, and staff from harm. Laboratory safety is not the responsibility of any one department, faculty member, or student. Rather, it is a combined effort where all members of the USC research community take personal responsibility for their own safety and for one another. This especially holds true for supervising faculty working with those with less experience.

Environmental Health and Safety (EH&S), meanwhile, is a valuable resource that the research community should take advantage of when dealing with safety issues. EH&S reviews and develops the university’s safety systems and practices and can offer valuable advice on laboratory safety matters.
Working together, we can ensure that USC remains a safe place for teaching and research. Please join the USC research community in fully embracing these fundamental lab safety controls:

1. Continuously assess the need for, and enforce appropriate work attire in the laboratory. While protective equipment may vary based on the hazardous materials and processes in the labs, they must always include: a) closed toe shoes; b) clothing that covers the legs and ankles; and c) safety eyewear.

2. Ensure that laboratory workers (including staff, students and volunteers) attend EH&S laboratory safety training prior to commencing laboratory work. Each research group must supplement EH&S course offerings to address unique hazards and processes encountered in its work unit.

3. Document safe handling instructions for highly hazardous materials. Laboratory-specific SOPs and chemical manufacturer recommendations must be reinforced during annual refresher training.

4. Update the on-line chemical inventory account assigned to your lab by EH&S at least annually, or when significant changes occur in the inventory.

5. Remain vigilant by conducting regular reviews of safety in your lab and ensure that findings from EH&S safety inspections are promptly corrected. Please note that if a violation is deemed “critical,” immediate action will be required and a re-inspection will occur within 48 hours.

It is important to ensure all lab personnel know how to respond if and when something goes wrong in their work areas. Detailed safe practices and procedure templates for laboratory safety can be found in USC’s Chemical Hygiene Plan - [http://capsnet.usc.edu/LabSafety/index.cfm](http://capsnet.usc.edu/LabSafety/index.cfm), along with specific considerations summarized in the attached document.

Ed Becker, Executive Director for Environmental Health & Safety, is available to help you ensure safety in your lab. Please do not hesitate to contact him at (213) 740-0720 for assistance.

Attachment: Steps for Maintaining Laboratory Safety
Steps for Maintaining Laboratory Safety

**Laboratory Safety Training**
Supervisors/Principal Investigators are responsible for ensuring that laboratory workers (including staff, students and volunteers) attend EH&S laboratory safety training prior to commencing USC laboratory work. Additional training from EH&S may be required depending on the work and materials involved, such as work with radioactive materials or radiation-producing equipment, biological materials, lasers, or use of respirators/self-contained breathing apparatuses.

Each research group must supplement EH&S course offerings to address unique hazards and processes encountered in its work unit. This includes annual refresher instruction on the safe use of the hazardous materials specific to the laboratory operations and a review of work with particularly hazardous substances in general.

**Engineering Controls and Personal Protective Equipment (PPE)**
Each department or research unit must provide proper personal protective equipment to every person working in a laboratory along with laundry services to maintain laboratory coat hygiene. Appropriate work attire and PPE vary by the hazardous materials in use and the work being performed, but always include: a) closed toe shoes; b) clothing that covers the legs and ankles; and c) safety glasses. Lab personnel are required to assess the need for additional PPE specific to their laboratory and areas of research. It is important that faculty and senior staff model the use of hazard-appropriate PPE and insist it be used by everyone.

**Operating Procedures**
Documented safe handling instructions for highly hazardous materials reinforce safe laboratory practices and training. Laboratory groups must review existing Standard Operating Procedures (SOPs), particularly those involving highly hazardous substances, such as energetic reactive compounds or toxic materials. Laboratory groups must also develop, implement, and clearly communicate SOPs that are not formally defined. Please contact EH&S if SOP guidance or templates are necessary.

**On-Line Chemical Inventory**
Laboratory groups must maintain an inventory for all areas storing hazardous materials. In addition, at least once a year, each group must update the on-line chemical inventory account assigned by EH&S. There is also an expectation that researchers will upload additional updates when significant changes in chemical volume or type occur. Please contact EH&S if your group needs to establish a new account.
Laboratory Inspections
Laboratory inspections are conducted annually to verify safety and compliance with applicable regulations and guidelines. These inspections also provide a formal opportunity for laboratory personnel to ask questions regarding laboratory practices and procedures to improve safety. When deficiencies are discovered, corrective actions will be communicated to laboratory personnel within one business day while imminent hazards must be corrected at the time of inspection. Researchers must ensure that findings from safety inspections are promptly corrected. Please note that if a violation is deemed “critical,” a re-inspection will occur within 48 hours. EH&S will notify school deans and faculty safety oversight committees of uncorrected critical violations.

Faculty and Safety Committee Oversight
A Chemical Safety Committee exists and there are plans to expand its role with greater faculty oversight. This committee is responsible for enforcing policies and guidelines related to the use of potentially hazardous chemicals or materials and ensuring that research involving these agents is conducted in a manner that does not endanger the researcher, laboratory workers, the public, or the environment. An expanded chemical safety committee will create an even more secure environment whereby greater safety awareness and compliance is achieved.

Thank you for taking the time to review and implement the steps set forth in this attachment.