

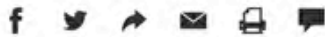


# A guide to implementing a **SAFETY CULTURE** in our universities

APLU/AAU Task Force - Lab Safety Task Force  
Taylor Eighmy (UT) and Mark McLellan(USU), co-chairs,

# Who does safety in our labs & studios?

UCLA  
2008

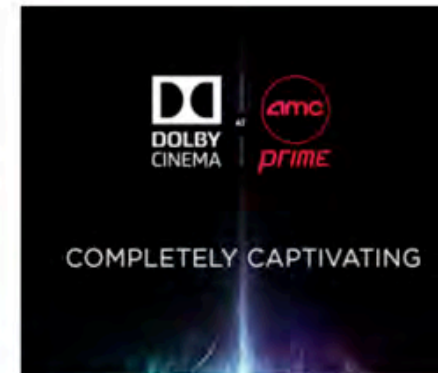


## UCLA chemistry professor avoids prison time in fatal lab fire case



Los Angeles Times  
**LOCAL / L.A. Now**

This article is related to: Trials and Arbitration, UCLA



ADVERTISEMENT

# Who does safety in our labs & studios?

Texas Tech  
2010

**CSB U.S. CHEMICAL SAFETY BOARD**

*An independent federal agency investigating chemical accidents to protect workers, the public, and the environment.*

SEARCH [input] [button]

TEXT SIZE [A-] [A+] [A]

**ABOUT THE CSB** **INVESTIGATIONS** **RECOMMENDATIONS** **MEDIA ROOM** **VIDEO ROOM**

Home ▸ Investigations PRINT PAGE SEND TO FRIEND [Facebook] [Twitter] [Google+] [RSS]

### Texas Tech University Chemistry Lab Explosion


**FINAL REPORT: [Texas Tech University](#)**

Location: Lubbock, TX  
Accident Occurred On: 01/07/2010  
Final Report Released On: 10/19/2011  
Accident Type: Reactive Incident  
Company Name: Texas Tech University

#### STATISTICS


Total # of Recommendations	4
Total # of Open Recommendations	1
Total # of Closed Recommendations	3
Total % of Open	25 vs. Closed 75

#### INVESTIGATION INFORMATION



#### RELATED VIDEO

Experimenting with Danger



#### RELATED DOCUMENTS

- ▶ Case Study
- ▶ Webinar Presentation

▶ VIEW ALL DOCUMENTS

# Who does safety in our labs & studios?

Yale  
2011



The screenshot shows the top portion of a New York Times article. At the top right is the newspaper's logo, "The New York Times". Below it are navigation links for "SECTIONS", "HOME", and "SEARCH". A row of three article teasers follows, each with a small image and a headline. The first is about New York City rent regulations, the second about Chris Christie's presidential race, and the third about prison escapes. The main article's category is "N.Y. / REGION". The headline is "Yale Student Killed as Hair Gets Caught in Lathe". The byline is "By LISA W. FODERARO APRIL 13, 2011". On the left side of the article, there are four social media sharing options: Email, Share (Facebook), Tweet, and Save. The main text of the article begins with "As a Yale undergraduate majoring in astronomy and physics, Michele Dufault was used to extreme physical environments. She worked on underwater robotic vehicles last summer as a fellow at the Woods Hole Oceanographic Institution in Massachusetts. She also traveled to Houston as part of a team of undergraduates chosen by NASA to perform a plasma physics experiment in reduced gravity. But it was a rudimentary machine — a lathe in a campus". On the right side, there is a partial view of another article with the heading "WHAT KIN".

SECTIONS HOME SEARCH

The New York Times

New York City Board Votes to Freeze Regulated Rents on One-Year Leases

Chris Christie Enters Presidential Race

Squabbling, Hesitation and Luck Had Roles in Manhunt for New York Prison Escapees

N.Y. / REGION

## Yale Student Killed as Hair Gets Caught in Lathe

By LISA W. FODERARO APRIL 13, 2011

Email

Share

Tweet

Save

As a [Yale](#) undergraduate majoring in astronomy and physics, Michele Dufault was used to extreme physical environments. She worked on underwater robotic vehicles last summer as a fellow at the Woods Hole Oceanographic Institution in Massachusetts. She also traveled to Houston as part of a team of undergraduates chosen by NASA to perform a plasma physics experiment in reduced gravity. But it was a rudimentary machine — a lathe in a campus

WHAT KIN

# Who does safety in our labs & studios?

USU  
2012






*Yale student dies in  
chemistry lab accident*

CBS News, Apr 2011

**CBS  
NEWS**

A photograph of a laboratory or pharmacy aisle. The aisle is lined with shelves on both sides, filled with various boxes and supplies. In the center, there are several office chairs on wheels. A large window at the end of the aisle provides a view of a landscape with mountains and a building. The floor is light-colored and reflective. A large, semi-transparent blue overlay covers the bottom half of the image, containing text.

*A Higher Bar for  
Pathogens, But  
Adherence Is an Issue*

New York Times, May 2010

**The New York Times**



*A Pfizer Whistle-  
Blower Is Awarded  
\$1.4 Million*

New York Times, Apr 2010

**The New York Times**



A photograph of a laboratory or pharmacy aisle. The aisle is lined with shelves on both sides, filled with various boxes and supplies. In the center, there is a window looking out onto a landscape with mountains and a building. A blue semi-transparent overlay covers the bottom half of the image, containing text.

*U. of C. researcher dies after  
exposure to plague bacteria*

Chicago Tribune, Sept 2009

**Chicago Tribune**



*Texas A&M to pay \$1 million fine to  
end ban on biodefense research*

Dallas Morning Star, Feb 2009

*The Dallas Morning News*

# 2008 UCLA Case

- Rewrote university expectations and concerns regarding campus safety
- Personal Accountability – case law
- 4 charges of criminal liability in staff member's death
- Plea Bargain arrived at after 4 years in criminal charges
- ~\$5M paid out by university in defense costs
- Now --- civil charges ?

# Task Force Members

**Taylor Eighmy (Co-Chair)**

*University of Tennessee, Knoxville*

**Mark McLellan (Co-chair)**

*Utah State University*

**Gene Block (Honorary Chair)**

*UCLA*

**Kimberly Espy**

*University of Arizona*

**Mridul Gautam**

*University of Nevada, Reno*

**Kimberly Jeskie**

*Oak Ridge National Laboratory*

**Dawn Mason**

*Eastman Chemical Company*

**Jan Novakofski**

*University of Illinois at Urbana-Champaign*

**Patty Olinger**

*Emory University*

**Joanne Polzien**

*Michigan Technological University*

**Lesley Rigg**

*University of Calgary*

**Ara Tahmassian**

*Harvard University*

**Erik Talley**

*Cornell University*

**William Tolman**

*University of Minnesota Twin Cities*

**Nancy Wayne**

*University of California Los Angeles*

**Alice Young**

*Texas Tech University*

## What We Did

Reached out to hear from 20 organizations and 25 institutions.

Synthesized 20 actionable recommendations from Nat'l Academies, ACS, CSB

Developed a national implementation strategy with recommendations and a tool box.

# APLU Lab Safety Task Force

2013

2015


Recognize  
need to  
address  
lab  
accidents

Need for  
academic  
leaders to  
be  
proactive

Concerns  
about risk  
manage-  
ment, federal  
agency  
action,  
faculty  
burden

Task force  
establishe  
d (APLU,  
AAU,  
COGR,  
ACS)

# Call to action

A female scientist with blonde hair, wearing a white lab coat, safety goggles, and a white face mask, is looking towards the camera in a laboratory setting. The background is blurred, showing laboratory equipment and shelves. A large teal diagonal shape is overlaid on the bottom left of the image, containing text.

*We ask that college and university presidents publicize their commitment and expectations within their institutions.*



## Implementation Guide

20 recommendations for a safety culture drawn from top resources

Tools and resources for implementation (+ values, roles, responsibilities resources).

<http://www.aplu.org/projects-and-initiatives/research-science-and-technology/task-force-laboratory-safety/index.html>

or just google: "APLU" & "Lab Safety"



# A Tool Box

Cultural adoption is unique to each institution. One size does not fit all.

Tools are expected to evolve.

Focus on cultural change rather than compliance.



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Task Force on Laboratory Safety



## Cliff Notes Version:

### Recommendation Categories (1-10):

1. President Commits Publicly
2. President designates lead
3. Campus Dialog
4. Safety Policies & Procedures
5. Roles & Responsibilities
6. Safety Communications
7. Safe Culture Development
8. Risk/Hazard Assessment in University
9. Unified Administrative Reporting
10. Empower Student



Recommendation Categories (11-20):

11. EH&S relationship with Faculty

12. First Responders

13. Routine Hazard Analysis in Graduate Education

14. Near Misses

15. Training

16. Safety in Curricula

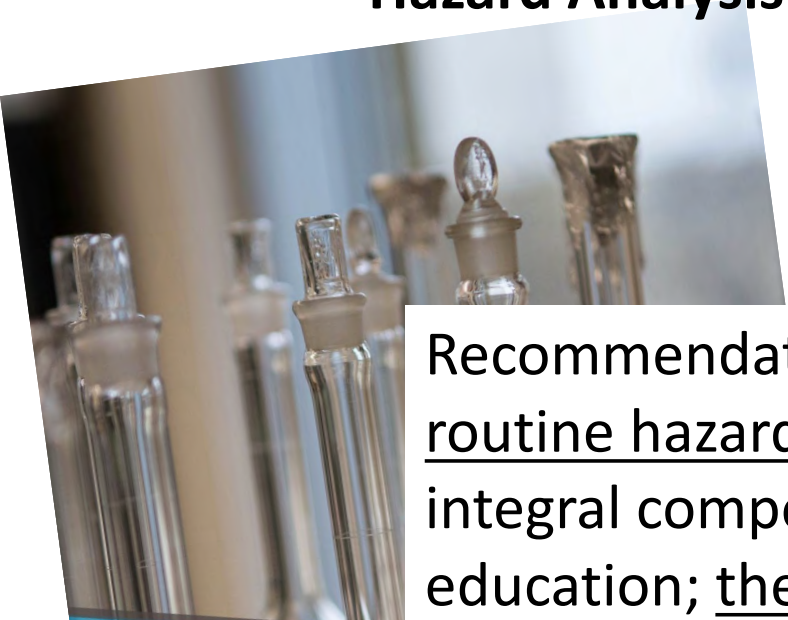
17. Self Assessment for progress

18. Continuous Improvement Feedback

19. System of Accountability

20. Partnership with outside organizations

# Core recommendations for Graduate Deans: Hazard Analysis in Thesis & Dissertation




Recommendation 13. The institution implements routine hazard analyses and includes them as integral components of undergraduate and graduate education; thesis, dissertation, and funding proposals; and experimental design for all experiments.

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## Core recommendations for Graduate Deans: Enable Graduate Students to Report Near Misses




Recommendation 14. The institution implements a process to report incidents and near misses so that the campus community can learn from these incidents.



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# Core recommendations for Graduate Deans: Teach & Train!




Recommendation 15. The institution provides laboratory safety education and training for students, faculty, EH&S staff, and department heads.

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# Core recommendations for Graduate Deans: Safety in to Curriculum



Recommendation 16. The institution ensures undergraduate and graduate science and engineering curricula include an emphasis on safe practices.



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# Suggested Core Institutional Values



Safety is everyone's responsibility.

Good science is safe science.

Safety training and education is critical to research and education.

Safety culture is necessary to implement true risk reduction.

Diversity and flexibility of approaches and methods.



# Utah State University's Approach

## POLICY MANUAL

### GENERAL

**Number 337**

**Subject: Safety and Health**

**Covered Individuals: All University Employees**

**Date of Origin: January 24, 1997**

**Date of Revision: April 11, 2016**

#### 337.1 POLICY

Utah State University is committed to creating a safe environment and a culture of institutional safety, and develops and implements safety and health programs consistent with the best practices for activities and institutions of this type. The University takes safety extremely seriously and will work diligently to provide the necessary safeguards required to assure the safety and health of employees, students, and the public, as well as facilities, equipment, and other property.

These programs strive to continuously reduce worker risk and improve the prevention of illnesses and injuries in all work environments including but not limited to offices, laboratories, farms and field sites, and driving for work. To accomplish these tasks, all employees (faculty, benefited staff and wage/hourly) are required to fully cooperate with University safety guidelines and to fully follow all procedures relating to safety rules.

Realization of a safe and healthy work environment requires attention and responsibility at every level, including the President, Provost, Chancellor and Vice Chancellors, Deans and Vice Presidents, Department Heads and Directors, lab supervisors, unit supervisors, and all employees. If investigation shows that an employee has failed to follow this policy, appropriate action will be taken in accordance with University policies.



## Utah State University's Approach

### New Safety Policy

- New committee structure – reporting from base unit to institution
- New cease and desist authority
- New emphasis on personal accountability
- Faculty-conducted hazard assessments
- Safety training for students, employees and visitors



# Utah State University's Approach

## Department Head/Directors

- Works with dean/unit director and faculty, supervisors or foreman to identify and allocates resources as deemed appropriate and needed for implementation and maintenance of departmental safety programs.
- Ensures, within reason, that faculty and staff members understand and implement responsibilities as listed and assumes responsibility for work and laboratory space, including field sites, and safe operations.
- Identifies a Departmental Safety Representative.
- When applicable, establishes curricular goals for safety education of students.
- Ensures, within reason, that the development and implementation of safety practices, safety protocols, and safety rules for undergraduate and graduate teaching laboratories and work space, including field sites, as well as affiliated shops, storerooms, stockrooms, and corridors within their purview.
- Reviews EHS-documented safety training for faculty and staff to ensure, within reason, that it is complete and up to date.
- Ensures, within reason, that all safety practices, protocols, and safety rules are fully and regularly discussed by faculty and staff.
- Includes discussion of safety training and goals in regular annual reviews of faculty and staff.
- Works with EHS to respond to regular inspections of both teaching and research laboratories.
  - After receipt of the laboratory/work space inspection report meets with faculty members to discuss cited violations and to ensure, within reason, that timely actions to protect personnel and facilities and that the department remains in compliance with all applicable federal, state, university, local, and departmental codes and regulations.
- Ensures, within reason, that the health and safety of departmental personnel, authorized visitors (including student volunteers, visiting scholars, vendors, and contractors), and students any time there is a change in use of departmental space.
- Develops and maintains a list of Return to Work options within their department or unit with the assistance of faculty members, principal investigators, and supervisors as appropriate.

# Personal Accountability



President

Faculty/Principal Investigators

Provost, VPs, Chancellors

Lab/Supervisor/Foreman

Deans, Executive Directors

Employees/Lab Workers

Dept. Heads, Directors

Students

# Concerns

Deans/Dept. Heads

Cost and time overhead, field Res

Classified workers

Voice—making a difference

EHS

Manpower

PIs

SOP development/Hazard analysis

VPR

Multi-year effort to move culture

# Socializing the Policy

The background of the slide features a close-up photograph of a mechanical pressure gauge. The gauge has a white face with black and red markings, and a needle pointing towards the 1500 mark. The scale ranges from 0 to 28,000 PSI. The gauge is connected to brass fittings and a blue hose. The overall image is slightly blurred, creating a sense of depth and focus on the text overlaid on it.

Many, many meetings and conversations

College-by-college meetings

One-on-one meetings with PIs

Faculty Senate (committee) meetings

Deans: New committee structures and flexibility

# Utah State University's Approach

**UtahState**  
UNIVERSITY

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# Thank you.

## **Organizations**

APLU's Council on Research (CoR); Association of American Universities (AAU); American Chemical Society (ACS); Council On Governmental Relations (COGR); Council of Graduate Schools (CGS); National Academies of Sciences, Engineering, and Medicine (NASEM); U.S. Chemical Safety and Hazard Investigation Board (UCB); Oak Ridge National Lab; Eastman Chemical Co; Centers for Disease Control and Prevention (CDC); American Biological Safety Association (ABSA); Association for the Accreditation of Human Research Protection Programs (AAHRPP); Campus Safety, Health, and Environmental Management Association (CSHEMA); Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC); Federation of American Societies for Experimental Biology (FASEB); Federal Demonstration Partnership (FDP); University Risk Management and Insurance Association (URMIA); National Association of College and University Attorneys (NACUA); National Association of College and University Business Officers (NACUBO); National Postdoctoral Association (NPA); Council on Undergraduate Research (CUR); and Council of Colleges of Arts and Sciences (CCAS).

## **Institutions**

Duke University, University of South Florida (FDP), University of Pittsburgh, University of California, University of Nebraska Lincoln, The University of Utah , The University of Texas Health Science, Auburn University , University of Notre Dame , University of Arizona , Texas A&M University System, University of Maryland , University of Tennessee, Knoxville , Utah State University , University of California Los Angeles, University of Arizona , University of Nevada, Reno, University of Illinois at Urbana-Champaign , Emory University , Michigan Technological University , University of Calgary , Harvard University , Cornell University, University of Minnesota Twin Cities, and Texas Tech University