Welcome DSCs & Invited Guests

August 11, 2022

4th Annual Department Safety Coordinators Retreat

Thank you Sponsors

Thank you Sponsors

VWR

VWR lab Chemicals & Chromatography Specialist

Erlab

Stirling Ultracold

EPPENDORF

LABCONCO

Ansell

Dupont

Foxx Life Sciences

New Pig

Snapshot of Today’s Events

• Emerging issues & what’s new in OES
• Active Shooter Preparations
• Vendor presentations and NETWORKING
• What to know about Inspections
• Hazardous Waste Updates
• Incident Reviews and Reporting
• BioRAFT/SciShield Updates
• Awards and Recognition
• Ask OES
WELCOME

Mr. Tony Wagner
Executive Vice President for Finance & Operations
Clemson University

OES Updates

Jim Grieger CIH, CSP, CHMM
Executive Director
Occupational and Environmental Safety
Clemson University
Occupational and Environmental Safety

Mission: Occupational and Environmental Safety (OES) is a team of dedicated professionals who provide safety and compliance services to support Clemson University’s core mission of research, teaching and public service. We accomplish this through collaboration and partnerships with the Clemson community and are committed to continuous improvement and exceptional customer service.

Vision: To be a high performing and valued OES organization where safety and environmental protection are core values in the day-to-day operations of the university and integrated into the educational experience of our students.

OES Campus Safety Partners

• DSC’s
• BSC’s
• CUFD
• CUPD
• University Facilities
• Risk Services and Insurance
• Emergency Management

• Sullivan Center and Redfern
• Research Compliance
• Enterprise Risk Management
• Chief Ethics and Compliance
• Counsel’s Office
• Procurement
• Human Resources
OES: What’s New in 2022-2023

- Hazmat Transport service - pilot
- Occupational Safety
- Field Safety
- BioRAFT/SciShield-Occ Health and MSP
- Research Facilities working group
- Greenhouse inspection program
- OSHA 10 hr. Construction/Gen Industry

- Universal waste
- SPCC plans, inspections, training
- 3D Printing
- New Faculty Orientation-8/15
- Incident Reporting
- 15 MW wind turbine test-CURI
- Clemson student Chapter IHMM

Targeted Violence/Active Threat Preparedness Resources

Captain Chris Harrington
Active Threat Phases of Operation

**Phase I**
- Stop the Threat
- 10-15 Mins
- Most Straightforward
- The Most Dangerous

**Phase II**
- Stop the Loss of Life
- 20-30 Mins
- Most Critical
- Determines likelihood for survival

**Phase III**
- Crime Scene Investigation
- Mutual Aid Integration
- MCI Integration
- Public Affairs

Awareness and Preparedness training is intended to provide critical knowledge for an informed response and generate the most impact for limiting casualties in Phase I.

Awareness

- In 2020, the FBI categorized 40 incidents as active shooter events
  - 33% increase over 2019
- In 2021 the number of incidents meeting the criteria increased by 52.5% to 61 events
- Considerations for inclusion:
  - Shootings in public places
  - Shootings occurring in more than one place
  - Assailant's actions not the result of another criminal act
  - Resulted in “mass killing”
  - Assailant methodically searched for potential victims
- Considerations for exclusion:
  - Self-defense
  - Gang or Drug violence
  - Contained residential or domestic disputes
  - Controlled barricade/hostage situations

*FBI Annual Report: Active Shooter Incidents in the United States 2020 and 2021 publications*
Preparedness and Prevention

- **Stay alert:** Always be aware of your environment and any possible dangers.
- **If you see something, say something** to local authorities. That includes suspicious packages, people behaving strangely or someone using strange communications.
- **Observe warning signs:** Signs might include unusual or violent communications, substance abuse, expressed anger or intent to cause harm. These warning signs may increase over time.
- **Have an exit plan:** Identify exits and areas to hide wherever you go, including work, school and special events.
- **Learn lifesaving skills.**
- Review the areas you work or are responsible for and check for damaged, failing, or compromised security measures. Pay particular attention to door locks/access control devices and methods commonly used to circumvent them.

Response

- Almost all response models focus on individually choosing the appropriate actions based on your circumstances in the moment.
- By understanding what steps to take in the event of an active threat incident, you can potentially mitigate your risk of harm and increase the opportunity for successful outcomes.

**RUN HIDE FIGHT**

- Words matter, and our understanding of them drives our individual responses.
  - Run – Escape, Evacuate
  - Hide – Barricade, Fortify
  - Fight – Defend, Protect
Resources Available

- Targeted Violence Preparedness Training
  - CUPD provided 1 – 1.5-hour training programs for small and large groups covering the Run, Hide, Fight preparedness model.
- FEMA IS-907- Active Shooter: What You Can Do
- Stop the Bleed Training and Trauma Kits
- Ready.gov “Attacks in Crowded and Public Spaces
- FBI Active Shooter resource page
  - [https://www.fbi.gov/about/partnerships/office-of-partner-engagement/active-shooter-resources](https://www.fbi.gov/about/partnerships/office-of-partner-engagement/active-shooter-resources)
- FEMA “You Are the Help Until Help Arrives” Community Preparedness Programs

Action Items/Follow-up

- Schedule “Run, Hide, Fight” training for your teams today
  - Can be delivered in-person or virtually
- Encourage your colleagues and those they lead to engage in the online training resources provided in this slide deck
- Schedule Stop the Bleed Training and Trauma Kit familiarization
  - Coordinated by Sgt. Jennifer Thackston, CUFD/EMS
- Meet with your Building Security Coordinators to discuss security procedures and emergency response plans for the buildings/facilities in your area/department.
- Talk to your teams about the importance of maintaining the integrity of physical security measures
- Encourage reporting when concerns arise, or suspicious activity is observed.
Contact

Call or email Sgt. Michelle Young or Sgt. Charles Burks at CUPD and Sgt. Jennifer Thackston at CUFD to arrange training for your Department/Group/Organization

Michelle Young  
myoung@clemson.edu | 864-656-5256  
Charles Burks  
cburks@clemson.edu | 864-656-8477  
Jennifer Thackston  
jennifp@clemson.edu | 864-656-3480  
Chris Harrington  
harrin4@clemson.edu | 864-656-2106

VENDOR PRESENTATIONS

William West "Bill" – VWR Lab chemicals and Chromatography  
Mark Brown - Stirling Ultracold  
Geoff Cmar – Erlab  
Eddie Bondo – EPPENDORF  
Courtney Gatter, Andy Miller - LABCONCO
Lab Inspection Program Review

Christopher Weber, PhD. - Chemical and Laboratory Safety Manager
Kerri Kwist RBP, MS - Biological Safety Officer
Occupational and Environmental Safety

Outline

- PPE inspections
- Annual lab inspection review
- Incident reviews
- Changes to inspection program
PPE inspections

- In response to a biological incident involving an eye splash.
- OES was tasked with monitoring proper PPE usage and collecting data.
- Follow the Lab Safety Manual for guidelines (safety glasses, lab coat, and gloves as needed) unless using a biosafety cabinet or microscope.
- People not doing lab work are not counted.
- Data collection, not meant to be intrusive.

PPE inspection results

<table>
<thead>
<tr>
<th></th>
<th>Not dressed appropriately</th>
<th>Dressed appropriately</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan Total</td>
<td>18</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>LSF total</td>
<td>66</td>
<td>33</td>
<td>33%</td>
</tr>
<tr>
<td>Rhodes Total</td>
<td>30</td>
<td>11</td>
<td>27%</td>
</tr>
<tr>
<td>BRC Total</td>
<td>50</td>
<td>7</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td>164</td>
<td>52</td>
<td>24%</td>
</tr>
</tbody>
</table>
Lab inspection review

- Annual inspections are being carried out once a year.
- A new addition is to update the Lab Door Sign via BioRaft/SciShield
- Can perform self inspection using the same check list that we use.
- Changes to the inspection program will be implemented this year (September 2022).

Inspection findings
Inspection findings

• **Training:**
  - Depends on job activities. Wrong job activities result in wrong trainings. These are being adjusted so your people may need to take the correct trainings.
  - Trainings are often linked. You are assigned Hazardous Waste Training for labs AND non-labs. Once you take labs, the other training requirement disappears.

• **Lab door signs:** need to be updated this year

• **Hazardous waste:** needs to be labeled properly, closed, and in a secondary container.

---

Inspection findings

• **Compressed gasses**
  - Secure
  - Capped
  - Chris’s thing
Incident review

- Histology Injuries – microtome, cryostat, vibratome

Pressure vessel explosion
Laboratory fire

Changes to the inspection program

- Annual lab inspections may or may not be announced.
- Annual inspections will focus on compliance based criteria. Lab member not needed to be present.
- OES will collaborate with PIs and departments to provide training on hazard analysis and risk minimization strategies based on the research.
- PPE inspections will continue to be conducted at random.
How to do a self inspection

CU Hazardous Materials/Environmental Compliance Program Updates

June Brock-Carroll, CVT, LVT, CHMP
Hazardous Materials/Environmental Compliance Manager
Hazardous Waste

Generator Responsibilities

New Waste Generator Improvement Rules
• Adopted by EPA on November 28, 2016
  • Adopted by SC May 24, 2019

• Hazardous Waste Determination Documentation
• Proper Labeling of Container while at Satellite Accumulation Area

A copy of the documentation must be kept in the lab/SAA as well as on file with Occupational and Environmental Safety Environmental Compliance Program. Determinations may be made using generator knowledge (procedures/processes, SDSs) or laboratory analysis but either way, the document(s) used to make the determination must be attached to this form.
Generator Responsibilities

**Hazardous Waste Determination Policy**

At all Clemson University operated and/or leased facilities, when any chemical/hazardous material/hazardous substance/dangerous good is ready for disposal, that chemical/hazardous material/hazardous substance/dangerous good will be managed as Hazardous Waste and only shipped via a Clemson University approved Hazardous Waste Disposal and/or Removal Contractor for proper disposal. All Hazardous Waste will be managed under the Hazardous Materials Program within the Clemson University Occupational and Environmental Safety by those annually trained in Hazardous Materials Management, Occupational and Environmental Safety trained personnel can approve and sign Hazardous Waste Manifests.

Hazardous Waste at Clemson will be managed in two categories:

1. **Hazardous Waste (RCRA)**
2. **Hazardous Waste (Non-RCRA Regulated)**

**Hazardous Waste (RCRA):**

Any chemical/hazardous material that meets the definition of Chemicals or Listed under the South Carolina Hazardous Waste Management Regulation (SCHWMR) 61-79. EPA Waste codes can be found in the sections of the SCHWMR regulation noted below:

- Ignitable (Flammables/Oxidizers) – R.61-79.261.21
- Corrosive (P and U list) – R.61-79.261.22
- Reactivity – R.61-79.261.23
- Toxic (F list) – R.61-79.261.24
- Listed – R.61-79.261.31
- P list (Non-source specific) – R.61-79.261.32

**Hazardous Waste Determination and Recordkeeping**

All other chemicals/hazardous materials/hazardous substances/dangerous goods that do not meet the above RCRA characteristics and/or listed wastes but are required to carry any GHS hazard pictogram, Department of Transportation Hazard Class or any other materials deemed hazardous by Clemson University.

**SCHWMR 262.11 Hazardous Waste Determination Documentation Policy**

A person who generates a solid waste, as defined in R.61–79.261.2 must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed according to applicable RCRA regulations. A hazardous waste determination must be made at the point of waste generation before any dilution, mixing, or other alteration of the waste occurs and may occur in the course of its management (treatment, storage, or disposal). The records must include, but are not limited to, the following types of information: the results of any tests, sampling, waste analyses, or other determinations made in accordance with this section; records documenting the tests, sampling, and analytical methods used to demonstrate the validity and relevance of such tests; records consulted in order to determine the process by which the waste was generated, the properties of the waste; and the properties of the waste, and records which explain the basis for the generator’s determination, as described at R.61-79 paragraph (d)(1) of this section. The periods of record retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

1. The hazardous waste determination for each solid waste must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management (treatment, storage, or disposal). The records must include, but are not limited to, the following types of information: the results of any tests, sampling, waste analyses, or other determinations made in accordance with this section; records documenting the tests, sampling, and analytical methods used to demonstrate the validity and relevance of such tests; records consulted in order to determine the process by which the waste was generated, the properties of the waste; and the properties of the waste, and records which explain the basis for the generator’s determination, as described at R.61-79 paragraph (d)(1) of this section. The periods of record retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

2. The hazardous waste determination of the hazardous characteristics of the waste is subject to review by the Department of Environmental Protection, or any other applicable authority, regarding this regulation or any applicable local ordinance. This review may include the review of the hazardous waste determination of the hazardous characteristics of the waste.

- **Generator Responsibilities**
  - A hazardous waste label or the words “Hazardous Waste” must be applied to the container when the first drop of waste is added to it or in the case of an unused chemical, as soon as it is decided it is no longer needed.
  - All chemical constituents must be listed on the container. Percentages of each constituent should also be listed.
  - Chemical names, **NOT ABBREVIATIONS**, must be used.
  - The hazard(s) of the Hazardous Waste Stream, i.e. flammable, corrosive, toxic, oxidizer, reactive, etc., must also be marked on the container. (The generator is responsible for making the hazard determination(s) of their waste streams.)

---

**Labeling**

- A hazardous waste label or the words “Hazardous Waste” must be applied to the container when the first drop of waste is added to it or in the case of an unused chemical, as soon as it is decided it is no longer needed.
- All chemical constituents must be listed on the container. Percentages of each constituent should also be listed.
- Chemical names, **NOT ABBREVIATIONS**, must be used.
- The hazard(s) of the Hazardous Waste Stream, i.e. flammable, corrosive, toxic, oxidizer, reactive, etc., must also be marked on the container. (The generator is responsible for making the hazard determination(s) of their waste streams.)

CAUTION: HAZARDOUS WASTE

Federal laws prohibit improper disposal. If found contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator Responsibilities

**Labeling**

- A hazardous waste label or the words “Hazardous Waste” must be applied to the container when the first drop of waste is added to it or in the case of an unused chemical, as soon as it is decided it is no longer needed.
- All chemical constituents must be listed on the container. Percentages of each constituent should also be listed.
- Chemical names, **NOT ABBREVIATIONS**, must be used.
- The hazard(s) of the Hazardous Waste Stream, i.e. flammable, corrosive, toxic, oxidizer, reactive, etc., must also be marked on the container. (The generator is responsible for making the hazard determination(s) of their waste streams.)

---

**Labeling**

- A hazardous waste label or the words “Hazardous Waste” must be applied to the container when the first drop of waste is added to it or in the case of an unused chemical, as soon as it is decided it is no longer needed.
- All chemical constituents must be listed on the container. Percentages of each constituent should also be listed.
- Chemical names, **NOT ABBREVIATIONS**, must be used.
- The hazard(s) of the Hazardous Waste Stream, i.e. flammable, corrosive, toxic, oxidizer, reactive, etc., must also be marked on the container. (The generator is responsible for making the hazard determination(s) of their waste streams.)
Hazardous Waste Labels

Remember: Label must be applied when the first drop of waste is added to the container.

Hazardous Waste Audit Findings in Labs/Shops (SAAs)

- No Label
- Improperly Labeled
  - Missing Hazard(s)
  - Missing Words Hazardous Waste
  - Abbreviated or no Constituents
- Open Containers
- Inherently Wastelike
Universal Waste is now managed by OES

Benefits of a Student CHMM® Credential

There are 1.5 million Bachelor’s degrees awarded by universities and colleges every year. The average student spends thousands of dollars to achieve something that 1.5 million other students also have. While undeniably valuable, you need more than a Bachelor’s degree to clearly distinguish yourself from everyone else in a highly competitive job market. That’s where professional certification becomes so valuable to you.

With IHMM and the Student CHMM credential, you enter a path to being in the top 1% of your professional community.

Student CHMMs are eligible for the IHMM Scholarship. Each Year IHMM awards $16,000 to qualified Student CHMMs.
VENDOR PRESENTATIONS

Jennifer Armon – Ansell
Scott Zorn – Dupont
Ryan Luther Foxx Life Sciences (was Roush)
Daryl Moore – New Pig

Incident Reviews and Reporting

Jeff Anthony
Occupational Safety Manager
Occupational and Environmental Safety
Clemson University
Struck by Incident in Fall Zone 02.21.2022

- 50 ft/1,200lb pole
- Load shifted while suspended between 5-6 ft
- Force popped synthetic sling eyelet of hook
- West end of pole fell, bounced off rear derrick and swung 5 ft toward building before landing.
- Stuck worker during swing in rear upper leg.
- Shattered Tibia
- Loss 10 Weeks

CFR 1926.1424 Work Area Control
CFR 1926.1425 Keeping Clear of Load
- No Fall Zone Barriers
- No Fall Zone Warning Signs
- Workers in Fall Zone/Hazard Area
- Load Unbalanced, Double Basket Hitch

Slings used in a basket hitch must have the load balanced to prevent slippage.
**Immediate Actions**

- Siren Signal Pole installation project shutdown for review
- Safety Stand Down and incident awareness for Project Managers:
  - New Permit form (Draft)
- Injury Incident Review meeting with investigation team, Small Project Managers group.
  - Define Project Managers safety roles and responsibilities
  - Address construction site safety awareness
  - Identify additional safety resources for Project Managers when planning projects.
  - Obtained feedback from Project Managers on Crane and rigging work and other sub contractor safety concerns.

**After Actions**

**Project Managers:**
Review Clemson University contractor/subcontractor contract language for safety related responsibilities. Verify subcontractors training, competency and rigging safety plan prior to work being started.

**Capitol Projects/Small Projects:**
Establish clear language in permits in terms of subcontracting requirements (competency, detailed safety plan review).
Review Contractors/Sub Contractors corrective actions prior to permitting future work on CU property.
Current Reporting Forms

- Visitor/Student Incident Report Form
- CU OES Incident Report Form
- First Report of Injury or Illness

SciShield Incident Management Module DEMO

https://earth.bioraft.com/
BioRAFT/SciShield Update

Anne Kogut, MS, CIH, CSP
Industrial Hygiene Manager
Occupational and Environmental Safety
Clemson University

Department Safety Coordinators

- Integral part of promoting health and safety throughout all campuses
- Assist Implementation and improvements of OES programs to their assigned departments.
- Disseminate safety information
- Liaison for safety related questions and issues
- Participate in Annual Inspections
- Notify OES of new PIs, supervisors, or employees in their department.
- Notify OES of PIs that will be leaving the university.
- Provide new employees the information on OES and the links for their training.
- Participate with incident investigations as needed.
- Be a positive role model for safety.
ONLY THE NAME HAS CHANGED

1. New logo may appear on sign in
2. Sign in the same with CU username and password
3. All functions and modules are the same
4. Users will not see changes or need to update access
5. Additional information on name change will be provided from SciShield

A sustainable database of people, spaces, hazards and job activities which will be the foundation for keeping the CU community safe across all of our campuses.

Statistics of Interest

1. Two modules – Research and Facilities
2. Research Total Labs 448,
   - 67 not registered
   - 85.4% registrations completed
   - 55.4% completed members
3. Total Facility non-lab/ research departments 14
   - 36 groups
   - Registration complete

DSC have a view of all the labs or areas for their department.
New Features

Access from homepage
Updates often – Consider these additional fact sheets

Search for SDS from home page

Report near misses, unsafe observation,
And positive observation –
Location for new incident report form

• New Door Sign Template
• Easy to update information
• Provides guidance at various levels
• Pulls information from your area’s
• Provides a digital door sign for remote access
• Top header colors determine lab access similar to the “Dots”
• Implementations over time
• Fact sheets available or need support
Automatic Notifications of Actions

1. New training or refresher training is due.
2. Training is completed
3. Overdue training requirement
4. New PIs or Managers – Notification to set up lab with detailed instructions
5. Notifications to set-up members (initial and annual)
6. Notifications to complete hazards (initial and Annual)

Will be turned on in the next 2-3 weeks

AWARDS AND RECOGNITION
Certificate of Recognition
Outstanding Safety Performance

Warren Lasch Conservation Center

University Facilities Custodial

Bioengineering

Food, Nutrition and Packaging Science

Certificate of Recognition
Outstanding Department Safety Coordinators

Joseph Dickard
Shannon Alford
Rick Boulanger
David Lipscomb
Teri Alexander
ASK OES????

oeshelp@clemson.edu
biolaftrshelp@clemson.edu

You can find contact information for any of the OES Staff at

https://www.clemson.edu/research/oes/

The OES Office mailing address is:
391 College Ave.
Clemson, SC  29631

A confidential hotline has been set up to report safety or ethical concerns.
ETHICS/SAFETY HOTLINE

THANK YOU FOR YOUR PARTICIPATION!