



## PI's Role in Laboratory Safety

### REFERENCE GUIDE

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As a Principal Investigator (PI), you are vital to the overall safety culture of your laboratory, and only you can set the tone, create the expectations, determine the standards, and build an environment where your students, postdoctoral scholars, and research staff can reach their full potential. Mississippi State University's guiding policies and goals establish the University's commitment to providing a safe research environment for our PIs, postdocs, students, and staff. However, as a PI, you are the only person that can cultivate a positive culture of safety in your lab. Safe lab environments can be sustained or developed through your demonstrated commitment to safety daily in all aspects of research.

### PIs Dedication to Safety

As the leader of your research group, your research staff and colleagues are relying on you to incorporate safety into your scientific process rather than treat it as merely an administrative task. You are accountable for safety in your lab. It is a PI's responsibility to instill ownership of safety among your research staff and colleagues by empowering them to take the initiative and holding them accountable for actions that create positive results for themselves and the University. Safety should be a proactive rather than reactive endeavor. Your commitment to safety will translate to your research. The health and safety practices your research staff learn under your mentorship will form part of their educational foundation, prepare them for future careers as skilled scientists, and advance laboratory safety culture for future generations of researchers.



**Principal Investigators are the single most important element for developing and sustaining a strong, proactive laboratory safety culture. A strong laboratory group safety culture should be developed and actively supported by the PI.**

*Advancing Safety Culture in the University Laboratory: A Report of the Task Force for Advancing the Culture of Laboratory Safety at Stanford University, 2014*

## Laboratory Safety

### Demonstrate a Commitment to Safety

Take ownership of safety in your research group and advocate for your researchers to do the same. Lead by example. Adhere to the health and safety rules that you, your department, school, and the University establish, and speak up if you see unsafe practices. Put safety on the agenda and incorporate it into the way your group works and thinks.

### Assess and Plan for Hazards and Risks

Take the time to systematically assess risks and plan for the hazards identified. Conduct risk assessments, incorporating safety into all experiments. Teach your researchers to think about risk by discussing with them the safety implications of their experiments.

### Promote Continuous Learning

Research is not a static endeavor. Managing safety requires ongoing feedback, reassessment, and reinforcement. Encourage researchers to report concerns to you for both safety and teaching opportunities. Involve all lab members when identifying and reviewing lessons learned after incidents and near-misses.

### Implement Controls

Take action to control risks in your laboratory. Make sure that you and your researchers are using the correct protective equipment, appropriate engineering controls are working correctly, and researchers are trained to safely perform their duties. Don't take shortcuts and unnecessary risks.

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## Principal Investigator Laboratory Safety Practices Checklist

EH&S understands that PIs have numerous obligations. This checklist is to help you keep your lab current with good safety practices.

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### Hazard Identification and Control

Evaluate the hazards in your lab, communicate the associated risks, and train personnel on proper procedures and controls for working with those hazards.

- ☐ Ensure that laboratory hazards are identified and controlled.
- ☐ Develop written protocols for high-hazard materials and operations, repeat operations, and equipment use.
- ☐ Determine, provide, and train on the required personal protective equipment (PPE) for laboratory operations.
- ☐ Correct unsafe or unhealthy work conditions or procedures as soon as they are discovered. This may require stopping procedures until appropriate control measures can be put in place.
- ☐ Conduct self-inspections.
- ☐ Respond to and take corrective actions related to external, internal, and self-inspections.

### Communication

Two-way communication is essential. Talk to your research staff and visitors about how to work safely and encourage them to bring any concerns to you.

- ☐ Encourage researchers to bring safety concerns to you without fear of reprisal.
- ☐ Ensure that newly identified safety issues are communicated to lab personnel in a timely manner.
- ☐ Inform non-lab personnel of potential lab-related hazards when they are in your lab.

### Training

Engage and train research staff so that they understand the hazards of their work and how to work safely.

- ☐ Ensure that high-risk operations are conducted only with PI/Lab Supervisor approval and specific training.
- ☐ Ensure all research personnel receives appropriate general safety trainings and laboratory-specific safety training.
- ☐ Provide additional training to workers whose safety performance is inadequate.

### Promote Safe Practices

Enforce the safety rules of your lab and practice them yourself.

- ☐ Ensure that lab personnel follow established safety policies and procedures through routine observation.
- ☐ Include lab personnel's health and safety practices when evaluating performance.
- ☐ Model correct lab practices by wearing your PPE and following all safety rules.

### Youth Protection

Youth require more oversight due to their limited laboratory experience and protected legal status.

- ☐ If minors (< 18 years old not enrolled as a student) will be visiting or working in your lab, comply with additional requirements.