SAFETY AND COMPLIANCE POLICY FOR MINORS IN RESEARCH LABORATORIES

Minors often seek and acquire opportunities to study or work at the University of South Carolina (USC) and gain valuable knowledge and experience. Research labs are a much less controlled environment than teaching labs with the potential for exposure to any hazards used or stored in the lab. The University recognizes both the importance of the educational and outreach missions of the university, and the need to ensure a safe environment for all faculty, staff, students and visitors. This safety and compliance policy is one of multiple University policies involving minors who seek volunteer work in USC laboratories.

A minor is defined as a person under the age of eighteen (18) who is not enrolled or accepted for enrollment at the University. The following policy pertains to the presence of minors in all University research laboratory settings or other work areas where potentially hazardous materials or conditions exist. No individual under the age of 16 may enter a research laboratory, unless they are part of a one-time tour that was approved by the individual faculty member and the Department Chair. Tours may only be conducted at times when all hazardous materials are properly stored and not being used for experiments. The faculty member will be responsible for proper supervision and for providing any appropriate personal protective equipment for the visitors. Tours must be supervised at all times while a minor is on the premises, and tour participants may not participate in any laboratory activities. Children under 12 years of age are prohibited from entering research laboratories under all circumstances.

No individuals beween the ages of 16 and 18 may enter a research laboratory or other associated work areas with potentially hazardous materials or conditions unless the minor is:

- Part of a group or individual educational program reviewed in advance by Environmental Health and Safety, Office of Enterprise Risk Management, General Counsel, and Department Chair
- Educational program in which a faculty member or researcher is acting as a mentor to the minor.
- All participants receive required training on precautions to prevent exposure to hazards in use.
- All activities performed by the minor have been approved by applicable University departments, divisions and/or representatives.
- Applications proposing that a minor be present in the lab for longer than three months will be evaluated on a case-by-case basis, and may be denied or subject to additional requirements.

For the purposes of this policy, “research laboratory” refers to any part of a building used or intended to be used for scientific research activities where any hazardous materials are used and/or stored.

2. Proposed activities that will be conducted by minors in University research laboratories must adhere to all applicable requirements or restrictions imposed by the Department Chair, Environmental Health and Safety (EHS), Law Enforcement, Risk Management, General Counsel, Continuing Education, Human Resources, and other University research safety or compliance committees. In addition, all required training must be completed before the minor engages in any lab activities. Minors must attend required training during times when these programs are offered. The lab activities must be conducted under an appropriate supervisory plan developed by the faculty member and included in this document.

3. Signed *parental consent forms and liability waivers* are required for all participants under 18 and must be obtained prior to submitting this evaluation form. For ongoing recognized educational programs with

competitive application processes, these forms may be obtained once the participating students have been selected. Prior to the minor beginning work, the sponsoring faculty member must complete this form, initial all pages, and submit the form to all applicable University representatives.

4. Minors under the age of 18 are prohibited from handling any of the following hazardous materials:

- **Biological**
  Recombinant or synthetic nucleic acids requiring biosafety level 2 (BL2) or higher containment
  Biological agents (e.g. bacteria, fungal agents, viruses) classified as Risk Group 2 or higher
  Human-derived materials covered under the OSHA Bloodborne Pathogens Standard
  HHS/USDA select agents
  Biological toxins
  Animals presenting special hazards (e.g., experimentally infected animals, venomous reptiles)

- **Chemical**
  Known and suspect carcinogens
  Known human reproductive toxins
  High acute toxicity substances
  Potential explosives (organic peroxides, perchlorates, picrates)
  Water and reactive chemicals (e.g., sodium, lithium, tert-butyl lithium)
  Compressed gases
  Cryogenic substances
  Any process, or combination of low-hazard chemicals that may generate the above
  DEA-Controlled substances

- **Radiation/Physical**
  Ionizing radiation-generating equipment (XRD, X-ray, fluoroscopy, accelerator, cyclotron)
  Radioactive materials
  Unshielded Class 3 or 4 lasers
  High magnetic field equipment (> 5 G)

- **Other Equipment or Machinery**
  High voltage equipment
  Extreme temperatures
  Pressurized systems and procedures
  Hazardous machines (e.g., shop equipment that burns, cuts, crushes or has exposed moving parts)

5. Minors are prohibited from working in laboratories that use and store particularly hazardous substances (e.g., flammable/toxic/corrosive/pyrophoric gases, hydrofluoric acid, organic mercury) and in laboratories with serious unresolved safety or compliance violations.

Minors that are not enrolled at the University with a research role are not covered under research safety policies and procedures, therefore according to University policy, their participation in lab activities must not involve any hazards listed above. Non-participatory observation of experiments involving one or more of the hazards described above may be considered with an appropriate supervisory plan.

6. Minors' use of hazardous chemicals in university research laboratories requires prior approval by EHS according to University policies for participants under the age of 18. These chemicals include:

- Organic solvents;
- Strong oxidizers;
- Strong acids; and,
- Strong bases.

7. The purpose of the minor student's participation in research laboratory activities at USC is to provide the student with an introduction to an academic field of study and research and/or to offer the student an educational mentoring opportunity. This experience at USC is solely for the benefit of the student. Accordingly, at no time will there be an employment relationship between the minor and USC, and the minor may not receive wages or other compensation for any of his/her educational activities at USC.

Safety and Compliance Evaluation Form Review Procedures:

1. The faculty sponsor submits this document in full (**all responses typewritten**), with completed ***Application Form***, signed ***Volunteer Participation Agreement*** and signed ***Principal Investigator Responsibilities***, and all pages initialed, to the sponsor's department Chair for review and approval or disapproval.

2. The department Chair reviews the application, adds any necessary comments, then electronically forward the application with their recommendation to Jocelyn Locke at jlocke@mailbox.sc.edu.

3. All required information must be entered prior to EHS review. All applicable University representatives will review the completed evaluation form, enter signatures, and provide additional safety or compliance comments, recommendations, or requirements under "Reviewer Comments".

4. Other University representatives may also need to sign based on the specific type of materials or experiments that will be used during the minor's laboratory experience.

5. EHS provides guidance and recommendations consistent with University policy. The Policy UNIV 4.00 Programs Involving Minors was issued by the President's Office for all campuses. This policy states "Programs involving minors participating in activities in University laboratories or research facilities must also comply with applicable Environmental Health and Safety guidance documents." EHS does not authorize final approval for minors in laboratories. EHS reviews proposed lab activities involving minors and issues recommendations, requirements or restrictions based on laboratory safety guidelines and University policy. Additional approval considerations may include, but not be limited to, the following policies and guidelines:
   a) University of South Carolina Policy (UNIV 4.00) on Programs Involving Minors
   b) University Guidelines for Designing and Operating Programs Involving Minors
   c) Human Resources Background and Employment Verification Check (policy HR 1.90)

d) School of Medicine Basic Sciences: Research Experiences for Minors (REM) Committee
e) Other applicable requirements based on University policies issued by Law Enforcement, Risk Management, General Counsel, Continuing Education and Conferences, or Human Resources.
f) Other policies, procedures or applications required by the Department sponsoring the minor(s).

Disclaimer:

The Principal Investigator or laboratory supervisor is solely responsible to fulfill all minor evaluation review and approval requirements, document approvals obtained, and maintain records for review upon request. EHS is not responsible for facilitating reviews or approvals involving other departments.

Please contact the following departments directly with questions or for further guidance:

a) EHS – Questions regarding requirements to prevent exposure to hazardous materials in labs
b) Risk Management – Questions regarding insurance or other general minors policy guidance
c) Law Enforcement – Questions regarding assault, abuse or criminal activities involving minors
d) General Counsel – Questions regarding waivers of liability and media release or legal issues
e) Human Resources – Questions regarding background checks or other applicable HR policies

Policy UNIV 4.00 requires the individual or program sponsoring minors in the laboratory to:

- Exercise due diligence in designing program activities in such a way as to reflect safety considerations for all minor participants. Sponsoring units should design safe program activities and identify potential hazards or risk before accidents or injuries occur. Additional assistance can be obtained through Law Enforcement, Office of Risk Management, Office of General Counsel, Continuing Education and Conferences and Human Resources as necessary.
- Make all reasonable efforts to ensure the safety of minors participating in programs and activities covered by this Policy, including removal of minor participants from dangerous or potentially dangerous situations, irrespective of any other limitation or requirement. If a situation is felt to present imminent danger, or potential criminal activity toward a minor, University Law Enforcement must be called immediately.

Notice:

Minors are often more susceptible than adults to hazardous materials, have less awareness of the risks associated with research laboratory hazards, and are more likely to display inappropriate behavior. A research laboratory is also a less controlled environment, which creates potential risks to the minor from hazards used or experiments in the same or adjacent areas that may be unrelated to a minor's project.

The University of South Carolina's Environmental Health and Safety (EHS) Department reserves the right to inspect the research laboratory in which the minor is participating in laboratory activities at any time while such activities are in progress. All labs determined by EHS as using hazardous materials will be inspected before the minor's educational program begins. EHS has authority to suspend the minor's laboratory activities if EHS finds any uncorrected safety deficiencies or other violations of safety terms or conditions made by EHS or the sponsor's department. The IACUC, IBC, and IRB also have the authority to establish safety or compliance requirements as deemed necessary to fulfill their research compliance responsibilities and may suspend research lab activities when such action is appropriate.

University of South Carolina
Department of _____
VOLUNTEER PARTICIPATION AGREEMENT
AND ACKNOWLEDGEMENT OF RISKS

Please read the statements carefully and sign in the space provided below.

In consideration of my being permitted to participate in the

_____

<Enter brief description of activity>

volunteer activity in the Department of _____ over the time period from

_____to _____

<Enter time period or dates involved>

I understand there may be risks inherent in the volunteer work in which I will be participating. I acknowledge and assume these risks and accept that my participation may result in losses or personal injury. I also acknowledge and assume monetary responsibility for any such losses or personal injury.

Further, I agree now and forever to waive, release, hold harmless, defend, indemnify, and discharge the University of South Carolina, employees, servants, agents, officers, trustees, and other affiliated persons or entities from any and all claims, injuries, causes, actions, liability, demands, losses, legal or equitable, of any kind whatsoever, known or unknown, foreseen or unforeseen, including all legal fees and expenses, to include attorney's fees and court costs, arising out of, or in any way related any loss or damage to property, injury, illness, disease, loss of services, medical bills, charges, or otherwise, including Death, which may arise out of, or in any way be related to, my volunteer activities.

I agree and understand that as a volunteer with the University of South Carolina, I am not covered under the State Workers Compensation Act, nor does the University provide medical or health insurance coverage for me. As a result, if I am injured while serving as a volunteer, I cannot be compensated or reimbursed for medical expenses incurred through the State Workers Compensation Fund. Because of this, I may wish to consider securing adequate health and accident insurance to cover myself while performing my duties as a volunteer. I agree to be personally and completely liable for any expenses including, but not limited to, medical or health care expenses for medical treatment, illness, or condition, incurred for or on my behalf. I consent and give the University and any others associated with the University my permission, in case of accident or injury, to administer standard First Aid and to arrange for transportation to a medical facility.

If the volunteer activity involves the use of chemicals, I agree to complete University-sponsored Chemical and Laboratory Safety training before starting the activity. If the activity involves generation of hazardous waste, I also agree to complete University-sponsored Hazardous Waste Management training. I further agree to advise my sponsor in the Department of _____ of any situation or condition that may be a potential hazard or risk to me or to others.

I also agree that I will serve as a volunteer with the University of South Carolina without monetary compensation and recognize that the University of South Carolina is not required to provide any specific material support, space, or funding for my volunteer activity.

Initials of Volunteer/ Parent/Legal Guardian: _____ *(in addition, please sign and date page 2)*

I will abide by all rules, policies, procedures, and other requirements of the University of South Carolina. If I do not abide by these rules, I may be required to discontinue my activity as a volunteer.

_____ Date: _____
Volunteer Signature

_____
Print name

If Volunteer is under 18:

I warrant I am the parent or authorized legal Guardian of the Participant and I warrant I am 18 years of age or older. I have carefully reviewed, and I agree to the terms of this entire document.

_____ Date: _____
Volunteer Signature

_____
Print name

_____ Date: _____
Parent/Guardian Signature (required)

_____
Print name

E M E R G E N C Y C O N T A C T:

Name _____ Relationship: _____

Home: _____ Work: _____ Cell: _____ Other: _____

Name _____ Relationship: _____

Home: _____ Work: _____ Cell: _____ Other: _____

Please submit this signed form to the Faculty in charge of your host laboratory. This form will be attached to the application and submitted to the Chair of the Department who will review your application.

If you have any questions or concerns regarding this evaluation form, please call the Office of Risk Management at 803-777-2828 or the Laboratory Safety Manager at 803-777-7650.

Minor's Project Information	
Student Name and Date of Birth	
Principal Investigator	
Department	
Building	
Laboratory Room #	
Telephone #	
Start Date to End Date (≤3 months)	

Description of research, laboratory experiments and procedures:

Materials: (list all samples/materials the minor will be using or handling)

Chemical
Biological
Equipment
Sharps
Other(s) (specify):

Personal Protective Equipment provided:

Safety glasses
Safety goggles
Face shield
Other(s) (specify):

Lab coat
Corrosive-resistant apron
Gloves (select all that apply): nitrile latex butyl neoprene cryogen-resistant

Department Chair Approval

APPROVED BY	PRINT NAME	SIGNATURE	DATE
Department Chair			

Chair Comments:

Training and Hazard Use Verification

Faculty mentor should respond "Yes" or "No" to each of the following questions and enter training dates.
NOTE: The PI must ensure minor(s) demonstrate proficiency before handling chemicals or biological materials.

1. Will this project involve chemicals? ◯ YES ◯ NO

If you responded "yes", the faculty mentor must enter the applicable trainer and training date:

Lab Safety Training Date	USC Trainer (Print Name)	USC Trainer (Signature and date)

2. Will this project be conducted in a Biosafety Level 2 laboratory? ◯ YES ◯ NO

If you responded "yes", the faculty mentor must enter the applicable trainer and training date:

Biosafety Level 2 Training Date	USC Trainer (Print Name)	USC Trainer (Signature and date)

3. Will the minor be handling any of the following biological materials or agents?

- Recombinant or synthetic nucleic acids? ◯ YES ◯ NO
  - If "Yes", minor only conducts exempt experiments (*NIH Guidelines, III-F)*? ◯ YES ◯ NO
- Bacterial agents, fungal agents, viruses, or parasitic agents? ◯ YES ◯ NO
- Human-derived materials? ◯ YES ◯ NO

If you responded "yes" to any of the questions in #3, the BSO and IBC Chair signatures below are required.

REVIEWED BY	PRINT NAME	SIGNAUTRE	DATE
Biosafety Officer			
IBC Chair			

Director, Environmental Health & Safety Review

(required if you responded "yes" to the use of any biological or chemical hazards indicated above).

REVIEWED BY	PRINT NAME	SIGNATURE	DATE
Director, EHS			

4. Will the minor be handling animals? ◯ YES ◯ NO

If you responded "yes", the faculty mentor must list all animal species used:

List Animal Species	Director, Animal Resources (Print Name)	Director, Animal Resources (Signature and date)

5. Will the minor be part of a project involving human subjects? ◯ YES ◯ NO

If you responded "yes", the faculty mentor must describe the minor's involvement with human subjects:

Minor's Involvement with Human Subjects	Director, Research Compliance (Print Name)	Director, Research Compliance (Signature and date)

Additional Information (any other information useful for evaluating safety of this project)

Note: The lab supervisor must ensure the minor(s) demonstrates proficiency in all applicable work practices and procedures before working with any potentially hazardous materials.

	Describe type of training & date completed
Other hazard-specific training(s) provided by the PI, laboratory supervisor or EHS (Training must include demonstrating proficiency in all work practices, proper use of PPE or other safety equipment, procedures for responding to hazardous material spills and exposure, etc.)	
Laboratory inspection date (most recent)	

Supervisory Plan (describe work hours, name(s) of supervisor(s) and supervision provided to the minor)

Reviewer(s) Comments: **PI Initials**

_____

Reviewer Name/Position	Office or Committee	Reviewer Comments, Recommendations or Additional Requirements

PRINCIPAL INVESTIGATOR RESPONSIBILITIES FOR MINORS IN RESEARCH LABORATORIES

- Review the University of South Carolina Policy (UNIV 4.00) on Programs Involving Minors and all other applicable University policies with each minor that will be working in the laboratory.
- Discuss with the minor's parent/guardian all potential risks associated with proposed activities.
- Ensure the minor is adequately trained in safe work practices for all proposed experiments.
- Provide lab minor(s) with written protocols describing potential hazards and necessary precautions.
- Instruct and train the minor(s) in practices and techniques required to ensure safety, and procedures for dealing with accidents. All minors must be directly supervised at all times by a qualified scientist.
- Supervise the minor(s) to ensure that the required safety practices and techniques are employed.
- Correct work errors or conditions that may result in the release of hazardous materials.
- Ensure the integrity of physical containment (e.g., biosafety cabinet, chemical fume hood).
- Provide personal protective equipment (PPE) required to prevent exposure to hazardous materials.
- Adhere to University emergency plans for handling accidental spills and personnel contamination.
- Verify lab minor(s) have completed the required EHS trainings before starting work in the laboratory (e.g., Laboratory Safety, General Biological Safety, Hazardous Waste).

PI Responsibilities While Conducting Experiments Involving Minors

- Submit any subsequent experimental changes to Environmental Health and Safety (EHS) and all other applicable representatives, departments or divisions for review and approval or disapproval.
- Remain in communication with all parties involved in the project review and approval throughout the duration of the project (e.g., notify all parties if the designated project timeline must be amended).
- Report any significant problems pertaining to the operation and implementation of practices and procedures, violations of safety or compliance requirements, or any significant research-related accident or illness to the EHS Laboratory Safety Manager (via email) within 48 hours of the incident.

For minors conducting experiments involving recombinant or synthetic nucleic acids, the PI must:

- Determine whether the experiments are subject to the *NIH Guidelines.*
- Propose physical and biological containment levels in accordance with the *NIH Guidelines*.
- Propose appropriate microbiological practices and laboratory techniques to be used for the project.
- Submit a protocol to the Institutional Biosafety Committee (IBC) for review and approval.
- Obtain IBC approval before initiating experiments subject to the *NIH Guidelines*.

By signing below, I agree to fulfill all the Principal Investigator's responsibilities as stated above, and I assume complete responsibility for the safety and oversight of minor(s) in my lab.

_____	_____	_____
Principal Investigator's Name (Print)	**Principal Investigator's Signature**	**Date**