



# Summer Research Internship Program

## Student Handbook





**Health Sciences Center  
New Orleans**

### **Congratulations Summer Research Internship Participants!**

Welcome to the Summer Research Internship Program. We are thrilled to have you join us and want you to be very proud of the accomplishment of being invited to participate; the selection process is highly competitive!

The committee wishes to recognize and acknowledge the degree of excellence and motivation you have demonstrated. This program is specifically focused on providing medical students, undergraduates, and high school students with research opportunities at Louisiana State University Health Sciences Center, Tulane Health Sciences Center, Pennington Biomedical Research Center, Children's Hospital of New Orleans, and Ochsner Hospital. We are currently working to identify faculty members that best meet your research interests and goals. The faculty will be contacting you soon.

You should begin working with your mentor in June. You will receive three stipend checks during the summer. As part of this program, you are expected to do a literature search on your research topic and to participate in the weekly seminar series. You are required to attend Research Ethics training sessions (part of the weekly seminar series) and to present a poster of what you have learned at the Poster Day at the end of the summer.

Thank you again for submitting such an outstanding application. We are looking forward to a fun and productive summer with you!

Sincerely,

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### About the Program

LSUHSC has a limited number of summer research opportunities for students at all educational levels. The Summer Research Internship Program was started by Dr. Paula Gregory to provide research experiences for medical students, undergraduates, and high school students in Louisiana. The program works to cultivate students' interest in pursuing research careers in either the basic or clinical sciences. Students spend 8-weeks in the program during the summer. Interns are matched with mentors in laboratories or clinics at Louisiana State University Health Sciences Center, Tulane University Health Sciences Center, and Pennington Biomedical Research Center in Baton Rouge, Ochsner Hospital, or Children's Hospital of New Orleans.

Dr. Fern Tsien, Co-Director of the Summer Intern Research program, matches students with a research mentor, based on their individual research interests. Students learn laboratory techniques used in medical research and attend weekly seminars. All students present their research results at the end of the summer at a poster session. In addition, they receive training in presentation skills, including how to prepare and present a poster at a scientific meeting.

This program has succeeded in providing over 200 students with a meaningful research experience. Because of this program, some of Louisiana's best and brightest undergraduates, who attend school elsewhere; have been introduced to the opportunities available in their home state. After completing their internship, many student interns present their data at scientific conferences, or have their research published in scientific journals!

This program is funded by the LSUHSC Department of Genetics, Louisiana Gene Therapy Consortium, the Louisiana Vaccine Center, the Louisiana Cancer Research Consortium, the LSU School of Medicine, Tulane School of Medicine, the National Institutes of Health, and the Patrick F. Taylor Foundation.

### Expectations

As a participant you are required to meet the following expectations:

- Be available during all dates of program and report to work on time as designated by mentor to work on assigned research project.
- Attend the **MANDATORY** weekly seminar series presentations
- Present a poster at the Poster Session at the end of the internship

### Poster presentation

Our summer internship culminates in a poster session where the students present what they learned this summer. During the summer internship, students receive training in



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presentation skills, including how to prepare and present a poster at a scientific meeting. The program covers the expense of printing the posters and students are highly encouraged to reuse the poster at other poster sessions or scientific meeting. The summer posters are judged and awarded for excellence.

### Laboratory Safety

As part of the orientation process you will be **required** to attend Laboratory Safety training. Below is the outline for Laboratory Safety Class which will be presented by George Troxler, Laboratory/Driving Safety Officer.

### Laboratory Safety Class Outline

1. Publications & Online Sites
2. Risks & Hazards
3. Lab Safety Practices
4. "Practicing Safe Science" (video)
5. Material Safety Data Sheets (MSDS)
6. BREAK (15 minutes)
7. Personal Protective Equipment (PPE)
8. Ventilation
9. Chemical Hazards
10. "Chemical Storage Hazards" (video)
11. BREAK (15 minutes)
12. Biological Hazards
13. Hazardous Waste & Procedures
14. Fire Safety
15. "Fire Awareness" (video)
16. Laboratory Safety Accidents

### Personal Protective Equipment (PPE)

Below is the University policy on personal protective equipment (PPE), please familiarize yourself and adhere to these policies for your own personal safety.



<b>Environmental Health &amp; Safety Policy Manual</b>			
Issue Date 8/24/2009			Policy #: EHS200.9
<b>Personal Protective Equipment</b>			

**1.0 PURPOSE:**

In order to protect the health of employees and students, and to maintain compliance with local, state, and federal guidelines, appropriate personal protective equipment (PPE) is required in areas where there is a risk of injury or exposure to hazardous substances.

The PPE program provides the LSU Health Sciences Center community (LSUHSC) with the necessary information to identify work situations that require the use of PPE, and information on the procurement, use, maintenance, and disposal of PPE.

**2.0 SCOPE:**

The use of appropriate PPE applies to all faculty, staff, students, visitors, contractors and volunteers. PPE includes all clothing and work accessories designed to protect employees from workplace hazards.

Where possible, all personnel should work to develop engineering and/or administrative controls to reduce dependency on PPE.

**3.0 RESPONSIBILITIES:**

**3.1 Environmental Health and Safety Department shall:**

- Provide technical support and assist departments in implementing an effective PPE program.
- Provide training for PPE instruction as needed.
- Review/ revise the PPE program for compliance with applicable regulations.

**3.2 Supervisors/ Principal Investigators (PI) shall:**

- Conduct job safety analyses (JSA) in their work areas and maintain records. For more information on JSAs, refer to the Job Safety Analysis Procedures Policy, EHS200.10.
- Determine required PPE and order adequate supplies.



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- Ensure proper disposal of PPE. Refer to the LSUHSC radiation safety manual, biological safety manual, and chemical safety manual for specific disposal information on PPE.
- Train employees on the proper use, care and cleaning of PPE. Maintain records of this training.
- Ensure employees wear the correct PPE for each job.
- Replace defective or damaged PPE immediately.
- Keep an adequate supply of PPE on hand.

### **3.3 Faculty, Staff, Students, Visitors and Volunteers shall:**

- Wear required PPE.
- Maintain and store PPE in a clean and sanitary condition.
- Ensure PPE is in good operating condition at all times; never wear defective PPE.
- Report unsafe or unhealthy work conditions and job related injuries/illnesses immediately.

## **4.0 IMPLEMENTATION REQUIREMENTS:**

### **4.1 General**

There are three general methods for controlling exposure to hazardous substances: engineering controls, administrative controls, and PPE. These methods can be used to keep exposure below permissible exposure limits. The use of engineering controls is the preferred method for reducing employee exposure. When engineering controls are not sufficient to minimize exposure, PPE shall be used.

Protective equipment, including PPE for eyes, face, head, and extremities; protective clothing; respiratory devices; and protective shields and barriers shall be provided and used in the following circumstances:

- Where determined by a Supervisor/PI or Safety Specialist that PPE is necessary to protect the health and safety of employees from hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.
- Where determined by a Supervisor/PI that engineering and/or supervisory controls do not reduce exposure potential to a safe level.
- Where development or installation of engineering controls are pending.
- During short term, non-routine operations where engineering controls are not practical.
- During emergency situations such as spills, ventilation malfunctions, etc.



#### **4.2 Job Safety Analysis (JSA)**

Supervisor/PI will assess jobs and evaluate engineering controls using Appendix A, JSA Form 1-00. If it is determined that hazards are present or are likely to be present which necessitate the use of PPE, then the supervisor/PI shall:

- Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the JSA.
- Communicate selection decisions to each affected employee.
- Provide PPE that properly fits each affected employee.

#### **4.3 PPE Selection**

Selection of PPE shall be based upon the body part that needs protection and on provision of a level of protection greater than the minimum required to protect the exposed employee from the potential or observed hazards. Defective or damaged personal protective equipment shall not be used at any time, and will be repaired or disposed of immediately.

##### **4.3.1 Eye and Face Protection**

The Supervisor/PI shall ensure that each affected employee uses appropriate eye or face protection when exposed to eye or face hazards from flying particles, bioaerosols, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious radiation.

##### **4.3.2 Head Protection**

The Supervisor/PI shall ensure that each affected employee wears a protective helmet when working in areas with a potential for injury to the head from falling objects, penetration, overhead beams/pipes, and overhead loads. Other head hazards that would require the use of protective headwear include extreme cold, chemicals, and electrical shock.

##### **4.3.3 Foot Protection**

The Supervisor/PI shall ensure that each affected employee uses protective footwear when working in areas with a danger of foot injuries due to falling or rolling objects, objects piercing the sole, and where employee's feet are exposed to electrical hazards. Wet conditions and chemicals are hazards that should also be considered when choosing protective footwear.

##### **4.3.4 Hand Protection**

The Supervisor/PI shall select and require employees to use appropriate hand protection when employee hands are exposed to hazards such as those from skin



absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burn, thermal burn, and harmful temperature extremes.

The Supervisor/PI shall base the selection of the appropriate hand protection on an evaluation of the performance characteristics of the hand protection relative to the task (s) to be performed, conditions present, duration or use, and the hazards and potential hazards identified.

#### **4.3.5 Hearing Protection**

The Supervisor/PI will ensure that all employees assigned to work areas where noise levels exceed 85 decibels averaged over eight hours are enrolled in the LSUHSC Hearing Conservation program. For more information, refer to the LSUHSC Hearing Conservation Program Policy.

#### **4.3.6 Respiratory Protection**

The Supervisor/PI will ensure that all employees are provided with respirators when such equipment is necessary to protect the health of the employees. The Environmental Health and Safety Department provides respirator fit tests.

#### **4.4.1 Payment for Protective Equipment**

LSUHSC will provide all PPE at no cost to employees. LSUHSC must pay for replacement PPE, except when the employee has lost or intentionally damaged the PPE. LSUHSC is not required to pay for:

- Non-specialty PPE (e.g., safety-toe protective footwear and non-specialty prescription safety eyewear) if the employee wears such items off the job-site.
- Everyday clothing, such as long-sleeve shirts, long pants, street shoes, normal work boots or ordinary clothing.
- Items used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen.

Where an employee voluntarily provides adequate protective equipment he or she owns, LSUHC may allow the employee to use it and is not required to reimburse the employee for that equipment, or pay to replace the equipment. However, the Supervisor/PI must ensure the equipment is properly maintained.

### **5.0 EMPLOYEE TRAINING AND EDUCATION:**

#### **5.1 Initial Training**



Prior to conducting work requiring the use of personal protective equipment, employees must be trained on the basics of PPE use. Any training format may be used as long as a hands-on session is incorporated.

## **5.2 Refresher Training**

When a Supervisor/PI has a reason to believe that an affected employee who has already been trained does not have the understanding and skill required, the employee shall be retrained. Circumstances where retraining is required include, but are not limited to the below circumstances:

- Changes in the workplace render previous training obsolete.
- Changes in the types of PPE to be used render previous training obsolete.
- Inadequacies in an affected employee's knowledge or use of assigned PPE.

## **5.3 Training Elements**

Initial training shall include the following:

- When PPE is necessary.
- What type of PPE is necessary.
- How to properly don, doff adjust and wear the PPE.
- Limitations of the particular PPE.
- The proper care, maintenance, useful life and disposal of the PPE.

All training must be documented using Appendix B, PPE Training Certification Form.

## **6.0 RECORDKEEPING:**

### **6.1 Supervisor/Principle Investigator**

Supervisor/PI shall maintain a copy of employee training records for a minimum of six years.

### **6.2 Environmental Health and Safety Department**

The EH&S Office shall maintain a copy of all training records for a minimum of six years.

## **7.0 INSPECTIONS AND PROGRAM REVIEW:**

Program effectiveness will be assessed annually by the Environmental Health and Safety Department. Furthermore, program compliance will be evaluated at the General Safety Committee meetings and during routine laboratory inspections.

## **8.0 REFERENCES:**

OSHA Regulation 29 CFR 1910 Subpart I - Personal Protective Equipment



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1910.132- General Requirements  
1910.133- Eye and Face Protection  
1910.135- Head Protection  
1910.136- Occupational Foot Protection  
1910.137- Electrical Protective Devices  
1910.138- Hand Protection

**9.0 DEFINITIONS:**

- **Administrative Controls (work practice controls)** are changes in work procedures, such as written safety policies, rules, supervision schedules, and training, with the goal of reducing the duration, frequency, and severity of exposure to hazardous chemicals or situations.
- **Engineering Controls** eliminate or reduce exposure to a chemical or physical hazard through the use or substitution of engineered machinery or equipment. Examples include: self-capping syringe needles, ventilation systems such as fume hoods, sound dampening materials to reduce noise levels, safety interlocks, and radiation shielding.
- **Job Safety Analysis (JSA)** is a systematic method of identifying hazards and control measures to safely perform a specific task. For more information, refer to the Job Safety Analysis Procedure Policy, EHS200.10.