

## Social and Cultural Activities

Interns enjoy a variety of events including excursions to area museums, concerts and musical performances, and historical sites with current graduate students and program staff. The University of Pennsylvania has many summer programs and there are many free events on campus that are open to our interns. Philadelphia is a great city to visit for the summer, and an even better place to live. Just ask the students!

## Funding

Each intern receives a competitive stipend, on-campus housing, and transportation costs for one round trip to the University of Pennsylvania. The program runs for ten weeks.

## Applying to the SUIP

We are currently accepting applications from U.S. citizens and permanent residents ONLY. We regret that we are unable to consider international applications at this time. We encourage applications from students of all backgrounds, particularly those from underrepresented minority groups or disadvantaged backgrounds; with disabilities; or who attend small colleges.

Application instructions are found on our website ([www.med.upenn.edu/bgs/applicants\\_suiip.shtml](http://www.med.upenn.edu/bgs/applicants_suiip.shtml)) and include the following:

- Online application form
- Statement detailing (1) your career goals and (2) your area of research interest
- **Two** letters of recommendation from academic faculty or advisors
- Official copy of your undergraduate transcript (hard copy sent by mail)

**We must receive all application materials before February 1.**

Questions should be directed to the Summer Undergraduate Internship Program at [suiip@mail.med.upenn.edu](mailto:suiip@mail.med.upenn.edu) or 215-898-1030. For additional information, please visit our website at [www.med.upenn.edu/bgs/](http://www.med.upenn.edu/bgs/)



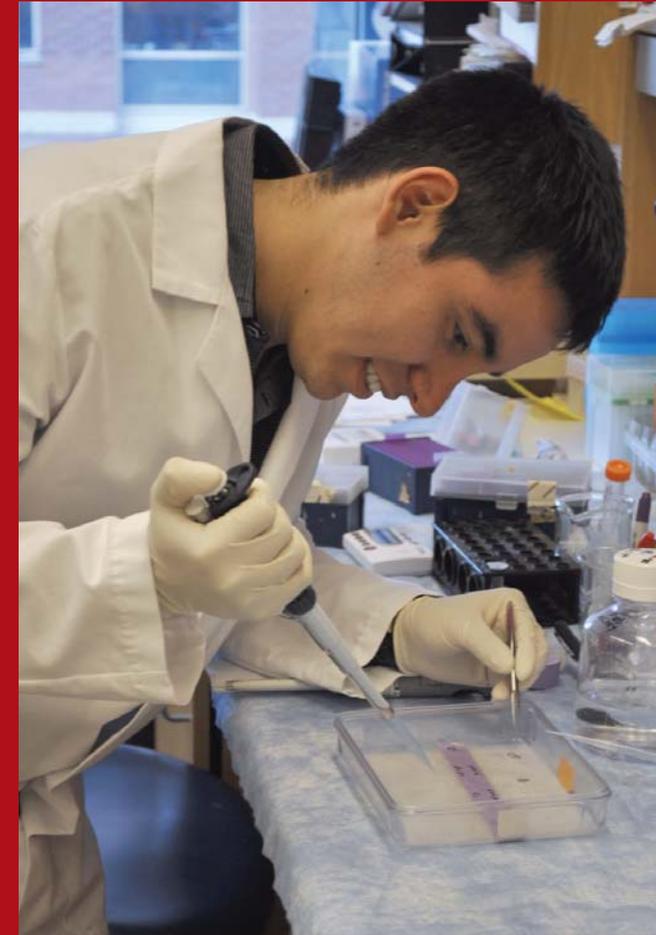
### NON-DISCRIMINATION POLICY

The University of Pennsylvania values diversity and seeks talented students, faculty and staff from diverse backgrounds. The University does not discriminate on the basis of race, color, sex, sexual orientation, religion, national or ethnic origin, age, disability or status as a disabled or Vietnam Era veteran in the administration of its educational policies, programs, or activities, admissions policies and procedures, scholarship and loan programs, employment, recreational, athletic or other university administered programs. Questions or concerns regarding the University's equal opportunity and affirmative action programs and activities or accommodations for people with disabilities should be directed to:

Director of Affirmative Action, 1133 Blockley Hall, 418 Service Drive, Philadelphia, PA 19104-6021. (215) 898-6993 (voice) or (215) 898-7803 (TDD).

# Summer Undergraduate Internship Program in the Biomedical Sciences

BIOMEDICAL GRADUATE STUDIES  
UNIVERSITY OF PENNSYLVANIA





## Areas of Research

Mentors are drawn from a group of over 500 biomedical faculty members representing various departments and schools. Broad areas of research interest include:

- Biochemistry and Molecular Biophysics
- Cell and Molecular Biology
  - Cell Biology and Physiology
  - Cancer Biology
  - Developmental, Stem Cell, and Regenerative Biology
- Genetics and Gene Regulation
- Gene Therapy and Vaccines
- Microbiology, Virology, and Parasitology
- Genomics and Computational Biology
- Immunology
- Neuroscience
- Pharmacology



## Research Presentations

### Oral presentations

Penn belongs to The Leadership Alliance, a consortium of 31 leading research and teaching academic institutions, including Ivy League and minority serving institutions, all dedicated to improving the participation of underserved students in graduate programs and, ultimately, research professions in the academic, public and private sectors. Participants in the SUIP attend the Leadership Alliance Annual National Symposium and present their summer research as talks. For more information on this organization, visit their website at [www.theleadershipalliance.org](http://www.theleadershipalliance.org).

### Poster presentations

At the conclusion of the program, interns present posters on their research projects at Penn to the other program participants, BGS faculty and students, postdocs and staff.

## Examples of summer research projects include:

- Function of C16orf57 in Clericuzio-type poikiloderma with neutropenia
- Hypoxia inducible factor-1alpha in signaling downstream of glycogen synthase kinase-3 inhibition in the mouse brain
- The effect of kinase inhibitors on Junin virus entry process
- Immunoaffinity enrichment of potential disease biomarkers in blood plasma
- Cell type selective reduction of NMDA receptors for schizophrenia targeted therapeutic development
- Dissection of the fibrillogenic activity of the premelanosome matrix protein, Pmel 17
- Evaluation of neural phenotypes and therapeutic interventions in a zebrafish model of Batten disease
- p53 status alters the effects of KLF5 on cell proliferation
- The role of BLOC-1 in melanosome biogenesis and protein trafficking
- Role of melanocortin 4 receptor (MC4R) in obesity
- Role of oxidative stress in neurotoxic effect of cART drugs
- The role of lipid uptake in cancer cells
- Validation and discovery of RNA/ DNA differences
- Phenotypic screening of the T31 RH panel for tissue specific gene expression
- Cell-to-cell fusion assay by HIV-1 envelopes from the periphery and central nervous system primary isolates
- Investigating potential glial cell abnormalities in Ipr-1 and let-4 mutants
- Effects of predator odor stress on CRF release and cognitive flexibility in rats
- Vaccination of HIV-1 infected subjects on HAART boosts cellular immune responses
- Varying statistical structure of sounds: Effect on behavioral discrimination of rats and on response properties of the auditory cortex

## Program Goals

The SUIP is designed to provide research experience to talented students interested in graduate study in the biomedical sciences. Interns complete ten weeks of full-time laboratory research, attend state-of-the-art research seminars, and deliver scientific presentations to their peers. In addition, interns receive training in responsible conduct of research, laboratory safety, and presentation skills. Interns are also invited to career counseling sessions in which faculty and administrators discuss graduate school and career opportunities for biomedical scientists.

## Laboratory Research

Each intern is matched with a faculty mentor from the Biomedical Graduate Studies (BGS) programs. The intern participates in the ongoing research of the mentor's laboratory and performs a specific, supervised research project related to the goals of the laboratory. Interns interact with postdoctoral scholars, graduate students, and laboratory personnel in addition to working with their faculty mentor.

## Seminar Series

The SUIP sponsors the Summer Seminar Series, a sequence of talks on timely issues in biomedical science presented by distinguished BGS faculty. The seminars provide interns with an opportunity to discover the breadth of research being conducted in various fields.