

The Bryant-Howard Medical Research Award

*to The Johns Hopkins University School of Medicine
Summer Internship Program*

*Acquire both
theoretical knowledge and
practical training in
research and scientific
experimentation and other
scholarly investigations!*

*The Summer Internship
Program (SIP) provides
experience in research
laboratories to
undergraduate students of
diverse backgrounds,
including underrepresented
minority students and
students from economically
disadvantaged and
underserved backgrounds.*

The Award

- One University student will receive the prestigious 2010 Bryant-Howard Medical Research Award to attend the Johns Hopkins University School of Medicine 2010 Summer Internship Program (SIP), located in Baltimore, MD.
- Applications are open to all UD majors.
- Students must have completed at least one - two years of college; seniors need not apply.
- The internship requires a full-time commitment for the ten week long program.

Internship includes:

- \$3,000 stipend
- Housing near the undergraduate campus, with a shuttle service for convenient transportation between the Johns Hopkins Medicine Institutions and the undergraduate campus.
- Program Activities Fees (i.e., journal club, welcome reception, poster session), and
- Contribution toward expenses incurred traveling to the SIP campus.

Program Dates:

Sunday, May 30, 2010 through Friday, August 6, 2010.

Application Due Date: *Monday, February 15, 2010*

Recipient Announced: *Monday, March 15, 2010*

Eligibility

- Students must have completed one year of college and be a U.S. citizen to apply to the Pulmonary Medicine division
- Students must have completed two years of college and be either a U.S. citizen or international student currently studying in the U.S. to apply to the Basic Science Institute and Bloomberg School of Public Health divisions of the program.
- Basic Science Institute students must have a demonstrated interest and potential to pursue a PhD degree.

The Gift of Opportunity

*The Bryant-Howard Medical Research Award is
made possible by a gift from alumnus
Dr. W. Michael Bryant, Class of '59.
Advised and inspired by UD Professor
Robert S. Howard to pursue a career in medicine,
Dr. Bryant earned his medical degree in 1963 from
The Johns Hopkins University
School of Medicine.*

*Thanks to his faculty mentor,
Dr. Bryant identifies his professional self as
"A product of the University of Delaware
and The Johns Hopkins University School of Medicine
– and their values."*

The Research Experience

Overall, you can expect an experience similar to that of a first-year graduate student who does a three-month rotation in a laboratory or out in the community to become acquainted with the project, techniques, and people working in that area. Before arrival each intern receives several papers related to their specific research project. The goal of the project and its relationship to other work in the area will be discussed, and you will be instructed in the techniques necessary to conduct the research. As each technique is mastered, the responsibilities for seeing the procedure through will rest increasingly with you. Besides daily interactions with others at the project site, most groups have a more formal meeting once or twice a week to discuss research problems, and progress and developments reported in the literature. While the style and character of each research site varies considerably, all are composed of very dedicated and hardworking individuals who are more than willing to help others who are similarly committed to learning. The program concludes with a poster session by the interns describing their projects.

This summer internship program requires a **full-time commitment**. Interns should be prepared for long days and short weekends. It is not permissible to take academic classes or hold other employment during the internship. There are no vacations during the program.

RESEARCH OPPORTUNITIES

Research opportunities available in each area of the program are described below – please indicate which area you wish to be considered for.

Basic Science Institute (BSI)

Research opportunities in the Basic Science Institute (BSI) are available in all of our basic science departments: Biological Chemistry; Biomedical Engineering; Biophysics and Biophysical Chemistry; Cell Biology; Molecular Biology and Genetics; Molecular and Comparative Pathobiology; Neuroscience; Pharmacology and Molecular Sciences and Physiology. Past program participants have participated in a broad array of projects from molecular and cellular analysis of the aquaporin water channels, molecular genetic basis of Down syndrome, genomics, neurobiology of disease, applications of polymeric biomaterials to drug delivery, gene therapy, and tissue engineering. Program activities include weekly journal clubs, semi-monthly professional development seminars and the program concludes with a poster session. The rich environment and guidance by our faculty helps prepare our students for successful careers as independent research scientists.

BSI - Chemistry-Biology Interface

Research opportunities in the Chemistry-Biology Interface (CBI) program are available in the Biochemistry and Molecular Biology, Biology, Biophysics, Biophysics & Biophysical Chemistry; Chemical & Biomolecular Engineering, Chemistry and Pharmacology & Molecular Sciences departments. Research projects span a broad array of topics at the Chemistry-Biology interface including studies on the reactivity, synthesis and structure of nucleic acids, proteins, lipids, carbohydrates, and small molecules of biological interest. The Program concludes with a poster session. The research experience provides excellent exposure to research in this burgeoning area.

BSI - Summer Internships in Immunology

The Johns Hopkins Immunology Training Program (ITP) offers summer research opportunities to qualified and interested undergraduates in the laboratories of our faculty. A wide range of research opportunities exist including: T cell antigen recognition, the immunobiology of AIDS, the biochemistry of lymphocyte activation, molecular biology of lymphocyte development, immunoglobulin gene rearrangement, tumor immunology, dendritic cell development and function, autoimmune disease mechanisms, antigen processing and presentation, innate adaptive immunity to infectious agents and mechanisms of immunologic tolerance. Students are actively engaged in hands on independent research and fully participate in lab-based journal clubs and research conferences.

Bloomberg School of Public Health

As a leading international authority on public health, the Johns Hopkins Bloomberg School of Public Health is dedicated to protecting health and saving lives. Every day, the School works to keep millions around the world safe from illness and injury by pioneering new research, deploying its knowledge and expertise in the field, and educating tomorrow's scientists and practitioners in the global defense of human life. At the Bloomberg School of Public Health, you will be mentored by some of the world's leading authorities on public health issues. Some of our major research initiatives are in these areas: improving the health of women and children; identifying determinants of behavior and developing communication programs to promote healthy lifestyles; protecting our nation from bioterrorism; preventing and controlling AIDS; reducing the incidence and severity of injuries; elucidating the causes and treatment for mental disorders; preventing chronic diseases (heart diseases, stroke, cancer, diabetes); improving the health of adolescents; preventing and treating substance abuse; assessing the effect of environmental toxins on human health; making water safe and available for the world's population; assessing the health needs of disadvantaged populations (rural, urban, refugees, US ethnic groups); and developing methods to better understand, manage and finance health care. Your research opportunity may take place in a laboratory, health department, clinic, office, or in a community setting.

Pulmonary and Critical Care Medicine

Students work on specific research projects under the supervision of an assigned mentor. Projects span a broad range of research, from the basic science of endothelial or epithelial cell biology to asthma epidemiology. In addition to the research experience, students participate in a weekly journal club, during which they present primary research articles to their peers and members of the faculty. Students also attend a seminar series featuring faculty members from Johns Hopkins and the NIH. This forum provides students with the opportunity to interact with faculty members and hear different perspectives on issues related to career development. Students interested in clinical medicine are given the opportunity to "round" with the Johns Hopkins Medicine residents, providing a glimpse of life in clinical medicine as a resident at an academic institution. At the end of the summer, students present their work in a poster session. We hope that through these activities students will gain first-hand knowledge of research and academic medicine, and ultimately pursue careers in the biomedical sciences.

THE COMPLETE APPLICATION

We ask that students complete the *attached* application describing relevant course work, research experience and future plans regarding a career in science/medicine. We require a minimum of two letters of recommendation and official transcripts.

Because of Dr. Bryant's endowed gift of opportunity, one University of Delaware student will fill a reserved internship. Selection of the student Award recipient will be determined by the Office of the Dean of the College of Health Sciences. All University of Delaware students are welcome to apply, as this award is not restricted to students of the College of Health Sciences only.

Application deadline is February 15, 2010. Applicants will be informed of their status by March 15th. Inquiries should be directed to Dr. David Barlow by email [barlow@udel.edu] or phone [302.831.3030]. Completed applications should be sent to the following campus address:

**David A. Barlow, Ph.D.
011 CSB
Department of Health, Nutrition and Exercise Science
University of Delaware
Newark, DE 19716**

For additional information regarding Johns Hopkins University School of Medicine and their Summer Internship Program, go to www.hopkinsmedicine.org/graduateprograms/sip.cfm

EDUCATIONAL GOALS and PROGRAM OF INTEREST

_____ Basic Science Institute (BSI) _____ BSI/CBI _____ BSI/Immunology

_____ Bloomberg School of Public Health _____ Pulmonary & Critical Care Medicine

Please type or print clearly

ADDRESS INFORMATION

Name: _____ UDEL Student ID#: _____

Current Address: _____

City: _____ State: _____ Zipcode: _____

Permanent Address: _____

City: _____ State: _____ Zipcode: _____

Current Telephone: _____ Permanent Telephone: _____ Cell Phone: _____

E-mail: _____ SS# (last four digits): _____

UNIVERSITY OF DELAWARE EDUCATIONAL INFORMATION

College(s): _____

Academic Department(s): _____

Major(s): _____

Minor(s): _____

Year/Level (Fr, Sp, Jr, Sn): _____

Science GPA: _____

Non-Science GPA: _____

Advisor's Name _____ Department: _____

HEALTH AND EMERGENCY INFORMATION

Do you currently have health insurance? _____

Health Insurance Carrier: _____ Policy Number: _____

Emergency Contact Name & Telephone: _____

DEMOGRAPHIC INFORMATION (voluntary)

The following questions relate to the University's voluntary efforts to enhance diversity in keeping with its education and research missions. They provide important data for assessment of our diversity initiatives and assist us in matching program applicants with appropriate funding sources. This information is not used in making any admission decision. All information is confidential.

Date of Birth: _____ Sex: _____ Male _____ Female Citizenship: _____

Please indicate the group(s) listed below to which you belong:

Ethnic: _____ Hispanic or Latino _____ Not Hispanic or Latino

Racial Identifiers:

<input type="checkbox"/> Alaskan Native	<input type="checkbox"/> Indian/Pakistani	<input type="checkbox"/> Other Pacific Islander
<input type="checkbox"/> American Indian	<input type="checkbox"/> Japanese	<input type="checkbox"/> Puerto Rican (Mainland)
<input type="checkbox"/> Black/African American	<input type="checkbox"/> Korean	<input type="checkbox"/> Puerto Rican (Commonwealth)
<input type="checkbox"/> Chinese	<input type="checkbox"/> Mexican American/Chicano	<input type="checkbox"/> Southeast Asian (not Vietnamese)
<input type="checkbox"/> Filipino	<input type="checkbox"/> Native Hawaiian	<input type="checkbox"/> Vietnamese
<input type="checkbox"/> Hispanic/Other (including Cuban)	<input type="checkbox"/> Other Asian	<input type="checkbox"/> White/Caucasian

Disadvantaged Groups:

☐ First Generation College ☐ Low/moderate income

Do you have a disability? ☐ Yes ☐ No

If yes, please select disability?

☐ Learning
☐ Hearing/Speech
☐ Sight
☐ Ambulatory
☐ Other

STATEMENT

Please describe your interest in the Summer Internship Program, including your science and research background, academic accomplishments and future science career plans and goals. *Please be sure to include your name on each page.*

ACTIVITIES

Using a separate sheet, please send resume that includes a list significant extracurricular activities in which you have been involved. Include specific events or accomplishment in areas such as publication, student government, music, sports, church or community activities. List the Activity, Year of Participation, and Position Held and/or Honors Won.

Transcripts & Recommendations

SIGNATURE

Signature: _____

Date: _____