

# COLLEGE OF LETTERS & SCIENCES

## Division of Life Sciences

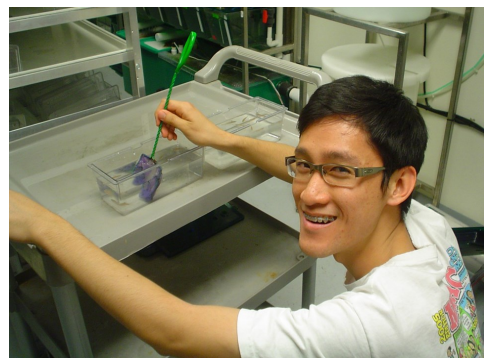
### Minor in Biomedical Research

**Catch the excitement of cutting-edge research!**

**Open to students in ANY major.**  
**Get a MINOR in BIOMEDICAL RESEARCH!**



Some of the best biomedical research in the world is conducted at UCLA, and you can be a part of it. Through the Minor in Biomedical Research you can participate in research on: **Stem cells, Parkinson's Disease, Cancer, HIV/AIDS, Neurobiology and much more!**



#### HOW TO GET MORE INFO ABOUT THE MINOR

- Take a required introductory course
- Ask a Faculty or Staff member about the minor
- Review Info Sheet / Info Flyer
- Visit the website [www.biomedresearchminor.ucla.edu](http://www.biomedresearchminor.ucla.edu)
- Meet with Biomedical Research Minor Faculty and Staff in 220 Hershey Hall

#### APPLYING TO THE MINOR

- Applications to the Minor can be submitted online at [www.biomedresearchminor.ucla.edu](http://www.biomedresearchminor.ucla.edu)
- The earliest you can apply to the Minor is during the Quarter that you're taking an Introductory Course.
- The last chance to apply for the Minor is the Fall Quarter of your 3rd year as an undergraduate.
- Transfer students should plan to take an Intro course and apply to the Minor during the first quarter at UCLA.
- Applications are due online by Friday of **Week 7**.

#### How do I get started? Take one mandatory Intro Course below

##### • BR 5HA Biomedical Research Concepts and Strategies

In this class, you will be immersed in the world of biomedical research at UCLA. You will listen to two Faculty Research Seminars that will expose you to cutting-edge biomedical research conducted on campus. These seminars are one-hour lectures given by outstanding UCLA faculty on primary research projects from their own laboratories. They will introduce you to questions of general biological interest that are studied in UCLA research labs. Research topics vary from quarter to quarter.

Each seminar will be followed by a series of classes in which we will explore the science behind the research. We will discuss scientific concepts and experimental approaches used in the talk. We will learn how to analyze a seminar in terms of its central questions, experimental data, conclusions of the speaker, significance of the work and possible future directions. We will also read and discuss papers from the primary literature with the same goals in mind. Finally, we will learn how to use the Internet to find published literature and scientific data that can enhance our research. By the end of this class, you will have the confidence and intellectual tools to understand biomedical research! LEARN THE SCIENCE BEHIND THE RESEARCH AT UCLA! NO REQUISITES! Questions? Contact Dr. Ira Clark, [iclark@ucla.edu](mailto:iclark@ucla.edu) or Dr. Rafael Romero [raromer@ucla.edu](mailto:raromer@ucla.edu)



##### • LS 10H Research Training in Genes, Genetics and Genomics

Life Sciences 10H is a discovery-based research class. Students in the course become members of the UCLA Undergraduate Research Consortium in Functional Genomics (URCFG). In this course, you will do original research in *Drosophila* genetics for a 10-week quarter, as part of a much larger research project spanning 3-4 years. The findings you make will be novel – nobody will have done your specific experiments before, so we don't know what the answer might be! You will document all your data for use by the URCFG and eventually the greater scientific community. Previous work by LS 10H students has been published in major research journals with all participants included as authors - 134 and 264 students, respectively. In addition to your laboratory research, you will attend lecture classes that will discuss fundamental concepts in genetics and developmental biology, how to use online databases for research literature and genome sequence information, important considerations in laboratory ethics and how to create an effective CV. Visit this link for more information: [www.lscore.ucla.edu/research](http://www.lscore.ucla.edu/research) or contact Dr. John Olson at [jmolson@mednet.ucla.edu](mailto:jmolson@mednet.ucla.edu).



##### • HNRS 70A Genetic Engineering in Medicine, Agriculture and Law

**NOTE: This course is only offered in Winter session.** Designed primarily for non-science students, this course gives an overview of the science of genetics and the sometimes-controversial legal and ethical issues raised by the use of genetic engineering. Topics covered include genetically modified food, human cloning, stem cells, and DNA testing in crime labs. Video lectures featuring custom animations developed by a team of professionals at the School of Theater, Film and Television make the material easy to understand and review. Discussion sections are led by Dr. Goldberg himself, using cutting-edge video conferencing technology. This is a truly unique opportunity to study one-on-one with one of UCLA's most esteemed research scientists and teachers. The course carries full Honors credit, and will fulfill an Honors Collegium requirement. It is also a Life Science GE with lab/demo credit. Visit this link for more info: <http://www.honors.ucla.edu/news.html>



Life Sciences South Administration 612 E. Charles E. Young Dr., East, PO Box 957246, Los Angeles, CA 90095-7246  
 Mail Code: 724605, Office: 220 Hershey Hall, Phone: 310-825-0237 <https://www.biomedresearchminor.ucla.edu/>

(Info Flyer current as of Summer 2013)



## REQUIREMENTS FOR COMPLETING THE MINOR\*

- BR 5HB Biomedical Research: Essential Skills and Concepts (4 units)
- Minimum of 4 quarters of Lab Research 198 or 199 (4 units each)
- BR 193H Journal Club Seminar (2 units)
- BR 194H Research Group Seminar (2 Units)
- MCDB 60 Biomedical Ethics (5 units)
- Upper Division History or Philosophy of Science elective
- Submit a Research Thesis after 4 quarters of lab
- Presentation of your research at a Poster Session or Conference
- Maintain a 3.0 GPA during the program

\*Substitutions and Exceptions may apply if completing research through special programs.



**PURPOSE:** Launched in Spring 2007, this interdepartmental Minor is designed to involve students in laboratory research at an early point in the college career. The program includes laboratory research time, analysis of research literature, oral presentation of research data, science policy and ethics, and history or philosophy of science. The curriculum is intended to train students in both the process of scientific research and social issues facing science today, promote excellence and create "science citizens".



## POST GRADUATE STUDY OF ALUMNI.....

- 84 % of alumni are enrolled in post-graduate study after 1-2 gap years.
- 49 % MD
- 20 % PhD
- 16 % MD-PhD
- 7 % MS
- 5 % DMD
- 3 % Pharm D

## Accepted to SCHOOLS.....

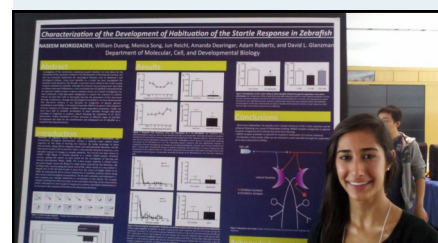
UCLA, UCSF, Stanford, Harvard, Yale, MIT, UC Berkeley, UCSD, UC Irvine, UC Davis, U. Pennsylvania, U. Washington, U. Wisconsin, Columbia, NYU, Washington Univ., and many others

## AWARDS:

Students from the Minor are competitive for scholarships at UCLA, such as HHURP, MARC, URSP, Goldwater scholarships, etc., as well as post-graduate awards, such as NSF Pre-doctoral Fellowships and Gilliam Fellowships.

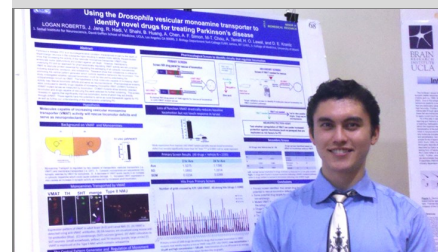
## 'GAP YEAR' STUDENTS

Two-thirds of "gap year" students are in research or teaching positions at prestigious institutions such as UCLA, Cedar Sinai, UCSF, UCSD, Harvard, Stanford, Northwestern, Albert Einstein, Danforth Center, Roche and National Institute of Health.



## FAST FACTS SINCE 2007

- Trained 280 Students in over 135 laboratories at UCLA
- 165 Students enrolled as of Spring 2013
- 151 Alumni as of Spring 2013
- 69 Publications by students since 2007
- 32.5 % of graduates (49/151) have at least one publication from their thesis research



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