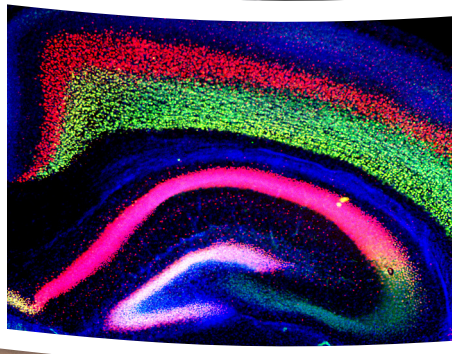
# UC Davis Biological Sciences Graduate Programs



UC DAVIS
COLLEGE OF BIOLOGICAL SCIENCES

# Advanced degrees to prepare scientific leaders for success

## Real. Life. Research.

UC Davis ranks among the nation's top institutions dedicated to the study of life sciences. Biological sciences graduate programs span colleges and schools across campus, offering a multidisciplinary and collaborative approach to education and providing options to tailor your curriculum to meet research interests. With world-class faculty and advanced research facilities, you'll be well-prepared for a successful career.

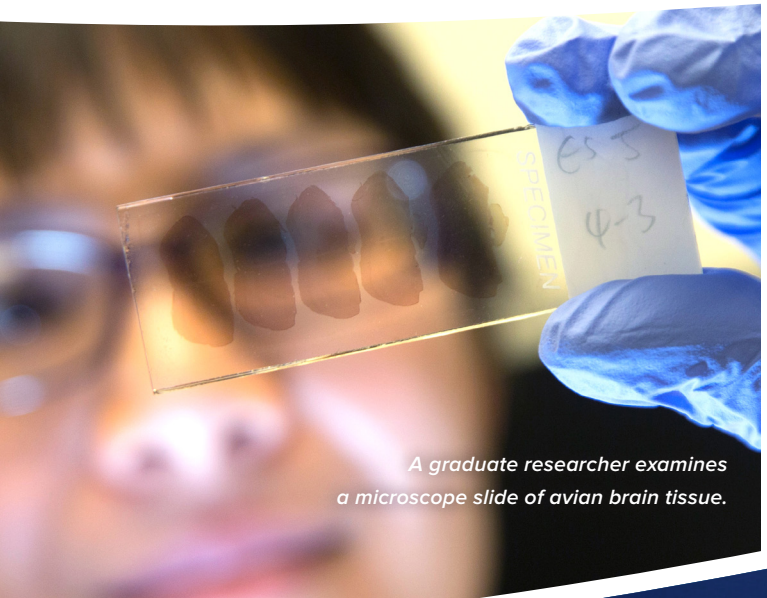
### Animal Behavior

The Animal Behavior program (Ph.D.) explores adaptive and evolutionary aspects of animal behavior. Program members take many theoretical and methodological approaches, employing a wide range of animal species in their research.

Students will receive training for instruction and research in areas relating to many disciplines, including anthropology, animal science, conservation biology, ecology, entomology, neurobiology, psychology, physiology, veterinary science, wildlife biology and zoology.

### Biochemistry, Molecular, Cellular and Developmental Biology

The BMCDB program (Ph.D.) comprises students and faculty who share an interest in studying fundamental biological problems at the molecular, cellular and organismal levels. Experimental approaches range from the atomic and ultrastructural levels to model organisms from yeast to mammals.




*A graduate researcher examines a microscope slide of avian brain tissue.*

Research interests reflect traditional strengths in biochemistry, molecular biology, and cell and developmental biology as well as approaches that combine biology, genetics, genomics, physics, engineering, math and computational disciplines. Students are encouraged to explore focus areas through core courses and four first-year rotations.

### Biophysics

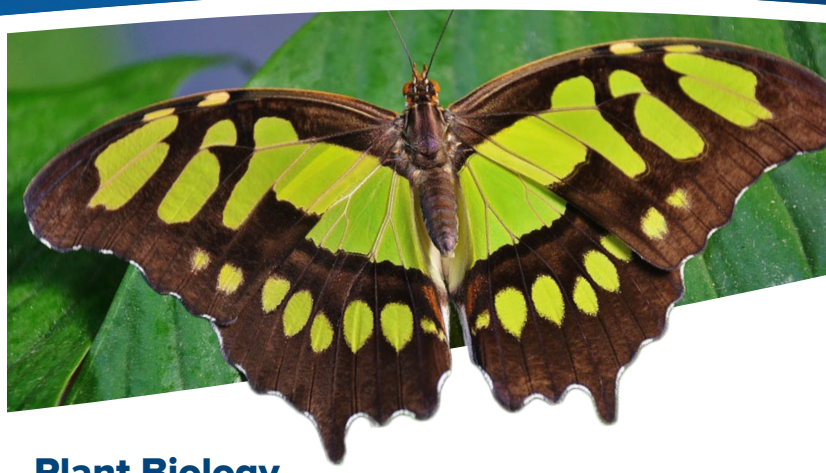
The Biophysics program (Ph.D.) prepares students to conduct independent research at the interface of physics, chemistry and biology. Students will develop and employ advanced research methods, using state-of-the-art tools to measure physicochemical phenomena in biological systems.

Research areas of emphasis include structural biology, nanoscale engineering, molecular dynamics, macromolecular organization and computational and theoretical biology. The program is designed to ensure students' dialogue with Biophysics faculty members through seminars, specific courses and rotations.

### Integrative Genetics and Genomics

The IGG program (Ph.D. and M.S.) provides students with solid training in many disciplines of modern genetics and participation in both foundational and applied research in genetics and genomics across all domains of life.

IGG offers unique opportunities for research in genomics, computational biology and classic, molecular and evolutionary genetics relevant to microbial, plant, animal and human populations.



## Molecular, Cellular and Integrative Physiology

The MCIP program (Ph.D. and M.S.) develops a strong foundation in the multi-level functions of living organisms and offers opportunities for joint Ph.D./M.D. and Ph.D./D.V.M. programs.

Research interests include general areas of cellular, molecular and systemic physiology as well as specialization in cardiovascular physiology, comparative physiology, endocrinology, exercise physiology, neurophysiology, reproductive physiology and the physiology of domestic animals.

## Neuroscience

The Neuroscience program (Ph.D.) offers interdisciplinary training for students in all areas of neuroscience, from molecules to cognition. Students will receive exposure to a myriad of clinical problems that challenge brain health.

Areas of focus include brain development and aging, synaptic function and plasticity, sensory processing and motor systems, learning and memory, computational neuroscience and diseases. The focal point for research on campus is the Center for Neuroscience.

## Plant Biology

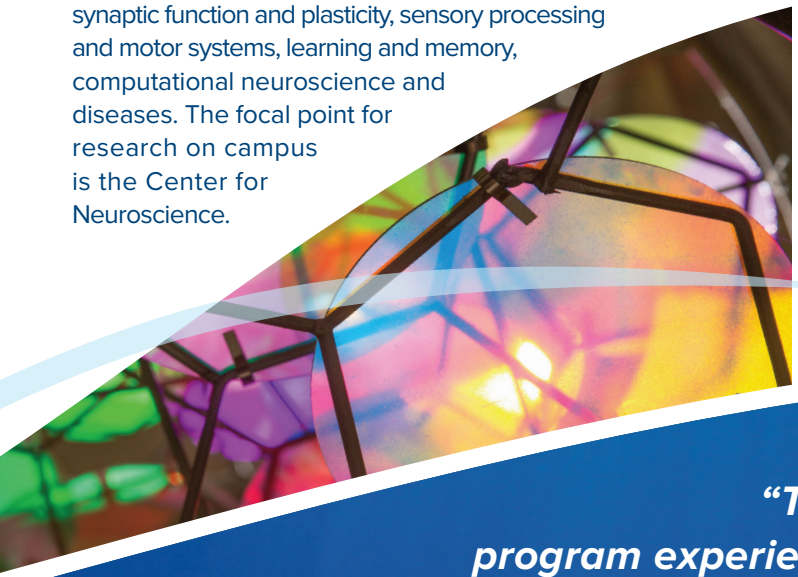
The Plant Biology program (Ph.D. and M.S.) grows an understanding of foundational and applied plant knowledge and research, ranging from individual molecules to entire populations.

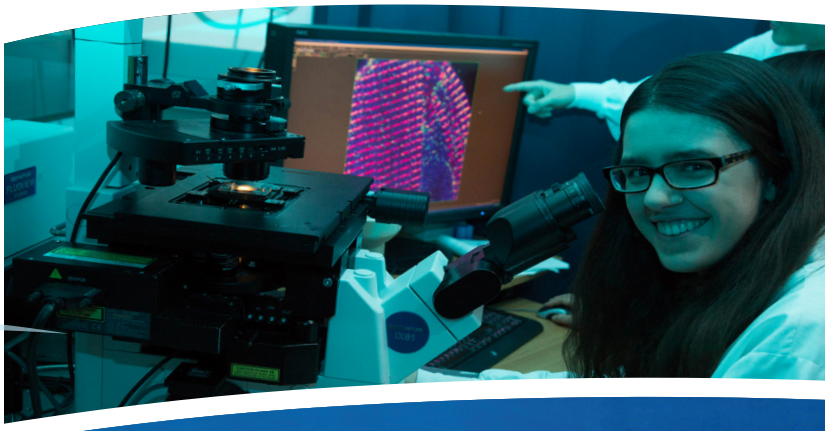
Research specialization areas include cell and developmental biology, environmental and integrative biology, molecular biology, biochemistry and genomics, and systematics and evolutionary biology.

## Population Biology

The Population Biology program (Ph.D.) operates at the interface between ecology and evolutionary biology.

Research interests explore population growth, structure and dynamics, population interactions, community ecology, food webs, biogeography, behavioral and physiological ecology, life history strategies, systematics, evolution, population and quantitative genetics, and genomics.





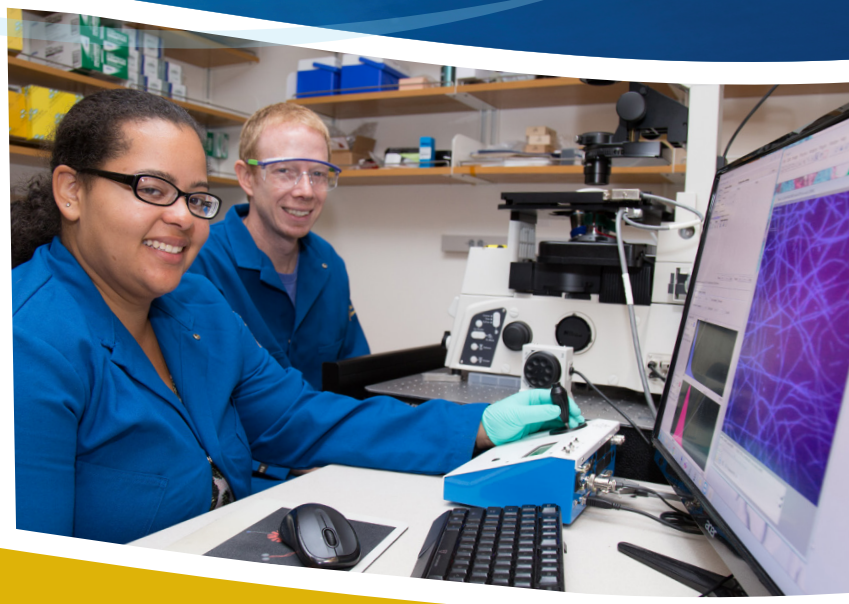
***"The most valuable part of my graduate program experience was the diversity of the education and research opportunities. I learned to be independent and how to design experiments to make great discoveries myself."***

– Erick Loomis, Ph.D., IGG, applied genomics scientist

## Supporting your success, from start to finish

UC Davis supports graduate students with academic advisement from faculty and staff advisors as well as financial support through fellowships, student employment, supplemental tuition programs and more.

Through world-class professional development programs, we provide unparalleled opportunities for student research and career development, formal training and targeted networking event series.



**College of Biological Sciences**
**Graduate Academic Programs**

530-752-9092
gap@ucdavis.edu
biology.ucdavis.edu/grad

**HAVE QUESTIONS? CONTACT A STAFF ADVISOR TO LEARN MORE**

## Research beyond limits

At UC Davis, multidisciplinary collaboration helps guide focused research. Among the hundreds of biological research labs on campus, your graduate experience will benefit from access to many institutional resources and facilities, including:

*Light Microscopy Imaging Facility Lattice Light-Sheet Microscope*

- Agricultural Experiment Station
- Alzheimer's Disease Center
- Biotechnology Program
- Bodega Marine Laboratory
- Botanical Conservatory
- California National Primate Research Center
- Center for Aquatic Biology and Aquaculture
- Center for Plant Diversity
- Center for Neuroscience
- Center for Molecular and Genomic Imaging
- Center for Population Biology
- Coastal and Marine Sciences Institute
- College of Agricultural and Environmental Sciences
- College of Biological Sciences
- College of Engineering
- College of Letters and Science
- Comprehensive Cancer Center
- Controlled Environmental Facility
- Genome Center
- John Muir Institute of the Environment
- Institute for Regenerative Cures
- Information Center for the Environment
- Light Microscopy Imaging Facility
- Natural Reserve System
- School of Medicine
- School of Veterinary Medicine
- Tahoe Environmental Research Center
- UC Davis Medical Center
- UC Davis MIND Institute

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