Bucknell UNIVERSITY

BIOLOGY

The science of species, organisms and life processes and the study of concepts related to health, the environment and agriculture

RELATED STUDENT ORGANIZATIONS

Biology Club
Phi Sigma (biology honor society)

CAREER PATHS

The biology major provides excellent preparation for work in areas including biomedical research, pharmaceuticals, emerging industries using molecular and genetic engineering techniques, education, veterinary science, medicine and other professions in the health sciences. Recent alumni have secured the following positions:

- Biology Teacher, Phillipsburg School District
- Clinical Researcher, Geisinger Medical Center
- Research Technician, Brigham & Women's Hospital
- Veterinary Technician, Animerge
- Lab Technician, Center for Regenerative Medicine

QUICK FACTS

Number of full-time faculty: 18

Average number of majors per class year: 66

PROGRAM DETAILS

- Students gain exposure to current scientific issues, theories and practical applications of biology.
- Related fields of study available at Bucknell include animal behavior, environmental studies, cell biology, biochemistry, biomedical engineering and neuroscience.
- A seminar program brings students and faculty together to discuss research in progress or to hear talks by visiting scientists.
- Biology majors begin with four core courses: cell and molecular biology, organismal biology, genetics, and population and community. Basic lab techniques are part of these courses.
- Advanced classes, research opportunities and the seminar program complete the course of study.

FACULTY

Bucknell's biology faculty members provide close, personal attention to students in the classroom and in the lab. The professors are active researchers who often invite students to become involved in their work.

Warren G. Abrahamson
B.S. University of Michigan; M.A., Ph.D. Harvard
Scholarly interests: ecology and evolution of plant-animal relationships

Elizabeth Capaldi
B.S. Trinity College (Conn.); Ph.D. Michigan State
Scholarly interests: animal behavior

Mitch Chernin
B.S. Massachusetts; M.S. Guam; Ph.D. Clemson
Scholarly interests: molecular biology

Donald Dearborn
B.S. North Carolina; Ph.D. Missouri
Scholarly interests: animal behavior

Kenneth Field
B.S. Vermont; Ph.D. Cornell
Scholarly interests: immunobiology

Julie Gates
B.S. Wisconsin; Ph.D. Utah
Scholarly interests: developmental biology

continued

GRANTS/AWARDS

Biology faculty members have recently secured grants from:

- The Leukemia and Lymphoma Society
- National Science Foundation
- Pennsylvania Department of Agriculture
- U.S. Fish and Wildlife Service

SELECTED FACULTY PUBLICATIONS

Bucknell's biology faculty members' scholarship has recently appeared in the following journals:

Journal of Avian Biology

Journal of Cell and Molecular Medicine

Development

Journal of Parasitology

Ecology

Cell

Transplant Immunology

Journal of Evolutionary Biology

FACULTY *continued*

Mark Haussmann
B.A. Wartburg; M.S., Ph.D. Iowa State
Scholarly interests: organismal aging

Mathew Heintzelman
B.A. Dartmouth; M.S., Ph.D. Yale
Scholarly interests: cell biology

Stephen Jordan
B.A., M.S. Brigham Young; Ph.D. Connecticut
Scholarly interests: molecular systematics

Elizabeth Marin
B.S. University of California, San Diego; Ph.D. Stanford
Scholarly interests: developmental neurobiology

Matthew McTammany
B.S. Bucknell; M.S., Ph.D. Virginia Polytechnic Institute
Scholarly interests: aquatic biology

Kathleen Page
B.S., M.S., Ph.D. Penn State
Scholarly interests: cell physiology

Leocadia Paliulis
B.A. Williams College; Ph.D. Duke University
Scholarly interests: genetics

Marie Pizzorno
B.A. Whittier College; Ph.D. Johns Hopkins
Scholarly interests: virology

DeeAnn Reeder
B.A. University of California, Berkeley; M.S., Ph.D. University of California, Davis
Scholarly interests: ecological physiology

Mark Spiro
B.S. Massachusetts; Ph.D. Georgia
Scholarly interests: plant development

C. Tristan Stayton
B.S. Purdue; Ph.D. Chicago
Scholarly interests: functional morphology

Emily Stowe-Evans
B.A. College of Wooster; Ph.D. Missouri
Scholarly interests: genetics

UNDERGRADUATE RESEARCH

Every summer, about 25 students conduct independent research in biology. Many of those students receive stipends from the department.

Undergraduates conducting research projects with faculty members often have papers published in peer-reviewed scientific journals and frequently present papers at professional conferences.

Recent undergraduate research projects include:

- The Role and Regulation of the Actin-Binding Protein ENA in Drosophila Development
- Behavioral Responses and Viral Infection of the Honeybee, Apis Mellifera

FACILITIES AND RESOURCES

- Three greenhouses: 1,800-square-foot rooftop museum collection; 1,200-square-foot rooftop research house; 1,300-square-foot research house on campus; collections contain desert, wetlands and rainforest sections

continued

FACILITIES AND RESOURCES *continued*

- The student-curated Wayne E. Manning Herbarium containing 20,000 specimens of plants
- Imaging Center with light, confocal, video and electron microscopes and digital image analysis
- Molecular Core Facilities for molecular and cellular research
- Ecological habitats for research and field studies: Chillisquaque Creek Natural Area and Montandon Marsh and wetland near campus
- Instrumentation for liquid scintillation counting, electrophoretic separation of DNA and proteins, cell culture, polymerase chain reaction, spectroradiometry, spectrophotometry, ultracentrifugation, flow cytometry, high-performance liquid chromatography and histology

COURSES OFFERED

Animal Behavior
Behavior and Ecology of Birds and Mammals
Behavioral Ecology
Behavioral Neuroendocrinology
Biochemical Methods
Biology Capstone
Biology of Aging
Biology of Fishes
Cell Biology
Comparative Physiology
Comparative Vertebrate Anatomy
Concepts in Biotechnology
Conservation Biology
Controversies in Biology
Cytogenetics
Developmental Biology
Ecosystems Ecology
Endocrinology
Environmental Physiology
Functional Genomics
General Biology
General Entomology
Genetics
Human Anatomy
Human Genetics
Human Physiology
Immunology
Independent Study
Introduction to Microscopy
Introduction to Molecules and Cells
Invertebrate Zoology
Limnology
Mammalian Histology
Mammalogy
Microbiology
Molecular Biology
Natural History of Vertebrates
Neural Plasticity
Neuroethology
Neurophysiology
Organic Evolution
Organismal Biology
Ornithology
Physiological Mechanisms
Plant Growth and Development
Plant Systematics
Plant-Animal Interactions
Plants, People and the Environment
Population and Community Biology
Primate Behavior and Ecology
Seminar
Social Insects
Special Topics in Biology
Stream Restoration
Systematic Biology
Tropical Ecology
Tropical Marine Biology
Undergraduate Research
Virology
Watershed Systems Science

To view the entire Bucknell University catalog, see www.bucknell.edu/catalog.

INTERNSHIPS

Biology majors can gain career experience through summer internships. Recently, students have interned at:

- Massachusetts General Hospital in Boston
- Geisinger Medical Center
- Johns Hopkins Medical Institutions
- University of Pittsburgh

STUDY ABROAD

- Fall semester courses and summer fellowships are available at the Marine Biological Laboratory at Woods Hole, Mass.
- Bucknell offers a Virgin Islands marine science course.
- Biology majors can explore study abroad options through the Office of International Education. Recently, biology majors have studied in Australia, France and Chile.

GRADUATE AND PROFESSIONAL SCHOOL

Of nearly 60 biology graduates each year, 30 to 40 percent go on to professional schools, primarily in health sciences and law. Another 20 to 25 percent earn other advanced degrees. Recently, biology students have gone on to:

- Tufts University
- University of Maryland
- University of Pennsylvania
- Boston University
- Drexel University
- Columbia University
- Georgetown University

Bucknell
UNIVERSITY

Visit the biology department website at www.bucknell.edu/biology

Office of Admissions | Bucknell University | Lewisburg, Pennsylvania 17837 | 570-577-1101

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