



CONNECTICUT COLLEGE

Thomas Baker '07

Biological Sciences



Q: Were you able to conduct research?

A: I have had great research opportunities. In my sophomore year, Professor Grossel let me

do an independent research project that looked at a cell cycle protein called *cdk6* to see whether it had any influence on migration in cells. I used mouse astrocytes grown in culture to test the movement of cells across the plate or through a filter to determine if *cdk6* influenced the migration of these cells. That kind of work could be likened to cancer research, when researchers look to see how cells metastasize.

Q: What other opportunities did you take part in?

A: I went with Professor Grossel to San Diego to a meeting of the American Society for Cell Biology. In my junior year, I was picked by the faculty to be part of the department's peer mentor program. I also completed a senior honors thesis, continuing my work on cell migration.

Q: How did your experience prepare you for life after college?

A: I'm headed to med school now, and it's because of the preparation I had at Connecticut College. The classes here help you take learning to the second level, where you apply it in experiments or real-world problems. Problem solving is a critical skill.

Biological Sciences

Overview

At Connecticut College, you'll find course work, facilities and research opportunities that will prepare you for the most competitive graduate schools, professional schools and science-related jobs. Biological sciences is a joint major that draws on the resources of both the biology and botany departments. Our location in coastal New England gives students the opportunity to study estuaries and salt marshes. Nearby research facilities run by Pfizer and Monsanto provide opportunities to interact with industry scientists. Almost every course has a hands-on laboratory component.

Student-Faculty Research

You will be encouraged to work with one of your professors on an independent research project. Faculty research areas include cell and molecular biology, genetics and evolution, developmental biology, ecology and physiology. Faculty research is funded by the National Science Foundation, National Institutes of Health and other agencies. Faculty and students explore basic questions about diseases such as cancer and Alzheimer's, as well as causes and solutions for environmental problems. Recently, student projects have included mapping genes that affect flight in fruit flies, studying nitrogen-fixing bacteria in a salt marsh, analyzing developmentally important genes using bioinformatics, tracking the nesting success of birds along electric power line corridors and creating an interactive, searchable database of chemical, physical and morphological data on lakes and ponds. Many of our students publish papers with faculty in peer-reviewed journals and present their research at conferences.

Research Facilities

Many students conduct paid research internships alongside their professors over the summer. In our well-equipped laboratories you'll get hands-on experience with electron and fluorescent microscopes, digital image analysis, cell culture and real-time polymerase chain reaction. These facilities are complemented by an equally impressive living laboratory — the 750-acre Connecticut College Arboretum — and the resources of the College's interdisciplinary Goodwin-Niering Center for the Environment.

Study Abroad

You will also have opportunities to extend your study beyond the campus. Some of our students take a semester to study at the Marine Biological Laboratory and the Sea Education Association in Woods Hole, Mass. Students in "Tropical Biology" travel with their professors to Belize over spring break to do research. Students

taking “Frontiers in Molecular Biology” travel to Seattle, Wash., to the Fred Hutchinson Cancer Research Center and the Institute for Systems Biology.

Faculty

Robert A. Askins, *Professor of Biology*
B.S., University of Michigan; M.S.,
Ph.D., University of Minnesota
Ecology; ornithology; impact of
forest fragmentation on natural
communities; ecology of early
successional birds

Phillip T. Barnes, *Associate Professor
of Biology*
B.S., Xavier University; Ph.D.,
University of Minnesota;
post-doctoral fellowship, North
Carolina State University
Genetics; evolution of complex
quantitative traits; evolution of
insect flight

Anne Bernhard, *George and Carol
Milne Associate Professor of Biology*
B.S., Texas A&M University; M.S.,
Western Washington University;
Ph.D., Oregon State University;
post-doctoral fellowship,
University of Washington
Microbial ecology of estuaries and
salt marshes; community ecology;
population dynamics of ammonia-
oxidizing bacteria

Deborah Eastman, *Associate Professor
of Biology*
B.A. Grinnell College; Ph.D.,
University of Minnesota; post-
doctoral fellowships, Institute
of Molecular Biology and
Biochemistry, Greece, and Yale
University
Developmental biology; molecular
biology; genetics; microbiology

Marylynn B. Fallon, *Senior Lecturer
in Biology*
B.A., Cardinal Cushing College;
M.A., University of Northern
Colorado
Human physiology; general biology

Martha J. Grossel, *Professor
of Biology; Chair of Biology
Department*
B.S., Colorado State University;
Ph.D., Tufts University School
of Medicine; post-doctoral
fellowship, Harvard Medical
School
Molecular biology; cell biology;
cancer and the cell cycle; cell cycle
regulation

Kristine Hardeman, *Lecturer of
Biology and Botany*
B.S., University of Iowa; Ph.D.,
University of Oregon; post-
doctoral fellowships, Oregon State
University.
Molecular biology; plant
biotechnology

Pamela Hine, *Senior Lecturer in
Botany; Director of Environmental
Studies Program*
B.A., Bates College; M.A.,
Connecticut College
Tidal marsh ecology; pollination
ecology; environmental education

Chad Jones, *Assistant Professor of
Botany and Environmental Studies*
B.S. Brigham Young University;
Ph.D. University of Washington
Terrestrial plant ecology; invasive
plants, plant succession

Manuel Lizarralde, *Associate Professor
of Ethnobotany*
B.A., M.A., Ph.D., University of
California, Berkeley
Ethnobotany of tropical rainforests;
ethnobotany of New England
Native Americans

Stephen H. Loomis, *Jean C. Tempel
'65 Professor of Biology*
B.S., Ph.D., University of California
at Davis
Comparative biochemistry;
physiology

T. Page Owen, *Associate Professor
of Botany; Chair of the Botany
Department*
B.A., Oberlin; Ph.D., University of
California, Riverside
Plant and animal cell biology;
instrumental technology; scientific
writing

Peter Siver, *Charles and Sarah Becker
'27 Professor of Botany*
B.A., SUNY Binghamton; M.S.,
University of New Hampshire;
Ph.D. University of Connecticut
Limnology and phycology;
biodiversity and biogeography of
algae; paleolimnology; acid rain

Sardha Suriyapperuma, *Lecturer in
Biology and Botany*
B.S., University of Colombo, Sri
Lanka; M.S., Ph.D., University
of Rhode Island; post-doctoral
fellowships, University of
Connecticut Health Center
Molecular biology; microbiology

Susan W. Warren, *Senior Lecturer in
Biology*
B.S., Delaware Valley College; M.S.,
Adelphi University
Organismal and cell biology

WHAT CAN YOU DO WITH A MAJOR IN BIOLOGICAL SCIENCES?

Benjamin Zuckerberg '98

Assistant professor, University of
Wisconsin-Madison, Department of Forest
and Wildlife Ecology

Research focuses on how bird populations
are affected by climate change and
habitat fragmentation. Earned his Ph.D. in
ecology from the State University of New
York's College of Environmental Science
and Forestry.

Patricia Zerra '03

Medical student at Thomas Jefferson
University in Philadelphia.

Worked for two years as a research
assistant in the Division of Genetics at
Children's Hospital in Boston. Volunteered
with medical organizations in Uganda.

Emily Elliot '05

Ph.D. candidate in biomedical sciences
at the University of California, San
Francisco.

First job after graduation was with an
organization that created science camps
and after-school programs.

FOR MORE INFORMATION, VISIT
WWW.CONNOLL.EDU/ACADEMICS/

Selected Courses

Cell Biology; Ecology; Genetics; Evolution; Molecular Development; Marine Ecology; Freshwater Ecology; Molecular Biology; Tropical Biology; Psychopharmacology; Scanning Electron Microscopy; Neurobiology of Disease; Frontiers in Molecular Biology; Estuarine Ecology; Molecular Basis of Cancer; Conservation Biology and Genetics; Biochemical and Molecular Evolution; Stem Cells and Cell Signaling; Genetically Modified Crops

About Connecticut College

Connecticut College is a highly selective residential liberal arts college with 1,900 students from all over the country and the world. The academic program offers 43 majors in the arts, sciences, social sciences, humanities and other interdisciplinary programs. Students engage with dedicated faculty and each other to create a vibrant social, cultural and intellectual community in which learning is valued for its own sake — and individuals' diverse perspectives enrich the experience of all.