This is the Research and Teaching Facilities, Policies, and Administration and Faculty sections of the 1997-1999 University of Minnesota College of Biological Sciences Bulletin.
Research and Teaching Facilities

CBS has faculty and facilities on both the Minneapolis and St. Paul campuses. The college is organized into the following departments: biochemistry; ecology, evolution, and behavior; genetics and cell biology; and plant biology. The Department of Microbiology as well as the neuroscience program, both of which are housed in the Medical School, also function as CBS departments for undergraduate education. A full description of all these departments and their major degree requirements may be found in Major Requirements and Course Descriptions.

In addition, CBS is responsible for the administration of several instructional programs, research institutes, shared-use laboratories, and an active field biology program, with facilities at several locations around the state (see below). A complete list of faculty is provided in Administration and Faculty.

Special Research and Teaching Centers

The Albert Frenkel Reading Room—Located on the fourth floor of the Biological Sciences Center on the St. Paul campus, the reading room supports courses and research in CBS. Current journals in many areas of biology are available for use in the room (612/624-7752).

Biological Sciences Greenhouse—Located on the St. Paul campus, the greenhouse is a teaching and research facility with standard bench space. Three landscaped rooms exhibit the flora of the tropics, subtropics, and desert (612/625-4788).

Herbarium—The Herbarium contains more than 820,000 specimens of fungi, lichens, mosses, gymnosperms, and angiosperms collected mainly on the North American continent. This collection (sixth largest among university herbaria) is a major resource for botanically oriented research both at the University and at other institutions. It also plays an important role of outreach to the public, offering assistance with identification of and information about plants (612/625-0215).

Cedar Creek Natural History Area—Located within commuting distance of campus, Cedar Creek not only serves as the site of ecological and behavioral field research, but also provides unique opportunities for student projects and summer employment. For student opportunities, contact the Office of Student Services (612/624-9717) or the Program Director of Cedar Creek Natural History Area (612/625-5740).

Developmental Biology Center—The University has launched a major initiative in developmental biology, with researchers representing both the basic and the clinical sciences. Developmental biology identifies mechanisms whereby a single cell, the fertilized egg, develops into a complex multicellular organism containing millions of cells organized into characteristic patterns, with many different specialized functions. Developmental biology has become a central subject in biology and is of both medical and economic importance. The center serves as a resource for collaborative research and training (612/624-3110).

General Biology Program—Located in P180 Kolthoff Hall on the Minneapolis campus, the General Biology Program administers beginning biology courses for most University students, serving approximately 3,200 students per year. The college takes its responsibility for introductory instruction in biology very seriously; students will meet CBS’s finest instructors in these courses and enjoy personal attention in laboratory sections. For more information, call (612) 625-6636.

Imaging Center—Located in 23 Snyder Hall, the center is a self-service facility open to University students, staff, and faculty and to investigators outside the University in support of their teaching and research activities. The Imaging Center specializes in light and electron optical methods, with the expertise centered on immunofluorescence and confocal imaging. Training and technical help are provided to meet imaging needs. (612/624-3454).

Biological Process Technology Institute (BPTI)—The institute, established in 1985, takes advantage of the unusual breadth of interest and expertise of faculty at the University to investigate cell population
biology, membrane biology, molecular genetics, and protein structure and function as they relate to biological process technology. The BPTI Bioprocessing Pilot Facility is a shared-use facility, a University-wide laboratory equipped with state-of-the-art equipment to facilitate research in fermentation, animal and plant cell culture technology, and large-scale separation of biological molecules. BPTI promotes collaboration between University researchers and industry, meeting increasing demands for students trained jointly in biological and engineering disciplines (612/624-6774).

Institute of Human Genetics—The institute’s major objective is to develop an interdisciplinary approach to the study and application of new developments in human genetics. It develops technologies necessary for understanding the structure, function, and expression of human chromosomes and genes for the prevention, diagnosis, and therapy of inborn and acquired genetic disorders. The institute’s genetic programs include genetic services (Molecular Diagnostics Laboratory, microchemical facility, gene therapy program); molecular, behavioral, clinical, and population genetics; and the Genetic Counseling Program; (612/624-3110).

Lake Itasca Forestry and Biological Station—Located at the headwaters of the Mississippi River in northern Minnesota, the field station is in an unparalleled ecological area where three great plant regions of the United States meet. These 50 square miles of protected forest provide unique opportunities for the study of varied ecosystems and of fauna and flora with southern, northern, and western origins. Diverse lakes and wetlands provide unusual field advantages for aquatic studies. Information about the highly popular summer biology offerings is in the Summer Session Bulletin. Reservations for and questions about the Itasca program should be addressed to the Director, Itasca Biology Program, University of Minnesota, 303 Ecology Building, 1987 Upper Buford Circle, St. Paul MN 55108 (612/624-6743).

Instructional Computing Center—Biology students have access to a well-equipped Macintosh computing facility in 406 Biological Sciences Center and a Windows facility in 170 Ecology Building. Priority in the computer center is given to undergraduates working on course-related materials. Students can use programs for word processing, graphing, drawing, or spreadsheets. Students can also access many electronic databases and file servers around the world, as well as their own electronic mail service. The center houses specialized software, such as programs to help students prepare for the Graduate Record Examination (GRE). Hours for each computing lab are posted on the lab doors.

Advanced Bioscience Computing Center (ABCC)—Located in 247 Gortner Laboratory, the center serves more than 110 labs with advanced nucleic acid and peptide sequence analysis software. Molecular graphics facilities permit specialized research on the structure and function of DNA, RNA, and proteins. Student computers are available, as are workshops, a help line, and consulting. For more information, call (612) 625-9284.

Plant Molecular Genetics Institute—The institute fosters research in molecular biology and genetics of economically important plants and relevant model plant systems, develops genetic engineering methodologies for application to crop improvement, educates future plant biology researchers and teachers, maintains an interdisciplinary environment in which to explore and develop new ideas and experimental approaches in plant molecular biology, and provides a focus for external communication to aid recruitment and funding. Institute faculty come from two colleges (Biological Sciences and Agricultural, Food, and Environmental Sciences) and six departments (agronomy and plant genetics, biochemistry, genetics and cell biology, horticultural science, plant biology, and plant pathology). The institute supports seminars and symposia on topics related to plant molecular biology and provides funds for speakers and visiting scientists (612/625-3129).
Graduate Programs

Graduate study at the University is coordinated and administered by the Graduate School. For details about general policies regarding admission requirements, registration procedures, financial aid, and requirements for graduate degrees, refer to the Graduate School Bulletin. Application materials may be obtained from CBS department offices.

Questions regarding specific bioscience programs should be addressed to the director of graduate studies in the appropriate program area.

Biochemistry, Molecular Biology, and Biophysics—John S. Anderson, 624-3662

Conservation Biology—Donald B. Siniff, 624-6743

Ecology—Edward J. Cushing, 625-5713

Genetic Counseling—Bonnie Leroy, 624-7193

Microbial Engineering—Friedrich Srienc, 624-9776

Microbiology, Immunology, and Molecular Pathobiology—Marc K. Jenkins, 626-2715

Molecular, Cellular, Developmental Biology, and Genetics—Robert J. Brooker, 624-3053

Neuroscience—Robert F. Miller, 626-2914

Plant Biological Sciences—Alan Smith, 624-9290

Zoology—Elmer C. Birney, 624-6770
Information Resources

Bulletin Use—The University of Minnesota will change to a semester-based academic calendar beginning academic year 1999-2000. This bulletin is the last quarter-based bulletin that will be produced for the College of Biological Sciences. It covers academic years 1997-98 and 1998-99. Information about semester-based academic programs will be provided in the fall of 1998 in semester-transition publications.

The information in this bulletin and other University bulletins, publications, or announcements is subject to change without notice. University offices can provide current information about possible changes.

This publication is available in alternative formats upon request. Please contact the Office of Admissions, University of Minnesota, 240 Williamson Hall, 231 Pillsbury Drive S.E., Minneapolis, MN 55455 (612/625-2008; e-mail admissions@tc.umn.edu).

Class Schedule—The Class Schedule, distributed with registration materials each quarter, lists current course offerings scheduled for the term, including class hours, rooms, and instructors. It also includes registration instructions and final exam schedules. Information about evening courses and summer school offerings is in the University College Evening Classes Bulletin and Summer Session Bulletin, respectively.

CBS policies, and other information of interest to enrolled students, may be found in the CBS Student Handbook.

Course Guide—The Course Guide, a quarterly publication distributed at the University Bookstores, provides course information in addition to college bulletins and the Class Schedule.

For More Information—Contact the Director of Student Services, College of Biological Sciences, 223 Snyder Hall, University of Minnesota, 1475 Gortner Avenue, St. Paul, MN 55108 (612/624-9717). Visit the CBS Web site at http://biosci.cbs.umn.edu/admin/student_services/

Policies

Equal Opportunity—The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

In adhering to this policy, the University abides by the Minnesota Human Rights Act, Minnesota Statute Ch. 363; by the Federal Civil Rights Act, 42 U.S.C. 2000e; by the requirements of Title IX of the Education Amendments of 1972; by Sections 503 and 504 of the Rehabilitation Act of 1973; by the Americans With Disabilities Act of 1990; by Executive Order 11246, as amended; by 38 U.S.C. 2012, the Vietnam Era Veterans Readjustment Assistance Act of 1972, as amended; and by other applicable statutes and regulations relating to equality of opportunity.

Inquiries regarding compliance may be directed to Stephanie Lieberman, Director, Office of Equal Opportunity and Affirmative Action, University of Minnesota, 419 Morrill Hall, 100 Church Street S.E., Minneapolis, MN 55455 (612/624-9547).

Access to Student Educational Records—In accordance with regents’ policy on access to student records, information about a student generally may not be released to a third party without the student’s permission. (Exceptions under the law include state and federal educational and financial aid institutions.) The policy also permits students to review their educational records and to challenge the contents of those records.

Some student information—name, address, electronic (e-mail) address, telephone number, dates of enrollment and enrollment status (full time, part time, not enrolled, withdrawn and date of withdrawal), college and class, major, adviser, academic awards and honors received, and degrees earned—is considered public or directory information. Students may prevent the release of public information. To do so, they must notify the records office on their campus.

Students have the right to review their educational records. The regents’ policy is available for review at 150 Williamson Hall, Minneapolis, and at records offices on other
campuses of the University. Questions may be directed to the Office of the Registrar, 150 Williamson Hall (612/625-5333).

Immunization—Students born after 1956 who take more than one University class are required under Minnesota law to submit an Immunization Record form.

The form, which is sent along with the official University admission letter, must be filled out and returned to Boynton Health Service within 45 days of the first term of enrollment in order for students to continue registering for classes at the University. Complete instructions accompany the form.

Extracurricular Events—No extracurricular events requiring student participation may be scheduled from the beginning of study day to the end of finals week. Exceptions to this policy may be granted by the Senate Committee on Educational Policy. The Senate advises all faculty that any exemption granted pursuant to this policy shall be honored and that students who are unable to complete course requirements during finals week shall be provided an alternative and timely opportunity to do so.

Smoke-Free Campus Policy—Smoking is prohibited in all facilities of the University of Minnesota, Twin Cities campus except for designated private residence hall rooms.

Planning to Transfer?

Minnesota’s public colleges and universities are working to make transfer easier. You can help if you PLAN AHEAD, ASK QUESTIONS, and USE PATHWAYS created by transfer agreements.

Preparing for Transfer

If you are currently enrolled in a college or university:

• Discuss your plans with the campus transfer specialist in the Office of Student Services, 223 Snyder Hall (612/624-9717).

• Call or visit your intended transfer college. You should obtain the following materials and information:
  —college catalog
  —transfer brochure
  —information on admissions criteria and on materials required for admission (e.g., portfolio, transcripts, test scores). Note that some majors have limited enrollments or their own special requirements such as a higher grade point average.
  —information on financial aid (how to apply and by what date)

• After you have reviewed these materials, make an appointment to talk with an adviser/counselor in the college or program you want to enter. Be sure to ask about course transfer and admission criteria.

If you are not currently enrolled in a college or university, you might begin by meeting with a transfer specialist or an admission officer at your intended transfer college to plan the steps you need to take.

Understanding How Transfer of Credit Works

• The receiving college or university decides what credits transfer and whether those credits meet its degree requirements. The accreditation of both your sending and your receiving institution can affect the transfer of the credits you earn.

• Institutions accept credits from courses and programs like those they offer. They look for similarity in course goals, content, and level. “Like” transfers to “like.”

• Not everything that transfers will help you graduate. Baccalaureate degree programs usually count credits in three categories: general education, major/minor courses and prerequisites, and electives. The key question is, “Will your credits fulfill requirements of the degree or program you choose?”

• If you change your career goal or major, you might not be able to complete all degree requirements within the usual number of graduation credits.

Applying for Transfer Admission

• Application for admission is always the first step in transferring. Fill out the application as early as you can prior to the deadline. Enclose the application fee.
• Request that official transcripts be sent from every institution you have attended. You might be required to provide a high school transcript or GED test scores as well.

• Recheck to be certain you supplied the college or university with all the necessary paperwork. Most colleges make no decisions until all required documents are in your file.

• If you have heard nothing from your intended college of transfer after one month, call to check on the status of your application.

• After the college notifies you that you have been accepted for admission, your transcripted credits will be evaluated for transfer. A written evaluation should tell you which courses transfer and which do not. How your courses specifically meet degree requirements may not be decided until you arrive for orientation or have chosen a major.

• If you have questions about your evaluation, call the Office of Admissions and ask to speak with a credit evaluator. Ask why judgments were made about specific courses. Many concerns can be cleared up if you understand why decisions were made. If not satisfied, you can appeal. See “Your Rights as a Transfer Student” below.

Your Rights as a Transfer Student

• A clear, understandable statement of an institution’s transfer policy.

• A fair credit review and an explanation of why credits were or were not accepted.

• A copy of the formal appeals process. Usual appeals steps are: 1) Student fills out an appeals form. Supplemental information you provide to reviewers—a syllabus, course description, or reading list—can help. 2) Department or committee will review. 3) Student receives, in writing, the outcome of the appeal. 4) Student can appeal decision to the Office of Student Services, 223 Snyder Hall (612/624-9717).

• At your request, a review of your eligibility for financial aid or scholarships.

For help with your transfer questions or problems, see your campus transfer specialist.
University Regents

William E. Hogan II, Minnetonka, Chair  
Patricia B. Spence, Rice, Vice Chair  
Robert S. Bergland, Roseau  
Julie A. Bleyhl, Madison  
Warren C. Larson, Bagley  
David R. Metzen, South St. Paul  
H. Bryan Neel III, Rochester  
Michael O'Keefe, Minneapolis  
William R. Peterson, Eagan  
Jessica J. Phillips, Morris  
Thomas R. Reagan, Gilbert  
Maureen K. Reed, Stillwater

University Administrators

Mark G. Yudof, President  
Robert Bruininks, Executive Vice President and Provost  
Frank B. Cerra, Senior Vice President for Health Sciences  
JoAnne G. Jackson, Senior Vice President for Finance and Operations  
McKinley Boston, Jr., Vice President for Student Development & Athletics  
Mark L. Brenner, Vice President for Research and Dean of the Graduate School  
Carol Carrier, Acting Vice President for Human Resources  
Michael Martin, Acting Vice President for Agricultural Policy  
Thomas H. Swain, Acting Vice President for Institutional Relations  
Mark B. Rotenberg, General Counsel

College of Biological Sciences Administrators

This is a listing of deans, department heads, and directors; see also CBS Directory in the introduction for special program offices and directors of undergraduate study. A listing of all CBS faculty follows.

Robert P. Elde, dean  
123 Snyder Hall, St. Paul campus (612/624-2244)  
belde@biosci.cbs.umn.edu

Kathryn Hanna, assistant dean  
123 Snyder Hall, St. Paul campus (612/624-2244)  
hanna@biosci.cbs.umn.edu

Verna L. Holoman, coordinator of recruitment and retention for the life sciences  
123 Snyder Hall, St. Paul campus (612/625-8752)  
vholoman@biosci.cbs.umn.edu

Kathleen F. Peterson, director of student services  
223 Snyder Hall, St. Paul campus (612/624-9717)  
kathiep@biosci.cbs.umn.edu

Advanced Bioscience Computing Center—Dan Prestridge, director, 247 Gortner Laboratory, St. Paul campus (625-9284)  
danp@biosci.cbs.umn.edu

Biochemistry—David Bernlohr, interim head, 140 Gortner Laboratory, St. Paul campus (624-7755)  
david-b@biosci.cbs.umn.edu

Biological Process Technology Institute—Kenneth Valentas, director, 240 Gortner Laboratory, St. Paul campus (624-6774)  
valentas@biosci.cbs.umn.edu

Cedar Creek—G. David Tilman, director, 509 Ecology Building, St. Paul campus (625-5743); Cedar Creek Area (434-5131)  
tilman@cdr.lter.umn.edu

Developmental Biology Center—Chris Wylie, director, 4-122 Malcolm Moos Health Sciences Tower, Minneapolis campus (624-3110)  
wylie@lenti.med.umn.edu

Ecology, Evolution, and Behavior—Patrice Morrow, head, 100 Ecology Building, St. Paul campus (625-5700)  
morrow@biosci.cbs.umn.edu

General Biology Program—John Beatty, director, P180 Kolthoff Hall, Minneapolis campus (625-6636)  
jebeatty@tc.umn.edu

Genetics and Cell Biology—Ross G. Johnson, head, 248A Biological Sciences Center, St. Paul campus (624-3003)  
gaplab@tc.umn.edu

Herbarium—Anita Cholewa, curator and director, 842 Biological Sciences Center, St. Paul Campus (625-0215)  
anita@mozart.cbs.umn.edu

Imaging Center—Mark Sanders, director, 35 Snyder Hall, St. Paul campus (624-3454)  
msanders@biosci.cbs.umn.edu

Information Technology—Michael Fernandez, coordinator, 122 Snyder Hall, St. Paul campus (625-2273)  
m-fern@tc.umn.edu

Lake Itasca Program—Donald Siniff, director, 303 Ecology Building, St. Paul campus (625-5732)  
siniff@biosci.cbs.umn.edu

Microbiology (Medical School)—Ashley T. Haase, head, 1460 Mayo Memorial Building, Minneapolis campus (624-4442)  
ashley@lenti.med.umn.edu

Plant Biology—Stephen Gantt, interim head, 220 Biological Sciences Center, St. Paul campus (625-1234)  
steve@biosci.cbs.umn.edu

Plant Molecular Genetics Institute—Neil E. Olszewski, director, 220 Biological Sciences Center, St. Paul campus (625-3129)  
neil@biosci.cbs.umn.edu
Faculty

* Recipient of the Horace T. Morse-Minnesota Alumni Association Award for Outstanding Contributions to Undergraduate Education

† Recipient of the Stanley Dagley Distinguished Teacher Award

** Recipient of the University College Distinguished Teaching Award

‡ Recipient of the John Tate Award for Undergraduate Advising

Department of Biochemistry

Allewell, Norma M., professor and head
Ph.D., Yale University
Protein structure, function, and design; mechanisms of biological recognition and communication; functional energetics of biological molecules; computer modeling.
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Anderson, John S., professor*
Ph.D., University of Nebraska, Lincoln
Structure and biosynthesis of bacterial cell walls and membranes.
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Barry, Bridgette A., associate professor
Ph.D., University of California, Berkeley
Photosynthetic electron transfer.
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Bernlohr, David A., professor and interim head
Ph.D., University of Illinois, Urbana
Adipocyte gene expression, regulation of adipocyte metabolism, and protein-lipid interactions.
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Bloomfield, Victor A., professor
Ph.D., University of Wisconsin, Madison
Physical biochemistry of nucleic acids and viruses, hydrodynamics and laser scattering; and subunit assembly.
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Conti-Fine, Bianca M.,
Distinguished McKnight University Professor
M.D., University of Milano, Italy
Structure and function of nicotinic receptors in brain and muscle, and immunology of myasthenia gravis.
624-6796

Das, Anath, professor
Ph.D., University of Nebraska, Lincoln
Mechanisms of Ti-plasmid-mediated gene transfer into plant cells, and gene expression and its regulation in higher plants.
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Deoxynucleotide metabolism, DNA synthesis, and regulation of metabolic pathways.
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Lovrien, Rex, professor
Ph.D., University of Iowa
Enzymology, thermodynamics, binding processes, and protein crystallization.
624-2776

Nelsestuen, Gary L., professor
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Protein-membrane interactions, protein kinase C, complement, and blood coagulation.
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Raftery, Michael A., professor
Ph.D., National University of Ireland, Galway
Biology and chemistry of cell surfaces, and molecular mechanisms of synaptic transmission and axonal conduction.
624-9734

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Nucleic acid biochemistry and molecular biology.
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Developmental gene expression, and protein-protein and protein-DNA interactions.
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Physical biochemistry of proteins and cell membranes.
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Ph.D., University of Texas, Austin
Biodegradation, dehalogenases, applications of enzymology in environmental detoxification and organic synthesis, and oxygenases.
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Woodward, Clare K., professor*
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Protein chemistry, hydrogen exchange kinetics, NMR spectroscopy, and protein folding.
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Department of Ecology, Evolution, and Behavior

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Population ecology and evolution of insects.
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Barnwell, Franklin H., professor*,‡
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Invertebrate behavior and physiology, with emphasis on ecological relationships.
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Beatty, John H., associate professor†
Ph.D., Indiana University
History and philosophy of biology.
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Birney, Elmer C., professor
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Mammalian evolution and ecology.
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Corbin, Kendall W., professor
Ph.D., Cornell University
Evolutionary ecology and genetics, and biochemical systematics.
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Cotner, James B., assistant professor
Ph.D., University of Michigan
Biological limnology and oceanography, biogeochemistry, and microbial ecology.
625-1706

Curtis, James W., professor
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Population/quantitative genetics, experimental and theoretical.
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Cushing, Edward J., professor
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Paleoecology and ecology of plant communities.
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Davis, Margaret B., Regents' Professor
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Paleoecology, paleoecology, and forest community ecology.
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Gorham, Eville, Regents' Professor
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Chemical aspects of ecology, limnology, and soil science.
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Knops, Johannes M.H., adjunct assistant professor
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Ecosystem ecology and plant ecology.
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Animal behavior.
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Merrell, David, professor emeritus
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Genetics.
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Plant-insect interactions and community ecology.
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Ph.D., Cornell University
Animal behavior and physiology.
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Ph.D., Stanford University
Animal behavior.
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Regal, Philip J., professor
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Evolution, physiological ecology and behavior, and herpetology.
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Comparative physiology and ecology.
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Starfield, Anthony M., professor
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Vertebrate ecology and population ecology of large mammals.
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Stephens, David W., associate professor
Ph.D., The Queen’s College, Oxford University
Experimental games, spatially explicit models of feeding behavior, and evolutionary models of neural systems.
625-5722

Sterner, Robert W., associate professor
Ph.D., University of Minnesota
Limnology: plankton ecology, food webs, and aquatic biogeochemistry.
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Experimental and theoretical population, and community ecology.
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Tordoff, Harrison B., professor emeritus
Ph.D., University of Michigan
Systematic and evolutionary biology, and ornithology.
624-6787

Underhill, James C., professor emeritus
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Ichthyology.
624-3367
Wright, Herbert E., Regents’ Professor Emeritus
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Quaternary paleoecology and glacial geology.
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Chromosomal organization.
624-7408

Brooker, Robert J., associate professor
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Molecular biology of the lactose permease.
624-9266

Cunningham, William P., professor*
Ph.D., University of Texas, Austin
Pollutant effects on cells.
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Fan, David P., professor
Ph.D., Massachusetts Institute of Technology
Epidemiology of AIDS.
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Goldstein, Stuart F., associate professor
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Cell motility, especially flagellar beating.
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Gene expression in zebra fish.
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Developmental genetics of C. elegans.
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Herman, William S., professor
Ph.D., Northwestern University
Arthropod peptide hormones.
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Hooper, Alan B., professor*
Ph.D., Johns Hopkins University
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