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MEMBERS OF THE BIOLOGICAL SCIENCES FACULTY

THEIR RESEARCH INTERESTS & COURSES^{'09}

ANDERSON, MARGARET, Professor; Ph.D., Stanford University. Functional properties of excitable cells; developing educational materials for teaching animal physiology. On sabbatical 2009-10.

BARRESI, MICHAEL J.F., Assistant Professor; Ph.D., Wesleyan University. Neurodevelopmental Biology: Understanding axon and glial interactions during the wiring of the embryonic brain in Zebrafish. Cell, Physiology and Development (BIO150), Developmental Biology (BIO302/303), Cell Physiology (BIO206/207).

BELLEMARE, JESSE, Assistant Professor, Ph.D., Cornell. Plant ecology, biogeography, and evolution at a variety of spatial and temporal scales. Influence or effects of historical processes on the contemporary distribution of plant species and the present-day structure of plant communities. Research at Ada and Archibald MacCleish Field Station in Whately including vegetation mapping, a floristic inventory, and investigation of past land use effects on forest vegetation. Biodiversity, Ecology & Conservation (BIO154), Plant Evolution in Time and Space (BIO276), Plant Ecology (BIO364), Plant Ecology Laboratory (BIO365).

BLEAKLEY, BRONWYN H., Visiting Assistant Professor; Ph.D., Indiana University. Evolutionary genetics of social behavior (cooperation, antipredator behavior and cannibalism), behavioral ecology and conservation/management of fish and aquatic invertebrates. Genetics, Genomics and Evolution (BIO152), Behavior Genetics (BIO330), and Graduate Seminar (BIO507).

BRIGGS, RICHARD T., Professor; Ph.D., University of Kansas. Structural approaches to cellular functions; mechanisms of peroxide synthesis, regulation and utilization in biological systems; structure and function of invertebrate blood cells and coelomocytes; comparative immunology; cytoskeletal structure and function. Cell, Physiology and Development (BIO150), Animal Physiology (BIO200/BIO201), Histology (BIO304/305), Biological Microscopy (BIO308/309).

BURK, C. JOHN, Professor emeritus; Ph.D., University of North Carolina. Ecology, floristics and biogeography of wetlands and coastal areas; distributional changes in the New England flora; botanical history; conservation of natural resources.

BURNS, AMY, Instructor of Laboratories in Biological Sciences, Ph.D.. Cell, Physiology and Development Laboratory (BIO151), Biodiversity, Ecology and Conservation Laboratory (BIO155).

DORIT, ROBERT L., Associate Professor; Ph.D., Harvard University. Experimental molecular evolution; in vivo and in vitro evolution of catalytic RNA and ribonucleoproteins (RNase P); in vitro evolution and design of novel antibiotics exhibiting reduced resistibility; evolution of complexity; comparative and statistical approaches to molecular and genome evolution. Molecular Evolution (BIO340), Topics in Microbiology (BIO370), Genes and Genomes (BIO234), The Biology and Policy of Breast Cancer (BIO110), Genetics Genomics and Evolution (BIO 152).

HALL, ADAM C., Associate Professor; Ph.D., Univ. London, UK. Molecular mechanisms of general anesthetic and sedative actions in the mammalian brain. Ion channel electrophysiology, and cellular/molecular neurobiology." Introduction to Neuroscience (PSY 210), Cellular and Molecular neuroscience (BIO310/311), Seminars in Biochemistry (BCH380) and Neuroscience (NSC312).

HAYSSEN, VIRGINIA, Professor; Ph.D., Cornell University. Comparative mammalian reproduction, genetics of coat-color in mammals (pleiotropy of the agouti locus), women in science, editor Journal of Zoology (London). Animal Behavior (BIO362), Methods in Animal Behavior (BIO363), Vertebrate Biology (BIO272/273), Lions: Science and Science Fiction (FYS130).

IMMERMAN, GABY, Instructor/Coordinator, Smith Botanic Garden Summer Internship Program; BA, Sarah Lawrence College. Public and Residential Horticulture; Landscape Design, Installation, and Maintenance. Landscape Plants and Issues Lab (BIO121), Intro to Horticulture Lab (BIO123).

KATZ, LAURA A., Associate Professor; Ph.D., Cornell University. Genome evolution of microbial eukaryotes; evolution of chromosomal rearrangements in ciliates; phylogeography of coastal ciliates, molecular systematics of microbial eukaryotes. Origins (BIO110), Genetics Genomics and Evolution (BIO 152), Biodiversity, Ecology, and Conservation (BIO154), Microbial Diversity (BIO370/371), Seminar in Biology (BIO351).

KENT, GRAHAM, Senior Laboratory Instructor; M.S., University of Massachusetts. Plant morphogenesis; computer modeling and simulation of programs in biology. Cell, Physiology and Development Laboratory (BIO151), Cell Biology laboratory (BIO203).

LI, WEN, Instructor of Laboratories in Biological Sciences and Director of the Center for Molecular Biology; Ph.D., University of Massachusetts. Cell, Physiology and Development Laboratory (BIO151), Microbiology Laboratory (BIO205).

LELLO, DENISE, Lecturer, Ph.D., University of Washington. Plant mating system evolution, population genetics of plant adaptation to anomalous soils, biology of invasive plants. Plant Ecology (BIO364/365). Pest, Plaques and Profligates: The Biology of Invasions (BIO110). Island Biology (BIO110).

MARCOTRIGIANO, MICHAEL, Professor; Ph.D., University of Maryland. Director of Botanic Garden. Plant development and breeding; utilization of genetic mosaics to analyze plant development; plant tissue culture and propagation; cultivar development. Landscape Plants and Issues (BIO120), Horticulture (BIO122).

MERRITT, ROBERT B., Professor; Ph.D., University of Kansas. Biochemical population genetics; investigation of genetic structure in natural populations. Your Genes, Your Chromosomes (BIO110), Genetics Genomics and Evolution (BIO 152), Genetic Analysis (BIO234/235), Graduate Seminar (BIO507).

MONSERRATE, ESTEBAN, Lecturer; Ph.D., University of Massachusetts. Environmental Microbiology with emphasis in the anaerobic bacterial metabolism of polluting xenobiotic compounds, and the physiology and ecology of bacteria associated with coral diseases. Bacteria: The Good, The Bad and the Absolutely Necessary (BIO110), Cell, Physiology and Development Laboratory (BIO151), Microbiology (BIO204/205), Microbial Diversity Laboratory (BIO271).

NICHOLSON, ROB. Field collection of primitive conifers for screening for anti-cancer compounds, genetic analysis of large area clonal stands of the rare *Gaylussacia brachycera* (Box Huckleberry), pigment analysis and pollination biology of the black flowered *Lisianthus nigrescens* (Gentianaceae) of Mexico, and high speed video capture (1000 fps) and analysis of the rapid pollen release mechanism of the New World orchid *Catasetum*. Economic Botany: Plants and Human Affairs (BIO103).

OLIVO, RICHARD F., Professor; Ph.D., Harvard University. Neurobiology, with an emphasis on simple systems; control of eye movements in crustaceans and modulation by behavioral arousal; use of computers in neuroscience for data-acquisition, imaging and simulations. Neurophysiology (BIO300/301).

PECKOL, PAULETTE M., Professor; Ph.D., Duke University. Coral reef and reef fish ecology; physiological algal ecology; studies of adaptation to environmental disturbances; chemical defense in marine algae. Marine Ecology (BIO268/269), Biogeography (BIO366), Seminar: Ecology of Coral Reefs – Past, Present and Future (BIO390).

SAUNDERS, LORI J., Laboratory Instructor; Ph.D., University of Massachusetts. Developmental regulation of gene expression in parasitic organisms that cause human disease. Genetics, Genomics, and Evolution Laboratory (BIO153), Biodiversity, Ecology and Conservation Laboratory (BIO155), Genomes and Genetic Analysis Laboratory (BIO231), Molecular Biology of Eukaryotes Laboratory (BIO333).

SCORDILIS, GAIL, Adjunct Assistant Professor; Ph.D., University of Massachusetts. Study of gene regulation in the bacterium *Pseudomonas cepacia*; the role of transposable genetic elements as positive regulators of gene expression by means of DNA sequencing analyses, Northern hybridization, and S1 nuclease mapping. (Director, Smith Summer Science Program)

SCORDILIS, STYLIANOS P., Professor; Ph.D., State University of New York, Albany. Regulation, structure, function, and exercise physiology of muscle; cellular, biochemical, molecular biology and proteomics studies of exercise in mouse and human skeletal muscle and the role of gender; stress proteins, signaling cascades and transcription factors in damage and repair. Biochemistry (BCH 252/253), Cell Biology (BIO 202/203), Colloquium on Molecular Medicine (BIO 320), Women and Exercise – What Is Really Going On In Our Muscles (BIO 110), Seminar in Biochemistry: Cancer (BCH 380).

SMITH, L. DAVID, Associate Professor; Ph.D., University of Maryland. Biological invasions in marine systems. Adaptive significance of phenotypic plasticity in predator-prey interactions. Ecology of marine invertebrates especially crustaceans and molluscs. Conservation Biology (BIO110), Biodiversity, Ecology and Conservation (BIO 154), Global Environmental Changes and Challenges (FYS 177), Invertebrate Diversity (BIO260/261), Seminar in Environmental Science and Policy (EVS300).

TILLEY, STEPHEN G., Professor; Ph.D., University of Michigan. Geographic variation and the genetic differentiation of populations. Evolutionary biology of amphibians and reptiles. Patterns of biodiversity in the southern Appalachian Mountains. Biodiversity, Ecology, and Conservation (BIO 154), Principles of Ecology (BIO266/267), Evolutionary Biology I (BIO270),

WETZEL, CAROLYN, Assistant Professor; Ph.D. Cornell University. Plant chloroplast development and function; plant cell development; plant physiology. Cell, Physiology and Development (BIO150), Plant Biology (BIO262/263), Plant Physiology (BIO312/313), Island Biology (BIO110).

WETZEL, PAUL R., Research Associate; Ph.D., Iowa State University. Plant ecology in wetland and terrestrial systems. Tree island biology (Everglades), complex interactions between biotic and biogeochemical pathways and how they differentiate the landscape in large patterned wetlands. Effects of disturbance on plants at both community and landscape scales. Conservation Biology (BIO110).

WHITE-ZIEGLER, CHRISTINE A., Associate Professor; Ph.D., University of Utah. Using genetic and molecular biology techniques, the research in my lab is aimed at studying how the bacterium *Escherichia coli* senses its environment and uses those environmental cues to regulate transcription of virulence genes. Immunology (BIO306/307), Microbiology (BIO204/205), Seminar: Topics in Microbiology (BIO321).

WILLIAMS, STEVEN A., Gates Professor; Ph.D., University of California, Davis. Molecular biology of infectious diseases. My research focuses on the molecular biology of parasites that cause human filariasis, elephantiasis, and African river blindness. Research interests include gene organization, developmentally regulated gene expression, DNA probes and PCR in disease diagnosis, and cloning genes encoding vaccine candidates and drug targets. Modern Biology for the Concerned Citizen (BIO101), Genetics Genomics and Evolution (BIO 152), Genes and Genomes (BIO230/231), Molecular Biology of Eukaryotes (BIO332/333), Seminar: Topics in Molecular Biology (BIO350), Graduate Seminar (BIO507).

WOPEREIS, JUDITH L. M., Instructor of Laboratories in Biological Sciences and Manager of the Microscopy and Imaging Center; M.S., Wageningen Agricultural University (Netherlands). Nodule organogenesis; morphological features in symbiotic relations between plants and microbes. Cell, Physiology and Development Laboratory (BIO151), Cell Biology laboratory (BIO203), Histology laboratory (BIO305), Biological Microscopy laboratory (BIO309), Microbial Diversity Laboratory (BIO371).