

Opportunities for Graduate Study in Ecology and Evolutionary Biology at the University of Kansas

www2.ku.edu/~eeb

The Department of Ecology and Evolutionary Biology at the University of Kansas (KU-EEB) seeks applications from highly qualified and motivated graduate students. KU-EEB includes 43 faculty members and about 70 graduate students whose research focuses on three broad topical domains: Biodiversity and Macroevolution, Ecology and Global Change Biology, and Evolutionary Mechanisms.

Facilities to support graduate education and research include world-class collections in our museums, equipment and expertise in molecular biology including DNA sequencing, growth chambers and greenhouses, and extensive field station land holds for establishing controlled experimental plots or for investigating non-manipulated systems.

Successful applicants to our graduate program receive a financial support package that includes a stipend and tuition sponsorship. Doctoral students receive a five-year package, and master's students receive a two-year package. The department provides support for travel to present results at national and international professional meetings. Funds to support graduate student research are also available through departmental endowment funds.

Applications from all qualified students will be given serious consideration; however, we specifically seek students whose interests match the following descriptions. Students who wish to pursue research in these areas are encouraged to contact prospective faculty mentors to introduce themselves and describe their academic goals and research experiences and interests.

Please contact Jaime Keeler (eebgradprogram@ku.edu) if you are interested in any of these projects or if you require additional information on our program.

Faculty members currently seeking new graduates students include those listed below:

Ford Ballantyne (<http://www2.ku.edu/~eeb/faculty/ballantyne.shtml>)

Research in the Ballantyne lab spans multiple subfields of ecology but is unified by the desire to link robust empirical patterns to the processes responsible for their generation. Lab members develop theory and models, grounded in empirical data, in an attempt to understand fundamental ecological principles. Broad research interests often lead to collaborations across disciplines and institutions.

Research interests in the Ballantyne lab range from the study of single species population dynamics to the comprehensive description of nutrient flow through ecosystems. The ultimate goal is to link interactions within and across all levels of ecological organization to biogeochemical cycles in order to predict how entire ecosystems will respond to disturbance.

Sharon Billings (<http://www2.ku.edu/~eeb/faculty/billings.shtml>)

The Billings lab explores how global change perturbations such as rising atmospheric CO₂, land use change, rising temperatures, and changing water availability influence forest and grassland carbon and nitrogen pools and fluxes. There is a particular emphasis on stable isotope ecology as a tool for soil and tree ecophysiological studies, as well as microbial ecology.

Justin Blumenstiel (<http://www2.ku.edu/~eeb/faculty/blumenstiel.shtml>)

The Blumenstiel lab investigates evolutionary arms races, selfish genes and epigenetics. Using approaches that include population genetics, molecular evolution, next-gen sequencing and molecular biology, the lab's aim is to characterize evolutionary conflict in the battleground of the germline.

Rafe Brown (<http://www.nhm.ku.edu/rbrown/>)

Research interests in the Brown lab include herpetological systematics and biodiversity, phylogenetic systematics, character evolution, phylogeography, population and conservation genetics, biogeography, and the evolution of animal behavior.

Pauly Cartwright (<http://www2.ku.edu/~eeb/faculty/cartwright.shtml>)

The Cartwright lab studies cnidarian phylogeny and evolution. In particular the lab is seeking a graduate student interested in studying the evolution of hydrozoans through phylogenetics and developmental gene expression.

Bryan Foster (<http://www2.ku.edu/~eeb/faculty/foster.shtml>)

Research interests in the Foster lab include experimental ecology, grassland dynamics, tests of community assembly theory, mechanisms of plant species coexistence and biodiversity, ecosystem consequences of biodiversity, and prairie and savanna restoration.

Jennifer Gleason (<http://www2.ku.edu/~eeb/faculty/gleason.shtml>)

The Gleason lab studies the evolutionary genetics of behavioral isolation between *Drosophila* species through analyses of genes influencing courtship behavior.

Lena Hileman (<http://www2.ku.edu/~eeb/faculty/hileman.shtml>)

Research in the Hileman lab integrates phylogenetic, molecular evolutionary, and molecular developmental approaches to investigate how flowers have evolved such a diversity of form.

Mark Holder (<http://www2.ku.edu/~eeb/faculty/holder.shtml>)

The Holder lab explores phylogenetic methods. In particular lab members are interested in improving the statistical and computational tools used to estimate the genealogical relationships between organisms.

Rudolf Jander (<http://www2.ku.edu/~eeb/faculty/jander.shtml>)

Members of the Jander lab research animal behavior with special emphasis on spatial cognition in ants, honeybees and house mice.

Kirsten Jensen (<http://www2.ku.edu/~eeb/faculty/jensen.shtml>)

The Jensen lab studies parasitology with a particular emphasis on the systematics, morphology, biodiversity, and life-cycles of tapeworms. The lab is seeking a Ph.D. student to participate in an NSF-funded Planetary Biodiversity Inventories project to document the diversity of elasmobranch (ray and shark) tapeworms from around the world.

Maria Orive (<http://www2.ku.edu/~eeb/faculty/orive.shtml>)

The Orive lab explores evolutionary genetic theory, focusing on models of population structure and organisms with complex life histories. Current research in the lab focuses on modeling host-endosymbiont systems.

Town Peterson (<http://specify5.specifysoftware.org/Informatics/bios/biostownpeterson/>)

The Peterson lab is comprised of a large group of graduate and undergraduates students who work on diverse topics in systematics, ecology, disease biology, and biogeography. Particular interests include studies of transmission risk of diseases such as flaviviruses, filoviruses, and Chagas disease; phylogeography of bird lineages; and ecological niche modeling.

Val Smith (<http://www2.ku.edu/~eeb/faculty/smithv.shtml>)

Research interests Val Smith's lab include ecological stoichiometry, empirical and experimental tests of community assembly theory, eutrophication science, host-pathogen dynamics, mechanisms of species coexistence and biodiversity, metabolic ecology, and production of biofuels from algae.

Edith Taylor (<http://www2.ku.edu/~eeb/faculty/taylore.shtml>)

The research in Edie Taylor's laboratory centers on fossil plants from the Permian and Triassic of Antarctica, including the study of fossil tree rings and paleoclimate proxies.

Thomas N. Taylor (<http://www2.ku.edu/~eeb/faculty/taylor.t.shtml>)

Tom Taylor's research program involves two basic themes; the biology and evolution of fossil fungi and symbiotic interactions, and late Paleozoic and Mesozoic floras from Antarctica.

James Thorp (<http://web.ku.edu/~riverecology/index.html>)

The Thorp lab explores freshwater ecology, specifically studying the factors controlling the complexity of food webs in rivers and the relationships between riverine landscape heterogeneity and ecosystem function.

Joy Ward (<http://www2.ku.edu/~eeb/faculty/ward.shtml>)

Research in the Ward lab focuses on understanding how global change factors influence the physiology, population structure, and evolution of plant species. More specifically, the lab seeks to understand the effects of global change drivers that alter plant resource availability, such as changing atmospheric carbon dioxide concentrations, changing precipitation regimes, and rising temperatures.