

Second Call with Undergraduate Research Opportunities For Environmental Majors – Spring 2019

Students are encouraged to seek out research experience while pursuing their undergraduate degree. Students desiring a research experience should review the list of faculty research projects provided below and see what opportunities are available. Students must contact faculty directly to express their interest and get more information. Students may earn academic credit for their research experience.

The following faculty members are eager to work with undergraduate students majoring in environmental disciplines who want practical research experience, integrating basic and applied science working towards solutions to real world problems facing our environment.

Basic Instructions:

- 1) Student should review list of available projects below, and then contact faculty members directly to learn more about project expectations and qualifications (if any) that are needed. **Mark your subject line of your email as “Research Inquiry” and in your email provide the following information:**

***Student name, class year, GPA, list of any relevant course work completed, number of hours available to work on project each week; specific skills/experience/training required for the project.**
- 2) To earn academic credit, an ENVSCI Independent Study contract must be completed and signed by both the student and the sponsoring faculty member. This form is available on-line at http://eco.umass.edu/wp-content/uploads/2011/11/ENVSCI_IndepStudyForm_fields.pdf
- 3) Instructions for completing the form are provided on-line within the same document link. Be sure to indicate the number of credits being earned for the research experience.
- 4) Please note that all Independent Study projects (ENVIRSCI 296, 396, 496) **must be letter graded**. Student can choose to enroll in Internship/Practicum credits (ENVIRSCI 298, 398, 498), but these courses are mandatory Pass/Fail.
- 5) **The completed Independent Study Contract must be delivered to the ENVSCI Program Office at 310 Holdsworth Hall prior to the close of the Add/Drop period.** (If form is received after the end of the Add/Drop period, the ENVSCI Office will initiate the paperwork for a Late Add request, and the student will be required to hand-carry this paperwork across campus for the necessary approval signatures.)

RESEARCH OPPORTUNITIES LIST is organized by Faculty Last Name and BEGINS ON NEXT PAGE.

~ Environmental Research Opportunities ~ Spring 2019~
Undergraduate Positions Still Available

David Boutt, Associate Professor
Department of Geosciences
Morrill Science Center

Hydrogeology
dboutt@umass.edu

Title: Environmental Isotopes of Surface and Ground Waters across Northeast US

Project Description: The overarching goal of this project is to develop a spatial and temporal database of environmental isotopes to understand hydrologic functioning of surface and ground waters throughout the Commonwealth of Massachusetts. By leveraging insights based on our previous hydro-climatic work and documenting the seasonal stable isotopic composition and variability of these waters we can assess important constraints on the timing and magnitude of ground water recharge, ground water residence times, sources of water to streams, and understanding the sensitivity of stream baseflow to seasonal hydrologic variability.

Duties: Assist with (field-based) collection and analysis (laboratory) of environmental water samples. Database entry. Creation of analysis products (plots, graphs) and map-products.

Supervisors: Dr. David Boutt, and PhD Student Marsha Allen

Qualifications: Familiarity with and understanding of databases and data storage in the cloud. ArcGIS experience would be a helpful.

Time Commitment/Duration: 10 hrs per student each week during semester. Prefer sophomore or Junior who could extend work into the summer and next academic year

Compensation: Paid hourly position (negotiable from \$12/hr)

To Apply: Send email with a cover letter and resume stating your interests and experience to Dr. Boutt (dboutt@geo.umass.edu) and Marsha Allen (mkallen@umass.edu)

NEW POSTING – NOT BEFORE LISTED

Susannah Lerman, Research Ecologist
Environmental Conservation (Adjunct Professor)
USDA Forest Service, Northern Research Station
201 Holdsworth Hall, 413-545-5447

Urban Ecology & Sustainability
slerman@eco.umass.edu

Project 1: Urban Arthropod Project

Description: Student interns needed to prepare insect specimens for identification. Research is part of the "Alternative Futures for the American Residential Macrosystem (ARM)" project, a multi-city integrated assessment of local and regional-scale consequences of residential development. We are investigating how varied land management decisions influence the ecological function and communities, and structure of residential yards and other public spaces. The interns will gain experience in a variety of lab techniques including sorting ground arthropods, pinning bees & wasps and creating labels, and will develop insect identification skills.

Qualifications: No previous experience is needed. Enthusiasm, patience and attention to detail required. Training and work stations will be provided.

Time Commitment: 5-10 hours per week

Compensation: Either independent study credits (graded project) or practicum credits (Pass/Fail)

Contact: Interested students should email a resume, and a brief statement on why they are interested in this project to dnarango@umass.edu. Postdoctoral Researcher, Desiree Narango

Project 2: Wildlife ecology of residential yards and urban green space

Description: We are seeking a student intern to assist with a quantitative literature review of urban wildlife papers to determine spatial and temporal trends, the proportion of research that takes place on different types of green space and whether these patterns have changed over time. Duties will include organizing and compiling relevant literature, reviewing research articles to collect information and entering data in excel. There may also be opportunities to assist with occasional field work in the local area (e.g. mist-netting backyard birds).

Qualifications: No previous experience is needed. Good reading comprehension skills and a willingness to work independently. Training will be provided.

Time Commitment & Compensation: 5-10 hours per week. Either independent study credits (graded project) or practicum credits (Pass/Fail)

Contact: Interested students should email a resume, and a brief statement on why they are interested in this project to dnarango@umass.edu. Postdoctoral Researcher, Desiree Narango

Allison Roy, Assistant Unit Leader
Massachusetts Cooperative Fish and Wildlife Research Unit
Environmental Conservation, 317 Holdsworth Hall

Aquatic Ecology
aroy@eco.umass.edu

Project: Macroinvertebrate lab technician

This project, which focuses on macroinvertebrate assemblages in streams, is part of a larger study on the impacts of dam removals on stream ecosystems. Students will have the opportunity to learn methods of processing and sorting macroinvertebrate samples with the use of a dissecting microscope, which will contribute to our understanding of how macroinvertebrate assemblages change after dam removal. Multiple positions are available, and ideally students will continue into the Fall 2019 semester.

Supervising Individual: Kate Abbott, PhD student. Students will also have the opportunity to participate in weekly meetings with the Roy lab group.

Qualifications: Preferred applicants have experience and comfort using dissecting microscopes and an interest in aquatic ecology or entomology. The applicant must be detail-oriented, able to work independently, and have a strong interest in laboratory-based research.

Time Commitment/Compensation: Positions are available for academic credit (Practicum, 1-3 credits, 3-9 hours/week), with possible extension into Fall 2019. Compensation for work study students is possible. Weekly schedule is flexible.

Contact: E-mail Kate Abbott (kmabbott@umass.edu) with the subject "Macroinvertebrate lab technician" and attach a resume, cover letter indicating interest, experience, and availability/preferred credits or work study, as well as current transcripts (can be unofficial).