



The Mims Lab in the VT Department of Biological Sciences is recruiting undergraduate researchers for credit! Apply by 3pm on January 17, 2024

RESEARCH PROJECT: Using genetics to improve management of invasive species

Invasive species pose a critical challenge to the maintenance of diversity across biological and spatial scales, and managers are often tasked with determining how, when, and where to invest limited resources in control or eradication efforts. Once invasive species are established, understanding how they interact with and are influenced by the landscape can be critical to effective regional management strategies. Landscape genetics can offer a valuable tool in understanding regional patterns of population connectivity and structure of invasive species, including neutral and adaptive genetic variation. Yet genetic and genomic tools come with specific considerations and limitations that may bound their utility in informing landscape scale management strategies for invasive species. What inferences have landscape genetics provided in understanding and managing invasive species? Does landscape genetic inference differ by taxonomic or functional characteristics of the study species, or its invasion history? Identifying the potential and limitations of landscape genetics in informing invasive species management may help guide researchers and managers in determining when and where the use of these tools is most appropriate - particularly as affordability of and access to landscape genetic tools continues to improve. Undergraduate researchers will help compile data from peer-reviewed papers on landscape genetics of invasive species, learn the process involved in conducting a systematic literature review, and assist with data analysis and synthesis.

Successful applicants will have an interest in invasive species management, population genetics, landscape ecology, database management, and/or data analysis. No prior research experience is necessary; however, applicants should demonstrate strong communication and organization skills and be able to work independently and in a team. Undergraduate researchers are provided access to Mims Lab computers and software as needed. Research will take place in person from 11:30a-3pm on Mondays and/or Thursdays. Undergraduate researchers will also have the potential to continue work with the Mims Lab in Fall 2024. Continued research either for pay or course credit will provide opportunities to develop an independent research project, co-author peer-reviewed publications, and the opportunity and support to seek independent research funds, including travel support.

Position dates and hours: Spring 2024; 1 or 2 credit hours, requiring 3 or 6 in-person hours/week, registered for BIOL 2964 (Field Study)

Application deadline: **01/17/2024**; brief interviews expected on 01/18/2024.

Instructions for applying: Please apply here: <https://forms.gle/AGpcyigtjmByfwtY6>. Reach out to Dr. Joe Drake (drakej@vt.edu) or Dr. Meryl Mims (mims@vt.edu) with questions. The form will close at 3 PM EST on 1/17/2024, with no exceptions, due to the timeline needed to register students.