

MDI Biological Laboratory, in collaboration with the **Dartmouth Superfund Research Program**, is pleased to offer **Applied Bioinformatics** and **Environmental Genomics**, two complementary courses featuring hands-on training in bioinformatics, back-to-back in **July of 2018**. Though the **two courses are independent**, participants may **benefit from taking both courses** because they are complimentary, and because Applied Bioinformatics, offered first, offers experiences in bioinformatics that pave the way for the more complex experimental designs used in Environmental Genomics. Students enrolled in both courses receive complimentary on-campus housing to enjoy Acadia National Park and the Bar Harbor area between courses.

[Applied Bioinformatics](#) (July 7-12, 2018) is an introductory course designed to prepare advanced graduate students, post-doctoral trainees, and researchers at all levels to incorporate bioinformatics into their research. Hands-on experience is provided in bioinformatic data analysis of biomedical data such as human or mouse gene expression. Tools used will include UNIX command line, Galaxy, Bioconductor, Biomart, the UCSC Genome Browser, KEGG, Gene Ontology, random forests, and support vector machines. Participants should have a strong background in molecular biology. Prior experience in bioinformatics and computer programming skills are not required, but the course assumes a basic understanding of molecular biology and a willingness to learn simple programming in R. [Application information](#) is now available.

[Environmental Genomics](#) (July 13-21, 2018) is a hands-on real-world project training experience for PhD students and early career scientists, designed to provide trainees with sufficient knowledge to initiate their own research programs. The course introduces wet bench and data analysis methods required to acquire and analyze RNA-Seq data in the context of gene-environment interactions and their effects on individuals, populations and ecosystems. Course participants share their experiences and aspirations for research involving model and non-model organisms. An experienced research faculty provides feedback and suggestions related to experimental design and statistics. Prior experience in bioinformatics and computer programming skills are not required, but the course assumes a basic understanding of molecular biology and a willingness to learn simple programming in R. [Application information](#) is now available.

