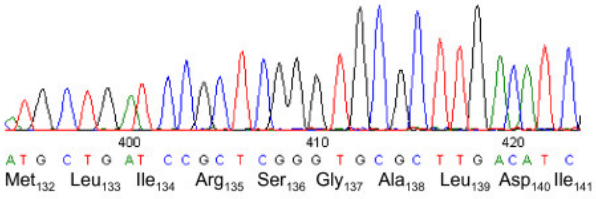
Learn Genetics at Ant Camp 2010!

June 28 – July 3, University of Vermont



What is genetics? How do genes affect whether we're male or female and what we look like? How can genetics tell us who our relatives are? How genetically different are individuals, populations, and species? What can genetics tell us about evolution?

In this week-long immersion course, we will take a hands-on approach to explore these questions using a common, ecologically important and fascinating group of organisms: the ants. Using the scientific method, we will observe ant colonies in the lab and field to develop ideas about their genetic makeup and relationships. We will then test our ideas in the genetics laboratory, learning about the types of genetic markers and experiments that biologists use to ask real-life scientific questions. By the end of the week, students and teachers will come away with a better understanding of genetics concepts, practical experience with the cutting-edge tools scientists use to address current problems, and the scientific skills to lead their biology class through a year-long research challenge project.

Concepts Covered

DNA structure and translation
Mendelian Inheritance
Sex determination
Family relationships
Genetic variation:
- population
- species

Phylogenetics

Genetics Techniques

DNA extraction
Polymerase Chain Reaction (PCR)
Microsatellite genotyping
DNA sequencing
Software for:
- Parentage analysis
- Database searching
- Evolutionary tree building

Want more information? Contact the Streams Project at streams@uvm.edu