

Guided Reading in Molecular Ecology (2 credit) 1-2-3344

Lecturer: Shirli Bar-David

Course Description:

Molecular Ecology is an emerging area of research that uses molecular genetic technique to investigate ecological interactions. The guided reading course (2 hour/week) is aimed to demonstrate the power and enormous potential of molecular ecology as a research tool in ecology using practical evidence.

The students will study how ecological questions can be solved using molecular techniques—from the individual to the population level. For example: at the individual level: measuring individual reproductive success, parentage, relatedness, sex identification, its diet and movement patterns, and at the population level: sex ratio in the population, inbreeding, gene flow and demographic aspects.

The students will read primary literature; articles published in top journals and will provide critical summaries/presentations of the reading material.

List of topics:

1. Behavioral Ecology: the use of molecular techniques to explore mating systems, reproductive success, diet and dispersal
2. Population Genetics: genetic diversity of natural populations, population structure, gene flow and migration rate
3. Genetically Modified Organisms: effects of GMOs on natural communities
4. The use of molecular techniques in the field of conservation and management of species.

Prerequisite:

Basic courses in genetics/molecular biology