

# Population genomics

March 17-21, 2024, 08:30-16:30, University of Haifa. 40 hours, 3 academic credit points.

**Coordinated by:** Eyal Privman (Dept. of Evolutionary and Environmental Biology, University of Haifa)  
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**Guest lecturers:** TBA

The ease of generating ever growing quantities of genomic sequence data opens a myriad of opportunities in population genomic research (pop-gen). However, the complexity of population genomic analysis leads to considerable challenges in experimental design, bioinformatic processing, and statistical inference even for experienced researchers. In this workshop, we will learn the basic concepts and technical innovations behind several approaches for pop-gen sequencing. We will dive into the details of computational methods for analyzing pop-gen data and practice their application using Linux command-line tools. We will also discuss how to present and interpret such analyses. Some of the key topics we will discuss are:

- How to design a pop-gen project
- Sequencing platforms, variations on library preparation (including RAD-seq), and quality control (QC)
- Bioinformatic pipelines for pop-gen data
- Demographic inference (population structure, population size, migration and admixture)
- Inference of natural selection (especially positive selection and adaptation)

The workshop is open to 40 advanced (MSc and PhD) students, postdocs and research scientists from all universities in Israel. Prerequisite courses include genetics, biochemistry, molecular biology, basic statistics and bioinformatics. Participants taking the course for academic credit are **required to register** through the secretariat of their university (in addition to the online registration form below) and to submit a final course project. *The course will be taught in English. Limited lodging is available at the University of Haifa dormitories at a cost of approximately 50 US\$/night.*

Registration is now open - please register online at <https://forms.gle/AP9HNEoFWJMoQDF17>.

For more information please contact:

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**Registration closes February 16, 2024.**

