

221. 4439 Seminar in Phylogenetics

Time: [Monday] [17:00-19:00], [Sciences Complex B]

Instructor: [Prof] [Sagi] [Snir], **Email:** [ssagi@research.haifa.ac.il]

Office Hours: [Monday] [14:00-16:00], Room [m14], [58774]

Course Level: (BA+MA)

Course Type & Format: [Elective], [seminar]

Number of Hours/Credits: 2

Prerequisites: Basic courses in statistics and mathematics for biologists

Course Overview (Short Abstract):

Phylogenetic reconstruction, or *phylogenetics* - the reconstruction of the evolutionary history of extant species - is among the most fundamental tasks in biology. With the advent of the genomic revolution and the progress in statistical inference, new approaches from quantitative disciplines have been introduced to phylogenetics. Phylogenetics is nowadays an integral part in various areas of biology, ranging from cancer research, immunology, biodiversity, ecology and more. In particular, the COVID-19 pandemic has promoted phylogenetic approaches, e.g. **Phylogeography**, to the forefront of epidemics.

The course will be given as a form of a seminar where central papers from the area will be presented. Papers will be suggested either by the instructor or papers brought by the students can be considered

Articles dedicated to the COVID-19 pandemic will be included.

Learning Outcomes (What are the skills, abilities, or major concepts a student is expected to acquire in this course?) – At the end of the course students will be able to:

1. Understand the basics phylogenetic reconstructions.
2. ability to read and understand advanced articles in phylogenetic reconstructions.
3. basic tools for computational/mathematical Evolution
4. **Assessment (Assessment Method and Grade Composition):**

Attendance – 0%

[Seminar Presentation] – [100]%