



# Omics of non-model organisms

**A workshop on non-model genomics, transcriptomics, proteomics, and more...**

**February 5-9, 2017, 08:30-16:30, University of Haifa. 40 hours, 3 academic credit points.**

**Coordinated by:** Daniel Sher (Dept. of Marine Biology, University of Haifa)

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**Guest lecturers:** TBA

Genomic analyses have become a cornerstone of modern biological research. Whole-genome sequencing of new species has become commonplace and affordable, opening the way to genomic studies in non-model organisms. Analyses of structure, expression, and function of tens of thousands of genes allows us to observe and investigate the full genetic material of our study organisms, and to identify the genes underlying the biological phenomena and phenotypes related to our study questions. However, such analyses also bring with them significant experimental, computational and statistical challenges. The “Omics of non-model organism” workshop will include in-depth lectures, seminars and hands-on tutorials to provide participants with the tools to design, perform and analyze their own omics experiments with their favorite non-model organism. The following topics will be covered:

- How to design a genome project
- Next generation sequencing platforms, library prep and quality control (QC)
- Starting simple: bacterial genome sequencing and assembly
- Life gets complicated: eukaryotic genomes – challenges of repeats and introns
- Gene annotation
- Working with complex samples: organisms with symbionts and environmental samples
- Proteomics using custom genomic databases

The workshop is open to 24 advanced (MSc and PhD) students, postdocs and research scientists from all universities in Israel. Prerequisite courses include genetics, biochemistry, molecular biology and basic bioinformatics. Participants are required to know basic commands in Linux (e.g. to change folders, edit files and run command-line programs) and excel (sorting, filtering, vlookup). Participants taking the course for academic credit are required to submit a final course project. The course will be taught in English. *Limited lodging is available at the University of Haifa dorms at a cost of approximately 45 us\$/night.*

Registration is now open - please register online at <http://tinyurl.com/omics-haifa>.

For more information please contact Daniel Sher: [dsher@univ.haifa.ac.il](mailto:dsher@univ.haifa.ac.il)

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**Registration closes December 15, 2016.**