

**Transcriptomics! A workshop on RNA-seq and its many uses**

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**Guest lecturers:** TBA

**March 2-6, 2025, 08:30-16:30. University of Haifa. 40 hours, 3 academic credit points.**

Whole-genome expression analyses have become a cornerstone of modern biological and biomedical research. Analyzing the structure and relative expression level of tens of thousands of mRNA transcripts in parallel allows us to unravel how organisms develop and respond to their environment, identify novel metabolic pathways and other molecular processes, and pinpoint the molecular and genetic basis for disease. However, such analyses also bring with them significant experimental, computational, and statistical challenges. The “Transcriptomics!” workshop will include in-depth lectures and hands-on tutorials to equip participants with the tools to design, perform, and analyze their own RNA-seq experiments. The following topics will be covered:

* How to design a robust transcriptomic experiment
* Next generation sequencing platforms, library prep, and quality control (QC) of results
* Starting simple: transcriptomic analysis in bacteria
* Life gets complicated: transcriptomic analysis in eukaryotes – introns and alternative splicing
* Single cell transcriptomics
* Environmental (microbiome) gene expression analyses (meta-transcriptomes)

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, and basic bioinformatics. Participants taking the course for academic credit are required to submit a written project. The course will be taught in English to accommodate foreign students. Limited lodging is available at the University of Haifa dorms.

****Registration is now open - please register online at <https://forms.gle/rGoe2usmDNCuuLFg7>

For more information please contact Eyal at eprivman@univ.haifa.ac.il

**Registration closes January 10, 2025.**