



Transcriptomics!

A workshop on RNA-seq and its many uses

February 21-25, 2016, 08:30-16:30, University of Haifa. 40 hours, 3 academic credit points.

Coordinated by:

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Guest lecturers: TBA

Whole-genome expression analyses have become a cornerstone of modern biological 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 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, seminars and hands-on tutorials to provide 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)
- Starting simple: transcriptomic analysis in bacteria with a sequenced genome
- Life gets complicated: transcriptomic analysis in eukaryotes – introns and alternative splicing
- De-novo transcriptome assembly and annotation
- Environmental gene expression analyses (metatranscriptomes)

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 Unix/DOS (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 present a 15 minute seminar describing a transcriptomic research paper (30% of the workshop grade) and submit a final course project (70% of the grade). The course may be taught in English to accommodate foreign students. **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/Transcriptome>

For more information please contact Daniel Sher: dsher@univ.haifa.ac.il or Eyal Privman: epprivman@univ.haifa.ac.il

Registration closes November 15, 2015.

