

You are cordially invited to a Computational Genomics Seminar:

Time: Wednesday, 11/2/2015, 11:15

Place: Schreiber 309, School of Computer Science, Tel Aviv University

Speaker: Yishai Shimoni, Center for Computational Biology and Bioinformatics, Columbia University

Title: Elucidating Compound Mechanism of Action by Network Dysregulation Analysis in Perturbed Cells

Abstract: Identification of the effectors of small-molecule compound represents a highly relevant yet elusive goal, with critical implications in the assessment of compound efficacy and toxicity. Current approaches are labor-intensive and have limited utility in the genome-wide elucidation of compound mechanism of action (MoA). We introduce a novel approach to capture relevant MoA proteins by assessing dysregulation of their interactions in a gene regulatory network following compound perturbations. Using this method we identified both established and novel MoA proteins for 70% of the tested compounds. Finally, the similarity between predictions allowed validation of the MoA of compounds with previously unknown MoA.

Host: Prof. Ron Shamir (rshamir@tau.ac.il), School of Computer Science, Tel Aviv University