You are cordially invited to a Computational Genomics Seminar:

Time: Wed, **23/2**/2011, **11:10**

Place: **Schreiber 007**

# Speaker: Esti Yeger Lotem, Department of Clinical Biochemistry, Faculty of Health Sciences, Ben-Gurion University

Title:  **A network biology approach to decipher cellular response pathways**

Abstract: Cells respond to stimuli by changes in various processes, including signaling pathways and gene expression. Efforts to identify components of these responses increasingly depend on mRNA profiling and genetic library screens. By comparing the results of these two assays across various stimuli, we found that genetic screens tend to identify response regulators, whereas mRNA profiling frequently detects metabolic responses. We developed ResponseNet, an integrative approach that bridges the gap between these data using known molecular interactions, thus highlighting major response pathways. Applied to a yeast model of alpha-synuclein toxicity that is related to Parkinson's disease, ResponseNet successfully mapped previously unknown as well as recognized genes and pathways associated with alpha-synuclein toxicity, and exposed potential drug targets that were verified experimentally.

Host: Ron Shamir ([rshamir@post.tau.ac.il](mailto:rshamir@post.tau.ac.il))