QBI/UCSF-TAU Symposium in Computational Biology and Drug Discovery

December 4 - 5 2019, the Steinhardt Museum of Natural History, Tel Aviv University

Preliminary program

Wednesday, December 4th, 2019

09:00 – 09:15 *Gathering and coffee*
09:15 – 09:30 *Opening*:

Prof. Raanan Rein, Vice President, TAU
Prof. Ron Shamir, Edmond J. Safra Center for Bioinformatics, TAU
Prof. Nevan Krogan, QBI/UCSF
Prof. Ehud Gazit, Blavatnik Center for Drug Discovery, TAU

Genomics and Metagenomics
09:30 – 09:45 **Nadav Ahituv, QBI/UCSF:** Functional characterization and therapeutic targeting of gene regulatory elements
09:45 – 10:00 **Irit Gat-Viks, TAU:** Cell composition analysis of bulk genomics using single cell data
10:00 – 10:15 **Jimmie Ye, QBI/UCSF:** Multiplexed multimodal single cell profiling
10:15 – 10:30 **Karen Avraham, TAU:** Epigenomics of the auditory system: implications for hearing and deafness
10:30 – 10:45 **Gil Ast, TAU:** How transcription direct alternative splicing?

10:45 – 11:30 *Coffee break*

11:30 – 11:45 **Steven Altschuler, QBI/UCSF:** Going with your gut: a HT platform for investigating perturbations to the intestine
11:45 – 12:00 **Elhanan Borenstein, TAU:** Computational model-based methods for microbiome research
12:00 – 12:15 **Martin Kupiec, TAU:** Mechanisms of telomere length maintenance
12:15 – 12:30 **Noam Shomron, TAU:** Genomics of breast cancer

12:30 – 14:00 *Lunch*

Computational Structural Biology
14:00 – 14:15 **James Fraser, QBI/UCSF:** Conformational change we can believe in!
14:15 – 14:30 **Brian Shoichet, QBI/UCSF:** Large library docking for new chemotypes with new pharmacology
14:30 – 14:45 **Nir Ben-Tal, TAU:** Fighting ovarian cancer: population-shift-based inhibition of PAX8
14:45 – 15:00 **Ruth Huttenhain, QBI/UCSF:** An approach for spatiotemporally resolving GPCR protein interaction networks
15:00 – 15:15 **Yoel Shkolnisky, TAU:** Manifold denoising for cryo-EM data sets

15:15 – 16:00 *Coffee break*

16:00 – 16:15 **Andrej Sali, QBI/UCSF:** Integrative structural biology
16:15 – 16:30 **Haim Wolfson, TAU:** Algorithms for PPI modeling and inhibition

16:30 – 16:45 **Rada Savic, QBI/UCSF:** Translation of Tuberculosis treatment response

19:30 – *Speakers Dinner*

Thursday, December 5th, 2019

09:15 – 09:30 *Gathering and coffee*

Computational Drug Design
09:30 – 09:45 **Roey Amir, TAU:** Designing polymeric nano-carriers with high molecular precision
09:45 – 10:00 **Lani Wu, QBI/UCSF:** Choices, choices: cell fate decisions in and out of drug
10:00 – 10:15 **Ronit Satchi-Feinaro, TAU:** Fighting melanoma brain metastasis in 3 dimensions
10:15 – 10:30 **Doron Shabat, TAU:** Unlocking the potential of Chemiluminescence in water
10:30 – 10:45 **Judith Berman, TAU:** Targeting drug tolerance

10:45 – 11:30 *Coffee break*

11:30 – 11:45 **Tanja Kortemme, QBI/UCSF:** New structures and functions by computational protein design
11:45 – 12:00 **Tamir Tuller, TAU:** Engineering genes, viruses, and cells based on computational models of gene expression
12:00 – 12:15 **Jack Taunton, QBI/UCSF:** Biased inhibition of membrane protein biogenesis
12:15 – 12:30 **Daniel Segal, TAU:** Computational tools for anti-amyloid drug discovery

12:30 – 14:00 *Lunch*
13:10 – 13:50 *Site visit of UCSF delegates to the Blavatnik Center for Drug Discovery*

Systems Biology and Disease
14:00 – 14:15 **Nevan Krogan, QBI/UCSF:** TBD
14:15 – 14:30 **Michelle Arkin, QBI/UCSF:** Hacking protein-protein interaction networks with small molecules
14:30 – 14:45 **Roded Sharan, TAU:** Harnessing protein networks to elucidate disease mechanisms
14:45 – 15:00 **Sourav Bandyopadhyay, QBI/UCSF:** Networks mediating receptor tyrosine kinase activation and drug resistance in cancer
15:00 – 15:15 **Saharon Rosset, TAU:** Estimating the contribution of gene-environment interactions to phenotypic variation from Biobank scale data

15:15 – 15:45 *Coffee break*

15:45 – 16:00 **Ran Elkon, TAU:** Enhancing functional interpretation of GWAS data
16:00 – 16:15 **Adi Stern, TAU:** Hidden genetic diversity in RNA viruses
16:15 – 16:30 **Miguel Weil, TAU:** Establishing a drug repurposing screening pipeline for personalised treatment of patients with rare diseases: STXBP1 case study
16:30 – 16:45 **Ron Shamir, TAU:** Computational biology in precision medicine

16:45 – *Closing remarks*