



# ISRAELI SOCIETY OF EVOLUTIONARY BIOLOGY CONFERENCE

Wednesday, March 9, 2022

The David Lopatie Conference Centre

8:30	Morning coffee + snacks	
9:00	Opening remarks Tzachi Pilpel, Weizmann Institute of Science	
9:30	Plenary 1   Chair: Einat Hazkani-Covo Maitreya Dunham   University of Washington Watching yeast genome evolution in real time in the brewery	
10:15	Break	
The David Lopatie Conference Centre		
MOLECULAR EVOLUTION & PHYLOGENY   Chair: Tal Pupko		Room 2, Botnar Auditorium Centre
ORGANISMAL EVOLUTION   Chair: Ariel Chipman		
10:45	Erez Levanon   Bar Ilan University Title: Evolution of RNA editing and Evolution by RNA editing	Ally Harari   The Volcani Center Alternative mating tactics in a moth
11:10	Chiann-Ling Cindy Yeh   University of Washington High-throughput functional analysis of natural genetic variation in yeast	Eran Tauber   University of Haifa Genomic analysis of wild populations of Drosophila reveals adaptive polymorphism in circadian clock genes
11:25	Einat Hazkani-Covo   The Open University of Israel Protein innovation through template switching in the Saccharomyces cerevisiae lineage	Mark Shein-Idelson   Tel Aviv University Two-state sleep and its modulation by temperature in the lizard Stellagama stellio
11:40	Coffee break	
12:05	Adi Livnat   University of Haifa De novo mutation rates at the single-mutation resolution in a human HBB gene-region associated with adaptation and genetic disease	Arbel Harpak   University of Texas at Austin Concerted evolution reveals the exact substitutions that allowed Leptodactylus frogs to prey on toxic toads
12:20	Yael Admoni   The Hebrew University of Jerusalem Functional characterization of a plant-like HYL1 homolog in the cnidarian Nematostella vectensis indicates a conserved involvement in microRNA biogenesis	Yoni Savir   Technion - Israel Institute of Technology Determine the constraints on the evolution of replicative aging
12:35	Itamar Caspi   Tel Aviv University Inferring viral mutation rates & fitness effects using simulation-based inference and neural networks	Smadar Ben-Tabou de-Leon   University of Haifa The evolution of biomineralization gene regulatory networks through the co-option of organic scaffold forming networks
12:50	Poster Session + Lunch Break The David Lopatie Conference Centre	
14:00	Yuval Tabach   The Hebrew University of Jerusalem Co-evolution based machine-learning for predicting functional interactions between human genes	Amir Sapir   University of Haifa Horizontal pathway transfer facilitates an unexpected re-acquisition of sterol synthesis during the evolution of insects
14:15	Shani Levy   University of Haifa Evolutionary conservation of cnidarian cell type programs revealed by single-cell genomics	Shabtai Barash   Weizmann Institute of Science Open issues in the evolution of vision and eye movements in primates and humans, emphasizing night vision
14:30	Break	
EVOLUTIONARY THEORY   Chair: Lilach Hadany		GENOME EVOLUTION   chair: Naama Barkai
14:50	Yoav Ram   Tel Aviv University Self-Replicating Artificial Neural Networks Give Rise to Universal Evolutionary Dynamics	Schrage Schwartz   Weizmann Institute of Science Tuning ribosome adaptability and plasticity via post-transcriptional modifications
15:15	Amir Ariel   Harvard University Modeling the effects of epistasis and clonal interference on adaptation in rugged fitness landscapes	Naor Granik   Technion - Israel Institute of Technology Disorder Propensity of Proteins is a Continuum and is Under Negative Selection
15:30	Doron Lancet   Weizmann Institute of Science The first evolving entities may have been nanoscopic lipid micelles	Uri Hershberg   University of Haifa Serine substitutions are linked to codon usage and differ for variable and conserved protein regions
15:45	Coffee break	
EVOLUTIONARY THEORY   Chair: Lilach Hadany		BEHAVIOR AND ECOLOGY - 1   Chair: Oren Kolodny
16:10	Tamar Friedlander   The Hebrew University of Jerusalem Fitness landscape analysis reveals that the wild type allele is sub-optimal and mutationally robust	Arnon Lotem   Tel Aviv University A role for ecologically-tuned chunking in the evolution of advanced cognition demonstrated by modelling the cleaner fish market problem
16:25	Keith Harris   The Hebrew University of Jerusalem Gene swamping as a fail-safe strategy in gene drive deployment	Shirli Bar-David   Ben-Gurion University of the Negev Conservation genomics in species reintroductions: the Asiatic wild ass Equus hemionus in Israel
16:40	Gabriela Lobinska   Weizmann Institute of Science Should we worry about the evolutionary safety of anti-COVID-19 mutagenic drugs?	Liran Sagi   Ben-Gurion University of the Negev Demographic separation in populations of Desert Chameleons that live in spatial overlap
The David Lopatie Conference Centre		
16:55	Break, gathering at Lopatie for Plenary Lecture	
17:10	Plenary 2   Chair: Viviane Slon Israel HersHKovitz   Tel Aviv University The Nesher Ramla Homo: an evolutionary perspective	
17:55	End	



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9:00	<b>Morning coffee</b>
9:30	<b>Plenary 3</b>   Chair: <b>Gili Greenbaum</b> <b>Dmitri Petrov</b>   Stanford University <i>Towards building Genotype-Phenotype-Fitness Maps of Evolutionary Adaptation</i>
10:15	<b>Break</b>
<b>HUMAN EVOLUTION</b>   Chair: <b>David Gokhman</b>	
10:40	<b>Liran Carmel</b>   The Hebrew University of Jerusalem <i>Ancient DNA methylation beyond bones</i>
11:05	<b>Gil Amitai</b>   Weizmann Institute of Science <i>A central human antiviral immune pathway evolved from a bacterial anti-phage defense system</i>
11:20	<b>Coffee break</b>
<b>BEHAVIOR AND ECOLOGY 2</b>   Chair: <b>Oren Kolodny</b>	
11:45	<b>Michal Gruntman</b>   Tel Aviv University <i>Biotic interactions and metal hyperaccumulation in plants</i>
12:10	<b>Moran Gershoni</b>   The Volcani Institute <i>Transgenerational heat stress effects in dairy cattle associated with broad phenotypic impact and reduced selection efficiency: a study of four consecutive generations</i>
12:25	<b>Nittay Meroz</b>   The Hebrew University of Jerusalem <i>Community composition of microbial microcosms follows simple assembly rules at evolutionary timescales</i>
12:40	<b>Poster Session + Lunch Break</b>
<b>MICROBIAL EVOLUTION</b>   Chair: <b>Avihu Yona</b>	
13:40	<b>Natalie Balaban</b>   Hebrew University of Jerusalem <i>Cells under acute stress: causes and consequences of the disrupted state</i>
14:05	<b>Avihu Yona</b>   The Hebrew University of Jerusalem <i>Rapid evolution of de novo oxalate metabolism in human gut E. coli isolates</i>
14:20	<b>Sophie Katz</b>   Technion - Israel Institute of Technology <i>Population level genetic memory of prior metabolic adaptation in E. coli</i>
<b>LIFETIME ACHIEVEMENT AWARD</b>   Chair: <b>Ariel Chipman</b>	
14:35	<b>Ariel Novoplansky</b>   Ben-Gurion University of the Negev <i>The interplay between bet-hedging and phenotypic plasticity</i> <i>Lifetime achievement for <b>Dan Cohen</b>, The Hebrew University of Jerusalem, Award presented by Ariel Novoplansky</i>
15:05	<b>Coffee Break</b>
<b>HOST-ASSOCIATED MICROBES AND PATHOGENS</b>   Chair: <b>Judith Berman</b>	
15:35	<b>Osnat Gillor</b>   Ben Gurion University of the Negev <i>All in one: the microbiome of a rootless plant</i>
15:55	<b>Judith Berman</b>   Tel Aviv University <i>Aneuploidy as a rapid mechanism of adaptation to antifungal drugs</i>
16:20	<b>Sarit Avrani</b>   University of Haifa <i>The tradeoff between resistance to phages and nitrogen fixation in bloom-forming cyanobacteria</i>
16:35	<b>Adi Millman</b>   Weizmann Institute of Science <i>Bacterial retrons function in anti-phage defense and show conceptual similarities to plant immunity</i>
16:50	<b>Society meeting + Poster and Talk prizes</b> Chair: <b>Lilach Hadany</b>
17:05	<b>End</b>

Conference Coordinator & Accessibility Issues

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