



The
25th Human Genome Meeting
 May 23-25, 2022 | Dan Tel Aviv Hotel, Tel Aviv, Israel
The Next Frontiers in Genomics

HGM2022 SCIENTIFIC PROGRAM

Time	Monday, 23 May 2022	
18:00-19:00	Welcome Get-Together at the Dan Tel Aviv, Hotel	
Time	Tuesday, 24 May 2022	
08:00-09:00	Registration	
9:00 - 9:15	Opening - Charles Lee, Karen Avraham	
9:20 – 10:00	Plenary 1 – Mike Snyder, Stanford University, US Yam Hall <i>"Monitoring health and COVID-19 using Big Data"</i> Chair: Eran Meshorer, Hebrew University of Jerusalem, Israel	
10:00 - 11:00	Symposium 1 - Genome organization & high-order interactions Yam Hall Chair: Ed Liu, The Jackson Laboratory, US Ofir Hakim, Bar-Ilan University, Israel <i>"Genomic retargeting of p53 and CTCF in HRas-induced oncogenic transformation"</i> (20 m)	Symposium 2 – Biobanks, databases & impact on precision medicine Kaete Dan Hall Chair: Michal Linial, Hebrew University of Jerusalem, Israel Gil Siegal, Ono College & Tel Aviv University, Israel <i>"Biobanks: National & international ethico-legal challenges"</i> (20 m)



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	<p>Ute Deichmann, Ben-Gurion University of the Negev, Israel <i>"Epigenetics: the origins and evolution of a fashionable topic"</i> (20 m)</p> <p>Nadia Rosenthal, The Jackson Laboratory, US <i>"Modelling genetics of COVID disease susceptibility"</i> (20 m)</p>	<p>Susan Tweedie, European Molecular Biology Laboratory, UK <i>"What's in the name"</i> (20 m)</p> <p>Varda Shalev, Alike Health Israel, Israel <i>"Biobank: Lessons learned and opportunities"</i> (20 m)</p>
11:00 - 11:20	Coffee Break	
11:20 - 12:00	<p>Symposium 3 – Convergence of genomics and immunology Chair: Erez Levanon, Bar-Ilan University, Israel Yam Hall</p> <p>Noam Stern-Ginossar, Weizmann Institute of Science, Israel <i>"Subversion of the innate immune response by SARS-CoV-2"</i> (20 m)</p> <p>Ido Amit, Weizmann Institute of Science, Israel <i>"Single-cell immunology: past, present and future"</i> (20 m)</p>	<p>Symposium 4 – Ancient human genomes Chair: Sara Selig, Technion, Israel Kaete Dan Hall</p> <p>Viviane Slon, Tel Aviv University, Israel <i>"Archaeological sediments as a source of ancient human DNA"</i> (20 m)</p> <p>Liran Carmel, Hebrew University of Jerusalem, Israel <i>"The use of ancient epigenetics to study human evolution"</i> (20 m)</p>
12:00 - 12:40	<p>Plenary 2 - "Ami Bhatt, Stanford University, US <i>"From precise microbiome genomics to precision medicine"</i> Chair: John Burn, Newcastle University, UK Yam Hall</p>	



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12:40 - 13:40	Lunch Break (lunch included)	
13:40 - 14:50	<p>Symposium 5 - Integrating metabolism & disease Chair: Daniel Bar, Tel Aviv University, Israel Yam Hall</p> <p>Eyal Gottlieb, Technion, Israel <i>"Metabolic synthetic lethality as an effective strategy to target hereditary cancer syndromes with TCA cycle deficiency"</i> (20 m)</p> <p>Ayelet Erez, Weizmann Institute of Science, Israel <i>"Identifying amino-acid cross-talks between the host and the tumor for improving cancer diagnosis and therapy"</i> (20 m)</p> <p>Itamar Harel, Hebrew University of Jerusalem, Israel <i>"Sex-specific regulation of metabolic health and vertebrate lifespan by AMP biosynthesis"</i> (10 m)</p> <p>Dana Goldberg, Hebrew University of Jerusalem, Israel <i>"Hormone-controlled cooperative binding of transcription factors within enhancer clusters drives synergistic gene induction during fasting"</i> (10 m)</p>	<p>Symposium 6 - Cancer genomics Kaete Dan Hall Chair: Ofer Shoshani, Weizmann Institute of Science, Israel</p> <p>Yaara Oren, Tel Aviv University, Israel <i>"Beyond Darwin - understanding cancer persister cells"</i> (20 m)</p> <p>Patrick Tan, Cancer Science Institute, Singapore (virtual) <i>"Transforming health in Singapore through precision medicine"</i> (20 m)</p> <p>Dan Peer, Tel Aviv University, Israel <i>"Therapeutic genome editing in cancer"</i> (20 m)</p> <p>Yuval Tabach, Hebrew University, Israel <i>"Machine-learning of complex evolutionary signals improves classification of SNVs"</i> (10 m)</p>



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	<p>Irena Muffels, UMC Utrecht, Netherlands <i>"Bi-allelic variants in NAE1 cause intellectual disability, ischiopubic hypoplasia, stress-mediated lymphopenia and neurodegeneration"</i> (10 m)</p>	
14:50 - 15:50	Coffee Break & Poster Walk & Exhibition	
15:50 - 16:50	<p>Chen Award Chair: Charles Lee, The Jackson Laboratory, US</p> <p>Pui Yan Kwok, University of California San Francisco, US <i>"Genome analysis for the one and the many"</i> (20 m)</p> <p>Jin Billy Li, Stanford University, US <i>"RNA editing underlies genetic risk of common inflammatory diseases"</i> (15 m)</p> <p>Young Seok Ju, KAIST, South Korea <i>"Somatic mosaicism by Line-1 retrotransposition in human somatic cells"</i> (15 m)</p>	Yam Hall
16:50 - 17:15	<p>HUGO African Prize</p> <p>Nicki Tiffin, University of Cape Town, South Africa <i>"Advancing African health genomics research through innovative study design"</i> (20 m)</p>	Yam Hall
18:30	Dinner at Kalamata, Jaffa (Optional- advance reservations required by May 18 to hgm@ortra.com), bus from Dan Hotel	



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Time	Wednesday, 25 May 2022	
9:15 - 10:15	<p>Symposium 7 – AI in health & medicine Yam Hall Chair: Karl Skorecki-Azrieli Faculty of Medicine, Bar-Ilan University</p> <p>Jean Philippe Vert, Google Brain, Paris <i>"Computational analysis of tumour heterogeneity, from bulk to single-cell genomics"</i> (20 m)</p> <p>Michal Rosen-Zvi, IBM Research & Hebrew University of Jerusalem, Israel <i>"Technologies to accelerate discoveries of prognostic and diagnostic cancer biomarker"</i> (20 m)</p> <p>Esti Yeger-Lotem, Ben-Gurion University, Israel <i>"Predicting molecular mechanisms of hereditary diseases by using their tissue-specific manifestation"</i> (10 m)</p> <p>Gal Dinstag, Pangea Biomed, Israel <i>"ENLIGHT: Pan-cancer response prediction to targeted and immunotherapies via tumor transcriptomics"</i> (10 m)</p>	<p>Symposium 8 – Genetics & epigenetics of health & disease Kaete Dan Hall Chair: Philippa Melamed, Technion, Israel</p> <p>Naomi Habib, Hebrew University, Israel <i>"Uncovering cellular dynamics in Alzheimer's disease: one cell at a time"</i> (20 m)</p> <p>Assaf Bester, Technion, Israel <i>"The lncRNA Cytoskeleton regulator RNA (CYTOR) as a master regulator of epigenetics in cancer and a novel therapeutic target"</i> (20 m)</p> <p>Oded Rechavi, Tel Aviv University, Israel <i>"Transgenerational inheritance in C. elegans nematodes"</i> (20 m)</p>
10:15 – 10:35	Coffee Break & Exhibition	



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10:35 - 11:15	<p>Plenary 3: Clodagh O’Shea, Salk Institute for Biological Studies, US <i>“Cracking the nuclear code: Visualizing the structures and functions of the human genome”</i> Chair: John Burn, Newcastle University, UK</p> <p style="text-align: right;">Yam Hall</p>	
11:20 - 12:30	<p>Symposium 9 - Organoids, cell & gene therapy Yam Hall Chair: Benjamin Dekel, Tel Aviv University, Israel</p> <p>Batsheva Kerem, Hebrew University of Jerusalem, Israel <i>“Antisense oligonucleotide splicing modulation as a novel Cystic Fibrosis therapeutic approach”</i> (20 m)</p> <p>Rami Aqeilan, Hebrew University of Jerusalem, Israel <i>“3D-models in the service of epilepsy: Using brain organoids to study epileptic encephalopathies ”</i> (20 m)</p> <p>Michael Namestnikov, Sheba Medical Center & Tel Aviv University, Israel <i>“Human fetal kidney organoids enriched for notch-dependent early epithelial differentiation”</i> (10 m)</p> <p>Noa Sher, Minovia, Israel <i>“Utilization of mitochondrial augmentation technology to explore associations between mitochondrial haplogroup, function, and persistence”</i> (10 m)</p>	<p>Symposium 10 - Genomes at birth and omics of aging (Koret-Berkeley-Tel Aviv Initiative session) Kaete Dan Hall Chair: Elhanan Borenstein, Tel Aviv University, Israel</p> <p>Andres Cardenas, UC Berkeley, US <i>“Environmental influences on human epigenetic variability and epigenetic age acceleration”</i> (20 m)</p> <p>Peter Sudmant, UC Berkeley, US <i>“Profiling aging across cellular, organismal, and population levels”</i> (20 m)</p> <p>Steven Brenner, UC Berkeley, US <i>“Roles for exome sequencing in population-scale newborn screening”</i> (20 m)</p> <p>Amit Levon, Tel Aviv University, Israel <i>“Comprehensive transcriptomic analysis of A-T skin fibroblasts reveals unique gene expression and pathway signature of cellular senescence”</i> (10 m)</p>



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	Gautam Kok, UMC Utrecht, Netherlands <i>"Prime editing to correct POLG-related epilepsy"</i> (10 m)	
12:30 - 13:30	Lunch Break (lunch included)	
13:30 - 14:10	Plenary 4: Douglas Wallace, University of Pennsylvania, USA <i>"A mitochondrial eulogy of complex diseases"</i> Chair: Dan Mishmar, Ben-Gurion University of the Negev, Israel	Yam Hall
14:10 - 15:00	Coffee Break & Poster Walk & Exhibition	
15:00 - 16:00	Symposium 11 - Microbiome and genome – where is the junction? Chair: Omry Koren, Azrieli Faculty of Medicine, Bar-Ilan University, Israel Elhanan Borenstein, Tel Aviv University, Israel <i>"Microbes, metabolites, and drugs: Integrating multi-omic microbiome data"</i> (20 m) Revital Kariv, TASMC & Tel Aviv University, Israel <i>"Microbiome profiling in patients with Adenomatous Polyposis compared to sporadic subjects"</i> (20 m)	Symposium 12 – Informatics insights for perceiving the pandemic and protein production (Koret-Berkeley-Tel Aviv Initiative session) Chair: Steven Brenner, UC Berkeley, US Jennifer Listgarten, UC Berkeley, US <i>"Machine learning-based engineering of proteins"</i> (20 m) Joseph Lewnard, UC Berkeley, US <i>"Harnessing large-scale clinical informatics for real time learning: experience during the COVID-19 pandemic"</i> (20 m) Joel Gelernter, Yale University, US <i>"Genetics of SSRI antidepressant use and implications for COVID19"</i>



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	<p>Adina Weinberger, Weizmann Institute of Science, Israel <i>"10K Study: Personalized medicine based on multi-omics population-level cohorts"</i> (10 m)</p> <p>Dana Binyamin, Azrieli Faculty of Medicine, Bar-Ilan University, Israel <i>"The effect of the gut microbiome of adult and aging mice on metabolic characteristics"</i> (10 m)</p>	<p>risk" (10 m)</p>
16:00 – 16:10	<p>Ed Liu, The Jackson Laboratory, US "The future of the genome"</p>	<p>Yam Hall</p>
16:10 – 16:20	<p>CLOSING</p>	<p>Yam Hall</p>