



PROGRAM OUTLINE (*As of March 30, 2022*)

ALL TIMINGS ARE GMT+3 (Jerusalem Time)

WEDNESDAY, MARCH 30, 2022

Wise Auditorium, Edmond J. Safra Campus, Givat Ram, Jerusalem

07:30 Registration opens

09:00 OPENING REMARKS

Eran Meshorer, The Hebrew University of Jerusalem, Israel

09:10 – 10:55 Session 1: EPIGENETIC REGULATION AND CHROMATIN

Chairs: **Ruth Ashery-Padan**, *Tel-Aviv University* & **Eran Meshorer**, *The Hebrew University of Jerusalem*

09:10 EPIGENETIC MECHANISMS IN DEVELOPMENT AND DISEASE

Alex Meissner, *MPI, Germany*

09:35 THE HISTONE VARIANT H3.3 IS REQUIRED FOR TRIM28 DEPENDENT SILENCING IN MOUSE EMBRYONIC STEM CELLS

Sharon Schlesinger, *The Hebrew University of Jerusalem, Israel*

09:50 REGENERATION AND LONG-TERM CHANGES IN STEM-CELL DNA METHYLATION

Yehudit Bergman, *The Hebrew University of Jerusalem, Israel*

10:05 HISTONE H3 VARIANTS ON THE MOVE

Geneviève Almouzni, *Institut Curie, France*

10:30 EPIGENETIC MECHANISMS OF CELLULAR PLASTICITY

Maria-Elena Torres-Padilla, *Helmholtz Center Munich, Germany*

10:55 *Refreshment Break*

11:20 – 13:10 Session 2: DISEASE MODELING

Chairs: **Chaya Kalcheim**, *The Hebrew University of Jerusalem* & **Eldad Tzahor**, *Weizmann Institute of Science*

11:20 NOVEL MECHANISMS OF NEUROGENESIS AND NEURAL REPAIR

Magdalena Götz, *Helmholtz Center Munich, Germany*

11:45 LEGACY OF A DYING CELL

Yaron Fuchs, *Technion – Israel Institute of Technology, Israel*



WEDNESDAY, MARCH 30, 2022 (cont)

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- 12:00 USING PATIENT-DERIVED NEURONS TO STUDY THE MECHANISMS UNDERLYING FUNCTIONAL CHANGES IN NEURODEVELOPMENTAL AND NEUROPSYCHIATRIC DISORDERS
Shani Stern, University of Haifa, *Israel*
- 12:15 MODELING NUCLEAR ENVELOPATHIES CAUSED BY LAP1 AND NUP214 MUTATIONS USING HPSCS
Achia Urbach, Bar-Ilan University, *Israel*
- 12:30 PATIENT-SPECIFIC HESC-DERIVED COLON ORGANOIDs CAN PREDICT DISEASE SEVERITY
Dalit Ben-Yosef, Ichilov Hospital/Tel Aviv University, *Israel*
- 12:45 STEMNESS IN HEALTHY AND INJURED BRAIN-LESSONS FROM COMPARATIVE ANALYSIS OF GLIOSIS
Jovica Ninkovic, LMU Munich and Helmholtz Center Munich, *Germany*
- 13:10 *Lunch Break*

14:10 – 15:35 Session 3: ADULT STEM CELL & STEM CELL NICHEs

Chairs: **Karina Yaniv**, Weizmann Institute of Science & **Naomi Habib**, The Hebrew University of Jerusalem

- 14:10 STEM CELL CLONALITY AND THE NICHE
Leonard I. Zon, Boston Children's Hospital and Harvard University, *USA*
- 14:35 EYES OPEN ON STEM CELL LOCATION, SIGNATURE & NICHE
Ruby Shalom-Feuerstein, Technion – Israel Institute of Technology, *Israel*
- 14:50 TELOCYTES SUPPORT COLORECTAL CANCER PROGRESSION
Michal Shoshkes Carmel, The Hebrew University of Jerusalem, *Israel*
- 15:00 IMMUNE STIMULATION FOR HEMATOPOIETIC STEM CELLS
Roi Gazit, Ben Gurion University of the Negev, *Israel*
- 15:15 CIRCADIAN REGULATION OF HEMATOPOIETIC STEM CELLS BY LIGHT AND DARKNESS ONSET
Tsvee Lapidot, Weizmann Institute of Science, *Israel*
- 15:30 **Poster Teasers**
- HISTONE EXCHANGE SENSOR REVEALS VARIANT AND CHAPERONE SPECIFIC DYNAMICS IN MOUSE EMBRYONIC STEM CELLS
Marko Dunjic, Weizmann Institute of Science, *Israel*



WEDNESDAY, MARCH 30, 2022 (cont)

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SYMMETRIC INHERITANCE OF PARENTAL HISTONES GOVERNS EPIGENOME MAINTENANCE, GENOME FUNCTION AND CELL FATE

Alva Biran, University of Copenhagen, *Denmark*

DECOY HOST CELL ACE2 RECEPTOR AND INTERRUPTION OF NON-STRUCTURAL PROTEINS OF VOCS AGAINST SARS-COV-2 INFECTION IN HUMAN LUNG ORGANIDS

Haibo Zhang, University of Toronto, *Canada*

DEVELOPMENT OF SPERMATOGENESIS IN A NOVEL TESTIS-ON-A-CHIP USING TESTICULAR CELLS OF IMMATURE MICE.

Mahmoud Huleihel, Ben-Gurion University of the Negev, *Israel*

15:35 *Refreshment Break*

16:00 – 17:50 Session 4: PLURIPOTENCY, REPROGRAMMING and EARLY DEVELOPMENT I

Chairs: **Varda Rotter**, Weizmann Institute of Science & **Gad Vatine**, Ben-Gurion University of the Negev

16:00 CHALLENGING PLASTICITY AND FORCING FATE: SINGLE-CELL ANALYSES OF BIDIRECTIONAL REPROGRAMMING ROUTES BETWEEN PLURIPOTENT AND EXTRA-EMBRYONIC ENDODERM STATES

Anna-Katerina Hadjantonakis, Memorial Sloan Kettering Cancer Center, *USA*

16:25 COMPARATIVE PARALLEL MULTI-OMICS ANALYSIS OF CELL UNDERGOING REPROGRAMMING TO PLURIPOTENT AND TROPHECTODERM STATES

Yossi Buganim, The Hebrew University of Jerusalem, *Israel*

16:40 CAPRIN1 LINKS EMBRYONIC STEM CELL DIFFERENTIATION WITH RNA METABOLISM

Juliane O. Viegas, The Hebrew University of Jerusalem, *Israel*

16:50 DIFFERENTIATION SHIFTS FROM A REVERSIBLE TO AN IRREVERSIBLE HETEROCHROMATIN STATE AT THE DM1 LOCUS

Rachel Eiges, Share Zedek Medical Center, *Israel*

17:05 DIVERGENCE AND CONVERGENCE OF MORPHOGENETIC PATHS IN EMBRYO-LIKE MODELS

Iftach Nachman, Tel Aviv University, *Israel*

17:20 HETEROCHROMATIN FORMATION AND NUCLEAR COMPARTMENTALIZATION BY THE LNCRNA XIST

Kathrin Plath, UCLA, *USA*

17:45 **Poster Teasers (4)**

GENERATION AND CHARACTERIZATION OF TRIPLOID HUMAN EMBRYONIC STEM CELLS

Guy Haim, The Hebrew University of Jerusalem, *Israel*



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HIGH RESOLUTION SINGLE-CELL TRANSCRIPTOMIC MAP OF EARLY HUMAN EMBRYONIC NEURODEVELOPMENT

Miri Danan-Gotthold, Karolinska Institute, *Sweden*

THE ROLE OF TELOCYTES IN THE HAIR FOLLICLE STEM CELL NICHE

Marco Canella, The Hebrew University of Jerusalem, *Israel*

SAFETY AND EFFICACY OF FIRST-IN-HUMAN INTRATHECAL TRANSPLANTATION OF HUMAN ASTROCYTES (ASTRORX) DERIVED FROM EMBRYONIC STEM CELLS IN ALS PATIENTS: FROM BENCH TO BEDSIDE

Michal Izrael, Kadimastem, *Israel*

17:50 *Poster Session with light dinner & drinks*

20:00 *Closing of the day*

THURSDAY, MARCH 31, 2022

09:00 – 11:00 Session 5: PLURIPOTENCY, REPROGRAMMING, AND EARLY DEVELOPMENT II

Chair: Adi Kimchi, Weizmann Institute of Science & **Nissim Benvenisty**, The Hebrew University of Jerusalem

09:00 RIBOSOMAL PROFILING IN SINGLE CELLS

Alexander van Oudenaarden, Hubrecht Institute, *The Netherlands*

09:25 IN-VITRO CELLULAR REPROGRAMMING TO MODEL GONAD DEVELOPMENT AND ITS DISORDERS

Nitzan Gonen, Bar-Ilan University, *Israel*

09:40 UNDERSTANDING HUMAN REPROGRAMMING: A JOURNEY FROM EPIBLAST AND TROPHOBLAST INTO IBLASTOIDS

Jose Polo, Monash University, *Australia*

10:05 EX UTERO MAMMALIAN EMBRYOGENESIS: FROM STEM CELLS TO ORGANS

Jacob Hanna, Weizmann Institute of Science, *Israel*

10:20 MODELING MAMMALIAN GASTRULATION AT SINGLE EMBRYO AND SINGLE-CELL RESOLUTION

Yonatan Stelzer, Weizmann Institute of Science, *Israel*

10:35 TRANSCRIPTION/EPIGENETIC REGULATION OF ENHANCER REWIRING DURING EARLY ESC DIFFERENTIATION

Robert Blelloch, University of California in San Francisco, *USA*

11:00 *Refreshment Break*



THURSDAY, MARCH 31, 2022 (cont)

Wise Auditorium, Edmond J. Safra Campus, Givat Ram, Jerusalem

11:20 – 12:50 Session 6: STEM CELL TECHNOLOGIES & TISSUE ENGINEERING

Chairs: *Yechiel Elkabetz, Max Planck Institute & Daphna Nachmani, The Hebrew University of Jerusalem*

- 11:20 DECIPHERING GENE EXPRESSION REGULATION IN DEVELOPMENT AND DISEASE USING INTEGRATIVE OMICS APPROACHES
Michiel Vermeulen, Radboud University, *The Netherlands*
- 11:45 THE ELECTRO-MITOCHONDRIAL COUPLING OF A MICROPHYSIOLOGICAL HUMAN HEART
Yaakov Nahmias, The Hebrew University of Jerusalem, *Israel*
- 12:00 ANALYSIS OF HAPLOINSUFFICIENCY DISORDERS IN HUMAN EMBRYONIC STEM CELLS
Roni Sarel-Gallily, The Hebrew University of Jerusalem, *Israel*
- 12:10 CLONESEQ: HIGHLY SENSITIVE SINGLE-CELL BASED PLATFORM FOR COMPREHENSIVE CHARACTERIZATION OF 3D CULTURED CELLS
Oren Ram, The Hebrew University of Jerusalem, *Israel*
- 12:25 DERIVATION OF INTERMEDIATE PLURIPOTENT STEM CELLS AMENABLE TO PRIMORDIAL GERM CELL SPECIFICATION
Jun Wu, UT Southwestern, *USA*
- 12:50 *Lunch Break*

13:50 – 15:40 Session 7: ORGANOIDS

Chairs: *Dafna Benayahu, Tel-Aviv University & Nadav Sharon, Technion– Israel Institute of Technology*

- 13:50 IMPROVING THE FIDELITY OF ORGANOIDS TO MODEL HUMAN BRAIN DEVELOPMENT AND DISEASE
Arnold Kriegstein, University of California in San Francisco, *USA*
- 14:15 NOTCH ACTIVATION DURING EARLY MESODERM INDUCTION MODULATES EMERGENCE OF THE T/NK CELL LINEAGE FROM HUMAN IPSCS
Gustavo Mostoslavsky, Boston University, *USA*
- 14:25 RECONSTRUCTING HUMAN ORGANOID DEVELOPMENT WITH SINGLE-CELL TECHNOLOGIES
Barbara Treutlein, ETH Zurich, *Switzerland*
- 14:50 BUILDING BRAIN CELLULAR COMPLEXITY USING STEM-CELL BASED ORGANOID TECHNOLOGY
Abed Manssour, The Hebrew University of Jerusalem, *Israel*

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- 15:05 STEM CELL ISOLATION AND TRANSPLANTATION IN HEXACORALLIANS; TOWARD CELL-THERAPY FOR CORALS
Benjamin Rosental, Ben Gurion University of the Negev, *Israel*
- 15:15 CHARTING THE ENVIRONMENTAL AND GENETIC CAUSES OF NEURODEVELOPMENTAL VULNERABILITIES BY HIGH RESOLUTION ORGANOID MODELLING
Giuseppe Testa, IEO Milano, *Italy*
- 15:40 *Refreshment Break*

16:05 – 17:55 Session 8: CLINICAL APPLICATIONS

Chairs: **Benjamin Dekel**, *Sheba Medical Center* & **Orly Reiner**, *Weizmann Institute of Science*

- 16:05 HUMAN EMBRYONIC STEM CELLS – FROM THE RESEARCH LABORATORY TO RETINAL CLINICAL TRANSPLANTATION
Benjamin Reubinoff, *Hadassah Medical Center, Israel*
- 16:20 BIOPRINTING VASCULARIZED TISSUE CONSTRUCTS
Shulamit Levenberg, *Technion – Israel Institute of Technology, Israel*
- 16:35 HUMAN FETAL KIDNEY ORGANOID ENRICHED FOR NOTCH DEPENDENT EARLY EPITHELIAL DIFFERENTIATION
Michael Namestnikov, *Sheba Medical Center / Tel Aviv University, Israel*
- 16:45 ORGAN-ON-A-CHIP AS A NEW TOOL FOR STUDYING HUMAN PHYSIOLOGY
Ben Maoz, *Tel Aviv University, Israel*
- 16:55 SINGLE CELL PROFILING OF XENOGRAFT MOUSE MODELS REVEALS BONE MARROW STEM CELL NICHE REMODELING UPON ACUTE MYELOID LEUKEMIA
Karin Prummel, *EMBL, Germany*
- 17:05 GENOME EDITING FOR BETTER CARDIOMYOCYTE THERAPY
Charles Murry, *University of Washington & Sana Biotechnology, USA*
- 17:30 USING STEM CELLS TO MAKE PANCREATIC ISLETS
Douglas A. Melton, *Harvard University, USA*
- 17:55 *Closing Remarks*