

SCIENTIFIC PROGRAM

08:30 Registration

09:00 Opening Session Wix Auditorium

Opening
Martin Kupiec, President, The Genetics Society of Israel

09:10 – 10:35 Session I Wix Auditorium

Chair: **Judy Berman**, Tel Aviv University, Israel

09:10 A NUMBERS GAME: RAPID CELLULAR EVOLUTION DRIVEN BY
KARYOTYPE INSTABILITY AND CHROMOSOME STOICHIOMETRY
IMBALANCE
Rong Li, Stowers Institute for Medical Research, USA

09:55 THE ROLE OF SIRT6 IN DNA DAMAGE AND NEURODEGENERATION
Deborah Toiber, Ben-Gurion University of the Negev, Israel

10:15 THE BOVINE RUMEN MICROBIOME
Itzhak Mizrahi, Agricultural Research Organization, Volcani Center, Israel

10:35 *Coffee*

SCIENTIFIC PROGRAM (continued)

11:05 – 12:30

Session II

Wix Auditorium

Chair: **Avi Levy**, Weizmann Institute of Science, Israel

11:05 ANCESTRY INFERENCE FROM POPULATION DATA
Eran Halperin, Tel Aviv University, Israel

11:25 COMPARATIVE GENOMICS OF SUPER SPECIES: IDENTIFICATION
OF CANCER AND AGING PROTECTING GENES AND NOVEL GENES
IN THE SMALL RNA PATHWAY
Yuval Tabach, The Hebrew University of Jerusalem, Israel

11:45 DECIPHERING THE MOLECULAR MECHANISM LINKING
SUBTELOMERIC HYPOMETHYLATION AND ACCELERATED
TELOMERE SHORTENING IN ICF SYNDROME
Sara Selig, Faculty of Medicine, Technion – Israel Institute of Science,
Israel

12:05 BEDSIDE MEDICINE IN THE ERA OF NEXT GENERATION
SEQUENCING: THE STORY OF CONGENITAL HYPOTONIA
Tzipora Falik-Zaccai, Bar Ilan University, Israel

12:25 *Lunch, Poster Session and Exhibition Viewing*

POSTER PRESENTATIONS

Board No:

1. INCREASED RECOMBINATION IN DROSOPHILA MELANOGASTER CAUSED BY DIRECTIONAL SELECTION FOR STRESS-RELATED TRAITS
Dau Dayal Aggarwal, Eugenia Rashkovetsky, Pawel Michalak, Yefim Ronin, Dan Zhou, Gabriel G Haddad, Abraham B Korol
Department of Environmental and Evolutionary Biology, Institute of Evolution, Haifa, Israel
2. GENE EXPRESSION AND EPIGENETIC REGULATION IN NEUTROPHILS FROM HEMODIALYSIS PATIENTS AS EARLY MARKERS FOR ATHEROSCLEROSIS
Ricardo Almuly, Dani Bercovich, Batya Kristal
Eliachar Research Laboratory, Medical Center of Galilee, Nahariya, Israel
3. THE ROLE OF THE ELG1 CLAMP UNLOADER IN MUTATION FORMATION
Batia Aloni-Lifshitz, Martin Kupiec
Department of Microbiology and Biotechnology, Tel Aviv University, Tel Aviv, Israel
4. HARNESSING THE POWER OF MYRIAD HETEROGENEOUS EXPRESSION PROFILES TO CLASSIFY DISEASES AND PROPOSE DRUG TARGETS
David Amar, Tom Hait, Shai Izraeli, Ron Shamir
Blavatnik School of Computer Science, Tel Aviv University, Tel Aviv, Israel
5. GPSM2/LGN IS A PLANAR CELL POLARITY EFFECTOR AND IS REQUIRED FOR HEARING AND STEREOCILIA MORPHOGENESIS IN MICE
Yoni Bhonker, **Liat Amir**, Amal Abu Rayyan, Zippora Brownstein, Shaked Shivatzki, Kathy Ushakov, Tal Elkan-Miller, Sun Myoung-Kim, Ping Chen, Fumio Matsuzaki, Moein Kanaan, David Sprinzak, Karen B. Avraham
Department of Biochemistry, George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel
6. IDENTIFICATION OF A MUTATION IN ABCB4 GENE INVOLVED IN PROGRESSIVE FAMILIAL INTRAHEPATIC CHOLESTASIS (PFIC) IN BEDOUIN FAMILIES
Maram Arafat, Baruch Yerushalmi, Evyatar Hubara, Ruti Parvari
The Shraga Segal Department of Microbiology, Immunology and Genetics, Ben Gurion University of the Negev, Beer Sheva, Israel

POSTER PRESENTATIONS (continued)

Board No:

7. RNA INTERFERENCE IS REQUIRED FOR SEX-DEPENDENCY AND PARENT-OF ORIGIN EFFECTS IN CAEONORHABDITIS ELEGANS
Yuval Argaman, Ayelet T Lamm
Department of Biology, Technion – Israel Institute of Technology, Haifa, Israel
8. FUNCTIONAL RNA-SPECIFIC MUTATION IN THE 16S rRNA: RNA EDITING OCCURS IN ALL VERTEBRATES' MITOCHONDRIA
Dan Bar-Yaacov, Dan Mishmar
Department of Life Sciences, Ben Gurion University of the Negev, Beer Sheva, Israel
9. CHROMATIN DYNAMICS DURING DNA REPLICATION
Raz Bar-Ziv, Yoav Voichek, Naama Barkai
Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel
10. REVEALING NEW GENES AND VARIANTS FOR DEAFNESS USING NEXT GENERATION SEQUENCING
Maria Birkan, Zippora Brownstein, Orly Yaron, Ofer Isakov, Moshe Frydman, Noam Shomron, Karen B. Avraham
Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine and Sagol School of Neuroscience, Tel Aviv, Israel
11. REGULATION OF THE COORDINATION BETWEEN THE MECHANISMS OF DNA REPLICATION AND TELOMERE ELONGATION
Shay Bramson, Martin Kupiec
Department of Molecular Microbiology and Biotechnology, Department of Cell Research and Immunology, George S. Wise Faculty of Life Sciences, Tel Aviv University, Israel

POSTER PRESENTATIONS (continued)

Board No:

12. TOWARDS A BETTER UNDERSTANDING OF PCNA-ASSOCIATED POST REPLICATION REPAIR PATHWAYS IN SACCHAROMYCES CEREVISIAE
Alex Bronstein, Shay Bramson, Martin Kupiec
Department of Molecular Microbiology and Biotechnology, Department of Cell Research and Immunology, George S. Wise Faculty of Life Sciences, Tel Aviv University, Israel
13. IMPROVING 3D GENOME RECONSTRUCTIONS USING ORTHOLOGOUS AND FUNCTIONAL CONSTRAINTS
Alon Diament, Tamir Tuller
Department of Biomedical Engineering, Tel Aviv University, Tel Aviv, Israel
14. TRANSPOSON DYNAMICS IN WILD EMMER WHEAT POPULATIONS
Katherine Domb, Anna Venetsky, Khalil Kashkush
Department of Life Sciences, Ben-Gurion University of the Negev, Beer Sheva, Israel
15. CHALLENGING MUSCLE HOMEOSTASIS UNCOVERS NOVEL CHAPERONE NETWORKS IN CAENORHABDITIS ELEGANS
Shiran Dror, Anna Frumkin, Wojciech Pokrzywa, Yael Bar-Lavan, Ido Karady, Thorsten Hoppe, Anat Ben-Zvi
Department of Life Sciences and the National Institute for Biotechnology in the Negev, Ben Gurion University of the Negev, Beer Sheva, Israel
16. RECONSTRUCTING CANCER KARYOTYPES
Rami Eitan, Ron Shamir
Blavatnik School of Computer Science, Tel Aviv University, Tel Aviv, Israel
17. MIR-181 AND MIR-182 REGULATED PATHWAYS IN THE AUDITORY SYSTEM
Maya Enoch, Kathy Ushakov, Tal Koffler, Yoni Bhonker, Anya Rudincki, Karen B. Avraham
Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

POSTER PRESENTATIONS (continued)

Board No:

18. TWO GENES ASSOCIATED WITH HEARING LOSS IN A CONSANGUINEOUS FAMILY ARE IDENTIFIED BY NEXT-GENERATION SEQUENCING
Nada Danial Farran, Zippora Brownstein, Ofer Yizhar-Barnea, Karen B. Avraham, Stavit A. Shalev
Department of Human Genetics, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel
19. ALARMINGLY HIGH FREQUENCIES OF ANTIBIOTIC RESISTANCE WITHIN NATURAL ENVIRONMENTS ARE GREATLY INFLUENCED BY BOTH ENVIRONMENT AND PHYLOGENY
Wesley Aaron Field, Ruth Hershberg
The Ruth and Bruce Rappaport Faculty of Medicine, Technion-Israel Institute of Technology and Rambam Health Care Campus, Technion, Haifa, Israel
20. tRNA GENES PROVIDE EVOLUTIONARY PLASTICITY TO THE TRANSLATION MACHINERY
Idan Frumkin, Avihu Yona, Zohar Bloom-ackermann, Marc Lajoie, Chris Gregg, Orna Dahan, George Church, Yitzhak Pilpel
Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel
21. HISTONE H3 LYSINE K56 HYPER ACETYLATION IS REGULATED BY CTF18 AND DUN1 IN ONE PATHWAY AND ELG1 IN ANOTHER
Lihi Gershon, Martin Kupiec
Department of Molecular Microbiology and Biotechnology, Tel Aviv University, Tel Aviv, Israel
22. UNTANGLING THE GENETIC COMPLEXITY OF MEN INFERTILITY
Moran Gershoni, Leah Yogev, Ofer Lehavi, Haim Yavetz, Ron Hauser, Shmuel Pietrokovski, Sandra E. Kleiman
Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel
23. XOME- THE ISRAELI REFERENCE HUMAN GENOME DATABASE
Moran Gershoni, Tsviya Olender, Noam Nativ, Anna Alkelai, Doron Lancet, Shmuel Pietrokovski
Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel

POSTER PRESENTATIONS (continued)

Board No:

24. THE ROLE OF mRNA LOCALIZATION MECHANISM IN MATING PROCESS IN YEAST
Polina Geva, Stella Aronov
Department of Molecular Biology, Ariel University, Ariel, Israel
25. M6A RNA METHYLATION IS CRITICAL FOR ADEQUATE EXIT FROM NAÏVE PLURIPOTENCY AND EXECUTION OF MAMMALIAN DEVELOPMENT
Shay Yosef Geula, Sharon Moshitch-Moshkovitz, Dan Dominissini, Abed AlFatah Mansour, Gideon Rechavi, Noa Novershtern, Jacob H. Hanna
Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel
26. THE EFFECTS OF THE DNA DAMAGE CHECKPOINT, OF PLOIDY AND OF MATING TYPE ON THE REPAIR OF DNA DAMAGE IN SACCHAROMYCES CEREVISIAE
Gilad Grinberg, Shoshana Hanimov, Martin Kupiec
Department of Molecular Microbiology and Biotechnology, Tel Aviv University, Tel Aviv, Israel
27. HEREDITARY ACUTE MYELOGENOUS LEUKEMIA (AML) IN A DRUZE FAMILY
Yarin Hadid, Yishai Ofra, Michal Hayon, Alaa Ghanayim, Karl Skorecki
Genomic Lab, Bnai Zion Medical Center, Haifa, Israel
28. THE DISTRIBUTION AND SEQUENCE VARIATION OF STRIPE RUST RESISTANCE gene *Yr36 (WKS1)* IN WILD EMMER WHEAT NATURAL POPULATIONS
Lin Huang, Hanan Sela, Lihua Feng, Qijiao Chen, Tamar Krugman, Jun Yan, Jorge Dubcovsky, Tzion Fahima
Department of Evolutionary and Environmental Biology and Institute of Evolution, University of Haifa, Haifa, Israel
29. THREE NOVEL MUTATIONS IN THE XPG GENE CAUSING COMBINED XP/CS PHENOTYPE
Limor Kalfon, Dorith Raviv Shay, Reut Erel-Segal, Sivan Koka, Nadra Nasser Samra, David Savitzky, Ora Bitterman-Deutsch, Zvi Segal, Tzipora C. Falik-Zaccai
Department of Human Genetics, Medical Center of Galilee, Naharia, Israel

POSTER PRESENTATIONS (continued)

Board No:

30. ZNF335: A NOVEL ASSOCIATION WITH MENTAL RETARDATION SYNDROME
Karin Shemer, **Limor Kalfon**, Nadra Nasser Samra, Yishay Shoval, Tzipora C. Falik Zaccai
Institute of Human Genetics, Galilee Medical Center, Nahariya, Israel
31. LEMONS – A TOOL FOR THE IDENTIFICATION OF SPLICE JUNCTIONS IN TRANSCRIPTS OF VERTEBRATES LACKING REFERENCE GENOMES
Liron Levin, Dan Bar Yaacov, Amos Bouskila, Michal Chorev, Liran Carmel, Dan Mishmar
Department of Life Sciences, Ben Gurion University of the Negev, Beer Sheva, Israel
32. GENOMICS AND METABOLOMICS OF SARCOPENIA-RELATED PHENOTYPES IN LARGE SAMPLE OF UK-TWIN FEMALES
Michael Korostishevsky, Claire J Steves, Ida Malkin, Timothy Spector, Frances MK. Williams, **Gregory Livshits**
Department of Anatomy and Anthropology, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel
33. BINDDB: AN IN-SILICO REVERSE-CHIP PLATFORM FOR EPIGENOMIC ANALYSIS IN EMBRYONIC STEM CELLS
Ilana Livyatan, Yair Aaronson, Ran Ashkenazi, Eran Meshorer
Department of Genetics, The Hebrew University of Jerusalem, Jerusalem, Israel
34. EXPANDER: A PLATFORM FOR DISSECTING NETWORKS AND FUNCTIONS USING RNA-SEQ AND MICROARRAY EXPRESSION PROFILES
Adi Maron-Katz, Tom Hait, Ran Elkon, Igor Ulitsky, Chaim Linhart, David Amar, Amos Tanay, Dvir Netanel, Roded Sharan, Dorit Sagir, Hershel Safer, Eyal David, Yosef Shiloh, Ron Shamir
Blavatnik School of Computer Science, Tel Aviv University, Tel Aviv, Israel
35. USING EXOME SEQUENCING TO IDENTIFY DEAFNESS GENES IN MIDDLE EASTERN AND BRAZILIAN FAMILIES
Fábio Tadeu Arrojo Martins, Zippora Brownstein, Amal Abu-Rayyan, Maria Birkan, Meirav Sokolov, Nada Danial-Farran, Ofer Isakov, Noam Shomron, Stavit Shalev, Moien Kanaan, Edi Lucia Sartorato, Karen Avraham
Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

POSTER PRESENTATIONS (continued)

Board No:

36. BARIATRIC SURGERY ELEVATES THE SERUM LEVELS OF MIR-122
Ari Meerson, Hila Yehuda, Arnon Blum, Snait Tamir
MOLECULAR BIOLOGY OF CHRONIC DISEASES, MIGAL GALILEE
RESEARCH INSTITUTE LTD, KIRYAT SHMONA, ISRAEL
37. ANALYZING THE PHENOTYPIC EFFECT OF THE UNSTRUCTURED
LOOP IN YEAST ELG1 PROTEIN
Maya Molco, Keren Shemesh, Martin Kupiec
Department of Molecular Microbiology and Biotechnology, Tel Aviv
University, Tel Aviv, Israel
38. THE ROLE OF IKBKAP ALTERNATIVE SPLICING IN THE DEVELOPMENT
AND SURVIVAL OF THE PERIPHERAL NERVOUS SYSTEM
Shiran Naftelberg, Ziv Abramovitch, Sivan Yannai, Keren Ben-Yaakov, Ron
Bochner, Shani Gluska, Eran Perlson, Gil Ast
Department of Human Molecular Genetics and Biochemistry, Tel Aviv
University, Sackler Medical School, Tel Aviv, Israel
39. IDENTIFICATION OF BREAST CANCER SUBTYPES USING RNA-SEQ
DATA
Dvir Netanely, Ayelet Avraham, Ella Evron, Ron Shamir
Blavatnik School of Computer Science, Tel Aviv University, Tel Aviv, Israel
40. ACTIONABLE CLINICAL DECISIONS BASED ON COMPREHENSIVE
GENOMIC EVALUATION IN ASYMPTOMATIC ADULTS
Nir Pillar, Ofer Isakov, Eitan Friedman, Nadir Arber, Noam Shomron
Department of Cell and Developmental Biology, Sackler School of Medicine,
Tel Aviv University, Tel Aviv, Israel
41. STRESS-INDUCED MUTAGENESIS AND COMPLEX ADAPTATION
Yoav Ram, Lilach Hadany
Department of Molecular Biology and Ecology of Plants, Tel Aviv University,
Tel Aviv, Israel
42. BARCODE: FAST LOSSLESS COMPRESSION VIA CASCADING BLOOM
FILTERS
Roye Rozov, Eran Halperin, Ron Shamir
Blavatnik School of Computer Science, Tel Aviv University, Tel Aviv, Israel

POSTER PRESENTATIONS (continued)

Board No:

43. HYPOMETHYLATION OF SUBTELOMERIC REGIONS MAY LEAD TO ACCELERATED TELOMERE SHORTENING VIA DNA:RNA HYBRIDS
Shira Sagie, Shany Havazelet, Omer Edni, Sara Selig
Molecular Medicine Lab, The Ruth and Bruce Rappaport Faculty of Medicine, Technion Israel Institute of Technology and Rambam Health Care Campus, Haifa, Israel
44. HETEROGENEITY OF ACUTE MYELOID LEUKEMIA AS A CONTRIBUTING FACTOR FOR RELAPSE USING SINGLE CELL ANALYSIS APPROACH
Tal Shahr, Shlomit Yehudai-Reshef, Tsila Zuckerman
Department of Hematology Oncology, The Ruth and Bruce Rappaport Faculty of Medicine, Technion Israel Institute of Technology and Rambam Health Care Campus, Haifa, Israel
45. STRUCTURE-FUNCTION ANALYSIS OF THE YEAST ELG1 GENE
Keren Shemesh, Martin Kupiec
Department of Microbiology and Biotechnology, Tel Aviv University, Tel Aviv, Israel
46. GERMLINE-SOMA SIGNALING DOWN REGULATES GENES WITH INVERSE EFFECTS ON SOMATIC MAINTENANCE AND REPRODUCTION
Netta Shemesh, Nadav Shai, Anat Ben-Zvi
Department of Life Sciences, Ben Gurion University of the Negev, Beer Sheva, Israel
47. GENETIC AND EPIGENETIC ANALYSIS OF MEIOTIC RECOMBINATION PROVIDES INSIGHTS TO THE DIFFERENCE BETWEEN MALE AND FEMALE MEIOTIC CROSSOVER RATE IN ARABIDOPSIS
Shay Shilo, Cathy Melamed-Bessudo, Naama Barkai, Avraham Levy
Department of Plant and Environmental Sciences, Weizmann Institute of Science, Rehovot, Israel
48. REGULATION OF THE LOCAL ACTIVITY OF Snf1(AMPK) IN RESPONSE TO GLUCOSE
Kobi Simpson-Lavy, Cynthia Brame, Lucy Robinson, Mark Johnston
Department of Biochemistry and Molecular Genetics, University of Colorado School of Medicine, Aurora, Co, United States

POSTER PRESENTATIONS (continued)

Board No:

49. DIETARY RESTRICTION MODULATES SOMATIC PROTEOSTASIS FAILURE AT THE TRANSITION TO ADULTHOOD
Nufar Shpigel, Anat Ben-Zvi
Department of Life Sciences and the National Institute for Biotechnology in the Negev, Ben Gurion University of the Negev, Beer Sheva, Israel
50. lincRNA GENES IN THE DEVELOPMENT AND MAINTENANCE OF THE AUDITORY SYSTEM
Kathy Ushakov, Yoni Bhonker, Shaked Shivatzki, Igor Ulitsky, Karen B. Avraham
Department of Human Molecular Genetics and Biochemistry, Sackler Faculty of Medicine and Sagol School of Neuroscience, Tel Aviv, Israel
51. CATCHING GENES ESCAPING X INACTIVATION: CURRENT KNOWLEDGE AND BEYOND
Kerem Wainer Katsir, Michal Linial
Department of Biological Chemistry, Life Sciences, the Hebrew University of Jerusalem, Jerusalem, Israel
52. AN ALL-IN-ONE YEAST LIBRARY – CREATING A NEW TOOLBOX FOR STUDYING THE PROTEOME
Uri Weill, Ido Yofe, Maya Schuldiner
Department of Molecular Genetics, Weizmann Institute of Science, Rehovot, Israel
53. UNDERSTANDING THE MOLECULAR MECHANISMS OF 'HETERORESISTANCE' IN CANDIDA GLABRATA
Noa Wertheimer, Mor Luria Weinberger, Noam Mamet, Darren Abbey, Ronen Ben-Ami, Judith Berman
Department of Molecular Biology and Biotechnology, Tel Aviv University, Tel Aviv, Israel
54. REPLICATION DYNAMICS AT THE TESTIS SHAPES THE MAMMALIAN GENOME
Yishai Yehuda, Amnon Keorn, Britny Blumenfeld, Oria Vardy, Nina Mayorek, Yousef Mansour, Eli Pikarsky, Itamar Simon
Department of Microbiology and Molecular Genetics, Imric, Faculty of Medicine, Hebrew University of Jerusalem, Jerusalem, Israel

POSTER PRESENTATIONS (continued)

BOARD NO

55. POST-TRANSCRIPTIONAL REGULATORY NETWORKS OF THE
MAMMALIAN CELL CYCLE VIA PUNCH-P AND RIBOSOME PROFILING
Hadas Zur, Ranen Aviner, Orna Elroy-Stein, Tamir Tuller
Department of Biomedical Engineering, Tel Aviv University, Tel Aviv, Israel