

Michigan-Israel Partnership
8th Annual D. Dan and Betty Kahn
Symposium

FRONTIERS IN BIOMEDICAL RESEARCH 2019

December 3-6, 2019

The David Lopatie Conference Centre
Weizmann Institute of Science

PROGRAM

Sponsors

- ▶ The Dimitris N. Chorafas Institute for Scientific Exchange
- ▶ The D. Dan and Betty Kahn Foundation
- ▶ Other generous supporters

Organizing Committee

- ▶ Peleg Hasson, IIT
- ▶ Avi Levy, WIS
- ▶ David Pinsky, UM

Conference Coordinator & Accessibility Issues

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Tuesday | December 3

11:00 **Registration and Light Lunch**

13:00 **Welcome Remarks**

SESSION 1 | Precision Medicine

Chairs: **Lona Mody**, UM and **Amos Tanay**, WIS

13:30 **Amos Tanay**, WIS
Understanding Blood Aging: From Electronic Health Records to Single Cells

13:50 **Shai Shen-Orr**, IIT
Human Immune Monitoring Coming of Age

14:10 **Betsy Foxman**, UM
The Nose/Throat Microbiome and Susceptibility to Influenza Infection

14:30 **Roy Kishony**, IIT
Predicting Antibiotic Treatment Failure

14:50 **Lona Mody**, UM
Preventing Infections: From Translational Research to Precision Health

15:10 **Roi Avraham**, WIS
Characterizing Human Bacterial Infection Using Single Cell RNA-seq Analysis of Blood Immune Cells

15:30 **Coffee Break**

16:00 **Naama Geva-Zatorsky**, IIT
Studying the Mechanisms of Gut Microbiota-Host Interactions: How Do Individual Microbes Communicate With The Host?

16:20 **Ido Amit**, WIS
The Power of ONE: Immunology in The Age of Single Cell Genomics

SESSION 2 | Metabolic Disorders

Chairs: **Oren Rom**, UM and **Ruma Banerjee**, UM

16:40 **Roger Cone**, UM
Characterization of the Melanocortin-3 Receptor as a Target for Treatment of Eating Disorders

17:00 **Eyal Gottlieb**, IIT
Targeting Metabolic Vulnerabilities of Cancer

17:20 **Ayelet Erez**, WIS
Implications of Amino-Acid Metabolism for Cancer Diagnosis and Therapy

17:40 **Ruma Banerjee**, UM
B12 Disorders and Immunomodulation

Wednesday | December 4

Chair: **David Sherman**, UM

09:00 **Ada Yonath**, WIS
Kenote Lecture:
Key Issues in Contemporary Medicine, Antibiotics Resistance, Environmental Aspects and the Microbiome

SESSION 3 | Cell Proliferation, Death and Regeneration

Chairs: **Shulamit Levenberg**, IIT and **Alon Kahana**, UM

09:30 **Adi Kimchi**, WIS
Controlling Embryonic Stem Cell Fate Decisions by a Unique Mechanism of mRNA Translation

09:50 **Shulamit Levenberg**, IIT
The Effect of Local Geometry and Topology on the Development and Orientation of Sprouting Blood Vessels

10:10 **Donna Martin**, UM
CHD7-Mediated Chromatin Remodeling and Transcriptional Regulation in Embryonic Stem Cells

10:30 **Coffee Break**

11:00 **Alon Kahana**, UM
Zebrafish Xenograft Model of Metastatic Cancer as a Tool to Study
Fundamental Biology and Screen for Novel Drug Therapies

11:20 **Moran Benhar**, IIT
Regulation of Apoptosis Signaling by Reactive Sulfur Species

SESSION 4 | Cardiovascular research

Chairs: **Izhak Kehat**, IIT and **Ghosh Abhijit**, UM

11:40 **Eldad Tzahor**, WIS
Novel Strategies for Heart Regeneration

12:00 **Abhijit Ghosh**, UM
Circulating Transgelin and Anti- Transgelin Antibodies in
Abdominal Aortic Aneurysm and Electronic Cigarette Vaped Rats

12:20 **Izhak Kehat**, IIT
Regulation of Transcription in the Heart

12:40 **Benjamin Brenner**, IIT
Cancer Associated Thrombosis-Mechanisms and Implications

13:00 **Lunch and Poster Session**

SESSION 5 | Infectious Disease

Chairs: **Michal Paul** IIT and **Noam Stern-Ginossar**, WIS

14:00 **Joseph Eisenberg**, UM
New Directions to Address Old Problems: A System Approach to
Diarrheal Disease Epidemiology

14:20 **Michal Paul**, IIT
Problems and Challenges of the Antibiotic Pipeline

14:40 **Keith Kaye**, UM
Conducting Clinical Trials Addressing Antimicrobial Resistance:
Global Challenges and Solutions

15:00 **Noam Stern-Ginossar**, WIS
RNA Modifications Sculpt Innate Immune Response to Infection

15:20 **Arnold Monto**, UM
The Future of Influenza Vaccine

15:40 **Coffee Break**

SESSION 6 | Immunology

Chairs: **Marilia Cascalho**, UM and **Ziv Shulman**, WIS

16:00 **Miki Rahat**, IIT
Anti-EMMPRIN Vaccination Induces Necroptosis and Shifts
Macrophage Polarization

16:20 **Ziv Shulman**, WIS
Generation of High-Affinity Antibodies: A Game of Clones in
Immunological Niches

16:40 **Joseph Holoshitz**, UM
Empirical Validation of the MHC Cusp Theory:
A New Therapeutically Targetable Mechanism of HLA-Disease
Association

17:00 **Noga Ron Harel**, IIT
Cellular Metabolism in T cell Activation and ging

17:20 **Marilia Cascalho**, UM
TNRSF13B Polymorphisms and the Control of Immunity:
The Challenge of Diversity

Thursday, December 5

SESSION 7 | Neuroscience

Chairs: **Orly Reiner**, WIS and **Herman Wolosker**, IIT

09:00 **Elior Peles**, WIS
Axoglial Contact Regulation of Myelination

09:20 **Gabriel Corfas**, UM
Molecular and Cellular Mechanisms of Hidden Hearing Loss or
Why I Can't Hear Well in a Loud Restaurant

09:40 **Herman Wolosker**, IIT
Regulation of Synaptic Plasticity by Astroglia-Neuron Crosstalk

10:00 **Melvin McInnis**, UM
Modeling Mood and Emotion from Passively Collected Speech to Predict Need for Intervention in bBipolar Disorder

10:20 **Uri Alon**, WIS
A Systems Biology Approach to Bipolar Disorder

10:40 **Coffee Break**

11:10 **Orly Reiner**, WIS
Modeling Early Human Brain Development in Health and Disease

11:30 **Shai Berlin**, IIT
Two-Photon Gated NMDARs

SESSION 8 | Proteins-From Synthesis to Degradation

Chairs: **Motti Choder**, IIT and **Yifat Merbl**, WIS

11:50 **Motti Choder**, IIT
mRNA Imprinting: a Novel Mode of Regulation of Gene Expression

12:10 **David Sherman**, UM
Functional Convergence of Polyketide Synthases and Ribosomes for the Discovery of New Anti-infective Agents

12:30 **Yoav Arava**, IIT
Protein Synthesis Regulation Through Binding of Aminoacyl tRNA Synthetases to mRNA

12:50 **Lunch and Posters Session**

14:00 **Yifat Merbl**, WIS
Dumpster Diving for Health

14:20 **Sarel Fleishman**, WIS
Computational Design of New and Improved Antibodies and Enzymes

14:40 **David Markovitz**, UM
A Molecularly Engineered Anti-Cancer Banana Lectin: a Sweet Story

SESSION 9 | Bioengineering

Session chairs: **Omer Berenfeld**, UM and **Victor Malka**, WIS

15:00 **Victor Malka**, WIS
Development of Laser Plasma Accelerator for Early Cancer Tumor Detection with Xray Phase Contrast Imaging

15:20 **Sam Nason**, UM
Restoring Fine Finger Control to Paralyzed Hands Using a Low-Power Brain-Machine Interface

15:40 **Lola Eniola-Adefeso**, UM
Nanoparticle Systems for Specific Targeting of Neutrophils in Thromboinflammation and Other Inflammatory Diseases

16:00 **Coffee Break**

16:30 **Max Shtein**, UM
Personalizing Small Molecular Medicines

16:50 **Netanel Korin**, IIT
Microfluidics and Mechano-medicine Applications in Vascular Disease

17:10 **Yaron Antebi**, WIS
Specific Activation from Promiscuous Interactions in the BMP Pathway

17:30 **Assaf Bester**, IIT
Separate Wheat from Chaff: CRISPR Approach to Study the Non-Coding Genome

17:50 **Poster Award Announcements**

18:00 **Closing Remarks**

Friday, December 6 | Individual lab meetings