

Israeli RNA Society Meeting: The Uncharted World of RNA

In memory of Prof. Yossi Sperling

Wednesday, 26 October 2022

Organizers:

Maayan Salton, The Hebrew University of Jerusalem
Ruth Sperling, The Hebrew University of Jerusalem
Sahar Melamed, The Hebrew University of Jerusalem
Raphael Benhamou, The Hebrew University of Jerusalem
Nayef Jarrous, The Hebrew University of Jerusalem
Batsheva Kerem, The Hebrew University of Jerusalem
Daphna Nachmani, The Hebrew University of Jerusalem
Yehuda Tzfati, The Hebrew University of Jerusalem
Joel Yisraeli, The Hebrew University of Jerusalem

Israel Institute for Advanced Studies
Edmond J. Safra Campus, Givat Ram
The Hebrew University of Jerusalem

Sessions will be held at the Edmond & Lily Safra Center for Brain Sciences

09:00-09:30 Reception and exhibition

Session 1

09:30-09:45 Opening remarks

Chair: Raymond Kaempfer

09:50-10:15 **Lynne Elizabeth Maquat** (University of Rochester Medical Center):
Hyperactivated NMD in Fragile X Syndrome

10:15-10:30 **Aldema Sas-Chen** (Tel Aviv University): When the heat is on – turn up
the Ac(4C): Potential roles for RNA acetylation in thermostability

10:30-10:45 **Dan Bar-Yaacov** (Ben-Gurion University of the Negev): When we can't
trust bacterial DNA: The role of mRNA editing in bacteria

10:45-11:00 **Raphael Benhamou** (The Hebrew University of Jerusalem):
Development of Small Molecules Targeting Disease Associated RNAs

11:00-11:25 Coffee break

Session 2

Chair: Joel Yisraeli

11:25-11:40 **Sahar Melamed** (The Hebrew University of Jerusalem): Intricate
Networks of Small RNA-Mediated Regulation in Bacteria and Bacterial
Interactions

11:40-11:55 **Asaf Bester** (Technion): The oncogenic lncRNA CYTOR is a regulator of
epigenetic and DNA genome integrity

11:55-12:10 **Isana Veksler-Lubinsky** (Ben-Gurion University of the Negev):
Annotation of isomiR dynamics across *Caenorhabditis elegans*
developmental stages

12:10-12:25 **Boris Slobodin** (Technion): The little secrets of viral 5'UTRs of
SARS-CoV-2

Chair: Maayan Salton

12:25-12:50 **Chonghui Cheng** (Baylor College of Medicine): LINE-derived cryptic splicing repressed by RBPs promotes interferon immune response via dsRNA formation

12:50-14:45 Lunch, poster session, and exhibition

Session 3: Parallel sessions x3

Parallel session #1: Pre-mRNA processing and modifications - Faculty Lounge, Silberman Building, 3rd Wing

Chair: Martin Mikl

14:45-14:57 **Yuval Malka** (Netherlands Cancer Institute): Alternative cleavage and polyadenylation generates downstream uncapped RNA isoforms with translation potential [Zoom]

14:57-15:09 **Gal Haimovich** (Weizmann Institute of Science): Global analysis and physiological consequences of tunneling nanotube-mediated intercellular mRNA transfer in mammalian cells

15:09-15:21 **Hadas Biran** (Technion): SPIRAL: Significant Process InfeRence ALgorithm for single cell RNA-sequencing and spatial transcriptomics

15:21-15:33 **Roni Cohen-Fultheim** (Bar-Ilan University): A-to-I RNA editing contributes to the onset of autoimmune disorders

15:33-15:45 **Eden Engal** (The Hebrew University of Jerusalem): SMCHD1 Regulation of Alternative Splicing and its Role in FSHD2 Development

15:45-15:57 **Anna Uzonyi** (Weizmann Institute of Science): Exon-intron architecture determines mRNA stability by dictating m6A deposition

15:57-16:09 **Adi Avram-Shperling** (Bar-Ilan University): Expression of heterologous ADAR enzymes in yeast indicates editing activity is affected by temperature, and identifies the mdADAR1 as a hyper transcriptome diversifier

Parallel session #2: RNA-based regulation - Seminar Room, Silberman Building,
3rd Wing

Chair: Ayala Shiber

- 14:45-14:57 **Yonatan Chemla** (MIT): Deciphering mRNA initiation modes of operons for improved genetic design
- 14:57-15:09 **Anan Tarabeih** (Tel Aviv University): How RNA Polymerase II pairs the splice sites
- 15:09-15:21 **Raneem Nashef** (The Hebrew University of Jerusalem): Revealing the role of RNA-RNA interactions upon bacteriophage infection
- 15:21-15:33 **Yehuda Danino** (Weizmann Institute of Science): RNA G-quadruplex structures regulate stress granule dynamics
- 15:33-15:45 **Omer Goldberger** (The Hebrew University of Jerusalem): Membraneless Organelles and Wisdom of the Crowds: Novel Mechanisms Underlying Gene Regulation in Bacteria
- 15:45-15:57 **Yael Admoni** (The Hebrew University of Jerusalem): MicroRNA complementarity requirements for target recognition in the cnidarian *Nematostella vectensis* support a common evolutionary origin for animal and plant microRNAs
- 15:57-16:09 **Alan Monziani** (Weizmann Institute of Science): A *cis* and *trans*-acting lncRNA affects sn/snoRNAs and histone mRNAs biogenesis

Parallel session #3: RNA and Disease - ELSC

Chair: Daniel Benhalevy

- 14:45-14:57 **Inna Ricardo-Lax** (Rockefeller University): m5C methylation of RNA – Lessons From RNA Viruses [Zoom]
- 14:57-15:09 **Gal Cafri** (Sheba Medical Center): Patient tailored mRNA vaccines induce neoantigen-specific T-cell immunity in metastatic gastrointestinal cancer patients
- 15:09-15:21 **Ran Taube** (Ben-Gurion University of the Negev): Role of long non-coding RNAs (lncRNAs) in HIV latency

- 15:21-15:33 **Nadav Wallis** (The Hebrew University of Jerusalem): Targeting the RNA Binding Protein Igf2bp1 with a small molecule inhibitor: A novel therapy that down-regulates Kras mRNA, protein, and down-stream signaling
- 15:33-15:45 **Lior Fishman** (The Hebrew University of Jerusalem): A systematic characterization of dynamic mRNA regulatory programs at single cell resolution during the maternal-to-zygotic transition of zebrafish embryos
- 15:45-15:57 **Juliane Viegas** (The Hebrew University of Jerusalem): CAPRIN1-XRN2-mediated RNA degradation is required for early embryonic stem cell differentiation
- 15:57-16:09 **Ela Elyada** (The Hebrew University of Jerusalem): Antisense oligonucleotides as a treatment for rare neurodevelopmental disorders caused by mutant HNRNPH2 and mutant PCDH19
- 16:15-16:45 Coffee break and exhibition

Session 4

Chair: Batsheva Kerem

- 16:45-17:10 **Matthias Hentze** (European Molecular Biology Laboratory): Riboregulation of cell metabolism
- 17:10-17:25 Prizes and concluding remarks