

FRONTIERS IN SYNTHETIC BIOLOGY ANNUAL CONFERENCE 2025

Conference program 9.9.25

8:00 **Registration**

Opening

Chair: **Mr. Scott Tobin** and **Prof. Yosi Shacham**

8:45 **Mr. Scott Tobin** and **Prof. Yosi Shacham**

8:50 **Opening Speech: Prof. Arnon Afek**

Session (A) – Bioconvergence and Biotechnology Across Scales

Chairs: **Dr. Ilana Kolodkin-Gal** (The Dina Recanati School of Medicine, Scojen Institute, Reichman University) and **Dr. Jonathan Giron** (The Dina Recanati School of Medicine and The Sammy Ofer School of Communications, Reichman University)

9:00 **Prof. Iftach Nachman** (School of Biochemistry Neurobiology Biophysics, Faculty of Life Sciences, Tel Aviv University)

Embryo models for biomed and cultured meat applications

9:20 **Dr. Roni Rak** (Department of Animal Science, the Agricultural Research Organization, Volcani Center)

Engineering the Future of Meat: CRISPR Screening of Proliferation and Differentiation Trade-Offs in Cultivated Meat Systems

9:35 **Dr. Avihu Yona** (Robert H. Smith Faculty of Agriculture, Food and Environment, The Hebrew University of Jerusalem)

Evolving novel metabolic functions in probiotics

9:50 **Prof. Shany Barath** (Faculty of Architecture and Town planning, Technion)

Photosynthetic Building Materials: Emerging Biotechnologies.

10:02 **Adi Shalem** (Ph.D. candidate, Ayelet Fishman lab)

Protein engineering of a cutinase for improved degradation of polylactic acid

10:05 **Coffee Break**

Session (KN) – Keynote

Chair: **Prof. Hadar Ben Yoav** (Department of Biomedical Engineering, Ben-Gurion University of the Negev)

- 10:20 **Keynote: Prof. Thomas K. Wood** (Department of Chemical Engineering, Penn State University)
Converting Methane into Acetate, Lactate, Electricity, and Hydrogen
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Session (PA) – Panel

Chair: **Prof. Roei Amit** ((Faculty of Biotechnology and food Engineering, Technion)

- 11:05 **Panel: Synthetic biology – industry and infrastructure**
Dr. Shai Melcer, Head of the National Bioconvergence Program, Israel Innovation Authority (Moderator)
Prof. Miriam Amiram (Department of Biotechnology Engineering, Ben-Gurion University of the Negev)
Prof. Ben Maoz (Department of Biomedical Engineering, Sagol School of Neuroscience, Tel Aviv University)
Prof. Yosi Shacham (Israel Bio-Chip Center (IBCC); Director, Scojen Institute of Synthetic Biology, Reichman University)
Dr. Orly Savion (CEO, Alagene)
Steve Grun (CEO and Co-founder, MNDL Bio)
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Session (B) – Synthetic Biology Innovation for Medical Research

Chairs: **Dr. Milana Frenkel Morgenstern** (The Dina Recanati School of Medicine, Scojen Institute, Reichman University) and **Dr. Oren Moscovitz** (The Dina Recanati School of Medicine, Scojen Institute, Reichman University)

- 11:45 **Prof. Zohar Yakhini** (Efi Arazi School of Computer Science, Reichman University)
Synthetic DNA libraries, cellular functions and data storage applications
- 12:15 **Prof. Ayala Lampel** (Faculty of Life Sciences, Tel Aviv University)
Designer Biomolecular Condensates for Programmable Compartmentalization
- 12:35 **Prof. Lihi Adler-Abramovich** (Department of Oral Biology, School of Dental Medicine, Sackler Faculty of Medicine, Tel Aviv University)
Bioinspired Peptide-Based Materials for Regenerative Therapies
- 12:55 **Dr. Mohamed Mahameed** (School of Pharmacy, The Hebrew University of Jerusalem)
Harnessing Synthetic Biology for Cancer Research and Drug Development
- 13:15 **Roei Samuel** (Ph.D. candidate, Ramez Daniel lab)
Modular Platform for Protein-Protein Prokaryote-Eukaryote Interaction
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Lunch

- 13:20 **Lunch and posters**

Session (C) - Keynote Lectures

Chairs: **Prof. Daniel Ramez** (Faculty of Biomedical Engineering, Technion) and **Dr. Lior Nissim** (Faculty of Medicine, The Hebrew University of Jerusalem)

- 14:20 **Prof. Shimshon Belkin** (The Alexander Silberman Institute of Life Sciences, The Hebrew University of Jerusalem)
The quest for standoff biodetection of buried explosives
- 15:00 **Prof. Roy Bar-Ziv** (Department of Materials and Interfaces, Weizmann Institute)
Solid-state "artificial cells": Cell-free gene expression across the scales
- 15:40 **Coffee Break**

Session (D) - Frontiers in Synbio: Postdoc and Recent Graduates' Session

Chairs: **Prof. Roee Amit** (Faculty of Biotechnology and Food Engineering, Technion) and **Prof. Tamir Tuller** (Department of Biomedical Engineering, Tel Aviv University).

- 16:00 **Dr. Inbal Vaknin** (Faculty of Biotechnology and Food Engineering, Technion)
The power of "UNILIB"- a universal regulatory system for amplifying gene expression in Eukaryotes
- 16:20 **Dr. Shai Zilberzwige-Tal** (Broad Institute of MIT and Harvard)
Rewiring Bacterial Defense: The Evolution of RNA-Guided Mechanisms and Their Biotechnological Potential
- 16:40 **Dr. Yonatan Chemla** (Massachusetts Institute of Technology)
Tracking Engineered Microbiomes with Hyperspectral Reporters Across Time and From Space
- 17:00 **Aakash Jog** (Ph.D. candidate, Yosi Shacham Lab)
Genetic Logic Circuits in Plants for Improved Functional Sensing
- 17:10 **Oren Shatz** (Ph.D. candidate, Zvulun Elazar lab)
The GravyTrain Toolbox for Molecular Cell Biology
- 17:15 **Noam Golan** (Ph.D. candidate, Avigdor Eldar Lab)
Programming Bacteria to Respond to Their Micron-Range Environment
- 17:20 **Gil Zimran** (Ph.D. candidate, Assaf Mosquana Lab)
Evolvable Biosensors as a Modular Interface Linking Enzymatic Activity to High-Throughput Selection
- 17:25 **Closing Ceremony and Best poster Awards**

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