

# **Systems Chemistry Virtual Symposium 2020**

## **Co-Organizers and Discussion Leaders**

Gonen Ashkenasy – Ben-Gurion University of the Negev

Rafal Klajn – Weizmann Institute of Science

David Lynn – Emory University

Sijbren Otto – University of Groningen

Rebecca Schulman – Johns Hopkins University

Rein Ulijn – Advanced Science Research Center

## **Poster Session Committee**

Muaad Alody – Advanced Science Research Center

Angela Grommet – Weizmann Institute of Science

Ankit Jain – Advanced Science Research Center

Ayanna Jones – Emory University

Anil Kumar – Ben-Gurion University of the Negev

Pepijn Moerman – Johns Hopkins University

Jasmine Sabio – Advanced Science Research Center

Hava Sadihov – Ben-Gurion University of the Negev

Jiye Son – Advanced Science Research Center

Ankush Sood – University of Groningen

## Systems Chemistry Virtual Symposium Program 18–20 May 2020

Monday, May 18, 2020 (DAY 1)	
11:00 a.m.	Opening Remarks <b>Meeting Organizers</b>
11:15 a.m.	KEYNOTE: Dynamic molecular systems <b>Ben Feringa</b> , <i>University of Groningen</i>
12:00 p.m.	SESSION 1: Dynamic Information of Molecular Assemblies <b>Chair: Gonen Ashkenasy</b> , <i>Ben-Gurion University of the Negev</i>
12:05 p.m.	Designing Phase Separation in Complex Systems <b>Sarah Perry</b> , <i>University of Massachusetts Amherst</i>
12:30 p.m.	Programmable life-like materials that organize at mesoscopic scale <b>Peter Korevaar</b> , <i>Radboud University Nijmegen</i>
12:55 p.m.	Break
1:10 p.m.	SESSION 2: Origins and Synthesis of Life <b>Chair: David Lynn</b> , <i>Emory University</i>
1:15 p.m.	The systems chemistry of life-like objects <b>Stephen Mann</b> , <i>University of Bristol</i>
1:40 p.m.	In vitro self-replication and multicistronic expression of large synthetic genomes <b>Hannes Mutschler</b> , <i>MPI Biochemistry</i>
2:05 p.m.	SESSION 3: Emergent Behaviors: From Catalysts to Motility <b>Chair: Rebecca Schulman</b> , <i>Johns Hopkins University</i>
2:10 p.m.	Enzyme Motors and Pumps: From Transport to Collective Behavior <b>Ayusman Sen</b> , <i>Penn State University</i>
2:35 p.m.	A touch of nonlinearity and heterogeneity in active matter: from swimmers in fluids to mixtures of colloids <b>Daphne Klotsa</b> , <i>University of North Carolina Chapel Hill</i>
3:00 p.m.	Day 1 Ends

<b>Tuesday, May 19, 2020 (DAY 2)</b>	
11:00 a.m.	Opening Introduction <b>Sijbren Otto</b> , <i>University of Groningen</i>
11:05 a.m.	KEYNOTE: Patterns and their emergent functions: Design features of life <b>Petra Schwille</b> , <i>MPI Biochemistry</i>
11:50 a.m.	SESSION 4: Active and Adaptive Materials <b>Chair: Sijbren Otto</b> , <i>University of Groningen</i>
11:55 a.m.	Designed Negative Feedback from Catalytic Non-Equilibrium Assemblies <b>Dibyendu Das</b> , <i>IISER Kolkata</i>
12:20 p.m.	Predator-Prey Interactions between Droplets Driven by Nonreciprocal Oil Exchange <b>Lauren Zarzar</b> , <i>Penn State University</i>
12:45 p.m.	Break
1:00 p.m.	SESSION 5: Biological Networks <b>Chair: Rafal Klajn</b> , <i>Weizmann Institute of Science</i>
1:05 p.m.	Engineering and understanding supramolecular nanobiomaterials through enzymatic catalysis Helena Azevedo, <i>Queen Mary University of London</i>
1:30 p.m.	Evolutionary rules in an experimental landscape of autocatalytic networks <b>Philippe Nghe</b> , <i>ESPCI Paris</i>
1:55 p.m.	SESSION 6: Systems Chemistry and the Coronavirus Crisis <b>Chair: Rein Ulijn</b> , <i>Advanced Science Research Center</i>
2:00 p.m.	Inhibiting Viral Infection with Backbone-Modified Peptides <b>Sam Gellman</b> , <i>University of Wisconsin-Madison</i>
2:25 p.m.	From protocells to fighting the novel coronavirus <b>Pall Thordarson</b> , <i>UNSW Sydney</i>
2:50 p.m.	Day 2 Ends

<b>Wednesday, May 20, 2020 (DAY 3)</b>	
11:00 a.m.	Opening Introduction <b>Ankit Jain</b> , <i>Advanced Science Research Center</i>
11:05 a.m.	KEYNOTE: Bilingual Peptide Nucleic Acids: Encoding the Languages of Nucleic Acids and Proteins in a Single Self-Assembling Biopolymer <b>Jen Heemstra</b> , <i>Emory University</i>
11:50 a.m.	POSTER PRESENTATION WINNERS <b>Chair: Angela Grommet</b> , <i>Weizmann Institute of Science</i>
11:55 a.m.	Supramolecular peptide with sequence tunable emission <b>Mona Tayarani Najjaran</b> , <i>Advanced Science Research Center</i>
12:20 p.m.	ATP-Driven Non-Equilibrium DNA systems with Multiple Transient Dynamic Steady States <b>Jie Deng</b> , <i>University of Freiburg</i>
12:45 p.m.	Towards the emergence of modern cells <b>Claudia Bonfio</b> , <i>MRC Laboratory of Molecular Biology</i>
1:10 p.m.	Break
1:25 p.m.	Uniform Multifunctionalization of Metal-Organic Frameworks Materials <b>Kanchana Samarakoon</b> , <i>Kansas State University</i>
1:50 p.m.	Positive and Negative Chemotaxis of Enzyme-coated Liposomes <b>Ambika Somasundar</b> , <i>Pennsylvania State University</i>
2:15 p.m.	3D Printing Terpolymer-Stabilised Coacervate Protocells <b>Alex Mason</b> , <i>Eindhoven University of Technology</i>
2:40 p.m.	Closing Remarks
2:50 p.m.	Event Ends