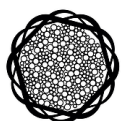


TAU – ESPCI Summer school

September 8-12, 2019, Tel Aviv, Israel

Workshop Program- Dach Hall

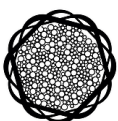
Hours	Sunday 8/9/2019	Monday 9/9/2019	Tuesday 10/9/2019	Wednesday 11/9/2019	Thursday 12/9/2019
9.00-10.00	A broad physics based perspective on self assembly Michael Brenner (Harvard)	Self-assembly and curvature in membrane systems Gerard Wong (UCLA)	Controlling disorder to tune light-matter interaction Remi Carminati (ESPCI)	Supramolecular Self-Assembly Across Scales Samuel Stupp (Northwestern)	Yitzhak Rabin Roey Amir Roy Beck
10.00-11.00	A broad physics based perspective on self assembly Michael Brenner (Harvard)	Introduction to membrane remodeling in biology Gerard Wong (UCLA)	Controlling disorder to tune light-matter interaction Remi Carminati (ESPCI)	Supramolecular Self-Assembly Across Scales Samuel Stupp (Northwestern)	Jose Bico
11:00-11:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:30-12:30	How to make it? Synthesis of amphiphilic building blocks and polymers Roey Amir (TAU)	Autocatalytic Sets Philippe Nghe (ESPCI)	Elasto capillarity: when surface tension deforms solids Jose Bico (ESPCI)	Capillary origami Jose Bico (ESPCI)	Samuel Stupp Gerard Wong Philippe Nghe
12:30-14:15	Lunch	Lunch	Free Time	Lunch	Lunch
14:15-14:45	Celine Valery Cyrille Jeancolas Jordan Hervy	Juliane Klamser Prabhu Prasad Swain Gonçalo Paulo		Pratik Mullick Agnese Curatolo Morgan Hesser	Lihl Adler- Abramovich Teresa Lopez-Leon Elie Raphael
14:45-15:45	How to make it? Synthesis of amphiphilic building blocks and polymers Roey Amir (TAU)	The error thresholds Philippe Nghe (ESPCI)		Applications of Self Assembled Structures Lihl Adler- Abramovich (TAU)	
15:45-16:00	Coffee Break	Coffee Break		Coffee Break	Coffee Break
16:00-17:00	Nanosopic structural characterisation techniques Roy Beck (TAU)	Nanosopic structural characterisation techniques Roy Beck (TAU)		Applications of Self Assembled Structures Lihl Adler- Abramovich (TAU)	Zorana Zeravcic Olivia du Roure Remi Carminati
17:00-18:30	Dinner + Poster Session				



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Oral presentations by Students

1. Celine Valery (RMIT University), *Native and biomimetic peptide hormone self-assembly: biological relevance and biomedical applications*
2. Cyrille Jeancolas (ESPCI), *RNA diversification and the emergence of Darwinian evolution*
3. Jordan Hervy (Institut Jacques Monod), *Dynamic instability of microtubules with memory effect*
4. Juliane Klamsner (ESPCI), *Thermodynamic phases in two-dimensional active matter*
5. Prabhu Prasad Swain (University of Mumbai), *Using Super-Resolution Radial Fluctuations (SRRF) to study nuclear dynamics*
6. Gonçalo Paulo (University of Lisbon), *Synchronization on Binary Mixtures of Locally Coupled Brownian and Active Oscillators*
7. Pratik Mullick (University of Calcutta), *Phase transition in a biased reaction-diffusion system*
8. Agnese Curatolo (Harvard University), *Self-assembly of protein-made structures*
9. Morgan Hesser (Drexel University), *Histidine as a pH Switch for the Fibrilization and Gelation of Short Peptides in Water*

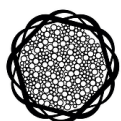


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September 8-12, 2019, Tel Aviv, Israel

Symposium Schedule

12 September 2019 / Tel Aviv University

- 08:30 –09:00 Gathering +Coffee
- 09:00–09:30 Yitzhak Rabin (BIU), *Dynamics of Chemically Active Droplets*
- 09:30–10:00 Roey Amir (TAU), *Designing polymeric amphiphiles with high molecular precision*
- 10:00–10:30 Roy Beck (TAU), *On Physics, Biology and Multiple Sclerosis*
- 10:30–11:00 Jose Bico (ESPCI), *Making shapes*
-
- 11:00-11:30 Coffee
- 11:30–12:00 Samuel Stupp (Northwestern University), *Supramolecular Dynamics in Bioactivity and Robotics*
- 12:00-12:30 Gerard Wong (UCLA), *Self-assembly in innate immunity and autoimmunity*
- 12:30–13:00 Philippe Nghe (ESPCI), *From growth to natural selection in compartmentalized autocatalytic reactions*
-
- 13:00-14:00 Lunch
- 14:00–14:30 Lihi Adler-Abramovich (TAU), *Harnessing Nature to Create New Organic Materials for Tissue Regeneration*
- 14:30–15:00 Teresa Lopez-Leon (ESPCI), *Passive and active nematics: Order emerging from confinement*
- 15:00–15:30 Elie Raphael (ESPCI), *Rearrangement of 2D aggregates of droplets under compression*
-
- 15:30-16:00 Coffee
- 16:00–16:30 Zorana Zeravic (ESPCI), *Memories in a jar*
- 16:30–17:00 Olivia du Roure (ESPCI), *Mechanics and assembly of Actin cytoskeleton networks*
- 17:00-17:30 Remi Carminati (ESPCI), *Transparency of cornea-like fibrillar structures*
- 17:30 Closing remarks



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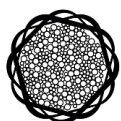
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TAU – ESPCI Summer school
September 8-12, 2019, Tel Aviv, Israel
Poster session – Shenkar Physics (Lobby)
8 September, 2019

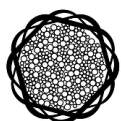
Poster no.	Presenter	Poster title
1	Priscila Cardoso	Ultrashort self-assembling peptides as antimicrobial agents: Structure-function relationship and biomedical applications
2	Aleksandr Kazakov	3D Self-Consistent Field method for simulating polyelectrolyte hydrogel
3	Varvara Prokacheva	The analytical theory of hydrophobic weak polyelectrolyte gel
4	Martina Clairand	Exploring the coupling between active and passive nematics
5	Mengshi Wei	Collective behavior of active colloidal gels
6	Jyoti Prasad Banerjee	Chemical kinetics of a model self-replicating assembly
7	suryabrahmam buti	Effect of short chain alcohols on bending rigidity of lipid bilayer
8	Shreyas Wagle	Synthesis and Characterization of Polymeric Micelles as Nanocarriers for Bio-Orthogonal Catalysts
9	Dana Cohen Gerassi	Structural Characterization of Self-Assembled Supramolecular Hydrogel
10	Lialy Khadeja	Development of Smart Nonwoven Fabric using Bio-inspired and Biocompatible Self-Assembled Nanostructures
11	Lion Morgenstein	
12	Shahar Tevet	Synthesis and Characterization of Polymeric Micelles as Nanocarriers for Bio-Orthogonal Catalysts
13	Ofir Tal Friedman	Driving by Self-organization of macroscopic rod shaped active particles
14	Daniel Zaretsky	controlled breaking of detailed balance
15	Anton Livshits	Polarity modulations and actin re-organization in <i>Hydra</i> regeneration
16	David Azulay	Aggregation mechanism of TasA aggregation in acidic conditions
17	Lital Shani-Zerbib	The Relation between Body Axis Polarity and Mechanical Processes in Morphogenesis during Hydra Regeneration
18	Malak Abu-Hussien	An aggregative peptide derived from gamma D crystallin as a model for its amyloidogenic aggregation in cataract and its inhibition
19	Maya Molco	Fibers as Microreactors for the Growth of HKUST-1 and ZIF-8 Metal Organic Frameworks (MOFs) towards Fabrication of Active Performance Textiles



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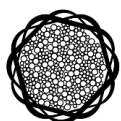
Poster no.	Presenter	Poster title
20	Nicole Edelstein-Pardo	Spontaneous Fracturing and Self-Healing in Electrospun Microfibers of Block Copolymers
21	Roie Cohen	
22	Shiran Ziv Sharabani	Thermally Induced Shape-shifting of Micrometer Scale Polymeric Fibers and Meshes
23	Itzhak Grinberg	A Method of Protecting Enzymes From Oxygen Damage by Hydrogel Systems
24	Aman Deep	Experiemental Realization of Restart Process
25	Ashim Paul	Novel small molecules for inhibiting nano-assemblies of Alpha-Synuclein amyloids in Parkinson's disease
26	Moumita Ghosh	Injectable Alginate-Peptide Composite Hydrogel as a Scaffold for Bone Tissue Regeneration
27	Pandeeswar Makam	
28	Rakesh Chatterjee	Motion of Active Tracer in 2D Lattice with Cross-shaped Particles
29	Somrita Ray	
30	Yu Chen	High-efficiency fluorescence through bioinspired supramolecular self-assembly
31	Francesca Netti	Effect of PEGylation on Fmoc-FF Hydrogels Self-Assembly
32	Noa Burshtein	Microparticles distribution in inertio-elastic vortex flow
33	Shang Zhang	Correlated rigidity percolation and colloidal gels
34	Alexander Blokhuis	Chemical evolution: Beyond the single pot
35	Cyrille Jeancolas	RNA diversification and the emergence of Darwinian evolution
36	Lucas Prevost	Dynamics of shape transition: from 2D ribbons to 3D chiral structures
37	Juliane Klamsr	Two-dimensional melting in active matter
38	Matan Yah Ben Zion	Light-Driven Fuel-Free Thermo-Capillary Micro-Swimmers
39	Maxime Ardré	Cellulose and colonisation of the air-liquid interface by pseudomonas fluorescens: hydrodynamical consequences
40	Prabhu Prasad Swain	Using Super-Resolution Radial Fluctuations (SRRF) microscopy to study nuclear dynamics
41	Ashwini Krishna	Single File Dynamics of Active Brownian Particles
42	Daniel Khaykelson	Quantifying the Hysteresis of Hepatitis B Virus-Like Particles Disassembly using Small Angle X-ray Scattering
43	Deborah Schwarcz	The Effect of Disordered Substrate on self-assembly and Crystallization in 2D



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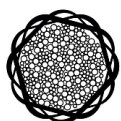
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Poster no.	Presenter	Poster title
44	Michael Chasnitsky	Brownian ratchet approach explains particle engulfment and displacement at sub-critical ice front velocities
45	Niv Ierushalmi	Centering and symmetry breaking in confined contracting actomyosin networks
46	Orlando Marin	Colloidal icosahedra and other polyhedra: from synthesis to cross-sectional electron microscopy imaging
47	Oshrat Shtangel	Quantifying the Effects of Membrane Lipids on Water Proton Relaxation
48	Yonit Maroudas- Sacks	Actin organization as an active nematic and its role in morphogenesis in Hydra regeneration
49	Zohar Arnon	Structural Manipulation of Self-Assembled Supramolecular Polymers
50	Chen Bar-Haim	Surface response of a semi-infinite polymer network
51	Ankit Agrawal	Is the packing of cells important for tissue morphogenesis?
52	Sarah Kostinski	A microbial growth law from simple kinetics of ribosome self-replication
53	Naomi Oppenheimer	Hurricane dynamics in a membrane
54	Gonçalo Paulo	Synchronization on Binary Mixtures of Locally Coupled Brownian and Active Oscillators
55	Morgan Hesser	Histidine as a pH Switch for the Fibrilization and Gelation of Short Peptides in Water
56	Kai Tao	Rigid Tryptophan-Containing Aromatic Dipeptide Assemblies for Power Harvesting
57	Oindrila Halder	Spin Active Luminous Excitonic States in Ultrathin Doped Nanosheets
58	Elad Arad	Revisiting Thioflavin T (ThT) Fluorescence as a Marker of Protein Fibrillation – a Prominent and Overlooked Role of Electrostatic Interactions



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