

Plenary	Parallel	Parallel
Parallel	Networking	Break

Tuesday, December 10, 2024

8:30 – 9:00	Registration Area, Poster Area, Exhibition Area
Registration, Coffee Break, Poster Mounting	

9:00 – 9:10	Hall A
Opening Ceremony	

9:10 – 9:40	Hall A
Superhigh-Capacity Polymeric Micelles for Chemo/Immunotherapy of Cancer	

Chair: Shady Farah, *TIIT*

Alexander Kabanov, *UNC, USA*

9:40 – 10:10	Hall A
Harvesting Bacterial Biofilm for Soil Remediation and Plant Regeneration	

Chair: Shady Farah, *TIIT*

Miriam Rafailovich, *Stony Brook University, USA*

10:10 – 10:40	Poster Area, Exhibition Area
Coffee Break, Poster Viewing	

10:40 – 11:45	Hall A
Polymers in 3D Printing	

Chairs: Tal Dvir, *TAU*

3D Printing: From the "Ink" to the Cardiac Device

Daniel Cohn, *HUJI*

The Physics and Geometry of Self-Morphing - from Leaf Growth to 4D Printing

Eran Sharon, *HUJI*

Short Peptides as Tools for Novel Bioink Formulation in Tissue Engineering

Francesca Netti, *TAU*

3D Printing of Living Tissues and Organs

Tal Dvir, *TAU*

Plenary Parallel	Parallel Networking	Parallel Break
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10:40 – 11:45	<i>Hall B</i>
Natural Based Polymers	

Chair: Meital Zilberman, *TAU*

The Plant Age: Materials for the Future

Oded Shoseyov, *HUJI*

Exploiting Poly-Gamma-Glutamic Acid in Combination with Designed Peptides for the Formation Nanoparticles

Hanna Rapaport, *BGU*

Nucleotides Derived Cross-linkers for a Formation of Biocompatible Hydrogels

Elena Poverenov, *ARO*

From Bulk to Microgels: The Versatility of Protein-Driven Materials

Luai Khoury, *TIIT*

10:40 – 11:45	<i>Hall C</i>
Multi-Functional Polymers	

Chair: Roey Amir, *TAU*

Expanding the Functional Landscape of Protein-Based Polymers with Unnatural Amino Acids

Miriam (Mira) Amiram, *BGU*

Multicomponent Designed Biomolecular Condensates as Delivery and Microreactor Systems

Ayala Lampel, *TAU*

Multifunctional Mechanophores - Detecting Mechanical Damage in Polymers

Charles Diesendruck, *TIIT*

Biomimetic Design of Polymer-Based Microstructures for Drug Delivery and Controlled Release

Aiman Abu Ammar, *JCE*

11:45 – 12:50	<i>Hall A</i>
Polymers for Controlled Release	

Chairs: Ayelet David, *BGU*

Modeling and Modulating Antitumor Immunity in 3D-Bioprinted Human Tumoroids

Ronit Satchi-Fainaro, *TAU*

Precision Fabrication for Targeted Nano Drug Delivery

Ofra Benny, *HUJI*

Microneedles for Drug Delivery, Tissue Adhesion and as a Platform for Living Materials

Boaz Mizrahi, *TIIT*

Polydopamine Copolymers for Stable Drug Nanoprecipitation

Yosi Shamay, *TIIT*

Plenary Parallel	Parallel Networking	Parallel Break
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11:45 – 12:50	<i>Hall B</i>
Advances in Polymers Characterization	

Chair: Tamar Segal-Peretz, *TIIIT*

Modulating the Curvature of Protein Self-Assembled Spiral Hierarchical Nanostructures

Uri Raviv, *HUJI*

Mechanophores and Nanoindentation as Probes of Polymer Network Architecture

Joshua Grolman, *TIIIT*

From the Micro to the Macro and Back – Characterization of Recycled Rubber Master Batches

Eynat Matzner, *TYREC*

Characterizing the 3D Nanostructure of Hydrated Desalination Membranes with Cryogenic Electron Microscopy

Tamar Segal-Peretz, *TIIIT*

11:45 – 12:50	<i>Hall C</i>
Polymeric Soft Materials	

Chair: Maya Davidovich-Pinhas, *TIIIT*

Hierarchical Structure of Self-Assembled Peptide-Polymer Hybrids

Ronit Bitton, *BGU*

Highly Tunable Pickering Emulsion/Polymer Systems: From Colloids to Functional Surfaces

Guy Mechrez, *ARO*

Algal-based Drug Delivery Systems

Aharon Azagury, *AU*

Modular On-Demand Polymeric Microstructure Assembly Using External Fields

Hagay Shpaisman, *BIU*

12:50 – 14:20	<i>Exhibition Area</i>
LUNCH BREAK	

Plenary Parallel	Parallel Networking	Parallel Break
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14:20 – 15:25	<i>Hall A</i>
Antimicrobial Polymers, Polyelectrolytes and Polymeric Complexes	

Chair: Eyal Zussman, *TIIT*

Peptide Stereocomplexes

Abraham Domb, *HUJI*

Controlled Release from Fibers of Protein-Polyelectrolyte Complexes

Eyal Zussman, *TIIT*

From Concept to a Medical Device: A Startup's Research and Development Journey in Antibacterial Polymer Technology for Medical Use

Ran Frenkel, *Polaroid Therapeutics*

Combinatorial Synthesis of Dual-functionalized Oligomers with Long-Lasting Bleaching Properties for Superior Antimicrobial and Antiviral Applications

Eid Nassar-Marjiya, *TIIT*

14:20 – 15:25	<i>Hall B</i>
Self-Healing Polymers and Mechanics	

Chair: Charles Diesendruck, *TIIT*

A Self-Healing Multispectral Transparent Adhesive Peptide Glass

Gal Finkelstein-Zuta, *TAU*

Self-Healing in Energetic Compositions

Yuval Shmueli, *Rafael*

Space Durable 3D Printed High-Performance Polymers

Yuval Vidavsky, *Soreq*

Functional and Mechanistic Insights into Imidazolidinyl Urea-based Tissue-like, Self-healable, and Antimicrobial Hydrogels for Infectious Wound Care

Qi Wu, *TIIT*

Plenary Parallel	Parallel Networking	Parallel Break
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14:20 – 15:25	<i>Hall C</i>
Polymeric Particles and Colloids	

Chair: Guy Mechrez, *ARO*

Polymer-Functionalized Nanoclays as Sustainable Carriers for Antimicrobials and Pesticides

Ester Segal, *TIIIT*

Developing Inorganic-Polymer Composite Materials for Environmental and Agricultural Applications

Yael Mishael, *HUJI*

Amyloid Fibrils in Foods: Controlled Delivery Vehicles, Sustained Digestibility and Impact on the Colon Microbiota

Uri Lesmes, *TIIIT*

Macroporous, Emulsion-Templated, Biodegradable Polyesters Synthesized Using Ring-Opening Polymerization

Samah Saied-Ahmad, *TIIIT*

15:25 – 16:30	<i>Hall A</i>
Medicinal Polymers	

Chair: Boaz Mizrahi, *TIIIT*

Broadening The Functionality of Polyphenols as Health-Promoting Compounds by Iron-Mediated Interactions with Pectin

Avi Shpigelman, *TIIIT*

Synthesis and Characterization of Biocompatible / Biodegradable Nanohydrogels for Biomedical Applications

Gerardo Byk, *BIU*

Biomedical Polymers to Prevent Metastatic Spread of Cancer

Ayelet David, *BGU*

Magnetic Nanocomposites for Controlling Cell Signaling

Dekel Rosenfeld, *TAU*

Plenary Parallel	Parallel Networking	Parallel Break
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15:25 – 16:30	<i>Hall B</i>
Supramolecular Polymers and Associative Polymer Networks	

Chair: Roy Shenhar, *HUJI*

Sustainable Supramolecular Plastics Based on Organic Nanocrystals

Boris Rybtchinski, *WIS*

From Principles of Protein Self-Assembly to Biomaterials

Ulyana Shimanovich, *WIS*

Hydrophobicity As a Tool for Programming Sequential Mesophase Transitions of Enzyme-Responsive Polymeric Amphiphiles

Shahar Tevet, *TAU*

Branched Supramolecular Copolymers

Roy Shenhar, *HUJI*

15:25 – 16:30	<i>Hall C</i>
Biodegradable Polymers	

Chair: Elena Poverenov, *ARO*

Insight Into Molecular Dissolution of Cellulose by Neutron Scattering: The Cases of Ionic Liquids and Phosphoric Acid

Yachin Cohen, *TIIT*

Enzymatic Degradation – It's All About Accessibility

Roey Amir, *TAU*

Elucidating the Role of Root Surface Physical Properties in Root-Environment Interactions Using Biomimetics

Maya Kleiman, *ARO*

Brain-Targeted Nanoparticles for Treating Parkinson's Disease

Avi Schroeder, *TIIT*

16:30 – 16:50	<i>Poster Area, Exhibition Area</i>
COFFEE BREAK, POSTER VIEWING	

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16:50 – 17:35	Hall A
Selected Flash Talks	

Chair: Zvi Yaari, *HUJI*

Nitrogen-Rich, Polyethyleneimine-Based, Interpenetrating Network Porous Monoliths: Synthesis and Dye Adsorption

Dahiana Mayer-Keren, *TII*

Hierarchical Porosity in Emulsion-Templated Block Copolymers Monoliths: Degradation and Hypercrosslinking

Shani Admoni, *TII*

Development of Multifunctional Olive Oil-Based Acrylate Photo-Resin for Precision 4D Printing for Biomedical Applications

Bassma Khamaisi, *TII*

Latex-Bridged Inverse Pickering Emulsion for Durable Superhydrophobic Coatings with Dual Antibacterial Activity

Raz Cohen, *ARO*

Protein-Based Resins for Stereolithography 3D Printing

Ayelet Bunin, *HUJI*

Comparative Analysis of Classic Network vs. Nanogel Junction Network in Konjac Glucomannan/Kappa Carrageenan Hybrid Hydrogels

Or Peleg-Evron, *TII*

Development of Antifouling Polyurethane Vascular Graft

Abinaya Nallathambi, *HUJI*

Antimicrobial and Multifunctional UV-Polymerizable Imidazolidinyl Urea-based Methacrylate Resin for 3D Printing and Biomedical Applications

Nadine Kanaan, *TII*

Living Microneedles for Bio-Polymers Production Using *Bacillus Paralicheniformis*

Caroline Hali, *TII*

Directed Self-organization of Block Copolymer Micelles on Topographic Patterns

Riham Muzaffar-Kawasma, *HUJI*

Next-Generation Prebiotics: Oligosaccharides-Protein Maillard-Conjugates for Selective Targeting of Proteins to Probiotic Bacteria in the Colon

Stav Peled, *TII*

Plenary Parallel	Parallel Networking	Parallel Break
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Gold Nanoislands Soft Printing on Flexible Polymeric Substrates

Aleksei Solomonov, *WIS*

DNA Delivery to Intact Plant Cells by Casein Nanoparticles with Confirmed Gene Expression

Avital Ben-Haim, *Institute of Postharvest and Food Science*

Engineering Polymeric Hydrogel Capsules Loaded with Hollow-like or Condensed Progesterone Microcrystals for Long-term Hormonal Delivery Applications

Edwar Odeh, *TIIT*

17:35 – 19:00	<i>Exhibition Area</i>
Welcome Reception and Poster Session	

Plenary Parallel	Parallel Networking	Parallel Break
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Wednesday, December 11, 2024

8:30 – 9:00	<i>Registration Area, Exhibition Area</i>
Registration, Coffee Break	

9:00 – 9:30	<i>Hall A</i>
Chitin and its Natural Composites: Exploring Sustainable Applications	

Chair: Joseph Kost, *BGU*

Giuseppe Falini, *University of Bologna, Italy*

9:30 – 10:00	<i>Hall A</i>
Nanomedicine Strategies to Overcome Treatment Challenges in Pediatric Tumors	

Chair: Joseph Kost, *BGU*

Marina Sokolsky-Papkov, *UNC, USA*

10:00 – 10:20	<i>Exhibition Area</i>
Coffee Break	

10:20 – 11:25	<i>Hall A</i>
Sustainable Polymers and Applications	

Chair: Lucy Liberman, *TIIIT*

Modified Polysaccharides for Biomedical Applications

Joseph Kost, *BGU*

Exploiting Nature to Fabricate Sustainable Bioplastic

Maya Davidovich-Pinhas, *TIIIT*

Green Synthesis of Zingerol-Based Multifunctional Tissue-Like Polyesters for Biomedical Applications

Simran Jindal, *TIIIT*

New Biocompatible Additives for Bioplastic based on Soybean Oil

Adi Ticher, *ARO*

Plenary Parallel	Parallel Networking	Parallel Break
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10:20 – 11:25	<i>Hall B</i>
Advances in Polymers Recycling	

Chair: Rotem Shemesh, *Carmel Olefins*

Toward Processable Upcycled Blends with Enhanced Mechanical Properties Using Electron Beam Irradiation

Shmuel Kenig, *Shenkar*

Identifying Early Indications of Polymers Compostability Using FTIR Spectroscopy

Yael Laor, *ARO*

Spatially-Variable Damage Detection in Synthetic Polymer Networks with Mechanophores

Yifan Liao, *TIIIT*

Polymeric Additives and Compositions for Promoting Degradability and Recycling

Elias Mofeed, *TIIIT*

10:20 – 11:25	<i>Hall C</i>
Polymers Processing	

Chair: Jasmine Rosen Kligvasser, *Plaskolite*

PFAS free Processing Aids Masterbatches for Plastics

Hanna Schwartz, *Kafrit industries*

Unlocking Next-Generation Bio-Degradation of Plastics via Emulsion-Based Hybrid Living Material

Antolin Jesila Jesu Amalraj, *ARO*

Textile Waste Converted to Sustainable Valuable Plastic Products

Ariel Yedvab, *TextRe*

The Challenges in Sustainable Optically Clear Engineering Plastics

Jasmine Rosen Kligvasser, *Plaskolite*

Plenary Parallel	Parallel Networking	Parallel Break
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11:25 – 12:30	<i>Hall A</i>
Polymers for Medical Implants	

Chair: Samer Srouji, *Galilee Medical Center*

Advancing Bio-Ink Formulations for Regenerative Medicine

Lihi Adler-Abramovich, *TAU*

Soy Protein as a Biomaterial

Meital Zilberman, *TAU*

Engineering Biodegradable and Fully Quaternized Acrylate-Based Photoresins for 3D Printing of Polymeric Implants with Strong Antimicrobial Properties

Majd Bisharat, *TIIT*

The Tangent Between 3D Printing and Bioprinting in Medical Applications

Samer Srouji, *Galilee Medical Center*

11:25 – 12:30	<i>Hall B</i>
Advances in Polymers Scale-Up	

Chair: Naum Naveh, *Shenkar*

Bio-Circular Polymers in Carmel Olefins

Koranit Shlosman Balasha, *Carmel Olefins*

Ceramic Feedstock Processing for Ceramic Injection Molding (CIM): Polymer Binder Systems, Key Insights, and Practical Approaches

Ira Shtein Rozenman, *IShtein*

Nemo Nanomaterials: Turning the High-End Nano Materials Promise into an Industrial Reality

Jonathan Antebi, *NemoBlend*

Novel "Hot Melt" Epoxy Compositions for Composite Materials - Materials and Processes

Naum Naveh, *Shenkar*

Plenary Parallel	Parallel Networking	Parallel Break
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11:25 – 12:30	<i>Hall C</i>
Polymers with Advanced Properties	

Chair: Itzik Mastai, *BIU*

Amphiphilic Polymeric Nanoparticles in Drug Delivery and Targeting

Alejandro Sosnik, *TIIT*

Simulation of the Co-Assembly of Nanoclays and Peptide Amphiphiles

Dafna Knani, *Braude College of Engineering*

Digital Light Processing 3D Printing of Stretchable and Compressible Porous Polymers for Soft Robotics

Ouriel Blich, *HUJI*

Chiral Polymeric Nanoparticles; Aynthesis, and Applications

Itzik Mastai, *BIU*

12:30 – 12:50	<i>Exhibition Area</i>
Coffee Break	

12:50 – 13:55	<i>Hall A</i>
Stimuli-Responsive Polymers	

Chair: Alejandro Sosnik, *TIIT*

Spider Silk Mechanics: A Unique Microstructure that Leads to Counterintuitive Responses

Noy Cohen, *TIIT*

Electro-Responsive Shape Memory Composites

Tamar Gitli, *Rafael*

Magnetic Single-Layer Polymer Composite with Built-In Multi-Stimuli Responsivity

Amos Bardea, *HIT*

Phase Behavior of Linear-Brush Block Polymers

Lucy Liberman, *TIIT*

Plenary Parallel	Parallel Networking	Parallel Break
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12:50 – 13:55	<i>Hall B</i>
Polymers for Membranes, Sensors and Scaffolds	

Chair: Viatcheslav (Slava) Freger, *TIIIT*

Real-Time Detection of Copper Contaminants in Environmental Water using Porous Silicon Fabry-Pérot Interferometer

Giorgi Shtenberg, *ARO*

Spider Silk-Enriched Alginate Scaffolds for Cultured Meat Engineering

Tali Tavor Re'em, *JCE*

Ionomer-Based Polyelectrolyte Complex Membranes for Treating Wastewater

Viatcheslav (Slava) Freger, *TIIIT*

Developing Implantable Optical Sensors for Biomedical Applications

Zvi Yaari, *HUJI*

12:50 – 13:55	<i>Hall C</i>
Bioactive Polymers	

Chair: Lihi Adler-Abramovich, *TAU*

Proton Conducting Self-Assembled Peptide Assemblies

Nurit Ashkenasy, *BGU*

Bioinspired Design of Antibacterial Peptide-Based Gel Materials

Gali Fichman, *HUJI*

The Bio-Specific Advantages of Additive Manufacturing

Noa Lachman, *TAU*

Tailored Polymer Functionalization of Fluorescent Single-Walled Carbon Nanotubes for Optical Sensing

Gili Bisker, *TAU*

14:10 – 14:20	<i>Hall A</i>
Best Poster Prize Announcement & Closing Remarks	

14:05	<i>Exhibition Area</i>
Lunch Break	