

2024

PROGRAM

**INSTITUTE FOR POLYMER RESEARCH
CELEBRATING 40 YEARS OF OFFICIAL INSTITUTE STATUS
FORTY-SIXTH ANNUAL SYMPOSIUM
ON POLYMER SCIENCE/ENGINEERING 2024
E7 7303-7363
Faculty Hall
University of Waterloo, Waterloo, Ontario
Wednesday May 1 and Thursday May 2, 2024**

8:45 a.m.	Open Symposium Portal
8:50	Welcome and Opening Remarks
9:00 - 9:20	Sanjay Patel, Chemistry, Waterloo Could PEF Become the New FRET? (Winner of 2023 IPR Award for Academic Excellence in Polymer Science/Engineering)
9:20 - 10:20	Industry Speaker: Dr. Steven Teerstra, Arlanxeo. Elastomers in Commercial Applications – BR, SBR, and Butyl Rubber in Tires to Chewing Gum
10:20 – 10:55	Coffee
10:55 – 11:20	<u>5-Min. Mini Presentations</u> 1) Shayan Ghasemi Unlocking the Potential of Interfacial Assembly for Aerogel Bead Fabrication 2) Monica Ho Polymer-MOF Composite Scaffolds for Direct Air CO ₂ Capture 3) Gillian Binley Hydrogen Peroxide Induced Degradation of Polylactic Acid 4) Akliu Getnet Messele Development of a Multi-filler Nanocomposite Film for the Application of X-ray Shielding 5) Ethan Crawford Melt-blown Fibers for Oil Spill Remediation and Oil Barrier Geotextiles
11:20 – 11:40	Ryan Lloyd Studying the Interactions Between DNA and Cationic Surfactants By Pyrene Excimer Fluorescence and Dynamic Light Scattering
11:40 – 12:00	Debela Tadele “Co-encapsulation of Quercetin and α -Tocopherol bioactives in Zein Nanoparticles: Synergistic interactions, stability, and controlled release

12:00 - 1:00	Lunch
1:00 - 2:00	Academic presenter: Prof. Alex Penlidis Copolymerization Composition Control Policies: Batch, Semi-batch or Flow?
2:00 - 2:20	<u>5-Min. Mini Presentations</u> 6) Aline Braz Ramirez 3D Printing of a Soft Gel with Bio-derived Solvent for Biomedical Applications 7) Shakiba Samsami Chaotic 3D Printing of Cellulose Nanocrystal-based Hydrogels for the Fabrication of Electromagnetic Shields 8) Shikuan Xu Chitosan thermosensitive hydrogel system 9) Tobechukwu Ohaka Designing Recyclable Natural Rubber – CNC Vitrimers
2:20 - 2:40	Saba Karimi Thermal Expansion Study on Polymer Stable Glasses
2:40 – 3:00	Mahnoor Mehmood Characterization of Stable Polymer Glasses
3:00 - 3:20	Hunter Little, Chemistry, Waterloo Probing the Local Density of Macromolecules by Fluorescence (Winner of the 2023 IPR Award for Academic Excellence in Polymer Science/Engineering)
3:20-3:40	Coffee
3:40 – 4:00	Franklin Frasca Determining the Conformations of Pyrene-Labeled Polyamines and Polyols in Solution via Pyrene Excimer Fluorescence
4:00 -4:20	Kristijan Lulic Pyrene Excimer Formation as a means to Investigate Persistence Length of Alkyl Methacrylate Copolymers
4:20-4:40	Shahrzad Ghodrati Sensing the Invisible: An Overview of Polymeric Materials for Gas Detection
4:40-5:00	Saheed Hadad Highly Conductive Mxene Quantum Dots/StarchNanocomposite Polymer Electrolytes for All-Solid-State Lithium-Ion Batteries:Unveiling Insights for Future Sustainable Energy Storage

5:00-5:10

5-Min. Mini Presentations

10) Estatira Amirieh

Conductive Bacteria Cellulosic Scaffolds

11) Naixin Zhao

Hydrogen Bond Bearing Conjugated Polymers for Fluoride Sensing

5:10

Closing remarks