

2021

PROGRAM

**INSTITUTE FOR POLYMER RESEARCH
CELEBRATING 37 YEARS OF OFFICIAL INSTITUTE STATUS
FORTY-THIRD ANNUAL SYMPOSIUM
ON POLYMER SCIENCE/ENGINEERING 2019
Conrad Grebel College
Great Hall
University of Waterloo, Waterloo, Ontario
Wednesday, May 5, 2021**

- 8:50 **Welcome and Opening Remarks**
- 9:00 - 9:20 **Xiaotong Cao, Chemical Engineering, Waterloo (Prof. X. Feng, UW)**
Removal of phenolic compounds using poly(ether-block-amide) membranes
**(Winner of 2020 IPR Award for Academic Excellence in Polymer
Science/Engineering)**
- 9:20 - 10:00 **Academic Speaker: Professor Eduardo-Vivaldo Lima, National Autonomous
University of Mexico (UNAM) On the development of biorefining processes
from lignocellulosic biomasses**
- 10:00 – 10:25 **5-Min. Mini Presentations**
- 1) **Jada Steer (Prof. R. Dhib, Ryerson)**
Surface Modification of Fiber-Reinforced Polymer Composites
- 2) **Dylan Jubinville (Prof. T. Mekonnen, UW)**
Thermo-mechanical Reprocessing of Polypropylene for Utilization within Post-
consumer Applications
- 3) **Boris Nazareth (Prof. D. Schipper, UW)**
Functionalization of Hydrocarbon Polymers for Metal Oxide binding
applications
- 4) **Curtis Seto (Prof. T. Mekonnen, UW)**
Utilization of lignin for biocarbon production
- 5) **Rohan Shorey (Prof. T. Mekonnen, UW)**
Hydrophobic modification of lignin for rubber composites
- 10:25 – 10:40 **Coffee Break**
- 10:40 – 11:00 **Bhoomi Mavani (Prof. A. Penlidis, UW)**
Design of sensitive/selective polymeric materials for detection of VOCs
- 11:00 – 11:35 **5-Min. Mini Presentations**
- 6) **Daniel Afzal (Prof. Y. Li, UW)**
OTFT based sensors

- 7) **Javan Buratynski (Prof. D. Schipper, UW)**
Effect of Substituents on the Band Gap of Thiazole Based Polymer
- 8) **Yunsheng Jiang (Prof. Y. Li, UW)**
A conjugated polymer donor for organic solar cells
- 9) **Xiguang Gao (Prof. Y. Li, UW)**
An In-situ Formed Conductive Polymer for Enhancing the Performance of Li-S Batteries
- 10) **Yi Yuan (Prof. Y. Li, UW)**
Designing low-cost polymer donor for high performance non-fullerene acceptor based organic solar cells
- 11) **Lukas Bauman (Prof. B. Zhao, UW)**
The development and characterization of 3D Printable Double-network Hydrogels
- 12) **Jun-Zhi (Oliver) Wang (Prof. M. Gauthier, UW)**
pH-Responsive Polypeptides for Drug Delivery

11:35 – 11:55

Abdullah Basalem (Prof. J. Duhamel, UW)

Characterization of Gemini Surfactants and their interactions with DNA by PEF

11:55 - 1:00

Lunch

1:00 - 1:40

Industry Speaker Valerie Farrugia, Xerox

2D and 3D Printing of Engineered Particles.

1:40 – 2:00

Audren Marquez (Prof. X. Wang, UW)

The Role of Water in Self-Assembly

2:00 – 2:20

Kristijan Lulic (Prof. J. Duhamel, UW)

Self-Association of Oligoquinoline Foldamers Probed by Fluorescence Anisotropy

2:20 - 2:40

Damin Kim (Prof. J. Duhamel, UW)

Chemistry, Waterloo

Compressibility of Amylopectin Characterized by Pyrene Excimer Formation

(Winner of the 2020 IPR Award for Academic Excellence in Polymer Science/Engineering)

2:40 – 3:00

Break

3:00 - 3:20

5-Min. Mini Presentations

13) **Joanne Fernandez (Prof. M. Gauthier, UW)**

Grafting of Starch Using a Cerium-Persulfate Initiation System

14) **Natun Dasgupta (Prof. M. Gauthier, UW)**

Synthesis of Thermoresponsive Chitosan Films grafted with Poly(di(ethylene glycol) methyl ether methacrylate)

15) **Azin Adibi (Prof. T. Mekonnen, UW)**

Engineered polysaccharide α -1,3 glucan as reinforcement fillers of rubber nanocomposite thin films for dipped goods application

- 16) Mingrui Liang (Prof. B. Zhao)**
Tribological studies of cellulose nanocrystal polyurethane composite
- 3:20 – 3:40 **Hunter Little (Prof. J. Duhamel, UW)**
Probing the Internal Dynamics of Polymers in Polar Solvents
- 3:40 – 4:00 **Remi Casier (Prof. J. Duhamel, UW)**
Predicting the Folding Time of Proteins Based on Pyrene Excimer Formation
Measurements on Polypeptides
- 4:00- 4:20 **5-Min. Mini Presentations**
- 17) Rebecca Lo (Prof. X. Wang, UW)**
Synthesis of Macrocycles via Migration Insertion Polymerization
- 18) Helen Dawit (Prof. R. Dhib, Ryerson)**
Modeling Average Molecular Weight Properties of PBMA via ARGET/AGET
ATRP
- 19) Junjie Yin (Prof. J. Forrest, UW)**
Stable polystyrene glasses through PVD and UV radiation
- 20) Sanjay Patel (Prof. J. Duhamel, UW)**
Probing the Conformation of Structured Macromolecules by Pyrene Excimer
Fluorescence
- 4:20-4:40 Break
- 4:40-5:00 **Franklin Frasca (Prof. J. Duhamel, UW)**
Gel Permeation Chromatography Analysis to Predict the Composition of PIBSI
Dispersants
- 5:00-5:20 **Janine Thoma (Prof. J. Duhamel, UW)**
Using Pyrene Excimer Formation to Predict the flexibility of Polymeric
Bottle Brushes in Solution
- 5:20 **Closing remarks**