ACS POLY Symposium on

STRUCTURE TO FUNCTION
IN SUPRAMOLECULAR POLYMERS & MATERIALS

Organizers: Roxanne Kieltyka, Pol Besenius, John Matson

supported by
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>Venue</th>
<th>Presenter</th>
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<tbody>
<tr>
<td>Self assembled saccharide functionalized amphiphilic metallacycles as biofilms inhibitor</td>
<td>08:00am - 08:25am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
<td>Guusong Chen, Presenter</td>
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<tr>
<td>Metallo-supramolecular polymers as a route to poly(π)catenanes</td>
<td>08:25am - 08:50am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
<td>Stuart Rowan, Presenter, University of Chicago</td>
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<tr>
<td>Conditionally active electron transfer catalysts enabled by bioinspired remodeling of polymer secondary structure</td>
<td>08:50am - 09:10am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
<td>Tanner Hoog, Matthew Pawlak, Katarzyna Adamala, Aaron Engelhart, Presenter</td>
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<tr>
<td>Supramolecular self-assemblies of cyanine dyes for tunable excitonic properties across the visible and shortwave infrared regions</td>
<td>09:10am - 09:25am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
<td>Anundhath Deshmukh, Presenter; Niklas Goege; Nadine Bradbury, Austin Bailey; Ellen Sletten; Justin Caram</td>
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<tr>
<td>Hydrogen bonding indigo photoswitches as building blocks to engineer photo adaptative materials</td>
<td>09:25am - 09:40am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
<td>Pauline Pasquet, Presenter; Yann Bretonnière; Stéphane Chambert; Julien Bernard</td>
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<tr>
<td>Session Type</td>
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<tr>
<td>Oral - In-person</td>
<td>Supramolecular polymers from peptide assembly: From optoelectronic to therapeutic applications</td>
<td>10:30am - 10:55am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
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<tr>
<td>Oral - In-person</td>
<td>Novel materials from the co-assembly of covalent and supramolecular polymers</td>
<td>11:15am - 11:40am USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
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<tr>
<td>Oral - In-person</td>
<td>Polysuccinate hydrogels: Combining synthetic tailorability with biological properties</td>
<td>11:40am - 12:05pm USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
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<tr>
<td>Oral - In-person</td>
<td>Investigating binding of polymeric cell-penetrating peptide mimics to protein cargo for intracellular delivery applications</td>
<td>12:05pm - 12:20pm USA / Canada - Eastern - August 22, 2021</td>
<td>Room: A313-A314</td>
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<td>Presenter(s)</td>
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<td>Host, guest supramolecular recognition in the design of functional soft materials</td>
<td>02:30pm - 02:25pm USA / Canada - Eastern - August 22, 2021</td>
<td>A313-A314</td>
<td>Matthew Weber, Presenter, University of Notre Dame</td>
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<td>Highly tunable, catalyst-free dynamic covalent bonds and their incorporation into networks</td>
<td>02:25pm - 02:40pm USA / Canada - Eastern - August 22, 2021</td>
<td>A313-A314</td>
<td>Neil Dolinski, Presenter; Katie Herbert; Stuart Rowan, University of Chicago</td>
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<tr>
<td>Synthesis and application of viologen-based polymers and photoredox-responsive soft materials</td>
<td>02:40pm - 03:05pm USA / Canada - Eastern - August 22, 2021</td>
<td>A313-A314</td>
<td>Faheem Amir; Abigail Delawder; Mark Palmquist; Tiana Saak; Jonathan Barnes, Presenter</td>
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<td>Helical supramolecular polymers: Self-assembly, bioactivity, and catalysis</td>
<td>03:05pm - 03:30pm USA / Canada - Eastern - August 22, 2021</td>
<td>A313-A314</td>
<td>John Matson, Presenter, Virginia Tech; Zhao Li</td>
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</table>
Stimuli-responsive metallosupramolecular polymer networks

04:30pm - 04:45pm USA / Canada - Eastern - August 22, 2021 | Room: Zoom Room 44
Dr. Christoph Weder, Presenter
Division: [POLY] Division of Polymer Chemistry
Session Type: Oral - Virtual

Exploring the influence of hydrogen-bonding in supramolecular electronics: From a diketopyrrolopyrrole model system to state-of-the-art semiconductors

04:55pm - 05:20pm USA / Canada - Eastern - August 22, 2021 | Room: Zoom Room 44
Amparo Ruiz Carretero, Presenter; Nelson Avila Roveto; Gabriel Alvarez Martinez; Ana Maria Garcia Martinez; Shu Seki; Philippe Mesini
Division: [POLY] Division of Polymer Chemistry
Session Type: Oral - Virtual

Tuning the molecular packing of supramolecular assembly by H-bonding and impact on morphology

05:20pm - 05:35pm USA / Canada - Eastern - August 22, 2021 | Room: Zoom Room 44
Amrita Skider, Presenter; Rachel O'Reilly
Division: [POLY] Division of Polymer Chemistry
Session Type: Oral - Virtual

Responsive polymers: Hysteresis, bistability, read/write-memory and logic gate function

05:35pm - 06:00pm USA / Canada - Eastern - August 22, 2021 | Room: Zoom Room 44
Joanna Michalska; Beate Förster; Stephan Hauschild; Stephan Förster, Presenter, University of Bayreuth
Division: [POLY] Division of Polymer Chemistry
Session Type: Oral - Virtual
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<thead>
<tr>
<th>Division/Committee</th>
<th>[POLY] Division of Polymer Chemistry</th>
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<tr>
<td>&quot;Static&quot; and evolving supramolecular gels</td>
<td>07:00pm - 07:25pm USA / Canada - Eastern - August 22, 2021</td>
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<tr>
<td>Presenter: Dave Adams</td>
<td>Santanu Panja, Annela Seedorf, Bart Dietrich</td>
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<tr>
<td>Division: [POLY] Division of Polymer Chemistry</td>
<td>Session Type: Oral - Virtual</td>
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<td>Reactive supramolecular nanostructures</td>
<td>07:25pm - 07:50pm USA / Canada - Eastern - August 22, 2021</td>
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<td>Presenter: Yukio Cho, Ty Christoff-Tempesta, Julia Ortony</td>
<td>Presenter: Massachusetts Institute of Technology</td>
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<td>Division: [POLY] Division of Polymer Chemistry</td>
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<td>Discovery of self-assembling peptide amphiphiles with deep neural networks</td>
<td>07:50pm - 08:05pm USA / Canada - Eastern - August 22, 2021</td>
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<td>Presenter: Eric Bruckner, Cara Smith, Mayank Agrawal, Siew Lee, Haley Wellman, Samuel Stupp</td>
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<tr>
<td>Design and applications of supramolecular peptide nanomaterials</td>
<td>08:05pm - 08:30pm USA / Canada - Eastern - August 22, 2021</td>
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<td>Presenter: Tanja Welj</td>
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<td>Division: [POLY] Division of Polymer Chemistry</td>
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<td>Synergies of supramolecular and dynamic covalent bonding for responsive networks</td>
<td>08:30pm - 08:55pm USA / Canada - Eastern - August 22, 2021</td>
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<td>Presenter: Dominik Konkolewicz, Miami University, Sriwanta Wanasinghe, Nethmi De Alwis Wathanthri, Obad Dodo, Jaffer Vakil, Jessica Sparks</td>
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<td>Single crystals of mechanically entwined helical covalent polymers</td>
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<td>Synergism between rifampicin and cationic polyurethanes overcomes</td>
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<td>intrinsic resistance of E. coli</td>
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<tr>
<td>08:00am - 08:25am</td>
<td>Supramolecular polymers for biomedical applications</td>
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<td>08:25am - 08:50am</td>
<td>Multicomponent supramolecular polymers as a platform for the design of glycoconjugate vaccines</td>
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<tr>
<td>08:50am - 09:15am</td>
<td>Designing optically transparent photo-crosslinked peptoid nanosheets for imaging applications</td>
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<tr>
<td>09:05am - 09:30am</td>
<td>Controlling supramolecular assembly and dynamics for advanced tissue engineering hydrogels</td>
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<tr>
<td>09:30am - 09:55am</td>
<td>Withdrawn</td>
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</table>
**Structure to Function in Supramolecular Polymers & Materials:**

Pol Besenius, Organizer, University of Mainz; Roxanne Kiellyka, Organizer, Universiteit Leiden; John Matson, Organizer, Virginia Tech; Matthew Baker, Presider, Maastricht University; Alexander Kros, Presider, Leiden University

Division: POLY Division of Polymer Chemistry
Session Type: Oral - Virtual
Co-sponsor/Theme: Co-sponsor: Nominal PMSE; Division of Polymeric Materials Science and Engineering

### Monday

**Influence of light, acid and metal coordination on hierarchical self-assembly processes**

10:30am - 10:55am USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 44
Gustavo Fernández, Presenter
Division: POLY Division of Polymer Chemistry
Session Type: Oral - Virtual

**Transfer and amplification of asymmetry in supramolecular polymers: From kinetic effects to CPL-emitter materials**

10:55am - 11:20am USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 44
Cristina Naranjo; Veray Diaz; Elisa E. Greciano; Soutam Ghosh; Rafael Rodriguez; Rafael Gómez; Katsumaro Maeda; Gustavo Fernández; Luis Sanchez, Presenter
Division: POLY Division of Polymer Chemistry
Session Type: Oral - Virtual

**Squaramides as versatile binding units for the development of supramolecular polymers**

11:20am - 11:45am USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 44
Bartolome Sobratos, Presenter
Division: POLY Division of Polymer Chemistry
Session Type: Oral - Virtual

**Modeling of the effects of addition of zinc on morphology and rheology of xanthan gum polysaccharide solutions**

11:45am - 12:00pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 44
Kolattukudy Santo, Presenter; Andrei Potanin; Alexander Neimark
Division: POLY Division of Polymer Chemistry
Session Type: Oral - Virtual

**Intramolecular cyclization induced crystallization driven self-assembly**

12:00pm - 12:20pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 44
Hui Sun, Presenter; Jianfeng Du
Division: POLY Division of Polymer Chemistry
Session Type: Oral - Virtual
**Structure to Function in Supramolecular Polymers & Materials:**

- Elucidating dynamic behavior of synthetic supramolecular polymers in water
  - Presenter: Anja Palmans
  - Time: 02:00pm - 02:25pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 48
  - Division: [POLY] Division of Polymer Chemistry
  - Session Type: Oral - Virtual

- H-bonding regulated directional supramolecular assembly and functional biomaterial
  - Presenter: Suhril Ghosh
  - Time: 02:25pm - 02:50pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 48
  - Division: [POLY] Division of Polymer Chemistry
  - Session Type: Oral - Virtual

- Enhanced gene delivery and CRISPR/Cas9 homology-directed repair in serum by minimally succinylated polyethylenimine
  - Presenters: Md Nasir Uddin, University of Kentucky; Logan Warriner; Daniel Pack; Jason Derouarch
  - Time: 02:50pm - 03:15pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 48
  - Division: [POLY] Division of Polymer Chemistry
  - Session Type: Oral - Virtual

- Formation of Sequence-Defined Nanothreads through Solid-State Design
  - Presenters: Margaret Gerhoffer, Presenter; Sikai Wu; Bo Chen; Bohan Xu; Jordan Coo; Tao Wang; Steven Huss; Shalisa Oburn; Steven Lopez; Vincent Crespi; John Badding; Elizabeth Eliaqua
  - Time: 03:15pm - 03:40pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 48
  - Division: [POLY] Division of Polymer Chemistry
  - Session Type: Oral - Virtual

- Competing hydrogen bonding supramolecular polymers allow thermo thickening effect
  - Presenter: Laurent Bouteiller
  - Time: 03:40pm - 03:45pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 48
  - Division: [POLY] Division of Polymer Chemistry
  - Session Type: Oral - Virtual

- Effect of pH and functionalisation of self-assembled Naphthalene-diimides for smart window applications
  - Presenters: Rebecca Randle; Leide Cavalcanti; Stephen Sproules; Emily Draper
  - Time: 03:45pm - 04:00pm USA / Canada - Eastern - August 23, 2021 | Room: Zoom Room 48
  - Division: [POLY] Division of Polymer Chemistry
  - Session Type: Oral - Virtual
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<tr>
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</table>
| **Programming self-assembly of minimalistic heterochiral peptides: from simplicity to complexity**  
08:00am - 08:25am USA / Canada - Eastern - August 24, 2021 | Room: A311-A312  
Ana M. García; Michele Melchionna; Ottavia Bellotto; Slavko Kralj; Sabrina Semeraro; Evelina Parisi; Daniel Iglesias; Paola D'Andrea; Rita De Zorzi; Attilio V. Vargiu; Silvia Marchesan, Presenter  
Division: [POLY] Division of Polymer Chemistry  
Session Type: Oral - Hybrid |
| **Squaramide-based supramolecular materials: From self assembly to biomedical application**  
08:25am - 08:50am USA / Canada - Eastern - August 24, 2021 | Room: A311-A312  
Roxanne Kielyka, Presenter, Universiteit Leiden  
Division: [POLY] Division of Polymer Chemistry  
Session Type: Oral - Hybrid |
| **Constrained supramolecular polymerization within linear polymer melts at equilibrium and under strain**  
08:50am - 09:05am USA / Canada - Eastern - August 24, 2021 | Room: A311-A312  
Christopher Cooper, Presenter; Zhenan Bao  
Division: [POLY] Division of Polymer Chemistry  
Session Type: Oral - Hybrid |
| **Complexation of poly(β-CD) and bis-adamantyl poly(2-hydroxyethyl acrylate) to create supramolecular polymeric networks**  
09:05am - 09:20am USA / Canada - Eastern - August 24, 2021 | Room: A311-A312  
Mohammed Alsalalat, Presenter; John Matson, Virginia Tech  
Division: [POLY] Division of Polymer Chemistry  
Session Type: Oral - Hybrid |
| **Understanding the role of block sequence on the solution aggregation of polypeptoid multi-block copolymers**  
09:20am - 09:35am USA / Canada - Eastern - August 24, 2021 | Room: A311-A312  
Meng Zhang, Presenter; Yun Liu; Donghui Zhang  
Division: [POLY] Division of Polymer Chemistry  
Session Type: Oral - Hybrid |
| **Tri-block copolymer thermoplastic elastomer thermosets achieving orthogonal working/healing conditions**  
09:35am - 09:50am USA / Canada - Eastern - August 24, 2021 | Room: A311-A312  
Ryan Clarke, Presenter; Eugene Chen  
Division: [POLY] Division of Polymer Chemistry  
Session Type: Oral - Hybrid |
Structure to Function in Supramolecular Polymers & Materials:

07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room

John Matson, Organizer, Virginia Tech; Pol Besenius, Organizer, University of Mainz; Roxanne Kielyka, Organizer, Universiteit Leiden
Division: [POLY] Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering

Division/Committee: [POLY] Division of Polymer Chemistry

Transition path dynamics in protein-protein interaction
07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
Masoud Alizadeh, Organizer; Dmitri Makarov
Division: [POLY] Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering

RAFT polymerization of star polymers with ortho-phenylene cores
07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
Kate Bradford, Organizer; Dominik Konkolewicz, Miami University; Christopher Hartley
Division: [POLY] Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering

Regulating the self-assembly of light emitting conjugated polymer spherulites via side alkyl chain branching
07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
LiBai Sun, Organizer; Lu Bao, Organizer
Division: [POLY] Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering

Engineering positive kinetic cooperativity between supramolecular and dynamic covalent bonds within self-healing polyurethane thermosets
07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
Raphael Pauchet, Organizer; Simon McKe; Vasyl CHUMACHENKO; Georges FORMON; Pierre Lutz; Eric BUHLER; Remi PERRIN; Christian GAUTHIER; Emilie Moulir; Nicolas Giuseppone
Division: [POLY] Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering
Creating a dynamic covalent peptide system by reversible native chemical ligation for dynamic combinatorial chemistry

07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
Nicolas Capit, Presenter; Pierrick Petit; Nicolas Giuseppone
Division: (POLY) Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering

Selenophene and thiophene based conjugated polymer gels

07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
Sheng Li, Presenter; Keqiang He; Elisabeth Prince; Yuning Li; Dwight Seferos
Division: (POLY) Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering

Covalent organic frameworks based on porphyrin and cucurbit[n]uril for electrocatalytic water splitting

07:00pm - 09:00pm USA / Canada - Eastern - August 24, 2021 | Room: Virtual Room
Donus Tuncel, Presenter
Division: (POLY) Division of Polymer Chemistry
Session Type: Poster - Virtual
Co-sponsor/Theme: Co-sponsor - Nominal PMSE: Division of Polymeric Materials Science and Engineering