

## MAKRO2024 Polymers for a Sustainable Future

Biennial Meeting of the Macromolecular Division of the GDCh

### PRELIMINARY POSTER PROGRAM

All Posters are on display for the entire conference and presented according to the following schedule.

#### Poster session I

*Odd numbers*

#### MONDAY, SEPTEMBER 16<sup>TH</sup> 2024

|            |  |  |
|------------|--|--|
| <b>P1</b>  | Dietmar Appelhans<br>IPF Dresden                                 | <i>Probing macrophage- and lysosome-like structures and functions by polymeric (multi)compartments</i>   |
| <b>P3</b>  | Kevin Kleemann<br>ETH Zürich – CH                                | <i>Water-soluble and Water-dispersible Polymers in Commercial Agricultural Formulations: Inventory of Used Polymers and Perspective on their Fate in Soils</i> |
| <b>P5</b>  | Johannes Kockelmann<br>Julius-Maximilians-University<br>Würzburg | <i>(Oxa-)Norbornene Derived Block Copolymers for the Preparation of Functional Nanogels with pH- and ROS-Responsive Immunodrug Delivery Properties</i>         |
| <b>P7</b>  | Souraj Mandal<br>TU Darmstadt                                    | <i>Microgels for Enhanced Adsorption of Endothelial Cells on Artificial Networks</i>   |
| <b>P9</b>  | Fabian Mehner<br>IPF Dresden                                     | <i>Exploring the preparation and application of (bio)degradable polyesters from Radical ring-opening polymerization</i>  |
| <b>P11</b> | Florian Cramer<br>IPF Dresden                                    | <i>Towards sustainable engineering polyesters via recycling on demand</i>  |
| <b>P13</b> | Nadiia Davydiuk<br>IPF Dresden                                   | <i>Glycogen-Heparin Hybrid Nanoparticles as Biodegradable and In-Blood Active Materials</i>  |
| <b>P15</b> | Diana Döhler<br>Fraunhofer ISC Würzburg                          | <i>Inorganic-organic hybrid coatings meet sustainability: Low-temperature curing and design for recycling</i>  |
| <b>P17</b> | Arman Edalat<br>Martin Luther University<br>Halle-Wittenberg     | <i>Solid-State NMR Studies of intracrystalline chain dynamics in Ketone-modified linear polyethylenes</i>  |
| <b>P19</b> | Tim Eppler<br>IPF Dresden  | <i>Converting 1D Conjugated Polymers into 2D Polymers</i>  |
| <b>P21</b> | Patricia Godermajer<br>TU Chemnitz                               | <i>Degradable bispiperidone derivative amine networks</i>  |
| <b>P23</b> | Annalena Groß<br>TU Freiburg                                     | <i>Exploring the Multiresponsiveness of Quinolinone Motifs for Reversible Polymerizations</i>  |
| <b>P25</b> | Jasper Hansen<br>University Potsdam                              | <i>Improving Mechanical Stability of Ultra-low Fouling Hydrophilic Surfaces</i>  |
| <b>P27</b> | Carl-Christoph Höhne<br>Fraunhofer ICT Pfinztal                  | <i>Polymer additives for safe-and-sustainable-by-design plastics</i>   |

- P29** Kludija Janic  
Otto-von-Guericke  
Universität Magdeburg  
*Supragel assembly via UV-crosslinking of DMMI-functionalized microgels with a low-cost LEGO® 3D printer*
- P31** Sabith Saleem  
Kannadipparamban  
University Paderborn  
*Cyclodextrin based Double Crosslinked Supramolecular Hydrogel sensor for Pesticide sensing*
- P33** Pia Klee  
Heidelberg University  
*Designing Recyclable Polymers for Additive Manufacturing*
- P35** Andrea Koball  
IPF Dresden  
*Snail slime as by-product of agriculture and promising base material for nanoparticle hydrogel composites*
- P37** Jiayi Liu  
IPF Dresden  
*Biodegradable and strong underwater adhesive coatings from hybrid glycogen nanoparticles*
- P39** Nina Mast  
University Konstanz  
*High density polyethylene with in-chain photolyzable and hydrolyzable groups enabling recycling and degradation*
- P41** Till Meißner  
IPF Dresden  
*Light-induced promotion of radical ring-opening polymerisation of cyclic ketene acetals*
- P43** Bercis Pektas  
UHA Mulhouse – FR  
*From Waste to Wonder: Efficient C2-Type Molecular Unit for Synthesis of Sulfur decorated Polymers*
- P45** Martina Plank  
KIT Karlsruhe  
*Green Synthesis of Phosphorylated Surfaces: Catalyst-Free and Light-Induced Transformation from Hydrophobic to Hydrophilic Surfaces via CVD Polymerization*
- P47** Mareike Schumacher  
IPF Dresden  
*Progressing Sustainability: Tools for Investigating Microplastic Pollution*
- P49** Florian Tondock  
Leibniz University Hannover  
*Mucin-inspired Polymers for Capturing and Recovering Water Contaminants*
- P51** Upenyu Muza  
IPF Dresden  
*Unveiling Microstructural Dynamics of Biopharmaceutical Nanostructures with the Novel TGE-3DCoThFFF*
- P53** Tim Oddoy  
IPF Dresden  
*Novel ion exchange Hybrid AEM-NF-Membrane for mMCDI process*
- P55** Claas-Hendrik Stamp  
Universität Freiburg  
*Mechanically-Induced Debonding of Capsules-Based Adhesive Composites*
- P57** Ziwei Zhou  
IPF Dresden  
*Highly efficient and reversible chirality transfer between protein and achiral plasmonic assemblies*
- P59** Yang Zhou  
IPF Dresden  
*Probing the Transformation from Membrane-less Coacervates to Membranized Coacervates and Giant Vesicles*

## Poster session II

### even numbers

TUESDAY, SEPTEMBER 17<sup>TH</sup> 2024

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|------------|---|---|
| <b>P2</b>  | Yue Cai<br>Martin Luther University<br>Halle-Wittenberg         | <i>Initiator-Free Synthesis of Interpenetrating Polymer Networks via Bergman Cyclization</i>  |
| <b>P4</b>  | Robert Dallinger<br>Georg-August-University<br>Göttingen        | <i>Extending the Monomer Scope of Reversible Complexation Mediated Polymerization Towards Acrylates</i>   |
| <b>P6</b>  | Jonah Decker<br>University of Siegen                            | <i>Synthesis and characterization of solvatochromic dye-gradient polymer brushes</i>  |
| <b>P8</b>  | Yiyi Deng<br>IPF Dresden  | <i>Cyclic Ketene Acetals Do the Trick: Preparation of Functional and Degradable Polyesters from Radical Ring-Opening Polymerization</i>   |
| <b>P10</b> | Tom Kösterke<br>IPF Dresden                                     | <i>Synthesis and characterisation of pseudo-glycodendrimers for biomedical applications</i>   |
| <b>P12</b> | Chenming Li<br>Martin Luther University<br>Halle-Wittenberg     | <i>Pyrrrolidinium-Based Polyionic Liquids with Quadruple Hydrogen Bonds as Self-Healing Electrolytes</i>  |
| <b>P14</b> | Abdul Mannan<br>CSIR-IICT Hyderabad – IN                        | <i>The Effect of Oxygen delignification on Mechanical, Physical, and Thermal Properties of Banana fiber and polypropylene Composite Preparation for Durable Ev Automotive Parts</i> |
| <b>P16</b> | Matthias Rohmer<br>Martin Luther University<br>Halle-Wittenberg | <i>Designing switchable helical polymers to modulate the chiral induced spin selectivity – a novel route to use poly(amino acids) in electronics</i>                                |
| <b>P18</b> | Nicola' Agius<br>University of Malta – MT                       | <i>Fluorescent Cinchona Alkaloid-based Copolymers</i>   |
| <b>P20</b> | Marah Alqaisi<br>Martin Luther University<br>Halle-Wittenberg   | <i>Tuning the nanoparticles internal structure: fluorinated single-chain nanoparticles (SCNPs) generated by chain collapse of random copolymers</i>                                 |
| <b>P22</b> | Lennart Arendes<br>TU Clausthal                                 | <i>Investigation into radical copolymerizations of itaconates with butyl acrylate</i>   |
| <b>P24</b> | Ronja Bodesheimer<br>IPF Dresden                                | <i>Bio-inspired polymer metallisation with the adhesion promoter dopamine</i>   |
| <b>P26</b> | Gero Bramlage<br>University Wuppertal                           | <i>Synthesis and Polymerization of Olefinic Monomers with Electron-Deficient Aromatic Side-Chains</i>   |
| <b>P28</b> | Ching-Yi Choi<br>HU Berlin                                      | <i>Deep Dive into Mussel-Inspired and Lignin-Based Adhesives for Setting Corals under Saltwater</i>   |
| <b>P30</b> | Tom Fielitz<br>University Potsdam                               | <i>Designing Poly(vinylamine)-based Copolymers for Enhanced Gene Delivery</i>   |

- P32** Evgeny Grigoryev  
IPF Dresden *Lignin modification as basis for sustainable resins in DLP 3D printing: comparison of different acrylation strategies*
- P34** Nataliya Kiriya  
IPF Dresden *Thermoset resins with bio-based building blocks for use in sustainable coatings*
- P36** Anne-C. Lehnen  
University Potsdam *It is all about the shape: The influence of anisotropy and amphiphilic balance toward the biological activity of antimicrobial bottle brush copolymers*
- P38** Andrei Mitrofanov  
IPF Dresden *Narrow bandgap 1D lead iodide perovskite with bulky aminophenyl viologen for photovoltaic applications*
- P40** Farahanz Navazandeh  
Tirkalae  
Martin Luther University  
Halle-Wittenberg *Highly Stable Pyrrolidinium-based Dicationic Ionic Liquid Electrolytes with Fluorinated Linkers*
- P42** Torje Orlamünde  
Martin Luther University  
Halle-Wittenberg *Polymeric Ionic Liquids: Micro-segregated Polymers as Gating Materials*
- P44** Florian Praße  
Zittau/Görlitz University of  
Applied Sciences *Dynamic Wetting on PDMS-based Elastomers for High-Voltage Applications*
- P46** Sven Schäfer  
Johannes Gutenberg-  
University Mainz *CKA based polymer networks from radical ring-opening polymerization*
- P48** Katharina Scherer  
Universität Konstanz *Long-Chain Aliphatic Polycondensates from Alternative Raw Materials*
- P50** Clara Vazquez-Martel  
Heidelberg University *Printing Green: Microalgae-based materials for 3D printing with light*
- P52** Philipp Sebastian  
Hilgeroth  
Martin Luther University  
Halle-Wittenberg *Additive Manufacturing of Poly-(isobutylene) Modified with Oligo Amino-Acids for Medical Applications*
- P54** Christian Schmitt  
KIT Karlsruhe *Novel Polymer Materials for Environmental Applications*
- P56** Sebastian Schwab  
Universität Konstanz *Model Compounds for Short-Ultralong Polyesters*
- P58** Katharina Völlmecke  
University Paderborn *Redox-triggered Self-immolative Polydisulfides as Drug Delivery Systems*