

Bioinspired and Zwitterionic Materials

864. WE-Heraeus-Seminar

23 – 26 August 2026

at the Physikzentrum Bad Honnef, Germany

**WILHELM UND ELSE
HERAEUS-STIFTUNG**



Program

Sunday, 23 August 2026

16:00 – 21:00 Registration

18:30 *BUFFET SUPPER and informal get together*

20:00 André Laschewsky **Polyzwitterions: Achievements, Myths
& Fancy**

Get together

Monday, 24 August 2026

08:00 *BREAKFAST*

Session chair: Axel Rosenhahn

09:00 – 09:20 Organizers **Opening**

09:20 – 10:00 Kazuhiko Ishihara **MPC Polymer Science and Engineering:
Shaping the Future of Biointerfaces
and Medical Devices**

10:00 – 10:20 Rong Yang **Vapor-Phase Engineering of Zwitter-
ionic Polymer Interfaces for Biofouling
Control and Electrochemical Stability**

10:20 – 10:40 Jessica Schiffman **Bioinspired and Fermented Materials
for Environmental Applications**

10:40 – 11:20 *COFFEE BREAK*

Session chair: Joe Schlenoff

11:20 – 11:40 Masaru Tanaka **Understanding Water-Mediated
Interactions at BioInterfaces:
Intermediate Water Concept**

Program

Monday, 24 August 2026

11:40 – 12:00	Esben Thormann	Specific Ion Effects in Zwitterionic Polymer Coatings: From Antipoly-electrolyte Swelling to Ice Adhesion
12:00 – 12:20	Elena Vassileva	Polyzwitterionic Hydrogels as Multi-functional Biomaterials: From Chronic Wound Management to Ocular Drug Delivery
12:20 – 12:40	Conference Photo (in front of the main entrance)	
12:40 – 14:10	<i>LUNCH</i>	

Session chair: Kazuhiko Ishihara

14:10 – 14:50	Yung Chang	Molecular Engineering of Zwitterionic Membranes for Preferential Blood Cell Separation
14:50 – 15:10	Karen Lienkamp	Polyzwitterionic Hydrogels: Beyond Biofilm Formation and Biocompatibility
15:10 – 15:50	Flash Presentations I	
15:50 – 16:30	<i>COFFEE BREAK</i>	
16:30	Flash Presentations II	
	Poster Session	
18:30	<i>DINNER</i>	
19:30	Poster Session cont.	
	Get together	

Program

Tuesday, 25 August 2026

08:00 *BREAKFAST*

Session chair: André Laschewsky

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| 09:00 – 09:40 | Joe Schlenoff | How Are “Electrostatic” Interactions Driven by Charge Pairing and Dehydration? |
| 09:40 – 10:00 | Tao Wei | Molecular Mechanisms for Zwitterionic Antifouling |
| 10:00 – 10:20 | Lucas Kreuzer | Zwitterionic Diblock Copolymer Thin Films: Responsive Behavior Under Different External Stimuli |
| 10:20 – 10:40 | Wolfgang Maison | Photochemical Grafting of Cationic–Zwitterionic Polymer Brushes from Titanium: Deciphering the Role of Charge for Biofilm Formation |
| 10:40 – 11:20 | <i>COFFEE BREAK</i> | |

Session chair: Karen Lienkamp

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| 11:20 – 11:40 | Jian Ji | Molecularly Interlaced Amphiphilic Block Copolymers for Robust Biofouling Resistance |
| 11:40 – 12:00 | Hana Vaisocherová-Lísalová | Programmable Zwitterionic Biointerfaces: From Molecular Mechanisms to Biomedical Applications |
| 12:00 – 12:20 | Ta-Chung Liu | Zwitterionics in Tuning Water State for Energy Storage |
| 12:20 – 14:10 | <i>LUNCH</i> | |

Session chair: Kevin Neumann

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| 14:10 – 14:50 | Ayse Asatekin | Zwitterionic Amphiphilic Copolymers for Membranes for Ion and Organic Molecule Separations |
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Program

Tuesday, 25 August 2026

14:50 – 15:10	Andriy Kuzmyn	SI-PET-RAFT Polymer Brushes for Biointerfaces and Scent Distinction
15:10 – 15:30	Roy Bernstein	Polyzwitterionic Brushes for Enhancing Membrane Antifouling Properties
15:30 – 15:50	Zhibin Ye	Fouling-resistant Zwitterionic Thin-film Nanocomposite Membranes for Dye-contaminated Wastewater Treatment
15:50 – 16:30	<i>COFFEE BREAK</i>	

Session chair: Ayse Asatekin

16:30 – 16:50	Kevin Neumann	Poly(ylides): A new Class of Overall Charge-neutral Hydrophilic Polymers
16:50 – 17:10	Julia Rho	Dynamic Stealth Polymers for Adaptive Cell Surface Engineering
17:10 – 17:30	Matthew Bernards	Synthesis of Peptide-based Zwitterionic Cross-linkers and their Evaluation in Polyampholyte Hydrogels
17:30 – 19:00	Poster Session cont.	
19:00	<i>HERAEUS DINNER</i> (social event with cold & warm buffet with complimentary drinks) Get together	

Program

Wednesday, 26 August 2026

08:00 *BREAKFAST*

Session chair: Shaoyi Jiang

09:00 – 09:40 Shaoyi Jiang **Low Immunogenic, High-efficacy, and Targeted Zwitterionic-based Lipid Nanoparticles for mRNA Delivery**

09:40 – 10:00 Zhan Chen **Probing Surface Hydration, Salt Resistance, and Protein Interaction of Zwitterionic Polymers in Situ to Elucidate Antifouling Mechanisms**

10:00 – 10:20 Amy Bassett **Tailoring Dielectric Properties of Polyimides through Zwitterion Functionalization**

10:20 – 10:40 Chen-Tsyr Lo **Zwitterionic Polymer Electrolytes for Lithium Metal Batteries: From Coordination Chemistry to Directional Ion Transport**

10:40 – 11:20 *COFFEE BREAK*

Session chair: Zhan Chen

11:20 – 11:40 Tomohiro Hayashi **Interfacial Interactions Induced by Anti-biofouling Self-assembled Monolayers**

11:40 – 12:00 Peng Zhang **Anion- π Interlocking Induced Supra-macromolecular Zwitterionic Hydrogel for Bioelectronics**

12:00 – 12:20 Ji-Hun Seo **Zwitterionic Polymer-inorganic Hybrid Hydrogel Coated Surfaces for Anti-icing/Frosting Application**

12:20 *LUNCH*

End of the seminar and departure