



GESELLSCHAFT DEUTSCHER CHEMIKER



Adaptive Polymers and Systems

Biennial Meeting of the GDCh-Division
of Macromolecular Chemistry
together with SFB 985

September 12 – 14, 2022
Aachen

DWI
Leibniz-Institut für
Interaktive Materialien



www.gdch.de/makro2022

INVITATION

Adaptive Polymers and Systems

The seminal field of adaptive polymers and systems deals with interactive and smart functional materials. The ability of biological systems and matter to sense their environment, process information, and react in an autonomous fashion inspires the development of similar complex and functional polymers and polymer systems. Thus, the term "intelligent materials" has emerged and further developments strive towards the imitation of functionalities and properties of living matter and systems.

The scope of the conference covers all physical and chemical aspects of this broad topic including experimental and theoretical insights to the following topics:

- Switchable polymer systems
- Stimulus-responsive macromolecules
- Bioactive, bioinspired, biohybrid, and biomedical macromolecular systems
- Integration of fuels and motile polymer systems
- Interactive soft colloids
- Sustainable polymer material solutions

This conference provides a platform for experienced experts and young talents from both academia and industry to share the latest research results and breakthroughs, as well as discuss challenges and opportunities of the field.

CONFERENCE VENUE

RWTH Aachen University
Campus – Building SuperC
Templergraben 57
52062 Aachen, Germany
Phone: +49 (0) 241 80 1

AWARDS

Hermann-Staudinger-Preis

Monday evening, September 12, 2022, will be devoted to a special session including the Staudinger award ceremony. Awardee is Prof. Dr. Bert Meijer, Eindhoven University of Technology/Netherlands.

Reimund-Stadler-Preis

Monday evening, September 12, 2022, will be devoted to a special session including the Stadler award ceremony.

INVITATION

ORGANISING COMMITTEE

Prof. S. Hecht	Aachen/DE
Prof. A. Herrmann	Aachen/DE
Prof. W. Richtering (SFB 985)	Aachen/DE
Prof. T. Wiegand	Aachen/DE
Prof. L. De Laporte	Aachen/DE
Prof. P. Theato	Karlsruhe/DE
Dr. J. Simon	Leverkusen/DE

SESSIONS AND TOPICS

- Switchable and stimulus responsive polymer systems
- Bioactive, bioinspired, biohybrid and biomedical macromolecular system
- Out-of-equilibrium, motile and interactive polymers and soft colloids
- Sustainable polymer material solutions

PLENARY SPEAKERS

Tanja Weil	Mainz/DE
Armido Studer	Münster/DE
Rint Sijbesma	Eindhoven/NL

KEYNOTE SPEAKERS

Manfred Wilhelm	Karlsruhe/DE
Michael Carus	Köln/DE
Patricia Dankers	Eindhoven/NL
Philip DuPrez	Gent/BE

GENERAL MEETING

The general meeting of the GDCh-Division of Macromolecular Chemistry will take place on Tuesday, September 13, 2022 at 4:30 p.m. at the Campus Building SuperC.



▶ SFB 985

Functional Microgels and Microgel Systems

In modern polymer research, mastering increasingly complex molecular and supramolecular structures is becoming more and more important. The focus lies on highly functional, e.g. responsive materials, which can be switched via external parameters. The dynamic switching behavior is thereby linked to typical length scales. The development of interactive and „intelligent“ systems, which are characteristic of living organisms, but synthetically not feasible yet, is the vision of current polymer research.

SFB 985 brings together research groups from polymer science, chemical engineering, and the life sciences, focusing on microgels as a group of highly functional macromolecules. Microgels combine openness with interactive responsiveness and thereby form a synthetic base for novel functionality. The SFB enables microgel research in a comprehensive approach, comprising the individual particle as well as the technical-scale production and formulation process. This will finally lead to new applications considering the microgel within the context of a complex interactive system. The comprehensive approach already starts within the individual research projects, all of which are supervised by two or more principal investigators with complementary expertise.

The scientists at DWI and RWTH Aachen contribute to the success of the SFB 985 with their expertise in a total of four key topic areas: In research area A, they are working on developing microgels with new structures and functionalities. In research area B, the scientists are dedicated to the quantitative understanding and modeling of microgel formation and properties. In research area C, investigations are conducted on functional microgel systems for specific applications. Several projects from the fields of biotechnology, medicine and separation technologies can be found here. Furthermore, developing experimental techniques is of general relevance for the entire SFB. This includes the quantification of high-resolution microscopy data and in-line monitoring of microgel production processes.

The SFB 985 includes a Graduate school.

www.microgels.rwth-aachen.de.

▶ DR. HERMANN-SCHNELL STIPENDIUM

The *Dr. Hermann-Schnell-Stiftung* (foundation) awards scholarships to young scientists working in the field of macromolecular chemistry, especially as far as the physico-chemical basics and the chemical analysis is concerned.

▶ SUBMISSION OF ORAL CONTRIBUTIONS AND POSTERS

Abstracts can be submitted to the topics online at

www.gdch.de/makro2022

A sample abstract is to be found on this website. No revisions or corrections will be made by the scientific committee.

After a successful transmission, you will receive a reference code for each submitted abstract and a confirmation after the decision of the scientific committee.

The scientific committee reserves the right to accept or reject papers, and to assign them to oral or poster contribution.

▶ DEADLINE

Submission of oral contributions & posters March 20, 2022

▶ REGISTRATION

Registration will start with the second circular (approx. in May 2022).

▶ SCHOLARSHIPS

Information about possible Scholarships will be published at the website of the GDCh-Division of Macromolecular Chemistry.

▶ SOCIAL PROGRAMME

The official programme will include a get together and a conference dinner. Further information can be found in the second circular.

▶ INFORMATION ABOUT THE SCIENTIFIC PROGRAMME

Prof. Stefan Hecht, PhD and Prof. Dr. Andreas Herrmann
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RWTH Aachen University
Forckenbeckstr. 50
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▶ INFORMATION AND LOCAL ORGANISATION

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▶ GENERAL INFORMATION

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Executive director: Professor Dr. Wolfram Koch
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