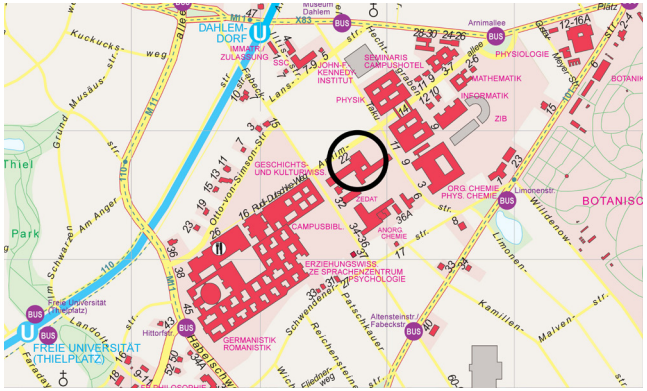
Venue & Location

Freie Universität Berlin, Institute of Chemistry and Biochemistry, Gr. Hörsaal, Arnimallee 22, 14195 Berlin



Symposium WLAN

Participants should connect to the wireless network with the SSID „conference“ and should enter the following key: ey3w7zsx.

Conference Dinner

Alter Krug Dahlem
Königin-Luise-Straße 52
14195 Berlin

https://www.alter-krug-berlin.de/

How to get there:

Leave the Institute of Chemistry and Biochemistry via the main entrance (Arnimallee 22), turn left until you reach Fabeckstraße. Turn right and follow the street until you reach Königin-Luise-Straße. The restaurant is located directly at the corner of Fabeckstr./Königin-Luise-Straße. The walking distance is approx. 550 m.

CRC-Partner Institutions

CHARITÉ · HUMBOLDT-UNIVERSITÄT ZU BERLIN · TU berlin · FMP · MAX DELBRÜCK CENTER · ZIB ZUSE INSTITUTE BERLIN · MAX-PLANCK-INSTITUT FÜR KOLLOID- UND GRENZFLÄCHENFORSCHUNG

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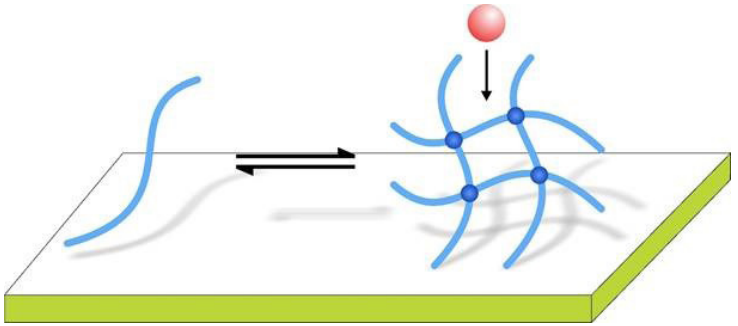
FREIE UNIVERSITÄT BERLIN

2. International Symposium of the Collaborative Research Center SFB 1449

“Dynamic Hydrogels at Biointerfaces”

PROGRAM | October 1-2, 2024



DFG Deutsche Forschungsgemeinschaft · CRC 1449

2. International Symposium on

“Dynamic Hydrogels at Biointerfaces”

It is a great pleasure to invite you to our 2nd International Symposium on “Dynamic Hydrogels at Biointerfaces“ which will take place from October 1-2, 2024 at the Freie Universität Berlin.

This symposium is organized by our Collaborative Research Center SFB 1449 „Dynamic Hydrogels at Biointerfaces“ (www.sfb1449.de) with a major focus on mucus. We offer several exciting invited lectures and sessions on mucus biology, analysis, rheology, glycobiology and peptides. Additionally, the SFB will present its collaborative projects.

The overarching goal of this CRC symposium is to discuss the key parameters that determine protective hydrogel function at biological interfaces. The CRC initiative is driven by biomedical questions with a long-term and increasingly translational perspective:

(1) understanding the structure, properties and dynamics of hydrogels at biointerfaces at the molecular level; by complementary experimental and theoretical approaches;

(2) dynamic behavior and modelling of native vs. synthetic hydrogels; definition of the barrier function of the glycocalyx and mucus as well as interaction of interfacial layers;

(3) overcoming barrier dysfunction to prevent infection and inflammation by synthetic mucus-mimetics, modulation of mucus (dys)function by mucolytic agents and to develop and test the diagnostic and therapeutic potential of our strategies.

We are convinced that only a transdisciplinary approach based on expertise in physics, chemistry, material sciences, biology, and medicine that is integrated with frontline modeling approaches will allow the much needed comprehensive investigation of the complex and dynamic hydrogel networks at biointerfaces of the airways and intestine.

We are looking forward to welcome you in Berlin.

Prof. Dr. Rainer Haag,
Spokesperson CRC 1449

Prof. Dr. Marcus Mall
Deputy Spokesperson CRC 1449

Program

TUESDAY, OCTOBER 01, 2024

8:30 REGISTRATION

9:00 OPENING
Prof. Rainer Haag | Spokesperson of the CRC 1449 Freie Universität Berlin

SESSION – MUCIN ENGINEERING
Chair: Oliver Seitz

09:15 Mucin glycans: synthesis & virulence attenuating properties
Dr. Rachel Hevey | Universität Basel, CH

10:00 Labeling and Engineering of Protein *O*-Glycosylation
Prof. Xing Chen | Peking University, Beijing, CN

10:45 COFFEE BREAK

SESSION – SUPRAMOLECULAR HYDROGELS
Chair: Beate Koksch

11:15 Supramolecular structures and hydrogels to tune the cell-material interface
Prof. Patricia Dankers | Eindhoven University of Technology, NL

12:00 Mucin inspired supramolecular hydrogels
Dr. Nives Hribernik (C02) | Max Planck Institute of Colloids and Interfaces

12:30 LUNCH BUFFET

SESSION – MUCOLYTICS AND RHEOLOGY
Chair: Marcus Mall

13:30 Live Cell Rheometry of Airway Mucus: Application to Acute Asthma and Cystic Fibrosis
Prof. Gerald Fuller | Stanford University, USA

14:15 Polymeric Reducing Agents as Treatment for Muco-obstructive Lung Diseases
Justin Arenhoevel (C04) | Freie Universität Berlin

14:45 Biocompatible Hydrogels from the Self-Assembly of Collagen-Mimetic Peptides
Prof. Ron Raines| MIT, Cambridge, USA

15:30 10 SPEED LECTURES from selected posters

16:30 COFFEE BREAK & POSTER SESSION

19:00 CONFERENCE DINNER

WEDNESDAY, OCTOBER 02, 2024

SESSION – MUCINS AND GLYCOSYLATION
Chair: Christian Hackenberger

08:30 Chemical Precision Tools to Dissect Protein Glycosylation
Prof. Benjamin Schumann | Imperial College London, UK

09:15 Synthetic mucins for engineering mucus and the glycocalyx
Prof. Jessica Kramer | University of Utah, USA

10:00 COFFEE BREAK

SESSION – MUCIN FUNCTION AND CHARACTERIZATION
Chair: Martina Delbianco

10:30 Leveraging Mucin Glycans for Enhanced Innate Immune Function
Prof. Katharina Ribbeck | MIT, Cambridge, USA

11:15 Semisynthetic Mucins
Prof. Oliver Seitz (C01) | Humboldt Universität Berlin

11:45 Structural analysis of mucin-type *O*-glycans
Dr. Leila Bechtella (C03) | Université d‘Évry Paris-Saclay, FR

12:15 LUNCH BUFFET

SESSION – BARRIER FUNCTION
Chair: Marie Weinhart

13:15 Control of mucus barrier function
Prof. Dave Thornton | University of Manchester, UK

14:00 Protein crystals as key components of airway mucus plugging
Prof. Bart Lambrecht | Ghent University, BE

14:45 Network Analysis of Host Glycan Profiles, Tissue Transcriptome, and Microbiota Composition in the Intestinal Mucus of TLR5-Deficient Porcine Model
Prof. Marcus Fulde | Freie Universität Berlin

15:15 COFFEE BREAK

SESSION – GAG ANALYTICS AND FUNCTION
Chair: Kevin Pagel

15:45 Complex mucus structures protect the intestinal epithelium
Prof. Malin Johansson | University of Gothenburg, SE

16:30 Glycosaminoglycans and terminal fucosylation in pulmonary defense against S. pneumoniae
Dr. Cengiz Gökeri | Charité – Universitätsmedizin Berlin

17:00 Hydrogel properties on intestinal surfaces in health and disease
Prof. Marie Weinhart| Freie Universität Berlin

17:30 POSTER PRIZES & CLOSING REMARKS
Prof. Rainer Haag | Freie Universität Berlin