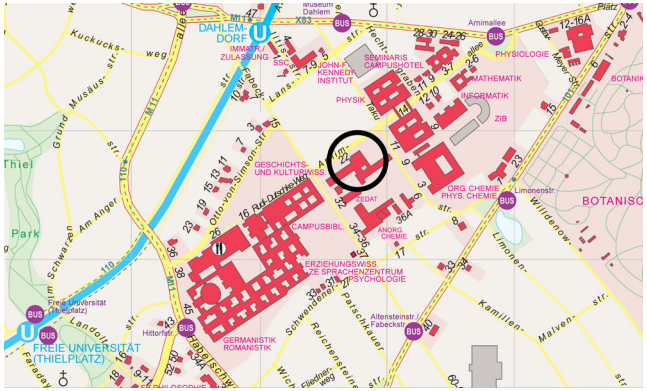
Venue & Location

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

Restaurant Luise
Königin-Luise-Straße 40 - 42
14195 Berlin

https://www.luise-dahlem.de/

How to get there:

Leave the Institute of Chemistry and Biochemistry via the main entrance (Arnimallee 22), turn right down Arnimallee to Takustr. Follow Takustr. to the left until you reach Königin-Luise-Straße. The restaurant is located directly at the corner of Takustr./Königin-Luise-Straße. The walking distance is approx. 300 m.

CRC-Partner Institutions

Symposium Chairs

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www.sfb1449.de/1insy

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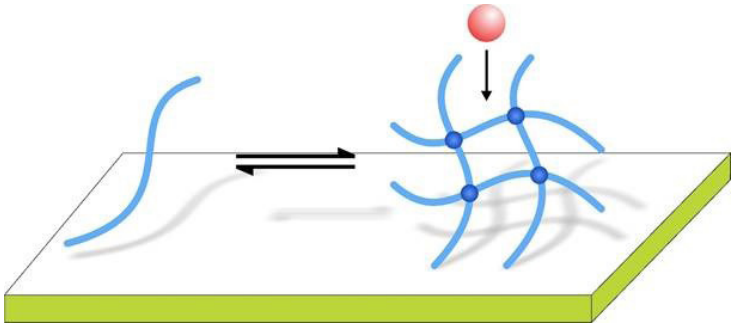
Freie Universität Berlin

1. International Symposium of the Collaborative Research Center SFB 1449

“Dynamic Hydrogels at Biointerfaces”

PROGRAM | October 6-7, 2022



DFG Deutsche Forschungsgemeinschaft

CRC 1449

1. International Symposium on

"Dynamic Hydrogels at Biointerfaces"

It is a great pleasure to invite you to our 1st International Symposium on "Dynamic Hydrogels at Biointerfaces" which will take place from October 6-7, 2022 at the Freie Universität Berlin.

This symposium is part of 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

THURSDAY, OCTOBER 06, 2022

8:30 REGISTRATION

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

SESSION – MUCUS BIOLOGY AND MODEL SYSTEMS
Chair: Dr. Laura Elomaa

09:15 Molecular Requirements for Polymeric Mucin Assembly and Function in Respiratory Health and Disease
Prof. Chris Evans | University of Colorado, USA

10:00 Mucus abnormalities and therapeutic targeting in muco-obstructive lung disease
Prof. Marcus Mall | Charité – Universitätsmedizin Berlin

10:30 COFFEE BREAK

SESSION – AIRWAY MUCINS AND GLYCOCALYX
Chair: Dr. Julia Gräber-Dürr

11:15 The alveolar epithelial glycocalyx is necessary for pulmonary surfactant function
Prof. Eric Schmidt | MGH, Harvard Medical School, USA

12:00 Molecular interactions between surfactant protein A (SP-A) and D (SP-D) and sugars found in the alveolar epithelial glycocalyx
Dr. Elena Lopez-Rodriguez | Charité – Universitätsmedizin Berlin

12:30 LUNCH BUFFET

SESSION – MUCUS BIOLOGY AND MODEL SYSTEMS
Chair: Prof. Rainer Haag

14:00 Mapping the bacteria lectin interactions with the mucinome using synthetic model glycopeptides
Prof. Ulrika Westerlind | Umeå University, S

14:45 Partners in slime: How mucus regulates microbial virulence
Prof. Katharina Ribbeck | MIT, USA

15:30 10 SPEED LECTURES from selected posters

16:30 COFFEE BREAK & POSTER SESSION

19:00 CONFERENCE DINNER

FRIDAY, OCTOBER 07, 2022

SESSION – SESSION MUCIN ANALYSIS
Chair: Dr. Philipp Mertins

08:30 Mucus and its organization in intestinal and respiratory tracts
Prof. Gunnar Hansson | University of Gothenburg, SE

09:15 Mass Spectrometry Based Tools for the Analysis of Mucin Glycosylation
Prof. Kevin Pagel | Freie Universität Berlin

09:45 COFFEE BREAK

SESSION – MUCUS RHEOLOGY
Chair: Prof. Marcus Mall

10:15 Puzzles of the Airway Surface Layer: A Tale of Two Layers
Prof. Michael C. Rubinstein | University of North Carolina at Chapel, USA

11:00 Mucin-based coatings on biomedical devices
Prof. Oliver Lieleg | Technische Universität München

11:45 Investigations by Macro- and Microrheology of PEG/Polyelectrolyte Hydrogels that are pH Controlled
Prof. Michael Gradzielski | Technische Universität Berlin

12:15 Probing barrier function and viscoelasticity of native mucus
Dr. Stephan Block | Freie Universität Berlin

12:45 LUNCH BUFFET

SESSION – GLYCOBIOLOGY AND PEPTIDES
Chair: Prof. Beate Koksch

14:00 Supramolecular Glycoconjugate Vaccines
Prof. Pol Besenius | Johannes Gutenberg-Universität Mainz

14:45 Going through the phases with peptide as sembly: solids, gels, liquids
Prof. Dek Woolfson | University of Bristol, UK

15:30 Towards rationally designed mucin-like glyco-hydrogels
Dr. Martina Delbianco | Max Planck Institute of Colloids and Interfaces

16:00 COFFEE BREAK

SESSION – GLYCOBIOLOGY AND PEPTIDES
Chair: Dr. Martina Delbianco

16:30 Generating Homogeneous Glycoproteins by Protein (Semi-)Synthesis
Prof. Christian Becker | University of Vienna, AT

17:15 Extending native chemical ligation for the total synthesis of mucin tandem repeats
Prof. Oliver Seitz | Humboldt-Universität zu Berlin

17:45 POSTER PRIZES & CLOSING REMARKS (Haag)