

3rd International Symposium of the CRC 1449 “Dynamic Hydrogels at Biointerfaces”
Preliminary Program

Monday, OCTOBER 5, 2026

9:00 OPENING

Prof. Rainer Haag | Spokesperson of the CRC 1449 Freie Universität Berlin

SESSION – INTERACTIONS WITH BARRIERS IN THE LUNG

Chair: Marcus Mall

09:15 Clinical features of mucus plug-high asthma and COPD and strategies to treat them

Prof. John Fahy | University of California, San Francisco, USA

10:00 Using glycosaminoglycans to guide precision medicine in the intensive care unit

Prof. Eric Schmidt | Harvard Medical School & Massachusetts General Hospital, USA

10:45 COFFEE BREAK

SESSION – MUCUS HYDROGELS AND GLYCOCALYX

Chair: Beate Kokschi

11:15 Modulating the permeability of mucin gels with nanoparticles – nanoplastics vs nanomotors

Prof. Oliver Lieleg | Technische Universität München, D

11:40 Organized surface layers on the apical surface of the alveolar epithelium: Ultrastructure, composition, and component-driven barrier function (preliminary title)

Dr. Shailey Twamley (B01) | Charité – Universitätsmedizin Berlin

12:05 Role of *Pseudomonas aeruginosa* in mucus dysfunction in bronchiectasis

Dr. Christine Wong (C04) | Charité – Universitätsmedizin Berlin

12:30 LUNCH BUFFET

SESSION – MUCINS AND GLYCOSYLATION

Chair: Christian Hackenberger

13:30 Mucus Hydrogels – Polymerization and Glycosylation in Models of Lung Disease

Prof. Christopher Evans | University of Colorado Anschutz, USA

14:15 Chemical Precision Tools to Track the Cellular Activity of Glycosyltransferases

Prof. Benjamin Schumann | Technische Universität Dresden, D

14:40 Mucus Penetration (preliminary title)

Dr. Luise Franz (C05) | Leibniz-Forschungsinstitut für Molekulare Pharmakologie Berlin, D

15:15 10 SPEED LECTURES from selected posters

16:15 COFFEE BREAK & POSTER SESSION

18:30 CONFERENCE DINNER

Tuesday, OCTOBER 6, 2026

SESSION – MUCOLYTICS AND RHEOLOGY

Chair: Marina Pigaleva

9:00 Live cell rheometer links mucus rheology to cilia activity

Prof. Gerald Fuller | Stanford University, USA

9:45 Mucus plugging in asthma: molecular and cellular insights

Prof. Maude Liégeois | Université de Liège, BE

10:30 Magnetic Microwire Rheology: Theory and Data Analysis (preliminary title)

Merten Strehlau (A01) | Technische Universität Berlin

10:50 COFFEE BREAK

SESSION – MUCIN FUNCTION AND HYDRGEL CHARACTERIZATION

Chair: Kevin Pagel

11:20 Regulation of mucus barrier function

Prof. Dave Thornton | The University of Manchester, UK

12:05 Mucus Metal Interactions (preliminary title)

Prof. Maria Maares | Universität Potsdam, D

12:25 PEG-induced collapse of mucin-inspired polymers during gelation revealed by EPR spectroscopy

Dr. Marina Pigaleva (Z01) | Freie Universität Berlin

12:45 LUNCH BUFFET

SESSION – MUCUS BARRIER FUNCTION

Chair: Daniel Lauster

13:45 Mucus and Biofilms as Biological Barriers to Anti-infective Drug Delivery

Prof. Claus-Michael Lehr | Universität des Saarlandes & Helmholtz-Institut für Pharmazeutische Forschung Saarland, D

14:30 Integrative computational analysis to study the interplay between mucus, infection and inflammation in cystic fibrosis

Dr. Laura Schaupp (B05) | Charité – Universitätsmedizin Berlin

14:50 Motion of Salmonella Typhimurium in Bulk, Hydrogels, and Mucus

Prof. Stephan Block (B03) | Freie Universität Berlin

15:15 COFFEE BREAK

SESSION – HYDROGELS FOR CELL CULTURE AND FUNCTION

Chair: Rainer Haag

15:45 Recreating the Living Tumor Biointerface: Dynamic Hydrogels, 3D Bioprinting, and Precision Nanomedicine

Prof. Ronit Satchi-Fainaro | Tel Aviv University, ISR

16:30 The structure of a natural human mucin (preliminary title)

Dr. Gaël Vos (C01) | Freie Universität Berlin

16:50 Mucins in the Alveolus (preliminary title)

Dr. Geraldine Nouailles (C03) | Charité – Universitätsmedizin Berlin

17:15 POSTER PRIZES & CLOSING REMARKS

Prof. Rainer Haag | Freie Universität Berlin