

FORUM EXPERIMENT! 2022

XPLANATORIUM HERRENHAUSEN, HANOVER, GERMANY

PROGRAM

THURSDAY, MAY 19, 2022

10:30 a.m. Registration and Coffee/Tea

11:15 a.m. Welcome

ULRIKE BISCHLER
Volkswagen Foundation

SESSION 1: BIOMEDICAL ENGINEERING

11:20 a.m. Out of the dark into the light: Picking electrogenic microorganisms from the human intestinal microbiome

RAINER KRULL
Technische Universität Braunschweig

11:40 p.m. Hitchhiker's guide to the cell – Employing viral and bacterial targeting sequences for live cell imaging

CLAIRE FABIAN
Fraunhofer Institute for Cell Therapy and Immunology, Leipzig

12:00 p.m. Low Dose Grating-Free X-Ray Phase Contrast Imaging for Advanced Medical Diagnosis

SVEN SIMON
University of Stuttgart

12:20 p.m. Fill the Priming Volume – Miniaturization of artificial lungs

LEONID GOUBERGRITS
Charité – Universitätsmedizin Berlin

12:40 p.m. Learning the Language of the Brain: Adaptive Brain-Machine Interfaces

TIM LANDGRAF
Freie Universität Berlin

1:00 p.m. Lunch

SESSION 2: BIOGEOCHEMISTRY

2:00 p.m. Traces in the dirt – searching for ancient human DNA in sediments and soils in the open landscape

MATTHIAS MEYER
MPI for Evolutionary Anthropology, Leipzig

2:20 p.m. What is the future response of marine calcification to rising CO₂?

DAVID EVANS
University of Frankfurt/Main

2:40 p.m. Pyrotraces – Unraveling the Inner Workings of Pyroclastic Flows

KAREN STREHLOW
GEOMAR – Helmholtz Centre for Ocean Research, Kiel

3:00 p.m. Enabling fracking free enhanced geothermics using environmental friendly natural products

JASMIN GRIFKA
University of Bochum

3:20 p.m. Coffee Break

SESSION 3: PHYSICAL SCIENCES

3:50 p.m. Simple and rapid imaging of groundwater using magnetic resonance

MIKE MÜLLER-PETKE
Leibniz Institute for Applied Geophysics, Hannover

4:10 p.m. Responsive porous liquids – Activated cooperative gas sorption in liquids

SEBASTIAN HENKE
TU Dortmund University

4:30 p.m. Solid Electricity: Do crystalline electrides exist at room temperature?

GÜNTHER THIELE
Freie Universität Berlin

4:50 p.m. Explosion-like ultra-rapid heating without combustion

FABIAN SCHÜTT
University of Kiel

5:10 p.m. Garden Walk

SESSION 4: MATERIALS

6:00 p.m. **Towards Solar Paint: Janus Emulsion-based Luminescent Solar Concentrators**
LUKAS ZEININGER
MPI of Colloids and Interfaces, Golm

6:20 p.m. **Nonvegan Flame Retardant Bio-composites**
BERNHARD SCHARTEL
Bundesanstalt für Materialforschung und -prüfung – BAM, Berlin

6:40 p.m. **Dust-catching coatings fighting against particulate pollution**
SUSANNE WINTZHEIMER
University of Erlangen

7:00 p.m. **Aperitif & Dinner**

FRIDAY, MAY 20, 2022

SESSION 5: MICROBIOLOGY

9:20 a.m. **Against the laws: Horizontal gene transfer via interspecies cell fusion in fungi**
ANDRÉ FLEISSNER
Technische Universität Braunschweig

9:40 a.m. **SIRENS – misguiding fungal mating to protect crops**
ARMIN DJAMEI
University of Bonn

10:00 a.m. **Green Yeast: Uniting Two Domains of Life to Generate the Next Level Production Microbe**
NINA ODERMATT
MPI Terrestrial Microbiology, Marburg

10:20 a.m. **The cellular vault – an antiviral organelle**
FLORIAN FULL
University Hospital Erlangen

10:40 a.m. **Coffee Break**

SESSION 6: ALLERGIES, CANCER

11:10 a.m. **Are there different IgE antibodies? – Impact of IgE antibody glycosylation on allergic reactions**
MARC EHLERS
University of Lübeck

11:30 a.m. **R-loops: An early transforming event commonly occurring in cancer?**
SARAH DOERDRECHTER-KINKLEY
MPI for Molecular Genetics, Berlin

11:50 p.m. **Engineering inducible transcription factors to generate human functional blood cells for cell therapy**
CHRISTIAN WICHMANN
University Hospital Munich

12:10 p.m. **Macrophages as a Trojan horse for tumor cells**
HEIKO BRUNS
University Hospital Erlangen

12:30 p.m. **Lunch**

SESSION 7: LIFE SCIENCES

1:30 p.m. **The nasal-cycle: A novel path to the brain**
THOMAS HUMMEL
University Hospital Dresden

1:50 p.m. **Understanding the molecular basis of fingerprint formation**
JACQUELINE MERMOUD
University of Marburg

2:10 p.m. **Neurodegenerative proteinopathies & genomic vulnerability**
SUSANNE WEGMANN
Deutsches Zentrum für Neurodegenerative Erkrankungen – DZNE, Berlin

2:30 p.m. **Closing**
PAVEL DUTOW
Volkswagen Foundation

2:40 p.m. **Departure**