

FORUM EXPERIMENT! 2021

XPLANATORIUM HERRENHAUSEN, HANOVER, GERMANY

PROGRAM

MONDAY, JULY 12, 2021

11:30 a.m. Registration and Coffee

12:00 p.m. Welcome

ULRIKE BISCHLER
Program Director,
Volkswagen Foundation

12:10 p.m. **SESSION 1: BIOMEDICAL SCIENCES**
The krait way of snakebite prevention:
deriving repellents from a predator of
vipera

ULRICH KUCH
University Hospital Frankfurt/Main

12:30 p.m. Voltage on Implants - Preventing
thrombus formation as the most fatal
risk of medical devices with blood
contact by applying a high frequency
alternating current

ULRICH KERTZSCHER
Charité Universitätmedizin Berlin

12:50 p.m. Non-coding RNAs as the fountain of
youth

ANDREAS KELLER
Saarland University

1:10 p.m. The role of environmental microplastic
as an independent risk factor for human
health

KONRAD ADEN
University Hospital Schleswig-
Holstein, Kiel

1:30 p.m. Lunch

Festsaal

2:30 p.m. **SESSION 2: BIOLOGY & ENVIRONMENT**
Tracking evolution of Life? - Laboratory
evolution of a mesophilic
microorganism from a thermophilic
ancestor

MIRKO BASEN
University of Rostock

2:50 p.m. Stress management by plants: a
decision-making case?

MARIA PIMENTA LANGE
Technical University Braunschweig

3:10 p.m. Can we breed heat resistant corals for
reef restoration?

FRANK MELZNER
GEOMAR – Helmholtz Centre for Ocean
Research Kiel

3:30 p.m. Using luminescent quantum dots for
tracking insect flights

TOBIAS DEGEN
University of Würzburg

3:50 p.m. Coffee Break

Foyer

4:20 p.m. **SESSION 3: MATERIALS & GEOSCIENCES**
Novel Material² Printed Actuators
Capable of Controlled Complex 3D
Motions

HOLGER STEEB
University of Stuttgart

4:40 p.m. 4D modular micro-origami: cooperative
self-folding of multiple polymer sheets
(MODUL-ORIG)

ARPAN BISWAS, LEONID IONOV
University of Bayreuth

5:00 p.m. Solar Hydrogen for Antarctica: Water
Splitting under Extreme Conditions

MATTHIAS MAY
Helmholtz-Zentrum Berlin (HZB) für
Materialien und Energie

5:20 p.m. Illuminating the speed of sand -
quantifying sediment transport using
optically stimulated luminescence

WOLFGANG SCHWANGHART
University of Potsdam

5:40 p.m. **HERRENHAUSEN GARDEN (UNGUIDED)**

6:30 p.m. Dinner

Festsaal

TUESDAY, JULY 13, 2021

- 9:30 a.m.** **SESSION 4: INFECTION BIOLOGY**
Monoterpenoic acids as potential Achilles heel-targeting arrows in antibiotic treatments
MARKUS BUCHHAUPT
DECHEMA-Forschungsinstitut (DFI),
Frankfurt/Main
- 9:50 a.m.** **Fighting resistant bacteria with their own weapons: β -lactamase-responsive nanogels for selective delivery of antibiotics**
DANIEL KLINGER
Freie Universität Berlin
- 10:10 a.m.** **Chain-transfer agents as an entirely novel class of antibiotics and cytotoxins for the treatment of parasitic infections and malignant tumors**
BERND MOOSMANN
University of Mainz
- 10:30 a.m.** **Plastic as a promoter of bacterial virulence**
ALBERT HAAS
University of Bonn
- 10:50 a.m.** **Coffee Break**
Foyer
- 11:20 a.m.** **SESSION 5: PHYSICAL SCIENCES**
Plasmo-electric Converter (PECo)
LUKA ZURAK, THORSTEN FEICHTNER
University of Würzburg
- 11:40 a.m.** **Finite Projective Geometry of Space-Time-Matter**
KLAUS MECKE
University of Erlangen-Nürnberg
- 12:00 p.m.** **Switchable Contrast Agents for MRI: Entangling Ultrasound and Hydrogen Relaxation**
BENEDIKT KLOBES
University of Applied Sciences
Bremerhaven
- 12:20 p.m.** **Lunch**
Festsaal
- 1:20 p.m.** **SESSION 6: NEUROSCIENCE & COMPUTING**
Look and touch: establishing the first insect model for visually guided reaching
ANNA STÖCKL
University of Würzburg
- 1:40 p.m.** **Metastable neurophysiological processes: A novel framework for understanding thought and action**
CHRISTIAN BESTE
Technical University Dresden
- 2:00 p.m.** **An Analytic Computational Solver for Integer Programming**
ULF FRIEDRICH
Technical University Munich
- 2:20 p.m.** **Visual Scrambler**
ALEXEY PAK
Fraunhofer Institute of Optronics,
System Technology and Exploitation
(IOSB), Karlsruhe
- 2:40 p.m.** **Closing**
PAVEL DUTOW
Program Director,
Volkswagen Foundation
- 2:45 p.m.** **DEPARTURE**
OPTIONAL: HERRENHAUSEN GARDEN (UNGUIDED)