

Invitation and Program

13th IPF Colloquium Smart Polymer Systems

November 22, 2018

Development of smart systems is a major challenge in many fields of technology. Materials research is indispensable in this respect providing fundamentals and opening up new promising paths to future systems.

In the colloquium, both scientists from the IPF and renowned colleagues from outside give an overview of their activities in the field and report on latest approaches and findings – ranging from multifunctional and responsive materials, self-assembly and bioinspired systems, towards theoretical investigations and the development of systems for specific applications e.g. in electronics, microsystems and medicine/bioengineering.

The lectures as well a number of posters shall inspire discussions and give impetus to future research in this interdisciplinary field.

IPF Colloquia have been held since 1994 to highlight fields the institute is engaged in. They are a platform to verify the institute's position in the field, and to intensify scientific exchange and stimulate new collaborations.

The colloquia are supported by the Association of Supporters of the IPF.

Program

- 9:15** **Opening**
Chair: Andreas Fery
- 9:20** **Andreas Walther (Universität Freiburg)**
Autonomous, out-of-equilibrium self-assemblies and material systems with programmable lifetimes
- 9:50** **Brigitte Voit (IPF Dresden)**
Multifunctional and responsive hydrogels as selective compartments and actuators in microfluidic applications
- 10:15** **Igor Kulic (CNRS, ICS, Strasbourg)**
Animated polymers – Wheels and motors within the material
- 10:45** **Julian Thiele (IPF Dresden)**
Design of microscopic polymer materials by droplet microfluidics and additive manufacturing for cell-free biotechnology
-
- 11:10** **Coffee break**
-

Chair: Jens-Uwe Sommer

- 11:30 Mike Hamsch (TU Dresden, cfaed)**
Engineering solution processes for high-performance organic devices
- 12:00 Sven Wießner (IPF Dresden/ TU Dresden)**
Functional elastomeric composites as smart materials
- 12:25 Marina Grenzer (IPF Dresden)**
Versatile photomechanical response of azobenzene polymers

12:50 Break / Lunch buffet

Chair: Carsten Werner

- 13:45 Martin Kaltenbrunner (Universität Linz)**
Bioinspired soft electronics and machines
- 14:15 Yixin Zhang (TU Dresden, B CUBE)**
Electronic conductive hydrogel
- 14:45 Volker Buskamp (TU Dresden, CRTD)**
Engineering functional human neuronal circuits
- 15:15 Franziska Lissel (IPF Dresden)**
Metal centers as functional components in electronic materials

15:40 Coffee break

Chair: Brigitte Voit

- 16:10 Aránzazu del Campo (INM Saarbrücken)**
Engineered living materials
- 16:40 Manfred Maitz (IPF Dresden)**
Adaptive hydrogels to control blood coagulation and inflammation
- 17:05 Elisha Krieg (IPF Dresden)**
Stimuli-responsive DNA-acrylamide copolymers for selective catch and release of molecular targets

17:30 Closing

Then Poster show and discussions

Information and Organization

Venue

Leibniz-Institut für Polymerforschung Dresden e. V.
Hohe Straße 6, 01069 Dresden

Scientific Committee

Brigitte Voit, Andreas Fery, Carsten Werner
(Leibniz Institute of Polymer Research Dresden and
Technische Universität Dresden)

Contact

Kerstin Wustrack
wustrack@ipfdd.de

T: 0351 4658-282

Anne Kubis
kubis@ipfdd.de

T: 0351 4568-367

F: 0351 4658-214

Further information on www.ipfdd.de/coll13