

# Polymer Research

Fascination. Innovation.



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research partner in  
**EU projects**

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The Leibniz-Institut für Polymerforschung Dresden e.V. (Leibniz Institute of Polymer Research Dresden, IPF), as one of the largest polymer research facilities in Germany, participates in different European research projects and aspires to cooperate as partner and as coordinator with other research institutions, universities, industry, SMEs across Europe. IPF has experienced personnel, a well implemented management structure and intensely working transfer networks to handle EU projects.

As an institute of the Leibniz Association, the IPF is committed to carrying out application-oriented fundamental research and receives its basic funding in equal parts from the federal and state governments.

The approach is holistic, covering synthesis and modification of polymer materials, their characterization and theoretical investigation, up to processing and testing. A special feature of the institute's activities is the close cooperation of scientists and engineers and a broad range of modern instruments and methods are available including pilot plants allowing material and technology development under industry-relevant conditions.

The topics dealt with at the institute are highly future-oriented. They include development of materials, technologies, and systems which are crucial to guarantee the strength of Germany's economy also in future and to ensure both quality of living and sustainability. The polymer materials address innovations for further development in, e. g. medicine, transport and mobility, as well as energy efficiency and advanced communication technologies.



### BioSmartTrainee



Training in Bio-Inspired Design of Smart Adhesive Materials

- Coordinator: IPF
- Marie Skłodowska Curie Action, ITN-ETN 2014
- multidisciplinary training for 11 young scientists

**www.biosmarttrainee.eu**  
 contact: Dr. Alla Synytska  
 mail: synytska@ipfdd.de



### FLIPT



Flow Induced Phase Transitions, A new energy paradigm for polymer processing

- FET OPEN 2015 - Research and Innovation Action
  - starting date: 1st September 2016
- contact: Prof. Jens-Uwe Sommer  
 mail: sommer@ipfdd.de

### SNAL



Smart Nano-objects for Alteration of Lipid-bilayers

- Marie Curie Action, ITN 2013
- multidisciplinary training for 14 young scientists

**http://itn-snal.net/**  
 contact: Prof. Dr. Jens-Uwe Sommer  
 mail: sommer@ipfdd.de



### NanoLEAP



Nanocomposite for building constructions and civil infrastructures: European network pilot production line to promote industrial application cases

- Research and Innovation Action, NMP 2014

**www.nanoleap.eu**  
 contact: Dr. Uwe Gohs  
 mail: gohs@ipfdd.de



### METAMECH



Template assisted assembly of metamaterials using mechanical instabilities

- ERC Starting Grant 2012
- contact: Prof. Dr. Andreas Fery  
 mail: fery@ipfdd.de



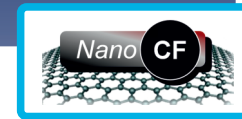
### NanoCF



Tuning the properties of NanoCarbon with Fluorination

- Coordinator: IPF
- Marie Curie Action, IRSES 2013
- research staff exchange between European and international partners

**www.nanocf.eu**  
 contact: Dr. Ulrich Scheler  
 mail: scheler@ipfdd.de



### LASER4FUN



European ESRs Network On Short Pulsed Laser Micro/Nanostructuring of Surfaces

- Marie Skłodowska Curie Action, ITN-ETN 2015
- multidisciplinary training for 14 young scientists

**www.laser4fun.eu**  
 contact: Prof. Dr. Carsten Werner  
 mail: werner@ipfdd.de



### SOMATAI



Soft Matter at Aqueous Interfaces

- Marie Curie Action, ITN 2012
- multidisciplinary training for 14 young scientists

**www.somatai.eu**  
 contact: Prof. Dr. Jens-Uwe Sommer  
 mail: sommer@ipfdd.de



### HYDROZONES



Bioactivated hierarchical hydrogels as zonal implants for articular cartilage regeneration

- large-scale integrating project, NMP 2012
- strategy to regenerate, rather than repair, articular cartilage based on tissues zonal structure and function

**www.hydrozones.eu**  
 contact: Prof. Dr. Carsten Werner  
 mail: werner@ipfdd.de



### COMPLETED PROJECTS

#### LORRY



Development of an innovative low rolling resistance truck tyre concept in combination with a full scale simulation tool box for tyre performance in function of material and road parameters

SST 2012  
 contact: Prof. Dr. Gert Heinrich, mail: gheinrich@ipfdd.de

#### WOOD-FLARETCOAT



Flame-retardant coatings based on nano-magnesium hydroxide, huntite and hydromagnesite for wood applications

SME 2012  
 contact: Prof. Dr. Udo Wagenknecht, mail: wagenknt@ipfdd.de

#### NEPHROTOOLS



The potential of human kidney stem/progenitor cells use in drug discovery and regenerative programme

ITN 2011  
 contact: Prof. Dr. Carsten Werner, mail: werner@ipfdd.de

#### ECNP-GROWTH



Consolidation of the European Centre for Nanostructured Polymers

NMP 2011  
 contact: Prof. Dr. Brigitte Voit, mail: voit@ipfdd.de

#### GENIS Lab



The Gender in Science and Technology Lab

SiS 2010  
 contact: Prof. Dr. Brigitte Voit, mail: voit@ipfdd.de

#### EMBROIDERY



Development of energy efficient/ lightweight composite parts & tooling based on TFP technology/ self heating technology

SME 2010  
 contact: Dr. Axel Spickenheuer, mail: spickenheuer@ipfdd.de

#### ANGIOSCAFF



Angiogenesis-inducing Bioactive & Bioresponsive Scaffolds in Tissue Engineering

NMP 2007  
 contact: Prof. Dr. Carsten Werner, mail: werner@ipfdd.de

#### POCO



Carbon Nanotube Confinement Strategies to Develop Novel Polymer Matrix Composites

NMP 2007  
 contact: Prof. Dr. Manfred Stamm, mail: stamm@ipfdd.de