



**TECHNISCHE
UNIVERSITÄT
DRESDEN**

DRESDEN
concept



DRESDEN-BASED SCIENTISTS ESTABLISH WORLD'S LARGEST RESEARCH PLATFORM FOR FIBRE-BASED HIGH-TECH MATERIALS

An interdisciplinary team consisting of 500 scientists, engineers and technicians from five Dresden-based research institutes is set to jointly tackle a range of topical issues in the fields of fibre research and textiles technology.

The Research Centre for High-Performance Fibres, Structures and Textile Machine Development – or “HP Fibre Structures” – bundles the unique knowledge and expertise Dresden possesses in its role as an outstanding location for research into high-performance fibre- and textile-based materials. The aim of HP Fibre Structures is to develop additive-generatively manufactured, function-integrating textile concepts which can be realized using bespoke or series-ready manufacturing techniques depending on the application involved.

The Dresden-based research centre will blaze a trail for technologies which facilitate research, development and the transfer of results in the fields of materials science, multi-material design, lightweight engineering, sensor/actuator technology and mechanical engineering. Over the next few years, participating scientists aim to design and implement continuous research chains which extend from basic and applied research to the realization of competitive products. The potential offered by near-net-shape materials and structures based on bionic principles in the aforementioned fields is huge, with applications already identified in sectors such as energy and mobility, lightweight engineering, healthcare, architecture/construction and digital communication.

HP Fibre Structures will officially be founded by the Institute of Textile Machinery and High Performance Material Technology (ITM), the Institute of Lightweight Engineering and Polymer Technology (ILK, both TU Dresden), the Leibniz Institute of Polymer Research Dresden (IPF), the Fraunhofer Institute for Material and Beam Technology Dresden (IWS) and the Fraunhofer Institute for Ceramic Technologies and Systems (IKTS) on October 28, 2016.

Prof. Hans Müller-Steinhagen, Rector of TU Dresden, welcomes the new initiative: “All of the institutes involved in this new research centre form part of either TU Dresden or the DRESDEN concept network. This highlights once again that the DRESDEN concept has developed into an extremely dynamic scientific network. In particular, it demonstrates that intensive communication and the resultant trust between network members provides a platform for cooperation and research of the highest order.”

The founding of HP Fibre Structures means that Dresden is now home to the world's largest platform for research into novel, multi-scale, configurable fibre-based material systems for high-tech applications. The heads of the participating organizations – Prof. Brigitte Voit (IPF), Prof. Chokri Cherif (ITM), Prof. Hubert Jäger (ILK), Prof. Eckhard Beyer (IWS) and Prof. Alexander Michaelis (IKTS) – eagerly anticipate this new opportunity to engage in large-scale joint research projects.

The overall portfolio of services offered by the participating research institutes ranges from project planning, design, drive and control technology, material development, the simulation of structures and processes, technology development, measuring technology, material characterization and prototype manufacturing to the development of robust processes, structural testing and recycling.

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from left to right: Prof. Chokri Cherif (ITM), Prof. Hubert Jäger (ILK), Prof. Brigitte Voit (IPF), Prof. Alexander Michaelis (IKTS), and Prof. Eckhard Beyer (IWS)