



CU Innovation Day „Tailored Structures“

on **15th April 2025**

at **Leibniz-Institut für Polymerforschung Dresden e. V. (IPF)**

The CU Innovation Day „Tailored Structures“ focuses on the lightweight design of fiber-reinforced composites with minimal material usage. The aim of the symposium is to promote the use of variable-axial composites with their highly anisotropic properties in relation to the latest advances in the design, manufacture and application of ultra-lightweight structures. In collaboration with international partners from academia, and industry, the fifth edition of the symposium will be held at the Leibniz Institute for Polymer Research Dresden, Germany. The exchange of experts in this field will provide the basis for the sustainable and resource-efficient development of future composite concepts.

The event will be held in English language.

Agenda

08:30 **Get together, warm up, networking**

08:50 **Welcome note and introduction**

Thomas Heber, Composites United

Axel Spickenheuer, Leibniz-Institut für Polymerforschung Dresden e. V. (IPF)

Session 1

Chair: Lars Bittrich, CFS

The future of lightweighting: sustainable materials and innovative manufacturing technologies

09:00 **KEYNOTE: Low-weight concrete structures reinforced with embroidered textiles**

Phillip Preinstorfer, TU Wien

09:30 **Resources conservation through adapted production processes and the use of recycled materials**

Steffen Rittner, HTWK Leipzig

09:50 **Design and manufacturing of sustainable lightweight structures using digitalization and fiber placement**

Stefan Carosella, IFB, University of Stuttgart

10:10 **Novel manufacturing method: variable-axial fiber placement & UV-curing for load-path-adapted composites**

Eckart Kunze, TU Dresden

10:30 **Coffee break, networking**

Session 2

Chair: Patrick Schiebel, FIBRE

Resource efficient variable-axial composites and their applications

11:00 **KEYNOTE: Varied orientation composites at the National Composites Centre**

Ruth Courtney, National Composites Centre Bristol

11:30 **Carbon fiber winding for topological optimized composite structures**

Sarah Steiner, ZHAW

11:50 **Continuous fiber reinforced additively manufactured polymer structures – A component-integrated method**
Sven Meißner, Fraunhofer IWU

12:10 **Design and manufacture of 3D truss-like structures made of CFRP**
Axel Spickenheuer, IPF Dresden

12:30 **Lunch break, networking, and a 20-Minute Lab Tour**

Session 3 *Chair: Stefan Carosella, IFB University of Stuttgart*
Digital manufacturing and automated processes

14:00 **KEYNOTE: Quality improvement in TFP components**
Patrick Schiebel, FIBRE; Eduardo de Menezes, IPF Dresden; Artur Pollet, ISIPOL

14:40 **TFP Technology with the hybrid fiber consisted of novel polyamide/polyimide and carbon fiber**
Keisuke Ito, Mitsubishi Gas Chemicals

15:00 **Advancing tailored fiber structures: addressing software gaps and challenges**
Karthick Selvaraj, BIONTEC

15:20 **New advances in the TFP-specific CAE software tools EDOpath and EDOstructures**
Lars Bittrich, Complex Fiber Structures GmbH

15:40 **Short coffee break, networking**

Session 4 *Chair: Tales de Vargas Lisboa, IPF Dresden*
Resource efficient variable-axial composites and their applications

16:00 **KEYNOTE: Tailor fiber placement for aerodynamic wheel covers - case study**
Jacob Hatherell, Carbon ThreeSixty

16:30 **Transcomp Project - Transparent fiber composite discs**
Martin Hoffmann, Tajima GmbH

16:50 **Functionalization of a CFRP-laminate for the integration in an aluminium die casting process**
Marius Möller, Faserinstitut Bremen e. V.

17:10 **Closing note, networking, open end**

**JOIN
US!**

**COMPOSITES UNITED
INNOVATION DAY**

**15. APRIL 2025
@IPF, GERMANY**



**TAILORED
STRUCTURES**

Location: Leibniz-Institut für Polymerforschung
Hohe Straße 6, 01069 Dresden