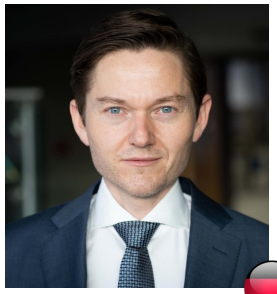
SUMMER SCHOOL 2022

Polymer Science & Engineering

Lecturers



Prof. Dr.-Ing. Holger Ruckdäschel

UNIVERSITÄT BAYREUTH

University of Bayreuth, Germany

Department of Polymer Engineering

Assoc. Prof. Dipl.-Ing. Dr. Martin A. Eder

DTU Denmark Technical University

Technical University of Denmark, Denmark

DTU Wind and Energy Systems / Wind Energy Materials and Components

Prof. Dipl.-Ing. Dr.mont. Reinhold W. Lang

JKU JOHANNES KEPLER UNIVERSITY LINZ

Johannes Kepler University, Austria

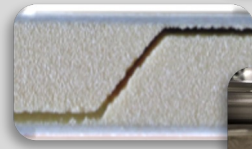
Institute of Polymeric Materials and Testing

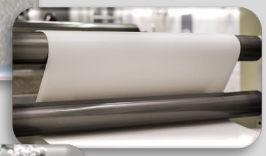
Theoretical Lectures

- Introduction to Polymer Engineering
- Fiber-reinforced polymers
- Composites materials & sandwich structures
- Plastics and sustainable development

Practical Courses

- Mechanical test of sandwich structures
- Production of fiber-reinforced materials
- Batch foaming of polymers
- Extrusion of thermoplastic foils





Industry Tour

- Neue Materialien Bayreuth GmbH

Neue Materialien Bayreuth

SUMMER SCHOOL 2022

Polymer Science & Engineering

Date / Time	Monday, 11th	Tuesday, 12th	Wednesday, 13th	Thursday, 14th	Friday, 15th
09:00 – 10:30	**Introduction to polymer engineering** Prof. Holger Ruckdäschel	**Failure of composite laminates** Assoc. Prof. Martin A. Eder	**Fatigue in composite structures: testing and simulation** Assoc. Prof. Martin A. Eder	**Laboratory Tour: Polymer Engineering Department** M.Sc. Eduardo Szpoganicz	**The evolvement of polymeric materials & plastics in context** Prof. Reinhold W. Lang
10:30 – 10:45	Break	Break	Break	Break	Break
10:45 – 12:00	**Introduction to fiber-reinforced plastics** Prof. Holger Ruckdäschel	**Sandwich theory: Stiffness, stability and strength** Assoc. Prof. Martin A. Eder	**Digitalization in composite structures: State of the art and beyond** Assoc. Prof. Martin A. Eder	**Practical Course: Production of fiber-reinforced materials** M.Sc. Florian Rothenhäusler	**The key-role of plastics in navigating the great transformation** Prof. Reinhold W. Lang
12:00 – 13:30	Break	Break	Break	Break	Break
13:30 – 15:00	**Laminate stiffness & classical lamination theory (CLT)** Assoc. Prof. Martin A. Eder	**Industry tour: Neue Materialien Bayreuth GmbH** Dr. Thomas Neumeyer	**Machine learning applied to polymer science & engineering** Dr. Rodrigo Albuquerque	**Sustainable Development: The BIG picture** Prof. Reinhold W. Lang	**Practical Course: Extrusion of thermoplastic foils** M.Sc. Tim Scherzer
15:00 – 15:15	Break	Break	Break	Break	Break
15:15 – 16:30	**Bending and buckling of composite beams and plates** Assoc. Prof. Martin A. Eder	**Practical course: Mechanical test of sandwich structures** Assoc. Prof. Martin A. Eder/ M.Sc. Eduardo Szpoganicz	**Plastics & Sustainable Development: Setting the stage** Prof. Reinhold W. Lang	**The global energy transition in context** Prof. Reinhold W. Lang	**Practical Course: Foaming of polymers** M.Sc. Huan Long