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in Additively Manufactured Thermoplastic Polyurethanes -- Stefan Brenner: Distortion Compensation of Thin-Walled Parts by Pre-Deformation in Powder Bed Fusion with Laser Beam -- Jens Kortsch-Banzhaf: Investigation of the Thermophysical Properties of Porous Steel Components made by Selective Laser Melting -- Johannes Schmid: Analysis of the Heating Behavior and the Strength of Hot Gas Welded Polyamides with 3D Contours Using an Immersing Nozzle System -- Julius Cronau: Simulation of Lattice Structures with Johnson Cook Material and Damage Model -- Lea Strauß: Effect of Residual Stress, Surface Roughness and Porosity on Fatigue Life of PBF-LB AlSi10Mg -- Michael Ascher: Elastoplastic Characterization of a Two-Component Epoxy-Based Structural Adhesive -- Lucas Schraa: Simulation of Infrared Welded Short Fiber Reinforced Thermoplastic Parts based on Mori-Tanaka Homogenization Method -- Maha Zaghdoudi: Analysis of Heterogeneous Ageing of HNBR O-Rings -- Ondrej Farkas: On the Characterisation and Modelling of the NR-BR Blend Under Harmonic Excitation Considering Self-Heating Effect -- Philippe du Maire: Thermal Katharina Knape: On theWays to Numerically Implement the Two-Time-Scale Approach -- MirnaOsama: Development of Site Calibration Set for Prefixed Wall Transmitters of Environmental Monitoring Systems in Regulated Industries -- Part B: Overview Lectures -- Holm Altenbach: Continuum Mechanics – Material Independent and Dependent Equations -- Andreas Öchsner: Mechanical Behavior of Classical Sandwich Beams -- Leonhard Hitzler: Classical Solidification Structures in Single-Step Metal Additive Manufacturing -- Markus Merkel: Additive Manufacturing as a Key Driver in the Mobility of Tomorrow.

Sommario/riassunto

The postgraduate seminar series on advanced structured materials is designed to facilitate teaching and informal discussion in a supportive and friendly environment. The seminar provides a forum for postgraduate students to present their research results and train their presentation and discussion skills. Furthermore, it allows for extensive discussion of current research being conducted in the wider area of advanced structured materials. Doing so, it builds a wider postgraduate community and offers networking opportunities for early career researchers. In addition to focused lectures, the seminar provides specialized teaching/overview lectures from experienced senior academics. The 2023 Postgraduate Seminar entitled “Advanced Structured Materials: Development - Manufacturing - Characterization – Applications” was held from 20th till 24th February 2023 in Barcelona. The presented postgraduate lectures had a strong focus on polymer mechanics, composite materials, and additive manufacturing.