

WORKSHOP
Innovative Product Development by Additive Manufacturing
September 29, 2026

PROGRAM

08.30	Registration
09.00	Welcome Prof. Dr.-Ing. R. Lachmayer, Leibniz Universität Hannover, IPeG Prof. Dr. D. Kracht, Laser Zentrum Hannover e.V.
09.15 – 10.00	Innovative Design and Optimization Methods I AI-supported workflow in the early phase of SGE - System Generation Engineering: An exploratory study using an additively manufactured medical device Anusch Musawi, Hamburg University of Technology AI-Assisted Automation of Sustainability Assessment for Additive Manufacturing: Bridging Engineering Requirements and Environmental Assessments Rasool Okhovat, TU Berlin Towards Transferable Development of Individualised Additive Manufacturing under Defence Constraints Siddhartha Biswas, University of the Bundeswehr Munich
10.00 – 10.30	Break
10.30 – 11.30	Advanced Additive Manufacturing Processes I A Geometry-Based Evaluation Framework for Laser Powder Bed Fusion Incorporating Beam Shaping Laura Sun, TU Darmstadt Influence of Substrate Heating and Stress-Relief Annealing on the Geometrical Accuracy of PBF-LB/M-Manufactured Ti-6Al-4V IBS Grid Structures Dr.-Ing. Michael Müller, Laser Zentrum Hannover e.V. Influence of Welding Parameters in Laser-Based Directed Energy Deposition on the Manufacturing of Support-Free Bridge Structures Using Embedded Wire Scaffolds Marvin Spengler, University of Applied Sciences and Arts Hannover Investigation of Recycled MAR-M247 Powder Feedstock from Aircraft Engine Scrap and Process Development for Laser-Based Directed Energy Deposition Antonios Giourgias, MTU Maintenance Hannover
11.30 – 13.15	Lunch Break Demonstration and tour in the LZH test field Poster AM2H2

	Poster AM2H2 Material Concept for Additively Manufactured Ammonia Crackers Niclas Zerner, TU Clausthal Development of a hybrid laser system for simultaneous wire and powder deposition Christian Schröder, University of Applied Sciences and Arts Hannover Additive Manufacturing of Graded 316L/IN625 Components for Ammonia Reformers Marco-Nicolas Galati, Laser Zentrum Hannover e.V. Topology Morphing for Wire DED: Optimizing Surface-to-Volume Ratios for Compact Additive Heat Exchangers Kiran Pabha, Laser Zentrum Hannover e.V. Multi-Material PBF-LB Process Development for Ammonia Reactors Ina Meyer, Leibniz University Hannover, IPeG Multi-Objective Optimization of Ammonia Decomposition Reactors Lennart Mesecke, Leibniz University Hannover, IPeG
13.15 – 14.15	Novel Applications of Additive Manufacturing Algorithm-based design of flow channels in high-performance ceramic components Dr.-Ing. Stefan Holtzhausen, TU Dresden A Methodology for Identifying AM Use Cases: Redesign and Validation of a Recurve Bow and Compliant Bicycle Stem Hussein Tarhini, Leuphana University of Lüneburg Functional Stiffness of a Patient-Specific PA12 Ankle-Foot Orthosis Manufactured by Multi Jet Fusion: A Pilot Experimental Study Olha Musiienko, Ph.D., Igor Sikorsky Kyiv Polytechnic Institute From Printed Defects to AR Inspection: Additive Manufacturing as an Enabler of Defect Data Generation for AI-Based Quality Assurance Finn Lukas Budde, Paderborn University
14.15 – 14.35	Break
14.35 – 15.20	Innovative Design and Optimization Methods II A feasibility assessment workbench for orientation-dependent part analysis in metal additive manufacturing Claudius Ellsel, TU Berlin Nesting Trade-Offs in Sinter-Based Additive Manufacturing: Support Minimization vs. Furnace Utilization David Stachg, Hamburg University of Applied Sciences Topology Optimisation-Informed Graded Connectors for Stress Mitigation in Additively Manufactured Lattices Dr.-Ing. Tobias Rosnitschek, University of Bayreuth Comparison of emerging topology optimization methods refined for sinter-based additive manufacturing: An aerospace bracket case study Jaco Beckmann, Hamburg University of Applied Sciences
15.20 – 15.40	Break

15.40 – 16.25	Advanced Additive Manufacturing Processes II Toward Lights-Out FLM Print Farms: Automated Build-Plate Exchange, Cache/Storage, and AI-Based Readiness Inspection Prof. Dr. Marcus Menzel, Ostfalia University of Applied Sciences Physics-Informed Modelling of Substrate Temperature in Large-Format Additive Manufacturing: Single-Operating-Point Feasibility Study and Identifiability Analysis Roberto Seyfert, Fraunhofer IWU Function-Related Energy Efficiency of FFF-Printed PLA Infill Structures under Compressive Loading: An Experimental Comparison of Cross, TPMS-D and TPMS-G Patterns Haoze Wang, TU Ilmenau
16.25	Farwell