

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.-Ing. S. Kaierle, Laser Zentrum Hannover e.V.
09.10 – 10.10	Innovative Design and Optimization Methods I AI-supported workflow in the early phase of SGE – System eneration Engineering using the example of an additively manufactured medical device for urology 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 Open-Source 3D Slicer Module for CT-Based Porosity Analysis of Multi-Material Additive Manufacturing Structures Kateryna Posokhova, Kharkiv National University of Radio Electronics Towards Transferable Development of Individualised Additive Manufacturing under Defence Constraints Siddhartha Biswas, University of the Bundeswehr Munich
10.10 – 10.40	Break
10.40 – 11.40	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 Jan Philipps, Laser Zentrum Hannover e.V. Infuence 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 Evaluation of Closed Loop Material Approach for Sus-tainable L-DED Repair of Aircraft Engine Components Antonios Giourgias, MTU Maintenance Hannover
11:40 – 13.10	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 Dr. 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
13.10 – 14.10	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 Additive Manufacturing as a Disruptive Technology for the Development of the Next-Generation Personalized Medical Devices 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
14.10 – 14.25	Break
14.25 – 15.25	Innovative Design and Optimization Methods II A feasibility assessment workbench for orientation-dependent part analysis in metal additive manufacturing Claudius Ellsel, TU Berlin Design Trade-Offs in Sinter-Based 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
15.25 – 15.40	Break

15.40 – 16.40	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 PINN-Based Feed Rate Extrapolation from Single-Speed Thermography in Large Format Additive Manufacturing Roberto Seyfert, Fraunhofer IWU Experimental Determination and Analysis of Mechanical Properties of Thermoplastic PA-12 Specimens Manufactured by MJF-Printing Method Olha Musiienko, Ph.D., Igor Sikorsky Kyiv Polytechnic Institute 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
16.30	Farwell