

Day 1 (October 8)

Auditorium 1			Auditorium 2		
Hydrogen			Advanced Manufacturing		
8:45 Welcome in the foyer of building V.27					
9:00	T. Neuhauser , T. Ruoff, terranets bw GmbH, Stuttgart, Germany	Hydrogen Pipelines: Optimization of the Fracture Mechanical Assessment by Combining Multiple Inspections Methods	09:00	S. Hoja , Hochschule Aalen, Aalen, Germany	Development of Heat Treatment Processes for Additively Manufactured Aluminum Alloys in Hydrogen-Powered Aircraft
9:25	K. Erxleben , S. Kaiser, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, M. Rhode, BAM, Berlin, Otto-von-Guericke-Universität Magdeburg, A. Kromm, BAM, Berlin, T. Kannengiesser, BAM, Berlin, Otto-von-Guericke-Universität Magdeburg, Germany	Challenges and Difficulties in Repair Welding Procedures on In-service Hydrogen Pipelines	09:25	A. Kulig , Neue Materialien Bayreuth GmbH (NMB), Germany	Improvement of Fatigue Life by Aluminumizing of Additive Manufactured Fe- and Ni-Base Alloy
9:50	S. Fliegerer , Fraunhofer Institute for Mechanics of Materials (IWM), Freiburg, H. Beinke, R. Rennert, SWM Struktur- und Werkstoffmechanikforschung Dresden gGmbH, Germany	Component Design in Hydrogen Environment Using FKM Guidelines	09:50	P. Albrecht , Parare GmbH, Frickenhausen, Germany	Hybrid Additive Manufacturing in LPBF: Potential and Applications
10:15	Communication Break		10:15	Communication Break	
10:35	M. Cauwels , R. Jubica, L. Claeys, R. Depraetere, L. De Pue, S. Hertele, W. DE Waele, K. Verbeken, T. Depover, Ghent University, Zwijnaarde, Belgium	The Role of Hydrogen on the Fracture Micro-Mechanism of Different Pipeline Steels	10:35	G. Graf , Rosswag GmbH, Pfinztal, Germany	Certified AM Pressure Equipment Parts for Fuel Cell Applications
11:00	H. Oesterlin , Fraunhofer Institute for Mechanics of Materials (IWM), Freiburg, Germany	Experimental Investigation of Hydrogen Embrittlement during Low-Cycle Fatigue of X52 Pipeline Steel using Tubular Specimens	11:00	S. Altenburg , Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	SAMMIE - PBF-LB/M Research System for the Development of In-situ Monitoring and Testing Methods
11:25	S.Jung Jung , Robert Bosch GmbH, Reutlingen, Germany	Development of H2-High Pressure Sensor	11:25	B. Stackelberg , Edevis GmbH, Stuttgart, Germany	Thermographic Process Monitoring of Selective Laser Sintering Processes
11:50	D. Rapp , Institute for Materials Testing, Materials Science and Strength of Materials (IMWF) University of Stuttgart, MPA University of Stuttgart, B. Kagay, MPA University of Stuttgart, Germany	Experimental and Numerical Investigation of Hydrogen Effects on Steels for Automotive Applications	11:50	U. Gaitsch , Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM Dresden, Germany	Extremely High Strength MoSiB by PBF-EB
12:15	Communication Break		12:15	Communication Break	
13:45	V. Razumovskiy , C. Posch, P. Hammer, S. Leitner, W. Ecker, Materials Center Leoben Forschung GmbH, Austria	Hydrogen Trapping Across Scales	13:45	S. Periane , Wayland Additive Ltd., Huddersfield, UK	NeuBeam Process Optimisation
14:10	B. Tekkaya , Steel Institute, RWTH Aachen, Germany	Development of a Multiscale Approach to Characterize the HIC Resistance of Pipeline Steels	14:10	H. Seidou, T. Maurizi Enrici, E. Saggionetto, O. Boyugnemez, O. Dedry, J. T. Tchuidjang, A. I. Mertens , University of Liège, Belgium	Microstructure and Corrosion Behaviour of a Modified Si-rich Austenitic Stainless Steel Obtained by Directed Energy Deposition
14:35	K. Druesnes , Norwegian University of Science and Technology (NTNU), Trondheim, Norway	H-CGM+ A Predictive Model for Hydrogen Embrittlement in Metals	14:35	C. Elangeswaran, J. Galle , ValCUN, Ghent, Belgium, M. Käß, MPA University of Stuttgart, Germany	Evaluation of High Strength Aluminum Additive Manufacturing through Molten Metal Deposition: A Single-Step Metal AM/Deposition Process
15:00	N. Damm , D. Scheiber, Materials Center Leoben Forschung GmbH, L. Romaner, Montanuniversität Leoben, V. Razumovskiy, Materials Center Leoben Forschung GmbH (MCL), Austria	The Effect of Precipitate Chemistry on Hydrogen Segregation in Ni-based Alloys - An Ab Initio Study	15:00	J. Dzigan , COMTES FHT a.s., Dobřany, Czech Republic	Interface Engineering for Enhanced Mechanics: A Look at Deposition Order and Heat Treatment in DED-Processed FGMS
15:25	Communication Break		15:25	Communication Break	
15:45	M. Jordt , Saarland University, Chair of Experimental Methodology for Materials Science, Saarbrücken, Germany	Hydrogen Induced Degradation and Efficient Materials Testing	15:45	D. Böttger , Fraunhofer Institute for Nondestructive Testing (IZFP), Saarbrücken, Germany	Soft Sensor Based Multimodal Non-Destructive-Testing System for In-Situ Detection of Ultrafine-Grained Microstructures in 42CrMo4 (AISI4140) During External Longitudinal Turning by Analyzing the Process, Emission and Surface Layer Characteristics
16:10	T. Freitas , F. Konert, J. Nietzke et al., Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	Closing the Gaps Towards the Standardisation of the Hollow Specimen Method for Tests in High-Pressure Hydrogen Gas	16:10	M. Giese , M. Graebner, D. Schroepfer, K. Treutler, T. Kannengiesser, V. Wesling, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	Alloy Modification and Use of Hybrid Milling Processes to Optimize the Machining Situation of Ni-based Wear Protection Claddings with Defined Surfaces
16:35	tbd	tbd	16:35	D. Walz , MPA University of Stuttgart, Germany	Development and Optimization of a Welding Gun for Friction Stir Stitch Welding in Automotive Applications
17:00	M.Smaga , Institute of Materials Science and Engineering (WKK), RPTU Kaiserslautern-Landau, Germany, J. Krzak, Department of Mechanics, Materials and Biomedical Engineering, Wrocław University of Science and Technology, hiPower Institute of Materials, Academic Entrepreneurship Incubator, Poland	H ₂ Barrier Sol-Gel Oxide Coating and Mechanism of Damage during Very High Cycle Fatigue	17:00	L. Dubourg , Stirweld, Rennes, France, S. Kallee, AluStir, Geiselbach, Germany	Automatic Head Changer for Friction Stir Welding
18:00	Evening program at the MPA: Postersession, CvB-Medal, Rosswag Best Poster Award		18:00	Evening program at the MPA: Postersession, CvB-Medal, Rosswag Best Poster Award	

Day 2 (October 9)

Auditorium 1 Energy Revolution			Auditorium 2 Big Data and AI Methods				
8:15 Welcome in the foyer of building V.27							
08:30	Key1	A. Shibli , ETD Consulting, Leatherhead, UK	Power Plant Cost and Performance Analysis When Operating in Base Load and Flexible Operation Modes With Increasing Renewables	08:30	Key1	K. Schütz , StableFlame GmbH, Karlsruhe, M. El-Haji , T. Freudenmann, Al-Based Bunker Management for Thermal Waste Treatment	
09:10		A. Klenk , M. Friedrich, MPA University of Stuttgart, K. Metzger, Grosskraftwerk Mannheim AG, Germany	Power Plant Test Loop to Determine Behavior of Components Under Cyclic Operation Modes	09:10		T. Quentel , A. Bähr, EDI GMBH, Pfinztal, Germany T. Pychynski , Robert Bosch GmbH, Stuttgart, Germany	
09:35		P. Auerkari , Kiwa Inspecta Oy, Vantaa/Tampere, R. Pohja, Aalto University, Espoo, S. Tuurna, S. Toikka, Kiwa Inspecta Oy, Vantaa/Tampere, P. Vilaça, Aalto University, Espoo, Finland	In-service Creep Damage Evaluation of Ageing Plants	09:35		L. Griem , A. Koepe, M. Selzer, Karlsruhe Institute of Technology (KIT), Kadi4Mat: AI Driven Extraction of Structure-Property Linkages from Material Databases B. Nestler , KIT, University of Applied Sciences, Karlsruhe, Germany	
10:00		Communication Break		10:00		Communication Break	
10:20		L. Feng , Shanghai Electric Power Generation Co. Ltd. Turbine Plant, PR of China	Application of Preheating System of Combined Cycle Steam Turbine in Cold Start	10:20		J. A. Zak , Mercedes-Benz AG, Germany	Physics-informed Neural Networks for Aluminium Resistance Spot Welding
10:45		M. Friedrich , A. Klenk, S. Weihe, MPA University of Stuttgart, Germany	Creep-Resistant Fiber-Jacketed Pipes for High-Temperature Applications	10:45		T. Freudenmann , M. El-Haji, T. Quentel, A. Bähr, EDI GmbH, Pfinztal, Germany	LLM-Based Knowledge Management for Joining Connections
11:10		P. Auerkari , S. Tuurna, Kiwa Inspecta Oy, Vantaa/Tampere, R. Rintamaa, Clenercon Oy, Finland	Hydrogen for Energy Solutions - Addressing Gaps	11:10		S. Terliesner , V. Rominger , TRUMPF Laser- und Systemtechnik AG, Ditzingen, M. Stambke, A. Jahn, TRUMPF Laser AG, Schramberg et al., Germany	AI Applications in Laser Material Processing: Breakthroughs and Perspectives
11:35		H. Wang , ETD Consulting, Leatherhead, UK	Use of Hydrogen as the Fuel Mix with Natural Gas in CCGTs - Technical and Cost Issues	11:35		D. Weber , Fraunhofer Institute for Nondestructive Testing (IZFP), Saarbrücken, Germany	Simulation- and AI-Based Support in NDT with Ultrasound
12:00		Communication Break		12:00		Communication Break	
13:30		P. K. Dasari , B. Kagay, MPA University of Stuttgart, L. Frank, Robert Bosch GmbH, Reutlingen, A. Luthle, Siemens Energy Global GmbH & Co. KG, Mülheim, S. Stolz, Ruhr University Bochum, Germany	Influence of Hydrogen and Hydrogen Containing Gas Mixtures on the Mechanical Properties of Austenitic Stainless Steel and Nickel-Base Alloys	13:30		K. Jacob , Fraunhofer IZFP Saarbrücken, Germany	NDE Sensors for Traceability by Material Fingerprints
13:55		A. Bridges , Electric Power Research Institute (EPRI), Charlotte, USA (inquired)	Trends in the performance of heat-resistant alloys produced by directed energy deposition (DED)	13:55		P. Liepold , Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	Crack Segmentation via Convolutional Neural Networks (CNNs) for Vastrestaint Type Tests
14:20		J. Kimmich , Institute for Building Energetics, Thermo Technology and Energy Storage (IGTE), University of Stuttgart Germany	From Design to Reality: Creating High-Performance Heat Exchangers with Additive Manufacturing	14:20		A. Biber , Welding and Joining Institute (ISF), RWTH Aachen, Germany	Methods for Automated Crack Detection of Welded Sheets
14:45		W. Rheinheimer , Institute for Manufacturing Technologies of Ceramic Components and Composites (IMTCCC), University of Stuttgart, Germany	Blacklight Sintering of Ceramics for Hydrogen Applications	14:45		H. Cheng , A. Fezer, MPA University of Stuttgart	tbd
15:10		Communication Break		15:10		Communication Break	
15:30		Departure for the bus - S21-tour and Get-together at Wirtshaus Lautenschlager		15:30		Departure for the bus - S21-tour and Get-together at Wirtshaus Lautenschlager	

Day 3 (October 10)

Auditorium 1 Structural Materials Modelling			Auditorium 2 NDT of Complex Materials				
8:45 Welcome in the foyer of building V.27							
09:00	Key1	U. Wildner , J. Rudolph, Framatome GmbH, Erlangen, Germany	Reliable Corrosion Fatigue Sensitivity Screening in Power Plants	09:00	Key1	M. Kreutzbruck , Institut für Kunststofftechnik (IKT) University of Stuttgart, Germany	Manual NDT or R2-D2: Quo Vadis NDT?
09:40		G. Veile , MPA University of Stuttgart, Germany	Improving Fatigue Testing of AISI 304L Stainless Steel in High Temperature Water Regarding their Complex Hardening and Softening Material Behaviour	09:40		N. Doan, N. Puthiyaveetil , S. Mohammed, K. Juha, VTT Technical Research Centre of Finland Ltd., Espoo, Finland	Advancements in Ultrasonic Detection of Hydrogen Damage: A Comparative Study of different TFM Algorithms
10:05		B. P. Savall , S. M. Seyedpour, N. Grünfelder, T. Ricken, Institute of Structural Mechanics and Dynamics of Aerospace Engineering (ISD), University of Stuttgart, Germany	Mechanical Characterization of Flexible Auxetic Metamaterials under Quasi-Static Conditions: A Combined Numerical and Experimental Study	10:05		J. Ehrler , IKT Universität Stuttgart, Germany	Inspection of Adhesive Bonded Joints Using Air-coupled Ultrasound
10:30	Communication Break			10:30	Communication Break		
10:50		M. Rhode , Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	Component Test for Simplified Testing of Hydrogen-Assisted Delayed Cold Cracking of High-Strength, Submerged Arc-Welded Offshore Steel Structures	10:50		M. Spies , Baker Hughes Digital Solutions GmbH, Frankfurt, Germany	Ultrasound Simulation and Additively Manufactured Test Specimens – Helpful Tools for the Elaboration of Inspection Concepts for Complex Defect Geometries
11:15		N. Grözinger , MPA University of Stuttgart, Germany	Component Tests for Verification of Fatigue Strength Under Medium Conditions	11:15		B. Revaz , Amiquam SA, Gland, Switzerland	Eddy Current Arrays for In-Situ Imaging and Inspection of Parts during Metal PBF-LB AM Processing
11:40		K. Donnerbauer , Chair of Materials Test Engineering (WPT), TU Dortmund University, G. Veile, F. Silber, MPA University of Stuttgart et al., Germany	Fatigue Damage Evaluation of a Metastable Austenitic Steel AISI 347 Pipe After Fluid Structure Interaction Testing	11:40		A. Jüngert , MPA University of Stuttgart, Germany	Acoustic Emission Monitoring of a Laser Powder Bed Fusion Process
12:05		G. Veile , MPA University of Stuttgart, Germany	Investigating Very High Cycle Fatigue (VHCF) Behaviour of AISI 347 and 304L Including their Welds for Reactor Internals at Ambient and Operating Relevant Temperatures	12:05		T. Buchenau , M. Amkreutz, Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM), Bremen, Germany	Advanced Surface Texture Analysis of Metal Additive Components for Innovative Part Qualification Concepts
12:30	Communication Break			12:30	Communication Break		
14:00		P. Gál , P. Dymáček, J. Masák, ÚJV Řež, a. s., Husinec, Czech Republic	Reactor Pressure Vessel Integrity Assessment During Hypothetical Severe Accident	14:00		A. Shibli , ETD Consulting, Leatherhead, UK	Innovations in Inspection and Monitoring Techniques for High Temperature Plants
14:25		U. Weber , MPA University of Stuttgart, Germany	Verification of Potential Conservatism in the Evaluation of Cracks After Neutron Embrittlement	14:25		G. Bruno , Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Institute of Physics and Astronomy, University of Potsdam, Germany	Absorption and Refraction Tomography: Characterization and Non-destructive Testing of Micro-structured Materials
14:50		S. Münstermann , Institute of Metal Forming (IBF), RWTH Aachen, Germany	Considering Stress-State Effects in Cleavage Fracture Modeling	14:50		G.-R. Jaenisch , J. Janczynski, C. Bellon, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	Virtual CT - Simulation of Industrial CT-Systems with aRTist
15:15		M. Hübner , Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, F. Dittmann, Fraunhofer IWM, Freiburg, A. Kromm, BAM, Berlin, I. Varfolomeev, Fraunhofer IWM, Freiburg, T. Kannengiesser, BAM, Berlin, Germany	Effects of Weld Seam Design on the Fatigue Strength of Welded Components with LLT Welding Filler	15:15		M. Smaga , C. Backes, T. Beck, Institute of Materials Science and Engineering (WKK), RPTU Kaiserslautern-Landau, Germany	Nondestructive Magnetic Measurements for the Detection of Microstructure Changes and Fatigue in Steels
15:40	Communication Break			15:40	Communication Break		
16:00		N. Schröder, M. Giese , M. Rhode, T. Kannengiesser, D. Kadoko, J. Kruse, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	Local Strain Behaviour in Cross-Weld Tensile Specimens of Microalloyed Highstrength Steels Using Digital Image Correlation	16:00		A. Schumm , Electricité de France (EDF), Moret-sur-Loing Cedex, France	Structure-informed Ultrasound Imaging – the Horizon Europe Project iWeld
16:25		A. Öbwald , Institute for Materials Testing, Materials Science and Strength of Materials (IMWF) University of Stuttgart, MPA University of Stuttgart, M. Werz, S. Weihe, MPA University of Stuttgart, Germany	Numerical Fatigue Analysis of MAG Weld Ends under Multiaxial Non-proportional Loading Considering Residual Stresses	16:25		M. Lowe , P. Huthwaite, R. Craster, Imperial College London, S. Haslinger, University of Liverpool, UK, F. Shi, Hong Kong University of Science and Technology, PR of China	Prediction of the Amplitude of Ultrasound Reflection from Rough Defects
16:50		W. Heydlauf , ADC Connection Solutions GmbH, Neuhausen a.d.F., Germany	Innovative Bushing Systems for Rotor Blade Connections in Wind Turbines	16:50		M. Keller , J. Pörnbacher, R. Sommerhuber, B. Fischer, XARION Laser Acoustics GmbH, Vienna, Austria	Contact-Free Ultrasound Detection for Quality Control in Battery Manufacturing
17:15	END of MPA Seminar, guided labtours			17:15	END of MPA Seminar, guided labtours		