

Day 1 (October 8)

V27.02 Hydrogen

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
9:25	K. Erleben , 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
9:50	S. Fliegner , 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
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
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
11:25	S.Jung Jung , Robert Bosch GmbH, Reutlingen, Germany	Development of H2-High Pressure Sensor
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
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
14:10	B. Tekkaya , Steel Institute, RWTH Aachen, Germany	Development of a Multiscale Approach to Characterize the HIC Resistance of Pipeline Steels
14:35	K. Druenesnes , Norwegian University of Science and Technology (NTNU), Trondheim, Norway	H-CGM+ A Predictive Model for Hydrogen Embrittlement in Metals
15:00	tbid	tbid
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
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
16:35	S. Stolz , Ruhr University Bochum, Institute for materials	The influence of tensile testing rate upon hydrogen sensitivity in FCC materials
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
18:00	Evening program at the MPA: Postersession, CvB-Medal, Rosswag Best Poster Award	

V31.01 Advanced Manufacturing

09:00	S. Hoja , Hochschule Aalen, Aalen, Germany	Development of Heat Treatment Processes for Additively Manufactured Aluminum Alloys in Hydrogen-Powered Aircraft
09:25	A. Kulig , Neue Materialien Bayreuth GmbH (NMB), Germany	Improvement of Fatigue Life by Aluminumizing of Additive Manufactured Fe- and Ni-Base Alloy
09:50	P. Albrecht , Parare GmbH, Frickenhausen, Germany	Hybrid Additive Manufacturing in LPBF: Potential and Applications
10:15	Communication Break	
10:35	G. Graf , Rosswag GmbH, Pfinztal, Germany	Certified AM Pressure Equipment Parts for Fuel Cell Applications
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	L. Mally , MPA University of Stuttgart, Germany	Physical Twins for Lifetime Evaluation of Safety-relevant Large Components Containing Crack Fields
11:50	U. Gaitzsch , Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM Dresden, Germany	Extremely High Strength MoSiB by PBF-EB
12:15	Communication Break	
13:45	S. Periane , Wayland Additive Ltd., Huddersfield, UK	NeuBeam Process Optimisation
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	C. Elangeswaran, J. Galle , ValCUN, Ghent, Belgium, M. KäB, 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	J. Dzugan , 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	
15:45	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	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	D. Walz , MPA University of Stuttgart, Germany	Development and Optimization of a Welding Gun for Friction Stir Stitch Welding in Automotive Applications
17:00	S. Kallee , AluStir, Geiselbach, Germany, L. Dubourg, Stirweld, Rennes, France	Automatic Head Changer for Friction Stir Welding
18:00	Evening program at the MPA: Postersession, CvB-Medal, Rosswag Best Poster Award	