

Day 3 (October 10)

V27.02

Structural Materials Modelling

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
09:40		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
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
10:30		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
11:15		N. Grözinger , MPA University of Stuttgart, Germany Component Tests for Verification of Fatigue Strength Under Medium Conditions
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
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
12:30		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
14:25		U. Weber , MPA University of Stuttgart, Germany Verification of Potential Conservatism in the Evaluation of Cracks After Neutron Embrittlement
14:50		S. Münstermann , Institute of Metal Forming (IBF), RWTH Aachen, Germany Considering Stress-State Effects in Cleavage Fracture Modeling
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
15:40		Communication Break
16:00		N. Schröder, M. Giese , M. Rhode, T. Kannengiesser, D. Kadoke, 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
16:25		A. Oßwald , 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
16:50		W. Heydlauff , ADC Connection Solutions GmbH, Neuhausen a.d.F., Germany Innovative Bushing Systems for Rotor Blade Connections in Wind Turbines
17:15		END of MPA Seminar, guided labtours

V31.01

NDT of Complex Materials

09:00	Key1	M. Kreutzbruck , Institut für Kunststofftechnik (IKT) University of Stuttgart, Germany Manual NDT or R2-D2: Quo Vadis NDT?
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		M. Keller , J. Pörnbacher, R. Sommerhuber, B. Fischer, XARION Laser Acoustics GmbH, Vienna, Austria Contact-Free Ultrasound Detection for Quality Control in Battery Manufacturing
10:30		Communication Break
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		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		A. Jüngert , MPA University of Stuttgart, Germany Acoustic Emission Monitoring of a Laser Powder Bed Fusion Process
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
14:00		A. Shibli , ETD Consulting, Leatherhead, UK Innovations in Inspection and Monitoring Techniques for High Temperature Plants
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		G.-R. Jaenisch, G. Bruno , J. Janczynski, C. Bellon, Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany Virtual CT - Simulation of Industrial CT-Systems with aRTist
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
16:00		A. Schumm , Electricité de France (EDF), Moret-sur-Loing Cedex, France Structure-informed Ultrasound Imaging – the Horizon Europe Project iWeld
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		J. Ehrler , IKT Universität Stuttgart, Germany Inspection of Adhesive Bonded Joints Using Air-coupled Ultrasound
17:15		END of MPA Seminar, guided labtours