

14th International Fatigue Congress

Funchal, Madeira, Portugal

28th June - 3rd July 2026

<https://ifc14.tecnico.ulisboa.pt/>

IFC14 Program

Program Overview

	Monday 29/06	Tuesday 30/06	Wednesday 01/07	Thursday 02/07	Friday 03/07
8:00-8:30	REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION	
8:30-8:45					
8:45-9:00	OPENING SESSION	PLENARY LECTURE III	PLENARY LECTURE VI		
	PLENARY LECTURE I	PLENARY LECTURE IV	PLENARY LECTURE VII	PLENARY LECTURE IX	
9:00-10:30	PLENARY LECTURE II	PLENARY LECTURE V	PLENARY LECTURE VIII	PLENARY LECTURE X	
10:30-11:00	COFFEE-BREAK	COFFEE-BREAK	COFFEE-BREAK	COFFEE-BREAK	
11:00-12:45	1 A 1 B 1 C 1 D 1 E	4 A 4 B 4 C 4 D 4 E	6 A 6 B 6 C 6 D 6 E	9 A 9 B 9 C 9 D 9 E	CONFERENCE TOUR optional
12:45-14:00	LUNCH	LUNCH	LUNCH	LUNCH	
14:00-15:45	2 A 2 B 2 C 2 D 2 E	5 A 5 B 5 C 5 D 5 E	7 A 7 B 7 C 7 D 7 E	10 A 10 B 10 C 10 D 10 E	
15:45-16:15	COFFEE-BREAK		COFFEE-BREAK	COFFEE-BREAK	
16:15-18:00	3 A 3 B 3 C 3 D 3 E	QUINTA MAGNOLIA MADEIRA WINE 16h30 – 18h30	8 A 8 B 8 C 8 D 8 E	11 A 11 B 11 C 11 D 11 E	
				CLOSING SESSION	
19:00-20:30	WELCOME COCKTAIL NINI DESIGN CENTRE		CONFERENCE BANQUET O LAGAR RESTAURANT		
20:00-23:00					


Remark: Early registration available on Sunday 28/06, 16h30 – 18h00


Technical Program

June 20th, 2026 version





Monday, 29^d June 2026

MON, 08:45 - 09:00	OPENING SESSION	Room Funchal
Welcome to Participants (Conference Co-Chairs) Welcome Address		














MON, 09:00 - 09:45	PLENARY LECTURE I	Room Funchal
The Role of Defects on Fatigue Strength and Modeling of Their Effects with Applications to AM Metals Prof. Ali Fatemi* & Yukitaka Murakami** *Ring Companies Endowed Professor, University of Memphis (USA) **Emeritus Professor at Kyushu University Chair: Luís Reis (IST, Portugal)		

MON, 09:45 - 10:30	PLENARY LECTURE II	Room Funchal
Phase field modelling of fatigue and hydrogen-assisted fatigue Prof. Emilio Martinez-Pañeda Department of Engineering Science, University of Oxford, Oxford (UK) Chair: Alex (Univ. Brasilia, Brasil)		

Monday, 10:30 - 11:00	COFFEE-BREAK	Lounge
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Mon	Session 1A 11:00-13:00	Room Funchal	Mon	Session 1B 11:00-12:45	Room Berlim (1 st floor)	Mon	Session 1C 11:00-12:45	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Meysam Haghshenas - DEFECTS			TOPIC: Symposium I - Numerical simulation of fatigue crack growth Chair: Aleksandar Sedmak; Aleksandar Grbovic; Simon Sedmak			TOPIC: Symposium N - Fatigue Model Verification and Validation – FABER Perspective Chair: Jan Papuga; Kris Hectors; Luís Reis		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
221		Towards Unravelling the Multiscale Nature of Fatigue in Additively Manufactured Metals: Assessing Defects, Residual Stress, and Microstructural Scatter Enrico Salvati, Alessandro Tognan, Marco Pelegatti, Emanuele Avoledo, Jasen Zenzerovic Invited Talk – 30 min	068		Three-dimensional fatigue crack propagation simulation based on a nonlocal algorithm of P91 steel Masayuki Arai, Akihiro Motoki	151		Benchmarking Fatigue Life Estimation: The FABER and FABEST Initiative Jan Papuga
232		From the surface defect population to an efficient fatigue life prediction: effects of defect geometrical characteristics and material variability David Mellé, Etienne Pessard, Franck Morel, Daniel Bellett	107		Influence of an Inclined Notch on Through-Thickness Fatigue Crack Propagation in PRNB Specimens Aimed at Improving Crack-Front Uniformity Darko Damjanovic, Nenad Gubeljak, Josip Stojšić, Andrijana Milinović, Domagoj Opačak	049		Application of the Averaged Strain Energy Density Approach to Variable Amplitude Rotating Bending Fatigue of S690 Steel Kris Hectors, Wim De Waele
345		Mechanical Behaviour and Fracture Characterisation of a WAAM-Produced Tool Steel in the As-Fabricated and Heat-Treated Condition Filipe Esteves, Gonçalo Rosa, Valdemar Duarte, André Ramalho, Eduarda Gomes,	207		Meso-aggregate Model Relating Local and Global Material Properties for Fatigue Analysis Juan Julio Gonzalez-Frias, Jinseok Kim, Daniel Kujawski	150		Coupling Size and Stress Gradient Effects in Notch Fatigue Assessment Jan Papuga, Petr Vaněk, Martin Nesládek, František Fojtík, Marius Müller, Alexander Hasse
322		A universal effect of defect model for various engineering alloys made with additive manufacturing E. Amsterdam, W.W. Wits	349		Peridynamic modeling of corrosion-assisted fatigue and fracture Han Wang, Licheng Guo	222		Artificial Neural Networks in Fatigue Modeling: Challenges in Validation and Engineering Interpretation Marohnić Tea, Basan Robert, Cernescu Anghel-Vasile
054		Fatigue behavior of 3D-printed metals: bulk, lattice and hybrid structures Yoshihiko Uematsu	451		Numerical simulation of fatigue crack growth in AA2024 T6 stringer panels Aleksandar Sedmak, Aleksandar Grbovic, Đorđe Zrnić	057		A novel temperature field reconstruction method for multi-pass welding simulation A.A. Akay, K. G. F. Janssens
305		Fatigue damage tolerance and defect-based lifetime of additively manufactured metals S. Stammkoetter, P. Karentzopoulos, S. Mrzljak, F. Walther	403		Phase-field modeling of fatigue life for SLM-fabricated Ti6Al4V alloy: synergistic effect of defects and microstructure Zhongwen Tao, Hao Xin, Xiaofan He	180		A novel variable amplitude fatigue crack growth model applied to fatigue damage accumulation E. Amsterdam
		Invited Talk – 30 min	411		Peridynamic Analysis of Stop-Hole Effects on Fatigue Crack Growth in Aerospace Structures Mehmet Dördüncü, Hasan Hüseyin Camuz, Uğur Altay, Erdogan Madenci	429		Methodology for Real-Time Remaining Fatigue Life Estimation: From Deterministic to Probabilistic Models D. Díaz-Salamanca, M. Muñiz-Calvente, A. Cebada-Relea, E. Martínez-Puente, M. López, I. Llavori, M. Aenlle
						487		From Collaborative Network to Research Infrastructure: A Vision for FABER in Fatigue Benchmarking and Lifetime Engineering Theo Zacharis, Jan Papuga

Monday, 12:45 - 14:15	LUNCH	Restaurant
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Mon	Session 1D 11:00-12:45	Room Paris (1 st floor)	Mon	Session 1E 11:00-12:45	Room Lisboa
TOPIC: Emerging materials and advanced manufacturing Chair: Luís Borrego			TOPIC: Symposium J - Very High Cycle Fatigue: Experimental methods, specimens and machines, and damage mechanisms Chair: H. Mayer; Pedro Costa; Ulrich Krupp; Eberhard Kerscher		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
311 	Tracking Fatigue Damage Evolution in AISI 4140 Using Magnetic Barkhausen Noise for Non-Destructive Machine Learning–Based Remaining Useful Life Estimation Mehdi Khabou, Volker Schulze, Stefan Dietrich		024 	Reliability of additively manufactured martensitic and precipitation-hardenable steels under very high cycle fatigue loading Sebastian Schettler, Sebastian Schoene, Leonhard Stampa, Martina Zimmermann	
169 	Fatigue Life Prediction Methodology for Welded Joints Considering Residual Stress Relaxation Xiaogang Liu, Qiang Hu, Jinhong Li		199 	Very-high-cycle fatigue (VHCF) predictions in the presence of mean stresses and non-metallic inclusions J.A. Araújo, M.V. Pereira	
473 	FEM analysis of the threaded sleeve with the compressed air tank Tadeusz Smolnicki, Paweł Maślak		121 	Fatigue behavior of a maraging steel under multiaxial ultrasonic loading: crack initiation mechanisms and dissipative effects Nicholas Lemos de Carvalho, Cainã Bemfica de Barros, Cédric Doudard, Loïc Dimithe	
390 	Raster angle effects on creep and low-cycle fatigue behaviour of FDM 3D-printed polymers I. S. Silva, K. Sales de Oliveira, A. C. Santos, T. Doca		164 	Order-of-Magnitude Enhancement in VHCF Life of Bearing Steel Enabled by Tailored Deformation Compatibility Binxun Xu, Tengyuan Liu, Zhonghua Jiang, Pei Wang, Dianzhong Lia	
350 	Effect of Heat Treatment on the Tensile Properties and Fatigue Life of Explosion-Welded Zr–Steel Bimetallic Composites Mariusz Prazmowski, Aleksander Karolczuk, Henryk Paul		170 	VHCF of QT steel in hot hydrogen M. Fitzka, B.M. Schönbauer, J. Vaara, T. Frondelius, H. Mayer	
442 	Vibration fatigue assessment method for high-speed service-damaged axle Feifei Hu, Junjiang Liu, Yizhong Ma, Feng Kang, Shengchuan Wu		395 	Quantification of the influences of composition and microstructure on the mechanisms of FGA formation in quenched and tempered steels by in situ testing and high-resolution analysis Praveen Velliyangiri, Marion Kreins, Ulrich Krupp	
484 	Fatigue and Fracture Performance of Additively Manufactured Ti-6Al-4V via Laser Powder Directed Energy Deposition Nikolaos D. Alexopoulos, Ioannis Goulas, Alexis Kermanidis, Denys Zhumar, Olena Karpovych, Yevhen Karakash, Olexandr Grydin				















Monday, 12:45 - 14:15	LUNCH	Restaurant
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Mon	Session 2A 14:15-16:15	Room Funchal	Mon	Session 2B 14:15-16:00	Room Berlim (1 st floor)	Mon	Session 2C 14:15-16:00	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Nima Shamsaei – NON-FERROUS ALLOYS (I) NICKEL			TOPIC: Symposium I - Numerical simulation of fatigue crack growth Chair: Aleksandar Sedmak; Aleksandar Grbovic; Simon Sedmak			TOPIC: Symposium F - Fatigue and Fracture of Weldments Chair: Mauro Madia; Igor Varfolomeev		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
008		Defect-Microstructure Interplay in Fatigue Crack Formation of PBF-LB IN718 Richard W. Neu Invited Talk – 30 min	420		A Peridynamic Framework for Fatigue Damage Prediction in Composites under Constant and Variable Amplitude Loading Erdogan Madenci, Atila Barut, Amin Yaghoobi	196		Effect of Welding Pressure on Microstructure and Properties of Linear Friction Welded Joints of 7050-T7451 Aluminum Alloy Xinwei Wang, Chuanchen Zhang, Ju Li
182		Understanding the effect of skin removal on total fatigue life in LPBF AISi10Mg parts for accurate life prediction Ninian Sing Kok Ho, Tong Liu, Yi Zhou, John Hock Lye Pang	447		Prediction of Critical Defect Size in Additively Manufactured AISI 316L Using a Coupled Peridynamic – Chappetti Fatigue Model Luka Ferlič, Nenad Gubelj, Erdogan Madenci, Mirco D. Chappetti, Filip Jerenec	204		A Dynamic Bayesian Network Framework for Fatigue Life Prediction of Welded Connections Caroline Correa de Faria, Cláudio Carlos da Silva Horas, Túlio Nogueira Bittencourt
109		Influence of Heat Treatment and Hot Isostatic Pressing on Fatigue Strength of Additive Manufactured Inconel 718 Janine Wischek	448		Fatigue Crack Growth Prediction in AISI 316L Using a Peridynamic KTF Approach Filip Jerenec, Nenad Gubelj, Erdogan Madenci, Luka Ferlič	236		On the use of Thermoelastic Stress Analysis for fatigue crack growth modelling Lorenzo Bercelli, Bruno Leveil, Cédric Doudard, Sylvain Calloch, Florent Bridier
209		In-situ optical tomography and fatigue of PBF-LB IN718 Jinghao Xu, Arda Baytaroglu, Dmitri Riabov, Emmy Cao, Mattias Calmunger, Mats Delin, Lars Nyborg	449		Fatigue crack growth in a torque link simulated by SMART Aleksandar Grbovic, Nikola Raicevic, Aleksandar Sedmak, Gordana Kastratovic, Nenad Vidanovic	334		Weld Metal Axial and Torsion Deformation and Fatigue Properties and Predictions for Durability Analysis of Weldments Tarek M. Diab, Ahmad Razi, Ali Fatemi
263		Effect of wall thickness on the multiaxial fatigue of additively obtained tubular IN718 specimens B. Bouzid Souihli, N. Saintier, O. Ciobanu	450		Fatigue crack growth in hip implants – numerical analysis by FEM Simon Sedmak, Katarina Colic, Aleksandar Sedmak, Tamar Smoljanic	404		Environmental Effect on Fatigue Behaviour of FSW Joints For Battery Packs Rodrigo J. Coelho, André Dias, Beatriz Silva, Carolina Francisco, Tiago Domingos, Pedro Sousa, Paulo J. Tavares, Daniel Braga, Pedro M.G.P.
026		Can the plain S–N behaviour and uniaxial/multiaxial notch fatigue strength of additively manufactured metals be estimated? Luca Susmel	367		On the Consistency of Numerical Fatigue Crack Growth Increments with Plastic CTOD Evolution in 2D Numerical Simulations Jose Sandino-Egea, Antonio Gonzalez-Herrera, Daniel Camas, Jose Garcia-Manrique	415		The ENLO-SED Large-Scale Shell-Element Models for Predicting the Strain Energy Density (SED) of Welded Joints Lucertini, G. Morettini, F. Cianetti
		Invited Talk – 30 min.	423		Three-Dimensional Numerical Study of Load Influence on the Evolution of Plastic CTOD in CT Specimens under Cyclic Loading Jose Sandino-Egea, Alonso Camacho-Reyes, Jose Garcia-Manrique, Daniel Camas	418		Influence of Hydrogen-Induced Embrittlement on the Fatigue strength of 316L Stainless-Steel Welded Joints M. António, J.S. Jesus, L.P. Borrego, L. Vilhena, R. Branco, J. D.M. Costa, J.A.M. Ferreira

Monday, 16:00 - 16:30	COFFEE-BREAK	Lounge
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Mon	Session 2D 14:15-16:00	Room Paris (1 st floor)	Mon	Session 2E 14:15-16:00	Room Lisboa
TOPIC: Symposium C - Research into the fatigue life of materials and components in cooperation between companies, research organisations and academia Chair: Miloslav Kepka; Vladimir Chmelko			TOPIC: Symposium J - Very High Cycle Fatigue: Experimental methods, specimens and machines, and damage mechanisms Chair: H. Mayer; Pedro Costa; Ulrich Krupp; Eberhard Kerscher		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
053 	Optimization of the Warm Peening Process for Inductive Hardened Samples of C55 using the Concept of Local Fatigue Strength Benjamin Dollhofer, Stefan Dietrich, Volker Schulze, Philipp Reeh, Stefano Bucci, Vallentina Dellaca, Marcel Egger, Ilaria Torquati, Ainhoa Errasti		241 	Ultrasonic fatigue testing of single-phase materials with elastic-plastic and metastable materials behavior in the VHCF regime Marek Smaga, Elen Regitz, Tilmann Beck	
093 	Probabilistic approach to fatigue life estimation of bus components, including elimination of fatigue failures based on service loading analyses Miloslav Kepka, Miloslav Kepka jr., Jaroslav Vaclavik		266 	Fatigue analysis and prediction with applied work energies Hyung-Jun Chang, Flavien Ghiglione	
094 	Fatigue tests of railway structures and components made of steel and composites Jan Chvojan, Miloslav Kepka, Miloslav Kepka jr., Vaclav Kraus		277 	Heat dissipation and entropy accumulation in a polymer matrix composite under cyclic three-point bending at low and ultrasonic frequencies Aravind Premanand, Hanna Schimmelpfeng, Frank Balle	
116 	Development and Implementation of a High-Resolution, Full-Field, Near-Bore Digital Image Correlation (DIC) Process to Capture the Strain Response of the Split Sleeve Cold Expansion (SsCxTM) Process Scott Carlson, Dave Backman, Milan Djordjevic, James Prather		278 	Challenges in specimen and experimental design for on- and off-axis fatigue testing of a polymer matrix composite at low and ultrasonic frequencies Aravind Premanand, Hanna Schimmelpfeng, Frank Balle	
156 	Multiaxial fatigue of polymeric pressure sheaths for oil and gas applications: a case study on polyvinylidene fluoride (PVDF) using the Fatemi–Socie criterion - Tiago Lima Castro, Camila Alves Farias, Celio Albano da Costa		317 	Ultra-High Cyclic Fatigue of Nanobainitic Steels Bali Nagya Regmi, Eberhard Kerscher	
158 	Effect of hydrogen concentration and pressurized hydrogen environment on the fatigue behavior of Inconel718 L-PBF at room and intermediate temperatures D. Tade, V. Bonnard, A. Marano, X. Feaugas, A.		377 	VHCF four-point bending test system design and improvement Martin Bartelt, Sebastian Heimbs	
165 	Process–Structure–Fatigue Relationships in MIM 17-4PH: From Porosity to δ -Ferrite Tobias Hajeck, Christian Weck, Alexander Bezold, Christoph Broeckmann		400 	An Innovative Ultrasonic Fatigue Test towards the Characterization of Lap Joint Adhesives in Shear Catarina Faria, Pedro R. da Costa, J. Henrique Lopes, Rosemere Lima, Luís Reis	

Monday, 16:00 - 16:30	COFFEE-BREAK	Lounge
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Mon	Session 3A 16:30–18:30	Room Funchal	Mon	Session 3B 16:30–18:30	Room Berlim (1 st floor)	Mon	Session 3C 16:30–18:30	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Stefano Beretta - NON-FERROUS ALLOYS (II) ALUMINUM			TOPIC: Symposium B - Advances in Offshore Renewable Energy Chair: Mário Vieira			TOPIC: Symposium F - Fatigue and Fracture of Weldments Chair: Mauro Madia; Igor Varfolomeev		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
153 	Cold Spray Solid-State Deposition of AA7075 on Magnesium: Residual Stress and Fatigue Performance Hamid Jahed, Bahareh Marzbanrad, Sugrib Shaha, Siavash Borhan-Dayani, Jie Wang Invited Talk – 30 min.		047 	NOFM: A Physics-Augmented Neural Operator for Zone-Resolved Fatigue Life Prediction in Grade R4 Mooring Chain Weldments Alejandro Fernández de Castro, Melih Kandemir, Halid Can Yıldırım		078 	Fracture-Mechanics-Based Fatigue Life Assessment of Butt-Welded Joints: A Comparison of Standard-Based, Analytical, and Numerical Approaches Antoni Artinov, Mauro Madia, Andreas Pittner, Aayush Askhedkar, Eglá Bregu, Thomas Kannengießer, Matthias Baeßler	
082 	Effects of Surface Finish and Post-Processing Heat Treatment on the Fatigue Performance of AM AISi10Mg Martin Matušů, Bastian Roidl, Jan Papuga, Jakub Rosenthal, Jürgen Koch, Feng Chen, Wolfgang Blöchl, Martina Koukolíková & Vladimír Mára		202 	Supporting the construction and wet-storage of concrete-manufactured platforms for floating offshore wind using advanced finite element simulations Arjun Janardhanan, Tiago Mota, Mário Vieira		128 	Numerical Modelling of the Influence of Shot Peening on the Fatigue Performance of Welded Joints G. Cortabitarte, I. Llavori, M. Larrañaga, J.A. Esnaola, X. Telleria, I. Ulacia	
105 	Mechanical Behaviour of Thin-Walled AISi10Mg Specimens Fabricated by Laser Powder Bed Fusion S. Cravo, V. Duarte, C. Santos, R.F. Martins, R.A. Claudio		212 	Real-Time Structural Performance Estimation of Concrete-Based Floating Offshore Wind Platforms Using Inertial Loads in Finite Element Analysis Ricardo Pinto, Mário Vieira, Tiago Mota, Luís Reis		157 	Microstructure-Driven Variability in Probabilistic Fatigue Crack Growth Analysis of Welded Structural Steel Joints Kamal Harb, Julien Baroth, Rafael Estevez, Arnaud Isaac, Vincent Michaud	
347 	Surface defect driven fatigue lifetime prediction for additively manufactured titanium alloy miniature components Yixuan Hou, Xiaoqin Zhou, Qiang Liu, Talemi Reza		252 	Integrated Cellular Automaton and Progressive Damage Analysis for Corrosion Fatigue Life Prediction in Marine Environment Rui Deng, Xuejiao Chen, Yifei Deng, Chi Hou, Meiyang Zhao		160 	Fatigue strength assessment of full-scale arc-welded steel booms for agricultural trailed sprayers using the Peak Stress Method Filippo Coppola, Davide Della Volpe, Andrea Ruffin and Giovanni Meneghetti	
083 	Fatigue Performance of L-PBF Nickel-Based Superalloy: Effects of Surface Finish and Mean Stress Bastian Roidl, Martin Matušů, Jakub Rosenthal, Ivana Zetková & Miroslav Zetek		167 	Structural Simulation of a Concrete-Based Floating Offshore Wind Platform under Hydrodynamic and Aerodynamic Loadings Luís Carrasco, Mário Vieira, Tiago Mota, Luís Reis		166 	Multiaxial fatigue strength assessment of dissimilar GJ500-7 ductile iron-to-S355 steel arc-welded joints according to the Peak Stress Method S. Bolner, A. Campagnolo, A. Visentin, G. Meneghetti	
034 	Ultrasonic Fatigue and Crack Initiation Mechanisms in LPBF Cu–30Ni Meysam Haghsheenas Invited Talk – 30 min.		342 	Multiaxial fatigue evaluation of mooring chains Eguzkiñe Martínez-Puente, Iñigo Llavori, Alaitz Zabala, Jon Ander Esnaola, Markel Penalba		168 	The Peak Stress Method applied to the fatigue characterization of dissimilar arc-welded AISI 316L joints made of additively manufactured and wrought plates L. Contiero, L. Vecchiato, A. Campagnolo, V. Babini, G. Meneghetti	
			405 	Experimental fatigue assessment of carbon fiber–reinforced polyvinylidene fluoride (CF/PVDF) composites for offshore flexible pipe applications Tiago Lima Castro, Geovane de Almeida da Silva, Camila Alves Farias, Gabriela Ribeiro Pereira, Marysílvia Ferreira da Costa, Celio Albano da Costa		185 	A new fatigue damage evaluation for multiaxial variable amplitude fatigue lifetime assessment of steel welded joints according to the Peak Stress Method Alberto Campagnolo, Alberto Visentin, Giovanni Meneghetti	
			438 	Development of fatigue load spectra for FOWT moorings based on crack growth Abhemanyu P C, Bjørn.H.Skallerud, Gunnstein.T.Frøseth		059 	Crack tip detection algorithms based on DIC displacement field analysis A. Camacho-Reyes, D. Camas, B. Moreno, P. López-Crespo, J.M. Vasco-Olmo, F.A. Diaz	

Mon	Session 3D 16:30-18:30	Room Paris (1 st floor)	Mon	Session 3E 16:30-18:30	Room Lisboa
TOPIC: Symposium C - Research into the fatigue life of materials and components in cooperation between companies, research organisations and academia Chair: Miloslav Kepka; Vladimir Chmelko			TOPIC: Symposium J - Very High Cycle Fatigue: Experimental methods, specimens and machines, and damage mechanisms Chair: H. Mayer; Pedro Costa; Ulrich Krupp; Eberhard Kerscher		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
206 	Robotic 3D printing of continuous flax fibers composites Zouheyr Belouadah, Marcelo Tanglao, Ahmed Sarwar, Toubal Lotfi, Donatus Oguamanam, Habiba Bougherara		402 	Very high cycle fatigue of high strength steels applied to aeronautic rolling bearings Hugo Behlal, Daniel Nélías, Naim Naouar, Jean-Baptiste Coudert, Arnaud Ruellan, Geoffray Deterre	
211 	Rapid estimation of fatigue limit in metallic materials using thermographically instrumented cyclic tensile tests: experimental framework and perspective Lydia Sadeg, Arnaud Duchosal, Guillaume Altmeyer		409 	On the fatigue crack growth rate threshold in the very high cycle fatigue regime Bernd M. Schönbauer	
213 	Defect tolerance of thick high-strength steels for truck chassis assessed by fatigue notch sensitivity and fracture toughness - Sergi Parareda, David Frometa, Daniel Casellas, Henrik Sieurin		432 	Very high cycle fatigue properties of thin steel sheets Afshin Khatammanesh, Christina Mamagkinidou, Suraj S. More, Martin Rester, Maximilian Prunbauer, Michael Proschek, Bernd M. Schönbauer	
216 	Effect of Environment on Fatigue Crack Growth in High Strength Steels Monisha Manjunatha, Tugrul Comlekci, Yevgen Gorash & Donald Mackenzie		441 	Gas pore-based fatigue strength and fatigue life prediction models of laser additive manufactured Ti-6Al-4V alloy in very high cycle fatigue regime Guanze Sun, Zihua Zhao	
220 	Assessment of crack closure during fatigue crack growth under large scale yielding and negative strain ratio Théotime Asselin, Olivier Ancelet, Valery Valle, Florence Hamon, Guillaume Benoit, Gilbert Hénaff		453 	Effect of heat treatment on very high cycle rotating bending fatigue properties of rail steel Noriyasu Oguma, Mitsuru Hosoda, Jun Mizutani, Tadashi Deshimaru	
246 	Fatigue Performance of the New Leaf Spring Steel 45SiCrV9Ni for Applications in Battery Electric Vehicles Niki Nouri, Christos Gakias, Borja Escauriaza, Javier Isach, Roberto Elvira, Georgios Savaidis, Stefan Dietrich, Volker Schulze		460 	Damage detection in ultrasonic very high cycle fatigue testing by analysing vibration properties Lopes, J. H.; Fitzka, M.; R. da Costa, P.; Schönbauer, B.; Mayer, H.; Reis, L.	
249 	Influence of the Surface Hardening Depth on the Tooth Root Fatigue Strength of Induction Hardened Sintered Steel Gears Moritz Klug, Stefan Dietrich and Volker Schulze		025 	Thermoelasticity-based full-field fatigue damage identification Janko Slavič, Klemen Zaletelj, Jaša Šonc	
254 	Behaviour of an Aeronautical Component Produced by PBF-LB/M Ricardo Cláudio, Tiago Alves, Pedro Pêcego, Rodolfo L. Batalha, Paulo Moita, Pedro Rendas, Susana Cravo, Ana Ferramacho, Carla Ferreira, Luís Reis, Anibal Valido		124 	Investigations into influencing factors on the VHCF behavior of ship propeller materials under seawater exposure Lea Riess, Christopher Benz, Lars Radtke	

Monday, 19:00 - 20:30

WELCOME COCKTAIL

Funchal, "DESIGN CENTER – NINI ANDRADE SILVA"



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Tuesday, 30 June 2026

TUE, 08:30 - 09:10	PLENARY LECTURE III	Room Funchal
Achieving the highest fatigue strength in metals Prof. Zhefeng Zhang Division head of Materials Fatigue and Fracture; Institute of Metal Research (IMR) Chinese Academy of Sciences (CAS) Chair: Luca Susmel (Sheffield Hallam University, UK)		














TUE, 09:10 - 09:50	PLENARY LECTURE IV	Room Funchal
Fretting fatigue life in complex loading conditions, experiments and modelling Prof. Sylvie Pommier Professeure des Universités à l'Ecole Normale Supérieure Paris-Saclay Chercheuse au laboratoire de Mécanique Paris-Saclay (LMPS) Chair: Manuel Freitas (Universidade Atlântica, PT)		

TUE, 09:50 - 10:30	PLENARY LECTURE V	Room Funchal
The Use of Light as Surface Technology to extend Fatigue Life in Aerospace Industry - The Residual Stress Engineering from Historical Review, current Applications and Future Prospective Dr. Domenico Furfari Airbus Operations GmbH, Kreetslag 10, 21129 Hamburg, Germany Chair: Gilbert Hénaff (Institute Prime, Université de Poitiers, France)		




















Tuesday, 10:30 - 11:00	COFFEE-BREAK	Lounge
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Tue	Session 4A 11:00-13:00	Room Funchal	Tue	Session 4B 11:00-12:45	Room Berlim (1 st floor)	Tue	Session 4C 11:00-12:45	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Jean-Charles Stinville – THEORY & MODELING			TOPIC: Symposium D - Laser Peening and Related Residual Stress Engineering Processes for Fatigue Improvement Chair: Yuji Sano – Industrial Applications			TOPIC: Advanced modelling, simulation, and life prediction methods Chair: Sylvie Pommier		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
048 	Spatial Encoding of Microstructure and Plasticity for Data-Driven Fatigue Properties Prediction and Governing Mechanisms identification of AM microstructure M.Calvat, D. Anjaria, J.C. Stinville Invited Talk – 30 min.		117 	Scott Carlson (Lockheed Martin): Qualification & Implementation of Laser Peening on F-35 Fatigue and Fracture Critical Structure		259 	Force–Heat Equivalence Energy Density Principle and Its Application to the Characterization of Material Fatigue and Fracture under Extreme Conditions Weiguo Li	
335 	Numerical study on the defects and surface condition competition affecting the fatigue strength of L-PBF 316L steel, assessed by means of synchrotron X-ray tomography Marion Auffray, Camille Burton, Franck Morel, Linamaria Gallegos Mayorga					271 	Investigating the correlation between wear and fatigue properties of cryogenically treated tool steel Vanadis 4E using cyclic indentation testing F. Tadross, R. Walther, J. Heidrich, S. Winter, M. Smaga, T. Beck, B. Blinn	
214 	Application of the DCPD technique to monitor crack propagation from volumetric CAD-seeded defects in PBF-LB Scalmetalloy® - Luca Mariotti, Andrea Zanon, Stefano Beretta, Luca Patriarca		136 	Qiang Fu (Airbus): Managing Residual Stresses to improve Fatigue Performance in Airframe Structures with the use of Numerical Simulations		018 	Fatigue Evaluation of Fuel Cladding Considering Pellet–Clad Interaction Min Jeong Park, Dong-Hyun Kim, Yoon-Suk Chang	
224 	Statistical average strain energy density method applied to a computational efficient finite element framework to estimate lattice structure fatigue resistance Raffaele De Biasi, Simone Murchio, Matteo Benedetti, Filippo Berto		135 	Jonas Lehmann (Leuphana Uni): Fatigue Crack Propagation under Different Residual Stress Modification Techniques: A Comparative Study of Deep Rolling, Hammer Peening, and Laser Shock Peening		019 	Computational Prediction of Total Fatigue Life with An Integrated Approach Siqi Li, Rong Liu, Zhong Zhang, Xijia Wu	
273 	Geometrical Considerations for Fatigue of Laser-Based Powder Bed Fusion Metal Components Aloysius Tay, Ninian Sing Kok Ho, Yi Zhou, Zhen Lu, Alexander ZhongHong Liu, Mohsen Seifi, John Hock Lye Pang		343 	Che Zhigang (AVIC): Performance of Aluminum alloys components of preventive treatment by laser peening		021 	A probabilistic-dynamic fatigue life prediction framework for SLM alloys based on extreme defect statistics and natural frequency degradation Yuqi Yang, Haibiao Yin, Piao Li, Weixing Yao	
301 	Dislocation Glide Theories (CRSS) Relevant to Fatigue Huseyn Sehitoglu Invited Talk – 30 min.		361 	Nadezhda Likhareva (Hereon): Fatigue life extension of refill friction stir spot welded AA6082-T6 joints using laser shock peening		031 	Stop-Drilling Fatigue Cracks Under Load Hooman Pakdaman, Derek Warner, K.T. Ramesh	
						040 	Nanocomposite Conductive Tough Hydrogel Based on Metal Coordination Reinforced Covalent Pluronic F-127 Micelle Network for Human Motion Sensing Zhicheng Dong, Xiaopeng Wan	

Tuesday, 12:45 - 14:15	LUNCH	Restaurant
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Tue	Session 4D 11:00-12:45	Room Paris (1 st floor)	Tue	Session 4E 11:00-12:45	Room Lisboa
TOPIC: Symposium K - Mechanism-based fatigue analysis including AI approaches Chair: Frank Walther			TOPIC: Fatigue mechanisms and crack propagation Chair: Gilbert Henaff		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
113 	An Incremental learning-driven few-shot method for predicting fatigue life of AA7050-T7451 aluminum alloy Xuejiao Chen, Rui Deng, Chi Hou, Meiyong Zhao		002 	Cyclic deformation mechanisms of a 3D-printed high-entropy alloy D. Bajaj, A.H. Feng, S.J. Qu, D.Y. Li, and D.L. Chen	
282 	Data-Driven Life Prediction for Thermomechanical Fatigue: From Material Specimens to Industrial Structures Fabien Szmytka, Baris Telmen, Agathe Forré		003 	On the Role of Hydrogen in Plasticity Mechanisms Associated with Cyclic Creep of a 304L austenitic stainless steel A. Radi, S. Park, A. Oudriss, P. Osmond, G. Girardin, F. Lefebvre, H. Matsunaga, X. Feaugas	
295 	A Hybrid Structural Mechanics and Genetic Algorithm Method for Analyzing Local Stresses in Cracked Welded Plate Joints Liuyang Feng, Tao Suo, Xudong Qian		009 	Crack Growth Behavior of Microstructurally Graded PBF-LB/M Austenitic Steel Components Nico Möller, Florian Loebich, Thomas Wegener, Julia Richter, Jens Gibmeier, Thomas Niendorf	
313 	Machine learning-based fatigue crack path evaluation in high-speed steel J. Zitz, L. Walch, T. Klünsner, G. Ressel, A. Hohenwarter, S. Marsoner, M.J. Cordill, A. Hackl, R. Pippan, C.O.W. Trost		010 	Stress Scaling of Initiation Life Anthony D. Rollett	
426 	Modeling fatigue crack growth using machine learning B. Moreno, P. Caballero de Leiva, I. Gonzalez-Tiviño, A. Camacho		011 	Advances toward a comprehensive understanding of fatigue induced crack initiation mechanisms in f.c.c. alloys: influence of plastic strain localization and hydrogen content X. Feaugas, A. Radi, M. Risbet, A. Oudriss, G. Henaff	
233 	Predicting fatigue lifetimes of additively manufactured metallic parts with few experiment data: A multi-fidelity machine learning model Shiyi Mao, Binchao Liu, Rui Bao		022 	Effect of Long-term Aging on Low-cycle Fatigue Behavior of GH4169 Alloy Lei Wang, Yang Liu, Xiu Song, Guohua Xu, Jinlan An	
			055 	LCF behavior of fine-grained L-PBF 316L steel with a plentiful occurrence of twin boundaries J. Man, J. Brůža, M. Jambor, M. Šmíd, M. Laleh, A.E. Hughes, I. Šulák, J. Polák	

Tuesday, 12:45 - 14:15	LUNCH	Restaurant
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Tue	Session 5A 14:15-16:00	Room Funchal	Tue	Session 5B 14:15-16:00	Room Berlim (1 st floor)	Tue	Session 5C 14:15-16:00	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Aerial Leonard - NON-FERROUS ALLOYS (III)			TOPIC: Symposium D - Laser Peening and Related Residual Stress Engineering Processes for Fatigue Improvement Chair: Domenico Furfari: Industrial Revolutionary Laser Peening Systems & Alternative Applications			TOPIC: Fatigue Analysis and Life Prediction Chair: Yu'e Ma		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
069 	Gas- vs Plasma-Atomized Powder Effects on Very High Cycle Fatigue of L-PBF AISI7Mg: Defects-Informed Stress-Life Modeling and Graph Convolutional Networks Md Mehide Hasan Tusher, Ayhan Ince		074 	Yuji Sano (SANKEN): Ultra-compact Laser Peening with Microchip Lasers: From System Development to Structural Fatigue Enhancement		037 	Heat resistant ultra-strong Al-Si alloy and its application in additive manufacturing Zhicheng Dong, Heyuan Huang	
	Invited Talk – 30 min		102 	Kiyotaka Masaki (Saitama Uni): Fatigue Properties of Anodized A6061-T6 Alloy after Peening Treatment		485 	Enabling Reliable Fatigue Data - Shimadzu's Contribution to Testing Excellence Sebastian Fürst - SHIMADZU	
184 	Effective Crack Size and Fatigue Limit estimation of Ti-6Al-4V specimens produced by PBF-LB/M with different surface roughness condition Daniele Rigon, Filippo Mioli, Nicolò Bonato, Rachele Bertolini, Enrico Savio and Giovanni		195 	Yoshio Mizuta (SANKEN) Effect of Laser Peening on Residual stress and Fatigue properties of Metal Additive Manufacturing Materials		038 	Influence of forced assembly gaps on the fatigue behavior of aluminum alloy multi-bolted joints under random loading Heyuan Huang, Jinpen Chen	
240 	Corrosion-Fatigue Behavior of L-PBF Ti-6Al-4V Lattice Struts in Physiological Media Simone Murchio, Farnoosh Farhad, Melika Babaei, Alessandro Albertini, Devid Maniglio, Filippo Berto, Matteo Benedetti		286 	Claudia Polese (Witwatersrand Uni) Development of Industrial Coaxial Laser Shock Processing		067 	Research of physics-informed data-driven methods for multiaxial fatigue life prediction Xingyue Sun, Xueyu Han, Yu'e ma, Xu Chen	
237 	High-Cycle Fatigue of LPBF CuCrZr for Nuclear Fusion Components L. Salvò, A. Pepato, M. Benedetti		205 	Mario Guagliano (Politecnico Milano): The role of shot peening for a better fatigue behavior of additive manufactured materials and components		092 	Fast and accurate quantitative risk analysis method for damage-tolerant airframe structures Yan Bombardier	
376 	Understanding Fatigue Crack Initiation and Growth in an Additively Manufactured Cu Based Alloy Aerial Leonard, Nathan Heniken, Jiashi Miao		118 	Selen Unaldi (Airbus): The LASAT: Measuring Adhesion at the Speed of Light		101 	Lifetime Evaluation of Coke Drums considering the specifically determined S-N-Curve of the Shell Johanna Steinbock, Stefan Pfeffer, Wieland Holzer, Jürgen Bär, Jona Schmögner, Gerald Zehethofer, Roland Scharf, Lidia-Cornelia Winking	
	Invited Talk – 30 min.		370 	Tomoharu Kato (National Institute of Technology): In Situ Laser Peening Using a Portable Device for Fatigue Improvement under Dead Loads		262 	LEFM prediction and atomic-scale K-field simulation of crack-tip behaviors/mechanisms in titanium Jiaping Ma, Yu E. Ma	

Tue	Session 5D 14:15-16:00	Room Paris (1 st floor)	Tue	Session 5E 14:15-16:00	Room Lisboa
TOPIC: Symposium C - Research into the fatigue life of materials and components in cooperation between companies, research organisations and academia Chair: Miloslav Kepka; Vladimir Chmelko			TOPIC: Fatigue mechanisms and crack propagation Chair: Manuel Freitas		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
328 	A rapid assessment of the fatigue strength of specimens and components through damage evolution monitoring in stepwise loading tests Sergi Parareda, Milad Bemani, Marc Marés, David, David Fróemta, Daniel Casellas		174 	Fatigue crack propagation mechanisms in ductile bulk metallic glasses and ductile polycrystalline metals: a comparison Reinhard Pippan, Simon Pillmeier, Anton Hohenwarter	
337 	Notch support effects in specimens and rotors made of electrical steel sheets Peter Haeefele, Patrick Schwarz		125 	Effect of Specimen Geometry on Fatigue Crack Growth of High-Density Polyethylene Sang Min Lee, Ilhyun Kim, Byoung-Ho Choi	
397 	Evaluation of the Fatigue Behaviour of 3D-printed PEEK Cranial Reconstruction Implants P. Rendas, R. Jordão, R. F. Martins, L. Figueiredo, R. Cláudio, B. A. Soares		480 	Fatigue crack measurement using polarimetric imaging Carolina Francisco, João M. A. F. Campos, Susana Dias, Pedro J. S. C. P. Sousa, Paulo J. Tavares, Pedro M. G. P. Moreira	
410 	Challenges in Specimen Representativeness for Aerospace Qualification of PBF-LB/M AISi10Mg Ana Ferramacho, António Garcês, Paulo Machado, Pedro Rendas, Rodolfo Batalha, Ricardo Cláudio, Célio Pina		251 	Fatigue of metallic glasses: In-situ investigations in the SEM M. Marx, R. Busch, C. Motz	
413 	Case study of subsurface fatigue crack in a case-hardened bevel gear Erkka Virtanen, Jarno Jokinen, Gabor Szanti, Auezhan Amanov, Mikko Kanerva		388 	Hetero-deformation mechanisms and GND-associated plastic strain partitioning across single/polycrystal hetero-boundary in nickel-based superalloys Xiaoxian Zhang	
427 	Automotive Subframe Fatigue Testing Multi-Axial Compression Patrick Tremoureux		035 	In situ observation of persistent slip in the initial stages of fatigue of PBF-LB/M austenitic 316L steel Jaromír Brůža, Anja Weidner, Tomáš Vražina, Ladislav Poczklán, Ivana Zetková, Horst Biermann, Jiří Man	
131 	Fatigue analysis of extruded HDPE in bare and welded conditions K. Sales de Oliveira, L. Carneiro, F.C. Castro, M.A. Garcia, F. Vicent, L.C. Randrianarivony, C. Bonini, J.A. Araújo, T. Doca		046 	Fatigue crack growth behavior of a selective laser melted Zr-based bulk metallic glass Simon Pillmeier, Mirjam Spuller, Reinhard Pippan, Jürgen Eckert, Anton Hohenwarter	
			483 	Fatigue Testing of Fiber Reinforced Composite Materials on Higher Testing Frequency - RUMUL	

Tuesday, 16:30 - 18:30

Madeira Wine Cocktail Reception

Restaurant Jardim Magnolia



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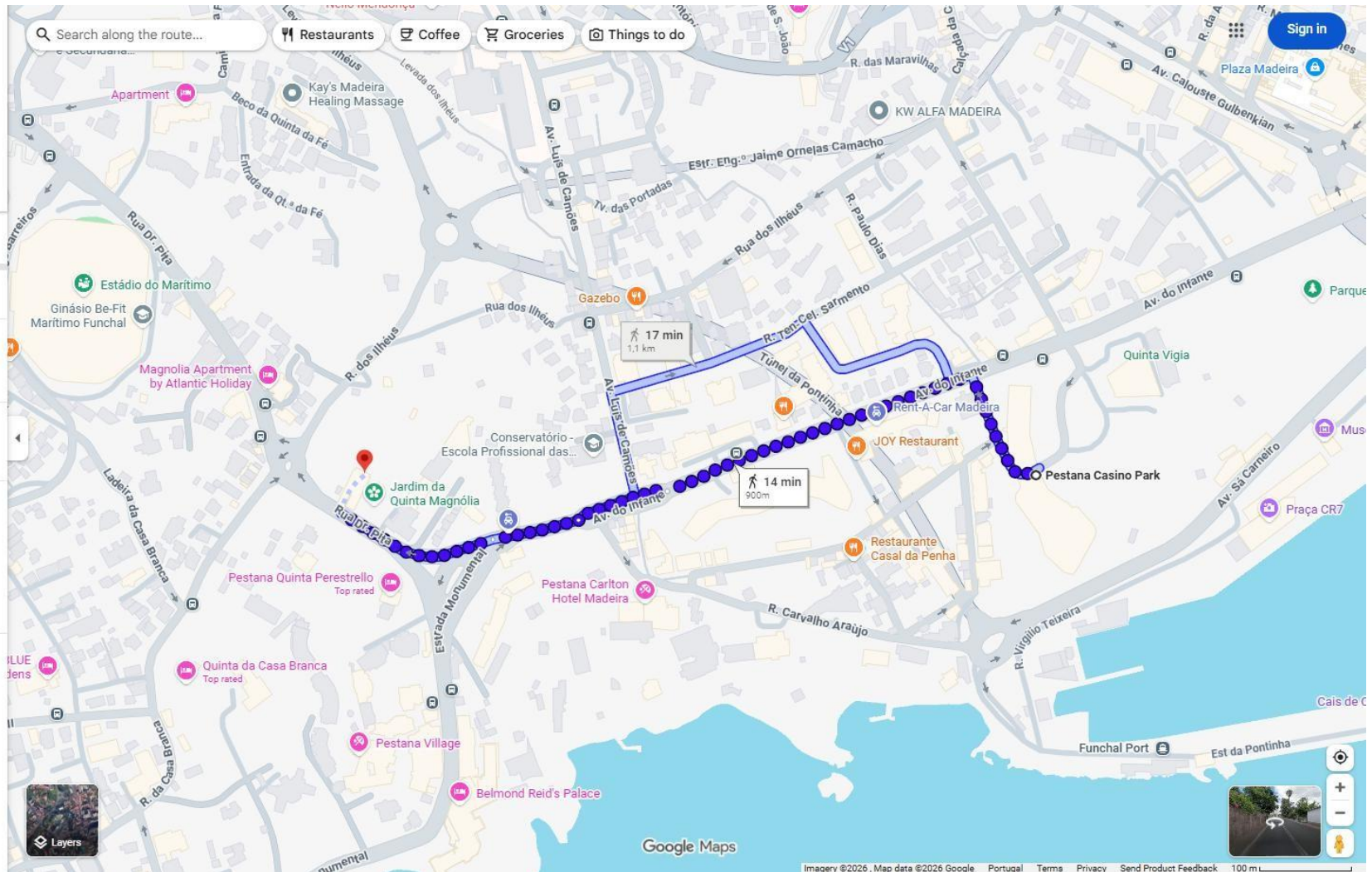
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Wednesday, 1 July 2026

WED, 08:30 - 09:10	PLENARY LECTURE VI	Room Funchal
Fatigue Characteristics of Additive Manufactured Lightweight Structures – Challenges and Opportunities from Damage Tolerance Perspectives Prof. Raj Das Centre for Additive Manufacturing, Department of Aerospace Engineering, RMIT University, Melbourne, Victoria 3000, Australia Chair: Yoshihiko Uematsu (Gifu University, JP)		
























WED, 09:10 - 09:50	PLENARY LECTURE VII	Room Funchal
Dwell fatigue of aero-engine Titanium alloys: integrated in-situ characterisation, crystal plasticity modelling and mechanisms Prof. Fionn Dunne Chair in Micromechanics at Imperial College, UK Chair: Richard W. Neu (Georgia Institute of Technology, USA)		

















WED, 09:50 - 10:30	PLENARY LECTURE VIII	Room Funchal
Integrity of Additive Manufacturing TC4 Alloy Material and Lattice Structure Prof. Yu'e Ma Professor and Director of Institute of Structure Integrity Analysis in Northwestern Polytechnical University (NWPU), China Chair: Youshi Hong, (Chinese Academy of Sciences, China)		























Wednesday, 10:30 - 11:00	COFFEE-BREAK	Lounge
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Wed	Session 6A 11:00-12:45	Room Funchal	Wed	Session 6B 11:00-12:45	Room Berlim (1 st floor)	Wed	Session 6C 11:00-12:45	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Marta Kurek – FERROUS ALLOYS			TOPIC: Symposium D - Laser Peening and Related Residual Stress Engineering Processes for Fatigue Improvement Chair: Domenico Furfari: Industrial Applications			TOPIC: Advanced modelling, simulation, and life prediction methods Chair: Ricardo Claudio		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
331		Fatigue behaviour of 17-4PH martensitic stainless steel additively manufactured by Metal Binder Jetting Pierre Merot, Benoit Roman, Hugo Roirand, Denis Vincent, Vincent Bonnefoy, Thomas Landron, Franck Morel	122		Nikolai Kashaev (Hereon): Laser peening for fatigue enhancement in the aerospace industry	041		Longer life censored P-S-N curve experiment and fitting method Liyang Xie, Ningxiang Wu
104		Fatigue Behaviour of ER70S-6 WAAM Carbon Steel under Variable Amplitude Loading: Effect of Build Orientation and Critical Internal Defects Mariela Mendez-Morales, Ricardo Branco, Joel Jesus, Trayana Tankova, Emilia Grochowska, Grzegorz Ziólkowski, Carlos Rebelo	288		Carina Lopes (Wits): Laser Peen Forming for Deformation Correction in Aeronautical Structures	042		StressLifeEBA: An Accelerated Energy-Based Lifetime Prediction Method for the Estimation of Trend S-N Curves for Various Testing Conditions Jonas Anton Ziman, Fabian Weber, Aline Wagner, Janina Koziol, Peter Starke
306		Strut-dependent fatigue behavior of PBF-LB/M 316L steel with regard to lattice structure properties P. Karentzopoulos, G. Mao, S. Stammkötter, S. Mrzljak, S. Münstermann, F. Walther	089		Yuhui Fan (NUAA University): Fatigue Strength Evaluation of Laser Shock Peened Blades Subjected to Foreign Object Damage	051		Multiaxial fatigue strength estimation of plasma-nitrided carbide-rich PM tool steels: comparison of failure hypotheses and mean stress sensitivity Frederik Tegeger, Christoph Broeckmann
316		Use of multi-material additive manufacturing to produce complex dual steel parts with superior fatigue properties Lucy Farquhar, Jürgen Bär, Eric A. Jäggle	070		Zbyněk Špirit (Centrum výzkumu Rez s.r.o.): Extending the Fatigue Properties of Water and Steam Turbine Blade Materials by Laser Peening	061		Modeling of Dissipative Mechanisms Related to Fatigue of 3D Woven Composites B. S. Barini, M. Le Saux, Y. El Archi, L. Navrátil, N. Carrere
217		Correlating In-situ Monitoring with Defect Formation in SLM: A Comparative Study of EOSTATE Optical Tomography Outputs and Unprocessed Monitoring Data Yusuf Bakir, I. Zetková, Adam Polansky	315		Dominik Pörtl (Leuphana Uni): Residual stress engineering for fatigue crack retardation by laser shock peening in additively manufactured aluminum	062		Numerical investigation of defect population effect on the fatigue strength anisotropy of Ti64 fabricated by Laser Powder Bed Fusion S.S Penkulinti, N. Saintier, M. Bonneric, B. Verquin, T. Palin-Luc, F. Lefebvre, P. Ghys
467		Effect of build orientation and loading conditions on the fatigue behaviour of additively manufactured 18 Ni300 maraging steel – part 1 Marta Kurek, Andrzej Kurek, Mihiretu Ganta, Tadeusz	319		Fahem BOUDRIES (Imagine Optic): High-Energy, High-Repetition-Rate Laser Shock Peening Enabled by Optical Fiber Delivery	071		Evaluation of Transient Creep and Oxidation Damage in Thermomechanical Fatigue of Nickel-Based Superalloys Jiaqi Lu, Huang Yuan
468		Effect of build orientation and loading conditions on the fatigue behaviour of additively manufactured 18 Ni300 maraging steel – part 2 Andrzej Kurek, Marta Kurek, Abdullah El Sabea	470		Donato Gallitelli (Euro Technologies): Fibred laser shock peening without coating: Analysis of the homogeneity of residual stresses related to process parameters.	075		Application of a Probabilistic Fatigue Strength Model to Case-hardened Steel Oliver Schenk, Jean-André Meis, Christoph Broeckmann














Wednesday, 12:45 - 14:15	LUNCH	Restaurant
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Wed	Session 6D 11:00-12:45	Room Paris (1 st floor)	Wed	Session 6E 11:00-12:45	Room Lisboa
TOPIC: Material behavior under complex loading conditions Chair: Bernd M. Schönbauer			TOPIC: Symposium M - Criteria for multiaxial fatigue and fatigue damage accumulation rules Chair: Luís Pallarés, Vladimir Chmelko, Tadeusz Lagoda		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
268 	Influence of the Load Type on the Fatigue Behavior of Additively Manufactured AISI 316L Paula Rahm, Andreas Warth, Roman Teutsch, Tilmann Beck, Bastian Blinn		028 	Fatigue damage accumulation rule based on absorbed hysteresis energy Chmelko, V., Margetin, M., Hujavý, J.	
269 	Notch effects on the dwell-fatigue behavior of the Ti-6Al-4V alloy Julie Bouillon, Samuel Hémerly, Patrick Villechaise, Benjamin Dod		162 	Mean Stress Effects in Multiaxial HCF Methods: Stress Measures and Calibration Luis Pallarés-Santasmartas	
352 	The influence of molybdenum and silicon on thermo-mechanical fatigue performance of ferritic compacted graphite iron E. Kihlberg, V. Norman, R. Romero Ramirez, J. Moverare, P. Skoglund		203 	Application of energy-based damage accumulation rule for fatigue monitoring of structure under variable amplitude loading Matus Margetin, Vladimir Chmelko, Jakub Hujavy	
389 	Simulation of complex fatigue specimen geometries and comparison with deformation induced martensite density mapping for steels used in nuclear components Jens Arndt, Viktor Lyamkin, Kai Donnerbauer, Klaus Heckmann, Fabian Weber, Peter Starke, Frank Walther		027 	Absorbed hysteresis energy - parameter of fatigue damage Chmelko, V., Margetin, M., Hujavý, J.	
079 	Experimental investigation of mixed-mode fatigue crack growth under variable amplitude loading Naveen Kumar Kanna, Christopher Benz, Lars Radtke		175 	The limit notch radius in mixed mode I+III loadings and an effective stress for multiaxial fatigue design Pietro Foti, Michele Zappalorto, Filippo Berto	
272 	Effects of Porosity Defects on the Fatigue Behavior of Al-Si Alloy Castings by Conventional and Ultrasonic Fatigue Testing I.S Cho, S.I Yun, J.S Choi, H.S Song, J.S Park, Y.R Cho, J.Y Lee, H.S Kang, A. Amanov		146 	Parasitic effects in cyclic testing of samples for fatigue damage accumulation Koščo, V., Margetin, M., Chmelko, V.	
076 	Effect of microstructure on pre- and post-punching fatigue behavior of hot-rolled thick-plate advanced high-strength steels Nader Heshmati, Mohammad Hoseini-Athar, Annika Borgenstam, Henrik Sieruin, Joachim		435 	Hybrid Global Optimization for Critical Plane Identification under Multiaxial Random Loading Adam Niesłony, Dariusz Skibicki	

Wednesday, 12:45 - 14:15	LUNCH	Restaurant
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Wed	Session 7A 14:15-16:00	Room Funchal	Wed	Session 7B 14:15-16:00	Room Berlim (1 st floor)	Wed	Session 7C 14:15-16:00	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Reza Talemi - STRUCTURES			TOPIC: Symposium D - Laser Peening and Related Residual Stress Engineering Processes for Fatigue Improvement Chair: Nikolai Kashaev - High Strength Alloys			TOPIC: Advanced modelling, simulation, and life prediction methods Chair: Giovanni Meneghetti		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
327 	Influence of Deposition Sequence on the Fatigue Performance of WAAM SS309L-IN625 Bimetallic Materials Ozan Can Ozaner, Abhay Sharma, Tegoeh Tjahjowidodo, Reza Talemi - Invited Talk – 30 min.		084 	Hackel Lloyd (Curtiss Wright): Laser peening to mitigate hydrogen driven fatigue cracking of steel		086 	A universal formula to estimate the fatigue crack growth rate in arbitrary metals at arbitrary R-values and temperatures Hans-Jakob Schindler	
364 	Optimal range of processing parameters and a dimensionless factor in AM to dominate fatigue performance of AMed parts Youshi Hong, Yu Xia, Aiguo Zhao		300 	Klemen Pregelj (Ljubljana Uni): Laser shock peening effect on mechanical response of a superelastic NiTi alloy		052 	Fatigue Life for Three-Point Bending of Rubber Composites with Different Reinforcement Layers Tadeusz Lagoda, Karolina Głowacka, Marko Nagode, Marta Kurek, Jernej Klemenc	
186 	Impact of Heat Treatments on the Fatigue Behaviour of AISi10Mg Processed by PBF-LB/M João Marques, Afonso Leite, Pedro Jesus, Carla M. Ferreira, José Simões, Maria J. Carmezim, Célio Pina, Rodolfo Batalha, Luís Reis, Ricardo Cláudio		293 	Yunji Cho (KIMS): Effect of Surface Treatment on Residual Stress Distribution and High-cycle Fatigue Properties of Lap-welded DP600 Steel Joints		088 	Fatigue fractures of cracked rubber composites after three-point bending Joanna Małecka, Karolina Głowacka, Andrej Škrlec, Marko Nagode, Jernej Klemenc, Tadeusz Łagoda	
320 	Design-for-Inspection of a Topology-Optimized PBF-LB/M Nose Landing Gear Fork and Component-Level Fatigue Life Validation Felix Scholz, Lea Strauß, Günther Löwisch, Isabel Bayerdörfer		291 	Dong Jun Lee (KIMS): Effects of Surface Treatment on Microstructure, Residual Stress Relaxation, and High-Temperature Creep Behavior of Powder Metallurgy René 95		148 	Numerical fatigue strength investigation of wire and arc additive manufactured (WAAM) specimens based on 3D-scans and implicit gradient model Sulaiman Shojai, Hessam Moshayedi, Moritz Braun, Elyas Ghafoori	
318 	Comparison of Room and High Temperature Fatigue Behavior of the New Ni-based Superalloy VDM 780 Fabricated by Laser Powder Bed Fusion Louis Hébrard, Mauro Madia, Itziar Serrano-Munoz, Hans Jordan, Birgit Rehmer, Juri Munk, Joachim Gussone, Jan Haubrich		020 	Aoki Tomofumi (Keio University): Effects of Surface Modification on Residual Stress Stability during Fatigue in AISI 4140 Steel		171 	Automated implementation of the PSM combined with shell finite element models for the fatigue design of complex welded structures Alberto Visentin, Alberto Campagnolo, Vittorio Babini and Giovanni Meneghetti	
172 	Effect of post-processing heat treatments on the fatigue crack growth resistance of an AISi10Mg alloy produced by laser-based powder bed fusion Sidney Araújo, Geraldo Faria, Leonardo Godefroid, Ricardo Claudio, Rodolfo L. Batalha		163 	Henry Boyle (Linköping University): Influence of Surface Treatments Fatigue Life of the Ni-Based Superalloy AD730®		123 	A Phenomenological Approach of the Shear-Cutting Influence on the Fatigue Properties of Steels Marc Stolzenburg	
194 	Melt Pool Signatures as Indicators of Defects and their Impact on Rotating-Bending Fatigue Samples Produced by PBF-LB/M Carla M. Ferreira, Afonso Leite, João Marques, José Simões, Pedro Jesus, Rodolfo Batalha, Luís Reis, Ricardo Cláudio					176 	A phase-field numerical study on the effects of Thermal Growth Oxide thickness and composition on thermal fatigue failure of thermal barrier coatings Lang Gao, Jiewei Lin, Junhong Zhang, Lin Yu, Tianci Wang, Huwei Dai	

Wednesday, 16:00 - 16:30	COFFEE-BREAK	Lounge
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Wed	Session 7D 14:15-16:00	Room Paris (1 st floor)	Wed	Session 7E 14:15-16:00	Room Lisboa
TOPIC: Case studies, industrial applications, and reliability analysis Chair: Adam Niesłony			TOPIC: Fatigue mechanisms and crack propagation Chair: Franck Morel		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
481 	Condition assessment of the Firing Control Handle Socket and Pivot in the Portuguese Air Force F-16 aircraft Inês M. F. de Carvalho, T. Barros, B. Santos, L. Reis		043 	Study on the critical defect identification and life prediction for selective laser melted Ti-6Al-4V alloy Jun Zou, Xiaoyu Xia, Zhenyu Feng, Peng Luo	
177 	Dynamic response and life analysis of a reverse flow type pulse detonation combustor Jing Xin, Zheng Longxi		126 	A Damage-Based Fatigue Life Model for Additively Manufactured AlSi10Mg Considering Mean Stress, Residual Stress, and Defect Size Lea Strauß, Günther Löwisch	
230 	Mechanical Characterisation and Fatigue Testing of Material from a Historical Metallic Railway Bridge Patrícia Freitas, José Oliveira Pedro, João Pedro Martins, Luís Reis, Ricardo Branco		056 	Effect of shot peening and anodizing on the fatigue life of aerospace aluminum alloys Tissot Maxime, Surand Martin, Mabru Catherine, Chaussumier Michel	
457 	Using statistical methods from Aeroengine material allowables development for improved characterization of fatigue properties Ryan L Smith, Balajee Ananthasayanam, Kazuki Nagao,		314 	An Experimental Investigation on Small Fatigue Crack Growth Behavior and Mechanism in Al 2024-T3 Mi Wang, Lindong Chai, Yihai He, Jing Lin, Wei Zhang	
141 	Multiaxial fatigue of C45 steel under constant amplitude and random loadings Łukasz Pejkowski, Adam Niesłony, Dariusz Skibicki		143 	Improved predictability of near-threshold fatigue crack growth rate data by distinguishing crack closure mechanisms Tomáš Vojtek, Pavel Pokorný, Radek Kubíček, Michal Jambor, Pavel Hutař	
421 	WAAM Repair of GJS 400 Cast Iron: Mechanical Strength and Fatigue Performance Zoé Bourgain, Fabien Szmytka, Philippe Feraud, Nicolas Thurieau		250 	Application of the Effective Critical Plane approach to welded joints Andrea Chiocca, Michele Sgamma, Francesco Frendo	
452 	Fatigue Behavior of Tube-Extracted Specimens: From Experimental Testing to Strain–Life Curve Development Sebastian Raczek, Adam Niesłony, Krzysztof Kluger, Tomasz Łukasik		285 	Crack initiation and propagation characterisation in Inconel 718 at high temperature Julien Lasgorceux, Pascale Kanoute, Charles Bianchetti, Vincent Bonnard, Emmanuel Fessler, Franck Morel	

Wednesday, 16:00 - 16:30	COFFEE-BREAK	Lounge

Wed	Session 8A 16:30–18:30	Room Funchal	Wed	Session 8B 16:30–18:30	Room Berlim (1 st floor)	Wed	Session 8C 16:30–18:30	Room Sidney (2 nd floor)
TOPIC: Symposium A - Fatigue and Fracture in Metal Additive Manufacturing Chair: Onome Scott-Emuakpor			TOPIC: Symposium D - Laser Peening and Related Residual Stress Engineering Processes for Fatigue Improvement Chair: Domenico Furfari; Nikolai Kashaev; Yuji Sao			TOPIC: Symposium E - Beyond the empirical Kitagawa-Takahashi diagram: New insights into defect-driven fatigue behaviour Chair: Mauro Madia; Jurgen Bar; Franck Morel		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
247		Influence and Handling of Process Interruptions in PBF-LB/M - Martin Moser, Vesna Nedeljkovic-Groha	242		Anna Garambois (ONERA): Experimental study and modeling of SMAT-treated Inconel 718 fatigue behavior	309		Influence of Cyclic Hardening Behavior on Fatigue Performance Danton Buticosihz Müller, Pierre Osmond, Daniel Irmer, Pierre Mérot, Yves Nadot, Franck Morel
369		Macroscopic Fatigue Crack Propagation in Additively Manufactured BCC Lattice Structures Hao Xin, Lei Gao, Xiaofan He	369		Jiewei Gao (Xihua University): Damage Tolerance Assessment of Induction-Hardened High-Speed Railway Axles Considering Gradient Structures	329		A unified non local approach to interpret defect's size and shape effects on fatigue crack initiation Pierre Merot, Franck Morel, Camille Burton, Etienne Pessard, Linamaria Gallegos Mayorga
430		Tooth Root Fatigue of Topology-Optimized Low-Alloyed Steel Gears Manufactured by Conventional and Additive Manufacturing Philipp Schüssler, Volker Schulze, Stefan Dietrich	336		Jai Prakash Gautam (Hyderabad University): Thermal stability of peening induced residual stress and microstructure evolution in Inconel 718 for fatigue life improvement	372		Evaluating the effects of film cooling hole manufacturing defects on the high-cycle fatigue strength of a turbine blade specimen Yue Wang, Rong Jiang, Mo Chen, Xiaoyu Li, Yingdong Song
463		Effect of Post Treatments on the High Cycle Fatigue Behavior of Material Extrusion Additively Manufactured H13 Tool Steel Mahmoud Naim, Mahdi Chemkhi, Delphine Auzene, Julien Bousset	287		Angel Prado (Institute of Thermomechanics CAS): Simulation of Hybrid Selective Laser Melting and Plasma Shock Peening	382		Influence of Hard Chrome Coating Thickness on the Fatigue Resistance of Steel Shafts: Experimental Study and Kitagawa–Takahashi Based Assessment Driss El Khoukhi, Isabel Huther, Guillaume Elbe, Gérard Weber, Philippe Magat, Julien Delgado, Christophe Reynaud, Yanneck Suchier, Fabien Lefebvre
201		Accelerated Fatigue Test Comparison for Additively Manufactured Aluminum and Aluminum Matrix Composite Onome Scott-Emuakpor, Philip Johnson, Harshith Vadrevu, and Troy Krizak	274		Jan Kaufman (HiLASE): Hybrid Laser Shock Peening	392		Fatigue threshold prediction through inverse multiscale construction of the Kitagawa–Takahashi diagram and cyclic R-curve Kazuki Shibanuma, Qingzhi Yao
063		Low-cycle fatigue properties of laser powder bed fusion–manufactured TiB2-modified nickel-based superalloy I. Šulák, L. Pelikán, M. Malý, L. Poczkán, T. Vražina, T. Slezák, M. Bartošák	228		Mauro Madia (BAM): Influence of ultrasonic-assisted milling on surface integrity and fatigue strength of a low alloy steel	396		Fractographic observation of small crack propagation in conventional and additively manufactured Ti Ondřej Kovářik, Anna Kimlová, Milan Kocáb, Aleš Materna
482		Integration of Additive Manufacturing in the production of aeronautical components and systems: Regulatory requirements for metallic materials C.Monteiro, T.Barros, B.Santos, D.Salgado, P.Morais	381		Fatigue and Crack Propagation Behavior of Gradient Structures on Induction-Hardened High-Speed Railway Axles Jiewei Gao, Chengye Wang, Weicheng Xia, Junfu Zhang, Shunpeng Zhu	431		Influence of mean stress on the defect-driven fatigue strength Suraj S. More, Herwig Mayer, Joona Vaara, Miikka Vántänen, Tero Frondelius, Bernd M. Schönbauer
351		Fatigue Behavior of Copper Components Manufactured by Fused Filament Fabrication P. Gast, P. Schüssler, A. Klassen, V. Schulze, S. Dietrich	368		Damage Tolerance Assessment of Induction-Hardened High-Speed Railway Axles Considering Gradient Structures Xue Lin, Jiewei Gao, Mingsong Wang, Junfu Zhang, Shunpeng Zhu	462		Determination of the Kitagawa-Takahashi Diagram by means of short crack models Mauro Madia, Jürgen Bär, Larissa Duarte

Wed	Session 8D 16:30-18:30	Room Paris (1 st floor)	Wed	Session 8E 16:30-18:30	Room Lisboa
TOPIC: Material behavior under complex loading conditions Chair: Ulrich Krupp			TOPIC: Fatigue mechanisms and crack propagation Chair: Reinhard Pippan		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
454 	Theoretical Model for the Temperature-Electric Field dependent Ultimate Tensile Strength of Metallic Materials Ru Li, Weiguo Li, Tianzi Shi		238 	Fatigue Crack Characteristics in Gradient Predeformed Pearlitic Steel under Multiaxial Loading Daniel Gren, Johan Ahlström, Magnus Ekh	
006 	Evaluation of Tribo-Fatigue Properties of Alumina-Coated 316L Stainless Steel Using Two Thermal Spray Deposition Processes Halima Ghorbel, Radouane Akrache, Jinan Charafeddine		244 	Thermomechanical Fatigue: Early Irreversible Deformation and Its Impact on Lifetime Stefan Guth, Jan Lars Riedel, Dhruv Anjaria, Mathieu Calvat, Jean-Charles Stinville	
332 	Intergranular Cracking during Dwell-Time Fatigue of Nickel-Based Superalloys at Elevated Temperatures – The Dynamic Embrittlement Mechanism Ulrich Krupp, Lars Bähren, Charleen Baumann, Thomas Seifert, Hans-Jürgen Christ, Ken Wackermann, Aljoscha F. Baumann, Daniel Urban		307 	In-situ Crack Propagation of Pearlitic Rail Steel Subjected to Large Shear Deformation Tsering Wangmo, Daniel Gren, Anton Hohenwarter, Ehsan Ghassemali, Christer Persson, Johan Ahlström	
394 	Fatigue behaviour of annealed AA5083 aluminium alloy specimens under block testing sequence Zbigniew Marciniak, Ricardo Branco, Rui F. Martins, Wojciech Macek, Cândida Malça		142 	Micro Scale Investigation of Fatigue in TiAl Alloys Pascale Kanoute, Anna Ask, Louise Toualbi	
120 	From Wrought to Additive: Comparing Thermal Fatigue Damage in AISI 430 Using an Optimized Specimen Geometry Nicolas Thurieau, Baris Telmen, Fabien Szymtka		465 	Effect of cyclic pre-strain on the functional fatigue in superelastic NiTi alloys Tianyi Hu, Xiaoxian Zhang, Jinsong Leng	
132 	A Critical Review of Coupled Mechanical, Thermal and Electrical Stress in Electrical Insulation Systems Tetjana Tomaskova, Jaroslav Hornak, Pavel Trnka		281 	Ultra-high fatigue strength steel enabled by coherent nanoprecipitates and Mo-enriched grain boundaries Suihe Jiang, Yuewu Li, Zhaoping Lu	
231 	Low-Cycle Fatigue Assessment of thin plates extracted from aluminium sheets and from Mega-castings Maria Margarita Mitsi, Yu Cao, Johan Ahlström		289 	Short crack growth from deep and shallow notches in a multi-phase high-strength steel Lukas Walch, Thomas Klünsner, Bernhard Sartory, Stefan Marsoner, Larissa Egger, Anton Hohenwarter, Harald Leitner, Reinhard Pippan, Gerald Ressel	
			401 	Effect of Dynamic Strain Aging-mediated Thermomechanical Treatments on the Fatigue Properties of Notched Commercially Pure Titanium Nafiseh Ghavidel, Phanuphak Seensattayawong, Eberhard Kerscher	

Wednesday, 19:00 - 22:00

Conference Banquet

O LAGAR - Restaurant



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Thursday, 2 July 2026

THU, 09:00 - 09:45	PLENARY LECTURE IX	Room Funchal
Ultrasonic fatigue testing of superelastic Nitinol and in-situ observation of VHCF damage in the synchrotron Prof. Herwig Mayer Institute of Physics and Materials Science, BOKU University, Peter-Jordan-Str. 82, 1190 Vienna, Austria		















THU, 09:45 - 10:30	PLENARY LECTURE X	Room Funchal
Fatigue of AM materials: from fundamental mechanisms to component assessment Prof. Stefano Beretta Politecnico di Milano, Dept. Mechanical Engineering, IT Chair: Ali Fatemi (University of Memphis, USA)		



Thursday, 10:30 - 11:00	COFFEE-BREAK	Lounge
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Thu	Session 9B 11:00-12:45	Room Berlim (1 st floor)	Thu	Session 9A 11:00-12:45	Room Funchal	Thu	Session 9C 11:00-12:45	Room Sidney (2 nd floor)
TOPIC: Symposium G - Mechanics of Fretting Fatigue Chair: Sean Leen; Camille Gandiolle; Reza Talemi			TOPIC: High-cycle and very high cycle fatigue Chair: Jan Papuga			TOPIC: Advanced modelling, simulation, and life prediction methods Chair: Gubeljak Nenad		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
139	Size Effects and Subsurface Defects in the Fretting Fatigue Response of Additively Manufactured Ti-6Al-4V from Coupon-Scale Specimens to Dovetail Joint Connections Grzegorz Glodek, Tomáš Karas, Martin Nesládeka, Brecht Van Hooreweder, Reza Talemi		065	Influence of fatigue limit under pulsating tension loading on Multiaxial Fatigue Models P. Apodaka, M. Abasolo, E. Tabares, L. Pallares, X. Orue		179	Using small crack growth to calculate high cycle fatigue life for different maximum stress and stress ratios E. Amsterdam	
198	Application of a computationally efficient fretting wear-fatigue analytical model to submarine power cables S.M. Uí Mhurchadha, C. Poon, S.B. Leen		072	General Relation between Fatigue Strength and Tensile Strength of Metallic Material Jianchao Pang, Chong Gao, Xiaoyuan Teng, Shouxin Li, Zhefeng Zhang		341	Fatigue Assessment of High Strength Windmill Studs Considering Process Residual Stresses and Cold Formed Layer .A. Esnaola, J. Mendiola, M. Larrañaga, N. Otegi, X.	
226	Study on the mechanics of fretting crack initiation for flat-on-flat contacts Denny Knabner, Marius Matthias Müller, Alexander Hasse		103	Statistical Generation of Virtual Scatter Bands within Accelerated Lifetime Prediction Methods Aline Wagner, Fabian Weber, Peter Starke		215	Non-destructive Material Property Measurements for Meso-aggregate Fatigue Model Isaiah Zebrowski, Juan Julio Gonzalez-Frias, Jinseok Kim, Daniel Kujawski	
227	Mitigation of fretting fatigue: Effects of case-hardening on the durability and failure modes Marius Müller, Denny Knabner, Jiří Čapek, Karel Trojan, Alexander Hasse		461	Very high cycle fatigue life of high strength steels exposed to different levels of corrosion Jan Klusák, Kamila Kozáková, Anna Sandnerová, Stanislav Seitl		219	Numerical Investigation of the Fatigue Behaviour of TPMS Structures Žiga Žnidarič, Branko Nečemer, Srečko Glodež	
333	A High-Fidelity 3D Modeling and Life Prediction Framework for Fretting Fatigue–Wear Interaction Samira Ghadar, Jim Lua, Ali Fatemi		338	Effect of microstructural changes on fatigue limit in early stage of fatigue process of austenitic stainless steels Shota Oikawa, Noriyasu Oguma, Kenichi Masuda, Masaki Okane		253	Fatigue characterization of tread braked railway wheels by experimental and numerical analysis G. Megna, A. Bracciali, A. Francesconi, A. Lanzutti, F. Sordetti	
275	Crystal plasticity modelling of defect effects on fretting fatigue in laser powder bed fusion of Ti6Al4V Sunil Kumar Yadav, Majid Kavousi, Sean Leen, Reza Talemi		106	Size effects on fatigue life of additive manufactured Ti6Al4V Wenbo Sun, Yu'e Ma, Weihong Zhang		256	An impact fatigue model for TC18 titanium alloy considering stress gradient and load dynamic effects Xulong Chen, Xiongfei Li, Yupei Guo, Qiang Yang, Weiping Hu, Zhixin Zhan, Qingchun Meng	
			340	Machine learning-based correction for non-proportional multiaxial high-cycle fatigue criteria Antoine Chambrey, Lorenzo Berceili, Cédric Doudard, Yohan Cosquer, Shabnam Arbab Chirani		187	A local approach to understanding the bimodal fatigue behavior of gear teeth made from case-hardened steel Aniclelson Alves De Moura, Franck Morel, Etienne Pessard, Daniel Bellett, Louis Augustins, Damien Herisson	









Thursday, 12:45 - 14:15	LUNCH	Restaurant
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Thu	Session 9D 11:00-13:00	Room Paris (1 st floor)	Thu	Session 9E 11:00-12:45	Room Lisboa
TOPIC: Environmental effects, corrosion, and hydrogen embrittlement Chair: Rui Martins			TOPIC: Fatigue mechanisms and crack propagation Chair: Luca Susmel		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
095 	Critical Assessment of Cracking Hydrogen Storage Vessel and An Evaluation of Critical Crack Size Un Bong Baek, Jaeyeong Park, Kyung-Oh Bae, Thanh Tuan Nguyen		108 	NDT-Based Hysteresis Measurements as a Key to Multiparametric Fatigue Characterization of Metallic Materials Peter Starke, Riko Schanzenbach, Aline Wagner, Jan-Erik Nebel, Jonas Anton Ziman, Janina Koziol, Fabian Weber	
129 	Characterization of two high-strength austenitic stainless steels in fatigue and damage tolerance in hydrogen conditions at cryogenic temperatures D. Willem, G. Henaff, C. Parrens, R. Walter, A. Oudriss, X. Feaugas, C. Berziou		267 	Effect of Hydrogen Pressure and Loading Frequency on Fatigue Crack Growth in Nickel Alloy 625 Pierre Osmond, Marie Lemaitre, Thomas Landron, Théo Larue, Daniella Guedes Sales, Ayoub El Moutaouakkil, Anthony Nakhoul	
279 	Environmentally Assisted Fatigue of austenitic Weld Material Petr Gál, Ivana Schnablová, Radek Novotný, Miroslav Pejša, Radim Kopřiva		344 	In-situ Experimental Investigation on Crack Initiation and Small Crack Propagation from Corrosion Pits Dian Wang, Lindong Chai, Wei Zhang	
235 	Can oxidation damage be beneficial to cracking resistance under long-dwell fatigue loading at elevated temperature? Binchao Liu, Qiuyi Wang, Rui Bao		358 	Fatigue deformation and crack growth behavior in Al-containing high manganese austenitic steels Lihe Qian	
477 	Effect of fiber orientation on stiffness reduction in cracked composite laminates subjected to hygrothermal aging Billel Boukert, Mohamed Khodjet Kesba, Amina Benkhedda, El abbes adda Bedia		326 	A Fatigue Crack Growth Analysis Accounting for R-ratio Effects Daniel Kujawski	
029 	Preventing Hydrogen Embrittlement in Hydrogen Gas Pipelines through Trace Carbon Monoxide Addition Juan Shang, Hiroto Hayashi, Masanobu Kubota		060 	The Effect of Prior Low Cycle Fatigue on the Creep Resistance of a 10% Cr Martensitic Steel Mishnev Roman, Wu Kaiming, Rustam Kaibyshev, Nadezhda Dudova	
154 	Thermomechanical and isothermal fatigue of 316L stainless steel with long hold periods in LWR environment Tomáš Babinský, Philippe Spätig, Hans-Peter Seifert		375 	Hydrogen-Assisted Fatigue in Vintage API 5L X60 Pipeline Steel Containing Micro-Defects: Experiments and Defect-Based Life Assessment H. Wang, R. Best, D. Engelberg, I. Hajirasouliha, N. O. Larrosa, F. Scenini, L. Susmel	
283 	Fatigue crack initiation mechanisms in 7XXX Aluminum Alloys in representative aircraft environment (temperature, humidity) F. Mazerolle, G. Hénaff, J. Rousset		471 	Probabilistic Fatigue Life Assessment of Additively Manufactured Maraging Steel F. Bumba, V. Anes, P. Morais, R. Batalha, K. Trojan, L. Reis	



















Thursday, 12:45 - 14:15	LUNCH	Restaurant
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Thu	Session 10B 14:15-16:00	Room Berlim (1 st floor)	Thu	Session 10A 14:15-16:00	Room Funchal	Thu	Session 10C 14:15-16:00	Room Sidney (2 nd floor)
TOPIC: Symposium G - Mechanics of Fretting Fatigue / Damage Chair: Sean Leen; Camille Gandiolle; Reza Talemi			TOPIC: High-cycle and very high cycle fatigue Chair: Ranc Nicolas			TOPIC: Advanced modelling, simulation, and life prediction methods Chair: Anghel-Vasile Cernescu		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
385	3D kinematics fields in fretting contact from X-ray tomography Jérémy Grondin, Camille Gandiolle, Youssef Younes, Benjamin Smaniotto, Jean-Christophe Teissedre, Jan Neggens, Pierre Arnaud		115	High-cycle fatigue behavior of A6061-RAM2 alloy considering surface condition and build orientation Duda Szymon, Dziuba Szymon, Zielonka Paweł, Szymczyk-Ziółkowska Patrycja, Lesiuk Grzegorz		363	The influence of the roughness profile on the position of critical planes in multiaxial fatigue Anghel-Vasile Cernescu, Andrea Spagnoli	
399	Numerical analysis of crack initiation in the nub-groove contact of marine risers including wear Arthur Ferreira Padilha Sette, Jose Alexander de Araujo, André Luis Rodrigues Araújo, Raphael Araujo Cardoso		133	Microstructure and Corrosion Effects on ZW12 Fatigue Performance J.J. Trujillo, J. Goitia, J. Victoria-Hernández, D. Letzig		303	Effects of microstructural characteristics on the fatigue behavior of un- and low alloyed steel Janina Koziol, Fabian Weber, Peter Starke	
192	Non-uniform deformation and damage evolution of gradient nano-grained metals: A crystal plasticity simulation Jie Qu, Zhixin Zhan, Weiping Hu, Qingchun Meng		391	High to VHCF Testing of Additive Manufactured Cellular Structures M. Martins, P. R. Costa, J. H. Lopes, P. Nogueira, R. Cláudio, L. Reis		304	Slip band influence on grain size effect in Inconel 718 Tom L'hermite, Flavien Ghiglione, Jean-Michel Scherer, Henry Proudhon	
459	A Phase-Field Framework for Multiaxial Fatigue Crack Initiation and Propagation for Fretting Problems Iñigo Llavori, Gorka Ruiz-de-Egino, Nagore Otegi, Eguzkiñe Martinez-Puente, Sean Leen		323	Assessment of a Cast Iron Valve Under Ultra-High Cycle Fatigue Edwin Lopez, Frederic Novelo, Tom Adam		308	Revealing and Predicting Fatigue Crack Nucleation in Textured Zircaloy-4 via Full-Field Experiments and Physics-Informed Machine Learning Weifeng Wan, Fionn Dunne	
			357	High cycle fatigue failure behavior and life prediction of LPBF superalloy under heat treatment effects Jin Lai, Wei Li, Rui Sun, Zhenduo Sun, Chuanwen Sun, Xiaolong Li		310	Combining Modal Decomposition and Gaussian Approximation for Fatigue Analysis of Non-Stationary Multi-Channel Random Vibration using Multivariate Moments Josef Weber, Arvid Trapp, Peter Wolfsteiner	
			386	High cycle fatigue of LPBF duplex stainless steel: experimental and CPFE modelling Maxime Piras, Nicolas Ory, Anis Hor, Eric Charkaluk		353	A framework for fatigue life prediction of fiber reinforced composites with limited testing data Lu Yubin, Wu Zhen, Zheng Xitao	
			014	Rainflow-Calibrated Meta-Statistics for Spectral Fatigue Damage Tom Irvine		297	Temperature Dependence on Monotonic and Cyclic Damage for Extruded and Electrical Beam Additively Manufactured Ti-6Al-4V Alloy and Implications for the MultiStage Fatigue Model Mark Horstemeyer, Jared Darius, Marcos Lugo	

Thursday, 16:00 - 16:30	COFFEE-BREAK	Lounge
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Thu	Session 10D 14:15-16:00	Room Paris (1 st floor)	Thu	Session 10E 14:15-16:00	Room Lisboa
TOPIC: Damage evaluation and non-destructive testing Chair: Paulo Tavares			TOPIC: Symposium L - Vibration Fatigue and Fracture Chair: Shengchuan Wu; Enrico Salvati; Lulu Liu		
Ref:	Title and Author (s)		Ref:	Title and Author (s)	
050 	Enhancing Battery Durability through Smart Virtual Sensing for Input Force Prediction Şafak Has, Xiaoting Kou, Michael Hack		016 	Integrating Vibration Testing and Fatigue Analysis in Undergraduate Education Raúl Muñoz, Pablo Sánchez-Vázquez, Felicidad García-Sánchez	
066 	Effect of burrs on the fatigue strength of metallic structures: experimental study on open hole Ti-6Al-4V specimens with burrs S. Frutos-Taravillo, E. Paroissien, Y. Landon, S. Schwartz, M. Fressinet, C. Chirol		374 	Spectral Method for Fatigue Life Prediction under Non-Gaussian Random Vibration Loading Daiyang Gao, Zetao Wang	
161 	Estimating fatigue crack location, size, and shape in axially loaded cylindrical specimens using a multi-probe Direct Current Potential Drop method Vecchiato Luca, Campagnolo Alberto, Rollo Matteo, Meneghetti Giovanni		073 	Analytical Modeling of Acceleration Factors for Random Vibration Fatigue Testing Piao Li, Weixing Yao	
183 	Effect of Hold Time During Automated Ball Indentation Testing of Stainless Steel 304L(N) in Pristine and Post-Fatigue Cycling Raghu V. Prakash, S. Vishal		087 	Effects of Different Damage States on the Vibration Characteristics of a Composite Containment Casing under Blade-Off Loading Feng Jin, Jianhao Zhang, Yan Zhang, Ying Zhang, Lulu Liu, Zhihao Xie, Wei Chen	
190 	Influence of microcracks on fatigue behaviour of welded joints Simon Sedmak, Mihajlo Aranđelović, Stefan Dikić, Lazar Jeremić, Još Neko		248 	A Spectral Framework for Multiaxial Random Fatigue Based on the Fatemi–Socie Critical-Plane Criterion Michele Sgamma, Andrea Chiocca, Francesco Bucchi, Francesco Frendo	
456 	Deformation Mechanisms and Fatigue Behavior of Rubber Composites Investigated Using Digital Image Correlation (DIC) Karolina Głowacka, Andrzej Kurek, Andrej Škrlec		360 	High-velocity impact performance of additively manufactured nickel-based superalloy lattice structures: Experimental and Numerical Study Zhihao Xie, Bowen Xue, Lulu Liu, Feng Jin, Yi Ren, Wei Li, Wei Chen	
486 	Fracture Surface Analysis of LPBF-produced Ti-6Al-4V by XPS and AES Yu Cao and Lars Nyborg		200 	Advancing VHCF Characterization of Cantilevered Bending Specimens via Ultrasonic Fatigue Testing A. Oliveira, J. H. Lopes, P. Costa, R. Cláudio, R. Batalha, L. Reis	

Thursday, 16:00 - 16:30	COFFEE-BREAK	Lounge
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Thu	Session 11B 16:30–18:30	Room Berlim (1 st floor)	Thu	Session 11A 16:30–18:30	Room Funchal	Thu	Session 11C 16:30–18:30	Room Sidney (2 nd floor)
TOPIC: Emerging materials and advanced manufacturing Chair: Marcos Pereira			TOPIC: High-cycle and very high cycle fatigue Chair: Alex Araujo			TOPIC: Advanced modelling, simulation, and life prediction methods Chair: Erdogan Madenci		
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
004 	Microstructural evolution and fatigue response of friction stir welded hybrid aluminum joints after T6 heat treatment Marcel Krochmal, T. Wegener, T. Niendorf, G. Moeini		015 	Influence of staircase test parameters on fatigue limit estimation Oussama Ouizour, Leila Khalij, Christophe Gautrelet		383 	Structurally Optimized Anti-fatigue SMA Actuator for Morphing Wings Lulu Chang, Zhi Yi, Lei Zhang	
080 	Anti-fatigue design of additively manufactured titanium alloys Z. J. Zhang, Z. Qu, Z. F. Zhang		464 	Research on Fatigue Strength Improvement of GCr15 Bearing Steel Peng Zhang, Peng Wang, Zikuan Xu, Ziheng Shao, Zhefeng Zhang		416 	Fatigue behaviour of notched L-PBFed AlSi10Mg hollow bars under bending-torsion Ricardo Branco, J.D. Costa, L.P. Borrego, J. de Jesus, R.F. Fernandes, J.A. Martins Ferreira	
112 	High-Throughput Design and Composition Optimization of Gradient Rod Specimens by Additive Manufacturing Yuzheng Xiong, Lei Xu, Mingjie Sun, Yile Luo, Shuai Wang, Jiewei Gao, Shunpeng Zhu		032 	A High-Throughput Method for Standardized Uniaxial Fatigue Testing Amir Mousavi, Ahmed Bilal, Grant West, Derek Warner		296 	Theory of Critical Distances for Fatigue Life Prediction of Notched ZK60 Magnesium Alloy: Insights from X-Ray Tomography Jafar Albinmoussa, Syed Haris Iftikhar, Aamir Farooq, Mumina Ahmed, Alaa Ahmed	
348 	CAI strength and delamination damage suppression of discrete toughened composite under low velocity impact LeiLei Yan, Cong Zhang, Keyu Zhu, Xitao Zheng		036 	Residual stress relaxation and dislocation density evolution of additively manufactured titanium alloy during very high cycle fatigue loading N. Ranc, I. Koutiri, M. Celikin, O. Castelnau, V. Jacquemain, C. Cheuleu, V. Michel, C. Mocuta, D. Thiaudière		330 	Defect generation based on X-ray micro-computed tomography and generative neural networks Marcos Vitouley, Camille Burton, Laurent Dolle, Linamaria Gallegos Mayorga, Pierre Merot, Franck Morel	
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Conference Organising Committee

Friday, 3 July 2026

Friday, 09:00

Conference Tour

departure at the hotel

“Madeira Sightseeing, Wonders of the East – Santana”

