

# 6<sup>th</sup> International Conference on Structural Integrity

Funchal, Madeira, Portugal

1<sup>st</sup> -4<sup>th</sup> September 2025

<http://www.icsi.pt>

ICSI2025 Programme



# Programme Overview

	Sunday 31/08	Monday 01/09		Tuesday 02/09	Wednesday 03/09		Thursday 04/09	
8:00-9:00		REGISTRATION		REGISTRATION		REGISTRATION		
9:00-9:30		OPENING SESSION		REGISTRATION		REGISTRATION		
9:30-10:15		PLENARY LECTURE		PLENARY LECTURE II		PLENARY LECTURE III		
10:15-10:50		COFFEE-BREAK		COFFEE-BREAK		COFFEE-BREAK		
10:45-12:35		Session 1A	Session 1B	Session 1C	Session 4A	Session4B	Session 7A	Session 7B
12:35-14:00		LUNCH		LUNCH		LUNCH		
14:00-15:30		Session 2A	Session 2B	Session 2C	Session 5A	Session5B	Session 8A	Session 8B
15:30-16:00		COFFEE-BREAK		COFFEE-BREAK		COFFEE-BREAK		
16:00-18:00	REGISTRATION 17:00 – 18:00	Session 3A	Session 3B	Session 3C	Session 6A	Session 6B	Session 9A	Session 9B
17:45-18:00					CLOSING SESSION			
18:30-19:30	WELCOME COCKTAIL							
19:30-23:00					CONFERENCE BANQUET			

**CONFERENCE TOUR**  
**“Madeira Sight Seeing”**  
check website

# Technical Program

August 1st, 2025 version

Monday, 01 September 2025

Mon, 09:00 - 09:30	OPENING SESSION	Room Lisboa
	Welcome to Participants <b>Conference Co-Chairs</b> Welcome Address	

Mon, 09:30 - 10:15	PLENARY LECTURE I	Room Lisboa
	<b>Fatigue Behavior of Additively Manufactured Polyamide: From Microstructural Defects to Fracture Mechanics Predictions</b> <b>Alicia Salazar</b> Rey Juan Carlos University, Madrid, Spain Chair: Pedro Moreira	

Mon, 10:15 - 10:50	COFFEE-BREAK	Lounge
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Mon	Session 1A 10:50-12:35	Room Lisboa	Mon	Session 1B 10:50-12:35	Room Berlin	Mon	Session 1C 10:50-12:35	Room Caracas
	TOPIC: Symposium I: Hydrogen Effects in Materials and Embrittlement in Structural Integrity Chair: Florian Schaefer and Hans-Georg Herrmann			TOPIC: Symposium D: Fatigue and Structural Integrity Chair: Luís Reis			TOPIC: Reotech Chair: Bruno Pedrosa	
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
#009 	Influence of hydrogen on crack growth resistance of steels for energy infrastructure applications Alexander Hell, Annette Molz, Torben Werning, Hans-Georg Herrmann		#024 	Impact of Printing Position on Fatigue Life of Additively Manufactured AlSi10Mg under Different Heat Treatment Conditions Martin Matuš, Jan Papuga, David Blaha, Bastian Roidl, Jakub Rosenthal, Jan Šimota		#139 	Numerical Modelling Analysis on the Impact of Laminate Ply Orientation and Pipe Geometry on Thermoplastic Composite Pipe Failure under Thermomechanical Loading Oleksandr Menshykova, Sunny O. Uguzo, Marina Menshykova and Maria Kashtalyan	
#043 	Coupled influence of hydrogen embrittlement, temperature, and strain rate on the tensile deformation and fracture mechanisms of Cr-Mo Steel Mahesh Bharati, Akhilendra Singh, Surajit Kumar Paul		#025 	Structural Analysis of Angular Turns in 3D printing Jiongyi Yan, Andrew Gleadall		#130 	A Graph-Based Framework for Conceptualising Resilience of Offshore Infrastructure C. W. Loh, W. Duan, Z-Z Hu, Y. Li	
#073 	Hydrogen trapping at precipitates in Ni-based superalloy 718: First-principles calculation and Thermal desorption analyses Ryosuke Hara, Masatake Yamaguchi, Osamu Takakuwa		#042 	Investigating the Role of Similitude in R-Ratio-Dependent Fiber-Bridged Fatigue Crack Growth in Asymmetrical Composite-Aluminium Adhesive Joints Vivek Kumar, Akhilendra Singh		#132 	Experimental study of towing configurations for a floating wave energy converter on a model scale J. Pforth, C. Keindorf	
#065 	Fatigue crack growth rate and fracture toughness of electrochemically charged HFW welds of X52 steel Jan Kec, Lukáš Jeníček, Jakub Jindra, Martin Šperl, Lubomír Gajdoš, Jan Bejdl, Klára Kuchtáková, Tomáš Prošek		#056 	Characterisation of Non-Linear Bending Stiffness of a Submarine Power Cable through Cyclic Bending Esteban Cadavid Gil, Kris Hectors, Wim De Waele		#134 	Integration of Renewable Energy for Carbon-Neutral Fish Cold Storage: A Sustainable Approach Leveraging Solar, Wind, and Tidal Resources in Coastal Systems Arian Semedo, João Garcia	
#067 	Unraveling deformation mechanisms by scale-bridging mechanical testing from in situ EC nanoindentation to strain rate jump tensile tests Florian Schäfer, Rouven Schneider, Lukas Hasenfratz		#086 	The effect of gradient determination on the accuracy and performance of gradient-based fatigue damage parameters applied to scanned weld joint topologies Georg Veile, Daniel Klöss, Julius Lotz, Stefan Weihe		#136 	Coatings behavior under cathodic protection for corrosion mitigation of steel monopiles Charalampos Belesakos, Claus Erik Weinell, Kim Dam-Johansen, Huichao Bi	
#058 	Identification of hydrogen trapping parameters from permeation test for hydrogen embrittlement risk assessment Carlo Maria Belardini, Giuseppe Macoretta, Bernardo Disma Monelli, Tom Depover, Renzo Valentini		#106 	Wire Arc Additive Manufacturing Al 5183 alloy Fatigue characterization within High to Very High Cycle Pedro R. da Costa, J. H. Lopes, D. Sequeira, V. Ferreira, M. Gomes, Luís Reis		#138 	Analysis and optimal design of thick-walled composite pipes under combined axisymmetric and asymmetric loading Oleksandr Menshykov, Mou Tang, Tianyu Wang and Marina Menshykova	
			#085 	Development of a finite element model to evaluate the condition of the installation structure of the windshield of the P-3C CUP+ Orion aircraft of the Portuguese Air Force A. Silva, T. Barros, B. Santos, V. Infante, R. Baptista		#125 	Optimal System Configuration for Different PV Module Technologies Considering Shading Influence G. Knežević, D. Topić, M. Žnidarec, E. K. Nyarko	

Monday, 12:35 - 14:00

LUNCH

Restaurant

Mon	Session 2A 14:00-15:30	Room Lisboa	Mon	Session 2B 14:00-15:30	Room Berling	Mon	Session 2C 14:00-15:30	Room Caracas
	TOPIC: Symposium I: Hydrogen Effects in Materials and Embrittlement in Structural Integrity Chair: Florian Schaefer and Hans-Georg Herrmann			TOPIC: Symposium G. Structural Integrity Evaluation of Welded Structures: Damage Assessment, Fatigue Analysis, and Non-Destructive Testing Chair: Raffaella Sesana and Luca Santoro			TOPIC: Reotech Chair: Bruno Pedrosa	
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:		
#075	Potential role of solute hydrogen as strength and ductility improver in Fe-Cr-Ni austenitic steels Yuhei Ogawa, Osamu Takakuwa, Haruki Nishida, Kaneaki Tsuzaki, Akinobu Shibata		#013	Effects of service temperature conditions on mechanical and fatigue behaviour of metal-polymer friction stir composite joints Arménio N. Correia, Rodrigo J. Coelho, Daniel F.O. Braga, Ricardo Baptista, Virgínia Infante		#168	Fatigue crack mechanisms of bolt hole detail Bruno Pedrosa, Behzad V. Farahani, Carlos F.C. Rebelo, Rúben F. Santos, José Correia	
#079	Hydrogen-induced ductility loss of Ni-based superalloy 718: δ-phase related intergranular fracture Osamu Takakuwa, Hiroki II, Ryosuke Hara, Hiroki Matsuo		#027	How to correctly use fatigue crack growth data for weld joints? Residual stress is the key, while microstructure has little effect Tomáš Vojtek, Dušan Tichoň, Pavel Pokorný, Pavel Hutař		#169	An analysis of fatigue behaviour of high-strength bolt steels Carlos F. C. Rebelo, Rita Dantas, Bruno Pedrosa, Daniela I. M. Azevedo, Gonçalo P. Cipriano, Beatriz Silva, Afonso Gabriel, José Correia	
#092	Effect of hydrogen on fatigue and wear resistance of AM stainless steels B. Podgornik, M. Sedláček, B. Šetina-Batič, I. Paulin, B. Zajec, M. Bajt Leban, F. Martin		#045	Implementation of additively manufactured parts in the construction sector via welding Jakob Blankenhagen, Christina Radlbeck, Kevin Höfer, Jonas Hensel, Martin Mensinger		#170	Modal Analysis of a Jacket with OpenFAST-SubDyn and Ansys Mechanical Danial Haselibozhalooee, Lance Manuel, Ruis Reis, Jose A.F.O. Correia	
#096	Advancing Structural Integrity in Hydrogen Transport: The Role of Fibre-Reinforced Composites in Pipeline Technology Niels Grigat, Clemens Müller, Fabian Jung, Ben Vollbrecht, Marcus Welsh, Vinzent Grün		#116	Advanced Small-Scale Testing Methods for Enhancing the Safety of Power Plant Components Daniel Omacht, Petr Dymacek, Krystian Paradowski		#171	Bridging Fatigue Prediction for Aging Infrastructure António Mourão, José Correia, Cláudio Horas, Túlio Bittencourt	
#107	Modelling Hydrogen Embrittlement in Heterogeneous Welded Joints Behzad Vasheghani Farahani, Margo Cauwels, Fuhui Shen, Tom Depover, Kim Verbeken, Wim De Waele		#146	Development of refrigerated Friction Stir Welding Smart Tool with integrated force and torque monitoring Rodrigo J. Coelho, Francisco Novais, Alexandre B. Santos, Tiago M.R.M. Domingues, Daniel Braga, Paulo Tavares, Pedro M.G.P. Moreira, Alberto Gil, Tiago Vieira		#172	A Standards-Based Perspective on Fatigue Design in Railway Steel Components João Nuno Silva, José A.F.O. Correia, Abílio de Jesus	
#078	Thermal activation behavior of dislocation motion in solid solution-strengthened Fe-Cr-Ni austenitic steel with interstitial carbon/hydrogen Haruki Nishida, Yuhei Ogawa, Akinobu Shibata		#054	Influences of various parameters on the weld spot diameter during resistance spot welding of aluminum alloys for structural components Andreas Fezer, Stefan Weihe, Martin Werz		#173	Stress concentration effect induced by marine corrosion in fatigue behaviour of a structural steel Rita Dantas, A. Dantas, G. P. Cipriano, G. Lesiuk, A. de Jesus, J. A.F.O Correia	
#124	Hydrogen Embrittlement and Fracture Behavior of Aged Pipeline Steels: Challenges for Hydrogen Transport in Gas Infrastructure Olha Zvirko		#068	Fatigue analysis of AISI10Mg aluminium alloy cranksets produced by additive manufacturing L. P. Borrego, J.S. Jesus, M. J. P. António, R. Fernandes, R. Branco, J.A.M. Ferreira		#174	Obtaining fatigue properties of old metallic materials based on various estimation methods José A.F.O. Correia, Cláudio Horas, António Mourão, Iara Oliveira, Abílio M.P. de Jesus, Juan Pardal, Sergio Tavares	

Monday, 15:30 - 16:00

COFFEE-BREAK

Lounge

Mon	Session 3A 16:00-17:45	Room Lisboa	Mon	Session 3B 16:00-17:45	Room Berlin	Mon	Session 3C 16:00-17:45	Room Caracas
	TOPIC: Symposium A. Multiscale analysis of Fatigue Crack Growth in materials and structures Chair: Grzegorz Lesiuk			TOPIC: Damage and NDT Chair: Paulo Tavares			TOPIC: Symposium H. Integrity of biological mechanisms and structures Chair: José Xavier	
Ref:	Title and Author (s)		Ref:	Title and Author (s)		Ref:	Title and Author (s)	
#064 	Prediction of crack path and fracture mechanic parameters in CTS specimen under mixed-mode I+II loading utilizing experimental, numerical and machine learning approaches Michał Smolnicki, Paweł Zielonka, Szymon Duda, Grzegorz Lesiuk		#156 	Hierarchical Complexity-Based AI Model for Efficient Feature Extraction in Maritime Acoustic Signal Recognition Hugo Mesquita Vasconcelos, Pedro J. S. C. P. Sousa, António Silva, Susana Dias, Paulo J. Tavares, Pedro M. G. P. Moreira		#166 	Biaxial Mechanical Testing of Human Aortic Tissue: Protocol Review and Preliminary Results João Vau, Bernardo Henriques, Rodrigo Valente, André Mourato, José Xavier, Pedro Sousa, João Nunes, Paulo Tavares, Stéphane Avril, António Tomás, José Fragata	
#071 	Comparison of fatigue crack growth rates in metallic materials manufactured at the turn on 19th and 20th century – selected issues from bridge investigations Grzegorz Lesiuk, Alessandra Schifino, Michał Smolnicki, Bruno Pedrosa, Jose A.F.O. Correia, Abilio M.P. De Jesus		#147 	Multibody Dynamic System for servo press condition monitoring Vasco Gomes, Alexandre B. Santos, Daniela I. M. Azevedo, Tiago M.R.M. Domingues, Susana Dias, Pedro M.G.P. Moreira, Tiago T.M. Soares, António da S. Guedes		#165 	A Neural Network-Based surrogate model of ascending thoracic aortic aneurysms structural mechanics André Mourato, Rodrigo Valente, Bernardo Henriques, João Vau, José Xavier, Moisés Brito, Tiago Silva, Stéphane Avril, António Tomás, José Fragata	
#083 	Fracture behavior of the pultruded hybrid composite rebars under Mode I loading conditions with acoustic emission sensors Paweł Zielonka, Szymon Duda, Michał Smolnicki, Paweł Stabla, Grzegorz Lesiuk		#119 	Post-failure methods for detecting and measuring damage Wojciech Macek, Dawid Zieliński, Wiktoria Wojnicz, Mariusz Deja		#145 	Development, control and preliminary assessment of a tendon-hobbed-pulley thumb-index prosthesis with tactile sensing for precision grasping Patricia G, João N, Pedro S, Susana D, Paulo T, Pedro M	
#091 	Fatigue crack growth rate under mixed loading conditions in ultra-thin bainitic steel for railway applications Szymon Dziuba, Aleksandra Krolicka, Dariusz Rozumek, Grzegorz Lesiuk, Michał Smolnicki, Roman Kuziak, Krzysztof Radwanski, Francisca G. Caballero		#154 	Assessment of Wave Energy Converter Technologies and Site Suitability at the Port of Sines Job S. Silva, Rogério F. F. Lopes, Tiago M. R. M. Domingues, Pedro M.G.P. Moreira, João P. Araújo		#167 	Dynamic Characterization of Ascending Thoracic Aortic Aneurysm Motion Using Gated CT and Principal Component Analysis Rodrigo Valente, André Mourato, Alda Carvalho, Bernardo Henriques, João Vau, Moisés Brito, José Xavier, Stéphane Avril, António Tomás, José Fragata	
#010 	Experimental and Numerical Study of the Pre-Strain Effect on Fatigue Crack Growth Rate Alessandra R. M. Schifino, Tarık Akgül, Michał Smolnicki Grzegorz Lesiuk		#022 	Failure modes identification in E-glass laminates under tension using acoustic emissions: Finite element modelling Muhammad Jahanzeb Zia, Eve Zhang, Christopher M. Harvey, Konstantinos P. Baxevanakis		#032 	Proof of Concept: Advancements in Forearm Amputation Surgery: Nerve Length Preservation and Biomaterial Integration for Neural Exoprosthesis Walid Bahaa-Eddin, Bianca Mihaela Boga, Marius Razvan Ristea, Vlad Petre Atanescu, Bogdan Nitescu	
#033 	Effect of plastic deformation and temperature on the electrical conductivity of a X60 steel for the determination of crack growth initiation by the DCPD technique R. Rodríguez-Aparicio, V. Arniella, I.I. Cuesta, J. M. Alegre, A. Díaz		#155 	Hydrogen Cell Structural Health Monitoring: Simulation and experimental methods to define locations for integrated sensor João N, Susana D, Tiago D, Daniel B, Pedro S, Paulo T, Pedro M		#114 	Characterization of Dowelled Cross-Laminated-Timber panels made of Uruguayan fast-grown species Gastón Bruzzone, Daniel Godoy, Stephany Arrejuria, Diego Passarella, Sebastián Quagliotti, Silvia Böthig, Laura Moya	
			#076 	Rotational seismology role in advancing Structural Health Monitoring Anna T. Kurzych, Leszek R. Jaroszewicz				

Monday, 18:30 - 19:30

WELCOME RECEPTION

COCKTAIL RECEPTION  
Pestana Casino Park Hotel

Tuesday, 02 September 2025

Tue, 09:30 - 10:15	PLENARY LECTURE II	Room Lisboa
<b>Seismic performance of RC buildings: Field lessons, standards and research needs</b>		
<b>Humberto Varum</b>		
Faculdade de Engenharia, Universidade do Porto, Portugal		
Chair: Paulo Tavares		

Tuesday, 10:15 - 10:50	COFFEE-BREAK	Lounge
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Tue	Session 4A 10:50-12:35	Room Lisboa	Tue	Session 4B 10:50-12:35	Room Berlin	0		
	TOPIC: Testing Chair: Virginia Infante			TOPIC: Symposium F: Structural integrity of 3D printed metal components Chair: Vladimir Chmelko or Miloslav Kepka				
Ref:	Title and Author (s)		Ref:	Title and Author (s)				
#144	Influence of Damping Solutions on the Dynamic Response of Freight Wagons     Job Silva, Carolina Francisco, Alexandre M. Low, Daniel Jesus, Tiago M. R. M. Domingues, Pedro M.G.P. Moreira, Paulo Alves, Paulo Oliveira, João Martins, José Rebola, Diogo Alexandre, Ana Amorim, Pedro Marques		#003	"3D print-thermal spray" systems for applications with dynamic and impact loading     Šárka Houdková, Michael-Lutz Berger, Ivana Zetková, Josef Daniel, Adam Nieslony, Miloslav Kepka, Marek Vostřák				
#159	Strain Rate-Dependent Fracture Behavior of Aluminum Alloys     Tiago Domingues, João Reis, Daniela Azevedo, Mário Cunha, Daniel Braga, Pedro M.G.P. Moreira		#023	Fatigue Behavior of Additively Manufactured AlSi10Mg: Influence of Size Effect and Mean Stress     Martin Matušů, Jakub Rosenthal, Lorenzo Pagliari, Jan Papuga, Franco Concli, Bastian Roidl, Jan Šimota, Libor Beránek				
#157	Behavior Prediction in High-Strain Rate Tensile Testing Using the Split Hopkinson Tension Bar: A Simplified Analytical Approach     Daniela Azevedo, Nuno Viriato, Francisco Melo, Beatriz Silva, Daniel Braga, Tiago Domingues, Christian Silva, Job Silva, Francisco Afonso, Pedro M.G.P. Moreira		#031	Using lattice structures to enhance the performance and structural integrity of automotive sports components     J. Bernardes, L. Sousa, V. Infante, R. Baptista				
#060	Stress corrosion cracked specimens for ultrasonic testing development: review and demonstration     Aniko Lilla Hegedüs, Anne Jüngert, Sebastian Görtler, Stefan Weihe		#037	Optimization of process parameters for support-free inclined wall printing and their effect on the mechanical properties of 316L parts produced by SLM     Vít Kroužek, Miroslav Zetek, Ivana Zetková, Simona Svozilová, Lukáš Jeníček, Jan Kec				
#160	Evaluation of a vehicle center of gravity height     Francisco Castro, Francisco Queirós de Melo, David Faria, Job Silva, João Nunes, Pedro Sousa, Mário Vaz, Pedro M.G.P. Moreira		#077	Thermo-mechanical characterization of 3D printed samples with different infill patterns produced by FDM additive manufacturing technique     Paweł J. Madejski, Isyna I. Muna, Tomasz Machniewicz				
#158	Diagnostic and Optimization of a Medium Strain Rate Testing Machine     Mário Cunha, Daniela Azevedo, João Reis, Tiago Domingues, Pedro Sousa, Francisco Afonso, Job Silva, Rogério Lopes, Nuno Viriato, Paulo Tavares, Pedro M.G.P. Moreira		#094	Application of micro-CT for characterization and analysis of 3D-printed samples produced using FDM additive manufacturing method     Paweł J. Madejski, Isyna I. Muna				
#113	Internal swelling reactions in new and existing concrete structures     João Custódio, Sofia Real, António Bettencourt Ribeiro		#122	Additively manufactured metallic materials - specifics of their fatigue properties     Vladimír Chmelko, Matúš Margetin, Filip Likavčan				

Tuesday, 12:35 - 14:00

LUNCH

Restaurant

Tue	Session 5A 14:00-15:30	Room Lisboa	Tue	Session 5B 14:00-15:30	Room Berlin		
	TOPIC: Symposium C: Damage identification and prediction of structural response Chair: Andrzej Katunin			TOPIC: Symposium F: Structural integrity of 3D printed metal components Chair: Vladimir Chmelko or Miloslav Kepka			
Ref:	Title and Author (s)		Ref:	Title and Author (s)			
#004	Evaluation of fatigue strength of polymer-matrix composites based on thermographic data analysis Tomasz Rogala, Andrzej Katunin, Jafar Amraei		#141	Optimization of 3D Printing Parameters to Minimize Residual Stresses in Maraging Steel K. Trojan, I. Zetková, J. Čapek, T. Bakša, N. Ganev, J. Sika			
#006	Damage quantification in composites using self-heating based vibrothermography and dedicated image processing Andrzej Katunin, Jafar Amraei, Dominik Wachla		#028	Printability and Structural Integrity Analysis of Additive Manufactured Parts Using PLA and Mg Machining Chips I. Galvão, P. Almeida, A. Guedes, R. Baptista			
#034	Spatio-temporal graph neural network for damage detection and global structural condition assessment Douaa Benhaddouche, Vincent Barra, Alaa Chateauneuf		#074	Diffusion of moisture from voids in additively manufactured composites: Effect of printing patterns Boyu Li, Konstantinos P. Baxevanakis, Vadim V. Silberschmidt			
#049	Fatigue life prediction of polymer-matrix composites using fracture fatigue entropy concept Jafar Amraei, Andrzej Katunin, Dominik Wachla		#115	Short-term creep behavior of 316L stainless steel prepared by 3D printing Petr Dymáček, Marek Pagáč, Jiří Hajný, Radim Halama, Jiří Čapek			
#087	FBG for stress identification in hanger rods of an industrial boiler Bolesław Bąk, Magdalena Palacz, Łukasz Felkowski		#163	Real-Time Monitoring and Process Parameter Effects on Thermal Regimes in LPBF Y. Bakir, I. Zetková			
#095	Design of the fuel rod for supercritical SMR Yaroslav Dubyk		#142	Investigation of printability and mechanical properties of Hastelloy X (HX) manufactured by Laser Powder Bed Fusion (L-PBF) M.Turhan, I. Zetková, M. Zetek			
#081	Filament Wound Composite Analysis Using the NASA Multiscale Analysis Tool (NASMAT) and Finite Element Analysis Marcus Welsh, Jakob Schuster, Kumar Jois, Fabian Jung, Brett Bednarcyk, Trenton Ricks		#140	Using machine learning for quality control in additive manufacturing A. Polanský, I. Zetková, I. Gruber, Y. Bakir			

Tue, 15:30 - 16:00	COFFEE-BREAK	Lounge
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Tue	Session 6A 16:00-18:00	Room Lisboa	Tue	Session 6B 16:00-18:00	Room Berlin			
	TOPIC: Materials and Manufacturing Chair: Virginia Infante			TOPIC: Fatigue and Fracture Chair: Luís Borrego				
Ref:	Title and Author (s)		Ref:	Title and Author (s)				
#012 	Sensitivity to notch effect of additively manufactured polymers and polymer-matrix composites Sergio Cicero, Sergio Arrieta		#093 	Experimental study of the fatigue behavior of surface modified stainless steel for piping applications F. Barata, E. Calvo-García, M. González-Quintas, A. Riveiro, R. Comesañá				
#055 	Optimization and development of scanning strategies in PBF-LB/M - Influencing mechanical properties of additive manufactured parts Roman Hofmann, Moritz Käß, Martin Werz, Stefan Weihe		#108 	Strain ratio effect on fatigue behaviour of annealed AA5083 aluminium alloy specimens under uniaxial cyclic testing Zbigniew Marciniak, Ricardo Branco, Rui F. Martins, Wojciech Macek, Cândida Malça				
#105 	Fibreglass thermoplastic composite laminates reinforced with fused filament fabrication TPU layers Pedro R. da Costa, Ana Paula Duarte, Manuel Freitas		#029 	Image-driven fatigue crack path prediction and crack tip location using neural networks R. Baptista, V. Infante, Pedro M.G.P. Moreira				
#069 	Influence of Time and Temperature Variables on the Heat Treatment of an Al-Mg Si Alloy João E. Ribeiro, Hernani Lopes, João Rocha		#066 	Service load analyses for fatigue life calculations and laboratory tests of welded joints of trolleybus bodyworks Miloslav Kepka, Miloslav Kepka jr., Radovan Minich, Jaroslav Vaclavík				
#103 	Intelligent control of biomass combustion with respect to the structural integrity of small heat sources Michal Holubčík, Miriam Nicolanská, Patrik Nemec		#082 	On cohesive fracture behavior of ultrahigh-strength lath-martensitic tendon-rods for structural engineering P. Santos, A. Valiente, M. De Abreu, M. Iordachescu				
#026 	In-depth analysis of particulates and temperature within a small-scale pellet combustion chamber Alexander Backa, Radovan Nosek, Nikola Čajová Kantová, Róbert Cibula		#059 	Fatigue crack growth in carbon fibre reinforced polyvinylidene fluoride matrix composite (PVDF/CF) with applications in the oil & gas industry Tiago Lima Castro, Geovane de Almeida Santos da Silva, Camila Alves Farias, Celio Albano da Costa Neto				
#040 	Monitoring of cleanroom environmental quality as a function of air exchange Alexander Čaja, Martin Vantúch, Andrej Kapjor, Nikola Čajová Kantová		#118 	Influence of transverse reinforcement on damage and fracture mechanisms in RC structures during the Kahramanmaraş earthquakes Ercan Işık, Silva Lozančić, Fatih Avcil, Aydın Büyüksaraç, Enes Arkan, Dorin Radu, Marijana Hadzima-Nyarko				
#072 	Development of MAXCarbon: Advancing Hybrid Fibre Solutions for High-Performance Applications F. Jung, L. Artez, N. Grigat, K. Jois, M.R. Welsh, B. Vollbrecht							

**Wednesday, 03 September 2025**

Wed, 09:30 - 10:15	PLENARY LECTURE III	Room Lisboa
<b>Structural Integrity of Friction Stir Structures</b>		
<b>Virginia Infante</b>		
IDMEC – Instituto de Engenharia Mecânica, Instituto Superior Técnico, Portugal		
Chair: Humberto Varum		

<b>Wednesday, 10:15 - 10:50</b>	<b>COFFEE-BREAK</b>	<b>Lounge</b>
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Wed	Session 7A 10:50-12:35	Room Lisboa	Wed	Session 7B 10:50-12:35	Room Berlin			
	TOPIC: Symposium E. Structural Health Monitoring Chair: Hernani Lopes			TOPIC: Fatigue and Ageing Chair: Luís Borrego				
Ref:	Title and Author (s)		Ref:	Title and Author (s)				
#148 	Condition-Based Monitoring System for a Stamping Press Carolina Francisco, Hugo Mesquita Vasconcelos, Susana Dias, Paulo J. Tavares, Pedro M. G. P. Moreira, Tiago T.M. Soares, António da S. Guedes		#164 	Composite Solid Propellants: Assessing Aging and Structural Integrity for Long-Term Performance Jesús Rodríguez, Mario Martínez, Raúl López, Alicia Salazar				
#044 	Modelling Trabecular-bone Adaptation: Comparing Mechanical Stimuli with USDFLD Framework Zihao Liu, Simin Li, Vadim V. Silberschmidt		#110 	On the applicability of Goodman's approach in the very high cycle fatigue regime (VHCF) J.A. Araújo, T.L. Castro, M.V. Pereira				
#149 	Development of a fiber-optic based sensor for power transformer clamping load monitoring Vasco Gomes, Job Silva, Alexandre B. Santos, Mário Cunha, Tiago M.R.M. Domingues, Susana Dias, Pedro M.G.P. Moreira, Helena Lopes		#030 	In plane biaxial fatigue crack propagation specimen optimization using grey and black box machine learning solutions J. Aguilar, P. Moita, V. Infante, R. Baptista				
#050 	ML aided SHM of composite overwrapped pressure vessels Deivis Baranovskis, Sandris Rucevskis, Rims Janeliukstis		#097 	Notch fatigue analysis of L-PBF AlSi10Mg aluminium alloy under bending-torsion loading R. Branco, J.D. Costa, L.P. Borrego, J. Jesus, R.F. Fernandes, J. Martins Ferreira				
#150 	Vision based defect detection sorting system for transformer recycling: A machine learning data fusion approach using RGB and height maps Carolina Francisco, Francisco Afonso, Susana Dias, Pedro Sousa, Paulo Tavares, Pedro M.G.P. Moreira, Luis Almeno, Helder Martins		#109 	Fatigue life of high-strength steels subjected to high frequency fatigue loading – The influence of notches with various stress concentrations Jan Klusák, Kamila Kozáková, Stanislav Seitl				
#051 	Optimization of digital prosthetic socket design based on liner results Fang Liu, Simin Li, Daniel Fong		#015 	About airborne fatigue life predictions by means of full-field receptances. Part A: retrieving structural forces from pressure fields Alessandro Zanarini				
#017 	Continuous wavelet transform-based estimation of resonance frequencies for monitoring of a TV tower R. Janeliukstis, D. Mironovs, S. Rucevskis, L. Gaile		#014 	About airborne fatigue life predictions by means of full-field receptances. Part B: estimating the failure distribution with spectral methods Alessandro Zanarini				

Wednesday, 12:35 - 14:00

LUNCH

Restaurant

Wed	Session 8A 14:00-15:30	Room Lisboa	Wed	Session 8B 14:00-15:30	Room Berlin			
	TOPIC: Symposium E. Structural Health Monitoring Chair: Hernani Lopes			TOPIC: Composite Materials Chair: Pedro Sousa				
Ref:	Title and Author (s)		Ref:	Title and Author (s)				
#052 	Finite element evaluation of hyperelastic behaviour of human thigh: the effects of 2D/3D, material heterogeneity and confinement Zhenyu Li, Simin Li, Vadim Silberschmidt		#001 	Fibre reinforced Self-Healing Polymer Composites – An Acoustic Emission based Characterisation Claudia Barile, Giovanni Pappalettera, Vimalathithan Paramsamy Kannan				
#151 	Non-contact structural analysis of transformer housings under dynamic loading conditions using vision-based 3D measurement techniques Francisco Afonso, Susana Dias, Hugo Mesquita, João Nunes, Pedro Sousa, Paulo Tavares, Pedro M.G.P. Moreira, Cassiano Linhares, André Branquinho		#005 	Analysis of glass fiber reinforced polymer with embedded solar cell Jacek Rduch, Arun Wing22222in Amaladoss, Wojciech Skarka				
#063 	Structural analyses of CFRP and GFRP with embedded fiber optics manufactured using standard and AM methods Magdalena Mieloszyk, Suvam Bhandra		#070 	Mechanical Characterization of Eco-Friendly Composites: Green Epoxy Resin Reinforced with Coir Fibers João E. Ribeiro, Hernani Lopes, João Rocha				
#152 	Non-contact vibration measurement using event-based neuromorphic imaging Francisco Sousa, Francisco Afonso, Pedro Sousa, Susana Dias, Paulo Tavares, Pedro M.G.P. Moreira		#099 	Effect of time on longitudinal fracture in functionally graded beam constructions Victor Rizov				
#120 	Improving Damage Identification Through Advanced Phase Map Analysis H. Lopes, J. V. Araújo dos Santos, M.A.P. Vaz		#100 	Twisting and bending of planar members of circular cross-section: a delamination analysis with considering the loading velocity effect Victor Rizov				
#121 	Inspection of Damage in Laminated Composite Plates: Active Thermography vs Digital Shearography J. N. Queirós, H. Lopes, L. Mourão, J. V. Araújo dos Santos		#020 	Energetic evaluation of tubular adhesive joints: adherend material effect C.F.F. Gomes, R.D.S.G. Campilho, A.J.A. Vieira, D.C. Gonçalves				
			#101 	Longitudinal fracture study of inhomogeneous beams built in ends subjected to increased temperature Victor Rizov				

Wednesday, 15:30 - 16:00	COFFEE-BREAK	Lounge
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Wed	Session 9A 16:00-18:00	Room Lisboa	Wed	Session 9B 16:00-17:45	Room Berlin			
	TOPIC: Symposium B: Failure analysis Chair: Virginia Infante			TOPIC: Modelling and Analytical Chair:				
Ref:	Title and Author (s)		Ref:	Title and Author (s)				
#123	Health analysis of welds of pressure vessels after multi-annual operation Vladimír Chmelko, Matúš Margetin, Miroslav Šulko		#011	Structural integrity assessment of a spent fuel cask by using BS7910 Enrique Gómez, Alejandro Palacio, Virginia Madrazo, Sergio Cicero				
#084	Failure Analysis of a Portuguese Air Force C-130H Engine Truss Mount Structure Nuno Rodrigues, Bruno Santos, Tomás Barros		#018	Meshless analysis of pure mode I and mode II fracture propagation in adhesively bonded joints D.C. Gonçalves, L.D.C. Ramalho, R.D.S.G. Campilho, J. Belinha				
#007	Quantification of the load path-dependent damage evolution in case hardening steel 16MnCr55 L. A. Lingnau, J. Heermant, L. M. Sauer, F. Walther		#039	Flue gases flowing in the four-tubular electrostatic precipitator with an inserted screw construction based on CFD simulations Nikola Čajová Kantová, Alexander Backa, Alexander Čaja, Patrik Nemec				
#143	Evaluation of a railway coach crashworthiness for the purpose of certification Christian J. Silva, Rogério F. F. Lopes, Alexandre M. Löw, Vasco B. Gomes, Nuno Viriato, Pedro M. G. P. Moreira, João S. Silva, João M. B. Cruz		#053	Continuum damage model for the polyurethane coating of wind turbine blades Alireza Shadmani, Dieter Fauconnier, Wim De Waele				
#161	Optimisation of lumped parameter models for reduced-order modelling in railway crashworthiness analysis Rogério F. F. Lopes, Christian J. Silva, Rodrigo R. Menéres, Alexandre M. Löw, Nuno Viriato, Francisco Castro, Pedro M. G. P. Moreira, João S. Silva, João M. B. Cruz		#019	Impact strength optimization of dual-adhesive joints by cohesive zone modelling L.A.S. Maia, R.D.S.G. Campilho, J.F.B. Martins, A.J.A. Vieira, D.C. Gonçalves				
#008	Electrical resistance-based fatigue damage assessment of steels L. M. Sauer, L. A. Lingnau, F. Walther		#041	On dynamic fracture along curved planes of weakness Koji Uenishi				
#080	Bending of laminated wood-metal composites consisting of ultra-thin birch veneers and an aluminum alloy sheet Eva Graf, Tolgay Akkurt, Georg Baumann, Jaan Kers, Florian Feist, Josef Domitner		#021	Impact loading analysis of tubular adhesive joints with geometrical modifications P.D.A. da Silva, R.D.S.G. Campilho, M.J.R. Queirós, D.C. Gonçalves				
#102	Influence of Voids on Structural Properties of a Composite Pressure Vessel Kumar Jois, Marcus Welsh, Takemoto Shinichirou, Nobuhiro Yoshikawa							

Wednesday, 17:45 – 18:00

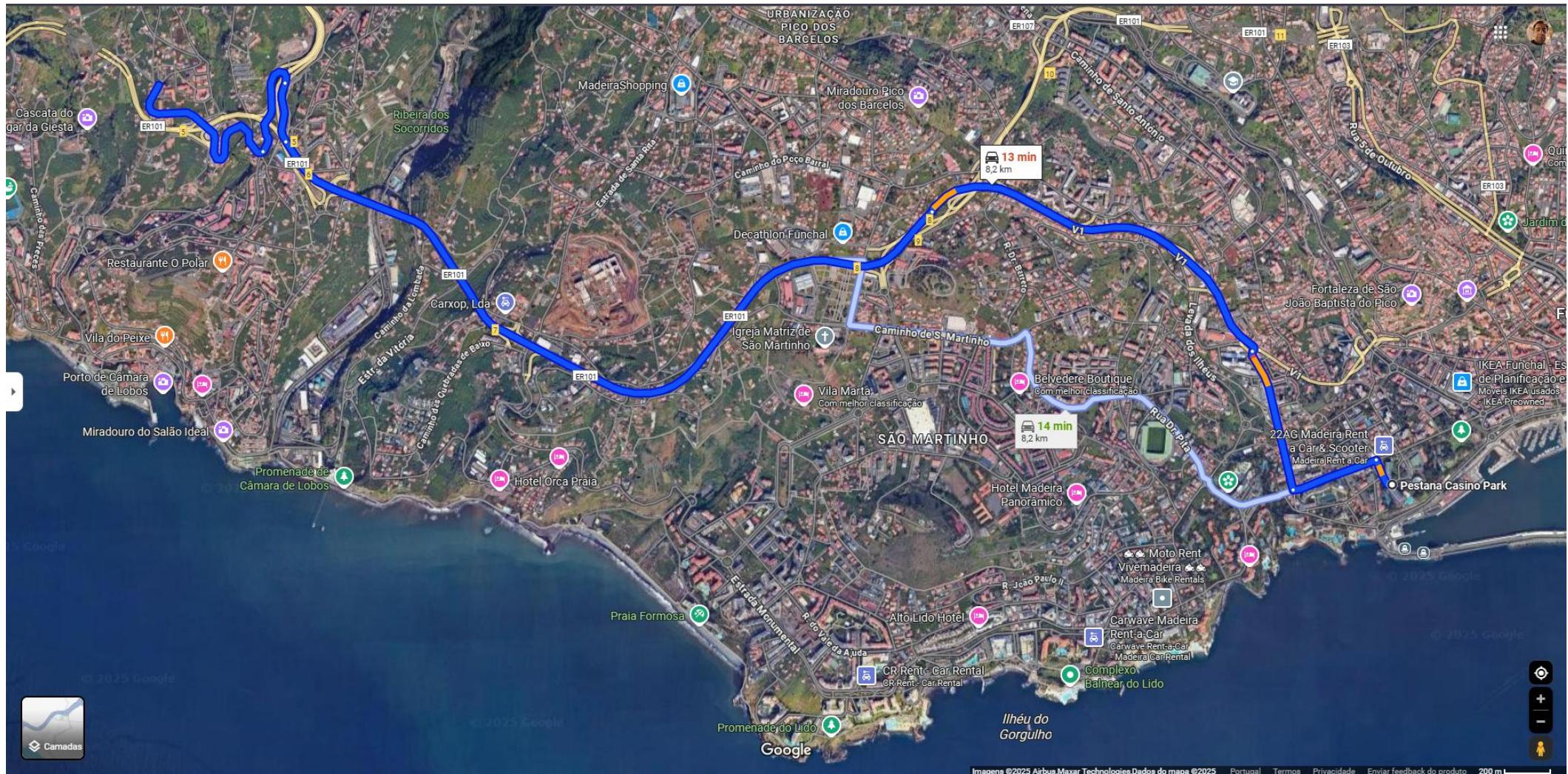
CLOSING SESSION

Room Sunset

Conference Organizing Committee



CONFERENCE BANQUET  
Restaurante 'O Lagar', Câmara de Lobos'  
Bus transportation will be available



Thursday, 04 September 2025

Thursday, 09:00

Conference Tour

departure at the hotel

"Madeira Sight Seeing, Funchal – Eira do Serrado and Monte – Full day"



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