

		MONDAY, October 27	Chair	Co-Chair	Local
09:00	10:00	REGISTRATION			Front Desk
10:00	10:30	OPENING CEREMONY			B003
10:30	11:00	KEYNOTE I <i>Virgínia Infante</i> (IDMEC) <i>LAETA 2025-2029 Multiannual Programme</i> .	Ana Ramos (INEGI)		B003
11:00	11:30	COFFEE BREAK			Lounge
PARALLEL SESSIONS 1: ISC I, SMS I & MMP I					
11:30	13:00	ISC I: Intelligent Systems & Control <i>Afonso Carvalho</i> , <i>Ant colony Optimization applied to traditional and non-traditional warehouse layouts.</i> <i>Miguel S. E. Martins</i> , <i>A Digital Twin of the Ocean for the Azores Technological Free Zone.</i> <i>Jhonny Rodrigues</i> , <i>A Framework to Physics-Informed Neural Networks for thermal distribution in composite materials.</i> <i>Filipe Santos</i> , <i>Hidden Yet Exposed: Embeddings Encode Sensitive Information.</i> <i>André R. Silva</i> , <i>Preliminary Exploration of IK3070 Airfoil Dynamics Using Machine Learning.</i> <i>João P. M. Oliveira</i> , <i>Task-Parameterized Learning of Nonlinear Stable-Dynamical Systems.</i>	Duarte Valério (IDMEC)	Leandro Magalhães (AEROG)	B001
11:30	13:00	SMS I: Structures & Mechanical Systems <i>Alexandre M. Palaio</i> , <i>Improvement of a Fast Conceptual Rocket Design and Trajectory Optimization Framework with Hybrid Engine Model.</i> <i>Erdem Dinler</i> , <i>Unveiling Interrelations among Mechanical Properties of Polymer Composites.</i> <i>Francisco Machado</i> , <i>XFoil Neural Network: A Data-Driven Surrogate for 2D Airfoil Aerodynamic Analysis.</i> <i>Francisco Portela</i> , <i>New design of Bogie Y25 for Iberian Railway Gauge.</i> <i>Vitor Silva</i> , <i>Validation of Finite-Element Model of a MALE UAV Composite Wing with Experimental Static Bending Test.</i> <i>Rui Coelho</i> , <i>Composite Bayesian Optimisation for the Analysis and Design of Materials and Structures.</i>	Nuno Silvestre (IDMEC)	Carlos Viegas (ADAI)	B002
11:30	13:00	MMP I: Materials & Manufacturing Processes <i>Bernardo L. Ribeiro</i> , <i>Complex Concentrated Alloys as a Pathway to Next-Generation Lead-Free Brasses.</i> <i>Daniel S. Correia</i> , <i>Development of a unified specimen for direct generation of cohesive zone law data of adhesives.</i> <i>Hélder Nunes</i> , <i>Valorisation of Al-Si Secondary Alloys through Controlled Rare Earth Microalloying.</i> <i>Vasco Rodrigues</i> , <i>Debonding methods for electric vehicles battery packs.</i> <i>Luis Piedra Marín</i> , <i>Atomic-Scale Visualization of Moiré Patterns in Graphene Using TEM.</i> <i>Duarte Cachulo</i> , <i>Hydrogen environmental embrittlement in high-strength steels and their welds: from unified continuum-mechanics modeling to in-situ experimental characterization.</i>	Virgínia Infante (IDMEC)	Ana Ramos (INEGI)	B003
13:00	14:00	LUNCH BREAK			Lounge

		MONDAY, October 27		Chair	Co-Chair	Local	
14:00	14:30	KEYNOTE II <u>André Silva</u> (AEROG) <i>Open Science in the Research Process.</i>			Carlos Viegas (ADAI)		B003
PARALLEL SESSIONS 2: BIO I, MMP II & EES I							
14:30	16:00	BIO I: Biomechanics <u>Carlos Quental</u> , <i>Application of statistical shape models in the 3D reconstruction of the scapula and estimation of the glenohumeral joint center from limited data.</i> <u>Margarida Neves</u> , <i>A Geometry Based Simplified L4-S1 Finite Element Model for Topology Optimization of Spinal Cages.</i> <u>Catarina Rocha</u> , <i>Impact of Anterolateral Ligament Reconstruction on Knee Joint Pressure Following ACL Surgery.</i> <u>Madalena Antunes</u> , <i>A rotational driving constraint based on relative Euler parameters for redundancy-free multibody kinematics and dynamics.</i> <u>Luís Pacheco</u> , <i>Polynomial Surrogates for F-Actin Networks with Compliant Crosslinkers.</i> <u>Sérgio B. Gonçalves</u> , <i>H-Move: A Novel Multibody Tool Based on Fully Cartesian Coordinates and a Generic Rigid Body Formulation for Biomechanical System Analysis.</i>			Marco Parente (INEGI)	Leandro Magalhães (AEROG)	B001
14:30	16:00	MMP II: Materials & Manufacturing Processes <u>João Magrinho</u> , <i>Improving Local Formability in Sheet Injection Using Tailored Laser Heat Treatment.</i> <u>Jorge Gil</u> , <i>Predicting the fatigue life of 18Ni300 Maraging steel produced via directed energy deposition: an heuristic method.</i> <u>Pedro Rosado</u> , <i>Towards thin-walled construction by arc-based directed energy deposition via adaptive three-axis deposition strategies.</i> <u>Fahad Zafar</u> , <i>Characterization of Green Feedstock for Additive Manufacturing – Case study of a High-strength Aluminium alloy powder.</i> <u>Tiago Oliveira</u> , <i>Chemical-mechanical Devulcanization of SBR at Low Temperatures.</i> <u>Alina Rodrigues</u> , <i>An iterative design of experiments approach for 4D printing of PLA/EVA blends.</i>			Luís Reis (IDMEC)	Ana Ramos (INEGI)	B002
14:30	16:00	EES I: Energy, Environment & Sustainability <u>James Ogundiran</u> , <i>A Comparative Study on Indoor Air Quality, Air Stiffness, and Air Change Rate in Classrooms with Different Ventilation Strategies.</i> <u>Fátima Felgueiras</u> , <i>Exploring the impact of indoor plants in modern offices on IEQ and workers' health, well-being and productivity.</i> <u>Muhammad Tayyab Waheed</u> , <i>IEQ in healthcare settings: Impact of continuous monitoring system on Infection risk, Thermal comfort and Energy Efficiency.</i> <u>João Pedro Cardoso</u> , <i>Modelling for net zero and positive energy districts: integrating new technological solutions.</i> <u>Sofia Gonçalves</u> , <i>Integrated Experimental–Modelling Framework for Calorific Energy Assessment in a Microwave Dual-Mode Cylindrical Cavity.</i> <u>Bruno Cardoso</u> , <i>The Afroenergy project: Empowering Mozambique for a just energy transition and improved living conditions.</i>			Vitor Leal (INEGI)	Carlos Viegas (ADAI)	B003
16:00	16:30	COFFEE BREAK					Lounge

		MONDAY, October 27	Chair	Co-Chair	Local
PARALLEL SESSIONS 3: EES II, SMS II & MMP III					
16:30 18:00	EES II: Energy, Environment & Sustainability <u>Beatriz Arouca Maia</u> , <i>Design of Nanostructured LFP-Based Cathodes via Ultra-Low CNT Loading.</i> <u>Joana Gouveia</u> , <i>Driving Sustainability in Solid-State Battery Design: A Regulatory Blueprint for Ecodesign Excellence.</i> <u>Tiago Fernandes</u> , <i>Towards Lab-Scale Implementation of a Heat Pump–Organic Rankine Cycle Carnot Battery.</i> <u>Manuela Baptista</u> , <i>Anode-less solid-state batteries with a ferroelectric electrolyte: improved performance.</i> <u>Sara Pinto</u> , <i>European Regulations for the Digital Product Passport Implementation – A Transition to a Sustainable Economy.</i> <u>Carlos Viegas</u> , <i>Challenges and breakthroughs towards the automation and electrification of forestry heavy machines.</i>	Adélio Gaspar (ADAI)	Ana Ramos (INEGI)	B001	
16:30 18:00	SMS II: Structures & Mechanical Systems <u>António Carneiro</u> , <i>A Unified Approach to Contact between Rough Surfaces: Contact Homogenisation with the Method of Multiscale Virtual Power.</i> <u>Adriana Oliveira</u> , <i>Wing Fatigue in the VHCF Regime: Numerical and Experimental Simulations.</i> <u>Igor Lopes</u> , <i>FE2 Modelling of Localisation with Second-Order Homogenisation with Emphasis on the Impact of the RVE Length and the Interplay between Mesh-Dependency Across Scales.</i> <u>Paulo Ricardo Rocha</u> , <i>Effect of the temporal discretization of contact forces on dynamic contact simulations using modified mass matrix.</i> <u>Pedro Pinto</u> , <i>Damage Modelling of Bolt-less HYPER Joints for Composite Connections.</i> <u>Francisco Ricardo</u> , <i>Axial Structural Stiffness Effects on Gear Dynamic Behaviour.</i>	André Silva (AEROG)	João Magrinho (IDMEC)	B002	
16:30 18:00	MMP III: Materials & manufacturing Processes <u>Matilde Martins</u> , <i>Design, Manufacturing and Testing of an Innovative Ultrasonic Fatigue Specimen Composed of Cellular Structures.</i> <u>Beatriz Sousa Monteiro</u> , <i>Influence of Substrate Roughness and Coating Composition on HiPIMS-Coated SiAlON Cutting Tools.</i> <u>Inês Almeida</u> , <i>Formability limits in thin-walled tubes with square cross section and L-section profiles.</i> <u>Rúben Costa</u> , <i>Internal Hole Quality Assessment in the Drilling of Thin CFRP/Al Multi-Material Stacks.</i> <u>João Viegas</u> , <i>A new methodology for controlled thickness in deformation machining.</i> <u>Francisco Bumba Paca</u> , <i>Application of Stress scale factor approach to 316L stainless steel produced by powder bed fusion-laser beam.</i>	Abílio de Jesus (INEGI)	Leandro Magalhães (AEROG)	B003	
20:00 23:00	EJIL 2025 DINNER			Casa da Música	

		TUESDAY, October 28		Chair	Co-Chair	Local	
09:00	09:30	KEYNOTE III <u>Nuno Silvestre</u> (IDMEC) <i>Wrinkling Mitigation in Solar Sails Through a Multiscale Approach.</i>			Leandro Magalhães (AEROG)	B003	
09:30	11:00	PARALLEL SESSIONS 4: EES III, BIO II & ISC II					
09:30	11:00	EES III: Energy, Environment & Sustainability <u>Guilherme Grácio</u> , <i>Optimization of a Hydrogen and Natural Gas Blending and Injection Station.</i> <u>Miguel Coelho</u> , <i>Techno-economic performance analysis and environmental impact assessment of transporting hydrogen through pipelines.</i> <u>João Martins</u> , <i>Effect of Turbulence Models on Hydrogen Injection Flow Dynamics in Natural Gas Pipelines.</i> <u>Shiyuan Yang</u> , <i>Intelligent identification of hydrogen trap information in temperature-programmed hydrogen desorption.</i> <u>Maryam Karimi</u> , <i>Investigating the Degradation Mechanisms of IrO₂ Catalysts for PEM Water Electrolysis Using In-Situ Scanning Transmission Electron Microscopy.</i> <u>Daniela Alves</u> , <i>Moisture content of live and dead fine fuels and their relation to meteorological conditions and wildfire activity in the Central Region of Portugal (2000-2024).</i> <u>Leandro Magalhães</u> , <i>Evaluation of Different CO₂ Capture Technologies - Life Cycle Assessment approach.</i>			Manuel Gameiro (ADAI)	Leandro Magalhães (AEROG)	B003
09:30	11:00	BIO II: Biomechanics <u>David Lopes</u> , <i>Development of biomimetic polyvinyl alcohol/ polyethylene oxide/ lysine membranes functionalized with ibuprofen and salicylic acid for application in the regeneration of skin wounds.</i> <u>Evangelia Antoniadi</u> , <i>Development of Melt-Electrowritten Mesh Implants with Integrated Antistatic Properties for Hernia Repair.</i> <u>Jhoselyn Acosta Yanez</u> , <i>Production of 3D printed scaffolds coated with Gelatin and Tree tea oil for future application in bone tissue regeneration.</i> <u>Nuno Miguel Ferreira</u> , <i>Mechanical Suitability of Biodegradable Meshes in Pelvic Organ Prolapse Treatment.</i> <u>Pedro Nogueira</u> , <i>Experimental evaluation of intended decay of mechanical properties in iron lattice materials for biodegradable implants.</i> <u>Sérgio B. Gonçalves</u> , <i>On the Analysis of the Hemocompatibility of 3D-Printed ABS.</i>			Carlos Fonseca (INEGI)	João Magrinho (IDMEC)	B016
09:30	11:00	ISC II: Intelligent Systems & Control <u>Armin Halicki</u> , <i>A Requirements-Driven Control Architecture for Coordinated Robotic Ocean Surveys.</i> <u>João Madeiras</u> , <i>Quadrotor Trajectory Tracking: An Almost Global Full-State Solution.</i> <u>Fábio Silva</u> , <i>Benchmarking CNN Architectures for Robust Surface Defect Detection Across Multiple Domains.</i> <u>Luís Martins</u> , <i>Robust Global Exponential Attitude Tracking on SO (3) via Optimal MRP-Based Hybrid Feedback.</i> <u>João Bogas</u> , <i>Cost-Effective AUV Navigation.</i> <u>Pedro Santos</u> , <i>Trajectory Tracking Control for Sounding Rockets via Adaptive Feedback Linearization.</i>			João Sousa (IDMEC)	Ana Ramos (INEGI)	B015
11:00	11:30	COFFEE BREAK				Lounge	

		TUESDAY, October 28	Chair	Co-Chair	Local
PARALLEL SESSIONS 5: EES IV, SMS III & MMP IV					
11:30	13:00	EES IV: Energy, Environment & Sustainability <u>Ana Ramos</u> , <i>Environmental and Economic Benchmarking of Municipal Waste Management through Waste-to-Energy Techniques.</i> <u>Rui Silva</u> , <i>Development of a HTHP design tool for industrial waste heat recovery system integrated with a two-phase variable geometry ejector and IHX using natural refrigerants.</i> <u>Bruno Cardoso</u> , <i>Understanding Energy Efficiency Barriers and Drivers in the Portuguese Water Sector: Upstream and Downstream Perspectives.</i> <u>Mariam Sakhradi</u> , <i>Trends, Gaps, and Methodological Challenges in Kinetic Modeling of Biomass Torrefaction: A Systematic TGA Review.</i> <u>Filipe Neves</u> , <i>Biomass combustion using a transient state approach.</i> <u>Matheus Oliveira</u> , <i>Valorization of Plastic-Biomass Mixtures in Co-Gasification: Simulation and Performance Assessment Using Aspen Plus®.</i> <u>Diogo Oliveira</u> , <i>Balancing beef: a physics-based multi objective framework for profit-sustainability trade-offs in beef production.</i>	Eliseu Monteiro (INEGI)	Carlos Viegas (ADAI)	B016
11:30	13:00	SMS III: Structures & Mechanical Systems <u>Nuno Matos</u> , <i>Automatic Aircraft Parametric Shape Generation for Design Optimization.</i> <u>Júlia Ribeiro</u> , <i>A Systematic Review of Cabin Noise Control Strategies for VTOL Aircraft.</i> <u>Pedro Cardoso</u> , <i>Low Reynolds UAV Airfoil Adjoint-Based Optimization with SA-BCM Transition Model.</i> <u>Pedro Brito</u> , <i>Aeroelastic simulation of torsional vibrations in a single-axis solar tracker.</i> <u>Renato Morais</u> , <i>Numerical Modeling of Oceanic Asteroid Impacts Using LSDYNA.</i> <u>Pegah Mohammadpour</u> , <i>Estimating Forest Canopy Fuel Parameters Using a Multi-Source LiDAR Approach for Central Portugal.</i>	Francisco Pires (INEGI)	Leandro Magalhães (AEROG)	B015
11:30	13:00	MMP IV: Materials & manufacturing Processes <u>Ana Rita Carreiras</u> , <i>Production of thermoplastic composites by pultrusion.</i> <u>Arménio Correia</u> , <i>Feasibility research on metal-polymer composite panels with integrated channels for thermal management systems.</i> <u>Beatriz Pereira</u> , <i>Assessment of embedded-element-based models for micro-scale simulation of fibre-reinforced composites.</i> <u>Cláudia Mouro</u> , <i>Sustainable valorization of wool keratin waste into functional nanofibers via electrospinning using deep eutectic solvents.</i> <u>Ruben Pereira</u> , <i>On the investigation of tailoring local permeabilities of ADFP thin-ply preforms on the enhancement of their VI processability.</i> <u>Benjamin Andoh-Appiah</u> , <i>Modular Onshore Power Supply Containers Made From Reused End-Of-Life Wind Turbine Blades.</i> <u>Pedro Lopes</u> , <i>Microstructural and Physical Characterization of Atomet 195 SP Iron Powder for Laser Powder Bed Fusion.</i>	Sónia Simões (INEGI)	João Magrinho (IDMEC)	B003
13:00	14:00	LUNCH BREAK			Lounge
14:00	14:30	KEYNOTE IV <u>Pedro Camanho</u> , <i>How to write competitive research proposals - a personal view</i>	João Magrinho (IDMEC)		B003

		TUESDAY, October 28	Chair	Co-Chair	Local
PARALLEL SESSIONS 6: SMS IV & BIO III					
14:30	16:00	SMS IV: Structures & Mechanical Systems <u>João Marafona</u> , <i>How Gear Mesh Stiffness Asymmetry Influences Gear Behaviour.</i> <u>Rita Dantas</u> , <i>An analysis of the frequency effect in fatigue data: from uniaxial to multiaxial loading.</i> <u>Pedro Marques</u> , <i>Modified gears for constant mesh stiffness.</i> <u>Abhishek S. Bhadouria</u> , <i>Identifying the most appropriate lifetime variable for maintenance freight wagon wheelsets.</i> <u>Stéphane Portron</u> , <i>Investigating Gear Mesh Stiffness in High Contact Ratio Plastic Gears.</i> <u>Tiago Sabino</u> , <i>Toward modeling transfer film evolution in tribological contacts: A preliminary computational approach.</i>	António Andrade (IDMEC)	Leandro Magalhães (AEROG)	B003
14:30	16:00	BIO III: Biomechanics <u>Micaela Cunha Rodrigues</u> , <i>Association between Maximum Handgrip Strength and Force-Time Curve Indicators from Handgrip Digital Dynamometry with Undernutrition Risk in a Multicentre Cross-Sectional Sample of Heart Failure Outpatients - The NUTRIC Project.</i> <u>Rita Moura</u> , <i>Modeling the Dynamics of Vacuum-Assisted Delivery: A Biomechanical Study.</i> <u>Joana Cerqueira</u> , <i>Diagnosis, Monitoring, and Functional Recovery of Knee Musculoskeletal Injuries.</i> <u>Flávio L. Lázaro</u> , <i>Identifying Human Factors in Aviation Accidents with Natural Language Processing and Machine Learning Models.</i> <u>Vasco Reis</u> , <i>Immersive Tools for The Future of Mining Engineering Students.</i>	Mário Vaz (INEGI)	João Magrinho (IDMEC)	B015
16:00	16:30	CLOSING CEREMONY			B003
16:30	17:30	FAREWELL COFFEE			Lounge