

PAMDAS 2025

Coimbra, Portugal, 17/18 July 2025
Program (v5, provisional, 2025-07-14)

Website: <https://pamdass.rcm2.pt/event/1/>

PROGRAM FOR AUDITORIUM 1 (Main Auditorium)

2025-07-17

09:00	Registration (Main Auditorium entrance)
09:30	Opening Ceremony
09:30	Dr Carlos Lopes, City of Coimbra
09:35	Public Association of Engineers
09:40	Prof. Pedro Marques, RCM ²⁺
09:45	Eng. Joaquim Vieira, APMI
09:50	Dr João Cardoso, DSPA
09:55	Prof. Mateus Mendes, RCM ²⁺
10:00	Prof. João Trovão, ISEC
10:00	Keynote Speech, by Prof. Diego Galar, LTU, Sweden
	<i>Chair: Eng. Joaquim Vieira</i>
11:00	Coffee-break
11:30	Sessions – Data-driven Decision Making
	<i>Chair: Pascoal Silva</i>
	20Optimizing asset management through reliability data analysis José Sobral
	14Vibration monitoring using contactless technology, case study David Baglee, Derek Dixon, ABDU SHAALAN
	37Optimizing the Requisition System for the Purchasing Process in the Industrial Sector: A Case Study on Digital Transformation and Continuous Improvement Maria Inês Pinho, Ana Vieira
12:30	Lunch
14:00	Sessions – Advanced Asset Management I
	<i>Chair: Pedro Marques</i>
	26The Transformative Role of FPGA Platforms in Accelerating AI tasks Almiri Karkimbayeva, Gulfarida Tulemissova, Shynar Yelezhanova
	58Machine Learning Approach to Fault Detection in Microclimate system at Residential and Non-residential buildings Lyazzat Atymtayeva, Nurkamilya Daurenbayeva, Mateus Mendes, Almas Nurlanuly, Bagdat Yagaliyeva
	30Analysis of the state of a plastic injection machine Jorge Barreiros, João Costa, Gonçalo Martins, Mateus Mendes, Rui Silva
15:00	Sessions – Sustainability and Asset Management
	<i>Chair: Moldir Kumatova</i>
	32Ozone pollution levels in Portugal (2023): geostatistical interpolation Luís Margalho, Pascoal Silva
	34Raw material waste reduction in a food industry manufacturing unit: a case study on equipment changes and process optimization Mariana Clemente, Ana Vieira
	41Prediction and Mitigation of Wild Forest Fires using AI - Literature review Luís Travassos, João Santos, Diogo Pinho, Paulo Fernandes, Fernanda Brito Correia
16:00	Coffee-break
16:30	Sessions – Digital Transition
	<i>Chair: Lyazzat Atymtayeva</i>
	33A comparative analysis of AR equipment for physical asset management applications Francisco Malva, Jose Marinho, Nuno Cid Martins, Ana Malta, Mateus Mendes, Nuno Ferreira
	Performance of Projects of Construction Companies in Portugal Caropul Mendes, Hugo Raposo, João Pedro Couto, J. Edmundo de-Almeida-e-Pais, Jorge Raposo, Torres Farinha
	19A Comprehensive Digital Twin-Based Maintenance Model for Enhanced Asset Reliability Kassandra Papadopoulou, Mohamad Afiq Amiruddin bin Parnon, Jyoti Sinha
	40Pareto-Optimized Model Predictive Control for Real-Time 3D Trajectory Planning of Collaborative Robots Sayat Ibrayev, Akhanseri Ikramov, Zeinel Momyunkulov, Olzhas Olzhayev, Batyrkhan Omarov, Amandyk Tuleshov, Azhar Tursynova
19:30	Gala Diner – Quinta das Lágrimas Hotel. GPS 40.198278, -8.433483

2025-07-18

09:00	Keynote Speech, by Prof. Celso de Azevedo, Assetsman, France
	<i>Chair: José Martinho</i>
10:00	Sessions – Advanced Healthcare Systems
	<i>Chair: Bagdat Yagaliyeva</i>
	21Medical Equipment Classification and Normative Methodologies: A Complete Approach to Standards and Metrology Hugo Raposo, Inês Sousa, José Torres Farinha
	46Implementation of an MVP for Healthcare Consumables Management: A Concept Paper for a Pilot Project in ULS Coimbra Jorge Barreiros, Silvino Capitão, Edite Ravella
	47Multi-Head Loss-Driven Brain Stroke Segmentation Using Auxiliary Mask Supervised Swin Transformer Zhanserikram, Batyrkhan Omarov
11:00	<i>Coffee-break</i>
11:30	Sessions – AI and Sustainable Management
	<i>Chair: Fernanda Correia</i>
	27Milk Prediction Using Conformation Traits as Privileged Information Abdoulaye Baniré Diallo, Awa Samaké
	52Analysis and Modeling of Phenolic Compounds and Antioxidant Activity of two Banana Varieties Using Machine Learning Filipe Carvalho, Paula Couceiro, Mateus Mendes, Pascoal Silva
	64ISO 9001 and ISO 14001 Recertification: A Case Study in a Thermoplastics Injection Factory Hugo Raposo, João Simão, Ana Vieira
12:30	<i>Lunch</i>
14:00	Sessions – Classical and Deep Learning Applications
	<i>Chair: Jorge Almeida</i>
	31Development of a Machine Learning model to classify different postures for the sitting position Beatriz Costa, Fernanda Coutinho, Maria Coutinho, Mateus Mendes
	57LSTM Encoder-Decoder Framework for Incremental Time Series Forecasting in Power Transformers José Farinha, Pedro Marques, Balduino Mateus, Mateus Mendes
	28Deep Metric Learning for Face Recognition with Focus on Twins: Triplet Network Approach Akbayan Bekarystankyzy, Nurseit Kapysh
15:00	Sessions – Fault Detection
	<i>Chair: Fernanda Coutinho</i>
	25Fault Analysis of a biomass generator José Farinha, Mateus Mendes, André Iúri de Bastos Luis
	29Digital Transformation in Maintenance: Bridging Computer Engineering and Maintenance Margarida Duarte
	71Case Study - Failure analysis of a raw mill in the cement industry: FMECA with fault tree and Ishikawa diagram Paulo Duarte, José Farinha, Hugo Raposo
16:00	<i>Coffee-break</i>
16:30	Sessions – Process Optimization
	<i>Chair: Hugo Raposo</i>
	42Combining Clustering and Predictive Algorithms for Real Estate Market Trends – Literature Review Sara Pinto, Nuno Fidalgo, Halima Moukrime, Tiago Dias, Rafaela Carvalho, Fernanda Brito Correia
	67Sentiment analysis of patient complaints in healthcare systems using VADER: Can it contribute to a better service? Liliana Barbosa, João Vasco Coelho
	72Challenges in Preparing a Procurement Specification for Hospital Equipment Alberto Adrêgo, Fernanda Coutinho, Ana Martins, Hélio Rodrigues

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PROGRAM FOR AUDITORIUM 2 (Guerra Pratas)

2025-07-17

11:30	Sessions –Advanced AI Applications I
	<i>Chair: Luís Margalho</i>
	363D Modeling of Railway Components for Augmented Reality-Based Maintenance Training Hugo Pereira, Ana Malta, Nuno Cid Martins, Mateus Mendes
	56A ROS 2-Based Modular Control Architecture Integrating Visual Servoing and Model Predictive Control for Robotic Marking Aibar Tanatov, Batyrkhan Omarov, Mateus Mendes, Moldir Kumatova
	45Trajectory Optimization for Collaborative Robots via the Deep Deterministic Policy Gradient Algorithm Sayat Ibrayev, Akhanseri Ikramov, Zeinel Momyunkulov, Olzhas Olzhayev, Batyrkhan Omarov, Amandyk Tuleshov, Azhar Tursynova
12:30	Lunch
14:00	Sessions – Data-driven Decision Making II
	<i>Chair: Ana Vieira</i>
	51Analysis in Social Media Applied to Business Intelligence and Analytics: A Literature Review Ana Cardoso, Laura Batista, Beatriz Maia, Cristiana Maltez, Fernanda Brito Correia
	82 Towards an Automated System for Pig Aggression Detection and Tracking Isabel Sa, Bruno Ferreira, Luísa Martin, Amélia Ramos, Roberto Costa, Ricardo P. M. Cruz, Nuno Lavado
	66The 2024 WRC Points Structure: A Dual-Scoring Approach Carla Fidalgo, Luís Margalho, João Ricardo Oliveira Branco
15:00	Sessions –Advanced AI Applications II
	<i>Chair: Ricardo Mateus</i>
	53The Role of Real-Time Navigation APIs in Green and Smart Mobility Ana Vigário, David Dias, Tiago Pinto, Arsénio Reis, João Barroso
	59Scalable Data Lake Ingestion using Apache Hudi, Kafka and Docker João Costa, Vasco Oliveira
	63Adapting Large Language Models to Support Nutritional Decision-Making in Neonatal Intensive Care Rui Castelo, Mateus Mendes
16:00	Coffee-break
16:30	Sessions – Sustainability and Asset Management II
	<i>Chair: Nuno Lavado</i>
	73Exploration of vibration signatures and patterns for bearings failure modes David Baglee, Rumen Ogbomo, ABDU SHAALAN
	50Storm damage and planting success assessment in Pinus pinaster stands using Mask-RCNN Alexandra Amaral, Ivon Brandão, Beatriz Fidalgo, Raúl Salas-González
	55An electric mobility software ecosystem: Lifecycle Management Implementation David Dias, António Paulino, Arsénio Reis
	78 Rethinking Hospital Asset Maintenance: Integrating Artificial Intelligence into CMMS and EAM Systems António Seiça, Mateus Mendes

2025-07-18

11:30	Sessions –Advanced Asset Management II
	<i>Chair: Jorge Barreiros</i>
	54Maintenance Management in Electrical Grids with High Renewable Energy Penetration: a review of challenges and trends Joice Agostinho, José Farinha, Hugo Raposo, Ana Vieira
	80 Impact of 5S tool on reducing setup times - case study in a metalworking industry Ana Maia, Ana Vieira
	Case Study - Implementation of the 7S Philosophy in a Food Industry João Pereira, Hugo Raposo, Jorge Raposo, Torres Farinha