

6th Symposium of Applied Science for Young Researchers

Program

19 June 2026

Welcome and Registration | 9h40

Open Ceremony 10:10-10:30
Professora Doutora Maria Alexandra Malheiro, Presidente do IPCA
Professora Doutora Mariana de Carvalho, Diretora da EST/IPCA
Professor Doutor João Vilaça, Coordenador do 2Ai – IPCA
Professor Doutor Paulo Leitão, Coordenador do CeDRI - IPB
Professor Doutor Jorge Garcia, Coordenador do ADiT-lab - IPVC
Professor Doutor Pedro Pinto, Representante Coordenação do GECAD - IPP

Plenary Session | Keynote Speaker | 10:30-11:30

Enhancing 3D Spatial Perception in Endoscopy - Chiara Lena

Oral Session 1: AI in Healthcare and Medical Imaging	
11:40-12:20 Chair: Sandro Queirós, IPCA	
Automating Left Atrial Appendage Centerline Initialization in 3D TEE using Deep Learning	Luís Barbosa, Siobhán Moane, João L. Vilaça and Pedro Morais
CycleGAN-Based Translation Between Fetal Ultrasound and MRI	Letícia Azevedo, Pedro Morais, João Vilaça and Helena Torres
A Methodology for Sub-Millimetric 3D Cranial Morphometry for Neonatal Assessment	Mahdia Ahmadi, Felipe Izidorio and Rui Pedro Lopes
Integrated Hospital Preparation System: An AI-Based Approach to Effective Interoperability	Paulo Barreiro, Vicente Romo-Perez, Paulo Rodrigues and Luís Ferreira

Lunch and Poster Session | 12:30-14:00

Oral Session 2: Virtual Reality, Digital Twins and Human-Centred Systems	
14:00-14:40 Chair: Beatriz Flámia, IPB	
A Virtual Reality Simulator for Electric Wheelchair Driving Training	Sérgio Gonçalves, Marisa Pinheiro, Patrícia Isabel Sousa Trindade Silva Leite, Joaquim Gonçalves Pereira da Silva and Luís Gonzaga Martins Ferreira
Virtual Reality and Digital Twin Applications for Operator Training and Assistance in the Textile Industry	João Mirra, Nuno Dinis, Luis Romero and Pedro Faria
3D Simulation of Fabric Physical Properties and Behaviour	João Santos, Nuno Dinis, Luís Romero and Pedro Faria
Architectures for Effective Human–System Integration in Industry 5.0: State of the Art	André Araújo and Luis Ferreira

Oral Session 3: Cybersecurity, Governance and Digital Platforms	
14:40-15:20 Chair: Silvestre Malta, IPVC	
Crowdsourcing STRIDE Threat Models	Rui Marinho, Nuno Pereira and Pedro Pinto
Memory Exploitation: The Evolution of NOP Sleds in Malicious PDF and PE Vectors	Adelino Vilaça, António Sá and Luís Ferreira
Adaptive Orchestration of Defensive OSINT Investigations	João Miranda and Silvestre Malta
Toward Algorithm-Agnostic Validation of Cryptographic Security Claims under Classical and Quantum Adversary Models	Miguel Pereira, Tiago Pedrosa and Rui Pedro Lopes

Oral Session 4: Digital Health and Assistive Technologies	
15:20-16:00 Chair: Fernando Veloso, IPCA	
Development of a Modular In-ear Wearable Device for Dementia Monitoring: Current Development Stage	Ana Rita Freitas, José Soares, Inês C. Rocha, Mariana Carvalho, Marcelo Arantes, Vanessa Baeta, Pedro Morais, Demétrio Matos and Vítor Carvalho
Experimental Validation of a Wearable Device for People Living with Dementia	Inês Coroas da Rocha, Marcelo Arantes, Mariana Carvalho, Ana Rita Freitas, José Soares, Vanessa Baeta, Demétrio Matos, Pedro Morais and Vítor Carvalho
Integrated System for the Management of ASD	Jose Nunes, Filipe de Sá-Soares and Joaquim Gonçalves
Simplifying Complexity: A Theoretical Review of the Impact of Animated Infographics on Health Literacy	Celina Peneda, Isabel Araújo, Pedro Miguel Faria and Patrícia Vieira



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Coffee Break and Poster Session | 16:00-16:30

Oral Session 5: Data Analytics, Computer Vision and Engineering Systems	
16h30:17h10 Chair: Pedro Pinto, IPP	
Modular Pipeline CV for Analysing Football Matches: an Exploratory Study	João Ramos, Diogo Santos, Daniel Neto, Ricardo Soares and Arlindo Santos
Retail Store Segmentation Based on Organizational Wellbeing Data	Hamida Hadaftmand and Inês Sena
Multiphysics Analysis and Modeling of Three-Phase Transformers	Dante Henrique Neves Santos and Ângela P. Ferreira
Study of Capacitor Combinations in Three-Phase Induction Generators in the Fukami Configuration Using Pattern Recognition	Maria Gabriela Pereira Brito, Ângela P. Ferreira, Carlos Matheus R. de Oliveira and Cicero Hildenberg L. de Oliveira

Awards and Closing Ceremony | 17:10 – 17:30 | Chairs: Fátima Pacheco, Helena Torres, Pedro Pinto, Silvestre Malta

Poster Session – Posters Description 12:30-14:00 and 16:00-16:30	
Designing Stylized 3D Environments for a Virtual Pet Serious Game	Cristiana Madeira
Automatic 3D Segmentation of the Left Atrial Appendage on Cardiac CT Using Deep Learning: A Comparative Study	Miguel Costa
An analysis of relevant vital signs for Cardiovascular evaluation in the Elderly	Inês Escrivães, Pedro Morais and Leonor Varela-Lema
Analogue Front-End for a High-Resolution 12-Lead ECG: Component Selection and Architectural Design	Ricardo de Castro Paula, Luiz E Luiz, Fábio Rizental Coutinho and João Paulo Teixeira
Systematic Literature Review on Hybrid Machine Learning Models for Retail Demand Forecasting	João Tota and Maria Clara Vaz
A Gymnasium Environment for RL Optimization of Waste Collection Routes	João Vicente Markovicz Martins and Rui Pedro Lopes
Local Energy Communities as a Mechanism for Enhancing Renewable Self-Consumption and Economic Efficiency in Local Energy Markets	João Neto and Ângela P. Ferreira
Optimal BESS Siting in Network-Constrained Renewable Energy Communities	Pedro Sales and Ângela Ferreira
Anomaly Detection in Industrial Machines: What is currently used	Luís Pereira, Joaquin Dillen, José Figueredo, Luis Cardoso, João Borges and António Moreira
Evaluation of the Ommo Magnetic Tracking System for Surgical Navigation: A Preliminary Study	Pedro Lobo, Patrick Murray, Pedro Morais and João Vilaça
A Robust Pipeline for 3D Reconstruction from a Multi-view RGB-D Images	Rafael Fernandes
Refactoring Proposal for the MathE Platform	Giulia Vieira, Tania Silva, David Verde and Beatriz Flamia Azevedo
Imitation Learning Strategy for Pick and Place Handling of Rigid and Flexible Objects	Bruno Silva, Rafael Fernandes, Joaquin Dillen, José Figueiredo, Luis Cardoso, João Borges and António Moreira
A QGIS Pipeline for Sentinel-2 Vegetation Index Extraction in Olive Grove Monitoring	Lucas Paula, João Mendes, Raphael D. Britto, Inês Sena, José Lima and Ana I. Pereira
Context-Aware Digitization of Medical Device Displays	Pedro Ferreira, Pedro Lobo, Mário Fernandes, João L. Vilaça and Pedro Morais
A Sovereignty-Oriented Reference Framework for Open and Auditable Managed Security Services	Sérgio Tiago Gomes Serra, Silvestre Malta and Pedro Pinto
A Learning Model Based on Interaction Design and AI-driven Tutoring for BIM Technical Education	Sandra de Magalhães Campos
Clustering OECD countries according to logistics performance	Mariana Santos and Clara Bento Vaz
Evaluating VR-Based Mindfulness Applications for Chronic Pain: A Mixed-Methods Study Protocol	Moisés Moreira, Estela Vilhena, Vitor Carvalho and Duarte Duque
Exploring a U-Net-Based Architecture for Human Keypoint Regression in Telerehabilitation Applications	Beatriz Rodrigues, Pedro Morais, João Vilaça, and Helena Torres
Vision-Based Human Pose Cyber-Physical System for Assembly Worker Monitoring	Ricardo Rodrigues, Luís Vilas Boas and Antonio Moreira
Evaluating the Impact of Anthropometric Variability on Joint Kinematics Using Motion Retargeting in Digital Human Models	Leonel Martins, Pedro Morais, Estela Vilhena, João Vilaça and Helena Torres
User-Centered Design of a Computer Vision Mobile Application for Viticulture	Maxwell Santos, Inês Sena, Maurício Morais and João Mendes

