

# PAAMS, MIS4TEL, DCAI, BLOCKCHAIN, ISAmI, PACBB, and DECON

## Event Schedule

Wed, Jul 12, 2023

9:00 AM

### Opening

🕒 9:00 AM - 9:30 AM, Jul 12

📍 Room Flores & Room Sete Cidades

BLOCKCHAIN

DCAI

DECON

ISAMI

MIS4TEL

PAAMS

PACBB

9:30 AM

### Plenary talk: "Cognitive Mimetics – Are big data and deep learning enough for intelligence?"

🕒 9:30 AM - 10:30 AM, Jul 12

📍 Room Flores & Room Sete Cidades

BLOCKCHAIN

DCAI

DECON

ISAMI

MIS4TEL

PAAMS

PACBB

Chair: Juan Manuel Corchado, University of Salamanca (Spain)

**Abstract:** Large language models have stretched our beliefs on what kind of machine intelligence is possible. However, there are still practical needs in several fields of computing to align artificial intelligence (AI) with human intelligence.

In this talk, I will discuss and problematize:

- 1) What is intelligence?
- 2) Where are the prevailing differences in artificial vs. human intelligence?
- 3) How artificial agents could be evolved to overcome these differences and understand their users better?

I will give insights on how cognitive mimetics can inspire AI solutions and review on-going research on modeling human intelligence as computational rationality with reinforcement learning agents in our cognitive science research group at University of Jyväskylä.

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#### 🗣️ Speaker



#### Tuomo Kujala

Professor  
University of Jyväskylä (Finland)

10:30 AM

### Coffee Break

🕒 10:30 AM - 11:00 AM, Jul 12

11:00 AM

### Workshop on Integration of emerging technologies into education and training (ETELET) (I)

🕒 11:00 AM - 1:00 PM, Jul 12

📍 Room Santa Maria

MIS4TEL

#### Panel 1: Integration of ai in education

Chairs: Marcelo Milrad (Linnaeus University, Sweden), Hans-Joachim Schramm (WU Vienna University of Economics and Business and External Lecturer at Copenhagen Business School, Austria), Viktória Burkus (IIT BME VIK, Hungary), and Ziaul Haque Munim (University of South-Eastern Norway, Norway).

## 6 Subsessions

● **"EU-funded research and innovation towards integration of emerging technologies into education and training"** by Angel Fuentes Mateos, Project Officer, European Commission

🕒 11:00 AM - 11:30 AM, Jul 12

● **(ON-SITE) "Development of an Immersive Virtual Reality System to practice the lumbar puncture manoeuvre"** by María Beatriz Villar-López, Águeda Gómez-Cambronero, Daniel Suarez, and Inmaculada Remolar

🕒 11:30 AM - 11:45 AM, Jul 12

● **(ON-SITE) "Scenario design, data measurement, and analysis approaches in maritime simulator training"** by Ziaul Haque Munim, Helene Luise Sonna Krabel, Per Haavardtun, Tae-Eun Kim, Morten Bustgaard, and Haakon Thorvaldsen

🕒 11:45 AM - 12:00 PM, Jul 12

● **(ON-SITE) "Datasets for artificial intelligence in education: the case of children with neurodevelopmental disorders"** by Marcos L. P. Bueno, and Serge Thill

🕒 12:00 PM - 12:15 PM, Jul 12

● **(ON-SITE) "Leveraging cognitive and social engagement in blended learning through an AI-augmented pedagogical framework"** by Andromachi Filippidi, Christophoros Karachristos, Konstantinos Lavidas, Vassilis Komis, and Nikos Karacapilidis

🕒 12:15 PM - 12:30 PM, Jul 12

● **Panel 1 Q&A and discussion**

🕒 12:30 PM - 1:00 PM, Jul 12

## ISAMI 1: Recognition of emotions and life conditions in AmI applications

🕒 11:00 AM - 1:00 PM, Jul 12

📍 Room San Miguel

**ISAMI**

Chair: Alberto Freitas, University of Porto (Portugal)

## 7 Subsessions

● (ON-SITE) "Intelligent Heart Rate Monitoring from a Social Robot" by Arturo Martínez-Rodrigo, Jose Carlos Castillo, Sara Carrasco-Martínez, Daniele Padovano, and Angelo Costa

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "An Evaluation of the performance of Convolution Neural Network and Transfer Learning on Face gender Recognition" by Ronke Seyi Babatunde, Akinbowale Nathaniel Babatunde, Roseline Oluwaseun Ogundokun, AbdulRahman Tosho Abdulahi, and Alfonso Gonzá

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Sharing Human Seeing and Hearing and Their Annotated Portfolio" by Risa Kimura, and Tatsuo Nakajima

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Human-in-the-loop AAL Approach to Emotion Capture and Classification" by Rafael Pereira, Carla Mendes, Roberto Ribeiro, José Ribeiro, and António Pereira

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "A Portuguese mobile app for diabetes type 2 self-management: a picture of one-month usage" by Glória Conceição, Andreia Pinto, João Viana, Gonçalo Miranda, Paulo Santos, Cristina Santos, and Alberto Freitas

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "CERDL: Contextual Emotion Recognition Analysis using Deep Learning" by Aayushi Chaudhari, Chintan Bhatt, Achyut Krishna, and Juan M. Corchado

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Environmental Sound Recognition in Social Robotics" by Sara Marques-Villarroya, Aythami Sosa-Aleman, Jose Carlos Castillo, Marcos Maroto-Gómez, and Miguel A. Salichs

🕒 11:00 AM - 1:00 PM, Jul 12

## DCAI 1

🕒 11:00 AM - 1:00 PM, Jul 12

📍 Room San Jorge

**DCAI**

Chair: José Luis Poza Luján, Universidad Politécnica de Valencia (Spain)

#### 7 Subsessions

● (ON-SITE) "Time-Series Modeling for Intrusion Detection Systems" by Konstantinos Psychogyios, Stavroula Bourou, Andreas Papadakis, Nikolaos Nikolaou, and Theodore Zahariadis

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Operation of a Genetic Algorithm Using an Adjustment Function" by Francisco João Pinto

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Enabling distributed inference of large neural networks on resource constrained edge devices using ad hoc networks" by Torsten Ohlenforst, Moritz Schreiber, Felix Kreyß, and Manuel Schrauth

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "From Data to Action: Exploring AI and IoT-driven Solutions for Smarter Cities" by Tiago Dias, Tiago Fonseca, João Vitorino, Andreia Martins, Sofia Malpique, and Isabel Praça

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Guided Rotational Graph Embeddings for Error Detection in Noisy Knowledge Graphs" by Raghad Khalil, and Ziad Kobti

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Distributed Control for Traffic Light in Smart Cities: parameters and algorithms" by Pedro Uribe Chavert, Juan-Luis Posadas-Yagüe, and Jose-Luis Poza-Luján

🕒 11:00 AM - 1:00 PM, Jul 12

● (ON-SITE) "Using Data Analytic for Social Media Posts to Optimise Recyclable Solid Waste Management Exemplary at the City of Valencia" by Philipp Junge, Sturle Stavrum-Tang, Cecilia Jose M., and Jose-Luis Poza-Luján

🕒 11:00 AM - 1:00 PM, Jul 12

#### PAAMS 1: Architectures & Frameworks

🕒 11:00 AM - 1:00 PM, Jul 12

📍 Room Flores

PAAMS

Chair: Maxime Morge, Université de Lille (France)

#### 4 Subsessions

● (ON-SITE) "AJAN: An Engineering Framework for Semantic Web-Enabled Agents and Multi-Agent Systems" by Andre Antakli, Akbar Kazimov, Daniel Spieldenner, Elena Jaramillo, Ingo Zinnikus, and Matthias Klusch

🕒 11:00 AM - 11:30 AM, Jul 12

● (ON-SITE) "Multi-agent learning of causal networks in the Internet of Things" by Stefano Mariani, Pasquale Roseti, and Franco Zambonelli

🕒 11:30 AM - 12:00 PM, Jul 12

● (ON-SITE) "Extrinsic Emotion Regulation by Intelligent Agents: A computational model based on Arousal-Valence dimensions" by Aaron Pico, Joaquin Taverner, Emilio Vivancos, Vicente Botti, and Ana Garcia-Fornes

🕒 12:00 PM - 12:30 PM, Jul 12

● (ON-SITE) "Governing online forum interactions with multi-agent system: A Reddit use case with the JaCaMo platform" by Nesrine Hafiene, Luis G Nardin, Antoine Zimmermann, and Olivier Boissier

🕒 12:30 PM - 1:00 PM, Jul 12

#### BLOCKCHAIN 1: BLOCKCHAIN APPLICATIONS I

🕒 11:00 AM - 1:00 PM, Jul 12

📍 Room Sete Cidades

BLOCKCHA...

Chair: António Pinto, Instituto Politécnico de Viana do Castelo (Portugal)

#### 7 Subsessions

- (ON-SITE) "Blockchain technology as a means to achieve prior transparency in arbitration processes. A social challenge" by Javier Parra-Domínguez, Yeray Mezquita, Carlos Álvarez, and Fernando de la Prieta  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ON-SITE) "Regulatory Challenges of the Adoption of Blockchain Technology in the Energy Sector" by Pardis Moslemzadeh Tehrani  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ON-SITE) "The Role of Blockchain Technology in Ensuring Security and Immutability of Open Data in Healthcare" by Tiago Guimarães, Ricardo Duarte, João Cunha, Pedro Silva, and Manuel Filipe Santos  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ON-SITE) "Repositioning Blockchain Technology in the Maritime Industry for increased accountability" by Rim Abdallah, Cyrille Bertelle, Jérôme Besancenot, Claude Duvallet, and Frédéric Gilletta  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ON-SITE) "Blockchain and Sustainability in the Public Sector: A risk management perspective" by Fernando Escobar, Henrique Santos, and Teresa Pereira  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ON-SITE) "Blockchain Context Canvas: a tool to align developers and stakeholders" by Alfredo Colenci Neto, and Daniel Capaldo Amaral  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ON-SITE) "How Decentralized Autonomous Organizations are affecting Real Estate" by Gonçalo Cruz, Tiago Guimarães, Manuel Filipe Santos, and José Machado  
🕒 11:00 AM - 1:00 PM, Jul 12

#### Workshop on Character Computing (C2)

🕒 11:00 AM - 1:00 PM, Jul 12

📍 ONLINE

PAAMS

Chair: Alia El Bolock, German International University (Egypt)

#### 4 Subsessions

- (ONLINE) "Ethical Self-Driving Cars: Resolving Conflicting Moral Decisions among Groups of Vehicles" by Khaled Aly, Yasmin Mansy, Nourhan Ehab, and Amr El-Mougy  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ONLINE) "Multi-modal Explainable Music Recommendation based on the Relations between Character and Music Listening Behavior" by Fatma Elazab, Alia El Bolock, Cornelia Herbert, and Slim Abdennadher  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ONLINE) "Character-Based Habit Recommender System" by Kariman Eldeswky, Fatma Elazab, Alia El Bolock, and Slim Abdennadher  
🕒 11:00 AM - 1:00 PM, Jul 12
- (ONLINE) "A Gamification of Psychological Tests for the Detection of Impaired Social Functioning" by Nada Ibrahim, Raneem Wael, Mai Gamal, and Slim Abdennadher  
🕒 11:00 AM - 1:00 PM, Jul 12

#### Workshop on Technology - Enhanced Learning for Future Citizens (TEL4FC) (I)

🕒 11:00 AM - 1:00 PM, Jul 12

📍 ONLINE

MIS4TEL

Chair: Maria Angela Pellegrino, Università degli Studi di Salerno, Laboratorio CINI "Informatica&Scuola" (Italy)

### 6 Subsessions

● **"Open Data Value Creation by High-school Learners via Data Stories" by Maria Anna Ambrosino, and Vanja Annunziata**

🕒 11:00 AM - 1:00 PM, Jul 12

● **"Digital Job Searching and Recruitment Platforms: A Semi-Systematic Literature Review" by Chiara Signore, Bice Della Piana, and Francesco Di Vincenzo**

🕒 11:00 AM - 1:00 PM, Jul 12

● **"Towards an Energy Social Network, Lessons Learned from Gamification as On-board Engagement Tool for Energy Communities in Domestic Units" by Stefano Converso, Ivana Veselinova, Gabriele Roselli, and Hamed Abbasi Mofrad**

🕒 11:00 AM - 1:00 PM, Jul 12

● **"Engagement in Open Data Workshops: The dark side of remote settings" by Alessia Antelmi**

🕒 11:00 AM - 1:00 PM, Jul 12

● **"Open tools for data literacy development at school. A case of systemic and experience design approach to civic tech education" by Serena Cangiano**

🕒 11:00 AM - 1:00 PM, Jul 12

● **"Listening to children and adolescents with Special Needs during Covid-19 Pandemic" by Luca Tateo**

🕒 11:00 AM - 1:00 PM, Jul 12

### DECON 1

🕒 11:00 AM - 1:00 PM, Jul 12

📍 Room Funchal

**DECON**

Chair: Edgardo Bucciarelli, University of Chieti-Pescara (Italy)

### 3 Subsessions

● **(ON-SITE) Opening address delivered by J. Manuel Sánchez-Cartas (Complutense University of Madrid)**

🕒 11:00 AM - 11:30 AM, Jul 12

● **(ONLINE) 1st Keynote Lecture delivered by Professor Luigino Bruni (LUMSA, University of Rome, Italy)**

🕒 11:30 AM - 12:00 PM, Jul 12

● **(ONLINE) 2nd Keynote Lecture delivered by Professor Pierluigi Sacco (University of Chieti-Pescara, Italy)**

🕒 12:00 PM - 1:00 PM, Jul 12

1:00 PM

### Sitting Lunch

🕒 1:00 PM - 2:30 PM, Jul 12

2:30 PM

### Workshop on Integration of emerging technologies into education and training (E TELT) (II)

🕒 2:30 PM - 4:00 PM, Jul 12

📍 Room Santa Maria

**MIS4TEL**

#### Panel 2: sustainable model of education

Chairs: Tae-Eun Kim ( University of Tromsø, Norway), Lokukaluge Prasad Channa Perera (University of Tromsø (UiT), Norway), Marcos L. P. Bueno (Radboud University Nijmegen, The Netherlands), and Inmaculada Remolar (Jaume I University, Spain)

#### 5 Subsessions

● (ON-SITE) "Combining Design Thinking with Emerging Technologies in K-12 Education" by Marcelo Milrad, Christothea Herodotou, Marianthi Grizioti, Alisa Lincke, Carina Girvan, Sofia Papavlasopoulou, Sagun Shrestha, and Feiran Zhang

🕒 2:30 PM - 2:45 PM, Jul 12

● (ON-SITE) "An advanced explainable and interpretable ML-based framework for educational data mining" by Ioannis Livieris, Nikos Karacapilidis, Georgios Domalis, and Dimitris Tsakalidis

🕒 2:45 PM - 3:00 PM, Jul 12

● (ON-SITE) "Exploring Value and Ethical Dimensions of Disruptive Technologies for Learning and Teaching" by Terje Våljataga, Kai Pata, Andrea Annus, Michelle Andrade Calisto, Agueda Gomez Cambronero, Elmar Eisemann, Athina Kasini, Ricardo Marroquim, Imacula

🕒 3:00 PM - 3:15 PM, Jul 12

● (ON-SITE) "Analysis of creative engagement in AI tools in education based on the #PPai6 framework" by Dea Puspita Septiani, Panos Kostakos, and Margarida Romero

🕒 3:15 PM - 3:30 PM, Jul 12

● Panel 2 Q&A and discussion

🕒 3:30 PM - 4:00 PM, Jul 12

#### Special Session on Smart Factories of the Future (SmartFoF)

🕒 2:30 PM - 4:00 PM, Jul 12

📍 Room San Miguel

**DCAI**

Chair: Ricardo Nunes, Universidade de Trás-os-Montes e Alto Douro (Portugal)

#### 6 Subsessions

● (ON-SITE) "Sensitivity Analysis of Surrogate Modeling Parameters for Production Processes in Digital Twins" by Alejandro Gonzalez Casal, and Abraham Prieto García

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Context-aware applications in industry 4.0: a systematic literature review" by Pedro Monteiro, Claudio Lima, Tiago Pinto, Paulo Nogueira, Arsénio Reis, and Vitor Filipe

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "A Computer Vision Approach for Level Measurement of Refilling Stations in Industrial Scenarios" by José Ribeiro, Rui Pinheiro, Paulo Nogueira, Arsénio Reis, and Vitor Filipe

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Design of Context-Aware Information Systems in manufacturing industries: overview and challenges" by Arlindo Santos, Claudio Lima, Arsénio Reis, Tiago Pinto, Paulo Nogueira, and João Barroso

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Wearable devices in Industry 4.0: A systematic literature review" by Hugo Anes, Tiago Pinto, Claudio Lima, Paulo Nogueira, and Arsénio Reis

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Towards Industry 5.0: A Capacitation Approach for Upskilling and Technology Transfer" by Rui Pinto, João Pinheiro, Gil Gonçalves, and Anabela Ribeiro

🕒 2:30 PM - 4:00 PM, Jul 12

#### Special Session on Intelligent Systems Applications (ISA) (I)

🕒 2:30 PM - 4:00 PM, Jul 12

📍 Room San Jorge

**DCAI**

Chair: Jose Luis Calvo Rolle, University of A Coruña (Spain)

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#### 4 Subsessions

● (ON-SITE) "Comparative study of forecasting techniques for small wind turbine power generation by meteorological parameters" by Antonio Diaz-Longueira, Miriam Timiraos Díaz, Álvaro Michelena, Francisco Zayas-Gato, Esteban Jove, Roberto Casado-Vara, Óscar F

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Hybrid classification model based on supervised techniques for Denial of Service attacks detection over CoAP protocol" by Álvaro Michelena Grandío, Antonio Diaz-Longueira, Miriam Timiraos Díaz, Javier de Cos Juez, Héctor Alaiz-Moretón, Dragan Si

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Impact of Autoencoder Latent Space on IoT CoAP Attack Categorization" by Maria Teresa Garcia-Ordas, Jose Antonio Aveleira-Mata, Isaias Garcia-Rodriguez, Antonio Javier Diaz-Longueira, Jose Luis Calvo-Rolle, and Hector Alaiz-Moreton

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Comparative study of wastewater treatment plant feature selection for COD prediction" by Miriam Timiraos, Antonio Díaz-Longueira, Álvaro Michelena, Francisco Zayas-Gato, Héctor Quintián, Héctor Alaiz-Moretón, Óscar Fontenla-Romero, and José Luis

🕒 2:30 PM - 4:00 PM, Jul 12

#### PAAMS 2: Decision making

🕒 2:30 PM - 4:00 PM, Jul 12

📍 Room Flores

PAAMS

Chair: Pavel Surynek, Czech Technical University in Prague (Czech republic)

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#### 4 Subsessions

● (ON-SITE) "Adaptive consumption by continuous negotiation" by Ellie Beauprez, Anne-Cecile Caron, Maxime Morge, and Jean-Christophe Routier

🕒 2:30 PM - 3:00 PM, Jul 12

● (ON-SITE) "Safe Autonomous Decision-Making with vGOAL" by Yi Yang, and Tom Holvoet

🕒 3:00 PM - 3:20 PM, Jul 12

● (ON-SITE) "GTG-CoL: A new Decentralized Federated Learning based on Consensus for dynamic networks" by Miguel Rebollo, Jaime A. Rincon, Luís Hernández, Francisco Enguix, and Carlos Carrascosa

🕒 3:20 PM - 3:40 PM, Jul 12

● (ON-SITE) "A novel framework for multi-agent knowledge-based federated learning systems" by Bruno Ribeiro, Luis Gomes, and Zita Vale

🕒 3:40 PM - 4:00 PM, Jul 12

#### BLOCKCHAIN 2: BLOCKCHAIN FOUNDAMENTALS I & SECURITY

🕒 2:30 PM - 4:00 PM, Jul 12

📍 Room Sete Cidades

BLOCKCHA...

Chair: Rim Abdallah, University of Le Havre (France)



#### 5 Subsessions

● (ON-SITE) "Managing Write Access without Token Fees in Leaderless DAG-based Ledgers" by Darcy Camargo, Luigi Vigneri, and Andrew Cullen

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "BFT Testing Framework For Flow Blockchain" by Yahya Hassanzadeh-Nazarabadi, Misha Rybalov, and Khalil Claybon

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Detecting fraudulent wallets in Ethereum blockchain combining supervised and unsupervised techniques - using Autoencoders and XGboost" by Joao Crisostomo, Victor Lobo, and Fernando Bacao

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Performance evaluation of quantum-resistant cryptography on a blockchain" by Jonas Deterding, Noah Janzen, David Rohrschneider, Philipp Lösch, and Marc Jansen

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Severity Analysis of Web3 Security Vulnerabilities based on Publicly Bug Reports" by Rita Melo, Pedro Pinto, and António Pinto

🕒 2:30 PM - 4:00 PM, Jul 12

#### DCAI 2

🕒 2:30 PM - 4:00 PM, Jul 12

📍 ONLINE

DCAI

Chair: Rashid Mehmood, Abdulaziz University (Saudi Arabia)

#### 6 Subsessions

● (ONLINE) "Estimation of occlusion region using image completion by network model consisting of Transformer and U-Net" by Tomoya Matsuura, and Takayuki Nakayama

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "CUBA: An Evolutionary Consortium Oriented Distributed Ledger Byzantine Consensus Algorithm" by Cyril Naves Samuel, Francois Verdier, Severine Glock, and Patricia Guitton-Ouhamou

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Adaptive Learning from Peers for Distributed Actor-Critic Algorithms" by Chandreyee Bhowmick, Jiani Li, and Xenofon Koutsoukos

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Detection of infostealer variants through graph neural networks" by Álvaro Bustos Tabernero, Daniel López-Sánchez, and Angélica González Arrieta

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Detection of human falls via computer vision for elderly care – an I3D/RNN approach" by João Leal, Hamed Moayyed, and Zita Vale

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Generic Architecture for Multisource Physiological Signal Acquisition, Processing and Classification based on Microservices" by Roberto Sanchez-Reolid, Daniel Sanchez-Reolid, Clara Ayora, Jose Luis De la Vara, António Pereira, and Antonio Fernand

🕒 2:30 PM - 4:00 PM, Jul 12

#### Doctoral Consortium 1: BLOCKCHAIN/ISAMI

🕒 2:30 PM - 4:00 PM, Jul 12

📍 ONLINE

BLOCKCHAIN

ISAMI

#### 4 Subsessions

● (ONLINE) "Teaching innovation in higher education through virtual reality" by Fernando Lara-Lara, Juan-Carlos de la Cruz-Campos, Magdalena Ramos-Navas-Parejo and Blanca Berral-Ortiz

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Analysis of techniques for the augmentation and correction of unbalanced data in binary cybersecurity datasets for machine learning" by Alberto Sánchez del Monte

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "the use of blockchain technology in the educational field in bahrain" by Baraa Al Samarai, and Jorge Morato

🕒 2:30 PM - 4:00 PM, Jul 12

● (ONLINE) "Towards an Enterprise Blockchain Interoperability Framework: A Case of the Banking Sector" by Senate Sylvia Mafike, and Tendani Mawela

🕒 2:30 PM - 4:00 PM, Jul 12

#### Workshop on Technology - Enhanced Learning for Future Citizens (TEL4FC) (II)

🕒 2:30 PM - 4:00 PM, Jul 12

📍 ONLINE

MIS4TEL

Chair: Maria Angela Pellegrino, Università degli Studi di Salerno, Laboratorio CINI "Informatica&Scuola" (Italy)

#### 4 Subsessions

● "Engaging Learners in Familiarizing Themselves with Sensors and Actuators" by Mauro D'Angelo

🕒 2:30 PM - 4:00 PM, Jul 12

● "Collaborative Cybersecurity Awareness Learning in Higher Education" by Vittorio Scarano, Giuseppina Palmieri, Jerry Andriessen, and Mirjam Pardijs

🕒 2:30 PM - 4:00 PM, Jul 12

● "Using Videoconferencing Systems and Interactive Tools: Empirical French Investigation" by Maria Impedovo, Benjamin Ett, and Khalid Saifuddin

🕒 2:30 PM - 4:00 PM, Jul 12

● "Teaching Blockchain at School" by Lorenzo Guasti, Alessandro Ferrini, and Gabriele Pieraccini

🕒 2:30 PM - 4:00 PM, Jul 12

#### DECON 2

🕒 2:30 PM - 4:00 PM, Jul 12

📍 Room Funchal

DECON

Chair: Edgardo Bucciarelli, University of Chieti-Pescara (Italy)

#### 3 Subsessions

● (ON-SITE) "Merging municipalities by voluntary cooperation: The case of Pescara, Montesilvano, and Spoltore" by Aurora Ascatigno, Daniele Angiolelli, Lorenzo Angiolelli, and Alessia Regnicoli

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "Exploring the evolution of the population under the replicator dynamics in a three-strategy Snowdrift game scenario" by Edgardo Bucciarelli, Shu-Heng Chen, Aurora Ascatigno and Alfredo Colantonio

🕒 2:30 PM - 4:00 PM, Jul 12

● (ON-SITE) "A note on theories of fiscal federalism: Is there a behavioural value-add?" by Edoardo Di Giovanni

🕒 2:30 PM - 4:00 PM, Jul 12

4:00 PM

### Coffee Break + Demonstrations Exhibition

🕒 4:00 PM - 4:30 PM, Jul 12

4:15 PM

### Workshop on Integration of emerging technologies into education and training (E TELT) (III)

🕒 4:15 PM - 5:20 PM, Jul 12

📍 Room Santa Maria

**MIS4TEL**

#### Panel 3: learning design and assessment

Chairs: Kai Pata (Tallinn University, Estonia), Dimitris Tsakalidis (Novelcore, Greece), Christophoros Karachristos (University of Patras, Greece)

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#### 4 Subsessions

● **(ONLINE) "Mushroom Hunters: A digital game for assessing and training sustained attention in children with neurodevelopmental disorders" by Cristina Costescu, Carmen David, Adrian Roşan, Paula Ferreira, Aristides Ferreira, Lucia Vera, and Gerardo Herrera**

🕒 4:15 PM - 4:30 PM, Jul 12

● **(ON-SITE) "NLP-assisted Educational Memory Game Experiment" by Viktória Burkus, Attila Kárpáti, and László Szécsi**

🕒 4:30 PM - 4:45 PM, Jul 12

● **(ON-SITE) "Capacity Building Across Higher Education and Rural Youth in WINnovators Space" by Kai Pata, Kristi Jüristo, Matej Zapašek, Nathalie Leiba, Sanja Popovic Pantic, Vladan Devedzić, Sonja Radenkovic, Mirjana Devedzić, and Marija Blagojević, and Dan**

🕒 4:45 PM - 5:00 PM, Jul 12

● **Panel 3 Q&A and discussion**

🕒 5:00 PM - 5:20 PM, Jul 12

4:30 PM

### Special Session on Power System Optimization and Machine Learning Models (PSO-ML)

🕒 4:30 PM - 6:00 PM, Jul 12

📍 Room San Miguel

**DCAI**

Chair: Tiago Pinto, Universidade de Trás-os-Montes e Alto Douro (Portugal)

#### 5 Subsessions

● (ON-SITE) "Analyzing electric Vehicle charging behaviour using advanced clustering tools" by Carlos Ernani Veiga, Carlos Ramos, Juan Manuel Corchado, Piara Fernandes, and João Soares

🕒 4:30 PM - 6:00 PM, Jul 12

● (ON-SITE) "Dynamic parameterization of metaheuristics using a multi-agent system for the optimization of electricity market participation" by João Carvalho, Tiago Pinto, Juan M. Home-Ortiz, Brigida Teixeira, Zita Vale, and Ruben Romero

🕒 4:30 PM - 6:00 PM, Jul 12

● (ON-SITE) "Sizing of urban power systems based on renewable sources" by Dani Vidal, Tiago Pinto, and José Baptista

🕒 4:30 PM - 6:00 PM, Jul 12

● (ON-SITE) "Study of forecasting methods' impact in wholesale electricity market participation" by Brígida Teixeira, Ricardo Faia, Tiago Pinto, and Zita Vale

🕒 4:30 PM - 6:00 PM, Jul 12

● (ON-SITE) "A Variable Neighborhood Descent Algorithm for the Service Restoration Problem of Radial Distribution Systems" by Gabriel F. Puerta, Leonardo H. Macedo, João Soares, and Ruben Romero

🕒 4:30 PM - 6:00 PM, Jul 12

#### MIS4TEL 1: Digital technologies integration in the classroom (I)

🕒 4:30 PM - 5:30 PM, Jul 12

📍 Room San Jorge

MIS4TEL

#### 3 Subsessions

● (ON-SITE) "Technology Enhanced Learning in training medical residents in anesthesiology. The experience with a new generation simulator to perform PECS II BLOCK in breast surgery" by Vincenza Cofini, Mario Muselli, Donatella Volpe, Tania Di Mascio, Nicola

🕒 4:30 PM - 4:50 PM, Jul 12

● (ON-SITE) "PathIt: Computational Thinking Training for Visually Impaired Individuals" by Angélica Soares Cunha, Cristiana Esteves Araujo, Alvaro Costa Neto, and Pedro Manuel Rangel Henriques

🕒 4:50 PM - 5:10 PM, Jul 12

● (ON-SITE) "First evaluation of an adaptive tool supporting formative assessment in data science courses" by Annalisa Angelone, Ivan Letteri, and Pierpaolo Vittorini

🕒 5:10 PM - 5:30 PM, Jul 12

#### Workshop on Decision Support, Recommendation, and Persuasion in Artificial Intelligence (DeRePAI)

🕒 4:30 PM - 6:00 PM, Jul 12

📍 Room Flores

PAAMS

Chair: Goreti Marreiros, Polytechnic of Porto (Portugal) & Jaume Jordán, Universitat Politècnica de València (Spain)

#### 4 Subsessions

- (ON-SITE) "Trust-based Negotiation in Multiagent Systems: A Systematic Review" by Ricardo Barbosa, Ricardo Santos, and Paulo Novais  
⌚ 4:30 PM - 6:00 PM, Jul 12
- (ON-SITE) "Negotiation Algorithm for Multi-Agent Pickup and Delivery Tasks" by Takumi Iida, Itsuki Noda, Toyohiro Kondo, Hiroki Soda, Naoharu Ueda, Masamichi Nawa, and Norihiko Kato  
⌚ 4:30 PM - 6:00 PM, Jul 12
- (ON-SITE) "Validating state-wide charging station network through agent-based simulation" by Pasqual Martí, Jaime Llopis, Vicente Julian, Paulo Novais, and Jaume Jordán  
⌚ 4:30 PM - 6:00 PM, Jul 12
- (ON-SITE) "Challenges and Solutions in Large-Scale News Recommenders" by Joel Pinho Lucas, and Letícia Freire de Figueiredo  
⌚ 4:30 PM - 6:00 PM, Jul 12

#### Workshop on Beyond the promises of web3.0: foundations and challenges of trust decentralization (WEB3-TRUST)

⌚ 4:30 PM - 5:30 PM, Jul 12

📍 Room Sete Cidades

**BLOCKCHA...**

Chair: David Arroyo, CSIC (Spain)

#### 3 Subsessions

- (ON-SITE) "Decentralized Oracle Networks (DONs) Provision for DAML Smart Contracts" by Iqra Mustafa, Bart Cant, Alan McGibney, and Susan Rea  
⌚ 4:30 PM - 5:30 PM, Jul 12
- (ONLINE) "Analyzing the Effectiveness of Native Token Airdrop Campaigns in NFT Marketplaces" by Paul Kuhle, David Arroyo, and Pablo de Andrés  
⌚ 4:30 PM - 5:30 PM, Jul 12
- (ON-SITE) "A Novel DID Method Leveraging the IOTA Tangle and its Integration into OpenSSL" by Alessio Claudio, and Andrea Vesco  
⌚ 4:30 PM - 5:30 PM, Jul 12

#### DCAI 3

⌚ 4:30 PM - 5:30 PM, Jul 12

📍 ONLINE

**DCAI**

Chair: Alberto Fernández, Universidad Rey Juan Carlos (Spain)

#### 3 Subsessions

- (ONLINE) "A Novel System Architecture for Anomaly Detection for Loan Defaults" by Rayhaan Pirani, and Ziad Kobti  
⌚ 4:30 PM - 5:30 PM, Jul 12
- (ONLINE) "Neural Architecture Search: Practical Key Considerations" by María Alonso-García, and Juan M. Corchado  
⌚ 4:30 PM - 5:30 PM, Jul 12
- (ONLINE) "Leveraging Smart City Services for Citizen Benefits through a Unified Management Platform" by Francisco Pinto Santos, Juan Antonio González Ramos, Sergio Alonso-Rollán, and Ricardo S. Alonso-Rincón  
⌚ 4:30 PM - 5:30 PM, Jul 12

#### PAAMS 3: Applications

🕒 4:30 PM - 5:30 PM, Jul 12

📍 ONLINE

PAAMS

3 Subsessions

● (ONLINE) "Brain waves classification using a single-channel dry EEG headset: an application for controlling an intelligent wheelchair" by Patricia Almeida, Brigida Monica Faria, and Luis Paulo Reis

🕒 4:30 PM - 4:50 PM, Jul 12

● (ONLINE) "Fuzzy Hyperplane based Twin-KSVC and Its Applications to Stock Price Movement Direction Prediction Based on News Articles" by Pei-Yi Hao

🕒 4:50 PM - 5:10 PM, Jul 12

● (ONLINE) "Parking Problem with Multiple Gates" by Francesco Noviello, Munyque Mittelmann, Aniello Murano, and Silvia Stranieri

🕒 5:10 PM - 5:30 PM, Jul 12

## ISAMI 2: Advances in data semantics, organisation and privacy

🕒 4:30 PM - 5:30 PM, Jul 12

📍 ONLINE

ISAMI

Chair: Antonio Fernández-Caballero, Universidad de Castilla-La Mancha (Spain)

3 Subsessions

● (ONLINE) "Ensuring Data Privacy in Open Data Platforms for Smart Cities" by Juan Antonio González-Ramos, Francisco Pinto-Santos, Alesandro Gómez-Villar, Javier Curto, and Javier Parra-Domínguez

🕒 4:30 PM - 5:30 PM, Jul 12

● (ONLINE) "A proposal for a taxonomy of Augmented Humanity based on current needs, topics and challenges." by Graciela Guerrero, Fernando José Mateus da Silva, Antonio Pereira, and Antonio Fernández-Caballero

🕒 4:30 PM - 5:30 PM, Jul 12

● (ONLINE) "How to handle fuzzy aspects in African sociocultural ontology" by Abdoul Azize Kindo, Sadouanouan Malo, Gaoussou Camara, Guededi Kaladzavi, Théodore Marie Yves Tapsoba, and Kolyang

🕒 4:30 PM - 5:30 PM, Jul 12

## DECON 3

🕒 4:30 PM - 5:30 PM, Jul 12

📍 Room Funchal

DECON

Chair: J. Manuel Sánchez-Cartas, Complutense University of Madrid (Spain)

3 Subsessions

● (ON-SITE) "Ultimatum game as educational space: A novel code for experimental distributive bargaining" by Edgardo Bucciarelli, Elsa Maria Bruni, Aurora Ascatigno, and Alfredo Colantonio

🕒 4:30 PM - 5:30 PM, Jul 12

● (ONLINE) "The vulnerability of euro area inflation to energy price fluctuations: a SVAR model approach" by Pierdomenico Dutillo

🕒 4:30 PM - 5:30 PM, Jul 12

● (ON-SITE) "An aggregation rule under uncertainty" by Josep Freixas

🕒 4:30 PM - 5:30 PM, Jul 12

5:20 PM

## Workshop on Integration of emerging technologies into education and training (E TELT) (IV)

🕒 5:20 PM - 6:00 PM, Jul 12

📍 Room Santa Maria

MIS4TEL

### 2 Subsessions

#### ● "Integration of emerging technologies into education and training project cluster: call to action" by 5 project coordinators

🕒 5:20 PM - 5:50 PM, Jul 12

#### ● "Key aspects explored and future actions" by Angel Fuentes Mateos, Project Officer, European Commission

🕒 5:50 PM - 6:00 PM, Jul 12

6:00 PM

## Guided Visit

🕒 6:00 PM - 7:30 PM, Jul 12

Social Program...

**Guided Tour** visiting the city centre of Guimarães. The historic city centre was declared a UNESCO World Heritage Site in 2001.

Meeting point: Hotel Guimarães ( [Eduardo Manuel de Almeida 202, 4810-440 Guimarães.](#)) at 18:00 (GMT +1).

7:30 PM

## Welcome Reception

🕒 7:30 PM - 9:00 PM, Jul 12

Social Program...

**Welcome Reception** will take place at the Camara Municipal de Guimarães ( [Largo Cónego José Maria Gomes 4, 4804-534 Guimarães](#)) at 19:30 (GMT +1).

## Thu, Jul 13, 2023

9:30 AM

## Plenary Talk: "Building Real Objects with a Multi-agents System"

🕒 9:30 AM - 10:30 AM, Jul 13

📍 Room Flores & Room Sete Cidades

BLOCKCHAIN

DCAI

DECON

ISAMI

MIS4TEL

PAAMS

PACBB

Chair: Philippe Mathieu, University of Lille (France)

**Abstract:** Technological advances, especially in the miniaturization of robotic devices foreshadow the emergence of large-scale ensembles of small-size resource-constrained robots that distributively cooperate to achieve complex tasks. These ensembles are formed by independent, intelligent, and communicating units which act as a whole forming a programmable material i.e., a material able to autonomously change its shape.

In my talk, I will present our research effort in building a modular robot composed of mm-scale units. We use micro-technology to scale down the size of each element, and we study geometry, structure, actuation, power, electronics, and integration. We develop multi-agent algorithms to scale up in the number of managed robots to perform synchronization, leader election, self-assembly and self-reconfiguration. As multi-agent systems are by essence decentralized, they are the best candidate to manage these distributed robotic systems.

### 🗣️ Speaker



**Julien Bourgeois**

University of Bourgogne Franche-Comté, FEMTO-ST Institute, CNRS (France)

10:30 AM

## Coffee break + Demonstrations exhibition

🕒 10:30 AM - 11:00 AM, Jul 13

10:45 AM

## Beyond the Chain: Workshop on DAG-based Distributed Ledger Technologies (DAG-DLT)

🕒 10:45 AM - 1:00 PM, Jul 13

📍 Room Santa Maria

**BLOCKCHA...**

Chair: Luigi Vigneri, IOTA Foundation (Germany)

### 7 Subsessions

● **(ON-SITE) "Resilient tip pool policies for DAG-Based Distributed Ledgers" by Lianna Zhao, Andrew Cullen, Sebastian Muller, Olivia Saa, and Robert Shorten**

🕒 10:45 AM - 1:00 PM, Jul 13

● **(ON-SITE) "Welcome to the Tangle: An Empirical Analysis of IOTA Ledger in the Chrysalis Stage" by Peilin He, Tao Yan, Chuanshan Huang, Nicolò Vallarano, and Claudio J. Tessone**

🕒 10:45 AM - 1:00 PM, Jul 13

● **(ON-SITE) "Performance Analysis of the IOTA Chrysalis on Heterogeneous Devices" by Muhammad Waleed, Knud Erik Skouby, and Sokol Kosta**

🕒 10:45 AM - 1:00 PM, Jul 13

● **(ONLINE) "DLT-enabled smart masks on IOTA Tangle for social compliance enforcement" by Lianna Zhao, Pietro Ferraro, and Robert Shorten**

🕒 10:45 AM - 1:00 PM, Jul 13

● **(ON-SITE) "Topology and the Tangle: How the Underlying Network Topology Influences the Confirmation of Blocks in IOTA" by Benjamin Kraner, Nicolò Vallarano, and Claudio J. Tessone**

🕒 10:45 AM - 1:00 PM, Jul 13

● **(ON-SITE) "FPCS: Solving n-spends on a UTXO-based DLT" by Rafael Cizeski Nitchai, Serguei Popov, and Sebastian Müller**

🕒 10:45 AM - 1:00 PM, Jul 13

● **(ON-SITE) "Bridging Protocols in DAG-based DLTs: Facilitating Interaction between IOTA and other DLT Networks" by Carlos Álvarez López, Yeray Mezquita, and Diego Valdeolmillos**

🕒 10:45 AM - 1:00 PM, Jul 13

11:00 AM

## Special Session on the next generation of IoT infrastructures, cybersecurity, and applications (IoTalentum) (I)

🕒 11:00 AM - 1:00 PM, Jul 13

📍 Room San Miguel

**DCAI**

Chair: Ramón J. Durán, Universidad de Valladolid (Spain)



## 7 Subsessions

● (ON-SITE) "ML for Attack and Defense of PUFs: Current Status and Future Directions" by Mieszko Ferens, Edlira Dushku, and Sokol Kosta

🕒 11:00 AM - 1:00 PM, Jul 13

● (ON-SITE) "A Framework for Next Generation Cloud-Native SDN Cognitive Resource Orchestrator for IoTs (NG2CRO)" by Hafiza Kanwal Janjua, Ignacio de Miguel, Ramon J. Duran Barroso, Maryam Masoumi, Soheil Hosseini, Juan Carlos, Noemi Merayo, and Evaristo Abri

🕒 11:00 AM - 1:00 PM, Jul 13

● (ON-SITE) "Decentralized Identifiers for IoT Systems: Current Status and Future Vision" by Muhammad Waleed, Knud Erik Skouby, and Sokol Kosta

🕒 11:00 AM - 1:00 PM, Jul 13

● (ON-SITE) "Network automation: from intent-based networking to cloud-native networking" by Mahmoud Abbasi, Javier Prieto, and Juan Manuel Corchado

🕒 11:00 AM - 1:00 PM, Jul 13

● (ON-SITE) "Enhancing the Security of Software Defined Networks via Quantum Key Distribution and Post-Quantum Cryptography" by Carlos Rubio Garcia, Simon Rommel, Juan José Vegas Olmos, and Idelfonso Tafur Monroy

🕒 11:00 AM - 1:00 PM, Jul 13

● (ON-SITE) "AI-Optimized Energy Management for More Efficient and Sustainable Microgrids" by Sebastian Lopez Florez, Guillermo Hernández, Alfonso González-Briones, and Fernando de La Prieta Prieta

🕒 11:00 AM - 1:00 PM, Jul 13

● (ON-SITE) "Efficient Protected VNF Placement and MEC Location Selection for Dynamic Service Provisioning in 5G Networks" by Maryam Masoumi, Ignacio Miguel, Ramon Duran Barroso, Soheil Hosseini, Hafiza Kanwal Janjua, Noemi Merayo, Juan Carlos Aguado, and Ru

🕒 11:00 AM - 1:00 PM, Jul 13

## Workshop on Adaptive Smart areaS and Intelligent Agents (ASSIA)

🕒 11:00 AM - 1:00 PM, Jul 13

📍 Room San Jorge

**PAAMS**

Chair: Alberto Fernández - King Juan Carlos University (Spain)

#### 6 Subsessions

- (ON-SITE) "Agrobots architecture and Agrobots-Sim simulator for dynamic agri-robot coordination" by Jorge Gutierrez-Cejudo, Marin Lujak, and Alberto Fernandez  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "Improving Public Transportation Efficiency through Accurate Bus Passenger Demand" by Alejandro Ibáñez, Jaume Jordán, and Vicente Julian  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "Pre-processing techniques and model aggregation for plant disease prevention" by Cédric Marco-Detchart, Jaime A. Rincon, Vicente Julian, and Carlos Carrascosa  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "A SPADE Multi-Agent Application for Outdoor CO2 Monitoring" by Sergio Márquez Sánchez, Sara Rodríguez, Sergio Alonso Rollán, Javier Palanca Cámara, Andrés Terrasa Barrera, and Fernando De La Prieta  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "Blockchain-Enabled Reward System for Sustainable Last-Mile Delivery in Urban Logistics: A Case Study on SimFleet Platform" by Yeray Mezquita, Sara Rodríguez, Javier Palanca, and Javier Prieto  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "Station balancing system of a Bike Sharing System by means of a multi-agent system in collaboration with the user's decision" by Belén Pérez-Lancho, Alfonso González-Briones, Blanca Mellado Pinto, and Sara Rodríguez  
⌚ 11:00 AM - 1:00 PM, Jul 13

#### Workshop on Interactive Environments and Emerging Technologies for eLearning (IETeL (I))

⌚ 11:00 AM - 1:00 PM, Jul 13

📍 Room Funchal

MIS4TEL

Chair: Minoru Nakayama, Tokyo Institute of Technology, Japan

#### 6 Subsessions

- (ONLINE) "Effectiveness of a "Nudge" for Online Discussion Participation about Attitude toward Essay Writing" by Minoru Nakayama, Satoru Kikuchi, and Hiroh Yamamoto  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "Educators' Support through Predictive Analytics in an Assessment Process" by Malinka Ivanova, Petya Petkova, and Tsvetelina Petrova  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ONLINE) "Implicit Aspects of the Psychosocial Rehabilitation with a Humanoid Robot" by Maya Dimitrova, Virginia Ruiz Garate, Dan Withey, and Chris Harper  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ONLINE) "Mobile Game Development Using Unity Engine" by Fatima Sapundzhi, Anton Kitanov, Meglena Lazarova, and Slavi Georgiev  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ONLINE) "Proposal for a peer-to-peer coding platform for teaching introductory programming to large classes of novice students" by Philippe Weidmann, Milo Gianinazzi, and Laurent Moccozet  
⌚ 11:00 AM - 1:00 PM, Jul 13
- (ON-SITE) "Big Data in E-learning: Role, Impacts and Potential" by Desislava Ivanova  
⌚ 11:00 AM - 1:00 PM, Jul 13

#### PAAMS 4: Swarm agents and complex systems

⌚ 11:00 AM - 1:00 PM, Jul 13

📍 Room Flores

**PAAMS**

Chair: Yves Demazeau, Centre National de la Recherche Scientifique (France)

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**5 Subsessions**

- (ON-SITE) **"UAV Swarm Control and Coordination Using Jason BDI Agents on top of ROS"** by Iago de Oliveira Silvestre, Bruno de Lima, Pedro Henrique Dias, Leandro Buss Becker, Jomi Fred Hübner, and Maiquel de Brito  
🕒 11:00 AM - 11:30 AM, Jul 13
- (ON-SITE) **"Exploring Planner-Guided Swarms Running on Real Robots"** by Michael Schader, and Sean Luke  
🕒 11:30 AM - 12:00 PM, Jul 13
- (ON-SITE) **"Optimization of Complex Systems in Photonics by Multi-Agent Robotic Control"** by Quentin Pouvreau, Jean-Pierre Georgé, Carole Bernon, and Sébastien Maignan  
🕒 12:00 PM - 12:20 PM, Jul 13
- (ON-SITE) **"A multi-level density-based crowd simulation architecture"** by Huu-Tu Dang, Benoit Gaudou, and Nicolas Verstaevel  
🕒 12:20 PM - 12:40 PM, Jul 13
- (ON-SITE) **"Enhancing Safety Checking Coverage with Multi-swarm Particle Swarm Optimization"** by Tsutomu Kumazawa, Munehiro Takimoto, Yasushi Kodama, and Yasushi Kambayashi  
🕒 12:40 PM - 1:00 PM, Jul 13

**MIS4TEL 2: Digital technologies integration in the classroom (II)**

🕒 11:00 AM - 1:00 PM, Jul 13

📍 Room Sete Cidades

**MIS4TEL**

Chair: Juanjo Mena - University of Salamanca (Spain)

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**6 Subsessions**

- (ON-SITE) **"Distance Mathematics Teaching during the Pandemic – Experiences from Secondary Schools in Romania"** by Teo-Christian Ion, and Elvira Popescu  
🕒 11:00 AM - 11:20 AM, Jul 13
- (ON-SITE) **"Using Nearpod for reviewing lessons to increase motivation and academic performance: a case study with engineering students"** by Laura Romero Rodríguez  
🕒 11:20 AM - 11:40 AM, Jul 13
- (ON-SITE) **"Mixed study on the use of flipped classroom methodology in the subject of community mental health care"** by Irene del Brío Alonso, Juan Luis Cabanillas García, Maria Cruz Sánchez Gómez, and Manuel Franco Martín  
🕒 11:40 AM - 12:00 PM, Jul 13
- (ON-SITE) **"DeeJay in Action: Evaluating it by its application in Technology-Enhanced Learning"** by Federica Caruso, Sara Peretti, and Tania Di Mascio  
🕒 12:00 PM - 12:20 PM, Jul 13
- (ON-SITE) **"Analysis of the digital competence of the students of mathematics sciences of the Francisco de Morazán National Pedagogical University"** by Juan Luis Cabanillas-García, Mari Cruz Sánchez-Gómez, Irene Del Brío-Alonso, and Yenny Eguigure  
🕒 12:20 PM - 12:40 PM, Jul 13
- (ON-SITE) **"Use of Exergames with Elderly Adults, a Qualitative Study"** by Bárbara Mariana Gutiérrez-Pérez, Antonio Victor Martín-García, Juan Luis Cabanillas-García, and Mari Cruz Sánchez-Gómez  
🕒 12:40 PM - 1:00 PM, Jul 13

**DCAI 4**

🕒 11:00 AM - 1:00 PM, Jul 13

📍 ONLINE

**DCAI**

Chair: Kenji Matsui, Osaka Institute of Technology (Japan)

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#### 6 Subsessions

● (ONLINE) **"Step-wise Model Aggregation for Securing Federated Learning"** by **Shahenda Magdy, Mahmoud Bahaa, and Alia El Bolock**

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) **"A geolocation approach for tweets not explicitly georeferenced based on machine learning"** by **Julie Thiombiano, Sadouanouan Malo, and Yaya Traore**

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) **"Classification of Scenes using specially designed Convolutional Neural Networks for detecting Robotic Environments"** by **Luis Hernando Ríos González, Sebastian Lopez Florez, Alfonso González-Briones, and Fernando de la Prieta Pintado**

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) **"AI-based Platform for Smart Cities Urban Infrastructure monitorization"** by **Francisco Pinto-Santos, Juan Antonio González-Ramos, Javier Curto, Ricardo S. Alonso and Juan Manuel Corchado**

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) **"Bitcoin Price Prediction using Machine Learning and Technical Indicators"** by **Abdelatif Hafid, Abdelhakim Senhaji Hafid, and Dimitrios Makrakis**

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) **"Introduction to the Extended Reality as a Teaching Resource in Higher Education"** by **Juan Carlos De la Cruz Campos, Magdalena Ramos Navas-Parejo, Fernando Lara-Lara, and Blanca Berral Ortiz**

🕒 11:00 AM - 1:00 PM, Jul 13

#### **ISAMI 3: Smart applications for improving people's quality of life and safety**

🕒 11:00 AM - 1:00 PM, Jul 13

📍 ONLINE

**ISAMI**

Chair: Ricardo S. Alonso, AIR institute (Spain)

## 6 Subsessions

● (ONLINE) "Flow Disaggregation: underdetermined non-negative linear systems" by Javier Curto, Guillermo Hernández, María Alonso-García, Alicia Serrano-Ortega, Alberto Toledo-Garrote, and Pablo Chamoso

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Review of physical aggression detection in video using explainable and trustworthy artificial intelligence" by Pablo Negre, Ricardo S. Alonso, Javier Prieto, Angélica González Arrieta, and Juan M. Corchado

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "A new software platform to provide AI-based services to Smart Cities" by Francisco Pinto-Santos, Juan Antonio González-Ramos, Raúl López-Blanco, and Javier Curto

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "The impact of data selection strategies on distributed model performance" by Miguel Guimarães, Filipe Oliveira, Davide Carneiro, and Paulo Novais

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "VRPrOE toolbox for virtual pre-occupancy evaluation: Proof of concept on a BIM model of a conservatory classroom." by José L. Gomez-Sirvent, Desirée Fernández-Sotos, Francisco López de la Rosa, Alicia Fernández-Sotos, and Antonio Fernández-Caball

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Pleasure and Displeasure Identification from fNIRS Signals" by Daniel Sanchez-Reolid, Roberto Sanchez-Reolid, Antonio Fernández-Caballero, and Alejandro L. Borja

🕒 11:00 AM - 1:00 PM, Jul 13

## BLOCKCHAIN 3: BLOCKCHAIN APPLICATIONS II

🕒 11:00 AM - 1:00 PM, Jul 13

📍 ONLINE

**BLOCKCHA...**

Chair: Adnan Imeri, Luxembourg Institute of Science and Technology (Luxembourg)

#### 7 Subsessions

● (ONLINE) "Implementation and Evaluation of blockchain-based Applications in SME's Supply Chains: Proof-of-Origin and Process Automation" by Lambert Schmidt, Marc Hübschke, Vanessa Carls, Eugen Buss, Stefan Lier, Elmar Holschbach, and Marc Jansen

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Transparency Disclosure for End Consumers in Private Food Supply Chains - A Systematic Literature Review" by Hauke Precht, Ella Mahnken, and Jorge Marx Gómez

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Industry 4.0 Business-oriented Blockchain Design Decision Tree" by Denis Stefanescu, Leticia Montalvillo, Patxi Galán-García, Juanjo Unzilla, and Aitor Urbietta

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Enhancing Privacy Protection in Intelligent Surveillance: Video Blockchain Solutions" by Kasun Moolika Gedara, Minh Nguyen, and Wei Qi Yan

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Blockchain-based Decentralized Autonomous Organizations (DAOs) for Democratization in the Environmental, Social, and Governance (ESG) Rating Process" by Richard, Alexander Agung Santoso Gunawan, Felix Irwanto, Gabrielle Peko, and David Sundaram

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Student Certificate Sharing System Using Blockchain and NFTs" by Prakhyat Khati, Ajay Kumar Shrestha, and Julita Vassileva

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "A blockchain-based framework solution to enhance the remote assessment process in HEIs" by Paulo Victor Dias, Firmino Oliveira Silva, and António Godinho

🕒 11:00 AM - 1:00 PM, Jul 13

#### DECON 4

🕒 11:00 AM - 1:00 PM, Jul 13

📍 ONLINE

**DECON**

Chair: J. Manuel Sánchez-Cartas, Complutense University of Madrid (Spain)

#### 5 Subsessions

● (ONLINE) "Exploring the interplay of AI-powered personalized recommendations and social Influences on Chinese consumers' purchase behavior: Insights from the Douyin e-commerce platform" by Liang Ding, Gianluca Antonucci, and Michelina Venditti

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "AI in decision making: A comprehensive bibliometric review" by Ahya Javidan, Marco Smacchia, Michele Cipriano, and Stefano Za

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "From Industry 4.0 to change management: Identifying opportunities and threats for SMEs" by Claudia Pelagatti, and Cesidio Ludovisi

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "Investigating AI bias entrepreneurs' perception" by Marco Smacchia, and Stefano Za

🕒 11:00 AM - 1:00 PM, Jul 13

● (ONLINE) "The social impact of the European renewable energy support policies: A methodological approach to analyzing the Italian case" by Rosaria D'Addazio, and Fabio Porreca

🕒 11:00 AM - 1:00 PM, Jul 13

1:00 PM

Strong Lunch

🕒 1:00 PM - 2:30 PM, Jul 13

2:30 PM

## PACBB 1

🕒 2:30 PM - 4:00 PM, Jul 13

📍 Room Santa Maria

PACBB

Chair: Miguel Rocha, University of Minho (Portugal)

### 4 Subsessions

● (ON-SITE) "The impact of Schizophrenia misdiagnosis rates on Machine Learning models performance" by Daniel Martins, Conceição Egas, and Joel P. Arrais

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Deep Learning and Transformers in MHC-peptide Binding and Presentation Towards Personalized Vaccines in Cancer Immunology: A Brief Review" by Vicente Enrique Machaca Arceda, Valeria Goyzueta, Maria Cruz, and Yvan Tupac

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "A new GIMME-based heuristic for compartmentalised transcriptomics data integration" by Diego Troitiño-Jordedo, Lucas Carvalho, David Henriques, Vítor Pereira, Miguel Rocha, and Eva Balsa-Canto

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Analysis of the Confidence in the Prediction of the Protein Folding by Artificial Intelligence" by Paloma Tejera Nevado, Emilio Serrano, Ana González Herrero, Rodrigo Bermejo Moreno, and Alejandro Rodríguez González

🕒 2:30 PM - 4:00 PM, Jul 13

## DCAI 5

🕒 2:30 PM - 4:00 PM, Jul 13

📍 Room San Miguel

DCAI

Chair: Victor Alves, University of Minho (Portugal)

### 6 Subsessions

● (ON-SITE) "Federated Genetic Programming: A study about the effects of non-IID and federation size" by Bruno Ribeiro, Luis Gomes, Ricardo Faia, and Zita Vale

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Cognitive reinforcement for enhanced post construction aiming fact-check spread" by Maria Araujo Barbosa, Francisco S. Marcondes, and Paulo Novais

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Chatbot Architecture for a Footwear E-commerce Scenario" by Vasco Rodrigues, Joaquim Santos, Pedro Carrasco, Isabel Jesus, Ramiro Barbosa, Paulo Matos, and Goreti Marreiros

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "AMIR: A multi-agent approach for influence detection in Social networks" by Chaima Messaoudi, Lotfi Ben Romdhan, and Zahia Guessoum

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Extracting Knowledge from Testaments - An Ontology Learning Approach" by Shahzod Yusupov, Anabela Barros, and Orlando Belo

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Activity classification with inertial sensors to perform gait analysis" by David Martínez-Pascual, José María Catalán Orts, José Vicente García Pérez, Mónica Sanchís, Francisca Arán Ais, and Nicolas Garcia-Aracil

🕒 2:30 PM - 4:00 PM, Jul 13

## Workshop on Interactive Environments and Emerging Technologies for eLearning (IEETeL (II))

🕒 2:30 PM - 4:00 PM, Jul 13

📍 Room Funchal

MIS4TEL

Chair: Malinka Ivanova, Technical University of Sofia, Bulgaria

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### 6 Subsessions

● (ON-SITE) "Physical and Digital Accessibility of Museums in Bulgaria: Problems and Innovative Technologies" by Vesela Georgieva, Galina Bogdanova, and Mirena Todorova-Ekmekci

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Educational Technologies and Video Algorithms at Medical University – Varna, Bulgaria" by Diana Dimitrova, Galina Bogdanova, Galya Tsaneva, and Evgeniya Gospodinova

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "System review and requirements analysis for escape classroom system" by Milen Petrov, Bozhidara Pachilova, Teodosia Hristodorova, and Adelina Aleksieva-Petrova

🕒 2:30 PM - 4:00 PM, Jul 13

● (ON-SITE) "Application of Artificial Neural Networks in Intelligent Tutoring: A Contemporary Glance" by Tatyana Ivanova, Valentina Terzieva, and Malinka Ivanova

🕒 2:30 PM - 4:00 PM, Jul 13

● (ONLINE) "Design Considerations, Architecture and Implementation of a Wireless Sensor Network for Use in Smart Education" by Svetozar Ilchev

🕒 2:30 PM - 4:00 PM, Jul 13

● (ONLINE) "A mobile app game based on the development and design of a puzzle created for educational learning" by Fatima Sapundzhi, Anton Kitanov, Meglena Lazarova, and Slavi Georgiev

🕒 2:30 PM - 4:00 PM, Jul 13

## MIS4TEL 3: AI for Education (I)

🕒 2:30 PM - 4:00 PM, Jul 13

📍 Room Sete Cidades

MIS4TEL

Chair: Dalila Durães, Universidade do Minho, Centro Algoritmi (Portugal)

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### 4 Subsessions

● (ON-SITE) "Multiple-choice Questions Difficulty Prediction with Neural Networks" by Diego Reyes Troncoso, Abelino Jimenez, Pablo Dartnell, and Séverin Lions

🕒 2:30 PM - 2:50 PM, Jul 13

● (ON-SITE) "Reflections on Methods for Eliciting Teachers Understanding, Attitudes and Emotions about AI" by Johanna Velander, Ahmed Mohammed, Nuno Otero, Marcelo Milrad, and Annemarie Annemarie Zijlema

🕒 2:50 PM - 3:10 PM, Jul 13

● (ON-SITE) "Predicting student performance using interactions data with virtual resources at different stages of the course" by Alex Martínez-Martínez, Raul Montoliu Colás, and Inmaculada Remolar

🕒 3:10 PM - 3:30 PM, Jul 13

● (ON-SITE) "AI4Architect: an Intelligent Help System to Support Students in the Design Domain" by Luca Abrusci, Karma Dabaghi, Stefano D'Urso, and Filippo Sciarrone

🕒 3:30 PM - 3:50 PM, Jul 13



## Special Session on Computational Linguistics, Information, Reasoning, and AI (CLIRAI)

🕒 2:30 PM - 4:00 PM, Jul 13

📍 ONLINE

**DCAI**

Chair: Roussanka Loukanova, Institute of Mathematics and Informatics, Bulgarian Academy of Sciences (Bulgaria)

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### 5 Subsessions

● (ONLINE) "Investigating the Gap between Single-Hop and Multi-Hop Questions in Closed-Book QA via Question Decomposition" by Tareq Alkhaldi, Chenhui Chu, and Sadao Kurohashi

🕒 2:30 PM - 4:00 PM, Jul 13

● (ONLINE) "Evaluating Transformers' Sensitivity to Syntactic Embedding Depth" by Hailin Hao

🕒 2:30 PM - 4:00 PM, Jul 13

● (ONLINE) "Parsing isiZulu text using Grammatical Framework" by Laurette Marais, and Laurette Pretorius

🕒 2:30 PM - 4:00 PM, Jul 13

● (ONLINE) "Can Large Language Model Surprisal Capture the Informativity Bias in Human Language Processing?" by Hailin Hao, and Muxuan He

🕒 2:30 PM - 4:00 PM, Jul 13

● (ONLINE) "A Typometrical Study of Greenberg's Linguistic Universal 1" by Antoni Brosa-Rodríguez, and M. Dolores Jiménez-López

🕒 2:30 PM - 4:00 PM, Jul 13

## PAAMS 5: Organizations of agents

🕒 2:30 PM - 4:00 PM, Jul 13

📍 ONLINE

**PAAMS**

Chair: Toshihiro Matsui, Nagoya Institute of Technology (Japan)

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### 3 Subsessions

● (ONLINE) "Towards Norm Entrepreneurship in Agent Societies" by Amritha Menon Anavankot, Stephen Cranefield, and Bastin Tony Roy Savarimuthu

🕒 2:30 PM - 3:00 PM, Jul 13

● (ONLINE) "Integrating Policy Summaries with Reward Decomposition for Explaining Reinforcement Learning Agents" by Yael Septon, Tobias Huber, Elisabeth André, and Ofra Amir

🕒 3:00 PM - 3:30 PM, Jul 13

● (ONLINE) "Resolving the Dilemma of Responsibility in Multi-Agent Flow Networks" by Jayati Deshmukh, Nikitha Adivi, and Srinath Srinivasa

🕒 3:30 PM - 4:00 PM, Jul 13

## Special Session on Intelligent Systems Applications (ISA) (II)

🕒 2:30 PM - 4:00 PM, Jul 13

📍 ONLINE

**DCAI**

Chair: Jose Luis Calvo Rolle, University of A Coruña (Spain)

#### 4 Subsessions

- (ONLINE) "Machine Learning Methods for Alarm Prediction in Industrial Informatics: Review and Benchmark" by Hamza Görgülü, and Öznur Özkasap  
⌚ 2:30 PM - 4:00 PM, Jul 13
- (ONLINE) "Imagelytics: A Deep Learning-based Image Classification Tool to Support Bioassessment" by Aleksandar Milosavljević, Bratislav Predić, and Djurdj Milošević  
⌚ 2:30 PM - 4:00 PM, Jul 13
- (ONLINE) "A Cooperative Decentralised Optimization Method for Vehicle Platooning" by Björn Wudka, Carsten Thomas, and Bernd-Holger Schlingloff  
⌚ 2:30 PM - 4:00 PM, Jul 13
- (ONLINE) "Transiting exoplanet detection through 1D Convolutional Neural Networks" by Santiago Iglesias Álvarez, Enrique Díez Alonso, María Luisa Sánchez Rodríguez, Javier Rodríguez Rodríguez, Saúl Pérez Fernández, Ronny Steven Anagonó Tutasig, Carlos Go  
⌚ 2:30 PM - 4:00 PM, Jul 13

#### DECON 5

⌚ 2:30 PM - 4:30 PM, Jul 13

📍 ONLINE

DECON

Chair: Chiara Fubrizi, Ministry of Economy and Finance (Italy)

#### 7 Subsessions

- (ONLINE) "Circular economy and its actors: An integral and sustainable approach from Cameroon" by Esoh Elame, and Michèle Lameu Djeutchouang  
⌚ 2:30 PM - 4:30 PM, Jul 13
- (ONLINE) "Assessing the nexus between competitiveness and human well-being for sustainable development" by Silvia Di Piero, and Tony E. Persico  
⌚ 2:30 PM - 4:30 PM, Jul 13
- (ONLINE) "Decision-making and pedagogical reasoning in the construction of the political self: A case of community education" by Raffaella Di Florio  
⌚ 2:30 PM - 4:30 PM, Jul 13
- (ONLINE) "The economy of Francesco and the role of fraternity." by Tony E. Persico, and Helen Alford  
⌚ 2:30 PM - 4:30 PM, Jul 13
- (ONLINE) "Economic dignity and wellbeing: Catalytic indicators for integral human development" by Anthony Guidotti, and Elizabeth Garlow  
⌚ 2:30 PM - 4:30 PM, Jul 13
- (ONLINE) "Counter-hegemony to the dollar: Reflections in light of Francis' papacy" by Tatiana Vasconcelos Fleming Machado, and João Gabriel Danon Tavares  
⌚ 2:30 PM - 4:30 PM, Jul 13
- (ONLINE) "Impact of State-level changes in paid family leave policies: Evidence from New Jersey's paid leave insurance program" by Tracey Freiberg  
⌚ 2:30 PM - 4:30 PM, Jul 13

4:00 PM

#### Plenary Talk: "Generative AI: Implications for Assessment and Learning"

⌚ 4:00 PM - 5:00 PM, Jul 13

📍 Room Flores & Room Sete Cidades

BLOCKCHAIN

DCAI

DECON

ISAMI

MIS4TEL

PAAMS

PACBB

Chair: Pierpaolo Vittorini, University of L'aquila (Italy)

**Abstract:** Generative AI systems such as ChatGPT are already disrupting education. They can write essays for students, summarise scientific texts, produce lesson plans, engage in conversations, and draft academic papers. New hybrid systems such as Auto-GPT extend the capabilities of generative AI, to interpret goals, form plans, enact tasks and access external tools such as web browsers and databases.

In this presentation I will introduce the capabilities and limitations of current generative AI and discuss implications for education. The talk will cover: how humans and AI can learn together, future roles for AI in education, new educational generative AI systems, and ethics of learning with AI. Rather than seeing AI as a challenge to traditional education, we should prepare students for a future where AI is a tool for creativity, to be operated with great care and awareness of its limitations.

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🔊 Speaker



**Mike Sharples**

Emeritus Professor  
The Open University (UK)

5:00 PM

### Coffee break + Demonstrations exhibition

🕒 5:00 PM - 5:30 PM, Jul 13

5:30 PM

### Special Session on Artificial Intelligence for enhanced cyber security (AI4CS)

🕒 5:30 PM - 6:30 PM, Jul 13

📍 Room Santa Maria

**DCAI**

Chair: Isabel Praça, Instituto Superior de Engenharia do Porto (Portugal)

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#### 3 Subsessions

● **(ON-SITE) "TestLab: An Intelligent Automated Software Testing Framework" by Tiago Dias, Arthur Batista, Eva Maia, and Isabel Praça**

🕒 5:30 PM - 6:30 PM, Jul 13

● **(ON-SITE) "Data Privacy with Homomorphic Encryption in Neural Networks Training and Inference" by Ivone Amorim, Eva Maia, Pedro Barbosa, and Isabel Praça**

🕒 5:30 PM - 6:30 PM, Jul 13

● **(ON-LINE) "A Privacy Risk Analysis of Identity Federation Topologies in Single Sign-On (SSO) Web Domain" by Reem Al-Saidi, and Ziad Kobti**

🕒 5:30 PM - 6:30 PM, Jul 13

### Workshop on Building the potential of blockchain in farming (FARMS4CLIMATE)

🕒 5:30 PM - 6:30 PM, Jul 13

📍 Room San Miguel

**BLOCKCHA...**

Chair: Ana Belén Gil, University of Salamanca (Spain)

## 2 Subsessions

● (ON-SITE) **"Blockchain-Based Platforms for Carbon Offsetting: A Survey of Existing Approaches and their Potential to Promote Carbon Farming for Smallholders"** by Yeray Mezquita, Carlos Álvarez, Diego Valdeolillos, and Javier Prieto

🕒 5:30 PM - 6:30 PM, Jul 13

● (ON-SITE) **"Development of an open source IoT-Blockchain platform for traceability of fresh products from farm to fork"** by Nekane Sainz, Amaia Pikatza, Iván González, and Mikel Emaldi

🕒 5:30 PM - 6:30 PM, Jul 13

## ISAMI 4: Ambient Intelligence for Smart Cities and Territories

🕒 5:30 PM - 6:30 PM, Jul 13

📍 Room Funchal

ISAMI

Chair: José Carlos Castillo Montoya, Universidad Carlos III de Madrid (Spain)

## 3 Subsessions

● (ON-SITE) **"Optimization of Traffic Light Controllers using Genetic Algorithms: A Case Study in the City of Cádiz"** by Sara Balderas-Díaz, Andrés Muñoz, and Gabriel Guerrero-Contreras

🕒 5:30 PM - 6:30 PM, Jul 13

● (ON-SITE) **"WoA: an infrastructural, web-based approach to digital agriculture"** by Stefano Chessa, Giovanna Maria Dimitri, Marco Gori and Alexander Kocian

🕒 5:30 PM - 6:30 PM, Jul 13

● (ON-SITE) **"Consumption performance, of a multi agent system used to achieve comfort preferences"** by Pedro Filipe Oliveira, Paulo Novais, and Paulo Matos

🕒 5:30 PM - 6:30 PM, Jul 13

## Doctoral Consortium 2: BLOCKCHAIN

🕒 5:30 PM - 7:00 PM, Jul 13

📍 Room Sete Cidades

BLOCKCHA...

## 5 Subsessions

● (ON-SITE) **"Blockchain Oracles for Asset Ownership Verification and Trust Establishment in the Metaverse"** by Hadi Nowandish, Alex Norta, and Peeter Normak

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) **"A Digital Health Passport based on Hyperledger Fabric Blockchain: Use case in Morocco"** by Ait Bennacer Sara, Aaroud Abdessadek, Sabiri Khadija, and Sakyoud Zakaria

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) **"Creating a Blockchain-Based Insurance Platform with Marlowe"** by Ayda Bransia, Bálint Molnár, and Simon Thompson

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) **"Business Processes and Patterns of Blockchain Technology"** by Yossra Zghal, Bálint Molnár, and Simon Thompson

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) **"A Modelling Approach for a High Utility Decentralized Autonomous Organization Development"** by Sowelu Avanzo, Alex Norta, and Claudio Schifanella

🕒 5:30 PM - 7:00 PM, Jul 13

## MIS4TEL 4: AI for Education (II)

🕒 5:30 PM - 6:30 PM, Jul 13

📍 ONLINE

MIS4TEL

### 3 Subsessions

● (ONLINE) "Collaborative Learning in Mixed Reality using WebXR and H5P" by Benedikt Hensen, and Konstantin Kühlem

🕒 5:30 PM - 5:50 PM, Jul 13

● (ONLINE) "Linking Swedish Learning Materials to Exercises through an AI-enhanced Recommender System" by Xiu Li, Aron Henriksson, Jalal Nouri, Martin Duneld, and Yongchao Wu

🕒 5:50 PM - 6:10 PM, Jul 13

● (ONLINE) "Leveraging Topic Modeling to Investigate Learning Experience and Engagement of MOOC Completers" by Zenun Kastrati, Arianit Kurti, Fisnik Dalipi, and Mexhid Ferati

🕒 6:10 PM - 6:30 PM, Jul 13

## PAAMS 6: Agents modeling

🕒 5:30 PM - 6:30 PM, Jul 13

📍 ONLINE

PAAMS

### 2 Subsessions

● (ONLINE) "A solution concept with an exploration bias for repeated stochastic coalitional games" by Josselin Guéron, and Grégory Bonnet

🕒 5:30 PM - 6:00 PM, Jul 13

● (ONLINE) "When Extrinsic Payoffs meet Intrinsic Expectations" by Janvi Chhabra, Karthik Sama, Jayati Deshmukh, and Srinath Srinivasa

🕒 6:00 PM - 6:20 PM, Jul 13

## BLOCKCHAIN 4: E-GOVERNANCE & TOKENOMICS

🕒 5:30 PM - 7:00 PM, Jul 13

📍 ONLINE

BLOCKCHA...

Chair: Hauke Precht, University Oldenburg (Germany)

#### 5 Subsessions

● (ONLINE) "Advancing the Environmental, Social, and Governance (ESG) with Blockchain: A PRISMA Review" by Richard, Erwin Halim, Felix Irwanto, Gabrielle Peko, and David Sundaram

🕒 5:30 PM - 7:00 PM, Jul 13

● (ONLINE) "An Investigation of Scalability for Blockchain-based E-Voting Applications" by Mohammad Hajian Berenjestanaki, Hamid R Barzegar, Nabil El Ioini, and Claus Pahl

🕒 5:30 PM - 7:00 PM, Jul 13

● (ONLINE) "Data Analysis & Core Findings of Pakistan's National Population Census for a Blockchain-based Solution" by Sana Rasheed, and Soulla Louca

🕒 5:30 PM - 7:00 PM, Jul 13

● (ONLINE) "Virtuous Data Monetisation Cycle: A Hybrid Consensus Substrate Automotive Consortium Blockchain Solution" by Cyril Naves Samuel, François Verdier, Severine Glock, and Patricia Guitton-Ouhamou

🕒 5:30 PM - 7:00 PM, Jul 13

● (ONLINE) "A Thematic Analysis to Determine the Future Design of Mobile Cryptocurrency Wallet" by Richard Richard, Muhammad Ammar Marsuki, and Gading Aryo Pamungkas

🕒 5:30 PM - 7:00 PM, Jul 13

#### DECON 6

🕒 5:30 PM - 7:00 PM, Jul 13

📍 Room San Jorge

DECON

Chair: Javier Parra Domínguez, University of Salamanca (Spain)

#### 5 Subsessions

● (ON-SITE) "Parallels and similarities between Hyman P. Minsky's and Paul M. Sweezy's economic thought: A note" by Lorenzo Ruggieri

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) "Getting to the root of the representative consumer by extending the law of invariance to the theory of exact aggregation" by Edgardo Bucciarelli, Andrea Oliva, and Casimiro Massimo Inardi

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) "Back to rational mechanics underlying economic utility theory: Objections to the law of diminishing utility through 1925" by Alessia Regnicoli

🕒 5:30 PM - 7:00 PM, Jul 13

● (RECORDED VIDEO) "From Pareto marginality to a regenerative marginality: Is there a paradigm shift?" by Danilo Di Florio

🕒 5:30 PM - 7:00 PM, Jul 13

● (ON-SITE) "Emerging orders and sites of governance in the process of global and regional transformations: The pertinence of efficiency as a point of reference to help reduce the trade-off between federal transition and citizen satisfaction" Giovanni et al.

🕒 5:30 PM - 7:00 PM, Jul 13

7:45 PM

#### Transportation (bus)

🕒 7:45 PM - 8:00 PM, Jul 13

Social Program...

Bus transport will be provided for the Gala Dinner. The pick-up point will be at Hotel Guimarães at 19:45 (GMT +1). ([Eduardo Manuel de Almeida 202, 4810-440 Guimarães](#))

8:00 PM

#### Gala Dinner

🕒 8:00 PM - 11:30 PM, Jul 13

### Social Program...

The **Gala Dinner** will take place on Thursday 14th July at 20:00 (GMT +1) at the Pousada Mosteiro de Guimarães ([Largo Domingos Leite de Castro, 4810-011 Guimarães - Portugal](#)). **Ticket is required.**

Bus transport will be provided. The pick-up point will be at Hotel Guimarães at 19:45 (GMT +1).

The Pousada Mosteiro Guimarães is an ancient, 12th-century Augustinian Monastery with fantastic views of the city.

## Fri, Jul 14, 2023

9:30 AM

### Plenary Talk: "Applications of Social Agents in Games and Social Robotics"

🕒 9:30 AM - 10:30 AM, Jul 14

📍 Room Flores & Room Sete Cidades

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Chair: Paulo Novais, Univeristy of Minho (Portugal)

**Abstract:** In a world where AI is increasingly prevalent, it is crucial to create AI models that can understand social dynamics and interact with people in social settings. In this presentation, I will discuss the development of social agents and their practical applications in areas like games and human-robot interaction. I will share examples of my research, discussing the different roles agents can play in games, some building blocks for the agents' social models, and the use of robots as team leaders and advisors in workplaces. The talk highlights the importance of giving agents social skills to improve user experience and enable better interactions between humans and machines.

#### 🗣️ Speaker



#### Rui Prada

Associate Professor with Habilitation  
INESC-ID and Instituto Superior Técnico, Universidade de Lisboa (Portugal)

10:30 AM

### Coffee break

🕒 10:30 AM - 11:00 AM, Jul 14

11:00 AM

### Workshop on Inspiring Innovation: MATRYCS Toolbox Replication

🕒 11:00 AM - 1:00 PM, Jul 14

📍 Room Santa Maria

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Chair: Marcelo Lampkowski, PhD in Energy Systems and expert in Data Governance at ICLEI European Secretariat

#### 7 Subsessions

● **Welcome and introduction**

🕒 11:00 AM - 11:10 AM, Jul 14

● **Mexson Fernandes (Chief Technology Officer - Preflet)**

🕒 11:10 AM - 12:30 PM, Jul 14

● **"Start-up story: extracting value from building energy data" by Jorge Mendes (Chief Innovation Officer - Preflet)**

🕒 11:10 AM - 12:30 PM, Jul 14

● **"Citizen Empowerment – Unlocking the true potential with data tools" by Nuno Matias (Coopérnico's IT systems)**

🕒 11:10 AM - 12:30 PM, Jul 14

● **"EDIHs and their link to European development. The role of IoT DIH" by Javier Parra (Chief Scientist of Economic Area - IoT Digital Innovation Hub)**

🕒 11:10 AM - 12:30 PM, Jul 14

● **Q&A**

🕒 12:30 PM - 12:50 PM, Jul 14

● **Closing / final remarks**

🕒 12:50 PM - 1:00 PM, Jul 14

### Special Session on the next generation of IoT infrastructures, cybersecurity, and applications (IoTalentum) (II)

🕒 11:00 AM - 1:00 PM, Jul 14

📍 Room San Miguel

**DCAI**

Chair: Marta Plaza, University of Salamanca (Spain)

#### 6 Subsessions

● (ON-SITE) **"Lossless preprocessing of floating point data to enhance compression" by Francesco Taurone, Daniel Enrique Lucani, Marcell Fehér, and Qi Zhang**

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) **"Multi-Band Elastic Optical Networks: Overview and Recent Contributions from the IoTalentum Project" by Soheil Hosseini, Ignacio de Miguel, Ramón J. Durán Barroso, Noemí Merayo, Óscar González de Dios, Maryam Masoumi, Hafiza Kanwal Janjua, Juan C**

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) **"Computation offloading in beyond 5G/6G networks with edge computing: implications and challenges" by Catalina Stan, Simon Rommel, Juan José Vegas Olmos, and Idelfonso Tafur Monroy**

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) **"Quantum-Inspired Network Optimization in 6G: Opportunities, Challenges and Open Research Directions" by Oumayma Bouchmal, Bruno Cimoli, Ripalta Stabile, Juan Jose Vegas Olmos, and Idelfonso Tafur Monroy**

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) **"Telefónica I+D's Roadmap for Integrated SDN Orchestration of Multi-Domain Multi-Layer Transport Networks" by Liesbeth Roelens, Alejandro Muñoz Da Costa, and Óscar González de Dios**

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) **"Exploring the Cutting-Edge of Energy Aggregation Approaches and Business Models" by Danny Bwalya, Manuel Azevedo and Emilio S. Corchado, and Zita Vale**

🕒 11:00 AM - 1:00 PM, Jul 14

### BLOCKCHAIN 5: BLOCKCHAIN FUNDAMENTALS II

🕒 11:00 AM - 1:00 PM, Jul 14

📍 Room San Jorge

**BLOCKCHA...**



#### 6 Subsessions

● (ON-SITE) "Implementing a Blockchain-Powered Metadata Catalog in Data Mesh Architecture" by Anton Dolhopolov, Arnaud Castellort, and Anne Laurent

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "A survey of decentralized storage and decentralized database in Blockchain-based proposed systems: Potentials and Limitations" by Muhammed Tmeizeh, Carlos Rodríguez-Domínguez, and María Visitación Hurtado-Torres

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "IPFS and Hyperledger Fabric: Integrity of Data in Healthcare" by Pedro Silva, Tiago Guimarães, Ricardo Duarte, and Manuel Filipe Santos

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "FeDis: Federated Learning Framework Supported by Distributed Ledger" by Rafael Barbarroxa, João Silva, Luis Gomes, Fernando Lezama, Bruno Ribeiro, and Zita Vale

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "Report on Decentralized Identity Models and Study on Main Privacy Concerns" by María Ruiz Molina

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "TariScript: Bringing dynamic scripting to Mumblewimble" by Cayle Sharrock, and Schalk van Heerden

🕒 11:00 AM - 1:00 PM, Jul 14

#### Special Session on AI-driven methods for Multimodal Networks and Processes Modeling (AIMPM)

🕒 11:00 AM - 1:00 PM, Jul 14

📍 Room Funchal

**DCAI**

Chair: Pawel Sitek, Kielce University of Technology (Poland)

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#### 6 Subsessions

● (ONLINE) "Use of KPI indicators to optimize production process performance - Case Study" by Mariusz Piechowski, and Artur Meller

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) "Job rotation for the competencies maintaining: A case study in IT project management" by Eryk Szwarc, Paulina Golińska-Dawson, Grzegorz Bocewicz, and Zbigniew Banaszak

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "Applying an enterprise architecture approach to modeling production processes" by Pawel Sitek, Jarosław Wikarek, and Zbigniew Juzoń

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) "Web based application for probability job scheduling" by Tomasz Michno, Roman Stanislaw Deniziak, and Aleksandra Michno

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) "Working time standardization in the assembly process of regenerated elements using MES system and timing method" by Łukasz Wójcik, and Arkadiusz Gola

🕒 11:00 AM - 1:00 PM, Jul 14

● (ON-SITE) "Massive Natural Language Processing in Distributed Environment" by Adam Krechowicz

🕒 11:00 AM - 1:00 PM, Jul 14

#### PAAMS 7: Applications

🕒 11:00 AM - 1:00 PM, Jul 14

📍 Room Flores

**PAAMS**

#### 4 Subsessions

● (ON-SITE) **"Bioinspired Artificial Cockroach Colony Strategy combined with 2-type Fuzzy Logic for the Priority-Based Sanitization of Railway Stations"** by **Fabrizio Tavano, Riccardo Caccavale, Mirko Ermini, Eugenio Fedeli, Luca Ricciardi, Alberto Finzi, and V**

🕒 11:00 AM - 11:30 AM, Jul 14

● (ON-SITE) **"Traffic Assignment Optimization using Flow-based Multi-Maps"** by **Alvaro Paricio Garcia, and Miguel Angel Lopez-Carmona**

🕒 11:30 AM - 12:00 PM, Jul 14

● (ON-SITE) **"A Monitoring Agent for Advancing Elderly Care through Mobile Health Technology"** by **Aaron Pico, Joaquin Taverner, Emilio Vivancos, Aaron Raya, Vicente Botti, and Ana Garcia-Fornes**

🕒 12:00 PM - 12:20 PM, Jul 14

● (ON-SITE) **"A Multi-Agent Based Dynamic Network Slice Tarification Framework"** by **Joshua Shakya, Morgan Chopin, and Leila Merghem-Boulahia**

🕒 12:20 PM - 12:40 PM, Jul 14

#### MIS4TEL 5: AI for Education (III)

🕒 11:00 AM - 1:00 PM, Jul 14

📍 Room Sete Cidades

MIS4TEL

Chair: Filippo Sciarrone, Universitas Mercatorum (Italy)

#### 4 Subsessions

● (ON-SITE) **"Computational Thinking & Artificial Intelligence in K-12 Education: Two distinct but still complementary worlds"** by **Rafael Zerega, and Marcelo Milrad**

🕒 11:00 AM - 11:20 AM, Jul 14

● (ON-SITE) **"Delivering Engaging Curricular Lessons – A Case of Mixed Reality Technology in Education"** by **Calkin Suero Montero, Tomi Suovuo, Sebastian Hahta, Erkki Rötönen, and Erkki Sutinen**

🕒 11:20 AM - 11:40 AM, Jul 14

● (ON-SITE) **"Prediction of Students' Grades Based on Non-Academic Data"** by **Beatriz Lacerda, Francisco Marcondes, Dalila Durães, and Paulo Novais**

🕒 11:40 AM - 12:00 PM, Jul 14

● (ON-SITE) **"Comparison of different pedagogical designs for an ITS: The case of oral speech as an ill-defined domain"** by **Matías Recabarren, Vicente Correa, Claudio Álvarez, and Marcelo Milrad**

🕒 12:00 PM - 12:20 PM, Jul 14

#### Workshop on Technology Enhanced Learning in Nursing Education (NURSING)

🕒 11:00 AM - 1:00 PM, Jul 14

📍 ONLINE

MIS4TEL

Chair: Loreto Lancia, Cristina Petrucci, and Angelo Dante, University of L'Aquila (Italy)

#### 6 Subsessions

● **"Health Service e-Health Platform: a potential tool for nursing practice and patient care"** by Martina Cuomo, Antonio Sannino, Luigi Bruno, Assunta Napoleone, Vittorio Masotta, Cristina Petrucci, and Angelo Dante

🕒 11:00 AM - 1:00 PM, Jul 14

● **"The participatory methodology adopted to develop an mHealth app as an educational tool to promote organizational health literacy at a maternal and child health hospital"** by Raffaella Dobrina, Chiara De Vita, Cristina Petrucci, Laura Brunelli, Andrea Casso

🕒 11:00 AM - 1:00 PM, Jul 14

● **"Factors Associated with Intensive and Critical Care Nursing Students' Learning Gains Exposed to High-Fidelity Simulation Training"** by Vittorio Masotta, Angelo Dante, Fabio Ferraiuolo, Francesca Ferretti, Valeria Caponnetto, Alessia Marcotullio, Luca Berto

🕒 11:00 AM - 1:00 PM, Jul 14

● **"Community healthcare and electronic nursing documentation"** by Mariangela Vanalli

🕒 11:00 AM - 1:00 PM, Jul 14

● **"Virtual gamification in mental health nursing education: an in-depth scoping review"** by Mauro Parozzi, Stefano Terzoni, Sonia Lomuscio, Paolo Ferrara, and Anne Destrebecq

🕒 11:00 AM - 1:00 PM, Jul 14

● **"360-degree video for CPR knowledge: preliminary data of a randomized controlled trial"** by Andrea Gazzelloni, Marco Sguanci, Michela Piredda, Cristina Calandrella, Gaetano Tieri, Simone Piga, Giuliana D'Elpidio, Rosaria Alvaro, and Maria Grazia De Marinis

🕒 11:00 AM - 1:00 PM, Jul 14

#### PACBB 2

🕒 11:00 AM - 1:00 PM, Jul 14

📍 ONLINE

PACBB

Chair: Hugo López-Fernández, University of Vigo (Spain)

#### 5 Subsessions

● (ONLINE) **"auto-phylo: a pipeline maker for phylogenetic studies"** by Hugo López-Fernández, Miguel Pinto, Cristina P. Vieira, Pedro Duque, Miguel Reboiro-Jato, and Jorge Vieira

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) **"Feature selection methods comparison: logistic regression-based algorithm and neural network tools"** by Katarzyna Sieradzka, and Joanna Polańska

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) **"Identifying Heat-resilient Corals using Machine Learning and Microbiome"** by Hyerim Yong, and Mai Oudah

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) **"Machine Learning Based Screening Tool for Alzheimer's Disease via Gut Microbiome"** by Pedro Velasquez, and Mai Oudah

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) **"Progressive Multiple Sequence Alignment for COVID-19 Mutation Identification via Deep Reinforcement Learning"** by Zanuba Hilla Qudrotu Chofsoh, Imam Mukhlash, Mohammad Iqbal, and Bandung Arry Sanjoyo

🕒 11:00 AM - 1:00 PM, Jul 14

#### PAAMS 8: Agents developing

🕒 11:00 AM - 1:00 PM, Jul 14

📍 ONLINE

PAAMS

Chair: Leandro Buss Becker, University of Manchester

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#### 4 Subsessions

● (ONLINE) "An IDE to Support the Development of Embedded Multi-Agent Systems" by Vinicius Souza de Jesus, Nilson Mori Lazarin, Carlos Pantoja, Gleifer Alves, Gabriel Ramos, and Jose Viterbo

🕒 11:00 AM - 11:30 AM, Jul 14

● (ONLINE) "Lessons Learned on the Design of a Predictive Agent for LoRaWAN Network Planning" by Celia Garrido-Hidalgo, Jonathan Fürst, Luis Roda-Sanchez, Teresa Olivares, and Antonio Fernández-Caballero

🕒 11:30 AM - 12:00 PM, Jul 14

● (ONLINE) "Investigation of Integrating Solution Techniques for Lifelong MAPD Problem Considering Endpoints" by Toshihiro Matsui

🕒 12:00 PM - 12:30 PM, Jul 14

● (ONLINE) "Velluscinum: A Middleware for Using Digital Assets in Multi-Agent Systems" by Nilson Mori Lazarin, Igor Machado Coelho, Carlos Eduardo Pantoja, and Jose Viterbo

🕒 12:30 PM - 1:00 PM, Jul 14

#### DECON 7

🕒 11:00 AM - 1:00 PM, Jul 14

📍 ONLINE

DECON

Chair: J. Manuel Sánchez-Cartas, Complutense University of Madrid (Spain)

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#### 5 Subsessions

● (ONLINE) "About the economic implications of the Italian tax system on the nature and dimensions of undeclared work" by Salvatore Villani

🕒 11:00 AM - 1:00 PM, Jul 14

● (RECORDED VIDEO) "Designing industrial biomimesis: An Italian case study" by Danilo Di Florio

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) "Interactions within complex economic systems: A neural perspective" by Daniela Cialfi

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) "Feminine start-ups in Italy: a case study" by Giulia Caruso, Pierdomenico Dutillo, Barbara Iannone, and Stefano Antonio Gattone

🕒 11:00 AM - 1:00 PM, Jul 14

● (ONLINE) "Is negative emotion infectious?" by Minyi Li and Yehui Lao

🕒 11:00 AM - 1:00 PM, Jul 14

1:00 PM

#### Sitting Lunch

🕒 1:00 PM - 2:30 PM, Jul 14

2:30 PM

#### Special Session on Advances in Sustainable Economics and Technology (ASET) (I)

🕒 2:30 PM - 4:00 PM, Jul 14

📍 Room Santa Maria

DCAI

Chair: María Angela Jiménez-Montañés, Universidad de Castilla-La Mancha (Spain)

#### 5 Subsessions

● (ONLINE) "Organizational Culture and Sustainability in the Context of Higher Education Institutions: A Bibliometric Study" by Jorge Cruz-Cárdenas, and Javier Parra-Domínguez

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "Intangible assets in accounting. A bibliometric analysis." by Jonathan Bermúdez-Carvajal, and Javier Parra-Domínguez

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONSITE) "A Quantitative Methodology to Support Local Governments in Climate Change Adaptation and Mitigation Actions" by Nikos Dimitropoulos, Elissaios Sarmas, Marcelo Lampkowski, and Vangelis Marinakis

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONSITE) "Micro, small and medium-sized enterprises in times of overlapping crises" by Lica Erhan, and Valentina Paladi

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "State of Sustainable Entrepreneurship in SMEs: Development of a Cross-Country Sustainability Pulse Check" by Nikola Balic, and Ivana Vuka

🕒 2:30 PM - 4:00 PM, Jul 14

#### ISAMI 5: Distributed architectures in Ambient Intelligence scenarios

🕒 2:30 PM - 4:00 PM, Jul 14

📍 Room San Jorge

ISAMI

Chair: Alexander Kocian, University of Pisa (Italy)

#### 4 Subsessions

● (ON-SITE) "Chatto: An Emotionally Intelligent Avatar for Elderly Care in Ambient Assisted Living" by Carla Mendes, Rafael Pereira, José Ribeiro, Nuno Rodrigues, and António Pereira

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "IoT Security and Privacy Challenges from the Developer Perspective" by Yaqin Shaheen, Miguel J. Hornos, and Carlos Rodríguez-Domínguez

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "AI-Powered Smart Book: Enhancing Arabic Education in Palestine with Augmented Reality" by Murad Al Rajab, Suhail Odeh, Sherin Hazboun, and Emran Alheeh

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "Intelligent Systems in Healthcare: an Architecture proposal" by António Chaves, Larissa Montenegro, Hugo Peixoto, António Abelha, Luís Gomes, and José Machado

🕒 2:30 PM - 4:00 PM, Jul 14

#### PAAMS 9: Algorithms

🕒 2:30 PM - 4:00 PM, Jul 14

📍 Room Flores

PAAMS

Chair: Jaume Jordán, Universitat Politècnica de València (Spain)

### 3 Subsessions

● (ON-SITE) "A Decentralized Resource Allocation Protocol in Social Networks" by Mojtaba Malek Akhlagh, and Jens Weber

🕒 2:30 PM - 3:00 PM, Jul 14

● (ON-SITE) "Embedding Autonomous Agents into Low-Power Wireless Sensor Networks" by Danai Vachtsevanou, Jannik William, Matuzalém M. dos Santos, Maiquel de Brito, Jomi Fred Hubner, Simon Mayer, and Andres Gomez

🕒 3:00 PM - 3:30 PM, Jul 14

● (ON-SITE) "Multi-Agent Reinforcement Learning for Structured Symbolic Music Generation" by Shayan Dadman, and Bernt Arild Bremdal

🕒 3:30 PM - 3:50 PM, Jul 14

### DCAI 6

🕒 2:30 PM - 4:00 PM, Jul 14

📍 Room Sete Cidades

**DCAI**

Chair: José Machado, University of Minho (Portugal)

### 5 Subsessions

● (ON-SITE) "Federated Learning of Explainable Artificial Intelligence (FED-XAI): A review" by Raúl López-Blanco, Ricardo S. Alonso, Angélica González-Arrieta, Pablo Chamoso, and Javier Prieto

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "Analysis of the development approach and implementation of the service tokenization project. Hoteliers project Ocean Blue Corp - Hotel Best WesterQuito- Ecuador city and beach" by Paul Alejandro Mena Zapata, and César Augusto Plasencia Robles

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "Implementing a Software-as-a-Service strategy in healthcare workflows" by Regina Sousa, Hugo Peixoto, António Abelha, and José Machado

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "Recognizing emotions from voice: a prototype" by Manuel Rodrigues, and Guilherme Andrade

🕒 2:30 PM - 4:00 PM, Jul 14

● (ON-SITE) "RKTUP Framework: Enhancing Recommender Systems with Compositional Relations in Knowledge Graphs" by Lama Khalil, and Ziad Kobti

🕒 2:30 PM - 4:00 PM, Jul 14

### MIS4TEL 6: Digital technologies integration in the classroom (III)

🕒 2:30 PM - 4:30 PM, Jul 14

📍 ONLINE

**MIS4TEL**

### 3 Subsessions

● (ONLINE) "Assessing the Impact of Computer Simulations on Physics and Chemistry Learning" by Margarida Figueiredo, Catarina Rafael, José Neves, and Henrique Vicente

🕒 2:30 PM - 2:50 PM, Jul 14

● (ONLINE) "Statistical analysis of the influence of teaching experience on the perception of virtual reality" by Álvaro Antón-Sancho, Diego Vergara, Pablo Fernández-Arias, and Sara Rodríguez-González

🕒 2:50 PM - 3:10 PM, Jul 14

● (ONLINE) "Domain-Specific Automatic Item Generation for Higher Competence Levels: A Comparative Study on Three Cases" by Michael Striewe

🕒 3:10 PM - 3:30 PM, Jul 14

## Special Session on New perspectives and solutions in Cultural Heritage (TECTONIC)

🕒 2:30 PM - 4:00 PM, Jul 14

📍 ONLINE

**DCAI**

Chair: Antonio Lagudi, University of Calabria (Italy)

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### 4 Subsessions

● (ONLINE) "Environmental parameters that negatively impact Underwater Cultural Heritage" by Marta Plaza-Hernández, Mahmoud Abbasi Vladimir Djapic, Javier Prieto-Tejedor, and Emilio Corchado-Rodríguez

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "A Preliminary Study of Unconventional Coatings for the Conservation of Underwater Cultural Heritage within the TECTONIC project" by Antonio Donato, Michal Novák, Marie Nováková, Mauro Francesco La Russa, Silvestro Antonio Ruffolo, and Michela Ric

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "Architecture of a Low-Cost Solution for ROVs to Improve Navigation and Data Collection" by Umberto Severino, Santina Fortuna, Antonio Lagudi, Fabio Bruno, and Vladimir Djapic

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "Student Training on IoT Marine Surveying: a Hands-on Perspective by means of Remotely Operated Underwater Vehicles" by Triantafyllia Anagnostaki, Sofia Sarakinioti, Dimitrios Tziourtzioumis, and Theodoros Kosmanis

🕒 2:30 PM - 4:00 PM, Jul 14

## BLOCKCHAIN 6: BLOCKCHAIN FUNDAMENTALS III

🕒 2:30 PM - 4:00 PM, Jul 14

📍 ONLINE

**BLOCKCHA...**

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### 5 Subsessions

● (ONLINE) "Smart Contract Analyzer. A Tool for Detecting Fraudulent Token Contracts" by Adnan Imeri, Thierry Grandjean, Oussema Gharsallaoui, Ismail Dinc, and Djamel Khadraoui

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "A Feature Model of Consensus Algorithms in Distributed Ledger Technology" by Elena Baninemeh, Slinger Jansen, and Bas Pronk

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "Blockchain-Based Federated Learning: Incentivizing Data Sharing and Penalizing Dishonest Behavior" by Amir Jaberzadeh, Ajay Kumar Shrestha, Faijan Ahamad Khan, Mohammed Afaan Shaikh, Bhargav Dave, and Jason Geng

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "An Introduction to Arbitrary Message Passing" by Jiasun Li, and Zhengxun Wu

🕒 2:30 PM - 4:00 PM, Jul 14

● (ONLINE) "Probabilistic Optimization of Optimistic Finality for the Waterfall Consensus Protocol" by Sergii Grybniak, Yevhen Leonchyk, Igor Mazurok, Alisa Vorokhta, Oleksandr Nashyvan, and Ruslan Shanin

🕒 2:30 PM - 4:00 PM, Jul 14

## DECON 8

🕒 2:30 PM - 4:00 PM, Jul 14

📍 Room Funchal

**DECON**

Chair: Tony E. Persico - Georgia Institute of Technology (United States)

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#### 4 Subsessions

● **(RECORDED VIDEO) "Determination of extreme values of measurement data" by Alexander Katkov**

🕒 2:30 PM - 4:00 PM, Jul 14

● **(ON-SITE) "Studying human-android interactions: Research perspectives in social and cognitive domains" by Casimiro Massimo Insardi**

🕒 2:30 PM - 4:00 PM, Jul 14

● **(RECORDED VIDEO) "The economy of regeneration: A cultural methodological quaestio" by Danilo Di Florio**

🕒 2:30 PM - 4:00 PM, Jul 14

● **(ON-SITE) "Cross-cultural comparison of consumer behaviour for high-involvement products: A twofold perspective analysis" by Federico Abbonizio**

🕒 2:30 PM - 4:00 PM, Jul 14

4:00 PM

#### Coffee Break

🕒 4:00 PM - 4:30 PM, Jul 14

4:30 PM

#### Special Session on Advances in Sustainable Economics and Technology (ASET) (II)

🕒 4:30 PM - 6:00 PM, Jul 14

📍 Room Santa Maria

**DCAI**

Chair: Marcelo Lampkowski, ICLEI Europe (Germany)

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#### 3 Subsessions

● **(ON-SITE) "Ontologies and accounting in the field of sustainability and reporting" by Javier Parra-Domínguez, Sara Rodríguez-González, Alfonso González-Briones, and Juan Manuel Corchado**

🕒 4:30 PM - 6:00 PM, Jul 14

● **(ON-SITE) "Sustainability as an Informative Business Strategy: New EU Directive and the Principle of Double Materiality" by Maria Angela Jiménez-Montañes, and Susana Villaluenga de Gracia**

🕒 4:30 PM - 6:00 PM, Jul 14

● **(ONLINE) "Economic management of the local budget to achieve the Sustainable Development Goals" by Pedro José Martínez Córdoba, José Luis Zafra Gómez, and Bernardino Benito**

🕒 4:30 PM - 6:00 PM, Jul 14

#### Doctoral Consortium 2: ISAMI/PACBB

🕒 4:30 PM - 6:00 PM, Jul 14

📍 Room San Jorge

**ISAMI**

**PACBB**



### 3 Subsessions

● (ON-SITE) "Human action recognition in uncontrolled environments: application from artificial intelligence to contactless interfaces" by Vanessa Alvear, César Domínguez and Gadea Mata

🕒 4:30 PM - 6:00 PM, Jul 14

● (ON-SITE) "Machine Learning Based Ambient Analysis of Railway Steel Bridges for Damage Detection" by Muhammad Asad

🕒 4:30 PM - 6:00 PM, Jul 14

● (ON-SITE) "Neoantigen Detection Using Transformers and Transfer Learning in the Cancer Immunology Context" by Vicente Enrique Machaca Arceda

🕒 4:30 PM - 6:00 PM, Jul 14

### DCAI 7

🕒 4:30 PM - 6:00 PM, Jul 14

📍 Room Sete Cidades

**DCAI**

Chair: Goretí Marreiros, Insitutum Politécnico do Porto (Portugal)

### 3 Subsessions

● (ON-SITE) "Using neural network to optimize bin-picking in the SME manufacturing digital transformation" by Philippe Juhel, and Paul-Eric Dossou

🕒 4:30 PM - 6:00 PM, Jul 14

● (ON-SITE) "Exploring Dataset Patterns for New Demand Response Participants Classification" by Cátia Silva, Pedro Campos, Pedro Faria, and Zita Vale

🕒 4:30 PM - 6:00 PM, Jul 14

● (ON-SITE) "A Classification Method for "Kawaii" Images using Four Feature Filters" by Daiki Komiya, and Masanori Akiyoshi

🕒 4:30 PM - 6:00 PM, Jul 14

### MIS4TEL 7: Digital technologies integration in the classroom (IV)

🕒 4:30 PM - 6:00 PM, Jul 14

📍 ONLINE

**MIS4TEL**

Chair: Margherita Pasini, University of Verona (Italy)

### 3 Subsessions

● (ONLINE) "Mindfulness Lessons in a Virtual Natural Environment to Cope with Work-Related Stress" by Camilla Marossi, Valentina Mariani, Alicia Arenas, Margherita Brondino, Carlos Vaz de Carvalho, Patrícia Costa, Donatella Di Marco, Elisa Menardo, Sílvia da

🕒 4:30 PM - 4:50 PM, Jul 14

● (ONLINE) "Technology as a vehicle towards full inclusion in the classroom" by María Natalia Campos Soto, Carmen Rodríguez Jiménez, María Jesús Santos Villalba, and Juan José Victoria Maldonado

🕒 4:50 PM - 5:10 PM, Jul 14

● (ONLINE) "OSAS Virtual Reality Lab: an experience in OSH training" by Emma Pietrafesa, Agnese Martini, Rosina Bentivenga, Valeria Luzzi, and Antonella Polimeni

🕒 5:10 PM - 5:30 PM, Jul 14