

Onsite Activities (*Preliminary*) Program

TechWorld 2024 & DigitalSustainability 2024

Conference Hotel
Conference Venue Location

Conference will be mixed online and on location at
Holiday Inn Express Valencia-Ciudad Las Ciencias
Escritor Rafael Ferreres 22
Valencia, 46013
Spain

Phone: +34 963 16 25 30

Email: recepcion@expresshivalencia.com

Updated as of November 13, 2024

The program will be continuously updated.

TechWorld 2024 Congress:

<https://www.aria.org/conferences2024/ProgramEXPLAINABILITY24.html>

DigitalSustainability 2024 Congress: <https://www.aria.org/conferences2024/ProgramCOCE24.html>

Timezone converter: <https://www.worldtimebuddy.com/>

Sunrise and Sunset time: <https://meteogram.org/sun/spain/valencia/>

Time slots	Activity
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Sunday, Nov 17

12:00 pm	Registration starts The registration desk is located in front of the conference rooms. The reception is operating during the entire conference
13:30 - 13:45	Opening session
13:45 - 14:45	Tutorial #1 Theme: Where Should/Could AI be Used and Where it Should/Could not be Used Lecturer Prof. Dr. Petre Dini, IARIA, USA/EU Chair Jaime Lloret
14:45 - 15:00	Coffee Break
15:00 - 16:00	Keynote Speech Theme: Artificial Intelligence for Precision Agriculture Speaker Prof. Dr. Jaime Lloret, Universitat Politècnica de València, Spain Chair Petre Dini
16:00 - 16:15	Coffee
16:15 - 18:00	Tutorial #2

	<p>Theme: Advances in Machine Learning and Artificial Intelligence: Applications to Agriculture</p> <p>Lecturer Dr. Nuria Ortigosa, Universitat Politècnica de València, Spain</p> <p>Chair Jaime Lloret</p>
18:00 - 18:30	Social Networking
18:30 - 20:00	Welcome Cocktail

Monday, Nov 18

09:00 - 10:00	<p>Keynote Speech</p> <p>Theme: Needs and Challenges for the Modernization and Technification of a More Sustainable Agriculture</p> <p>Speaker Prof. Dr. Sandra Sendra, Universitat Politècnica de València, Spain</p> <p>Chair Antonella Di Fonzo</p>
10:00 - 10:15	Coffee
10:15 - 11:45	Session 1 [CSRF]
11:45 - 12:00	Coffee break
12:00 - 13:30	Session 2 [CADAT]
13:30 - 15:00	Lunch on your own
15:00 - 16:30	Session 3 [EXPLAINABILITY, VEHICULAR ANALYTICS]
16:30 - 16:45	Coffee Break
16:45 - 17:45	<p>Tutorial + Demo</p> <p>Theme: Running Hydraulics Simulations at Scale using Inductiva Python API</p> <p>Lecturer Dipl. Ing. Paulo Barbosa, Inductiva Research Labs, Portugal</p> <p>Chair Kabid Hassan Shibly</p>
17:45 - 18:00	Coffee
18:00 - 19:45	<p>Panel #1</p> <p>Theme: Challenges in Environmental Sustainability</p> <p>Moderator Prof. Dr. Sandra Sendra, Universitat Politècnica de València, Spain</p> <p>Panelists Assist. Prof. Dr. Lorena Parra, Universidad Politécnica de Madrid, Spain Dr. Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand Ph.D. Candidate Francisco Javier Diaz, Universitat Politècnica de València, Spain Prof. Dr. Petre Dini. IARIA. USA/EU</p>

Tuesday, Nov 19

09:00 - 10:00	<p>Keynote Speech</p> <p>Theme: Innovative Low-Water Turfgrass Management for Sustainable Urban Green Spaces</p> <p>Speaker Assist. Prof. Dr. Lorena Parra, Universidad Politécnica de Madrid, Spain</p> <p>Chair Pedro Gonçalves</p>
10:00 - 10:15	Coffee
10:15 - 11:45	Session 4 [CSRF]

11:45 - 12:00	Coffee break
12:00 - 13:30	Session 5 [CADAT]
13:30 - 15:00	Lunch on your own
15:00 - 16:30	Session 6 [COCE, CSRF]
16:30 - 16:45	Coffee Break
16:45 - 18:15	<p>Tutorial + Demo</p> <p>Theme: Running Hydraulics Simulations at Scale using Inductiva Python API</p> <p>Lecturer Dipl. Ing. Paulo Barbosa, Inductiva Research Labs, Portugal</p> <p>Chair Lorena Parra</p>
18:15 - 18:30	Coffee
18:30 - 20:15	<p>Panel #2</p> <p>Theme: Advances in Accessible Digital Agriculture Technologies</p> <p>Moderator Dr. Izar Azpiroz, Fundacion Vicomtech, Spain</p> <p>Panelists Prof. Dr. Sandra Sendra, Universitat Politècnica de València, Spain Dr. Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand Dr. Laura García, Universidad Politécnica de Cartagena, Spain Prof. Dr. Petre Dini. IARIA. USA/EU</p>
20:15 - 20:30	Going together
20:30 - 11:30	<p>Conference Dinner</p> <p>Restaurante Don Pelayo</p> <p>Junto Ciudad Justicia y Artes y Las Ciencias, Carrer d'Antonio Sacramento, 17, 46013</p>

Wednesday, Nov 20

09:00 - 10:00	<p>Keynote Speech</p> <p>Theme: Impact Perspectives of Smart Farming Research</p> <p>Speaker Prof. Dr. Pedro Gonçalves, Escola Superior de Tecnologia e Gestão de Águeda and Instituto de Telecomunicações, Portugal</p> <p>Chair Mahdi Abdelguerfi</p>
10:00 - 10:15	Coffee
10:15 - 11:45	Session 7 [EXPLAINABILITY]
11:45 - 12:00	Coffee break
12:00 - 13:30	Session 8 [CSRF]
13:30 - 15:00	Lunch on your own
15:00 - 16:30	Session 9 [SCALABILITY]
16:30 - 16:45	Coffee
16:45 - 18:15	<p>Panel #3</p> <p>Theme: AI Tools and Sensing in Regenerative Farming</p> <p>Moderator Assist. Prof. Dr. Lorena Parra, Universidad Politécnica de Madrid, Spain</p> <p>Panelists Prof. Dr. Pedro Gonçalves, Escola Superior de Tecnologia e Gestão de Águeda and Instituto de Telecomunicações, Portugal Ph.D. Candidate Alberto Mino Calero, NTNU, Norway Dr. Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand Prof. Dr. Petre Dini, IARIA, USA/EU</p>

18:15 - 18:30	Coffee Break
18:30 - 20:00	<p align="center">Open Ad Hoc Discussion #1 Theme: Impact of AI-based solutions on Societal Well-being Moderators Dr. Isidoros Perikos, University of Patras, Greece Prof. Dr. Petre Dini, IARIA USA/EU</p>

Thursday, Nov 21

09:00 - 10:30	<p align="center">Open Ad Hoc Discussion #2 Theme: Climate, Agriculture, and Technologies Moderators Prof. Dr. Jaime Lloret, Universitat Politècnica de València, Spain Prof. Dr. Pedro Gonçalves, Escola Superior de Tecnologia e Gestão de Águeda and Instituto de Telecomunicações, Portugal Dr. Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand Prof. Dr. Petre Dini, IARIA USA/EU</p>
10:30 - 10:45	Coffee Break
10:45 - 12:00	Scientific Discussion for Planning for 2025 Edition
12:00 - 12:30	Coffee and Closing Session

Recommended tourist objectives to be visited on your own:

- Cidade das Artes e das Ciências: Arte, Santiago Calatrava, museu, arquitetura, cultura
- Lonja de la Seda: Arquitetura, história, museu, arte, arquitetura gótica
- L'Oceanografic: Aquário
- Valencia Bioparc: Jardim zoológico
- Mercado Central: Mercado
- Torres de Serranos: História
- Catedral de Valência: Catedral, história, arquitetura
- Museu de Belles Arts de València: Museu, arte, cultura, arquitetura
- Institut Valencià d'Art Modern: Arte, museu, arquitetura, cultura

Regular sessions

Session 1 [CSRF] Monday, Nov 18, 10:15am

Session Chair: Sho Nobumoto

10091 Securing Digital Identities with Blockchain and Smart Contracts

Lucia Muñoz Solanas, Fundación Vicomtech, Spain

10095 The Contribution of Benchmarking Tools to Increase Transparency in Agricultural Data Sharing in Value Chains and Farmer's Trust

Antonella Di Fonzo, CREA-Council for Agricultural Research and Agricultural Economy Analysis, Italia

10165 Species-independent Analytical Tools for Non-destructive and Real-time Detection of Shade Avoidance Syndrome in Plants

In-Cheol Jang, Temasek Life Sciences Laboratory, Singapore

10228 Use of MQx-based System for Characterization and Optimization of Plant-Derived Volatile Organic Compounds (VOCs)

Jaime Lloret, Polytechnic University of Valencia, Spain

Session 2 [CADAT] Monday, Nov 18, 12:00pm

Session Chair: In-Cheol Jang

20003 Crop yield estimation using satellite images and municipal yield statistical data

Chisa Iwasaki, National Agriculture and Food Research Organization, Japan

20007 Variety Classification by Image Recognition of Grape Leaf and Berry

Ryo Sugiura, National Agriculture and Food Research Organization, Japan

20022 Shore Identification and Navigation Route Modification Function for Autonomous Boats Used to Measure the Depth of Irrigation Ponds

Sho Nobumoto, Shibaura Institute of Technology, Japan

Session 3 [EXPLAINABILITY, VEHICULAR ANALYTICS] Monday, Nov 18, 3:00pm

Session Chair: Alberto Mino Calero

10009 3D-Dynamic Representation of DNA/RNA Sequences: A Review

Piotr Waz, Medical University of Gdansk, Poland

10018 Explainable Facial Emotion Recognition with the use of Vision Transformers

Isidoros Perikos, University of Patras, Greece

30007 Unmasking Threats in UAV Networks: A Semi-Supervised Approach to Cyphal Security

Kabid Hassan Shibly, National Institute of Information and Communications Technology (NICT), Japan

Session 4 [CSRF, CADAT] Tuesday, Nov. 19, 10:15am

Session Chair: Laura Garcia

10029 Smart Collars for Sheep: Leveraging Machine Learning for Improved Pasture Management

Pedro Goncalves, Instituto de Telecomunicacoes, Portugal

10145 Identity Provider based on Self-Sovereign Identities and Blockchain Technology

Daniel Paredes Garcia, Fundación Vicomtech, Spain

20032 Beehive Monitoring Based IoT Technologies and AI
Lorena Parra, Universidad Politècnica de Madrid, Spain

Session 5 [CADAT] Tuesday, Nov. 19, 12:00pm

Session Chair: Izar Azpiroz

20027 Real-Time Egg Detection Using Edge Computer Vision
Nicholas Hadjisavvas, ALGOLYSIS LTD, Cyprus

20037 System for monitoring crop and meteorology parameters using physical sensors and computer vision cameras
Laura García, Universidad Politécnica de Cartagena, Spain

20046 Chatbot Integrated Holographic System for Digital Agriculture and Education
Jaime Lloret, Polytechnic University of Valencia, Spain

Session 6 [COCE, CADAT] Tuesday, Nov. 19, 3:00pm

Session Chair: Nicholas Hadjisavvas

30010 A Multiple-Location Modeling Scheme for Physics-Regularized Networks: Recurrent Forecasting of Fixed-Location Buoy Observations
Mahdi Abdelguerfi, University of New Orleans, USA

30016 Development of an Acoustic Antenna for Event Triggering in KM3NeT
Miguel Ardid Ramirez, Polytechnic University of Valencia, Spain

30014 Physics-Regularized Buoy Forecasts: A Multi-Hyperparameter Approach Using Bounded Random Search
Austin Schmidt, University of New Orleans, USA

20015 A Feature-Based Correlation Approach for Analyzing Price Trends of Citrus in Valencia province (Spain)
Nuria Ortigosa, Universitat Politècnica de València, Spain

Session 7 [EXPLAINABILIT] Wednesday, Nov 20, 10:15am

Session Chair: Isidoros Perikos

10005 A Two-Dimensional Computational Model for DNA/RNA Classification
Dorota Bielinska-Waz, Medical University of Gdansk, Poland

10013 Explain Yourself
Valentin Goettisheim, Hochschule Furtwangen University, Germany

10025 An XAI Approach on the Capacity of Transformers to Learn Time Dependencies in Time Series Forecasting'
Alberto Mino Calero, NTNU, Norway

Session 8 [CSRF] Wednesday, Nov 20, 12:00pm

Session Chair: Daniel Baumann

10220 Testing the Variation in Performance of a Coil-Based Soil Moisture Sensor with Soil-Core and Air-Core Deployments
Lorena Parra, Universidad Politécnica de Madrid, Spain

10056 Point Cloud Fusion Algorithm for High-Quality Digital Surface Model Generation from Multi-Date Stereo Images

Izar Azpiroz, Fundación Vicomtech, Spain

10207 Efficient Water Use in Citrus Orchards in the Context of Water Scarcity: AquaCitrus Model Applications

Najib Boubakri, Universitat Politècnica de Valencia, Spain

10175 Regenerative Agriculture – Where is the World Going?

Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand

Session 9 [SCALABILITY] Wednesday, Nov 20, 3:00pm

Session Chair: Petre Dini

20010 A Quantitative and Qualitative Comparison of Machine Learning Inference Frameworks

Egi Brako, Georg-August-Universität Göttingen, Germany

20005 Total Cost of Ownership: Cloud-based vs. Onboard Vehicle Software Components

Daniel Baumann, Karlsruhe Institute of Technology (KIT), Germany

20014 Scalable Software Distribution for HPC-Systems Using MPI-Based File Systems in User Space

Jakob Dieterle, Gesellschaft für wissenschaftliche Datenverarbeitung Göttingen (GWDG), Germany
