

# 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](mailto: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**

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

|               |   |
|---------------|---|
|               | Petre Dini  |
| 16:00 - 16:15 | <b>Coffee</b>   |
| 16:15 - 18:00 | <p><b>Tutorial #2</b><br/> <b>Theme:</b> Advances in Machine Learning and Artificial Intelligence: Applications to Agriculture<br/> <b>Lecturer</b><br/> Dr. Nuria Ortigosa, Universitat Politècnica de València, Spain<br/> <b>Chair</b><br/> Jaime Lloret</p> |
| 18:00 - 18:30 | <b>Social Networking</b>  |
| 18:30 - 20:00 | <b>Welcome Cocktail</b>   |

## Monday, Nov 18

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

## Tuesday, Nov 19

|               |   |
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| 09:00 - 10:00 | <p><b>Keynote Speech</b><br/> <b>Theme:</b> Innovative Low-Water Turfgrass Management for Sustainable Urban Green</p> |
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|               | <p>Spaces<br/> <b>Speaker</b><br/> Assist. Prof. Dr. Lorena Parra, Universidad Politécnica de Madrid, Spain<br/> <b>Chair</b><br/> Pedro Gonçalves</p>   |
| 10:00 - 10:15 | <b>Coffee</b>  |
| 10:15 - 11:45 | <b>Session 4 [CSRF]</b>  |
| 11:45 - 12:00 | <b>Coffee break</b>  |
| 12:00 - 13:30 | <b>Session 5 [CADAT]</b>   |
| 13:30 - 15:00 | Lunch on your own  |
| 15:00 - 16:30 | <b>Session 6 [COCE, CSRF]</b>  |
| 16:30 - 16:45 | <b>Coffee Break</b>  |
| 16:45 - 18:15 | <p><b>Tutorial + Demo</b><br/> <b>Theme:</b> Running Hydraulics Simulations at Scale using Inductiva Python API<br/> <b>Lecturer</b><br/> Dipl. Ing. Paulo Barbosa, Inductiva Research Labs, Portugal<br/> <b>Chair</b><br/> Lorena Parra</p>  |
| 18:15 - 18:30 | <b>Coffee</b>  |
| 18:30 - 20:15 | <p><b>Panel #2</b><br/> <b>Theme:</b> Advances in Accessible Digital Agriculture Technologies<br/> <b>Moderator</b><br/> Dr. Izar Azpiroz, Fundacion Vicomtech, Spain<br/> <b>Panelists</b><br/> Prof. Dr. Sandra Sendra, Universitat Politècnica de València, Spain<br/> Dr. Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand<br/> Dr. Laura García, Universidad Politécnica de Cartagena, Spain<br/> Prof. Dr. Petre Dini. IARIA. USA/EU</p> |
| 20:15 - 20:30 | Going together   |
| 20:30 - 11:30 | <p><b>Conference Dinner</b><br/> <b>Restaurante Don Pelayo</b><br/> <b>Junto Ciudad Justicia y Artes y Las Ciencias, Carrer d'Antonio Sacramento, 17, 46013</b></p>  |

### Wednesday, Nov 20

|               |   |
|---------------|---|
| 09:00 - 10:00 | <p><b>Keynote Speech</b><br/> <b>Theme:</b> Impact Perspectives of Smart Farming Research<br/> <b>Speaker</b><br/> Prof. Dr. Pedro Gonçalves, Escola Superior de Tecnologia e Gestão de Águeda and Instituto de Telecomunicações, Portugal<br/> <b>Chair</b><br/> Mahdi Abdelguerfi</p> |
| 10:00 - 10:15 | <b>Coffee</b>   |
| 10:15 - 11:45 | <b>Session 7 [EXPLAINABILITY]</b>   |
| 11:45 - 12:00 | <b>Coffee break</b>   |
| 12:00 - 13:30 | <b>Session 8 [CSRF]</b>   |
| 13:30 - 15:00 | Lunch on your own   |
| 15:00 - 16:30 | <b>Session 9 [SCALABILITY]</b>  |

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| 16:30 - 16:45 | <b>Coffee</b>  |
| 16:45 - 18:15 | <p><b>Panel #3</b></p> <p><b>Theme:</b> AI Tools and Sensing in Regenerative Farming</p> <p><b>Moderator</b><br/>Assist. Prof. Dr. Lorena Parra, Universidad Politécnica de Madrid, Spain</p> <p><b>Panelists</b><br/>Prof. Dr. Pedro Gonçalves, Escola Superior de Tecnologia e Gestão de Águeda and Instituto de Telecomunicações, Portugal<br/>Ph.D. Candidate Alberto Mino Calero, NTNU, Norway<br/>Dr. Mahmood Ahmad, RIZQ/YUNUS WEFnex Hub AIT, Thailand<br/>Prof. Dr. Petre Dini, IARIA, USA/EU</p> |
| 18:15 - 18:30 | <b>Coffee Break</b>  |
| 18:30 - 20:00 | <p><b>Open Ad Hoc Discussion #1</b></p> <p><b>Theme:</b> Impact of AI-based solutions on Societal Well-being</p> <p><b>Moderators</b><br/>Dr. Isidoros Perikos, University of Patras, Greece<br/>Prof. Dr. Petre Dini, IARIA USA/EU</p>  |

### Thursday, Nov 21

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

### 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 MQ<sub>x</sub>-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*

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