

ICoWEFS'2025

14-16 May 2025

Polytechnic University of Leiria, Leiria, Portugal

Conference Agenda

All times are Lisbon time

Wednesday, 14 May 2025

Main Room

9:30 AM Opening Ceremony  
Polytechnic University of Leiria: Prof. Fernando Silva (Deputy Director ESTG), Prof Rui Pinto (Director ESSLei) and Chair Vânia Ribeiro  
Portalegre Polithecnic University: Professor Paulo Brito and Chair Roberta Panizio

10:00 AM **Keynote #1 - Ahmad Pourmovahed**  
Kettering University, USA  
*Organic Biodiesel Production Using Various Agricultural Feedstocks*  
**Session chair: Paulo Brito**

10:45 AM Coffee-break and SMAS Presentation

| 11:15 AM | Paralel Sessions --> Presential | Room #1 - Agrifood |         |                                                                                                                                                                                                                            |  | Room #2 - Water |         |                                                                                                                      |  | Main Room - Energy |         |                                                                                                                                                                       |  | Room #3 - Sustainability |         |                                                                                                                                         |  |
|----------|---------------------------------|--------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|---------|----------------------------------------------------------------------------------------------------------------------|--|--------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------|--|
|          |                                 | #                  | Paper # | Session chair: Cátia Pontes                                                                                                                                                                                                |  | #               | Paper # | Session chair: Nelson Oliveira                                                                                       |  | #                  | Paper # | Session chair: Roberta Panizio                                                                                                                                        |  | #                        | Paper # | Session chair: Wilmer Franco                                                                                                            |  |
|          |                                 | 1.                 | 12      | Food Waste in the Focus of Artificial Intelligence Tools                                                                                                                                                                   |  | 1.              | 94      | Effectiveness of Sodium Hypochlorite in Controlling Daphnia spp. in Wastewater Treatment Process                     |  | 1.                 | 5       | Optimizing Energy Efficiency in Cheese Ripening Chambers through the Integration of Renewable Energy Sources: Solar, Wind, Biomass, and Phase Change Materials (PCMs) |  | 1.                       | 92      | Sustainable management of cities: new ideas for a more efficient future                                                                 |  |
|          |                                 |                    |         | Adailton Alencar, <u>Rafaela Amorim Oliveira</u> and Thelma Lucchese-Cheung                                                                                                                                                |  |                 |         | <u>Pedro Esperanço</u> , Carolina Coelho, Olímpia Sobral, Verónica Oliveira, António Luís Amaral and Carla Rodrigues |  |                    |         | <u>João Garcia</u> , João Dias, Tiago Teixeira, Francisco Calvo and Arian Semedo                                                                                      |  |                          |         | <u>Luís Araújo Santos</u> , Eduardo Natividade, Silvino Capitão, Ricardo Carmo, Hugo Costa, Joaquim Sousa, Teresa Frágoso               |  |
|          |                                 | 2.                 | 23      | New trends in aquaculture monitoring and technologies: a brief review                                                                                                                                                      |  | 2.              | 14      | Improving the adsorption capacity of sugarcane bagasse by acid treatment to removal diclofenac                       |  | 2.                 | 39      | Influence of the digestate in the pepper plants composition and the total production                                                                                  |  | 2.                       | 36      | Analysis of different varieties of industrial hemp (Cannabis sativa L.) for sustainable production of fibers for construction panels    |  |
|          |                                 |                    |         | <u>Ana Antunes</u> , Henrique Primo and Victor Antunes                                                                                                                                                                     |  |                 |         | <u>María Peñafiel</u> , Lourdes Jara, David Abad and Carola Jerves                                                   |  |                    |         | <u>Parralejo Alcobendas Ana Isabel</u> , Royano Barroso Luis, Cordero Parra Manuel, Gon zález Cortés Jerónimo                                                         |  |                          |         | <u>Cordero Parra Manuel</u> , Parralejo Alcobendas Ana Isabel, Royano Barroso Luis, Gon zález Cortés Jerónimo                           |  |
|          |                                 | 3.                 | 43      | Is It Possible to Adapt the Mediterranean Diet to Young People's Lifestyle?                                                                                                                                                |  | 3.              | 15      | Permeable Concrete Pavements and Pollutant Retention: Use of Stormwater Runoff in Buildings                          |  | 3.                 | 45      | MPC-based energy management for a real case grid-tied solar pumping and irrigation system                                                                             |  | 3.                       | 37      | Environmental Attributes that Promote Well-Being in Temporary Housing                                                                   |  |
|          |                                 |                    |         | <u>Beatriz do Carmo</u> , Sónia Barroso, Susana Mendes, Maria M. Gil , Cristina Mora, Audrey Cavalieri, Almudena Vázquez Merchán, María José Benito Bernáldez, María de Guía Córdoba Ramos, Özlem Erdoğan, Filipa R. Pinto |  |                 |         | Eric Franco, <u>Enedir Ghisi</u> and Liseane Padilha Thives                                                          |  |                    |         | <u>Ventura Gálvez-Jorcano</u> , Javier Carroquino and Cristina Escriche-Martínez                                                                                      |  |                          |         | <u>Andréia Grandi</u> , Lisiane Ilha Librelotto, Luana Toralles Carbonari                                                               |  |
|          |                                 | 4.                 | 47      | Food Insecurity in Brazil: Social implications and necessary policy measures                                                                                                                                               |  | 4.              | 16      | Surface and Ground Water Quality Assessment using Principal Component Analysis (PCA) and Factor Analysis (FA)        |  | 4.                 | 123     | Design and Optimization of a Low-Cost Generator Inline Coupled with a Thermoacoustic Engine                                                                           |  | 4.                       | 86      | Anaerobic digestion of swine slurry for treating livestock wastes while reducing greenhouse gas emissions                               |  |
|          |                                 |                    |         | Dorivaldo Neto, Maurício Ojeda, Rhaysa Garcia Rocco, <u>Arthur Bones Caetano de Lima</u> , Yasmin Casagrande and Denise de Azevedo                                                                                         |  |                 |         | <u>Maryam Asachi</u> , Tanveer Rahim, Ime Chukwuemeka, Nima Sepehri                                                  |  |                    |         | <u>Isares Dhuchakallaya</u> and Patcharin Saechan                                                                                                                     |  |                          |         | <u>Pedro Esperanço</u> , Luís Costa, M. Salomé Du arte, Verónica Oliveira, António Ferreira, Carla Rodrigues and Ana Júlia Cavaleiro    |  |
|          |                                 | 5.                 | 90      | Smart renewable energy for climate change mitigation in vineyards and wineries                                                                                                                                             |  | 5.              | 21      | Removal of Textile Dyes from Water Through Sequential Electrochemical and Adsorption Processes                       |  | 5.                 | 87      | Organic Biodiesel Production from Orange Zest – A Student Research Project                                                                                            |  | 5.                       | 89      | USAT: Sustainability Management Method Applied to the Urban Context and the Building                                                    |  |
|          |                                 |                    |         | <u>Javier Carroquino</u> , Cristina Escriche-Martínez and Ventura Gálvez-Jorcano                                                                                                                                           |  |                 |         | <u>Monika Liugė</u> & Dainius Paliulis                                                                               |  |                    |         | R. Steenwyk, A. Kirtek and <u>A. Pourmovahed</u>                                                                                                                      |  |                          |         | <u>Lisiane Ilha Librelotto</u> , Ernestina Rita Meira Engel, Mel Ramos da Rosa, Paulo Cesar Machado Ferrolí, Helena Maria Galha Bártolo |  |

12:30 PM Lunch break

Main Room

2:00 PM | **Keynote #2 - Margarida Gonçalves**  
FCT-UNL  
*Carbon-rich wastes – a resource for energy production, soil amendment, catalytic conversion and CO2 capture*  
**Session chair: Filipe Neves**

3:00 PM | **Paralel Sessions --> Online**

| #  |     | Paper # | Room #1 - Agrifood<br>Session chair: Dorinda Silva                                                                                                                                                                                                                                                                                                                             | #  | Paper # | Main Room - Water & Energy<br>Session chair: Hermano Bernardo                                                                                                                                                                                                                                                     | #  | Paper # | Room #2 - Water                                                                                                                                                                                                     | #  | Paper # | Room #3 - Sustainability<br>Session chair: Joel Vasco                                                                                                                                                                                                                        |
|----|-----|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | 24  |         | Acceptance of Food Products Containing Upcycled Ingredients<br><br>Jessica Mallet Doran, Shelley Fox and <u>Maria Dermiki</u>                                                                                                                                                                                                                                                  | 1. | 26      | Prioritizing Renewable Energy Options with the Hybrid Preference Selection Index and Priority Observed from the Gaussian Attitude Presumption of Alternatives Approach During the Energy Transition<br><br><u>Anderson Gonçalves Portella</u> and Marcos dos Santos                                               | 1. | 77      | The Growing Incidence of Water-Related Conflicts in Somalia and the Role of Non-State Armed Groups<br><br><u>Zoltán Ködmön</u>                                                                                      | 1. | 3       | Long-term Vegetation Recovery on Berlenga Island Following Conservation Measures<br><br><u>Teresa Mougá</u> , Paulo Crisóstomo, Eduardo Mourato, Lurdes Morais                                                                                                               |
| 2. | 52  |         | Water quality for Solanum tuberosum L. cultivation: A dual-field comparison of physical and chemical parameters of irrigation water<br><br><u>Ana Rita F. Coelho</u> , Manuela Simões, José C. Ramalho Diana, Inês Luís, Ana C. Marques, Cláudia Pessoa, Fernando Lidon, Maria Manuela Silva, Paulo Legoinha, Isabel Pais, José Semedo, Paula Scotti Camoos. Fernando Reboredo | 2. | 29      | Integrating Photovoltaics into Greenhouses: Insights from an Agrivoltaic Case Study<br><br><u>Gonçalo Ventura-Silva</u> , Rafael Menezes-Barros, João Murta-Pina and Carlos Simão                                                                                                                                 | 2. | 41      | Identifying Shared Socio-Ecological Values in Traditional Water Management Practices and Nature-based Solutions: A Case of Braj Region,<br><br><u>India Aman Sharma</u> , Shiva Ji                                  | 2. | 114     | The impact of the Russian-Ukrainian war on the life of animals of the Steppe zone of Ukraine<br><br><u>Olena Kovtun</u> , Yuriy Salyha and Iryna Nevostruyeva                                                                                                                |
| 3. | 62  |         | Trends in Nanotechnology Applied to Edible Coatings: A Bibliometric Analysis<br><br><u>Miñan-Olivos Guillermo Segundo</u> , Luera-Quñones Suny Chen, Coronado-Olano Jorge, and Aroni-Huamán Jimmy                                                                                                                                                                              | 3. | 84      | Analyzing and Predicting Electric Vehicle Charging Profile in a Potential Local Energy Community in France: Insights for Energy Management<br><br><u>Matheus Pereira</u> , Amira Dhorbani, Youssef Kraiem, Arnaud Davigny, João Soares, Zita Vale and Dhaker Abbes                                                | 3. | 9       | Determinants of the number of key audit matters disclosed: a study in the water and sanitation sector<br><br>Natália Lemos, Patrícia Quesado, Kátia Lemos <u>Lurdes Silva</u> and Sara Serra                        | 3. | 20      | Vegetation greenness, chlorophyll and water stress during the Summer in urban green areas (Vilnius, Lithuania)<br><br><u>Paulo Pereira</u> , Egle Baltranaite, Luis Valenca Pinto, Katarzyna Bogdzevic, Miguel Inacio                                                        |
| 4. | 99  |         | Evaluation of the Natural Occurrence of Ochratoxin A in Chimborazo Ecotype Quinoa<br><br><u>Paola Arguello-Hernández</u> , Iván Samaniego, Jimmy Palma, Alex Leguizamo, María Josefa Bernalte-García and M. Concepción Ayuso-Yuste                                                                                                                                             | 4. | 95      | Exposure to infrasound and low frequency noise - Case study of people living nearby wind turbines<br><br>Nuno Correia, <u>João Almeida</u> , João Paulo Figueiredo & Ana Ferreira                                                                                                                                 | 4. | 91      | Academic Engagement in Nature-Based Solutions (NBS) for Sustainable Groundwater Management<br><br><u>Lady Bravo-Montero</u> , Gricelda Herrera-Franco, Fernando Morante-Carballo, F.J. Montalván, Paúl Carrión-Mero | 4. | 121     | Evaporation of landfill leachate in the presence of RDF char – a contribution for circular economy promotion<br><br><u>Didier Sánchez</u> , Carlos Castro, José Carlos Teixeira, Rui Ribeiro, Andrei Longo and Margarida Gonçalves                                           |
| 5. | 112 |         | Potential of drying pumpkins from the Western Region of Portugal<br><br>Karinne Leitão, Susana Silva and <u>Joaquina Pinheiro</u>                                                                                                                                                                                                                                              | 5. | 104     | Development and commissioning of photovoltaic water pumping systems with high-voltage lithium-ion batteries in humanitarian contexts in Africa<br><br>J. A Garrido-Sarasol, G. Martínez-Navarro, P. González-Altozano, F.J. Gimeno-Sales, I. Balbastre-Peralta, M. Gasque, S. Seguí-Chilet and Salvador Orts-Grau | 5. | 70      | Rethinking Sustainable Stormwater Management through Traditional Water Systems of Varanasi<br><br><u>Nidhi Prathap</u> , Aman Sharma, Shiva Ji                                                                      | 5. | 72      | Evaluation of Atom Economy in the Fischer-Tropsch Process: Strategic Insights for Product C5+Optimization in Biorefineries<br><br><u>Carmen María Álvez-Medina</u> , Sergio Nogales-Delgado, Pedro José Muñoz Ace bedo, Vicente Montes Jiménez, Juan Félix González González |
| 6. |     |         |                                                                                                                                                                                                                                                                                                                                                                                | 6. | 66      | Anoxygenic Phototrophic Sulfur Bacteria as Potential Cultures for Removing H2S and CO2 from Biogas<br><br><u>Vít Procházka</u> , Dani Dordević, Valeria Agostino and Ivan Kushkevych                                                                                                                              | 6. | 113     | Strategies for sustainable water efficiency practices in the built environment. A case study of Leiria<br><br><u>Sara Bona</u> , Armando Silva-Afonso, Fernanda Rodrigues and Ricardo Gomes                         | 6. |         |                                                                                                                                                                                                                                                                              |

4:30PM | **Coffee-break & Posters**

Posters

|             |                                                                                                                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Paper # 38  | <b>Food waste in Brazil and the environmental, economic and social challenges</b><br>Annalu Fonseca Razuk, Izabella Gomes Escobar, Leticia Kaori Saito Soares, Ryan Correia da Silva and Yasmin Gomes Casagrandia                                                                                                |
| Paper # 40  | <b>Solar Photovoltaic Energy Performance Analysis at one Campus of the University of Castilla-La Mancha</b><br>Aarón Ortiz-Peña, Andrés Honrubia-Escribano and Emilio Gómez-Lázaro                                                                                                                               |
| Paper # 49  | <b>Effect of incorporating phlorotannin-enriched extracts of Fucus spiralis into homogenized preparations of fresh salmon patties during storage</b><br>Belén Almeida, Sónia Barroso, Filipa R. Pinto, Susana Mendes and Maria M. Gil                                                                            |
| Paper # 50  | <b>Applications of 3D Printing with Earth in Emergency Architecture for Temporary Camps</b><br>Lisiane Ilha Librelotto, Paulo Cesar Machado Ferroli, Vitória Neves Viana Silva, Gabriela Willemann Siviero Maximo and Rachel Faverzani Magnago                                                                   |
| Paper # 80  | <b>What type of compounds are expected in Halophyte plants? Do they have potential benefits for human consumption?</b><br>Inês João Ferreira, Ana Rita C. Duarte, Mário Diniz, and Ricardo Salgado                                                                                                               |
| Paper # 81  | <b>Digestate as a secondary source of phosphorus: preliminary analysis of electrodialytic extraction and struvite precipitation</b><br>Verónica Oliveira, Berta Riaño, Celia Dias-Ferreia, Beatriz Molinuevo-Salces, Mari Cruz García-González                                                                   |
| Paper # 100 | <b>Potential of monitoring cultural heritage using sustainability indicators</b><br>Ernestina Engel & Lisiane Librelotto                                                                                                                                                                                         |
| Paper # 101 | <b>Comparative Analysis of Solvent Production by Three Clostridium Strains Using Different Starch Sources</b><br>Karol Castro and Alberto Guerrero                                                                                                                                                               |
| Paper # 107 | <b>3D printing with earth: a proposal for emergency architecture in vulnerable populations</b><br>Lisiane Ilha Librelotto, Paulo Cesar Machado Ferroli, Vitória Neves Viana Silva, Ernestina Rita Meira Engel, Rachel Faverzani Magnago                                                                          |
| Paper # 109 | <b>Occupational Safety and Health to Sustainability: The Students’ Perspective</b><br>Lizete Heleno, and Sílvia Monteiro                                                                                                                                                                                         |
| Paper # 111 | <b>Indoor environmental quality at an academic environment in Portugal</b><br>Correia, M, Sousa, R and Mourato, S                                                                                                                                                                                                |
| Paper #117  | <b>Green Transition: The impact of Green Steel on the sustainability of</b><br>Bruna Souza Silva, Luís Prola and José Geraldo de Araújo Silva                                                                                                                                                                    |
| Paper # 118 | <b>IoT in Greenhouse supported by Climate Conditions Management Platform</b><br>João Galvão, Filipe Neves, João Vieira, Rafael Simões, Vânia Ribeiro, Paulo Costa                                                                                                                                                |
| Paper # 119 | <b>Smart Predictive Watering Device for Energy Efficiency</b><br>João Galvão, Alexandre Henriques, Flávio Silva, Nuno Monteiro                                                                                                                                                                                   |
| Paper # 120 | <b>Pre-treating winery wastewater with biomass ash and air bubbling before utilizing it as growth medium for microalgae</b><br>Bruna Petry, Margarida Gonçalves, Alberto Reis                                                                                                                                    |
| Paper # 127 | <b>Hygroscopic Stability of Earth-Based Filaments for 3D Printing: A Comparison with Oak</b><br>Karim Fahfouhi, Guilherme Gabriel Pires, Humberto Varum, Flávio Craveiro, Helena Bártolo                                                                                                                         |
| Paper # 128 | <b>Formulation of bread with Portuguese ancient wheat from sourdough fermentation: nutritional composition, physicochemical properties and impact on glycaemia</b><br>Joana A. Branco, Diana P. Silva, Beatriz A. Silva, Carla Guimarães, Daniela Vaz, Zaida L. Almeida, Cidália D. Pereira and Vânia S. Ribeiro |
| Paper # 129 | <b>Nutritional profile of organic plant-based dairy alterna-tives in the Portuguese market</b><br>Cidália Pereira, Inês Reis, Mikaela Segura, Mariana Souza, Daniela Vaz, Vânia Ribeiro, Carla Guimarães                                                                                                         |
| Paper # 130 | <b>Assessing the carbon footprint of meals: a case study from a Portuguese college canteen.</b><br>C. Guimarães, B. Caseiro, B. Bento, C Costa, D. Moskalenko, E. Manuel, I. Neto, J. Simões, M. Chinita, R. Henriques, S. Ferreira, D. C. Vaz, V. S. Ribeiro, C. Pereira                                        |
| Paper # 131 | <b>Artificial Intelligence for Sustainable Development Goals: Opportunities and Challenges</b><br>Liliana Ferreira, Henrique Almeida                                                                                                                                                                             |
| Paper # 132 | <b>Redesigning waste: using coffee grounds to Support Sustainable Development goals</b><br>Fabiana Aguiar, Raquel Antunes, Henrique Almeida, Mário Correia, Fernanda Carvalho, Jorge Domingues                                                                                                                   |