



Smart and Circular Agriculture towards Sustainability **2022**

**Smart and Circular Agriculture towards Sustainability congress
21 - 22 JULY 2022
HOTEL HF IPANEMA - PORTO, PORTUGAL**

Day 1 – 21 of July

9h00 – Reception

9h30 – Welcome session

Prof. Dr. Ana Cristina Freire, Director of Faculdade de Ciências da Universidade do Porto

Dr. Nuno Canada, President of Instituto Nacional de Investigação Agrária e Veterinária (INIAV)

CCDRN (To be confirmed)

Prof. Ruth Pereira, Director of GreenUPorto

Session 1 – Research, Innovation & Training in Agriculture 4.0

Conveners: Ruth Pereira (GreenUPorto/Inov4Agro, FCUP, Portugal); George Katranas (Cerca Trova, Ltd., Bulgaria)

10h00 Keynote I | “Tunisian experience: Strengths – Innovation & Sustainable agriculture” by **Mohamed Khaled AYADI**, CEO of AGRIUP Distribution Company

Oral communications

10h40 – GIS-based decision support system for identifying optimal locations to capturing water of better quality in agriculture. **Daniela Terêncio**, Universidade de Trás-os-Montes e Alto Douro, Portugal

10h55 – Cospectrocam sensor. **Ali Abkar**, AgriWatch B.V., The Netherlands (on-line)

11h10 – Coffee break and poster session*

Session 2 – Circular Agriculture and Food Systems

Conveners: Ana Barros (CITAB/INOV4AGRO, UTAD, Portugal) and Juan Carlos Hernández (Universidad de Castilla-La Mancha, Spain)

11h30 – Keynote II | “Design, elaboration, and implementation of organo-mineral substrates in agriculture from a right waste management: Transference of knowledge for a circular economy model”, by **Adrián González Guzmán**, INPROYEN Consulting & Universidad de Córdoba, Spain.



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Oral communications

12h10 – The best circular practices in Portugal's wine sector - The REWINE project. **Cátia Santos**, CoLAB VINES&WINES/ADVID, Portugal.

12h25 – Biochar as a soil conditioner in modern agriculture –study on its degradation processes in soil. **Kalina Michal**, Faculty of Chemistry, Brno University of Technology, Czech Republic

12h40 – **Lunch break** (not provided, for some suggestions see Congress booklet)

Oral communications

14h00 – Quality trait analysis of a Portuguese collection of common bean (*Phaseolus vulgaris* L.) Germplasm. **Rosa Moreira**, Universidade Católica Portuguesa, Portugal.

14h15 – Valorization of hydroponic agriculture residues: cellulose and nanocellulose extraction and soil amendment. **Ana Araújo**, CIQUP & Faculdade de Ciências da Universidade do Porto, Portugal.

14h30 – Insects as a key to a more circular and sustainable planet – ENTOSAFE project. **Diogo Cardoso**, Universidade de Aveiro, Portugal.

14h45 – Seaweed-based edible coating for sustainable fresh-cut fruits preservation. **Ana Augusto**, MARE-Politécnico de Leiria, Portugal

15h00 – Development of pickering emulsion products from natural raw materials. **Mariana Marques Pereira**, Faculdade de Engenharia da Universidade do Porto, Portugal

15h15 One-minute posters attention-grabbing

- *Impact of climate change on the main crops of the Côa region: the CoaClimateRisk project.* **Helder Fraga**, CITAB-Universidade de Trás-os-Montes e Alto Douro, Portugal.
- *Soildiveragro regional communities with multifactor approach.* **Tamara Rodriguez Silva**, FEUGA, Spain.
- *Ecotoxicological characterization of sludge originated in the treatment of olive oil wastewater.* **Andreia Pereira**, CESAM, Universidade de Aveiro, Portugal
- *Valorization of agricultural wastes as a sustainable approach to improve soil productivity and health: a case study with tomato.* **Diogo Cardoso**, Universidade de Aveiro, Portugal
- *The effect of biochar cultivation in soil on the physicochemical characteristics of soil and biochar.* **Sarka Sovova**, Faculty of Chemistry, Brno University of Technology, Czech Republic



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- *Topsoil and subsoil organic carbon and nitrogen stocks under short-term drip fertigation.* **Yaser Ostovari**, Technical University of Munich, Germany
- *Activated carbons from wasted coffee grounds and olive stones as highly porous materials for adsorption of indoor pollutants.* **Natalia Czerwińska**, Università Politecnica delle Marche, Italy
- *Nutritional and morphological responses of kabuli and desi chickpeas (*Cicer arietinum*) to different water supplies.* **Janaína Silva Medeiros**, Universidade Católica Portuguesa, Portugal
- *Local seasonal foods: a revision on how they impact on sustainable consumption.* **Alexandre Vargas**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Consumer perceptions and attitudes of the circular economy and food by-products.* **Pedro Manuel Sousa**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Effect of pendimethalin formulation on interaction with humins fraction.* **Romualda Bejger**, Department of Bioengineering, West Pomeranian University of Technology in Szczecin, Poland
- *Bioclimatic distribution of *Castanea sativa* in Portugal.* **Teresa R. Freitas**, Universidade de Trás-os-Montes e Alto Douro, Portugal.
- *Effects of excluding agricultural soils for urban development.* **Ludwika Poręba**, Institute of Soil Science and Plant Cultivation State Research Institute, Poland
- *Soil quality assessment using visible and near-infrared spectroscopy: prediction of pH and soil organic carbon of organic soils.* **Beata Bartosiewicz**, Institute of Soil Science and Plant Cultivation State Research Institute, Poland.
- *Comparative analysis of the microbiome and metabolome of wild and crop *Salicornia europaea*.* **Ângela Cunha**, CESAM - Universidade de Aveiro, Portugal.
- *Consumers' perceptions towards horticultural products obtained under soilless production.* **José Vieira**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal

15h30 – Coffee break and Poster Session*

Session 2 – Circular Agriculture and Food Systems

Oral communications

16h00 – Comparative ecotoxicological study towards a sustainable agriculture: reusing organic substrates from different sources. **Joana Serrão**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.

16h15 – Biochemical effects of insect frass and its biochar in arid agroecosystems from the Canary Islands (Spain). **Angie Marcela Pedraza Torres**, Universidad de Castilla-La Mancha, Spain.



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16h30 – Algal wrack as a soil amendment – is it worth restoring an old practice to face future challenges? **Maria Martins**, *GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.*

16h45 – Poster pitch online

- *Impact of biobased residues on soil health in a temperate agricultural field.* **Emmanuel Badewa**, University of Waterloo, Canada.
- *Impact of eucalyptus biochar on physical indicator of distinct soil texture.* **Neyde Fabíola Balarezo Giarola**, State University of Ponta Grossa, Brazil.
- *Corn development analysis through digital images processing of remote piloted aircraft.* **Neyde Fabíola Balarezo Giarola**, State University of Ponta Grossa, Brazil.
- *Significance of the symbiotic status of rhizobia strains in bambara groundnut production.* **AJAYI Oluoluwa Oluwafunto**, Faculty of Science, University of Ibadan, Nigeria.
- *GREENFARM: sustainable production of fresh vegetables in vertical farms.* **Margarethe Sophie Karpe**, Wageningen University and Research, The Netherlands.
- *Use of plant extracts to control fungal diseases in grapevine cv. Touriga franca.* **Eliana Monteiro**, Universidade de Trás-os-Montes e Alto Douro, Portugal.

17h15– 18h00 – Round Table (Session 1&2)

20h00 – Conference dinner



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Day 2 – 22 of July

Session 3 – Vertical Farming and protected cultivation: where do we stand?

Conveners: Susana Carvalho (GreenUPorto/INOV4Agro, FCUP, Portugal); Ep Heuvelink (Wageningen University, The Netherlands)

9h00 - Keynote III | “Progress and challenges in vertical farming: Light and other aspects”, by **Theoharis Ouzounis**, Research Project Manager at Fluence EMEA.

9h40 - Keynote IV | “Farred brings yield improvements nearby” by **Ep Heuvelink**, Wageningen University, The Netherlands.

Oral communications

10h20 - Light quality matters: vinca alkaloids production under di- and polychromatic light spectra with extended UV-A. **Marisa Lourenço**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.

10h35 Light regulation of quality and growth of basil. **Dorthe H. Larsen**, Horticulture and Product Physiology, Wageningen University and Research, Wageningen, The Netherlands.

10h50 – One-minute posters attention-grabbing

- *Portuguese consumer's perception of horticultural crops grown in vertical farming systems.* **Mariana Silva**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Morpho-physiological effects of omeprazole on tomato plants subjected to water, nitrogen and combined stress.* **Ana Patrícia Fernandes**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Impact of the production system and nutritional regime on the physicochemical quality and sensory profile of strawberry preparations.* **Maling Wang**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Vertical gardens for food production.* **Ruth Pereira**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.

10h55 – Coffee break and posters session

Session 4 – Pests and disease control in sustainable agriculture: the challenging 2030 targets

Conveners: Mario de La Fuente (PTV, Plataforma Tecnológica de Vino, Spain); Tatiana Andreani (GreenUPorto/INOV4Agro and FCUP, Portugal)



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11h15 - Keynote V | “Copper distribution in the EU soils – Natural and anthropogenic sources”, by **Panos Panagos**, *European Commission, Joint Research Centre (JRC)*. **Online**.

Oral communications

11h55 - Development of biodegradable microcapsules containing essential oils as pesticides with efficient antifungal activity on tomato plants. **Iuliana cota**, *Eurecat Chemical Technologies Unit Tarragona, Spain*.

12h10 - New spray technologies to reduce the use of copper in vineyard. Accomplishment of EU sustainability requirements. **Elena Sánchez Sánchez**, *Universitat Politècnica de Catalunya, Spain*.

12h25 – Lunch break (not provided, for some suggestions see Congress booklet)

Session 4 – Pests and disease control in sustainable agriculture: the challenging 2030 targets

Oral communications

14h00 - NOVATERRA project: increasing sustainability in viticulture using novel fertilization and management strategies. **Carlos Rad**, *Universidad de Burgos, Spain*.

14h15 - Biocontrol of grey mould disease (*Botrytis Cinerea*) in strawberry using an endophytic agent. **Antonia Barberio**, *GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal*.

14h30 - Is the organic farming more sustainable than the conventional? Merlin-expo as tool to evaluate the environmental exposure of inorganic pesticides. **Nicoleta Suciu**, *Università Cattolica del Scaro Cuore, Italy*.

14h45 - An integrated approach for vineyard soils sustainable management: targeted protective measures for Cu application. **Cristiana Paiva**, *GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal*.

15h00 – One-minute posters attention-grabbing

- *Could plant by-products be a solution for sustainable crop protection?*. **Ana Sofia Pereira Teixeira**, *Universidade de Trás-os-Montes e Alto Douro & Universidade do Minho, Portugal*.
- *Prediction model of Venturia inaequalis occurrence and field validation*. **Isabel Cortez**, *CITAB- Universidade de Trás-os-Montes e Alto Douro, Portugal*.
- *Defense inducers in apple scab control*. **Isabel Cortez**, *CITAB- Universidade de Trás-os-Montes e Alto Douro, Portugal*.



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- *The vineinspector system and the siapd/mysense iot/ai platform for decision support in the management of pests and diseases in the vineyard.* **Isabel Cortez**, CITAB- Universidade de Trás-os-Montes e Alto Douro, Portugal.
- *Control of phytopathogenic fungi by Magnolia grandiflora seed extract.* **Luara Simões**, Universidade do Minho, Portugal.
- *Seaweed extracts potential to mitigate fungal infections during long-term storage of pear.* **Eloísa Toledo Iglesias**, MARE-Politécnico de Leiria, Portugal.
- *Seaweed extracts as sustainable solutions to combat orchard phytopathogenic fungi.* **Tânia Vicente**, MARE-Politécnico de Leiria, Portugal.
- *Enhancement of copper deposition on plant leaves by its encapsulation.* **Magdalena Olkiewicz**, EURECAT, Spain
- *Bacterial community tolerance in vineyard soils spiked with Bordeaux mixture.* **David Fernández Calviño**, Faculdade de Ciencias, Universidade de Vigo, Spain
- *Exchangeable Cu in vineyard soils spiked with Bordeaux mixture.* **Raquel Vázquez Blanco**, Faculdade de Ciencias, Universidade de Vigo, Spain
- *Protocol optimization for an artificial botrytis cinerea inoculation in detached strawberry leaves and fruits.* **Chiara Murena**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Effect of different pre-inoculation procedures on leaf spotting appearance in adult kiwifruit plants artificially inoculated with Pseudomonas syringae pv. Actinidiae.* **Miguel Gomes Santos**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Copper application and soil properties: how are soil organisms affected.* **Beatriz Fernandes**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.
- *Pesticide sorption to mineral associated organic matter.* **Aleksandra Ukalska-Jaruga**, Institute of Soil Science and Plant Cultivation – State Research Institute, Poland.
- *Sustainable agriculture: safety assessments of nanopesticides on non-target species.* **Catarina Ganiho**, GreenUPorto & Faculdade de Ciências da Universidade do Porto, Portugal.

15h20 – Coffee break and Poster Session

15h50-16h35 – Round Table (Session 3 & 4)

16h50 – Closing Session

Prof. Susana Carvalho, Vice-Director of GreenUPorto

Prof. Pedro Couto, Vice-Director of Inov4Agro



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