11th International Workshop
Advances in Science and Technology of Bioresources

Workshop Program

Monday, November 23th

12.00-14:30. Arrival, registration, and posters installation.

14:30 – 14.40. Welcome Dr. Maria de la Luz Mora, Director of Bioren, Universidad de La Frontera, Chile.

14.40 – 14.50. Welcome Dr. Francisco Matus, Director of the Doctoral Program in Science of Natural Resources, Universidad de La Frontera, Chile.

Break

Symposium 1: POLÍTICAS DE DESARROLLO EN CIENCIAS E INNOVACIÓN PARA LA COOPERACIÓN UNIVERSIDAD-SOCIEDAD-EMPRESA
Moderadores: Paola Duran and María de la Luz Mora

15.00 – 15.15h. Paola Durán
Title: Del conocimiento al impacto: desafíos de la innovación y la transferencia tecnológica en Chile.

15.15 – 15.45h. Cristian Canales, Jefe Desarrollo Agropecuario Watts.
Title: Ciencia y empresa al servicio de una producción primaria competitiva.

15.45 – 16.15. Angela Bustos, Líder de innovación en la empresa insular
Title: Innovación para la restauración: desde Insular, regenerando ecosistemas.

16.15 – 16.45. Rodrigo Rodríguez, Profesor Investigador-Instituto Ciencias Aplicadas- Universidad Autónoma de Chile
Title: I.G.R.I.S: Integration of microbiome, environment, and artificial intelligence to predict crop behavior under stress conditions.

16.45 – 17:15. Paula Aguilera, CEO de Myconativa.
Title: Myconativa: El viaje de la primera Startup científica de la UFRO.

17.15 – 17.45. Denisse Zamorano, Fundadora y directora científico-tecnológica de Austral Living Labs SpA.
Title: Del conocimiento científico a la empresa: innovación y transferencia tecnológica para la gestión del carbono en sistemas agrícolas.

18:00. **Integrated discussion and questions.**

18:15. **Coffee**

Tuesday, November 24th

Symposium 2 (S2): Graduate meeting 2026.
Co-Chairs: Jacquelinne Acuña and Victor Gallardo.

9.30 – 10.00. Patricia Poblete, Professor, Universidad de Los Lagos, Chile.
Title: From Blueberries to Soil Science: The Unexpected Journey That Shaped My Research and Academic Caree.

10.00 – 10.30. Rodrigo Perez, Researcher Universidad de La Frontera.
Title: Microscopic Steps Along the Way: Microbes, Plants, and Lessons from My PhD.

10.30 – 11.00. Jorge González, Associate Professor Universidad Mayor, Temuco, Chile.
Title: Salicylic acid improves physiological performance, fruit quality, and yield in 'Duke' blueberry under drought stress

11.00 – 11.30. **Coffee break**

11.30 – 12.00. Victor Gallardo, Researcher, Bioren-UFRO and Anillo ATE250064.
Title: Exploring Antarctic Filamentous Fungi: Research in the Context of Climate Change.

12.00 – 12.30. Jessica Costa, Researcher, Bioren-UFRO.
Title: Biotechnological Strategies for Climate-Resilient Agriculture: The Case of Mycotoxigenic and Phytopathogenic Fungi.

12.30 – 13.00. Jacquelinne Acuña, Associate professor, Universidad de Chile, Santiago, Chile.
Title: MicroInteractomics: Deciphering Microbial Interactions for Ecosystem Sustainability.

13.00 – 14.30. **Lunch and Poster Session**

Symposium 3 (S3): Soils and Ecosystem Functions of Chile
Co-Chairs: Carolina Merino and Dorota Dec

14.30 – 14.35. Carolina Merino, Professor Universidad de La Frontera, Temuco, Chile
Title: Welcome and opening remarks.

14.35 – 14.50. Dorota Dec, Professor, Universidad Austral de Chile, Valdivia, Chile
Title: Introduction to the Center and its research line.

14.50 – 15.05. Lorena Lagos, Researcher, Universidad Austral de Chile, Valdivia, Chile.
Title: Soil security and its dimensions

15.05 – 15.20. Mauricio González, Professor, Universidad Austral de Chile, Valdivia, Chile.
Title: Soil ecosystemic services beyond disciplinary silos for achieving soil security.

15.20 – 15.35. Felipe Zúñiga, Professor, Universidad Austral de Chile, Valdivia, Chile.
Title: Carbon, water, and ecosystem functions in soils

15:35 – 16:00. **Coffee break**

16.00 – 16.15. Melissa Santos, Researcher, Universidad Austral de Chile, Valdivia, Chile.
Title: Who sustains soil functions? Gender, soil governance and soil security in Chile

16.15 – 16.30. Alicia Henríquez, PhD Student, Universidad Austral de Chile, Valdivia, Chile
Title: How does the degree of pedological development influence the soil organic carbon storage function?

16.30 – 17.00. Binoy Sarkar, Professor, Future Industries Institute, Adelaide University, Australia.
Title: Enhanced Rock Weathering for Carbon Sequestration and Soil Rejuvenation.

17.00 – 17.30. Carolina Merino, Professor Universidad de La Frontera, Temuco, Chile.
Title: Integrated discussion and questions.

18.00. **Opening Conference**. Abad Chabbi, Professor and Research Director at INRAE, France.
Title: From carbon to soil sovereignty: Rethinking climate action in the global south.

19.30. **Welcome Reception. "Vinos y empanadas"**

Wednesday, November 25th

Symposium 4 (S4): Food Bioprocesses for Innovative Ingredients: Exploring Structure and Function.
Co-Chairs: Mónica Rubilar and Marcela Quilaqueo

09:00 – 09:45: Maria Elvira Zuñiga, Directora Centro Regional de Estudios en Alimentos Saludables, CREAS
Title: Food Trends: An Opportunity for Biotechnology.

9.45 – 10.20: Ingrid Contardo, profesor, Universidad de Los Andes, Santiago, Chile.
Title: Unlocking the Potential of Plant Proteins: Innovative Strategies for Healthier and Functional Foods.

10.20 – 10.55. Erwin Werner, Professor, Universidad de Los Andes, Santiago, Chile.
Title: Structural Design of Lipid-based Assemblies.

11.00 – 11.30. **Coffee Break**

11.30 – 12.05. Marcela Quilaqueo, Researcher, Universidad de La Frontera, Temuco, Chile.
Title: Replacing Saturated Fat with Oleogels in Cookies: A Strategy for Healthier Formulation

12.05 – 12.25. Nicole Iturra Godoy, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Textural Properties and Digestibility of Chia Oleogels in Cookie Filling

12.25-12.45. Florencia Obreque Valdés, Master student of Magister Ciencias de la Ingeniería mención Bioprocesos, Universidad de La Frontera, Temuco, Chile.
Title: Design of a Sustainable Process for Extracting Fucoidan from Brown Seaweed for Food and Pharmaceutical Applications.

12.45 – 14.30. **Lunch**

Symposium 5 (S5): Soil carbon and Beyond
Co-Chairs: Francisco Matus and Mónica Antilen

14.30 – 15.00. Hike Kniker, Professor, Instituto de Recursos Naturales y Agrobiología de Sevilla, Spain.
Title: Biochar as a Hum in the Soil-Plant-Microbiome Continuum.

15.00 – 15.30. Francisco Matus, Professor, Universidad de La Frontera, Temuco, Chile.
Title: Beyond saturation: Mineralogically constrained steady states of soil organic carbon in volcanic and non-volcanic soils.

15.30 – 16.00. Mónica Antilen, Professor, Pontificia Universidad Católica de Chile, Santiago, Chile.
Title: Do Volcanic Soils Hold Back Antibiotics? Sorption and Transport in Andisols

16.00 – 16.20. Manuel Saldivar, Researcher, Anillo ATE250052, Universidad de La Frontera, Temuco, Chile.
Title: Biocrust amendments reshape soil microbiomes and carbon-processing traits.

16.20 – 16:40. Anyela Vega, PhD student in a dual doctoral degree program in Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Effects of burning peruvian high-andean grasslands on the presence and distribution of polycyclic aromatic hydrocarbons in soil.

16.40 – 17:00. Joaquin Sepulveda, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Post-fire ecological succession: The role of mycorrhizal fungi in soil carbon dynamics in temperate rainforests of southern Chile.

17.00 – 19.00. **Coffee Break and Poster Session**

Thursday, November 26th

Symposium 6 (S6): Plant Production and Microbiome Associated.
Co-Chairs: María de la Luz Mora and Marjorie Reyes Díaz

09.00 – 09.30. Fabricio Cassán, Instituto de Agrobiotecnología del CONICET, Argentina, Chile.
Title: Soil biostimulation: A novel approach to sustainable Agriculture.

09.30 – 10:00. Nuria Ferrol, Estación Experimental del Zaidin, CSIC, Granada, Spain.
Title: Arbuscular Mycorrhizal Functional Diversity and Symbiotic Functioning under Climate Change Scenarios: Implications for Sustainable Agriculture.

10.00 – 10:15. Silvia Struve, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad

de La Frontera, Temuco, Chile.
Title: Native roots, volcanic soils: bacterial and fungal community patterns associated with *Embothrium coccineum*.

10.15 – 10.45. Concepción Azcón Aguilar, Estación Experimental del Zaidin, CSIC, Granada, Spain.
Title: Biofertilizers: Origin and Applications.

10.45 – 11.15. Giuseppe Mannino, University of Turin, Turin, Italy.
Title: Plant Biostimulant: from scientific promise to field performance.

11.15 – 11.30. Natalia Azucena Rojas Poblete, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Biochar-Based Controlled-Release Fertilization: From Soil Nitrogen Dynamics to Wheat Productivity.

11:30-11:45. **Coffee break**

Co-Chairs: Herbert Venthur and Javier Espinoza

11:45-12:15: Dr. Leonardo Velasco, professor, IFAPA, Málaga, Spain.
Title: RNA interference and nanotechnology: A sustainable strategy for pest and disease control in crops.

12:15-12.45: Hector Montero, Researcher, CGNA, Temuco, Chile.
Title: Using omics to explore plant-microbe soil symbioses at cellular resolution

12:45-13:00: Isabel Mendez, Researcher, Anillo ATE250028, Universidad de La Frontera.
Title: Potato (*Solanum tuberosum* L.) genotype determines the assembly of the bacterial and fungal rhizosphere microbiome in the field.

13:00-13:15: Carol Jerez, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Role of Low-Molecular-Weight Carboxylates in Soil–Microorganism–Plant Phosphorus Acquisition and Their Potential for Targeted Organic Fertilization.

13.15-15.00. **Lunch**

Symposium 7 (S7): Environmental Sustainability
Co-Chairs: Mabel Delgado and Cristopher Heyser

15.00-15.30. Cornelia Rumpel, professor, Sorbonne Université, Paris, France.
Title: Beyond Carbon Inputs: Soil Carbon Sequestration under Phosphorus Constraints.

15:30-16.00. Maria Rao, professor, Università di Napoli Federico II, Napoles, Italy
Title: From waste to value: Innovative materials for sustainable agriculture and wastewater treatment

16.00- 16.30. Maria de la Luz Mora, professor, BIOREN, Universidad de La Frontera, Temuco, Chile.
Title: From Biodiversity loss to Funtional Specialization: P Fertilization shapes the ryegrass rhizosphere microbiome in an Andisol.

16.30 – 16:45. Daniela Gallardo, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Effect of organic and inorganic phosphorus amendments on nitrogen losses and pasture yield under increasing nitrogen rates in an Andisol of southern Chile.

16.45- 17.00. Ricardo Lagos, PhD student of Doctorado en Ciencias de Recursos Naturales, Universidad de La Frontera, Temuco, Chile.
Title: Valorization of Chestnut (*Castanea sativa* Mill.) catkins as a functional additive in kombucha: Effects on antioxidant activity and phenolic content.

17.00 – 18.00. **Poster Session**

19.30-23.00. **Dinner**

Friday, November 27th

Closing Ceremony:

11.00. Liliana Gianfreda, professor, Università di Napoli Federico II, Napoles, Italy.
Title: Integrating Artificial Intelligence into Soil Enzymology. From Molecular Mechanisms to Ecosystem-Scale Biogeochemical Prediction.

12.00. Poster Award