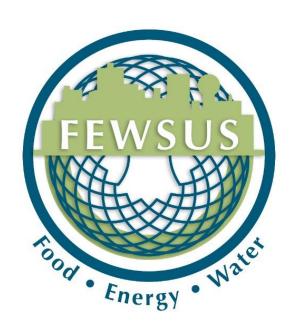
International Conference "CIRCULAR BIOECONOMY SYSTEMS FOR URBAN-RURAL CO-PROSPERITY"



November 30-December 2, 2022 Buenos Aires, Argentina website: https://fewsus.utk.edu

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MINISTRY OF ECONOMY



SCHOOL OF AGRICULTURE OF THE UNIVERSITY OF BUENOS AIRES

GOAL & OBJECTIVES

The conference aims to network academic-business-government resources for developing circular bioeconomy systems that make both urban and rural communities resilient to environmental and demographic changes and adaptable to the transformational influences of emerging technologies such as artificial intelligence, advanced material engineering technology, bioenergy technology, and automated machines. Specific objectives are to:

- Identify challenges and opportunities for developing circular bioeconomy by synergizing urban and rural resources;
- Develop network-to-network platforms for creating bioeconomy roadmaps that support climate-smart sustainable development;
- Stimulate innovative ideas on integrating food-energy-water nexus into the circular bioeconomy raodmap; and
- Create interdisciplinary mechanisms and international platforms for bioeconomy education and workforce development.

Scientific Committee

Scientific Committee

Brad Day, University of Tennessee, USA

Frank Löffler, University of Tennessee, USA

Dalia Lewi, Secretary of Agriculture, Livestock and Fisheries, Argentina Fernando Vilella, School of Agriculture of the University of Buenos Aires, Argentina

Member (in alphabetical order)

Chair

Martín Acreche, National Institute of Agriculture Technology (INTA), Argentina Miguel Almada, Secretary of Agriculture, Livestock and Fisheries, Argentina

Bruno Basso, Michigan State University, USA

Esteban Barelli, Regional Consortium of Agricultural Entrepreneurship (CREA)

Sylvie Brouder, Purdue University, USA

Julie Carrier, University of Tennessee, USA

Carter Christopher, Oak Ridge National Laboraory, USA

Josefina Eisele, Global Roundtable for Sustainable Beef (GRSB), Argentina

Marisol Fuhr, Secretary of Agriculture, Livestock and Fisheries, Argentina

Mingzhou Jin, University of Tennessee, USA

Madhu Khanna, University of Illinois, USA

Marinus Otte, North Dakato State University, USA

Jiaguo Qi, Michigan State University, USA

Gary Sayler, University of Tennessee, USA

Gustavo Schujman, INMET, Argentina

Karen Seto, Yale University, USA

Daniel Somma, National Institute of Agricultural Technology, Argentina

John Stier, University of Tennessee, USA

Diego Wassner, University of Buenos Aires, School of Agriculture, Argentina

David Zilberman, University of California Berkeley, USA

Organizing Committee

Chair

Gretchen Neisler, University of Tennessee, USA Jie (Joe) Zhuang, University of Tennessee, USA

Pablo Nuñez, Ministry of Science, Technology and Innovation, Argentina Eduardo Cittadini, National Institute of Agricultural Technology, Argentina

Member (in alphabetical order)

Mariela Alejandra Andreozzi, School of Agriculture of the University of Buenos Aires, Argentina

María Sol Galli, School of Agriculture of the University of Buenos Aires, Argentina

Enrique Garcia, WeTTO Enviro & Tech, Argentina

Amy Gregory, University of Tennessee, USA

Sebastián Grenoville, National Institute for Agricultural Tecnology

Jamie McGowan, University of Tennessee, USA

Sara Mulville, University of Tennessee, USA

Julieta Palmieri, Ministry of Science and Technology, Argentina

Facundo Simeone, Secretary of Agriculture, Livestock and Fisheries, Argentina

OVERALL AGENDA

Date	Argentina Time	Scheduled Activity	Venue	
November 29 Tuesday	Entire day	Check-In & Registration	Hilton Hotel	
	9:00-12:25 pm	Opening Ceremony & Keynote Presentation	Ministry of Science, Technlogy & Innovation	
November 30	1:00-2:00 pm	Lunch	Hilton Hotel	
Wednesday	2:00-4:30 pm	Breakout Meeting	(The 5th Floor)	
	4:30-7:00 pm	Social/Cultural Activities & Banquet	TBD	
December 1 Thursday	9:00-12:00 pm	 Concurrent Workshops Workshop 1: Climate-Smart Production of Crop and Livestock Workshop 2: Energy and Nutrient Generation from Wastes Workshop 3: Sustainable Biomass Conversion for Bioenergy and Bioproducts Workshop 4: Society-Smart Governance of Circular Bioeconomy Workshop 5: Interdisciplinary Workforce Training for Circular Bioeconomy 	Hitlton Hotel (The 5th Floor)	
	12:00-1:00 pm	Lunch		
	1:00-4:45 pm	Concurrent Workshops (continuing)		
	4:45-5:30 pm	Preparation of Workshop Report		
	5:30-7:00 pm	Dinner		
	9:00-11:30 am	Networking for Research Collaboration	Hilton Hotel	
December 2 Friday	11:30-12:00 pm	Closing Ceremony	(The 5 th Floor)	
	12:00-1:30 pm	Lunch	Hilton Hotel	
	1:30-5:30 pm	Local Facilty Tour and Stakeholder Engagement	City of Buenos Aires	
	5:30-7:00 pm	Dinner	TBD	

	Wednesday, November 30, 2022	
	WELCOME & OPENING REMARKS	
	Moderators: Jie (Joe) Zhuang (University of Tennessee), Pablo Nuñez (Ministry of Science, Technology & Innovation)	
	Venue: The Auditorium of Ministry of Science, Technology & Innovation	
9:00-9:40 am	 Brad Day (Associate Vice Chancellor for Research and Innovation Initiatives, University of Tennessee, USA) Argentina Ministry of Interior Official Representative Argentina Ministry of Science and Technology Official Representative National Institute of Agriculture Technology Leader 	
9:00-9:40 am	 National histitute of Agriculture Technology Ecader Dalia Lewi (National Director of Bioconomy, Secretary of Agriculture, Livestock & Fisheries, Argentina) Gustavo Schrauf (Secretary of Development & Institutional Affairs, School of Agriculture of the University of Buenos Aires, Argentina) Gretchen Neisler (Vice Provost for Global Engagement, University of Tennessee, USA) 	
9:40-10:10 am	Project Video and Presentation — The First Innovation Center for Sustainable Agriculture in Argentina: Challenge for Technological Transformation of Local Agro-Industrial Productive System Laila Toum, National Scientific and Technical Research Council and Ministry of Science, Technology and Innovation, Argentina	
	OPENING KEYNOTE & COLLABORATION OPPORTUNITY	
Moderators: F Aires)	rank Löffler (University of Tennessee & Oak Ridge National Laboratory) & Fernando Vilella (School of Agriculture of the University of Buenos	
10:10-10:40 am	The Impacts of a Circular Economy and the Policies to Advance It David Zilberman, University of California Berkeley, USA	
10:40-10:55 am	Break	
10:55-11:25 am	Bioeconomy As a Vector for Sustainable Development: Lessons from the Institutional Life Roberto Bocchetto, National Institute of Agriculture Technology (INTA), Argentina	
11:25-11:55 am	Bio-Innovation and Bioeconomy in Argentina Marisol Fuhr, Secretary for Agriculture, Livestock and Fisheries, Argentina	
11:55-12:25 pm	Global Urbanization and the Imperative for a Circular Bioeconomy	

11:55-12:25 pm

12:25-1:00 pm

1:00-2:00 pm

2:00-2:45 pm

2:45-4:30 pm

4:30-7:00 pm

Karen Seto, Yale University, USA

Funding Opportunity Introduction

Breakout Discussion on Collaboration

Social and Cultural Activities and Banquet

Lunch in Hotel

Return to Hotel by Bus (25-min drive)

Thursday, December 1, 2022

Workshop 1: Climate-Smart Production of Crop and Livestock

Chairs: Jiaguo Qi (Michigan State University), Miguel Taboada (School of Agriculture of the University of Buenos Aires), Mingzhou Jin & Andrew Muhammad (University of Tennessee)

(Ulliveisi	ty of Tennessee)
9:00-9:25 am	Keynote: Developing a Purpose-Driven Research Agenda for Climate Smart Agriculture Sylvie Brouder, Purdue University, USA
9:25-9:50 am	Keynote: Climate-Smart Production of Crop and Livestock in Argentina Miguel Angel Taboada, School of Agriculture of University of Buenos Aires (FAUBA), Argentina
9:50-10:15 am	Keynote: Climate Smart Agricultural Practices — Platforms and Examples Vara Prasad, Kansas State University, USA
10:15-10:40 am	Keynote: Enabling Circularity in Grain Production Systems Bruno Basso, Michigan State University, USA
10:40-10:55 am	Coffee Break
10:55-12:00 pm	Breakout Discussion on Collaboration Opportunities
12:00-1:00 pm	Lunch
1:00-1:15 pm	Brassica carinata in the Pampas: Cultivar adaptability and resource efficiency from root to tip Daniel Miralles. Deborah Rondanini, School of Agriculture of University of Buenos Aires (FAUBA), Argentina
1:15-1:30 pm	Livestock, Food Security and Regional Economy from the WEF Nexus Perspective Jiaguo Qi, Michigan State University, USA
1:30-1:45 pm	Integrating Wetlands in Urban- and Agriculture-Dominated Watersheds Marinus Otte, North Dakota State University, USA
1:45-2:00 pm	Agrivoltaic Systems and Climate-Smart Expansion of Solar Energy in Small and Medium Farms Andrew Muhammad, University of Tennessee, USA
2:00-2:15 pm	Controlled-Environment Agriculture: The Promise and Pitfalls of Intensive Crop Production Christopher Currey, Iowa State University, USA
2:15-2:30 pm	Towards a Low Carbon Agriculture in Sugarcane Martín Acreche, National Institute of Agriculture Technology (INTA), Argentina
2:30-2:45 pm	Coffee Break
2:45-3:00 pm	Soil Health Analysis for Sustainable Agriculture Luis Wall, National University of Quilmes & The National Scientific and Technical Research Council (CONICET), Argentina
3:00-3:15 pm	Circular Economy at CREA: from Concept to Application Esteban Barelli and Ariel Angeli, Regional Consortium of Agricultural Entrepreneurship (CREA), Argentina
3:15-3:30 pm	Regional Experiences on Regenerative Grazing Ezequiel Sack and Abel Argüelles Iriondo, Murray Grey Association and Argentine Greyman, Argentina
3:30-4:45 pm	Group Discussion on Action Plan
4:45-5:30 pm	Report Preparation (workshop chairs)
5:30-7:00 pm	Dinner

Thursday, December 1, 2022		
Workshop 2: Energy and Nutrient Generation from Wastes		
Cha	irs: Frank Löffler (University of Tennessee), Gustavo Schujman (INMET), Brian Wanamaker & Heath Jones (Hitachi Zosen INOVA)	
9:00-9:25 am	Keynote: From Waste to Value — What Microbes Can Teach Us? Frank Löffler, University of Tennessee & Oak Ridge National Laboratory (ORNL), USA	
9:25-9:50 am	Keynote: Anaerobic Co-Digestion of Waste As an Environmental Alternative for Improvement of Biogas Production and Digest Martha Bargiela, School of Agriculture of University of Buenos Aires (FAUBA), Argentina	
9:50-10:15 am	Keynote: Quantifying the Multi-Ecosystem Impacts of Cellulosic Biofuels Madhu Khanna, University of Illinois, USA	
10:15-10:40 am	Keynote: Biotransformation of Agro-Industrial Residues and By-Products into Bioplastics Gustavo Schujman, INMET—Bioceres Crops Solutions Corp., Argentina	
10:40-10:55 am	Break Coffee	
10:55-12:00 pm	Breakout Discussion on Collaboration Opportunities	
12:00-1:00 pm	Lunch	
1:00-1:25 pm	Keynote: Early Biogas Market Feedback from the Inflation Reduction Act Brian Wanamaker, Hitachi Zosen INOVA (HZI), USA	
1:25-1:40 pm	Use of Livestock Manure for the Production of Biogas and Digestates Patricia Bres, National Institute of Agriculture Technology (INTA), Argentina	
1:40-1:55 pm	Use of a Bovine By-Product As a Food Additive Vanina Ambrosi, National Institute of Agriculture Technology (INTA), Argentina	
1:55-2:10 pm	Use of Biological Mud in Soil Restoration: Five Years of Technical Advances Rodrigo Martin Pontiggia, Benito Roggio Ambiental (BRA), Argentina	
2:10-2:25 pm	Metabolomics Investigations of Environmentally Relevant Bacterial Consortia Shawn Campagna, University of Tennessee, USA	
2:25-2:45 pm	Coffee Break	
2:45-3:00 pm	Natural Polymers Based Materials: Back to the Future Guillermo Copello, University of Buenos Aires, Argentina	
3:00-3:15 pm	Challenges and Opportunities in Feedlot Waste Management: Towards a Circular Economy Ana García, School of Agriculture of University of Buenos Aires (FAUBA), Argentina	
3:15-3:30 pm	The Role of Biogas As a Bioeconomic Input in Argentina Agustina Branzini, Secretary of Agriculture, Livestock and Fisheries, Argentina	
3:30-4:45 pm	Group Discussion on Action Plan	
4:45-5:30 pm	Report Preparation (workshop chairs)	
5:30-7:00 pm	Dinner	

Thursday, December 1, 2022

Workshop 3: Sustainable Biomass Conversion for Bioenergy and Bioproducts

Chairs: Julie Carrier & Deborah Penchoff (University of Tennessee), Miguel Almada (Secretary of Agriculture, Livestock & Fisheries), Andrew White (Char Tech)

Chans. June Car	The & Deboral Tellehoff (University of Tellifessee), white (Chai Tech)	
9:00-9:25 am	Keynote: Bioenergy in Argentina: Where Are We Now and How Can We Increase Stakeholders' Participation? Mariela Beljanski, University of Buenos Aires, Argentina	
9:25-9:50 am	Keynote: Production System Based on the Cultivation of <i>Acrocomia Totai</i> to Sustainably Increase Production of Biofuels and Food Diego Wassner, School of Agriculture of University of Buenos Aires (FAUBA), Argentina	
9:50-10:15 am	Keynote: BIO 4: Argentina First Bioethanol Plant Manuel Ron, CEO Biothenol Rio Cuarto SA, Argentina	
10:15-10:40 am	Keynote: Renewable Gases & Biocarbon from Biomass & Residuals with High Temperature Pyrolysis — A Co-Product Model Andrew White, Char Technologies Ltd., USA	
10:40-10:55 am	Coffee Break	
10:55-12:00 pm	Breakout Discussion on Collaboration Opportunities	
12:00-1:00 pm	Lunch	
1:00-1:15 pm	Use of Lactic Fermentation for the Transformation of Cereal Biomass into Functional Foods Adriana Descalzo, National Institute of Agriculture Technology (INTA), Argentina	
1:15-1:30 pm	Economic Analysis of <i>Eucalyptus</i> Cultivation for Energy from Biomass in Argentina Demián Olemberg, University of Buenos Aires & National Institute of Agriculture Technology (INTA), Argentina	
1:30-1:45 pm	Sustainable Microalgal Biomass Production Toward Circular Economy: Wastewater Treatment and Potential Bioproducts Agustín Rearte, School of Agriculture of University of Buenos Aires (FAUBA), Argentina	
1:45-2:00 pm	Biotechnological valorization of whey for value-added products Roxana Paez, National Institute of Agriculture Technology (INTA), Argentina	
2:00-2:15 pm	Adding Value to Sugarcane Crop Residue Joaquin Ortiz, National Institute of Agricultural Technology (INTA), Argentina	
2:15-2:30 pm	Biogas Demonstration Unit for a Sustainable Rural Energy Development in the Humid Pampas Mercedes Echarte, National Institute of Agriculture Technology (INTA), Argentina	
2:30-2:45 pm	Coffee Break	
2:45-3:00 pm	Accelerating Solutions to Increase Supply of Rare Earth Elements for Clean Energy Applications Deborah Penchoff, University of Tennessee, USA	
3:00-3:15 pm	The Role of Renewable Gas in the Circular Economy: Transforming Municipal Infrastructure into Profit Centers Ricardo Hamdan, Hitachi Zosen INOVA, USA	
3:15-3:30 pm	Can Food-Energy-Water Nexus Research Keep Pace with Agricultural Innovation? Jie (Joe) Zhuang, University of Tennessee, USA	
3:30-4:45 pm	Group Discussion on Action Plan	
4:45-5:30 pm	Report Preparation (workshop chairs)	
5:30-7:00 pm	Dinner	

Thursday, December 1, 2022

Workshop 4: Society-Smart Governance of Circular Bioeconomy

Chairs: Carter Christopher (ORNL), Daniel Somma (National Institute of Agricultural Technology), Chien-fei Chen & Aaron Smith (University of Tennessee)

9:00-9:25 am	Keynote: A Geospatial Framework for Effective Circular Bioeconomies		
	Carter Christopher, Oak Ridge National Laboratory (ORNL), USA		
9:25-9:50 am	Keynote: Agribusiness: Recent Transformations and Their Role in Argentine Development Roberto Bisang, University of Buenos Aires, School of Economics, Argentina		
9:50-10:15 am	Keynote: A Food-Energy-Water (FEW) Nexus Solution towards a Sustainable Europe Wei Liao, Michigan State University, USA		
10:15-10:40 am	Keynote: The Role of the State and Public Policies in the Development of the Bioeconomy in Argentina Melisa Deciancio, University of Münster & The Latin American Faculty of Social Sciences (FLACSO), Argentina		
10:40-10:55 am	Coffee Break		
10:55-12:00 pm	Breakout Discussion on Collaboration Opportunities		
12:00-1:00 pm	Lunch		
1:00-1:15 pm	Carbon Markets and Climate Smart Agricultural Commodities: Economic Sustainability and Access to Global Markets Aaron Smith, University of Tennessee, USA		
1:15-1:30 pm	The Social-Technological Approach to Examining Energy Justice and Renewable Technology Adoption Chien-fei Chen, University of Tennessee, USA		
1:30-1:45 pm	Bioeconomic Entrepreneurship and Key Factors of Development: Lessons from Argentina Marcelo Sili, National University of The South, Argentina		
1:45-2:00 pm	Estimation of the Energy Consumption and GHG Emissions from the U.S. Food System Mingzhou Jin, University of Tennessee, USA		
2:00-2:15 pm	Value Chain Transformations in the Transition to a Sustainable Bioeconomy Pablo Mac Clay, University of Bonn & University of Austral, Argentina		
2:15-2:30 pm	Environmental Law and Policies for Bioeconomy Governance Daniel Tomasini, School of Agriculture of University of Buenos Aires (FAUBA), Argentina		
2:30-2:45 pm	Coffee Break		
2:45-3:00 pm	Global Diet Quality Project: Measuring What the World Eats Andrew Rzepa (Gallup Inc., UK)		
3:00-3:15 pm	Reducing Vulnerability and Increasing the Sustainability of Small-Scale Sugarcane Production Systems Paola Fontana, National Institute of Agriculture Technology (INTA), Argentina		
3:15-3:30 pm	Experiences in Latin America in the Framework for Low Carbon Solutions to Global Markets Alfredo Caprile, EU-Latin America Low Carbon & Circular Economy Business Action, Argentina		
3:30-4:45 pm	Group Discussion on Action Plan		
4:45-5:30 pm	Report Preparation (workshop chairs)		
5:30-7:00 pm	Dinner		

Thursday, 1	December	1 2022
Thursuay, 1	December	1, 2022

Workshop 5: Interdisciplinary Workforce Training and Programming for Circular Bioeconomy

Chairs: John Stier & Gretchen Neisler (University of Tennessee), Josefina Eisele (GRSB, Argentina), Jewell Winn (Tennessee State University)

Chairs	John Stier & Gretchen Neisler (University of Tennessee), Josefina Eisele (GRSB, Argentina), Jewell Winn (Tennessee State University)	
9:00-9:25 am	Keynote: Global Impacts of the Argentine Bioeconomy and Circular Economy Fernando Vilella, School of Agriculture of University of Buenos Aires (FAUBA), Argentina	
9:25-9:50 am	Keynote: Post-Secondary Education for the Circular Bioeconomy of Agriculture and Natural Resources John Stier, University of Tennessee, USA	
9:50-10:15 am	Keynote: Triangulating the Connectivity of Education: Government, Private Sector, and Higher Education. Gretchen Neisler, University of Tennessee, USA	
10:15-10:40 am	Keynote: INTA's Extra- Budgetary Funding Opportunities Romina Ochoa, National Institute of Agricultural Technology (INTA), Argentina	
10:40-10:55 am	Coffee Break	
10:55-12:00 pm	Group Discussion on Collaboration Opportunities	
12:00-1:00 pm	Lunch	
1:00-1:15 pm	Training at INTA: Institutional Tools and Challenges for The Formation of Interdisciplinary Teams Ana Sonsino, National Agricultural Technology Institute (INTA), Argentina	
1:15-1:30 pm	Diversifying an Interdisciplinary Workforce through the SDG Lens Jewell Winn, Tennessee State University, USA	
1:30-1:45 pm	Low-Cost Treatment design for vulnerable communities: Technological and Social applications of Copper Sorption on Dolomite in a Fixed Bed Tubular Reactor Néstor Caracciolo, University of Buenos Aires, School of Engineering, Argentina	
1:45-2:00 pm	GRSB: Raising Awareness for The Adoption of Grassland Management Josefina Eisele, Global Roundtable for Sustainable Beef (GRSB), Argentina	
2:00-2:15 pm	Rescue of Food, Use of By-Products, Residues and Discards of Agro-Bioindustry For Food Use and Added Value Martin Bruno, National Institute of Agriculture Technology (INTA), Argentina	
2:15-2:30 pm	Territorial Planning and Climate-Smart Agriculture for the Sustainability of Local Food Production Systems in the Food Region of Córdoba (RAC), Argentina Beatriz Giobellina, National Institute of Agriculture Technology (INTA), Argentina	
2:30-2:45 pm	Coffee Break	
2:45-3:00 pm	Funding Opportunities through Fulbright: INTA-Fulbright, CONICET-Fulbright Scholarships and Youth Educational Opportunities Melisa Ginzparg, Fulbright, Argentina	
3:00-3:15 pm	Interdisciplinary Workforce Training with Underserved Communities, Lessons from the Intermountain West Transformation Network. Mark Stone, University of New Mexico, USA	
3:15-4:45 pm	Group Discussion on Action Plan (annual international student workshop, study abroad program, online training, etc)	
4:45-5:30 pm	Report Preparation (workshop chairs)	
5:30-7:00 pm	Dinner	

	Friday, December 2, 2022		
SUMMARY & CLOSING REMARKS			
Moderators: Frank Löffler & Jie (Joe) Zhuang (University of Tennessee)			
9:00-11:30 am	 Networking for Research Collaboration Reporting of workshop results (chairs) Breakout meetings for development of roadmap, proposal, publication, and/or white paper 		
11:30-12:00 pm	 Closing Remarks Adriana M. Rodríguez, (Dean School of Agriculture of University of Buenos Aires, Argentina) Brad Day (Associate Vice Chancellor, University of Tennessee, USA) 		
12:00-1:30 pm	Lunch		
1:30-5:30 pm	Local Facilty Tour and Stakeholder Engagement		
5:30-7:00 pm	Dinner		