2024

**Bioenergy and bioproducts:** Accelerating the transition

### **Scientific Program**

October 22 <sup>nd</sup> , 14:00 – 15:00	Room: Theater
Opening Ceremony	
October 22 <sup>nd</sup> , 15:00 – 16:30	Room: Theater
Plenary Session 1	
Keynote Lecture 1 (15:00 – 15:20)	Keynote Lecture 2 (15:20 – 15:40)
Lais de Souza Garcia (Head of the Renewable Energy	Jim Spaeth (Bioenergy Technologies Office Program
Division, Ministry of Foreign Affairs) and <b>André</b>	Manager, Department of Energy, USA)
Aranha Corrêa do Lago (Secretary for Climate, Energy	
and Environment, Ministry of Foreign Affairs, Brazil)	
Keynote Lecture 3 (15:40 – 16:00)	Keynote Lecture 4 (16:00 – 16:10) (video)
Heitor Cantarella (Director of Soils and Environment	Sangita Kasture (Scientist G, Ministry of New and
Center, Agronomical Institute of Campinas, Brazil)	Renewable Energy, India)
Koynota Loctura E (16:10 16:20)	
Keynote Lecture 5 (16:10 – 16:30)  Maria Georgiadou (Senior Expert Renewable Fuels,	
Biofuels and Bioenergy, Directorate-General for	
Research and Innovation, European Commission)	
(video)	
October 22 <sup>nd</sup> , 16:30 – 17:00	Level E2
Coffe	ee Break
October 22 <sup>nd</sup> , 17:00 – 17:30	Room: Theater
Bioenergy Research 25-yr Celebration	
Launch by Luiz Augusto Horta Nogueira - Bioethanol - Fast Track to Mobility Decarbonization	
October 22 <sup>nd</sup> , 18:00 – 19:00	Room: Havana
Co	ocktail

### October 23<sup>rd</sup>, 08:30 – 10:00

**Room: Theater** Plenary Session 2 - Round Table: How can policies support the deployment of sustainable bioenergy towards its most effective uses (Moderator: IEA Bioenergy) Main topics (1) the roles of bioenergy in the energy system and how policy can support this and (2) the potential need to prioritize biomass uses and aim for a level-playing field in policy

Moderators: Dina Bacovsky (BEST/IEA Bioenergy) and Marlon Arraes (MME, Brazil)

Jeremy Moorhouse (IEA) (video)

Marlon Arraes Jardim Leal (MME, Brazil)

Paul Bennett (Scion Research, NZ)

Daniela Thraen (UFZ, Germany)

**Christian Rakos** (WBA, Austria)

October 22 <sup>nd</sup> , 10:00 – 10:30	Level E2
,	
Coffee Breal	

2024

Bioenergy and bioproducts: Accelerating the transition towards sustainabilitu

**Room: Theater** 

### October 23<sup>rd</sup>, 10:30 - 12:00

**Plenary Session 3 – Round Table:** Building confidence and creating synergies within the bioeconomy Moderators: **Lais de Souza Garcia** (Ministry of Foreign Affairs, Brazil) and **Jim Spaeth** (Bioenergy Technologies Office Program Manager, Department of Energy, USA)

Keith Kline (ORNL, Biofuture Platform, USA)

Advancing evidence-based analysis of biomass production and use: the Clean Energy Ministerial Biofuture Initiative

André Valente (Raizen, Brazil)

João Vicente (Braskem and UFABC, Brazil)

Biomass beyond energy: the importance of public policies for bio-based products

Patricia Audi (Unica, Brazil)

Parallels Sessions October 23 <sup>rd</sup> , 13:00 – 14:30		
Room: Theater	Room: Pampas	
Parallel Session 1 – Sustainable Aviation Fuels	Parallel Session 2 – Mobilizing feedstocks and setting	
Moderator: Jim Spaeth (DOE, USA)	up supply chains	
	Moderators: Heitor Cantarella (IAC, Brazil)	
Susan Van Dyk (UBC, Canada)	Mark Brown (USC, Australia)	
Progress in Commercialization of Biojet/Sustainable	International collaboration driving innovation in	
Aviation Fuels (SAF): Technologies and policies	sustainable biomass supply – IEA Bioenergy TCP Task on	
Camilo Adas (Be8, Brazil)	Biomass Supply	
Title to be announced	Damon Hartley (INL, USA)	
Rubens Maciel (UNICAMP, Brazil)	The evolution of bioenergy supply chains and the	
Title to be announced	influence of producer adoption	
Eduardo Calderon (GOL, Brazil)	Patricia Osseweijer (DTU, The Netherlands)	
Title to be announced	Inclusive design of context-specific biohubs for	
	sustainable marine biofuels production: An approach	
	guided by Value Sensitive Design (VSD)	
	Aluwani Tagwi (University of South Africa, South Africa)	
	Bioenergy potential from livestock residues: A case of	
	small-scale farmers in Limpopo province, South Africa	
	Bruna Leuner (BTUCS, Germany)	
	Indigenous Bioeconomy and the biomass potential in	
	Brazilian indigenous territories	

2024

**Bioenergy and bioproducts:** Accelerating the transition towards sustainability

Room: Patagônia

October 23 <sup>rd</sup> , 13:00 – 14:30		
Room: Yucon	Room: Labrador	
Parallel Session 3 – Biogas and Biomethane	Parallel Session 4 – BIOEN Biomass	
Moderators: Jan Liebetrau (Rytec, Germany) and Rafael	Moderator: Joaquim Seabra (UNICAMP, Brazil)	
Gonzalez (CIBIOGAS, Brazil)		
Dong Renije (China Agricultural University, China)	Wagner Rodrigo de Souza (UFABC, Brazil)	
Why Biogas Matters - Agricultural Biowastes in a Great	Biotechnological strategies for genetic improvement of	
Cycle	grasses for biofuel production	
Bernhard Drosg (BOKU University, Austria)	Cassio Hamilton Abreu Junior (USP, Brazil)	
Digestate processing – how to produce a high-quality	Energy cane: Decarbonization Challenges and Biomass	
fertilizer	Production Potential	
Peter Kornatz (DBFZ, Germany)	Gonçalo Amarante Guimarães Pereira (UNICAMP,	
Bogotá: Challenges and Prospects of Organic Waste	Brazil)	
Utilization in a Latin American Metropolis.	BRAVE: A program to convert the semi-arid region into a	
Laurent Spreutels (NRC, Canada)	new agro-industrial frontier	
Combined production of biogas and hydrochar from	Carlos Eduardo Pellegrino Cerri (USP, Brazil)	
food waste	Center For Carbon Research In Tropical Agriculture	
Masayuki Fukushima (Furukawa Electric, Japan)	(CCarbon/USP): A Platform For National And	
Development of Green LPG Technology from Biogas	International Collaborations	
	Ricardo de Oliveira Bordonal (LNBR/CNPEM, Brazil)	
	Deciphering the role of pore structure in driving soil	
	carbon accrual in bioenergy cropping systems in Brazil	
October 23 <sup>rd</sup> , 13:00 – 14:30 Room: Patagônia		
Meeting our Future Scientists (part 1)		
Moderators: Rafael Vasconcelos Ribeiro (UNICAMP, Brazil) and Carolina Rossi de Oliveira (UNICAMP, Brazil)		
Students from Escola Estadual José Geraldo de Lima, São Paulo SP.		
October 23 <sup>rd</sup> , 14:30 – 16:00 Room: Américas		
Poster Session I and Coffee Break		

### October 23<sup>rd</sup>, 14:30 – 16:30

ICARUS Workshop on "International R&I Cooperation on Sustainable Aviation Fuels"

Moderator: Rainer Janssen (WIP Renewable Energies, Germany)

Loukas Gavriil (CRES, Greece)

The ICARUS project – International cooperation for sustainable aviation biofuels

A - Biomass: traditional and alternative energy feedstocks, including waste use E - Sustainability, Environmental, Social, Economic and Public Policy Issues

Francisco Girio (LNEG, Portugal)

Framework conditions for SAF development in Europe and Mission Innovation Countries

Giovanny Oliveira (Senai, Brazil)

Journey to Sustainability: Advances and innovations in Fischer-Tropsch Synthesis for SAF production

Rainer Janssen (WIP Renewable Energies, Germany)

Panel discussion "International R&I Cooperation on Sustainable Aviation Fuels"

Panelists: Laís Thomaz (Federal University of Goiás, Brazil)

José Muisers (IEA Bioenergy Task 39, RVO, The Netherlands)

Carolina Grassi (RSB, Switzerland)

Andrea Sonnleitner (BEST, Austria)

2024

**Bioenergy and bioproducts:** Accelerating the transition towards sustainability

October 23 <sup>rd</sup> , 16:00 – 17:30	
Room: Theater	Room: Pampas
Parallel Session 5 – The Future of Biorefineries	Parallel Session 6 – Heat and power from biomass and
Moderator: Rubens Maciel (UNICAMP, Brazil)	waste
	Moderator: Oshada Mendis (NRCan, Canada)
João Luis Nunes Carvalho (LNBR, Brazil)	Morten Tony Hansen (Ea Energy Analysis, Denmark)
Incorporating biochar into the sugarcane biorefinery	Options for net negative GHG emissions with biomass
delivers ethanol and SAF with negative carbon emissions	combustion
Kees Kwan (RVO, The Netherlands)	Mar Edo (RISE, Sweden)
Integrated Blorefineries Mission	Towards a Dynamic Understanding of Waste-to-Energy
Paul Stuart (McGill University, Canada)	Futures
The Future of Biorefineries: Estimating the Impact of	Daniela Thraen (UFZ, Germany)
Innovative Policy on Biorefinery Strategies	Bioenergy integration in renewable energy systems
Fabian Schipfer (TU Wien, Austria)	Andrea Cressoni De Conti (UNESP, Brazil)
Enabling Multi-Sector Coupling through Bio-Based Value	Analysis of solid fuel produced from enzymatic
Chain Networks	hydrolysis residues
Connie McManus (FAPESP, Brazil)	Brock Jefrey Harrington (CPM Dorssers, Canada)
FAPESP-NWO Call "Integrated Biorefineries of the	Co-Densification Abstract
Future" announcement	

Room: Yukon	Room: Labrador
Parallel Session 7 – BIOEN Mobility and End Use	Parallel Session 8 – BIOEN Biofuel Technologies
Moderator: Luiz Augusto Horta Nogueira (UNIFEI,	Moderator: Eduardo Couto (CNPEM, Brazil)
Brazil)	
Ronaldo Domingues Mansano (USP, Brazil)	Lee Lynd (Dartmouth College, USA)
Plasma Assisted Ignition for Application in Internal	Consolidated Bioprocessing Research at the Advanced
Combustion Engines	Second Generation Biofuel Laboratory
Guenther Carlos Krieger Filho (USP, Brazil)	Taisa Magnani Dinamarco (USP, Brazil)
Title to be announced	Bioprospecting the repertoire of fungal CAZymes for
Roberto Matarazzo Braun (Toyota do Brasil)	eco-friendly value-added hydrolyses of biomass
The role of biofuels for automotive industry	Andreas Karoly Gombert (UNICAMP, Brazil)
decarbonization	Yeast population dynamics in Brazilian bioethanol
Erwin Karl Franieck (UNICAMP, Brazil)	production
Title to be announced	Boris Stambuck (UFSC, Brazil)
Clayton Barcelos Zabeu (Instituto Mauá, Brazil)	Developing Recombinant Industrial Yeast Strains for
Title to be announced	Integration of First- (1G) and Second-Generation (2G)
	Bioethanol Production: a Solution for Brazilian
	Biorefineries
	Ana Paula Jacobus (SENAI, Brazil)
	Robust Yeast for Cellulosic Ethanol: Insights from
	Adaptive Laboratory Evolution

2024

**Bioenergy and bioproducts:** Accelerating the transition towards sustainability

October 24 <sup>th</sup> , 08:30 – 10:00	
Room: Theater	Room: Pampas
Parallel Session 9 – Biogas, Biomethane and	Parallel Session 10 – Land Use for Bioenergy and the
Biohydrogen	Bioeconomy
Moderator: Birger Kerckow (FNR, Germany)	Moderator: Patrick Lamers (NREL, USA)
Rogério Meneghetti (Itaipu Binacional, Brazil)	Floor van der Hilst (Utrecht University, The
Bioenergy in Brazil: History of Regulation	Netherlands)
Berend Vreugdenhil (TNO, The Netherlands)	Land use for bioenergy: synergies and trade-offs
Perspectives of biomethane from biomass gasification	between sustainable development goals
Jan Liebetrau (Rytec, Germany)	Marcelo Moreira (Agroicone, Brazil)
Biogas systems – recent developments and future	Title to be announced
perspectives	Niklas Hinkel (IIASA, Austria)
Bruna Moraes (UNICAMP, Brazil)	Understanding uncertainty in market-mediated
Biohydrogen and Biomethane Production from	responses to US oilseed biodiesel demand
Municipal Solid Waste (MSW) at Unicamp: An	Luciano Verdade (USP, Brazil)
Innovative Living-lab Proposal	Why do we need to monitor fauna and flora in
Julio R. Meneghini (RCGI, Brazil)	multifunctional landscapes?
Title to be announced	Daniella Fartes (CGEE, Brazil)
	Biofuels scientific knowledge: leading the Brazilian
	bioeconomy

October 24 <sup>th</sup> , 08:30 – 10:00	
Room: Yukon	Room: Labrador
Parallel Session 11 – Progress in transport biofuels	Parallel Session 12 – Biomass productivity
Moderator: Franziska Muller-Langer (DBFZ, Germany)	Moderator: Monalisa Carneiro (UFSCAR, Brazil)
Tomas Ekbom (SVEBIO, Sweden)	Jorge da Silva (Texas A&M, USA)
One small step for man, a giant leap for mankind	Production of Biomass for Bioenergy from Feedstock
Jack Saddler (UBC, Canada)	System with Positive Water Footprint
BC-SMART, decarbonising the marine, aviation, rail and	Prakash Lakshmanan (GXAAS, China)
long-distance trucking sectors	Sustainable sugarcane biomass production for
José Muisers (RVO, The Netherlands)	bioenergy: constraints and prospects
Robustness of ghg-emission verification and certification	Daniele Henzler (CNPEM, Brazil)
of biofuels – a case study of selected supply chains and	Assessment of palm oil potential availability for a
policies	sustainable production of advanced biofuels in Brazil:
Fuli Li (Chinese Academy of Sciences, China)	Crop Assessment Tool parametrization
Production of chemicals and biofuels from CO2 by	Gabriel Palma Petrielli (CNPEM, Brazil)
Clostridium ljungdahlii	Climate change effects on maize and sugarcane
Andrea Sonnleitner (BEST, Austria)	production in Mato Grosso do Sul state in Brazil:
BioTheRoS - Collaborative actions to bring novel biofuels	implications for bioenergy and sustainability
thermochemical routes into industrial scale	Edmar Ramos de Oliveira Filho (UFL, USA)
	Directed evolution of a plant histidinol dehydrogenase
	to extend lifespan
October 24 <sup>th</sup> , 08:30 – 10:00	Room: Patagônia

October 24<sup>th</sup>, 08:30 – 10:00
Meeting our Future Scientists (part 2)

Moderators: **Rafael Vasconcelos Ribeiro** (UNICAMP, Brazil) and **Carolina Rossi de Oliveira** (UNICAMP, Brazil) Students from Escola Estadual Teotônio Alves Pereira, São Paulo SP.

2024

Bioenergy and bioproducts: Accelerating the transition towards sustainabilitu

Room: Patagônia

### October 24<sup>th</sup>, 10:00 – 11:30 Room: Américas

#### **Poster Session II and Coffee Break**

- B Biofuel Technologies, including biomass process engineering and biofuels production
- C Biorefineries, Bio-Based Chemicals, Bioproducts and Biomaterials.
- **D** Biofuel End Use and Engines

### October 24<sup>th</sup>, 10:00 – 11:30

**Dutch-Brazilian panel on Sustainable Carbon (The Netherlands)** 

Moderator: Jacqueline Vaessen (Executive Chair Top Sector Chemistry, ChemistryNL, The Netherlands)

Michael Boot (Vertoro)
Mateus Lopes (Raízen)

Willemijn Witteveen (Ministry of Climate Policy, and Green Growth, The Netherlands)

Lais Thomaz (Ministry of Mines and Energy, Brazil)

John Posada (Delft University of Technology, The Netherlands)

Eduardo Couto (LNBR/CNPEM, Brazil)

October 24 <sup>th</sup> , 11:30 – 13:00	
Room: Theater	Room: Pampas
Parallel Session 13 – Biofuels in Emerging Markets	Parallel Session 14 – Sustainability of Bioenergy
Moderator: Bharadwaj Kummamuru (WBA, Sweden)	Pathways
and Glaucia Mendes Souza (USP, Brazil)	Moderators: <b>Zoe Harris</b> (University of Surrey, UK) and
	Tiziana Pirelli (FAO/GBEP, Italy)
Rocio Diaz-Chaves (Imperial College, UK)	Annette Cowie (NSW Primary Industries, Australia)
Biofuels production in Emerging Markets: A renewal of	Guidance on quantifying the climate change effects of
the sector in the Global South?	bioenergy and BECCS
Aida Lorenzo (GRFA, Guatemala)	Michael Wang (ANL, USA)
Central America perspectives, opportunities and	Biofuel life-cycle analysis and the GREET LCA model
challenges to implement an ethanol blending program	Joaquim Eugênio Abel Seabra (UNICAMP, Brazil)
Jossy Thomas (UNIDO, Austria)	Life Cycle Sustainability assessment of biofuels
Potential contribution of Sugar sector in achieving	Thayse Hernandes (LNBR, Brazil)
energy access in developing countries	Integrated sustainability assessment platform: case
Unity Chipfupa (UNISA, South Africa)	study on potential impacts of climate change in
Bioenergy development pathways in the smallholder	sugarcane bioenergy and derived ecosystem service
agricultural sector: A South African perspective	Tiziana Pirelli (FAO/GBEP, Italy)
Monica Merdekawati (Sustainable and Renewable	Biofuels in emerging markets: lessons learned through
Energy (SRE), ASEAN Centre for Energy (ACE),	the use of GBEP sustainability indicators
Indonesia)	
Title to be announced	

2024

**Bioenergy and bioproducts:** Accelerating the transition towards sustainability

October 24 <sup>th</sup> , 11:30 – 13:00
Room: Yukon
Parallel Session 15 – Renewable Marine Fuels
Moderator: Camilo Adas (SAE, Brazil)
Tom Walsh (Renetech, Ireland)
Lowering Hinders for Maritime Biofuels – identifying
means to increase the use of biofuels in the marine
sector
Marjorie Mendes Guarenghi (Agroícone, Brazil)
Assessment of sustainable aviation fuel production
based on the AtJ pathway
Mario de Luna Barbosa (Wärtsilä, Brazil)
Title to be announced
Ling Tao (NREL, USA)
Title to be announced
Fernando Alberto Gomes da Costa (MEPC, Marinha do
Brazil, Brazil)
The challenges faced by maritime biofuels as agents for
decarbonising shipping

October 24 <sup>th</sup> , 14:00 – 15:30	
Room: Theater	Room: Pampas
Parallel Session 17 – Grain biofuels and sugar-based	Parallel Session 18 – Making the most of biogenic
biofuels	carbon - BECCUS
Moderator: Federico Salcedo (USGC, USA)	Moderator: Trond Bratsberg (ENOVA, Norway)
Linda Schmid (USGC, USA)	Christiane Hennig (DBFZ, Germany)
Bioethanol Trends Brief	BECCUS from innovation to deployment
Bruno Alves (UNEM, Brazil)	Niclas S. Bentsen (University of Copenhagen, Denmark)
Corn ethanol production in Brazil: current status and	The potential for Carbon Dioxide Removal (CDR)
prospects	through bioenergy with carbon capture and storage
Sofia Arantes (Agroicone, Brazil)	(BECCS) - Case studies on wood chips and straw fired
Sustainability of Brazilian corn ethanol and its	combined heat and power production in Denmark
importance for energy transition	Saija Rasi (NRI, Finland)
Vitor Paulo Vargas (Yara International, Brazil)	Carbon dioxide utilization possibilities from acidic
Assessing the Impact of Nitrogen Fertilization on N2O	fermentation process
emissions in Maize Production in Representative Soils	Frederico Gomes Fonseca (DLR, Germany)
from Brazilian Subtropic	Valorization of Waste Agricultural Residues from North-
Tiziana Pirelli (FAO/GBEP, Italy)	Western Germany: A Pathway to Biofuels and Long-
Biofuels and sugar-based biofuels: how to ensure long-	term Carbon Storage within the UNLOC Concept
term sustainability?	Jean Felipe Leal Silva (UNICAMP, Brazil)
	BECCUS of waste CO₂ from ethanol production: techno-
	economic analysis and life cycle assessment

**Bioenergy and bioproducts:** Accelerating the transition towards sustainability

October 24 <sup>th</sup> , 14:00 – 15:30	
Room: Yukon	Room: Labrador
Parallel Session 19 – Gasification and liquefaction	Parallel Session 20 – BIOEN Bioproducts and
pathways to biofuels and biochemicals	Biorefineries
Moderator: Berend Vreugdenhil (TNO, The	Moderator: <b>Telma Teixeira Franco</b> (UNICAMP, Brazil)
Netherlands)	
Axel Funke (KIT, Germany)	Mateus Ferreira Chagas (CNPEM, Brazil)
Biofuels and chemicals via fast pyrolysis and	Standardizing Biorefinery Evaluation Models for
hydrothermal liquefaction – latest developments and	Sustainable Aviation Fuel Development
trends	Julliana Muniz Golçalvez (SENAI-CETIQT, Brazil)
Robert Baldwin (NREL, USA)	Techno-economic feasibility assessment of renewable
Advances in Co-Processing in the Fluid Catalytic Cracker	hydrogen carriers production from water electrolysis
Ilkka Hiltunen (VTT, Finland)	Danilo Eiji Hirayama (IPT, Brazil)
Validation tests of flexible fluidized-bed gasification	Valorizing residues of sugar cane biorefinery operation
process for co-production of synthesis gas and biochar	to produce liquid fuels - Assessment of energy balances
Roberto Bieler (BTG Bioliquids, The Netherlands)	and influence of major inorganic elements to produce
Fractionation of Fast Pyrolysis Bio-Oil for	fast pyrolysis bio-oil
Decarbonisation of Transportation and Chemical	Miguel Sanchez Garcia (Futuria Fuels, The Netherlands)
Industry.	Bioethanol to BioLPG and Bio-monoaromatics:
	Learnings from a 1 inch reactor
	Diffo Téguia (NRCan, Canada)
	Evaluating Renewable Liquid Fuel Pathways: Integrating
October 34 <sup>th</sup> 15:30 16:00	Sustainability and Policy Impact Assessment
October 24 <sup>th</sup> , 15:30 – 16:00	Room: Américas e Break
October 24 <sup>th</sup> , 16:00 – 17:00	Room: Theater
Closing Ceremony	
Announcement of BBEST Awards for the best posters	
Announcement of BBL31 Awards for the best posters	