



ISSCT Co-Products Commission Webinar

The International Society of Sugar Cane Technologists (ISSCT) is pleased to invite you to a webinar on recent advances in sugarcane Co-Products to be held on:

Tuesday 28 July 2026 from 11 am to 1 pm GMT

Theme: ***From Sugarcane Byproducts to Breakthroughs: Integrated Fuels, Bioproducts, and Carbon Accounting***

This webinar will highlight how sugarcane byproducts can drive decarbonization through innovative fuel production, circular Co-Product development, and transparent carbon accounting.

Chaired by Giovanna M. Aita (Chair of ISSCT Co-Products Section) with presentations as follows:

Presenter / Country / Organisation	Presentation Title
Dr. Anurag Mandalika, USA / Louisiana State University	***Sugarcane: Bioproducts from the Byproducts.***
Dr. Boontiwa Ninchan, Thailand/ Kasetsart University	***Revealing the Hidden Wealth in Sugar Factories: Transforming Sugars and Byproducts into High-Value Products.***
Dr. Gabriel Fraga, Australia / Queensland University of Technology	***Sugar Mills as Biorefinery Hubs for Low-Carbon Fuels and Chemicals***
Ms. Natasha Mallise, Australia / Mackay Sugar Limited	***Navigating Mandatory Climate Related Sustainability Reporting: Insights from an Australian Sugar Miller***

Format of the webinar:

- 20-minute presentations.
- 5-minute Q&A after each presentation.
- 20-minute panel discussion with all speakers.

Total duration of the session will be approximately 2 hours.

The programme, including speaker biodata and presentation summaries, is provided below.

The facilitators/organizers are:

- Dr. Giovanna M. Aita, Louisiana State University, United States of America
- Dr. Bryan Lavarack, Mackay Sugar Limited, Australia
- Dr. Prakit Sukyai, Kasetsart University, Thailand
- Dr. Washington Mutatu, Zimbabwe Sugar Association Experiment Station, Zimbabwe
- Dr. Jenny Wu Tiu Jen, eRcane, Réunion
- Mr. Roshan Lal Tamak, DCM Shriram Ltd., India

Language
The Webinar will be conducted in English.

Registration
The Registration Form for the Webinar may be accessed through the following link:
https://us06web.zoom.us/meeting/register/0baOUeCJQiGGobbd1QPc1A#/registration

The Webinar is open to ISSCT compliant members as well as to non-members.

Compliant Members
Compliant members are those who have already settled their membership dues for the period 2025-2028. For those who have not yet done so, they may settle their dues of USD 150 through the following link:
https://members.issct.org/appform/issct_guatemala_2028.aspx

Non-Members
To register only for the Co-products webinar, participants must pay a USD 50 registration fee via the following link:
https://members.issct.org/webinar/overview.aspx

After payment of either ISSCT membership dues or the webinar registration fee, participants will receive an email with access details (username and password).

Further information
For further information, please contact the ISSCT **Co-Products Chair –** Giovanna M. Aita gaita@agcenter.lsu.edu or the ISSCT Secretariat at issctsecretariat@gmail.com / issct@intnet.mu

ISSCT Co-Products Section Webinar

Programme

Tuesday 28 July 2026

Chair: Dr. Giovanna M. Aita

Speaker 1: 11 am GMT – 11:25 am GMT

Dr. Anurag Mandalika (Louisiana State University, Baton Rouge, United States of America)

Biodata

Dr. Anurag Mandalika is Assistant Professor - Research at the Center for Energy Studies. His research interests include biomass and bioenergy, biofuels, waste reduction and valorisation, emissions measurement, and carbon dioxide removal. Anurag holds a B.S. in Biosystems Engineering from Clemson University with a minor in environmental engineering, and M.S. and Ph.D. degrees in Biological Systems Engineering with a minor in Chemistry from the University of Wisconsin - Madison. He is a member of the American Society for Agricultural and Biological Engineers (ASABE) and the United States Association for Energy Economics (USAEE).

Sugarcane: Bioproducts from the Byproducts

This presentation focuses on ongoing research valorising sugarcane processing byproducts, such as sugarcane bagasse, including evaluating the counterfactual narrative of the business-as-usual case of underutilizing bagasse. Primarily, I look at the production of methane from bagasse storage and report on estimates of emissions and costs associated with potential strategies of bagasse management, including carbon dioxide removal (CDR) approaches.

Speaker 2: 11:25 am GMT – 11:50 am GMT

Dr. Boontiwa Ninchan (Kasetsart University**,** Bangkok, Thailand)

Biodata

Dr. Boontiwa Ninchan is an Assistance Professor of Biotechnology and Head of Sugars and Derivatives Analytical Laboratory (SuDAL) in the Department of Biotechnology, Faculty of Agro-Industry, at Kasetsart University, Thailand. Her research focuses on the production of prebiotic sugars, oligosaccharides, and rare sugars. She specializes in sucrochemistry, sugar technology, and the development of alternative sweeteners and functional sugars.

Revealing the Hidden Wealth in Sugar Factories: Transforming Sugars and Byproducts into High-Value Products

This talk highlights the identification of underutilized sugars streams and industrial by-product and their transformation into high-value products through bioconversion and enzymatic technologies for producing functional bio-based products and sugar derivatives. It also demonstrates how circular bioeconomy and zero-waste strategies can drive sustainability in the sugar industry.

Speaker 3: 11:50 am GMT – 12:15 pm GMT

Dr. Gabriel Fraga (Queensland University of Technology, Brisbane, Australia)

Biodata

Dr. Gabriel Fraga is a Research Fellow at the Centre for Agriculture and the Bioeconomy within Queensland University of Technology. He has a background in Chemical Engineering from Brazil, a master's degree in Bioenergy from the University of Illinois (US) and a Ph.D. in catalysis from The University of Queensland (Australia). His research focuses on valorisation of agricultural residues and waste plastics into low carbon liquid fuels and chemicals. He has industry experience on techno-economic modelling of biomass processing technologies.

Sugar Mills as Biorefinery Hubs for Low-Carbon Fuels and Chemicals

Sugar mills represent a largely underutilized opportunity for regional decarbonization and renewable manufacturing. Their access to concentrated lignocellulosic residues, existing materials-handling infrastructure, and availability of renewable electricity provides a unique platform for distributed biorefineries. This presentation presents process modelling case studies assessing the technical performance, economic viability, and sustainability impacts of repurposing conventional sugar mills into integrated, multiproduct biorefinery hubs. Process modelling and techno-economic analysis were applied to emerging conversion pathways: (i) production of high-value bio-based platform molecules, (ii) renewable hydrogen generation, and their potential integration with downstream fuel applications such as sustainable aviation fuel. Multi-product integration optimizes resource use and reduces both market and environmental risks relative to single-product systems. These findings highlight the strategic role that sugar mills could play in enabling a circular, resilient, and low-emissions chemical and fuels manufacturing sector, while supporting regional economic diversification.

Speaker 4: 12:15 pm GMT – 12:40 pm GMT

Ms. Natasha Mallise (Mackay Sugar Limited, Mackay, Australia)

Biodata

Ms. Natasha Mallise is the ESG Lead at Mackay Sugar, overseeing a broad sustainability portfolio. In this role, she leads the reporting of ESG KPIs to Nordzucker in compliance with EU legislation and other statutory regulations and is responsible for preparing Mackay Sugars' first ASRS-aligned mandatory Climate-related Sustainability Report for the Australian Government. Natasha brings over 25 years of experience in environmental science across diverse sectors including Local, State and Federal Governments, International open cut and underground coal mining and coal seam gas companies and now an Australian Sugar Milling company. Natasha holds a Bachelor of Science in Australian Environmental Studies from Griffith University with four majors and Graduate Certificate in Tropical Environmental Management from Charles Darwin University.

Navigating Mandatory Climate Related Sustainability Reporting: Insights from an Australian Sugar Miller

The journey of preparing an Australian Sugar Miller's first Australian Sustainability Reporting Standards (ASRS) sustainability report in accordance with Australian Accounting Standards Board (AASB) Standard 2 is discussed. Insights include information around climate-related governance, strategy, risk management, risks and opportunities, and Scope 1 and 2 emissions reporting, alongside evolving legislative requirements. Key lessons learned, audit and assurance considerations, emissions and carbon data challenges, and the importance of cross-functional collaboration are discussed.

Co-Products: Panel Discussion

Panel: ISSCT Co-Products Committee members, Dr. Anurag Mandalika, Dr. Boontiwa Ninchan, Dr. Gabriel Fraga, Ms. Natasha Mallise.

Attendees who wish to contribute brief perspectives are encouraged to contact the Section Chair in advance (gaita@agcenter.lsu.edu).

Attendees are invited to share perspectives on the evolving role of sugarcane in low-carbon bioeconomy, including opportunities to convert byproducts into fuels, energy, and high-value co-products. Comments may also address emerging technologies, market barriers, regional differences, and pathways for scaling adoption. Outcomes from this discussion will help shape the Section's priorities and identify areas for coordinated action.