

BIODERIVED MATERIALS AND CHEMICALS IN CIRCULAR BIOECONOMY SYSTEMS CONFERENCE

September 3-4, 2025
Dollywood's Heartsong Conference Center
Pigeon Forge, Tennessee

WEDNESDAY,
SEPTEMBER 3

7:00 a.m. – 8:15 a.m., Breakfast and
Registration Opens, Inspiration Salon B

PROGRAM

8:30 a.m. – 10:20 a.m.,
Inspiration Salon A

WELCOME AND
OPENING REMARKS

KEYNOTE ADDRESS

8:45 a.m.
Tackling the Global
Circularity Gap
with **Guus ter Haar**,
Circle Economy

9:15 a.m.
Innovations in Bio-Based
Chemicals and Materials: A
Colloidal Systems Approach
with **Orlando Rojas**,
University of British Colombia

KEYNOTE Q&A

10:00 a.m.
BREAK

SESSION I

	Session 1A ENGINEERING SOURCES OF SUSTAINABLE CARBON Inspiration Salon CD <i>Moderator: Haibo Huang, Virginia Tech</i>	Session 1B DESIGN OF CIRCULAR PRODUCT SYSTEMS Inspiration Salon A <i>Moderator: Niki Labbé, University of Tennessee</i>
10:20 a.m.	Upcycling of Plastic Waste into High-Value Chemicals and Materials <i>Greg Liu, Virginia Tech</i>	Sustainable Biomanufacturing of Materials and Chemicals in Circular Forest Bioeconomy Systems <i>Sudhagar Mani, University of Georgia</i>
10:40 a.m.	Mycelium-based Composites Using Biomass Residues: Opportunities to Advance Regional and Resilient Supply Chains <i>Radika Bhaskar, Thomas Jefferson University</i>	Monolignol-based Molecular Heaters to Combat Cold Stress in Crops <i>Kalavathy Rajan, Texas Tech University</i>
11:00 a.m.	Transforming the “Bio-mess” to Carbon Negative Bioeconomies <i>Steph Herbstritt, Clean Air Task Force</i>	Conversion of Food Waste into Renewable Package Materials – the USDA Pilot Program Project <i>Young-Tek Kim, Virginia Tech</i>
11:20 a.m.	Bio-Based Battery Materials for Circular Energy Storage Systems <i>Lillian Lower, North Carolina State University</i>	Pathways Toward Commodity Mechanical Metamaterials: Harnessing Traditional Paper and Nonwoven Processing to Produce Auxetics with Natural Fibers <i>Meisha Shofner, Georgia Tech</i>
11:40 a.m.	From the Bench to the Barrel: Scale-up of Protic Ionic Liquids and Amines for Biomass Pretreatment <i>Blake Simmons, Lawrence Berkley National Laboratory</i>	Lignin and Glycerol as Bioderived Agents for Films, Foams, and Adhesives: Structure-property Relationships and Biodegradability Performance <i>James Sternberg, Clemson University</i>

NETWORKING LUNCH, 12:00 p.m.
Inspiration Salon B

SESSION 2

1:15 p.m.	Industry Panel, Inspiration Salon A Moderator: Eric Dobson, University of Tennessee	PANELISTS Larissa Fenn , Rayonier Advanced Materials, Inc. Jorge Gonzalez , UL Research Institutes Gerry Heebner , Kraton Chemical, LLC. Scott Kuhlman , ReCircled Brewer Logan , Verenovo Corey Tyree , Trillium Renewable Chemicals
2:45 p.m.	BREAK	



SESSION 2 (CONTINUED)

3:15 p.m.	Working Group I: Survey of Current Gaps Inspiration Salon A <i>Moderators: Joe Sagues, North Carolina State University, and Gopinath Munisamy, University of Georgia</i>	Working Group II: Survey of Current Gaps Inspiration Salon CD <i>Moderators: Sam Jackson, HudsonAlpha Institute for Biotechnology, and Haibo Huang, Virginia Tech</i>
4:45 p.m.	Reconvene and Report Out Inspiration Salon A <i>Moderator: Niki Labbé, University of Tennessee</i>	

CLOSE OF DAY 1, 5:30 p.m.

EVENING SESSION

Reception and Poster Session, 6:00 p.m.
Hallway

Dinner, 6:30 p.m.
Inspiration Salon B

Poster Session Continued, 8:00 p.m.



THURSDAY,
SEPTEMBER 4

7:00 a.m. – 8:15 a.m., Breakfast and
Registration Opens, Inspiration Salon B

SESSION 3

	Session 3A MODELING APPLICATIONS IN CBS Inspiration Salon A <i>Moderator: Joe Sagues, North Carolina State University</i>	Session 3B SUSTAINABLE MANUFACTURING: INDUSTRY CHALLENGES AND COLLABORATIVE SOLUTIONS Inspiration Salon CD <i>Moderator: Gary Thompson, agInnovation South</i>
8:30 a.m.	BioSTEAM and the Prioritization of Research, Development, and Deployment Pathways for the Conversion of Plants to Products Jeremy Guest , <i>University of Illinois Urbana-Champaign</i>	Assessing the Biodegradation and Compostability of Flexible Packaging: Collaborations between the New Materials Institute and the Industry Supply Chain Jason Locklin , <i>University of Georgia</i>
8:50 a.m.	TEA-driven Design for Sustainable Food Systems Minliang Yang , <i>North Carolina State University</i>	Extracting Value for Biomass Art Ragauskas , <i>University of Tennessee</i>
9:10 a.m.	National Strategies to Advance the Bioeconomy for Multiple Markets Matt Langholtz , <i>Oak Ridge National Laboratory</i>	Sustainable Biological Solutions in Corn Biorefining Bernardo Vidal , <i>Novonosis</i>

SESSION 3 (CONTINUED)

9:30 a.m.	Quantifying Atmospheric Carbon Removal at Pulp and Paper Mills: A Life Cycle Assessment Across System Boundaries Joe Sagues , <i>North Carolina State University</i>	Biobased Polymer Assemblies and Their Contribution to Mitigating Significant Environmental Challenges Soledad Peresin , <i>Clemson University</i>
9:50 a.m.	Integrating Experimental Insights into Process Models for Circular Bioeconomy System Analysis Juliana Vasco-Correa , <i>Penn State University</i>	Bridging the Circularity Gap: A Conceptual Framework for the Biological Cycle of the Circular Economy Claudia Pabón Pereira , <i>Pontificia Universidad</i>
BREAK, 10:10 a.m.		

SESSION 4

	Session 4A NETWORKING FOR INNOVATION: COLLABORATION OPPORTUNITIES IN CBS Inspiration Salon A <i>Moderator: Gopinath Munisamy, University of Georgia</i>	Session 4B BUILDING THE FUTURE: EDUCATION & WORKFORCE DEVELOPMENT Inspiration Salon CD <i>Moderator: Sam Jackson, HudsonAlpha Institute for Biotechnology</i>
10:40 a.m.	Building a National, Multidisciplinary Effort for Circular Bioeconomy Systems Erin Webb , <i>Oak Ridge National Laboratory</i>	Seeding the Future Bioeconomy: Building the STEM Workforce Through HudsonAlpha Educational Outreach Michele Morris , <i>HudsonAlpha Institute for Biotechnology</i>
11:00 a.m.	UGA CBS Initiative and Opportunities in the Southeast Gopinath Munisamy , <i>University of Georgia</i>	The Tennessee Board of Regents' IDEAL Workforce Model: Aligning Higher Education with Emerging Industry Sectors Zachary Adams , <i>Tennessee Board of Regents</i>
11:20 a.m.	Utilizing Preprocessing to Manage the Variability of Emerging Biomass and Waste Materials for the Bioeconomy Lynn Wendt , <i>Idaho National Laboratory</i>	Partnering for Progress: How the Alabama Community College System Powers Workforce Development Through Industry Collaboration Veronica Morin , <i>Alabama Community College System</i>
11:40 a.m.	Advancing Interdisciplinary Research in the Circular Bioeconomy Kirsten Allen , <i>Schmidt Sciences</i>	Empowering Talent: Workforce Solutions for the Bioscience Industry Kevin Taylor , <i>Alabama Industrial Development Training</i>

NETWORKING LUNCH, 12:00 p.m.
Inspiration Salon B

SESSION 5

1:15 p.m.	Research Strategies and Partnerships and Regional Industry Commitments for Deployment of CBS Programs, Inspiration Salon A Moderator: Brahm Verma, University of Georgia	PANELISTS Kirsten Allen , <i>Schmidt Sciences</i> Brad Day , <i>University of Tennessee</i> Stephanie Herbstritt , <i>Clean Air Task Force</i> Sarah Sullivan , <i>Kraton Chemical, LLC</i> Gary Thompson , <i>agInnovation South</i>
3:00 p.m.	Reconvene and Report Out Inspiration Salon A <i>Moderator: Gary Thompson, agInnovation and Tim Rials, University of Tennessee</i>	
CLOSE OF MEETING, 4:00 p.m.		

ORGANIZING COMMITTEE

Haibo Huang
Virginia Tech

Sam Jackson
HudsonAlpha

Niki Labbé
University of Tennessee

Gopinath Munisamy
University of Georgia

Tim Rials
University of Tennessee

Joe Sagues
North Carolina
State University

Gary Thompson
agInnovation South





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Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development. University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and County governments cooperating. UT Extension provides equal opportunities in programs and employment.