

2021 PROJECT PEER REVIEW

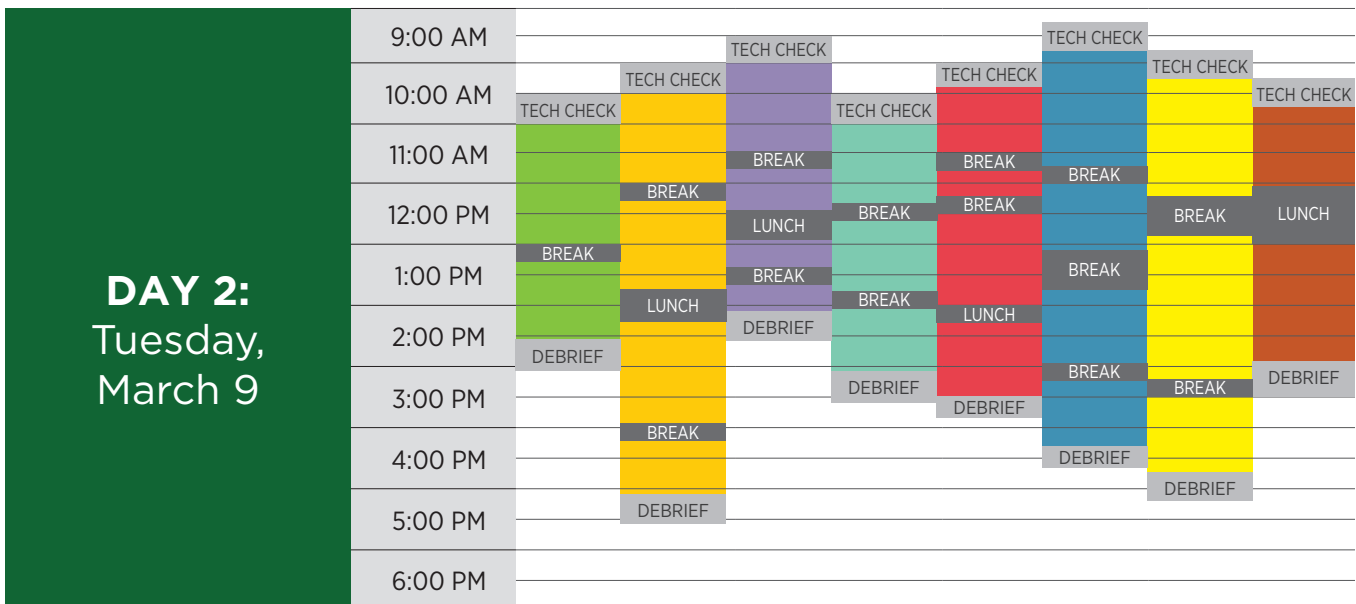
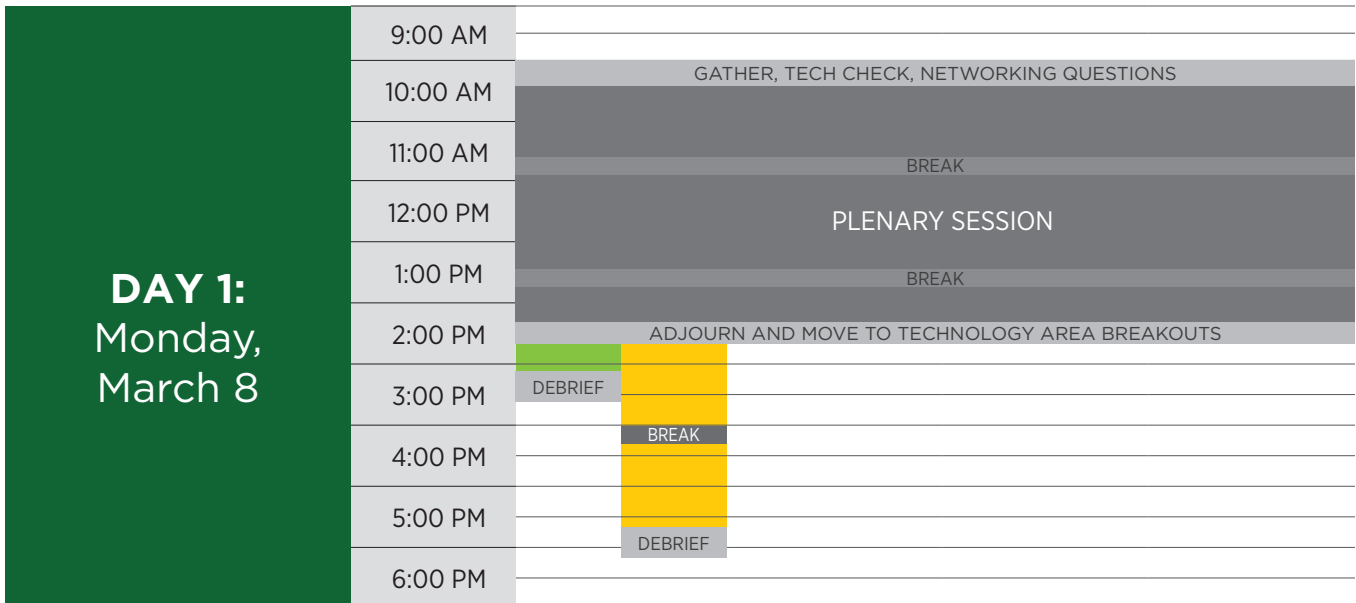
U.S. DEPARTMENT OF ENERGY
BIOENERGY TECHNOLOGIES OFFICE

OPENING PLENARY AND AREA REVIEW AGENDAS

Day 1 - MONDAY, MARCH 8, 2021				
Start Time EST	End Time EST	PRESENTATION	ORG	SPEAKER
10:00 AM	10:20 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:20 AM	10:40 AM	DOE, EERE, and Transportation Sector Overview and Administration Priorities	EERE	Michael Berube Acting Deputy Assistant Secretary for Sustainable Transportation
10:40 AM	10:50 AM	Peer Review Introduction	BETO	Daniel Fishman Peer Review Lead
10:50 AM	11:10 AM	BETO Overview	BETO	Valerie Reed Acting Director
11:10 AM	11:25 AM	Data, Modeling and Analysis Overview	BETO	Jay Fitzgerald Chief Scientist
11:25 AM	11:40 AM	Feedstock Technologies Overview	BETO	Nichole Fitzgerald Program Manager
11:40 AM	11:50 AM	BREAK		
11:50 AM	12:05 PM	Advanced Algal Systems Program Overview	BETO	Nichole Fitzgerald Program Manager
12:05 PM	12:35 PM	Conversion Technologies Overview	BETO	Kevin Craig Program Manager
12:35 PM	12:55 PM	Systems Development and Integration Overview	BETO	Jim Spaeth Program Manager
12:55 PM	1:15 PM	Q&A with Reviewers		All
1:15 PM	1:25 PM	BREAK		
1:25 PM	1:35 PM	Opportunities for Biofuels to De-Carbonize Aviation and Marine Markets	BETO	Zia Haq Initiative Lead
1:35 PM	1:50 PM	Plastics Special Topic	BETO	Gayle Bentley Initiative Lead
1:50 PM	2:05 PM	Carbon Utilization Special Topic	BETO	Ian Rowe CO2 Lab Call Lead
2:05 PM	2:15 PM	Conclusion of Plenary		Daniel Fishman Peer Review Lead
2:15 PM	2:20 PM	ADJOURN AND MOVE TO TECHNOLOGY AREA BREAKOUTS		

AGENDA AT A GLANCE - DAY 1 / DAY 2

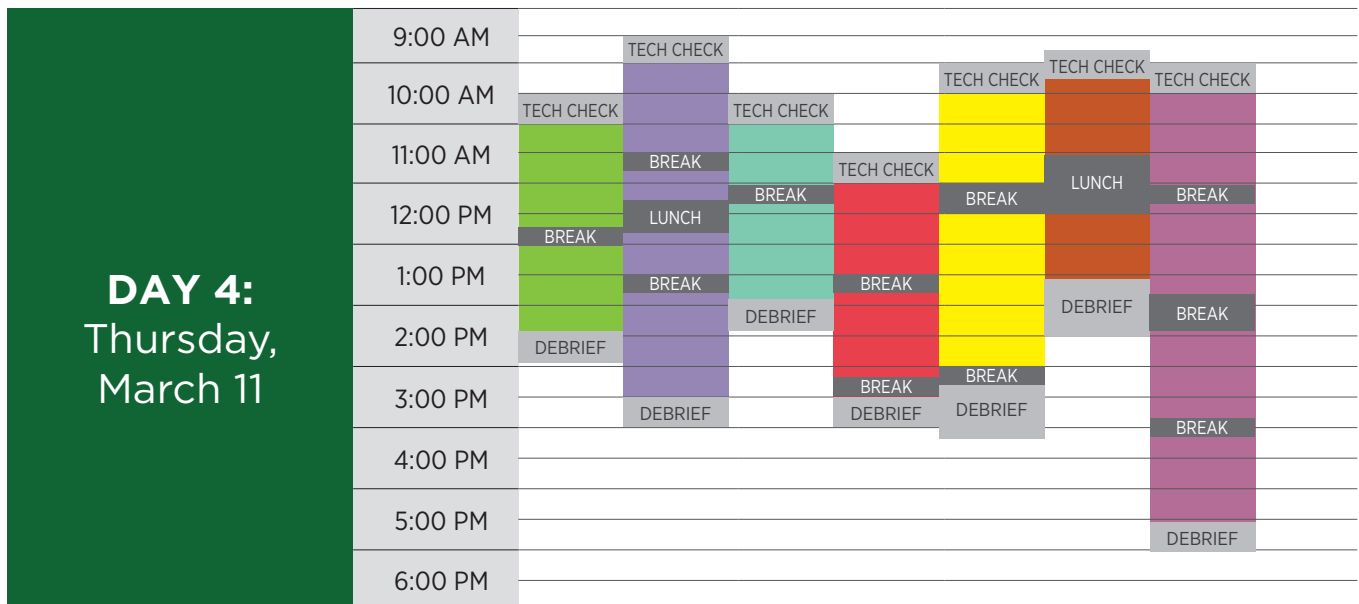
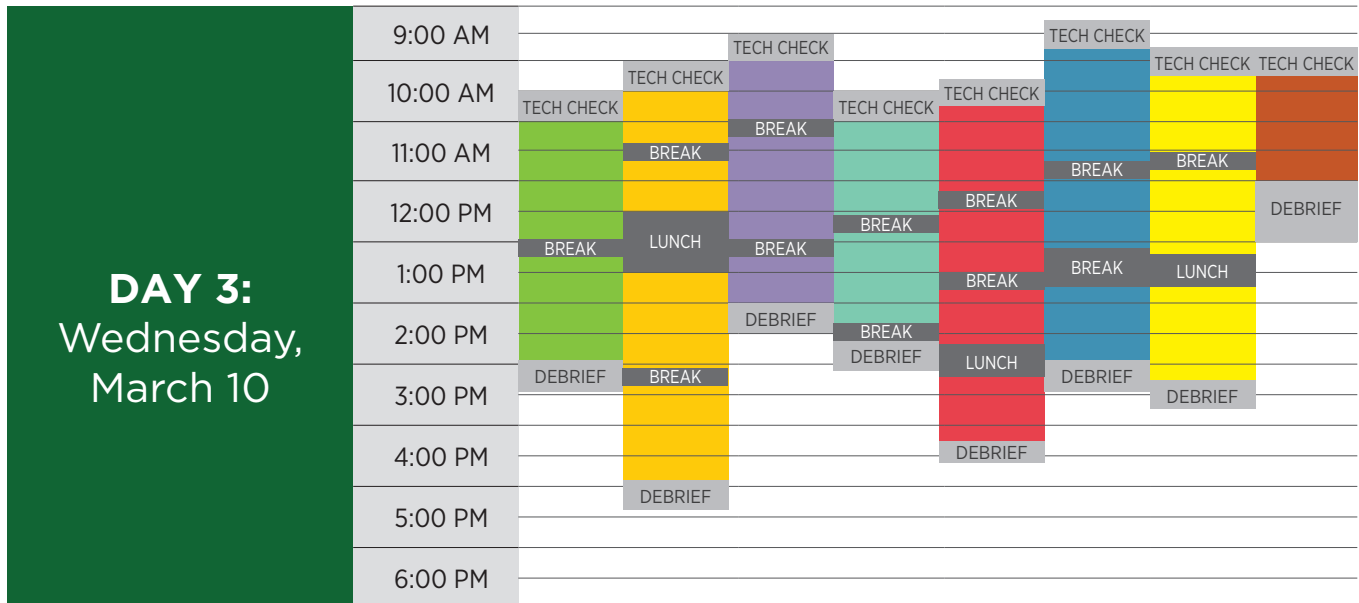
All times are Eastern Standard Time



- PLENARY SESSIONS
- DATA, MODELING, AND ANALYSIS
- AGILE BIOFOUNDRY CONSORTIUM
- ADVANCED ALGAL SYSTEMS
- PERFORMANCE-ADVANTAGED BIOPRODUCTS, BIOPROCESSING SEPARATIONS, AND PLASTICS
- FEEDSTOCK TECHNOLOGIES
- BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION
- ORGANIC WASTE
- CATALYTIC UPGRADING

AGENDA AT A GLANCE - DAY 3 / DAY 4

All times are Eastern Standard Time



● ADVANCED ALGAL SYSTEMS

● DATA, MODELING, AND ANALYSIS

● AGILE BIOFOUNDRY CONSORTIUM

● BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION

● PERFORMANCE-ADVANTAGED BIOPRODUCTS, BIOPROCESSING SEPARATIONS, AND PLASTICS

● FEEDSTOCK TECHNOLOGIES

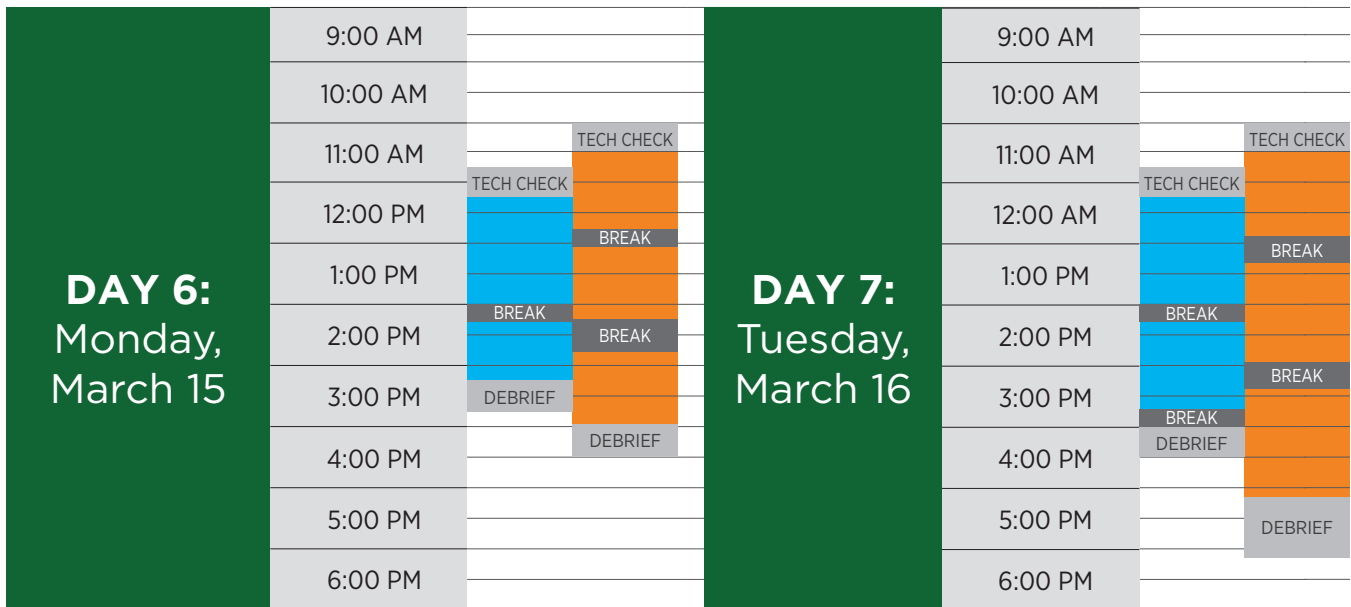
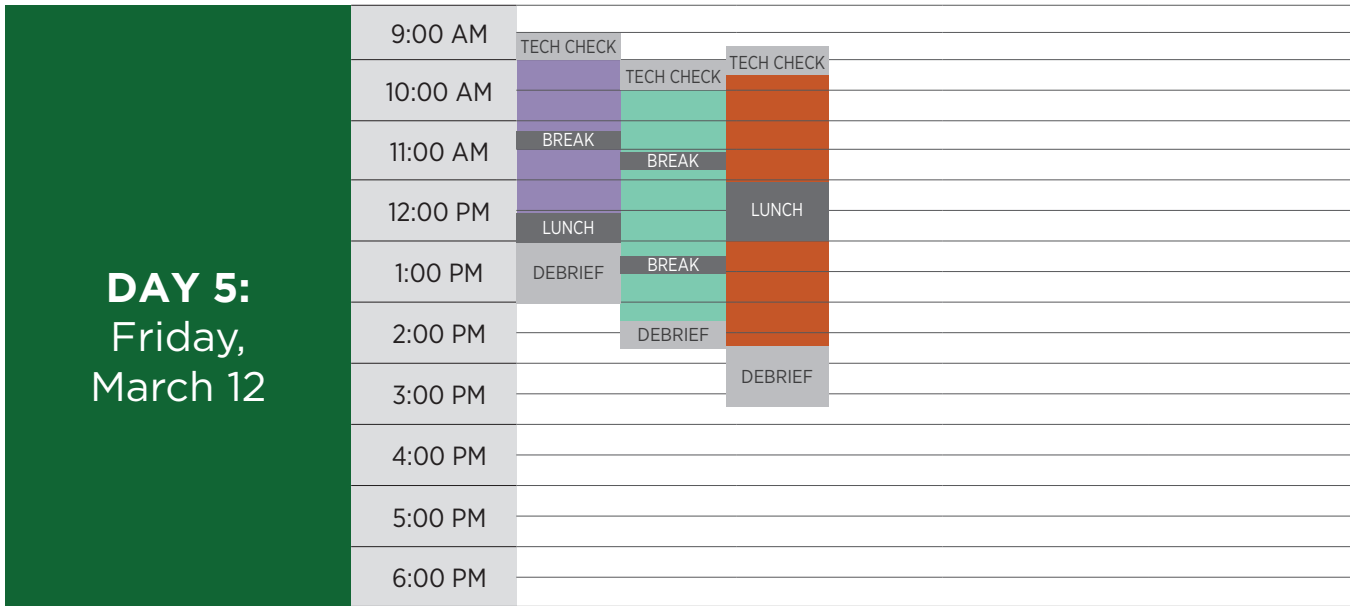
● CATALYTIC UPGRADING

● ORGANIC WASTE

● CO₂ UTILIZATION

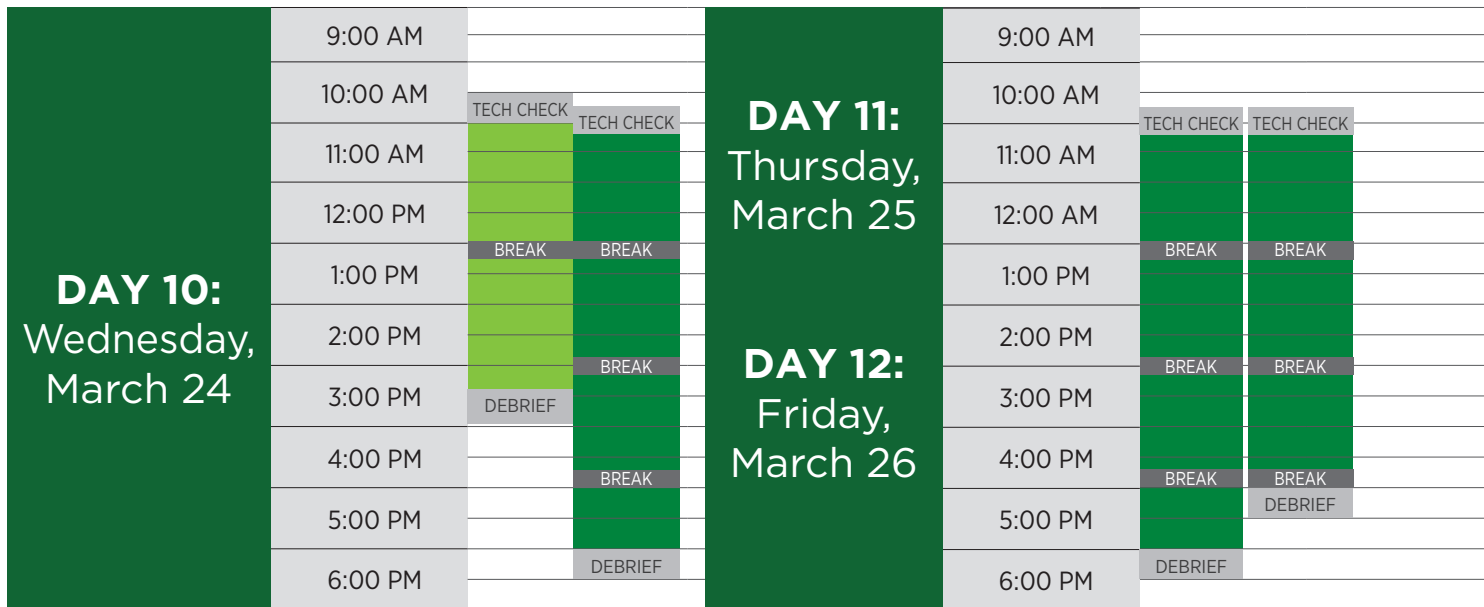
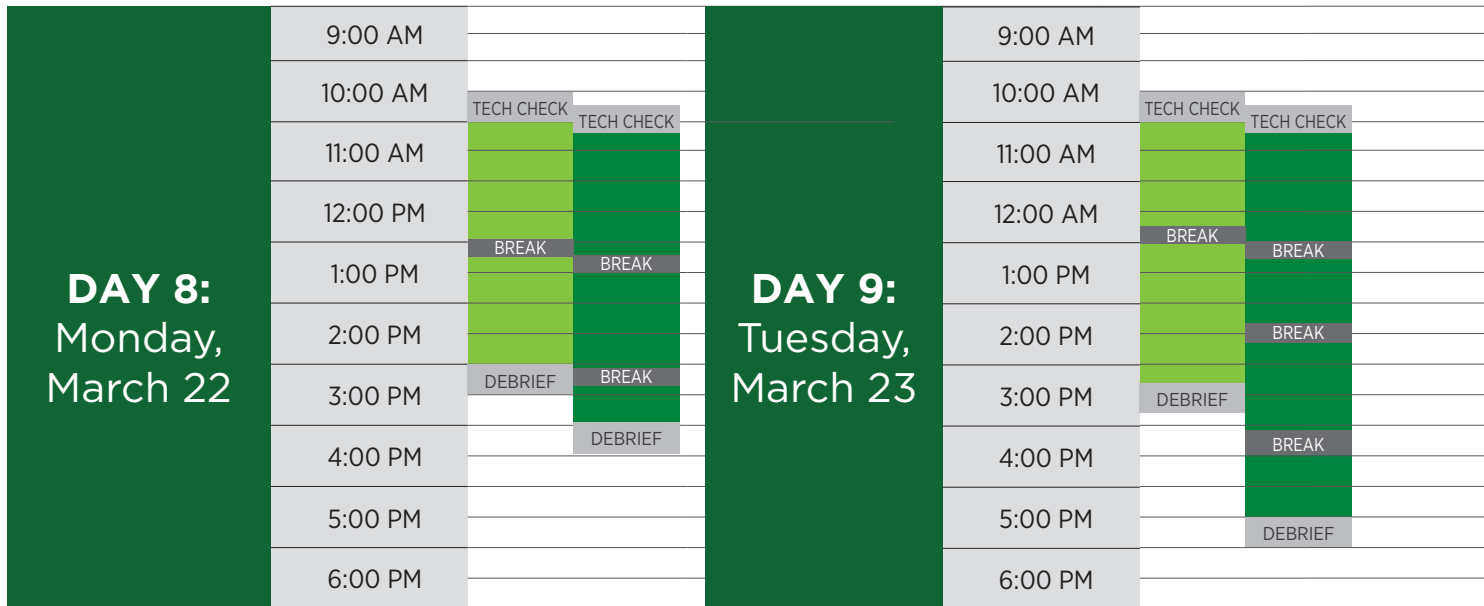
AGENDA AT A GLANCE - DAY 5 / DAY 6 / DAY 7

All times are Eastern Standard Time



AGENDA AT A GLANCE - DAY 8 / DAY 9 / DAY 10 / DAY 11 / DAY 12

All times are Eastern Standard Time



- ADVANCED ALGAL SYSTEMS
- SYSTEMS DEVELOPMENT AND INTEGRATION

OPENING PLENARY EVENT

Day 1 – MONDAY, MARCH 8, 2021

Start Time EST	End Time EST	PRESENTATION	ORG	SPEAKER
10:00 AM	10:20 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:20 AM	10:40 AM	DOE, EERE, and Transportation Sector Overview and Administration Priorities	EERE	Michael Berube Acting Deputy Assistant Secretary for Sustainable Transportation
10:40 AM	10:50 AM	Peer Review Introduction	BETO	Daniel Fishman Peer Review Lead
10:50 AM	11:10 AM	BETO Overview	BETO	Valerie Reed Acting Director
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11:25 AM	11:40 AM	Feedstock Technologies Overview	BETO	Nichole Fitzgerald Program Manager
11:40 AM	11:50 AM	BREAK		
11:50 AM	12:05 PM	Advanced Algal Systems Program Overview	BETO	Nichole Fitzgerald Program Manager
12:05 PM	12:35 PM	Conversion Technologies Overview	BETO	Kevin Craig Program Manager
12:35 PM	12:55 PM	Systems Development and Integration Overview	BETO	Jim Spaeth Program Manager
12:55 PM	1:15 PM	Q&A with Reviewers		All
1:15 PM	1:25 PM	BREAK		
1:25 PM	1:35 PM	Opportunities for Biofuels to De-Carbonize Aviation and Marine Markets	BETO	Zia Haq Initiative Lead
1:35 PM	1:50 PM	Plastics Special Topic	BETO	Gayle Bentley Initiative Lead
1:50 PM	2:05 PM	Carbon Utilization Special Topic	BETO	Ian Rowe CO2 Lab Call Lead
2:05 PM	2:15 PM	Conclusion of Plenary		Daniel Fishman Peer Review Lead
2:15 PM	2:20 PM	ADJOURN AND MOVE TO TECHNOLOGY AREA BREAKOUTS		

TECHNOLOGY AREA REVIEW SESSION AGENDAS

Day 1 – MONDAY, MARCH 8, 2021

Start Time EST	End Time EST	ADVANCED ALGAL SYSTEMS		
		Presentation	Organization	Presenter
2:20 PM	2:50 PM	Introduction to Advanced Algal Systems	BETO	Christy Sterner
2:50 PM	3:05 PM	Independent Verifications of Algae Projects	NREL	John Lewis
3:05 PM	3:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	2:35 PM	Advanced Algal Systems	Algae Program	Christy Sterner
11:00 AM	11:15 AM	Session Introduction and Strain Development Overview	BETO	Christy Sterner
11:15 AM	11:40 AM	Functional Characterization of Cellular Metabolism	LANL	Scott Twary
11:40 AM	12:05 PM	REAL HYPE: Respiration Engineering of Algal Losses for High Yields and Productivity Enhancement	SNL	Anne Ruffing
12:05 PM	12:30 PM	IGET: Informatics-based Genetic Tools for Rapid Enhancement of Production Strains	LANL	Blake Hovde
12:30 PM	12:55 PM	Multi-scale Characterization of Improved Algae Strains	LANL	Taraka Dale
12:55 PM	1:15 PM	BREAK		
1:15 PM	2:15 PM	DISCOVER	PNNL, NREL, SNL, LANL, Arizona State University	Michael Huesemann Taraka Dale Todd Lane Lieve Laurens John McGowen
2:15 PM	2:30 PM	DISCOVER Q&A	PNNL, NREL, SNL, LANL, Arizona State University	All
2:30 PM	2:35 PM	Closing	BETO	Christy Sterner
2:35 PM	3:05 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 3 – WEDNESDAY, MARCH 10, 2021

Start Time EST	End Time EST	ADVANCED ALGAL SYSTEMS		
		Presentation	Organization	Presenter
10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	2:55 PM	Advanced Algal Systems	Algae Program	Christy Sterner
11:00 AM	11:05 AM	Session Introduction	BETO	Christy Sterner
11:05 AM	11:30 AM	Algae Biotechnology Partnership	NREL	Mike Guarnieri
11:30 AM	11:55 AM	Genetic Blueprint of Microalgae Carbon Productivity	LBNL & LANL	Igor Grigoriev
11:55 AM	12:20 PM	Algal Translational Genomics	LANL	Shawn Starkenburg
12:20 PM	12:25 PM	Systems Integration Overview	BETO	Christy Sterner
12:25 PM	12:50 PM	Life Cycle Analysis	ANL	Troy Hawkins
12:50 PM	1:10 PM	BREAK		
1:10 PM	1:35 PM	Marine Algae Industrialization Consortium (MAGIC): Combining Biofuels and High-value Bioproducts to Meet RFS	Duke University	Zackary Johnson
1:35 PM	2:00 PM	Rewiring Algal Carbon Energetics for Renewables	NREL	Lieve Laurens
2:00 PM	2:25 PM	Integrated Low Cost and High Yield Microalgal Biofuel Intermediates Production	MicroBio Engineering	John Benemann
2:25 PM	2:50 PM	Algae Cultivation from Flue Gas with High CO ₂ Utilization Efficiency	Global Algae Innovations	Dave Hazlebeck
2:50 PM	2:55 PM	Closing	BETO	Christy Sterner
2:55 PM	3:25 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 4 – THURSDAY, MARCH 11, 2021

10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	2:25 PM	Advanced Algal Systems	Algae Program	Christy Sterner
11:00 AM	11:05 AM	Session introduction	BETO	Christy Sterner
11:05 AM	11:30 AM	Innovations in Algae Cultivations	Global Algae Innovations	Dave Hazlebeck
11:30 AM	11:55 AM	Optimizing Selection Pressures and Pest Management to Maximize Algal Biomass Yield	The New Mexico Consortium	Alina Corcoran
11:55 AM	12:20 PM	Improving the Productivity and Performance of Large-Scale Integrated Algal Systems for Wastewater Treatment and Biofuel Production	University of Illinois	Lance Schideman

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Day 4 – THURSDAY, MARCH 11, 2021 (CON'T)

Start Time EST	End Time EST	ADVANCED ALGAL SYSTEMS		
		Presentation	Organization	Presenter
12:20 PM	12:45 PM	Algal Productivity Enhancements by Rapid Screening and Selection of Improved Biomass and Lipid Producing Phototrophs (APEX)	Colorado School of Mines	Matthew Posewitz
12:45 PM	1:05 PM	BREAK		
1:05 PM	1:30 PM	Decision-Model Supported Algal Cultivation Process Enhancement	Arizona State University	John McGowen
1:30 PM	1:55 PM	Algae Technology Educational Consortium	NREL	Cindy Gerk
1:55 PM	2:20 PM	Microalgae Analysis	PNNL	Mark Wigmosta
2:20 PM	2:25 PM	Closing	BETO	Christy Sterner
2:25 PM	2:55 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 8 – MONDAY, MARCH 22, 2021

10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	3:00 PM	Advanced Algal Systems	Algae Program	Christy Sterner
11:00 AM	11:15 AM	Session introduction and Cultivation System Improvement Overview	BETO	Christy Sterner
11:15 AM	11:40 AM	Success Through Synergy: Increasing Cultivation Yield and Stability with Rationally Designed Consortia.	LANL	Shawn Starkenburg
11:40 AM	12:05 PM	High-Throughput Directed Evolution of Marine Microalgae and Phototrophic Consortia for Improved Biomass Yields	Colorado School of Mines	Matthew Posewitz
12:05 PM	12:30 PM	SOFAST: Streamlined Optimization of Filamentous Arthrospira / Spirulina Traits	Lumen Bioscience	Rachelle Lim
12:30 PM	12:55 PM	Developing Advanced Genetic and Synthetic Biology Tools for Improved Algae Productivity	University of California San Diego	Stephen Mayfield
12:55 PM	1:15 PM	BREAK		
1:15 PM	1:40 PM	Microbiome Engineering of Desmodesmus to Alleviate Carbon Limitation	LLNL	Xavier Mayali
1:40 PM	2:05 PM	A Comprehensive Strategy for Stable, High Productivity Cultivation of Microalgae with Controllable Biomass Composition	University of Toledo	Sridhar Viamajala
2:05 PM	2:30 PM	Prevention of Low Productivity Periods in Large-Scale Microalgae Cultivation	Global Algae Innovations	Aga Pinowska

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Day 8 – MONDAY, MARCH 22, 2021 (CON'T)

Start Time EST	End Time EST	ADVANCED ALGAL SYSTEMS		
		Presentation	Organization	Presenter
2:30 PM	2:55 PM	Protective Bacteria in Algal Ponds - Inducible Protection to Maximize Response	LBNL & LANL	Rhona Stuart
2:55 PM	3:00 PM	Closing	BETO	Christy Sterner
3:00 PM	3:30 PM	Reviewer Wrap Up and Debrief	Reviewers	Advanced Algal Systems Team

Day 9 – TUESDAY, MARCH 23, 2021

10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	3:10 PM	Advanced Algal Systems	Algae Program	Christy Sterner
11:00 AM	11:05 AM	Session Introduction	BETO	Christy Sterner
11:05 AM	11:30 AM	Chytrid Control Advancing Algal Targets (ChytCAAT)	LLNL	Ty Samo
11:30 AM	11:55 AM	Membrane Carbonation for 100% Efficient Delivery of Industrial CO ₂ Gases	Arizona State University	Bruce Rittmann
11:55 AM	12:20 PM	Enhanced Algal Production of Carbonic Anhydrase for Improved Atmospheric Delivery of CO ₂ to Ponds	J. Craig Venter Institute	Andrew E. Allen
12:20 PM	12:45 PM	Carbon Utilization Efficiency in Marine Algae Biofuel Production Systems Through Loss Minimization and Carbonate Chemistry Modification	Duke University	Zackary Johnson
12:45 PM	1:05 PM	BREAK		
1:05 PM	1:30 PM	Integrating an Industrial Source and Commercial Algae Farm with Innovative CO ₂ Transfer Membrane and Improved Strain Technologies	Colorado State University	Ken Reardon
1:30 PM	1:55 PM	Multi-pronged Approach of Improved Biological and Physiological Systems to Improving Carbon Utilization by Cyanobacterial Cultures	Arizona State University	Wim Vermaas
1:55 PM	2:20 PM	Air Carbon for Algae Production - AirCAP	MicroBio Engineering	John Benemann
2:20 PM	2:45 PM	Direct Air Capture of CO ₂ and Delivery to Photobioreactors for Algal Biofuel Production	Georgia Institute of Technology	Christopher W. Jones
2:45 PM	3:10 PM	Attached Periphytic Algal Production and Analysis	SNL	Ryan W. Davis
3:10 PM	3:15 PM	Closing	BETO	Christy Sterner
3:20 PM	3:50 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 10 – WEDNESDAY MARCH 24, 2021

Start Time EST	End Time EST	ADVANCED ALGAL SYSTEMS		
		Presentation	Organization	Presenter
10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	3:25 PM	Advanced Algal Systems	<i>Algae Program</i>	<i>Christy Sterner</i>
11:00 AM	11:05 AM	Session Introduction	<i>BETO</i>	<i>Christy Sterner</i>
11:05 AM	11:30 AM	Algal Biomass Composition	<i>NREL</i>	<i>Lieve Laurens</i>
11:30 AM	11:55 AM	LEAF: Leveraging Algae Traits for Fuels	<i>SNL</i>	<i>Amanda Barry</i>
11:55 AM	12:00 PM	Logistics Research and Development Overview	<i>BETO</i>	<i>Christy Sterner</i>
12:00 PM	12:25 PM	Algal Feedstocks Logistics and Handling	<i>INL</i>	<i>Brad Wahlen</i>
12:25 PM	12:30 PM	Conversion Interface Overview	<i>BETO</i>	<i>Christy Sterner</i>
12:30 PM	12:55 PM	Cyanobacteria Photosynthetic Energy Platform	<i>NREL</i>	<i>Jianping Yu</i>
12:55 PM	1:15 PM	BREAK		
1:15 PM	1:40 PM	Thermochemical Interface	<i>PNNL</i>	<i>Dan Anderson</i>
1:40 PM	2:05 PM	HTL Model Development	<i>PNNL</i>	<i>Lesley Snowden-Swan</i>
2:05 PM	2:30 PM	Algal Biofuels Techno-economic Analysis	<i>NREL</i>	<i>Ryan Davis</i>
2:30 PM	2:55 PM	Bioconversion of Algal Carbohydrates and Proteins to Fuels	<i>SNL</i>	<i>Ryan W. Davis</i>
2:55 PM	3:20 PM	CAP Process Research	<i>NREL</i>	<i>Jacob Kruger</i>
3:20 PM	3:25 PM	Closing	<i>BETO</i>	<i>Christy Sterner</i>
3:25 PM	3:55 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

Day 1 – MONDAY, MARCH 8, 2021

Start Time EST	End Time EST	BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION		
		Presentation	Organization	Presenter
2:20 PM	2:30 PM	Intro to Biochemical Conversion Portfolio	BETO	Ian Rowe
2:30 PM	3:00 PM	Biochemical Platform Analysis	NREL	Ryan Davis
3:00 PM	3:30 PM	Low Temperature Advanced Deconstruction	NREL	Xiaowen Chen
3:30 PM	4:00 PM	Enzyme Engineering and Optimization	NREL	Mike Himmel
4:00 PM	4:10 PM	BREAK		
4:10 PM	4:40 PM	Continuous Enzymatic Hydrolysis Development	NREL	Jim McMillan
4:40 PM	5:10 PM	Biological Upgrading of Sugars	NREL	Jeff Linger
5:10 PM	5:40 PM	Biological Conversion of Thermochemical Aqueous Streams	NREL	Gregg Beckham
5:40 PM	6:10 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

10:00 AM	10:30 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:30 AM	5:10 PM	Biochemical Conversion & Lignin Utilization	<i>Conversion Program</i>	<i>Ian Rowe</i>
10:30 AM	11:00 AM	Targeted Microbial Development	NREL	Min Zhang
11:00 AM	11:30 AM	Bench Scale Integration	NREL	Nancy Dowe
11:30 AM	12:00 PM	Biochemical Process Modeling and Simulation	NREL	Yannick Bomble
12:00 PM	12:15 PM	BREAK		
12:15 PM	12:45 PM	Analytical Development and Support	NREL	Justin Sluiter
12:45 PM	1:15 PM	Cell Free & Immobilization Technologies (CFIT)	NREL	Yannick Bomble
1:15 PM	1:45 PM	Gas phase selective partial oxidation of lignin for co-products	NREL	Matthew Yung
1:45 PM	2:45 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		
2:45 PM	2:55 PM	Introduction to Lignin portfolio	BETO	Ian Rowe
2:55 PM	3:25 PM	Synthetic Metabolic Pathways for Bio-conversion of Lignin Derivatives to Biofuels	ORNL	Adam Guss
3:25 PM	3:55 PM	Lignin Utilization	NREL	Gregg Beckham
3:55 PM	4:10 PM	BREAK		
4:10 PM	4:40 PM	Lignin First Biorefinery Development	NREL	Gregg Beckham
4:40 PM	5:10 PM	Biological Lignin Valorization	NREL	Davinia Salvachua
5:10 PM	5:40 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 3 – WEDNESDAY, MARCH 10, 2021

		BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION		
Start Time EST	End Time EST	Presentation	Organization	Presenter
10:00 AM	10:30 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:30 AM	4:50 PM	Biochemical Conversion & Lignin Utilization	Conversion Program	Ian Rowe
10:30 AM	10:40 AM	Intro to competitive projects	BETO	Technology Area POC
10:40 AM	11:10 AM	Improving tolerance of yeast to lignocellulose-derived feedstocks and products	Massachusetts Institute of Technology	Dr. Greg Stephanopoulos
11:10 AM	11:20 AM	Engineered reversal of the β -oxidation cycle in clostridia for the synthesis of fuels and chemicals	Northwestern University	Micheal Jewett
11:20 AM	11:35 AM	BREAK		
11:35 AM	12:05 PM	Alkaline-Oxidative Pretreatment of Woody Biomass for Optimal Co-Product	Michigan State University	Eric Hegg
12:05 PM	12:35 PM	Process Intensification for the Reduced Commercial CAPEX of Biofuels Production (PRICE CAP) Using Dynamic Metabolic Control	Duke University	Michael Lynch
12:35 PM	1:35 PM	LUNCH		
1:35 PM	2:05 PM	Biodiesel and higher value products from stillage fiber	Xylome Corporation	Thomas Jeffries
2:05 PM	2:35 PM	A Two-Chamber Growth and Production System for Robust Continuous Bioprocessing	Pow Genetic Solutions, Inc.	Ouwei Wang
2:35 PM	3:05 PM	Towards Economical Cell-free Isobutanol Production	Invizyne Technologies, Inc	Tyler Korman
3:05 PM	3:20 PM	BREAK		
3:20 PM	3:50 PM	SPERLU Selective Process for Efficient Removal of Lignin and Upgrading	Spero Energy, Inc.	Ian Klein
3:50 PM	4:20 PM	Lignin Fractionation and Valorization: Focusing on both Value and Quality	Clemson University	Mark Thies
4:20 PM	4:50 PM	Upgrading Lignin-containing Biorefinery Residues for Bioplastics	Texas A&M	Joshua Yuan
4:50 PM	5:20 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

Start Time EST	End Time EST	CATALYTIC UPGRADING		
		Presentation	Organization	Presenter
9:30 AM	10:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:00 AM	2:10 PM	Catalytic Upgrading	Conversion Program	Trevor Smith and Sonia Hammache
10:00 AM	10:30 AM	Catalytic Upgrading Technology Area Introduction	BETO	Trevor Smith and Sonia Hammache
10:30 AM	11:00 AM	Overview of Chemical Catalysis for Bioenergy Consortium	NREL	Josh Schaidle
11:00 AM	11:35 AM	ChemCatBio Data Hub	NREL	Kurt Van Allsburg
11:35 AM	11:45 AM	BREAK		
11:45 AM	12:20 PM	Thermochemical Platform Analysis	NREL	Abhijit Dutta
12:20 PM	12:50 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		
12:50 PM	1:25 PM	Upgrading of C1 Building Blocks	NREL	Dan Ruddy
1:25 PM	1:35 PM	BREAK		
1:35 PM	2:10 PM	Catalytic Upgrading of Pyrolysis Products	NREL	Michael Griffin
2:10 PM	2:40 PM	Comment Review/Daily Debrief	Reviewers	

Day 3 – WEDNESDAYS, MARCH 10, 2021

9:30 AM	10:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:00 AM	2:00 PM	Catalytic Upgrading	Conversion Program	Trevor Smith and Sonia Hammache
10:00 AM	11:05 AM	Catalytic Upgrading of Biochemical Intermediates	NREL/PNNL/ORNL/LANL	Richard Elander - NREL
11:05 AM	11:10 AM	BREAK		
11:10 AM	11:50 AM	Upgrading of C2 Intermediates	PNNL	Rob Dagle
11:50 AM	12:25 PM	Liquid Fuels via Upgrading of Indirect Liquefaction Intermediates	ORNL	Zhenglong Li
12:25 PM	12:55 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		
12:55 PM	1:15 PM	Electrocatalytic CO ₂ Utilization	NREL	Jack Ferrell
1:15 PM	1:25 PM	BREAK		
1:25 PM	2:00 PM	Catalyst Deactivation Mitigation for Biomass Conversion	PNNL	Huamin Wang
2:00 PM	2:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 4 - THURSDAY, MARCH 11, 2021

		CATALYTIC UPGRADING		
Start Time EST	End Time EST	Presentation	Organization	Presenter
9:30 AM	10:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:00 AM	3:25 PM	Catalytic Upgrading	<i>Conversion Program</i>	<i>Trevor Smith and Sonia Hammache</i>
10:00 AM	10:50 AM	Consortium for Computational Physics and Chemistry	ORNL/NREL/PNNL/ANL/NETL	Jim Parks II - ORNL
10:50 AM	11:35 AM	Advanced Catalyst Synthesis and Characterization	NREL/ANL/ORNL	Susan Habas - NREL
11:35 AM	11:45 AM	BREAK		
11:45 AM	12:20 PM	Analytical Development and Standardization for Biomass-derived Thermochemical Liquids	NREL	Jack Ferrell
12:20 PM	12:50 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		
12:50 PM	12:55 PM	Directed Funding Awards Introduction	BETO	Sonia Hammache
12:55 PM	1:30 PM	Low Pressure Hydrogenolysis Catalysts for Bioproduct Upgrading w/Visolis	PNNL/Visolis	Karthi Ramasamy - PNNL
1:30 PM	1:40 PM	BREAK		
1:40 PM	2:15 PM	Catalytic Process Intensification of Bio-Renewable Surfactants Platform w/Sironix	LANL/Sironix	Cameron Moore - LANL
2:15 PM	2:50 PM	Catalyst Development for Selective Electrochemical Reduction of CO2 to High-value Chemical Precursors w/Opus-12	NREL/Opus-12	Frederick Baddour - NREL
2:50 PM	3:25 PM	Enabling Complex Biomass Feedstock for Biopower Combustion and Autothermal Pyrolysis	ORNL/NREL/NETL	Jim Parks II - ORNL
3:25 PM	3:55 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

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Day 5 – FRIDAY, MARCH 12, 2021				
Start Time EST	End Time EST	CATALYTIC UPGRADING		
		Presentation	Organization	Presenter
9:30 AM	10:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:00 AM	12:35 PM	Catalytic Upgrading	Conversion Program	Trevor Smith and Sonia Hammache
10:00 AM	10:05 AM	Introduction to Catalytic Upgrading Projects from FOAs	BETO	Trevor Smith
10:05 AM	10:40 AM	Biomass Gasification for Chemicals Production Using Chemical Looping Techniques	The Ohio State University	Andrew Tong
10:40 AM	11:15 AM	Intensified Biogas Conversion to Value-Added Fuels and Chemicals	University of South Florida	John Kuhn
11:15 AM	11:25 AM	BREAK		
11:25 AM	12:00 PM	Condensed Phase Catalysis Technology for Fuels and Carbon Products	University of Tennessee - Knoxville	David Harper
12:00 PM	12:35 PM	Catalytic Upgrading of Carbohydrates in Waste Streams to Hydrocarbons	North Carolina State University	Sunky Park
12:35 PM	1:05 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		
1:05 PM	2:05 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

Start Time EST	End Time EST	DATA, MODELING, AND ANALYSIS		
		Presentation	Organization	Presenter
10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	3:05 AM	Data, Modeling, And Analysis	Analysis Program	Alicia Lindauer
11:00 AM	11:15 AM	Data, Modeling and Analysis Session Intro	BETO	Alicia Lindauer
11:15 AM	11:35 PM	Analysis and Sustainability Interface (unscored)	PNNL	Aye Meyer
11:35 PM	12:20 PM	Strategic Analysis Support	NREL	Ling Tao
12:20 PM	12:35 PM	BREAK		
12:35 PM	1:20 PM	GREET Deployment and Biofuel Pathway Research and Analysis	ANL	Michael Wang
1:20 PM	1:50 PM	Analysis of the Bioeconomy for Carbon Drawdown	LLNL	AJ Simon
1:50 PM	2:05 PM	BREAK		
2:05 PM	2:35 PM	GCAM Bioenergy and Land Use Modeling and Directed R&D	PNNL	Marshall Wise
2:35 PM	3:05 PM	Bioeconomy Scenario Analysis and Modeling	NREL	Emily Newes
3:05 PM	3:35 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 3 – WEDNESDAY, MARCH 10, 2021

10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	2:20 PM	Data, Modeling, And Analysis	Analysis Program	Alicia Lindauer
11:00 AM	11:05 AM	Technology Area Daily Intro	BETO	Alicia Lindauer
11:05 AM	11:35 AM	Enabling Sustainable Landscape Design for Continual Improvement of Operating Bioenergy Supply Systems	Antares Group Inc	Kevin Comer
11:35 AM	12:05 PM	Integrated Landscape Management	INL	Mike Griffel
12:05 PM	12:35 PM	Scaling Up the Ecosystem Services of Bioenergy Landscapes	ANL	Cristina Negri
12:35 PM	12:50 PM	BREAK		
12:50 PM	1:20 PM	Sustainable Biomass through Forest Restoration	PNNL	Mark Wigmosta
1:20 PM	1:50 PM	Ecosystem Service Portfolios of Agricultural and Forestry Biomass Production	ORNL	Yetta Jager
1:50 PM	2:20 PM	Attribution Analyses & Inter-Agency Collaboration	ORNL	Keith Kline
2:20 PM	2:35 PM	BREAK/ADJOURN		
2:35 PM	3:05 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 4 – THURSDAY, MARCH 11, 2021

Start Time EST	End Time EST	DATA, MODELING, AND ANALYSIS		
		Presentation	Organization	Presenter
10:30 AM	11:00 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	1:50 PM	Data, Modeling, And Analysis	<i>Analysis Program</i>	<i>Alicia Lindauer</i>
11:00 AM	11:05 AM	Technology Area Daily Intro	<i>BETO</i>	<i>Alicia Lindauer</i>
11:05 AM	11:35 AM	Integrated Life Cycle Sustainability Analysis	<i>NREL</i>	<i>Patrick Lamers</i>
11:35 AM	12:05 PM	Quantifying and Visualizing Progress Towards Sustainability	<i>ORNL</i>	<i>Esther Parish</i>
12:05 PM	12:20 PM	BREAK		
12:20 PM	12:50 PM	Water Resource Management for Bioenergy and Bioproducts	<i>ANL</i>	<i>May Wu</i>
12:50 PM	1:20 PM	Biofuel Air Emissions Analysis	<i>NREL</i>	<i>Danny Inman</i>
1:20 PM	1:50 PM	Spatially Resolved Measurements of Water Quality Indicators within a Bioenergy Landscape	<i>ORNL</i>	<i>Natalie Griffiths</i>
1:50 PM	2:20 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

Day 5 – FRIDAY, MARCH 12, 2021

10:00 AM	10:30 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:30 AM	2:15 PM	Data, Modeling, And Analysis	<i>Analysis Program</i>	<i>Alicia Lindauer</i>
10:30 AM	10:35 AM	Technology Area Daily Intro	<i>BETO</i>	<i>Alicia Lindauer</i>
10:35 AM	11:05 AM	Biofuels Information Center	<i>NREL</i>	<i>Kristi Moriarty</i>
11:05 AM	11:35 AM	Biofuels National Strategic Benefits Analysis	<i>ORNL</i>	<i>Rocío Uría-Martínez</i>
11:35 AM	11:50 AM	BREAK		
11:50 AM	12:20 PM	Biobased and Biobenign, an Environmental Reference Framework for Product Design: RIPE	<i>ANL</i>	<i>Margaret MacDonell</i>
12:20 PM	12:50 PM	Agent-based Modeling for the Multi-objective Optimization of Energy Production Pathways: Integrated Techno-economics and Life Cycle Assessment	<i>Colorado State University</i>	<i>Jason Quinn</i>
12:50 PM	1:20 PM	Multi-Input, Multi-Output Biorefineries to Reduce Greenhouse Gas and Air Pollutant Emissions	<i>UC Berkeley</i>	<i>Corinne Scown</i>
1:20 PM	1:35 PM	BREAK		
1:35 PM	1:55 PM	Accelerating Bioenergy Technology Advancement Through FAIR Data Delivery	<i>ORNL</i>	<i>Bruce Wilson</i>
1:55 PM	2:15 PM	Bioenergy Knowledge Discovery Framework	<i>ORNL</i>	<i>Aaron Myers</i>
2:15 PM	2:45 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

Day 2 – TUESDAY, MARCH 9, 2021

Start Time EST	End Time EST	PERFORMANCE-ADVANTAGED BIOPRODUCTS, BIOPROCESSING SEPARATIONS, AND PLASTICS		
		Presentation	Organization	Presenter
10:00 AM	10:20 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:20 AM	3:30 PM	Performance-Advantaged Bioproducts, Bioprocessing Separations, And Plastics	Conversion Program	Gayle Bentley
10:20 AM	10:30 AM	Plastics - Session Overview	BETO	Gayle Bentley
10:30 AM	11:30 AM	Bio-Optimized Technologies to keep Thermoplastics out of Landfills and the Environment (BOTTLE)	Various	Gregg Beckham
11:30 AM	11:45 AM	Q&A / BREAK		
11:45 AM	12:45 PM	Bio-Optimized Technologies to keep Thermoplastics out of Landfills and the Environment (BOTTLE)	Various	Gregg Beckham
12:45 PM	12:55 PM	BREAK		
12:55 PM	1:00 PM	BOTTLE Consortia vs FOAs	BETO	Gayle Bentley
1:00 PM	1:30 PM	Bioconversion of Heterogeneous Polyester Wastes to High Value Chemical Products	University of Massachusetts-Lowell	Margaret Sobkowicz-Kline
1:30 PM	2:00 PM	ResIn: Responsible Innovation for Highly Recyclable Plastics	Northwestern University	Linda Broadbelt
2:00 PM	2:30 PM	LUNCH		
2:30 PM	3:00 PM	Recyclable Thermoset Polymers from Lignin Derived Phenols	Spero Renewables, LLC	Ian Klein
3:00 PM	3:30 PM	Upcycling of CFRP Waste: Viable Eco-friendly Chemical Recycling and Manufacturing of Novel Repairable and Recyclable Composites	Washington State University	Jinwen Zhang
3:30 PM	3:45 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 3 – WEDNESDAY, MARCH 10, 2021

10:15 AM	10:35 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:35 AM	4:15 PM	Performance-Advantaged Bioproducts, Bioprocessing Separations, And Plastics	Conversion Program	Gayle Bentley
10:35 AM	10:45 AM	PABP - Session Overview	BETO	Gayle Bentley
10:45 AM	11:15 AM	Renewable Carbon Fibers Consortium	NREL	Adam Bratis
11:15 AM	11:45 AM	Melt-stable engineered lignin thermoplastic: a printable resin	ORNL	Amit Naskar
11:45 AM	12:15 PM	Bio-Insecticides from Thermochemical Biomass Conversion	NREL	Nolan Wilson
12:15 PM	12:30 PM	BREAK		

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Day 3 – WEDNESDAY, MARCH 10, 2021 (CON'T)

Start Time EST	End Time EST	PERFORMANCE-ADVANTAGED BIOPRODUCTS, BIOPROCESSING SEPARATIONS, AND PLASTICS		
		Presentation	Organization	Presenter
12:30 PM	1:00 PM	Synthesis and Analysis of Performance-Advantaged Bioproducts	<i>NREL</i>	<i>Gregg Beckham</i>
1:00 PM	1:30 PM	Inverse biopolymer design through machine learning and molecular simulation	<i>NREL</i>	<i>Nolan Wilson</i>
1:30 PM	1:40 PM	BREAK		
1:40 PM	1:45 PM	AOP vs FOA Overview	<i>BETO</i>	<i>Gayle Bentley</i>
1:45 PM	2:15 PM	Identifying Performance Advantaged Biobased Chemicals Utilizing Bioprivileged Molecules	<i>Iowa State University</i>	<i>Brent Shanks</i>
2:15 PM	2:45 PM	Cellulose-Chitin Composites for Performance Advantaged Barrier Packaging Bioproducts	<i>Georgia Institute of Technology</i>	<i>Carson Meredith</i>
2:45 PM	3:15 PM	LUNCH		
3:15 PM	3:45 PM	Fermentative production of Tulipalin A: a next-generation, sustainable monomer that drastically improves the Performance of pMMA	<i>Arzeda</i>	<i>Alex Zanghellini</i>
3:45 PM	4:15 PM	Design and development of bio-advantaged vitrimers as closed-loop bioproducts	<i>UC Berkeley</i>	<i>Jay Keasling</i>
4:15 PM	4:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 4 – THURSDAY, MARCH 11, 2021

11:30 AM	12:00 PM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
12:00 PM	3:15 PM	Performance-Advantaged Bioproducts, Bioprocessing Separations, And Plastics	Conversion Program	Gayle Bentley
11:50 AM	12:00 PM	Seperations - Overview	<i>BETO</i>	<i>Gayle Bentley</i>
12:00 PM	1:30 PM	Separations Consortium	<i>Various</i>	<i>Jennifer Dunn</i>
1:30 PM	1:45 PM	BREAK		
1:45 PM	3:15 PM	Separations Consortium	<i>Various</i>	<i>Jennifer Dunn</i>
3:15 PM	3:25 PM	BREAK/ADJOURN		
3:25 PM	3:55 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

Start Time EST	End Time EST	ORGANIC WASTE		
		Presentation	Organization	Presenter
9:15 AM	9:45 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
9:45 AM	4:20 PM	Organic Waste	<i>Conversion Program</i>	<i>Beau Hoffman</i>
9:45 AM	10:00 AM	Organic Waste Conversion - Session Overview	<i>BETO</i>	<i>Beau Hoffman</i>
10:00 AM	10:35 AM	Waste-to-Energy: Feedstock Evaluation and Biofuels Production Potential - NREL	<i>NREL</i>	<i>Anelia Milbrandt</i>
10:35 AM	11:10 AM	Waste-to-Energy: Feedstock Evaluation and Biofuels Production Potential - PNNL	<i>PNNL</i>	<i>Tim Seiple</i>
11:10 AM	11:45 AM	Bench Scale HTL of Wet Wastes	<i>PNNL</i>	<i>Michael Thorson</i>
11:45 AM	12:00 PM	BREAK		
12:00 PM	12:35 PM	Analysis and Sustainability Interface - PNNL	<i>PNNL</i>	<i>Lesley Snowden-Swan</i>
12:35 PM	1:10 PM	A Catalytic Process to Convert Municipal Solid Waste Components to Energy	<i>Worcester Polytechnic Institute</i>	<i>Michael Timko</i>
1:10 PM	1:45 PM	BREAK		
1:45 PM	2:20 PM	Separations in Support of Arresting Anaerobic Digestion	<i>NREL</i>	<i>Eric Karp</i>
2:20 PM	2:55 PM	Integrated Biorefinery for Chemicals and Fuels Production from Waste Biomass	<i>Visolis</i>	<i>Deepak Dugar</i>
2:55 PM	3:10 PM	BREAK		
3:10 PM	3:45 PM	Novel and Viable Technologies for Converting Wet Organic Waste Streams to Higher Value Products	<i>State University of New York, Albany</i>	<i>Yanna Liang</i>
3:45 PM	4:20 PM	Electro-Enhanced Conversion of Wet Waste to Products Beyond Methane	<i>Colorado State University</i>	<i>Kenneth Reardon</i>
4:20 PM	4:40 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

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Day 3 – WEDNESDAY, MARCH 10, 2021

		ORGANIC WASTE		
Start Time EST	End Time EST	Presentation	Organization	Presenter
9:15 AM	9:45 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
9:45 AM	2:55 PM	Organic Waste	Conversion Program	Beau Hoffman
9:50 AM	10:00 AM	Organic Waste Conversion - Session Overview	BETO	Beau Hoffman
10:00 AM	10:35 AM	Production of Methane From Organic Waste Streams with Novel Biofilm-Enhanced Anaerobic Membrane Bioreactors	ANL	Meltem Urgan-Demirtas
10:35 AM	11:10 AM	Maximizing Bio-Renewable Energy from Wet Wastes (M-BREWW)	University of Illinois, Urbana-Champaign	Lance Schideman
11:10 AM	11:45 AM	Develop an efficient and cost-effective novel anaerobic digestion system producing high purity of methane from diverse waste biomass	Washington State University	Shulin Chen
11:45 AM	12:00 PM	BREAK		
12:00 PM	12:35 PM	Advanced Pretreatment/Anaerobic Digestion	Washington State University	Birgitte Ahring
12:35 PM	1:10 PM	Biomethanation to Upgrade Biogas to Pipeline Grade Methane	NREL	Kevin Harrison
1:10 PM	1:45 PM	BREAK		
1:45 PM	2:20 PM	Modular Microbial Electromethanogenesis Flow Reactor for Biogas Upgrading	LLNL	Sarah Baker
2:20 PM	2:55 PM	Biogas to Liquid Fuels and Chemicals Using a Methanotrophic Microorganism	NREL	Michael Guarnieri
2:55 PM	3:25 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

		AGILE BIOFOUNDRY CONSORTIUM		
START TIME	END TIME	Presentation	Organization	Presenter
9:45 AM	10:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:15 AM	4:45 PM	Agile BioFoundry Consortium	Conversion Program	Jay Fitzgerald
10:15 AM	10:45 AM	Agile BioFoundry - Session Overview	BETO	Jay Fitzgerald
10:45 AM	12:15 PM	Agile BioFoundry - Overview & Infrastructure	ABF	Nathan Hillson
12:15 PM	12:45 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		
12:45 PM	3:15 PM	Agile BioFoundry - Target and Host Engineering	ABF	Gregg Beckham Jon Magnuson John Gladden Ryan Davis Thatiana Benavides
3:15 PM	3:30 PM	BREAK		
3:30 PM	4:15 PM	Agile BioFoundry - Host Onboarding and Development	ABF	Taraka Dale Adam Guss
4:15 PM	4:45 PM	Agile BioFoundry - Industry Outreach	ABF	Phil Laible Chris Johnson Amanda Barry
4:45 PM	5:15 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 3 – WEDNESDAY, MARCH 10, 2021

9:45 AM	10:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:15 AM	3:15 PM	Agile BioFoundry Consortium	Conversion Program	Jay Fitzgerald
10:15 AM	10:30 AM	Intro to partnerships	BETO	Jay Fitzgerald
10:30 AM	11:00 AM	Intro to Directed Funding Opportunities	ABF	James Gardner
11:00 AM	11:30 AM	ABF Industry Engagement Lab Call - Lygos	Lygos	Andrew Conley
11:30 AM	11:45 AM	BREAK		
11:45 AM	12:15 PM	ABF Industry Engagement Lab Call - Kiverdi	Kiverdi	Dan Robertson
12:15 PM	12:45 PM	ABF Industry Engagement Lab Call - Agilent	Agilent	Alex Appfel
12:45 PM	1:15 PM	ABF Industry Engagement Lab Call - TeselaGen	TeselaGen	Mike Fero
1:15 PM	1:45 PM	LUNCH (REVIEWER LUNCH TOGETHER, PUBLIC ON THEIR OWN)		

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Day 3 – WEDNESDAY, MARCH 10, 2021 (CON'T)

START TIME	END TIME	AGILE BIOFOUNDRY CONSORTIUM		
		Presentation	Organization	Presenter
1:45 PM	2:15 PM	ABF Industry Engagement Lab Call - Neidle Lab	<i>University of Georgia</i>	<i>Ellen Neidle</i>
2:15 PM	2:45 PM	ABF Industry Engagement Lab Call - LanzaTech	<i>LanzaTech, Inc.</i>	<i>Wayne Mitchell</i>
2:45 PM	3:15 PM	ABF Industry Engagement Lab Call - Visolis	<i>Visolis</i>	<i>Deepak Dugar</i>
3:15 PM	3:45 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 4 – THURSDAY, MARCH 11, 2021

10:00 AM	10:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:15 AM	3:00 PM	Agile BioFoundry Consortium	Conversion Program	Jay Fitzgerald
10:15 AM	10:30 AM	Introduction to ABF FOA Projects	<i>BETO</i>	<i>Jay Fitzgerald</i>
10:30 AM	11:15 AM	Accelerating engineered microbe optimization through machine learning and multiomics datasets	<i>Lygos</i>	<i>Mark Held</i>
11:15 AM	12:00 PM	Development of Bacillus as an industrial host for the microbial production of biopolymers	<i>Zymochem</i>	<i>Harshal Chokhawala</i>
12:00 PM	12:30 PM	BREAK		
12:30 PM	1:15 PM	Advanced Algal Biofoundries for the Production of Polyurethane Precursors	<i>University of California San Diego</i>	<i>Stephen Mayfield</i>
1:15 PM	2:00 PM	Accelerating polyketide synthase engineering for high TRY production of biofuels and bioproducts	<i>UC Berkeley</i>	<i>Jay Keasling</i>
2:00 PM	2:45 PM	Developing multi-gene CRISPRa/i programs to accelerate DBTL cycles in ABF hosts engineered for chemical production	<i>University of Washington</i>	<i>James Carothers</i>
2:45 PM	3:00 PM	Wrap Up and Thank You	<i>BETO</i>	<i>Jay Fitzgerald</i>
3:00 PM	3:15 PM	BREAK		
3:15 PM	4:15 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 2 – TUESDAY, MARCH 9, 2021

		FEEDSTOCK TECHNOLOGIES		
Start Time EST	End Time EST	Presentation	Organization	Presenter
10:15 AM	10:45 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:45 AM	2:40 PM	Feedstock Technologies	Feedstocks Program	Mark Elless
10:45 AM	11:05 AM	Overview of FT Program & FOAs	BETO	Mark Elless
11:05 AM	11:35 AM	Next Generation Logistics Systems for Delivering Optimal Biomass Feedstocks to Biorefining Industries in the Southeastern United States	University of Tennessee–Knoxville	Tim Rials
11:40 AM	12:10 PM	Improved Advanced Biomass Logistics Utilizing Woody and other Feedstocks in the Northeast and Pacific Northwest	SUNY-ESF	Tim Volk
12:10 PM	1:00 PM	LUNCH		
1:00 PM	1:30 PM	Next-Generation Feedstocks for the Emerging Bioeconomy	UIUC	DK Lee
1:35 PM	2:05 PM	Sustainable Herbaceous Energy Crop Production in the Southeast United States	TAMU	Ted Wilson
2:10 PM	2:40 PM	Next Generation Miscanthus: Hybrid Performance Evaluation and Enhanced, Sustainable Feedstock Production and Supply in the Southeast U.S. for Biofuels and Bioproducts	North Carolina State University	Mari Chinn
2:40 PM	3:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 3 – WEDNESDAY, MARCH 10, 2021

9:45 AM	10:10 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:10 AM	12:00 PM	Feedstock Technologies	Feedstocks Program	Elizabeth Burrows
10:10 AM	10:20 AM	Overview of FOA	BETO	Elizabeth Burrows
10:20 AM	10:50 AM	Characterization of Mechanical Biomass Particle-Particle and Particle-Wall Interactions	Penn State	Hojae Yi
10:55 AM	11:25 AM	Enhanced Feedstock Characterization and Modeling to Facilitate Optimal Preprocessing and Deconstruction of Corn Stover	Montana State University	David Hodge
11:30 AM	12:00 PM	SWIFT: Single-pass, Weather Independent Fractionation Technology for Improved Property Control of Corn Stover Feedstock.	University of Wisconsin	Matthew Digman
12:00 PM	1:00 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 4 – THURSDAY, MARCH 11, 2021

		FEEDSTOCK TECHNOLOGIES		
Start Time EST	End Time EST	Presentation	Organization	Presenter
9:45 AM	10:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:15 AM	1:35 PM	Feedstock Technologies	<i>Feedstocks Program</i>	<i>Mark Elless</i>
10:15 AM	10:30 AM	Overview of Projects	<i>BETO</i>	<i>Mark Elless</i>
10:30 AM	11:00 AM	Feedstock Supply Chain Analysis	<i>INL</i>	<i>Dave Thompson</i>
11:05 AM	11:35 AM	Supply Scenario Analysis	<i>ORNL</i>	<i>Matthew Langholtz</i>
11:35 AM	12:30 PM	LUNCH		
12:30 PM	1:00 PM	Seed Project - Changes of Price Elasticity of Select Waste Feedstock With Increased Demand	<i>ORNL</i>	<i>Matthew Langholtz</i>
1:05 PM	1:35 PM	Resource Mobilization	<i>INL</i>	<i>Damon Hartley</i>
1:35 PM	2:30 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

Day 5 – FRIDAY, MARCH 12, 2021

9:45 AM	10:15 PM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:15 AM	2:40 PM	Feedstock Technologies	<i>Feedstocks Program</i>	<i>Elizabeth Burrows</i>
10:15 AM	10:25 AM	Overview of Projects	<i>BETO</i>	<i>Elizabeth Burrows</i>
10:25 AM	10:55 AM	Feedstock Harvesting & Storage: Post-Harvest Management for Quality Preservation	<i>INL</i>	<i>William Smith</i>
11:00 AM	11:30 AM	Value-added process intensification in the supply chain	<i>INL</i>	<i>Lynn Wendt</i>
11:35 AM	12:05 PM	Biomass Size Reduction, Drying and Densification	<i>INL</i>	<i>Jaya Tumuluru</i>
12:05 PM	1:00 PM	LUNCH		
1:00 PM	1:30 PM	Standardized Risk Assessment and Critical Property Analytics	<i>INL</i>	<i>Rachel Emerson</i>
1:35 PM	2:05 PM	Seed Project - Municipal Solid Waste Decontamination	<i>INL</i>	<i>Vicki Thompson</i>
2:10 PM	2:40 PM	Torrefaction of sorted MSW pellets for uniform biopower feedstock	<i>INL</i>	<i>Jordan Klinger</i>
2:45 PM	3:45 PM	Reviewer Wrap Up and Debrief	<i>Reviewers</i>	

Day 4 – Thursday, March 11, 2021

Start Time EST	End Time EST	CO ₂ UTILIZATION		
		Presentation	Organization	Presenter
10:00 AM	10:30 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:30 AM	5:35 PM	CO₂ Utilization	Conversion Program	Ian Rowe
10:30 AM	10:40 AM	Intro to CO ₂ portfolio	BETO	Ian Rowe
10:40 AM	11:10 AM	Feasibility Study of Utilizing Electricity to Produce Intermediates from CO ₂ and Biomass	NREL	Josh Schaidle
11:10 AM	11:40 AM	Electrocatalytic CO ₂ Utilization	NREL	Jack Ferrell
11:40 AM	12:10 PM	Hybrid electro- and thermo-catalytic upgrading of CO ₂ to fuels and C ₂ + chemicals	ORNL	Zhenglong Li
12:10 PM	12:20 PM	BREAK		
12:20 PM	12:50 PM	Waste Carbon Gas Upgrading via Acetogens	NREL	Jonathan Lo
12:50 PM	1:20 PM	Integration of CO ₂ Electrolysis with Microbial Syngas Upgrading to Rewire the Carbon Economy	NREL	Michael Resch
1:20 PM	1:50 PM	Novel Cell-Free Enzymatic Systems for CO ₂ Capture	NREL	Min Zhang
1:50 PM	2:25 PM	BREAK		
2:25 PM	2:55 PM	Improving formate upgrading by <i>Cupriavidus necator</i>	NREL	Christopher Johnson
2:55 PM	3:25 PM	Enhancing Acetogen Formate Utilization to Value-Added Products	NREL	Jonathan Lo
3:25 PM	3:55 PM	Synthetic C ₁ Condensation Cycle for Formate-Mediated ElectroSynthesis	NREL	Wei Xiong
3:55 PM	4:05 PM	BREAK		
4:05 PM	4:35 PM	Development of a scalable, robust electrocatalytic technology for conversion of CO ₂ to formic acid via microstructured materials	Montana State University	Lee Spangler
4:35 PM	5:05 PM	Production of bioproducts from electrochemically-generated C ₁ intermediates	LanzaTech, Inc.	Jason Bromley
5:05 PM	5:35 PM	Integrating Chemical Catalysis and Biological Conversion of Carbon Intermediates for Deriving Value Added Products from Carbon Dioxide	Johns Hopkins University	Michael J. Betenbaugh
5:35 PM	6:05 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 6 – MONDAY, MARCH 15, 2021

		CO-OPTIMA		
Start Time EST	End Time EST	Presentation	Organization	Presenter
11:45 AM	12:15 PM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
12:15 PM	3:15 PM	Co-Optima Day 1 of 2	BETO	Alicia Lindauer
12:15 PM	12:30 PM	Co-Optima Session Intro	BETO	Alicia Lindauer
12:30 PM	1:00 PM	Co-Optima Initiative Overview	ANL, INL, LANL, LBNL, NREL, ORNL, PNNL, SNL	Daniel Gaspar
1:00 PM	1:30 PM	Structure-Property-Processing Relationships for Bioblendstock Identification	LANL, LBNL, NREL, ORNL, PNNL, SNL	Vanessa Dagle
1:30 PM	2:00 PM	High-Performance Bioblendstock Generation	INL, LANL, LBNL, NREL, ORNL, PNNL, SNL	Derek Vardon
2:00 PM	2:15 PM	BREAK		
2:15 PM	2:45 PM	Techno-economic and Environmental Life Cycle Assessment	ANL, NREL, PNNL	Troy Hawkins
2:45 PM	3:15 PM	Evaluating the Potential for Impact at Scale	ANL, INL, NREL, ORNL, PNNL, SNL	Avantika Singh
3:15 PM	3:45 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 7 – TUESDAY MARCH 16, 2021

11:45 AM	12:15 PM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
12:15 PM	3:45 PM	Co-Optima Day 2 of 2	BETO	Alicia Lindauer
12:15 PM	12:30 PM	Co-Optima Daily Intro	BETO	Alicia Lindauer
12:30 PM	1:00 PM	Naphthenic Biofuel-Diesel Blend for Optimizing Mixing Controlled Compression Ignition Combustion	SUNY-Stony Brook	Dimitris Assanis
1:00 PM	1:30 PM	Renewable Fuel Additives from Woody Biomass	University of Massachusetts Lowell	Hunter Mack
1:30 PM	2:00 PM	Tailored Bioblendstocks With Low Environmental Impact To Optimize MCCI Engines	University of Michigan	André Boehman
2:00 PM	2:15 PM	BREAK		
2:15 PM	2:45 PM	Mono-Ether and Alcohol Bioblendstocks to Reduce the Fuel Penalty of Mixing Controlled Compression Ignition Engine Aftertreatment	University of Wisconsin-Madison	Dave Rothamer
2:45 PM	3:15 PM	Poly(oxymethylene) Ethers as a High Cetane, Low Sooting Biofuel Blendstock for Use in Medium to Heavy Duty Mixing Controlled Compression Ignition Engines	Colorado State University	Bret Windom
3:15 PM	3:45 PM	Bioproduction and Evaluation of Renewable Butyl Acetate as a Desirable Bioblendstock for Diesel Fuel	Auburn University	Yi Wang
3:45 PM	4:00 PM	BREAK		
4:00 PM	4:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 6 – MONDAY, MARCH 15, 2021

		FEEDSTOCK CONVERSION INTERFACE CONSORTIUM		
Start Time EST	End Time EST	Presentation	Organization	Presenter
11:00 AM	11:30 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:30 AM	3:55 PM	Feedstock Conversion Interface Consortium	BETO	Liz Moore
11:30 AM	11:40 AM	Introductions/Expectations	BETO	Peer Review Lead
11:40 AM	12:10 PM	FCIC Overview	NREL	Ed Wolfrum
12:10 PM	12:35 PM	Task X - PI/PM	NREL	Amie Sluiter
12:35 PM	1:05 PM	BREAK		
1:05 PM	1:40 PM	Task 2 - Feedstock Variability	INL	Allison Ray
1:40 PM	2:15 PM	Task 5 - Preprocessing	INL	Vicki Thompson
2:15 PM	2:45 PM	BREAK		
2:45 PM	3:20 PM	Task 3 - Material Handling	INL	Yidong Xia
3:20 PM	3:55 PM	Task 6 - High Temperature Conversion	NREL	Daniel Carpenter
3:55 PM	4:25 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 7 – TUESDAY MARCH 16, 2021

11:00 AM	11:30 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:00 AM	5:10 PM	Feedstock Conversion Interface Consortium	BETO	Liz Moore
11:30 AM	11:40 AM	Introductions/Expectations	BETO	Peer Review Lead
11:40 AM	12:15 PM	Task 7 - Low Temperature Conversion	ANL	Phil Laible
12:15 PM	12:50 PM	Task 1 - Materials of Construction	ORNL	Jun Qu
12:50 PM	1:20 PM	BREAK		
1:20 PM	1:55 PM	Task 8 - TEA/LCA	PNNL	Steven Phillips
1:55 PM	2:20 PM	Task 4 - Data Management	PNNL	Jim Collett
2:20 PM	2:55 PM	DFO - Jenike & Johanson	LANL	Troy Semelsberger
2:55 PM	3:25 PM	BREAK		
3:25 PM	4:00 PM	DFO - Fulcrum	Fulcrum	Jaya Shankar Tumuluru
4:00 PM	4:35 PM	DFO - The Wonderful Company	NREL	Daniel Carpenter
4:35 PM	5:10 PM	DFO - Forest Concepts	ORNL	Jun Qu
5:10 PM	6:10 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 8 - MONDAY, MARCH 22, 2021

		SYSTEMS DEVELOPMENT AND INTEGRATION		
Start Time EST	End Time EST	Presentation	Organization	Presenter
10:45 AM	11:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:15 AM	3:55 PM	Systems Development and Integration	SDI Program	Liz Moore
11:15 AM	11:45 AM	SDI Technology Area Introduction	BETO	Liz Moore
11:45 AM	12:25 PM	Determination of the Feasibility of Biofuels in Marine Applications - ORNL Part II	ORNL	Mike Kass
12:25 AM	12:45 PM	Evaluation of Bio-oils for Use in Marine Engines	ORNL	Brian Kaul
12:45 PM	1:15 PM	Evaluate New Biomass-Derived Liquid Fuels for Materials Compatibility	ORNL	Jim Keiser
1:15 PM	1:35 PM	BREAK		
1:35 PM	2:05 PM	Opportunities in biojet: baselining and evaluation OBBE - SNL	SNL	Anthe George
2:05 PM	2:35 PM	Swirl Stove: Swirling combustion for efficient wood burning	MF Fire, Inc	Paul LaPorte
2:35 PM	3:05 PM	Fire MAPS	MF Fire, Inc	Paul LaPorte
3:05 PM	3:25 PM	BREAK		
3:25 PM	3:55 PM	Advancing wood heater evaluation methodology for accelerating innovation	BNL	Tom Butcher
3:55 PM	4:25 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 9 - TUESDAY, MARCH 23, 2021

10:45 AM	11:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:15 AM	5:30 PM	Systems Development and Integration	SDI Program	Liz Moore
11:15 AM	11:30 AM	Technology Area Daily Intro	BETO	Liz Moore
11:30 AM	12:00 PM	Integrated Computational Tools to Optimize and De-Risk Feedstock Handling & High-Pressure Reactor	NREL	Peter Ciesielski
12:00 PM	12:30 PM	Improved biomass feedstock materials handling and feeding engineering data sets, design methods, and modeling/simulation tools	Forest Concepts, LLC	James Dooley
12:30 PM	1:00 PM	Integrated Process Optimization for Biochemical Conversion	University of Arkansas	Sandra Eksioglu
1:00 PM	1:20 PM	BREAK		
1:20 PM	1:50 PM	Analytical Modeling of Biomass Transport and Feeding Systems	Purdue University	Michael Ladisch
1:50 PM	2:20 PM	Virtual engineering of low-temperature conversion	NREL	Jonathan Stickel
2:20 PM	2:40 PM	BREAK		

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Day 9 – TUESDAY, MARCH 23, 2021 (CON'T)

		SYSTEMS DEVELOPMENT AND INTEGRATION		
Start Time EST	End Time EST	Presentation	Organization	Presenter
2:40 PM	3:10 PM	Process Monitoring and Predictions of BioRefinery Performance	NREL	Anne Starace
3:10 PM	3:40 PM	Modeling Flow Behavior in a Disc-Refiner for DMR process	NREL	Xiaowen Chen
3:40 PM	4:10 PM	Scientific Methods for Biomass Reference Scenarios	ORNL	Keith Kline
4:10 PM	4:30 PM	BREAK		
4:30 PM	5:00 PM	Bio-C2G Model for Rapid, Agile Assessment of Biofuel and Co-product Routes	LBNL	Corinne Scown
5:00 PM	5:30 PM	Feedstock to Function: Improving biobased product and fuel development through adaptive techno-economic and performance modeling	LBNL	Vi Rapp
5:30 PM	6:00 PM	Reviewer Wrap Up and Debrief	Reviewers	

Day 10 – WEDNESDAY MARCH 24, 2021

10:45 AM	11:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:15 AM	6:00 PM	Systems Development and Integration	SDI Program	Liz Moore
11:15 AM	11:30 AM	Technology Area Daily Intro	BETO	Liz Moore
11:30 AM	12:00 PM	Biomass Feedstock User Facility – Improving Bale Deconstruction and Material Flow	INL	Neal Yancey
12:00 PM	12:30 PM	BFNUF Upgrade	INL	Luke Williams
12:30 PM	1:00 PM	ABPDU Operations	LBNL	Deepti Tanjore
1:00 PM	1:20 PM	BREAK		
1:20 PM	1:50 PM	Biochemical Pilot Scale Support and Process Integrations	NREL	Dan Schell
1:50 PM	2:20 PM	Solid Lignin Recovery	NREL	Dan Schell
2:20 PM	2:50 PM	PNNL Hydrothermal PDUs	PNNL	Dan Anderson
2:50 PM	3:10 PM	BREAK		
3:10 PM	3:40 PM	The Engineering of Catalyst Scale Up	NREL	Fred Baddour
3:40 PM	4:10 PM	Optimization of Carbon Efficiency for Catalytic Fast Pyrolysis (CFP) and Hydrotreating	NREL	Kristiina Iisa
4:10 PM	4:40 PM	Bio Oil Co Processing with Refinery Streams	NREL	Kim Magrini
4:40 PM	5:00 PM	BREAK		
5:00 PM	5:30 PM	Process Scale-up to Production Environments	NREL	David Robichaud
5:30 PM	6:00 PM	Rialto Advanced Pyrolysis Integrated Biorefinery	Rialto Bioenergy Facility LLC	Yaniv Scherson
6:00 PM	6:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 11 - THURSDAY, MARCH 25, 2021

		SYSTEMS DEVELOPMENT AND INTEGRATION		
Start Time EST	End Time EST	Presentation	Organization	Presenter
10:45 AM	11:15 PM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:15 AM	6:00 PM	Systems Development and Integration	SDI Program	Liz Moore
11:15 AM	11:30 AM	Technology Area Daily Intro	BETO	Liz Moore
11:30 AM	12:00 PM	Integrated Reactive Catalytic Fast Pyrolysis System for Advanced Hydrocarbon Biofuels	Research Triangle Institute	Dave Dayton
12:00 PM	12:30 PM	Bio-crude Production and Upgrading to Renewable Diesel	Research Triangle Institute	Dave Dayton
12:30 PM	1:00 PM	Small Scale Decentralized Fuel Production Facilities Via Advanced Heat Exchanger-Enabled Biorefineries	Thermochemical Recovery International Inc.	Ravi Chandran
1:00 PM	1:20 PM	BREAK		
1:20 PM	1:50 PM	Improved Feeding and Residual Solids Recovery System for IBR	Thermochemical Recovery International Inc.	Ravi Chandran
1:50 PM	2:20 PM	Integration of IH ₂ with the Cool Reformer for the Conversion of Cellulosic Biomass to Drop-In Fuels	Gas Technology Institute	Terry Marker
2:20 PM	2:50 PM	Cool GTL [®] for the Production of Jet Fuel from Biogas	Gas Technology Institute	Terry Marker
2:50 PM	3:10 PM	BREAK		
3:10 PM	3:40 PM	Low Carbon Hydrocarbon Fuels From Industrial Off Gas	LanzaTech, Inc.	Laurel Harmon
3:40 PM	4:10 PM	Ultra-low Sulfur Winterized Diesel	LanzaTech, Inc.	Laurel Harmon
4:10 PM	4:40 PM	Higher energy-content jet blending components derived from ethanol	Purdue University	Gozdem Kilaz
4:40 PM	5:00 PM	BREAK		
5:00 PM	5:30 PM	Agricultural and Woody Biomass to Diesel Fuel with Bio-oil Intermediate	West Biofuels, LLC	Matthew Summers
5:30 PM	6:00 PM	HYPOWERS: Hydrothermal Processing of Wastewater Solids	Water Research Foundation (WRF)	Jeff Moeller
6:00 PM	6:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

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Day 12 – FRIDAY, MARCH 26, 2021

		SYSTEMS DEVELOPMENT AND INTEGRATION		
Start Time EST	End Time EST	Presentation	Organization	Presenter
10:45 AM	11:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
11:15 AM	4:40 PM	Systems Development and Integration	SDI Program	Liz Moore
11:15 AM	11:30 AM	Technology Area Daily Intro	BETO	Liz Moore
11:30 AM	12:00 PM	Advance Biofuels and Bioproducts with AVAP	AVAPCO LLC	Kim Nelson
12:00 PM	12:30 PM	Hybrid HEFA-HDCJ Process for the Production of Jet Fuel Blendstocks	Washington State University	Manuel Garcia-Perez
12:30 PM	1:00 PM	Drop-in Renewable Jet Fuel from Brown Grease via the Biofuels ISOCONVERSION Process	Applied Research Associates	Jocelyn Goodwin
1:00 PM	1:20 PM	BREAK		
1:20 PM	1:50 PM	Novel Method for Biomass Conversion to Renewable Jet Fuel Blend	Technology Holding LLC	Mukund Karanjikar
1:50 PM	2:20 PM	Upgrading of Stillage Syrup into Single Cell Protein for Aquaculture Feed	White Dog Labs	Carissa Kessler
2:20 PM	2:50 PM	Pilot-Scale Algal Oil Production	Global Algae Innovations	Dave Hazlebeck
2:50 PM	3:10 PM	BREAK		
3:10 PM	3:40 PM	Pilot-Scale Biochemical and Hydrothermal Integrated Biorefinery (IBR) for Cost-Effective Production of Fuels and Value Added Products	South Dakota School of Mines and Technology	Rajesh Shende
3:40 PM	4:10 PM	Multi-stream Integrated Biorefinery Enabled by Waste Processing	Texas A&M Agrilife Research	Joshua Yuan
4:10 PM	4:40 PM	TRIFTS Catalytic Conversion of Biogas to Drop-in Renewable Diesel Fuel	T2C Energy, LLC	Devin Walker
4:40 PM	5:00 PM	BREAK		
5:00 PM	5:30 PM	Reviewer Wrap Up and Debrief	Reviewers	

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