U.S. DEPARTMENT OF ENERGY

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY




2021 PROJECT PEER REVIEW

U.S. DEPARTMENT OF ENERGY
BIOENERGY TECHNOLOGIES OFFICE

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DEPARTMENT OF ENERGY NATIONAL LABORATORY ABBREVIATIONS

Ames	Ames Laboratory
ANL	Argonne National Laboratory
BNL	Brookhaven National Laboratory
FNAL	Fermi National Accelerator Laboratory
INL	Idaho National Laboratory
LBNL	Lawrence Berkeley National Laboratory
LLNL	Lawrence Livermore National Laboratory
LANL	Los Alamos National Laboratory
NETL	National Energy Technology Laboratory
NREL	National Renewable Energy Laboratory
ORNL	Oak Ridge National Laboratory
PNNL	Pacific Northwest National Laboratory
PPPL	Princeton Plasma Physics Laboratory
SNL	Sandia National Laboratories
SRNL	Savannah River National Laboratory
SLAC	SLAC National Accelerator Facility
TJNAF	Thomas Jefferson National Accelerator Facility

WELCOME MESSAGE

Dear Project Peer Review Attendees,

On behalf of the U.S. Department of Energy, I would like to welcome you to the 2021 Bioenergy Technologies Office (BETO) Project Peer Review. This review is critical to the success of BETO's mission, which focuses on high-impact, broadly applicable applied research, development, and analysis. Activities funded by BETO strategically address technology challenges and uncertainties to accelerate the scale-up and commercialization of bioenergy technologies, which are an important component of decarbonizing the transportation sector and the United States economy.

This year's review will feature over 270 presentations across five Program areas: Feedstock Technologies; Advanced Algal Systems; Conversion Technologies; Systems Development and Integration; and Data, Modeling, and Analysis. This comprehensive set of presentations represents projects that are actively managed by BETO in the last three years and combined have a value of more than $660 million in negotiated federal share.

At BETO, we are committed to accountability in project management and in our role as stewards of taxpayer dollars. BETO actively manages projects towards high-impact results. The Peer Review is an invaluable opportunity for independent reviewers to rigorously evaluate the management, technical approach, impact, and progress and/or outcomes of projects in the BETO portfolio, as well as the Program strategies that guide Technology Area development. Further, it is a unique opportunity for external stakeholders to hear, in a compact and consistent format, about progress from every corner of the portfolio.

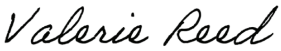
Thank you to our reviewers for participating in this year's review. The 60-some reviewers represent industry, academia, nonprofit organizations, and government. These reviewers include some of the most experienced and knowledgeable experts in the bioenergy community, and we look forward to their insights and recommendations.

We rely on the reviewers to provide their individual assessments of the mission, goals, scope, implementation, and progress of each of the 12 reviewed Technology Areas based on their expertise and the Review criteria, and we welcome their recommendations for strategic direction. Results of the Project Peer Review may help inform programmatic decision making and impact future budget and funding opportunity decisions.

Results of the Project Peer Review, including abstracts, scores, reviewer comments, and presenter responses, in addition to the technology area reviews and responses, will be published in the 2021 Peer Review Final Report, which will be available to the public.

We thank you for your interest and your input!

Sincerely,

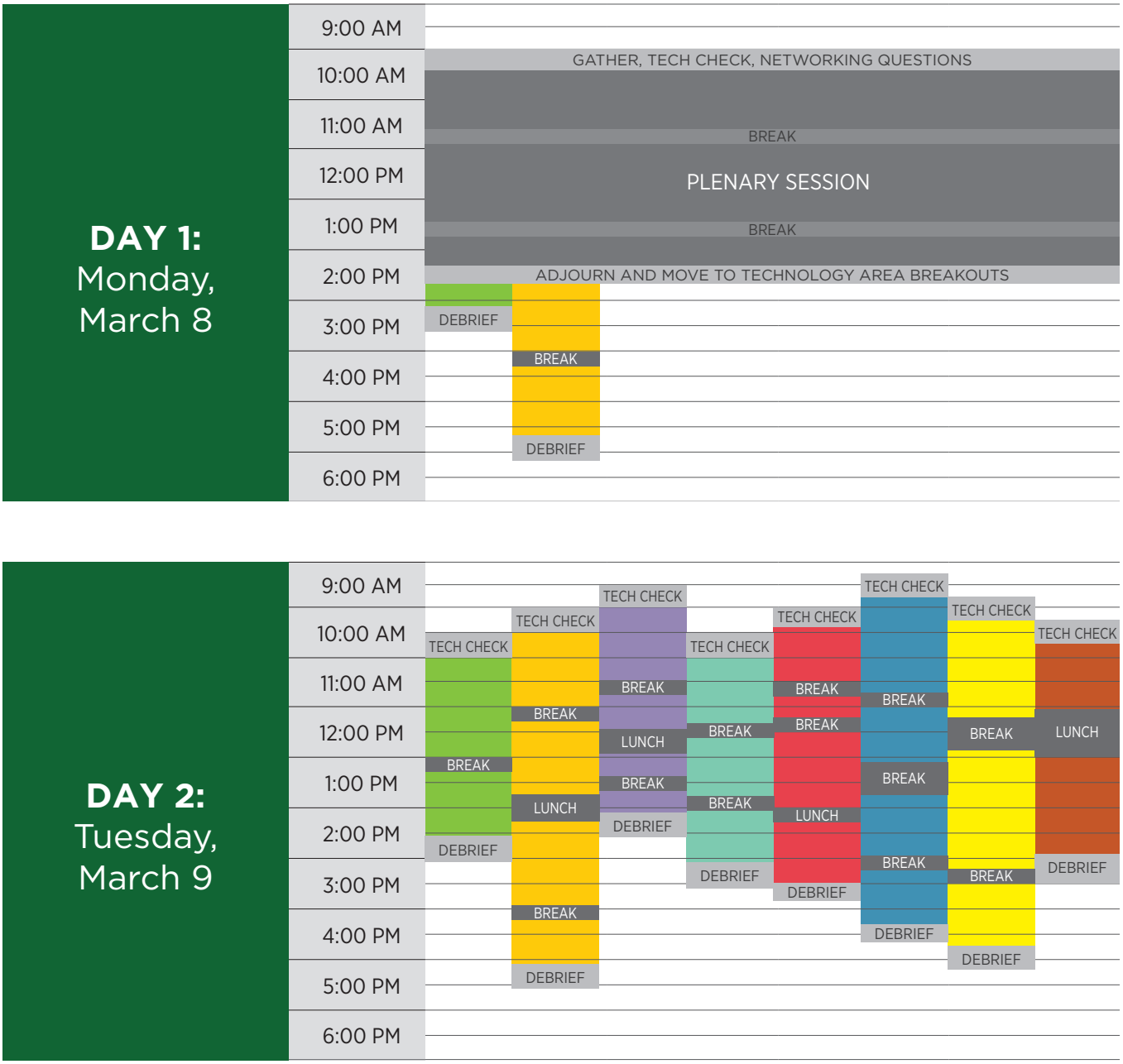


Valerie Reed

Acting Director, Bioenergy Technologies Office
Energy Efficiency and Renewable Energy

AGENDA AT A GLANCE – DAY 1 / DAY 2

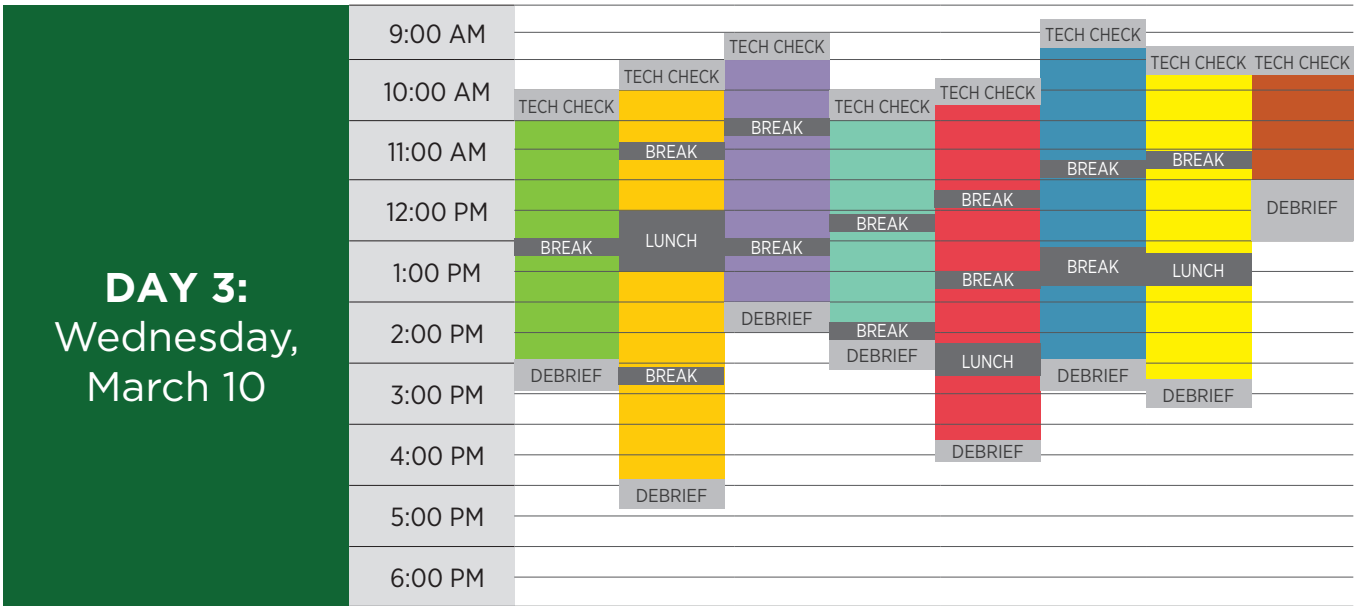
All times are Eastern Standard Time

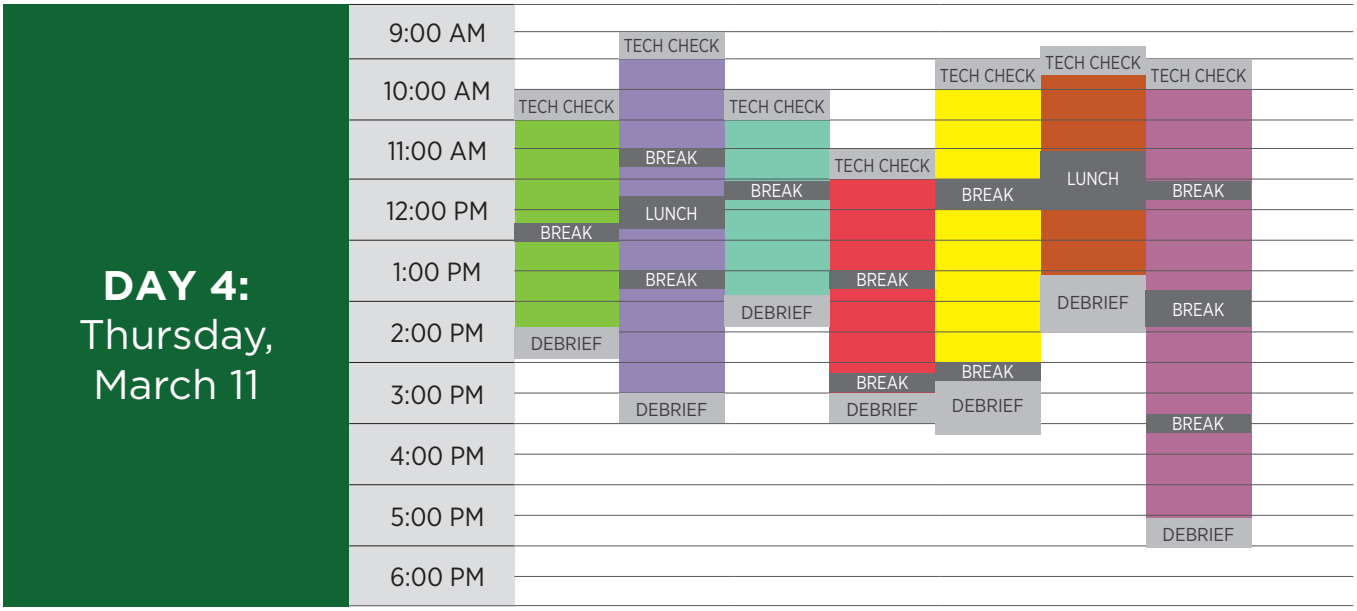


- PLENARY SESSIONS
- ADVANCED ALGAL SYSTEMS
- BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION
- CATALYTIC UPGRADING
- DATA, MODELING, AND ANALYSIS
- PERFORMANCE-ADVANTAGED BIOPRODUCTS, BIOPROCESSING SEPARATIONS, AND PLASTICS
- ORGANIC WASTE
- AGILE BIOFOUNDRY CONSORTIUM
- FEEDSTOCK TECHNOLOGIES

AGENDA AT A GLANCE – DAY 3 / DAY 4

All times are Eastern Standard Time

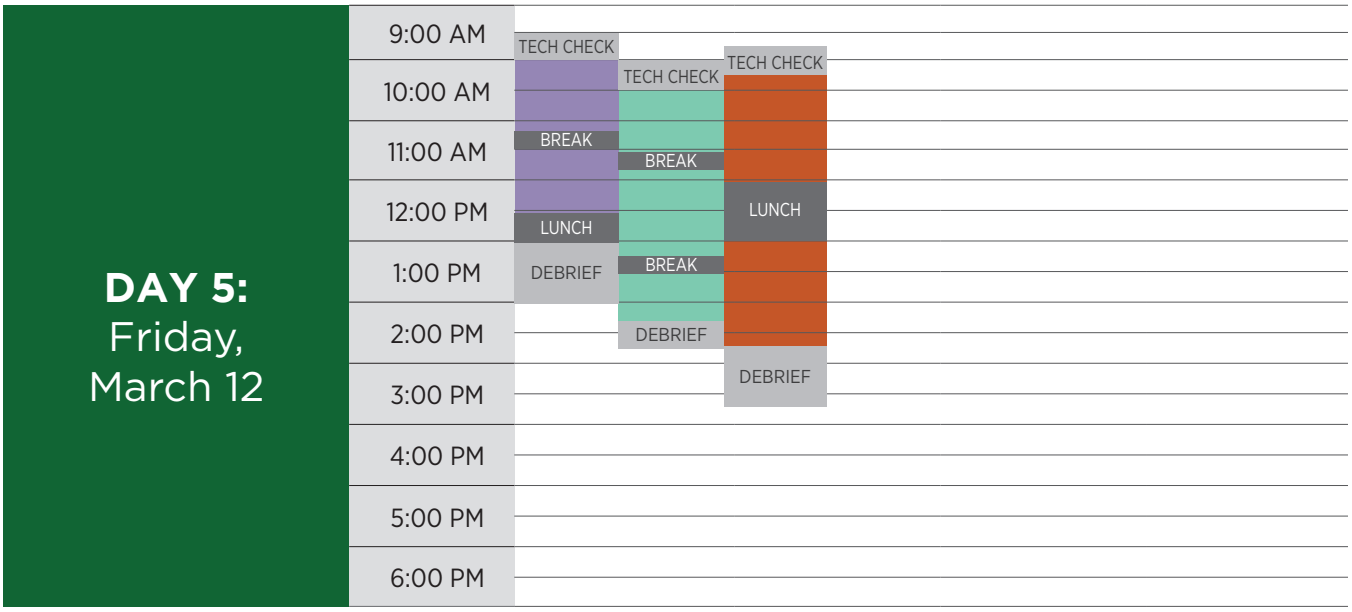


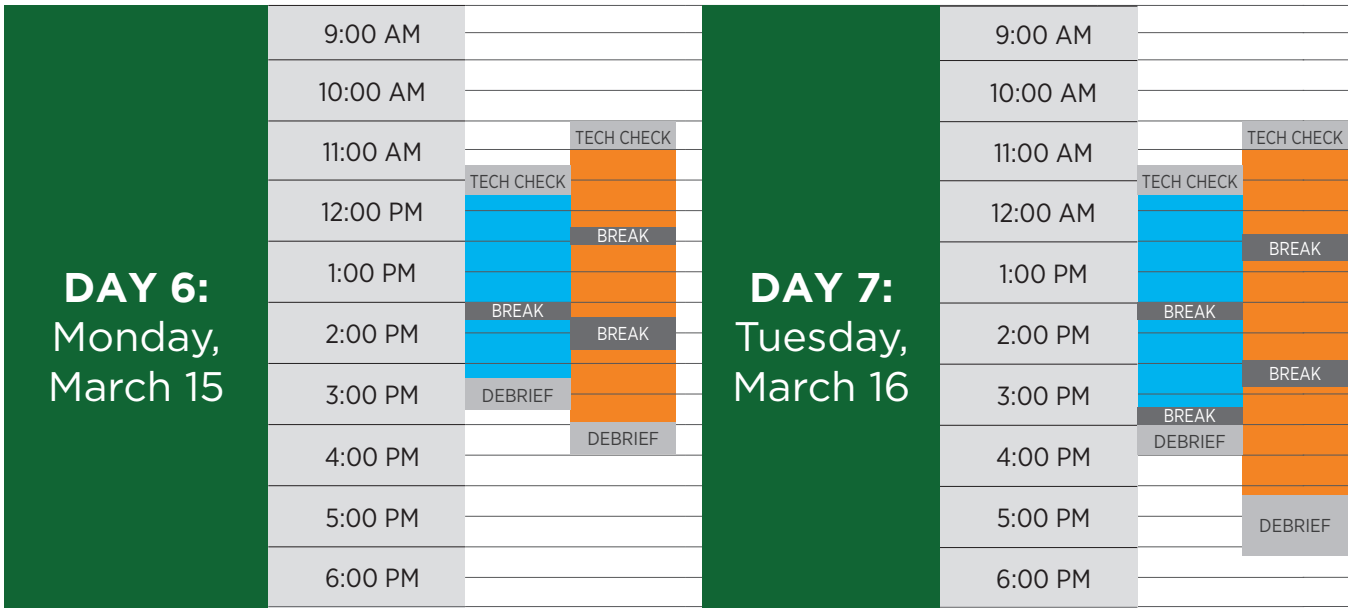


- ADVANCED ALGAL SYSTEMS
- BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION
- CATALYTIC UPGRADING
- DATA, MODELING, AND ANALYSIS
- PERFORMANCE-ADVANTAGED BIOPRODUCTS, BIOPROCESSING SEPARATIONS, AND PLASTICS
- ORGANIC WASTE
- AGILE BIOFOUNDRY CONSORTIUM
- FEEDSTOCK TECHNOLOGIES
- CO_2 UTILIZATION

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

All times are Eastern Standard Time

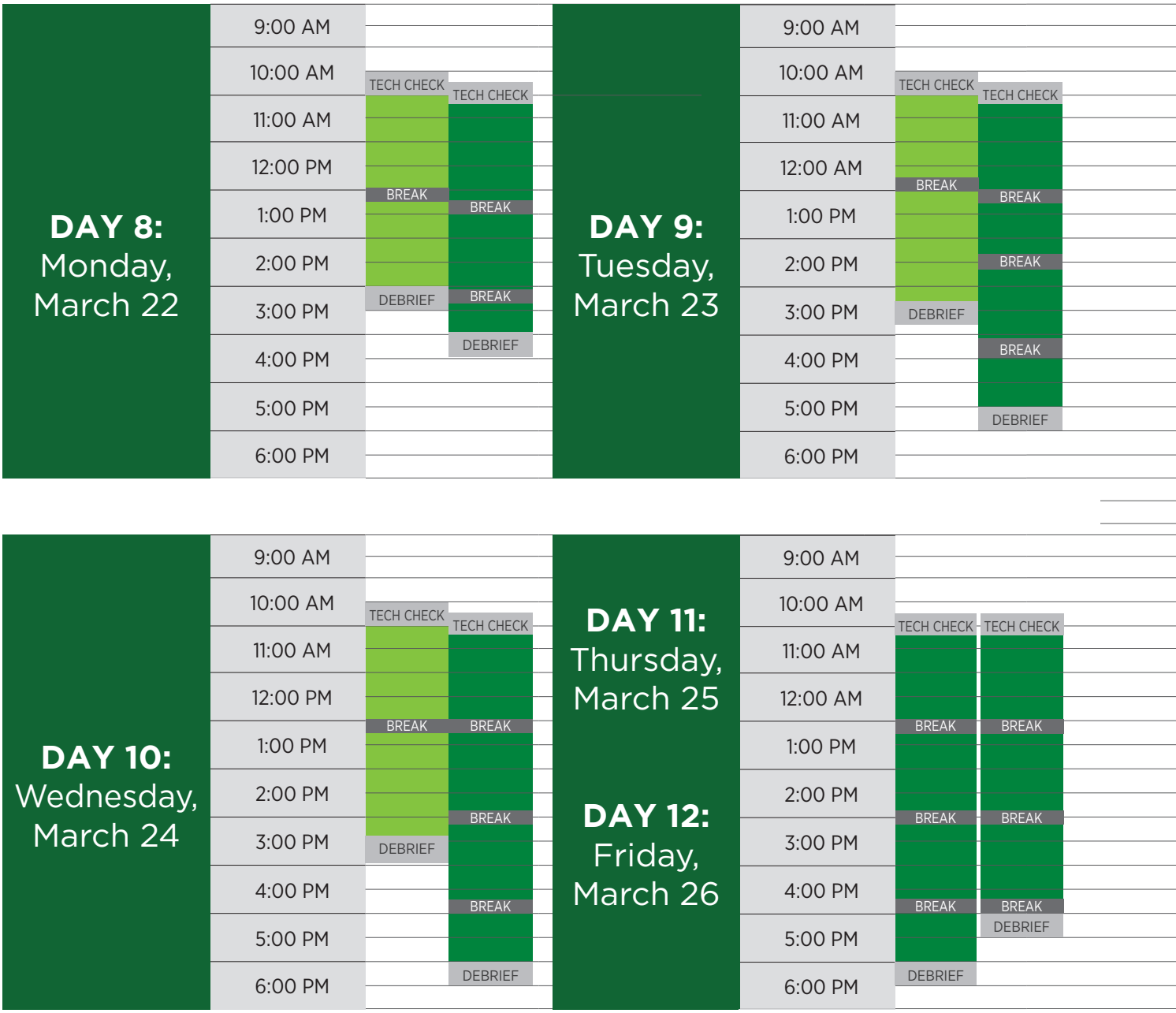




- CATALYTIC UPGRADING
- CO-OPTIMA
- DATA, MODELING, AND ANALYSIS
- FEEDSTOCK CONVERSION INTERFACE CONSORTIUM
- FEEDSTOCK TECHNOLOGIES

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*
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		

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	DISCOVR	*PNNL, NREL, SNL, LANL, Arizona State University*	*Michael Huesemann* *Taraka Dale* *Todd Lane* *Lieve Laurens* *John McGowen*
2:15 PM	2:30 PM	DISCOVR 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	*Arionza 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	*Arionza 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**	***Algae Program***	***Christy Sterner***
11:00 AM	11:05 AM	Session Introduction	*BETO*	*Christy Sterner*
11:05 AM	11:30 AM	Algal Biomass Composition	*NREL*	*Lieve Laurens*
11:30 AM	11:55 AM	LEAF: Leveraging Algae Traits for Fuels	*SNL*	*Amanda Barry*
11:55 AM	12:00 PM	Logistics Research and Development Overview	*BETO*	*Christy Sterner*
12:00 PM	12:25 PM	Algal Feedstocks Logistics and Handling	*INL*	*Brad Wahlen*
12:25 PM	12:30 PM	Conversion Interface Overview	*BETO*	*Christy Sterner*
12:30 PM	12:55 PM	Cyanobacteria Photosynthetic Energy Platform	*NREL*	*Jianping Yu*
12:55 PM	1:15 PM	BREAK		
1:15 PM	1:40 PM	Thermochemical Interface	*PNNL*	*Dan Anderson*
1:40 PM	2:05 PM	HTL Model Development	*PNNL*	*Lesley Snowden-Swan*
2:05 PM	2:30 PM	Algal Biofuels Techno-economic Analysis	*NREL*	*Ryan Davis*
2:30 PM	2:55 PM	Bioconversion of Algal Carbohydrates and Proteins to Fuels	*SNL*	*Ryan W. Davis*
2:55 PM	3:20 PM	CAP Process Research	*NREL*	*Jacob Kruger*
3:20 PM	3:25 PM	**Closing**	*BETO*	*Christy Sterner*
3:25 PM	3:55 PM	**Reviewer Wrap Up and Debrief**	***Reviewers***	

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**	***Conversion Program***	***Ian Rowe***
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***	

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Day 3 – WEDNESDAY, MARCH 10, 2021

Start Time EST	End Time EST	BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION		
		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 – WEDNESDAY, 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 Liquifaction 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

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	3:25 PM	**Catalytic Upgrading**	***Conversion Program***	***Trevor Smith and Sonia Hammache***
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**	***Reviewers***	

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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 Uprgrading 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*	*Sunkyu 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**	***Analysis Program***	***Alicia Lindauer***
11:00 AM	11:05 AM	Technology Area Daily Intro	*BETO*	*Alicia Lindauer*
11:05 AM	11:35 AM	Integrated Life Cycle Sustainability Analysis	*NREL*	*Patrick Lamers*
11:35 AM	12:05 PM	Quantifying and Visualizing Progress Towards Sustainability	*ORNL*	*Esther Parish*
12:05 PM	12:20 PM	BREAK		
12:20 PM	12:50 PM	Water Resource Management for Bioenergy and Bioproducts	*ANL*	*May Wu*
12:50 PM	1:20 PM	Biofuel Air Emissions Analysis	*NREL*	*Danny Inman*
1:20 PM	1:50 PM	Spatially Resolved Measurements of Water Quality Indicators within a Bioenergy Landscape	*ORNL*	*Natalie Griffiths*
1:50 PM	2:20 PM	**Reviewer Wrap Up and Debrief**	*Reviewers*	

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**	***Analysis Program***	***Alicia Lindauer***
10:30 AM	10:35 AM	Technology Area Daily Intro	*BETO*	*Alicia Lindauer*
10:35 AM	11:05 AM	Biofuels Information Center	*NREL*	*Kristi Moriarty*
11:05 AM	11:35 AM	Biofuels National Strategic Benefits Analysis	*ORNL*	*Rocío Uría-Martínez*
11:35 AM	11:50 AM	BREAK		
11:50 AM	12:20 PM	Biobased and Biobenign, an Environmental Reference Framework for Product Design: RIPE	*ANL*	*Margaret MacDonell*
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	*Colorado State University*	*Jason Quinn*
12:50 PM	1:20 PM	Multi-Input, Multi-Output Biorefineries to Reduce Greenhouse Gas and Air Pollutant Emissions	*UC Berkeley*	*Corinne Scown*
1:20 PM	1:35 PM	BREAK		
1:35 PM	1:55 PM	Accelerating Bioenergy Technology Advancement Through FAIR Data Delivery	*ORNL*	*Bruce Wilson*
1:55 PM	2:15 PM	Bioenergy Knowledge Discovery Framework	*ORNL*	*Aaron Myers*
2:15 PM	2:45 PM	**Reviewer Wrap Up and Debrief**	***Reviewers***	

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	*NREL*	*Gregg Beckham*
1:00 PM	1:30 PM	Inverse biopolymer design through machine learning and molecular simulation	*NREL*	*Nolan Wilson*
1:30 PM	1:40 PM	BREAK		
1:40 PM	1:45 PM	AOP vs FOA Overview	*BETO*	*Gayle Bentley*
1:45 PM	2:15 PM	Identifying Performance Advantaged Biobased Chemicals Utilizing Bioprivileged Molecules	*Iowa State University*	*Brent Shanks*
2:15 PM	2:45 PM	Cellulose-Chitin Composites for Performance Advantaged Barrier Packaging Bioproducts	*Georgia Institute of Technology*	*Carson Meredith*
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	*Arzeda*	*Alex Zanghellini*
3:45 PM	4:15 PM	Design and development of bio-advantaged vitrimers as closed-loop bioproducts	*UC Berkeley*	*Jay Keasling*
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	*BETO*	*Gayle Bentley*
12:00 PM	1:30 PM	Separations Consortium	*Various*	*Jennifer Dunn*
1:30 PM	1:45 PM	BREAK		
1:45 PM	3:15 PM	Separations Consortium	*Various*	*Jennifer Dunn*
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**	***Conversion Program***	***Beau Hoffman***
9:45 AM	10:00 AM	Organic Waste Conversion - Session Overview	*BETO*	*Beau Hoffman*
10:00 AM	10:35 AM	Waste-to-Energy: Feedstock Evaluation and Biofuels Production Potential - NREL	*NREL*	*Anelia Milbrandt*
10:35 AM	11:10 AM	Waste-to-Energy: Feedstock Evaluation and Biofuels Production Potential - PNNL	*PNNL*	*Tim Seiple*
11:10 AM	11:45 AM	Bench Scale HTL of Wet Wastes	*PNNL*	*Michael Thorson*
11:45 AM	12:00 PM	BREAK		
12:00 PM	12:35 PM	Analysis and Sustainability Interface - PNNL	*PNNL*	*Lesley Snowden-Swan*
12:35 PM	1:10 PM	A Catalytic Process to Convert Municipal Solid Waste Components to Energy	*Worcester Polytechnic Institute*	*Michael Timko*
1:10 PM	1:45 PM	BREAK		
1:45 PM	2:20 PM	Separations in Support of Arresting Anaerobic Digestion	*NREL*	*Eric Karp*
2:20 PM	2:55 PM	Integrated Biorefinery for Chemicals and Fuels Production from Waste Biomass	*Visolis*	*Deepak Dugar*
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	*State University of New York, Albany*	*Yanna Liang*
3:45 PM	4:20 PM	Electro-Enhanced Conversion of Wet Waste to Products Beyond Methane	*Colorado State University*	*Kenneth Reardon*
4:20 PM	4:40 PM	**Reviewer Wrap Up and Debrief**	***Reviewers***	

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Day 3 – WEDNESDAY, MARCH 10, 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	**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 Urgun-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

START TIME	END TIME	AGILE BIOFOUNDRY CONSORTIUM		
		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 Apffel*
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	*University of Georgia*	*Ellen Neidle*
2:15 PM	2:45 PM	ABF Industry Engagement Lab Call - LanzaTech	*LanzaTech, Inc.*	*Wayne Mitchell*
2:45 PM	3:15 PM	ABF Industry Engagement Lab Call - Visolis	*Visolis*	*Deepak Dugar*
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	*BETO*	*Jay Fitzgerald*
10:30 AM	11:15 AM	Accelerating engineered microbe optimization through machine learning and multiomics datasets	*Lygos*	*Mark Held*
11:15 AM	12:00 PM	Development of Bacillus as an industrial host for the microbial production of biopolymers	*Zymochem*	*Harshal Chokhawala*
12:00 PM	12:30 PM	BREAK		
12:30 PM	1:15 PM	Advanced Algal Biofoundries for the Production of Polyurethane Precursors	*University of California San Diego*	*Stephen Mayfield*
1:15 PM	2:00 PM	Accelerating polyketide synthase engineering for high TRY production of biofuels and bioproducts	*UC Berkeley*	*Jay Keasling*
2:00 PM	2:45 PM	Developing multi-gene CRISPRa/i programs to accelerate DBTL cycles in ABF hosts engineered for chemical production	*University of Washington*	*James Carothers*
2:45 PM	3:00 PM	Wrap Up and Thank You	*BETO*	*Jay Fitzgerald*
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

Start Time EST	End Time EST	FEEDSTOCK TECHNOLOGIES		
		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

Start Time EST	End Time EST	FEEDSTOCK TECHNOLOGIES		
		Presentation	**Organization**	**Presenter**
9:45 AM	10:15 AM	GATHER, TECH CHECK, NETWORKING QUESTIONS		
10:15 AM	**1:35 PM**	**Feedstock Technologies**	***Feedstocks Program***	***Mark Elless***
10:15 AM	10:30 AM	Overview of Projects	*BETO*	*Mark Elless*
10:30 AM	11:00 AM	Feedstock Supply Chain Analysis	*INL*	*Dave Thompson*
11:05 AM	11:35 AM	Supply Scenario Analysis	*ORNL*	*Matthew Langholtz*
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	*ORNL*	*Matthew Langholtz*
1:05 PM	1:35 PM	Resource Mobilization	*INL*	*Damon Hartley*
1:35 PM	2:30 PM	**Reviewer Wrap Up and Debrief**	***Reviewers***	

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

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**	**CO_2 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 Cupriavidus necator	*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

Start Time EST	End Time EST	CO-OPTIMA		
		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

Start Time EST	End Time EST	FEEDSTOCK CONVERSION INTERFACE CONSORTIUM		
		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

Start Time EST	End Time EST	SYSTEMS DEVELOPMENT AND INTEGRATION		
		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)

Start Time EST	End Time EST	SYSTEMS DEVELOPMENT AND INTEGRATION		
		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 technoeconomic 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

Start Time EST	End Time EST	SYSTEMS DEVELOPMENT AND INTEGRATION		
		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 IH2 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

Start Time EST	End Time EST	SYSTEMS DEVELOPMENT AND INTEGRATION		
		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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Peer Review Panels

ADVANCED ALGAL SYSTEMS REVIEW PANEL	
NAME	**AFFILLIATION**
Jaime Moreno*	*The GWP Group*
Jose Olivares	*Algal Research*
Brendan Scott	*Pebble Labs*
Ify Iwuchukwu	*Homology Medicines, Inc.*
Lora Cameron-Landis	*Lonza Biologics*
Linda Rauch	*Next Rung Technology*
Tyler Johannes	*University of Tulsa*
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BIOCHEMICAL CONVERSION & LIGNIN UTILIZATION REVIEW PANEL	
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Christopher Rao*	*University of Illinois at Urbana-Champaign*
Christopher Gerkin	*ICM, Inc.*
Charles Abbas	*iBioCat, Inc.*
Joseph Bozell	*University of Tennessee, Knoxville*
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CATALYTIC UPGRADING REVIEW PANEL	
NAME	**AFFILIATION**
Jesse Bond*	*Syracuse University*
Cory Phillips	*Phillips 66*
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Katie Goodall	*Independent Consultant*
Max Broad	*Independent Consultant*
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Paige Novak	*University of Minnesota*

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Patrick Rose	*Office of Naval Research Global, London*
Kirsten Benjamin	*Amyris*
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FEEDSTOCK TECHNOLOGIES REVIEW PANEL

NAME	AFFILIATION
Glenn Farris*	*Lee Enterprises Consulting, Inc.*
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Jason Martin	*POET-DSM Liberty*
Jingxin Wang	*West Virginia University*
John Cundiff	*Virginia Polytechnic Institute and State University*

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CO_2 UTILIZATION REVIEW PANEL	
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Matthew Kanan	*Stanford University*
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CO-OPTIMA REVIEW PANEL	
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Cory Phillips*	*Phillips 66*
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Aron Butler	*U.S. EPA Office of Transportation and Air Quality*
Bhupendra Khandelwal	*University of Alabama*
Nikita Pavlenko	*The International Council on Clean Transportation*
Reuben Sarkar	*American Center for Mobility*
Luca Zullo	*Synergy BurCell Technologies and VerdeNero, LLC*

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FEEDSTOCK-CONVERSION INTERFACE CONSORTIUM REVIEW PANEL	
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Kim Nelson	*GranBio*
Phil Weathers	*Weathers Associates Consulting*
Paul Paxson	*E3 Consulting*

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Mark Penshorn	*Penshorn Analysis*
Ignasi Palou-Rivera	*American Institute of Chemical Engineers*
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Chidiebere Agwu	Technical Project Monitor	Conversion Technologies	BGS
Remy Biron	Technical Project Monitor	Systems Development & Integration	BGS
Jesse Glover	Technical Project Monitor	Conversion Technologies	BGS
Alexander Jansen	Technical Project Monitor	Feedstock Technologies	BGS
Philip Lee	Technical Project Monitor	Advanced Algal Systems	Allegheny Science & Technology
Seth Menter	Technical Project Monitor	Data, Modeling & Analysis	BCS LLC
Evan Mueller	Technical Project Monitor	Advanced Algal Systems	BGS
Robert Natelson	Technical Project Monitor	Conversion Technologies	Allegheny Science & Technology
Marykate O'Brien	Technical Project Monitor	Systems Development & Integration	BGS
Mark Philbrick	Technical Project Monitor	Conversion Technologies	Allegheny Science & Technology
Clayton Rohman	Technical Project Monitor	Conversion Technologies	BGS
Ben Simon	Technical Project Monitor	Conversion Technologies	BGS
Camryn Sorg	Technical Project Monitor	Data, Modeling & Analysis	BGS
Colleen Tomaino	Technical Project Monitor	Advanced Algal Systems	BCS LLC
Stephanie Byham	Business Support & Team Lead	Operations	The Building People
Caroline Arkesteyn	Business Support	Operations	The Building People
Courtney Arnett	Business Support	Operations	Redhorse Corporation
Lauren Illing	Lead Analyst	Operations	BCS LLC
Brittany Clark	Business Support	Systems Development & Integration	The Building People
Richard Coaxum	Business Support	Feedstock Technologies	The Building People
Ty Robinson	Business Support	Advanced Algal Systems	The Building People
Rebecca Szymkowicz	Business Support	Data, Modeling & Analysis	Redhorse Corporation
Sri Tulastono	Business Support	Operations	Redhorse Corporation

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