

Bioenergy Technologies Office 2019 Project Peer Review Schedule

*Note: Draft schedule, subject to change

Monday, March 4, 2019

Time (MT)		
7:30 am – 8:30 am	Breakfast	
8:30 am - 8:40 am	Bioenergy Technologies Office Peer Review Welcome	Nichole Fitzgerald, BETO
8:40 am - 9:00 am	BETO Overview	Jonathan Male, Director, BETO
9:20 am – 9:40 am	Keynote Address	
9:40 am – 9:55 am	Break	
9:55 am – 10:15 am	Analysis and Sustainability Program Overview	Alicia Lindauer, BETO
10:15 am – 10:35 am	Advanced Algal Systems Program Overview	Alison Goss Eng, BETO
10:35 am – 10:55 am	Feedstock Supply and Logistics Program Overview	Alison Goss Eng, BETO
10:55 am – 11:35 am	Conversion Program Overview	Kevin Craig, BETO
11:35 am – 11:55 am	Advanced Development and Optimization Program Overview	Jim Spaeth, BETO
11:55 am – 1:00 pm	Lunch	
1:00 pm – 5:10 pm	Advanced Algal Systems, Biochemical Conversion, Catalytic Upgrading, Analysis and Sustainability, Performance-Advantaged Bioproducts and Separations, Waste to Energy, and Advanced Development and Optimization: Integration and Scale-Up Technology Area Review Sessions	
4:30 pm – 6:30 pm	Poster Session	

Tuesday, March 5, 2019

7:30 am – 8:30 am	Breakfast	
8:30 am – 9:30 am	Plenary Presentations	
9:30 am – 9:45 am	Break	
9:45 am – 11:45 am	Advanced Algal Systems, Biochemical Conversion, Catalytic Upgrading, Analysis and Sustainability, Performance-Advantaged Bioproducts and Separations, Waste to Energy, and Advanced Development and Optimization: Integration and Scale-Up Technology Area Review Sessions	
11:45 am – 1:00 pm	Lunch	
1:00 pm – 5:30 pm	Advanced Algal Systems, Biochemical Conversion, Catalytic Upgrading, Analysis and Sustainability, Performance-Advantaged Bioproducts and Separations, Waste to Energy, and Advanced Development and Optimization: Integration and Scale-Up Technology Area Review Sessions	
4:30 pm – 6:30 pm	Poster Session	

Wednesday, March 6, 2019

7:30 am – 8:30 am	Breakfast
8:30 am – 9:30 am	Plenary Presentations
9:30 am – 9:45 am	Break
9:45 am – 11:45 am	Advanced Algal Systems, Biochemical Conversion, Catalytic Upgrading, Analysis and Sustainability, Lignin Utilization, Feedstock Supply and Logistics, and Advanced Development and Optimization: Integration and Scale-Up Technology Area Review Sessions
11:45 am – 1:00 pm	Lunch
1:00 pm – 5:30 pm	Advanced Algal Systems, Biochemical Conversion, Catalytic Upgrading, Analysis and Sustainability, Lignin Utilization, Feedstock Supply and Logistics, and Advanced Development and Optimization: Integration and Scale-Up Technology Area Review Sessions

Thursday, March 7, 2019

7:30 am – 8:30 am	Breakfast
8:30 am – 9:30 am	Plenary Presentations
9:30 am – 9:45 am	Break
9:45 am – 11:45 am	Advanced Algal Systems, Agile BioFoundry, Carbon Dioxide Utilization, Co-Optimization of Fuels and Engines, Feedstock-Conversion Interface Consortium, and Advanced Development and Optimization: Analysis and Modeling Technology Area Review Sessions
11:45 am – 1:00 pm	Lunch
1:00 pm – 5:30 pm	Advanced Algal Systems, Agile BioFoundry, Carbon Dioxide Utilization, Co-Optimization of Fuels and Engines, Feedstock-Conversion Interface Consortium, and Advanced Development and Optimization: Analysis and Modeling Technology Area Review Sessions

Friday, March 8, 2019- Closed-Door Session (open to Lead Reviewers, Steering Committee, and BETO Staff)

7:30 am – 8:00 am	Breakfast
8:15 am – 12:00 pm	Lead reviewer debriefs of technology review sessions
12:00 pm – 12:30 pm	Working Lunch
12:30 pm – 1:05 pm	Final presentations and closing remarks

Technology Area Review Session Agendas

Advanced Algal Systems.....	3
Biochemical Conversion.....	6
Catalytic Upgrading.....	8
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Performance-Advantaged Bioproducts and Separations	12
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Feedstock Supply and Logistics.....	18
Lignin Utilization	19
Agile BioFoundry.....	20
Carbon Dioxide Utilization	21
Co-Optimization of Fuels and Engines	22
Advanced Development and Optimization: Analysis and Modeling	23
Feedstock-Conversion Interface Consortium	24

Advanced Algal Systems

Day 1 – Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:30	Advanced Algal Systems: Session Introduction	BETO	
1:30	1:50	HTL TEA	PNNL	Sue Jones
1:50	2:30	Algal Biofuels Techno-economic Analysis	NREL	Ryan Davis
2:30	3:00	Microalgae Analysis	PNNL	Mark Wigmosta
3:00	3:15	Break		
3:15	3:45	Biomass Composition	NREL	Lieve Laurens
3:45	4:30	DISCOVR	PNNL/LANL/NREL/SNL	Michael Huesemann
4:30	5:00	Reviewer/Lead Reviewer Debriefing		
Day 2 – Tuesday, March 5, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	9:50	Advanced Algal Systems: Opening Remarks	BETO	TBD
9:50	10:20	Multi-scale Characterization of Improved Algae Strains	LANL	Taraka Dale
10:20	10:50	Algae Biotechnology Partnership	NREL	Michael Guarnieri
10:50	11:20	Genetic blueprint of microalgae	LANL/LBNL	Shawn Starkenburg
11:20	11:50	Robust genome engineering tools for the algal research community	LANL	Blake Hovde
11:50	1:00	Lunch		

1:00	1:30	Functional characterization of cellular metabolism	LANL	Scott Twary
1:30	2:00	Cyanobacteria Photosynthetic Energy Platform	NREL	Jianping Yu
2:00	2:30	Algal Translational Genomics	LANL	Shawn Starkenburg
2:30	3:00	SOFAST: Streamlined Optimization of Filamentous Arthrospira/Spirulina Traits	Lumen	Jim Roberts
3:00	3:15	Break		
3:15	3:45	Microbiome engineering of Desmodesmus to alleviate carbon limitation	LLNL	Xavier Mayali
3:45	4:15	A comprehensive strategy for stable, high productivity cultivation of microalgae with controllable biomass composition	University of Toledo	Sridhar Viamajala
4:15	4:30	Reviewer/Lead Reviewer De-briefing		
Day 3 – Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:15	Prevention of low productivity periods in large-scale microalgae cultivation	Global Algae Innovations, Inc.	Aga Pinowska
10:15	10:45	Developing Advanced Genetic and Synthetic Biology Tools for Improved Algae Productivity	University of California, San Diego	Stephen Mayfield
10:45	11:15	High-Throughput Directed Evolution of Marine Microalgae and Phototrophic Consortia for Improved Biomass Yields	Colorado School of Mines	Matthew Posewitz
11:15	11:45	Success Through Synergy: Increasing Cultivation Yield and Stability with Rationally Designed Consortia	New Mexico Consortium	Alina Corcoran
11:45	1:00	Lunch		
1:00	1:30	Direct Photosynthetic Production of Biodiesel by Growth-Decoupled Cyanobacteria	Arizona State University	Wim Vermass
1:30	2:00	A Novel Platform for Algal Biomass Production Using Cellulosic Mixotrophy	Arizona State University	Pete Lammers
2:00	2:30	Attached Periphytic Algae Production and Analysis	SNL	Ryan Davis
2:30	3:00	Rewiring Algal Carbon Energetics for Renewables (RACER)	Rewiring Algal Carbon Energy	Lieve Laurens
3:00	3:15	Break		
3:15	3:45	Development of algal biomass yield improvements in an integrated process	Global Algae Innovations, Inc.	David Hazlebeck

3:45	4:15	Integrated Low Cost and High Yield Microalgal Biofuel Intermediates Production	MicroBio Engineering	John Benemann
4:15	4:45	Production of Biocrude in an Advanced Photobioreactor-Based Biorefinery	Algenol	Ron Chance
4:45	5:15	Reviewer / Lead Reviewer De-briefing		
Day 4 – Thursday, March 7, 2019				
Start Time	End Time	Presentation	Organization	Presenter
8:30	9:00	PACE: Producing Algae for Coproducts and Energy	Colorado School of Mines	Matthew Posewitz
9:00	9:30	Marine Algae Industrialization Consortium (MAGIC)	Duke University	Zackary Johnson
9:30	10:00	Break		
10:00	10:30	Integrated Pest Management for Early Detection Algal Crop Production	University of California, San Diego	Robert Pomeroy
10:30	11:00	Continuous Biological Protection and Control of Algal Pond Productivity/Algal protective probiotics	LLNL	Rhona Stuart
11:00	11:30	Logistics	INL	Lynn Wendt
11:30	1:00	Lunch		
1:00	1:30	Atmospheric CO2 Capture and Membrane Delivery	Arizona State University	Bruce Rittman
1:30	2:00	Algae Production CO2 Absorber with Immobilized Carbonic Anhydrase	Global Algae Innovations, Inc.	David Hazlebeck
2:00	2:45	Algae Testbed Public-Private Partnership (ATP3) - a RAFT Partnership	Arizona State University	John McGowen
3:00	3:15	Break		
3:15	4:00	Regional Algal Feedstock Testbed Partnership	University of Arizona	Kimberly Ogden
4:00	4:30	Algae Technology Educational Consortium	NREL	Cindy Gerk
4:30	5:00	Reviewer/Lead Reviewer De-briefing		

Biochemical Conversion

Day 1 – Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:10	Biochemical Conversion: Session Introduction	BETO	Ian Rowe
1:10	1:35	Continuous Enzymatic Hydrolysis Development	NREL	Jim McMillan
1:35	2:00	Low Temperature Advanced Deconstruction	NREL	Mel Tucker
2:00	2:30	Enzyme Engineering and Optimization	NREL	Mike Himmel
2:30	3:00	Targeted Microbial Development	NREL	Min Zhang
3:00	3:15	Break		
3:15	3:45	Biochemical Process Modeling and Simulation	NREL	Michael Crowley
3:45	4:15	Bench Scale Integration	NREL	Nancy Dowe
4:15	4:45	Biological Upgrading of Sugars	NREL	Jeff Linger
4:45	5:15	Reviewer/Lead Reviewer De-briefing		
Day 2 – Tuesday, March 5, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:15	Biochemical Platform Analysis	NREL	Ryan Davis
10:15	10:45	Analytical Development and Support	NREL	Ed Wolfrum
10:45	11:15	Advanced Supervisory Control and Data Acquisition (SCADA) for Biochemical Process Integration (with Bend)	PNNL	Jim Collett
11:15	11:45	Bioconversion of Algal Carbohydrates and Proteins to Fuels	SNL	Ryan Davis
11:45	1:00	Lunch		
1:00	1:30	Combined Algae Processing (CAP) Process Research	NREL	Phil Pienkos
1:30	2:00	Coproduction of Chemicals and Fuels Enabled by Hybrid Conversion of Lignin and Bioconversion Intermediates	PNNL	Jim Collett
2:00	2:30	Fungal Genomics - Genetics	PNNL	Jon Magnuson
2:30	3:00	Cell Free & Immobilization Technologies (CFIT)	NREL	Yannick Bomble
3:00	3:15	Break		
3:15	3:45	PET Upcycling - NREL	NREL	Gregg Beckham
3:45	3:55	Introduction to External FOAs	BETO	Ian Rowe
3:55	4:25	Engineered reversal of the β -oxidation cycle in clostridia for the synthesis of fuels and chemicals	Northwestern University	Michael Koepke
4:25	4:50	Improving tolerance of yeast to lignocellulose-derived feedstocks and products	Massachusetts Institute of Technology	Felix Lam
4:50	5:20	Reviewer/Lead Reviewer De-briefing		

Day 3 – Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:15	Continuous Membrane Assisted IBE fermentation from AVAP Cellulosic Sugars	American Process Inc	Vesa Pylkkanen
10:15	10:45	PRODUCTION OF HIGH OIL, TRANSGENE FREE CAMELINA SATIVA PLANTS	Yield10 Bioscience	Kristi Snell
10:45	11:15	ENGINEERING CLOSTRIDIA FOR N-BUTANOL PRODUCTION FROM LIGNOCELLULOSIC BIOMASS AND CO2	The Ohio State University	Shang-Tian Yang
11:15	11:45	Production of High Performance Lubricants from Cellulosic Sugar	Cargill	Tom McMullin
11:45	1:00	Lunch		
1:00	1:25	Engineering Thermophiles to Produce Drop-in fuels from Syngas	Kiverdi	John Reed
1:25	1:50	Second-Generation Mixotrophy for Highest Yield and Least Expensive Biochemical Production	White Dog Labs Inc.	Shawn Jones
1:50	2:15	Fermentative production of tricarboxylic acid cycle-derived chemicals using cellulosic sugars	Lygos, Inc	Jeffrey Dietrich
2:15	2:40	Development of a Sustainable Green Chemistry Platform for Production of Acetone	LanzaTech, Inc.	Michael Koepke
2:40	3:05	Process Intensification for the reduced Commercial CAPEX of Biofuels Production (PRICE CAP) using Dynamic Metabolic Control	Duke University	Mike Lynch
3:05	3:15	Break		
3:15	3:45	Integrated process for commercial production of farnesene, a versatile platform chemical, from domestic lignocellulosic feedstock	Amyris, Inc.	Quinn Mitrovich
3:45	4:15	Bio-syngas to Fatty Alcohols (C6-14) as a Pathway to Fuels	Dow Chemical Company	Devon Rosenfeld
4:15	4:45	Alkaline-Oxidative Pretreatment of Woody Biomass for Optimal Co-Product	Michigan State University	Eric Hegg
4:45	5:15	Reviewer/Lead Reviewer De-briefing		

Catalytic Upgrading

Day 1 - Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:30	Catalytic Upgrading: Session Introduction	DOE	Jeremy Leong and Trevor Smith
1:30	2:00	Overview of Chemical Catalysis for Bioenergy Consortium	NREL	Josh Schaidle
2:00	2:30	Catalyst Cost Model Development	NREL/PNNL	Josh Schaidle
2:30	3:00	ChemCatBio Data Hub	NREL	Carrie Farberow
3:00	3:15	Break		
3:15	3:30	Biochemical Platform Analysis	NREL	Ryan Davis
3:30	4:15	Catalytic Upgrading of Biochemical Intermediates	NREL/PNNL/ORNL/LANL	Richard Elander - NREL
4:15	4:45	Direct Catalytic Conversion of Cellulosics	NREL	Derek Vardon
4:45	5:00	Reviewer/Lead Reviewer De-briefing		
Day 2 - Tuesday, March 5, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:25	Thermochemical Platform Analysis	NREL	Abhijit Dutta
10:25	11:05	Liquid Fuels via Upgrading of Indirect Liquefaction Intermediates	NREL/PNNL/ORNL	Dan Ruddy
11:05	11:45	Catalytic Upgrading of Pyrolysis Products	NREL	Josh Schaidle
11:45	1:00	Lunch		
1:00	1:25	CO2 Utilization: Thermo- and Electro-catalytic routes to fuels and chemicals	NREL	Jack Ferrell
1:25	1:50	Hybrid electro- and thermo-catalytic upgrading of CO2 to fuels and C2+ chemicals	ORNL	Adam Rondinone
1:50	2:20	Catalyst Deactivation Mitigation for Biomass Conversion	PNNL	Huamin Wang
2:20	3:00	Consortium for Computational Physics and Chemistry	ORNL/NREL/ANL/PNNL/NETL	James Parks II
3:00	3:15	Break		
3:15	4:00	Advanced Catalyst Synthesis and Characterization	NREL/ORNL/ANL/SNL	Susan Habas
		Introduce Directed Funding Awards (DFA)	DOE	Jeremy Leong and Trevor Smith
4:00	4:15	DFA - Comprehensive Characterization of Mixed Metal Oxide Catalysts	NREL/GEVO	Susan Habas
4:15	4:30	DFA - Enhanced Catalyst Durability and Sulfur Tolerance by Atomic Layer Deposition w/	NREL/ALD Nanosolutions/Johnson Matthey	Derek Vardon
4:30	4:45	DFA - Advanced Characterizations to Accelerate	ORNL/Vertimass	Zhenglong Li

		Commercial Catalyst Development		
4:45	5:15	Reviewer/Lead Reviewer De-briefing		
Day 3 - Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:00	DFA - Catalyst Development for Selective Electrochemical Reduction of CO ₂ to High-value Chemical Precursors	NREL/Opus - 12	Fred Baddour
10:00	10:15	CCB DFAs: Low Pressure Hydrogenolysis Catalysts for Bioproduct Upgrading	PNNL/Visolis	Karthi Ramasamy
10:15	10:30	CCB DFAs: Terephthalic Acid Synthesis from Ethanol via p-Methyl Benzaldehyde	PNNL/Lanzatech	Karthi Ramasamy
10:30	10:45	CCB DFAs: Tactical Aviation Fuels	LANL/GEVO	Andrew Sutton
10:45	11:00	CCB DFAs: Improved Value of the Gasoline and Fuel Oil Co-Product Fractions w/LanzaTech	PNNL/Lanzatech	Rob Dagle
11:00	11:15	CCB DFAs: Catalytic Process Intensification of Bio-Renewable Surfactants Platform	LANL/Sironix	Andrew Sutton
11:15	11:30	Introduce FOA projects	DOE	Jeremy Leong and Trevor Smith
11:30	11:45	Morning Wrap Up		
11:45	1:00	Lunch		
1:00	1:30	THF Co-solvent Fractionation to Fuel Precursors (Furfural, Levulinic Acid, 5-HMF)	University of California - Riverside	Charles Wyman
1:30	2:00	One-Step High-Yield Production of Fungible Gasoline, Diesel, and Jet Fuel Blend Stocks from Ethanol without Added Hydrogen	Vertimass LLC	John Hannon
2:00	2:30	Catalytic Processes for Production of α,ω -diols from Lignocellulosic Biomass	University of Wisconsin	George Huber
2:30	3:00	Condensed Phase Catalysis Technology for Fuels and Carbon Products	University of Tennessee	David Harper
3:00	3:15	Break		
3:15	3:45	Reviewer/Lead Reviewer De-briefing		

Analysis & Sustainability

Day 1 - Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:15	Analysis and Sustainability: Session Introduction	BETO	Alicia Lindauer
1:15	1:45	SI Systems-Level Analysis	NREL-SI	Amy Schwab
1:45	2:30	Strategic Analysis support	NREL	Mary Bidy
2:30	3:00	Biofuels national strategic benefits analysis	ORNL	Paul Leiby
3:00	3:15	Break		
3:15	3:45	Bioeconomy Scenario Analysis and Modeling	NREL	Emily Newes
3:45	4:15	Bioproducts Transition System Dynamics	NREL	Rebecca Hanes
4:15	4:45	Scientific Methods for Biomass Reference Scenarios	ORNL	Keith Kline
4:45	5:05	Biofuels Information Center	NREL	Kristi Moriarty
5:05	5:35	Reviewer / Lead Reviewer De-briefing		
Day 2 - Tuesday, March 5, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	9:50	Analysis and Sustainability: Opening Remarks	BETO	Alicia Lindauer
9:50	10:30	GREET Deployment and Biofuel Pathway Research and Analysis	ANL	Michael Wang
10:30	11:00	Carbon Cycling, Environmental & Rural Economic Impacts of Collecting & Processing Specific Woody Feedstocks in Biofuels	NCSU	Steve Kelley
11:00	11:30	GCAM Bioenergy and Land Use Modeling and Directed R&D	PNNL	Marshall Wise
11:30	1:00	Lunch		
1:00	1:30	Bioeconomy Carbon Flux Assessment – BECCS	ORNL	Matt Langholtz
1:30	2:00	Harnessing the Bioeconomy for Carbon Drawdown: Potential and Innovation Needs	LLNL	AJ Simon
2:00	2:30	Integrated life cycle sustainability analysis (ILCSA)	NREL	Patrick Lamers
2:30	3:00	Quantifying and Visualizing Progress Towards Sustainability	ORNL	Esther Parish
3:00	3:15	Break		
3:15	3:45	Water Resource Management for Bioenergy and Bioproducts	ANL	May Wu
3:45	4:15	Biofuel Air Emissions Analysis	NREL	Danny Inman
4:15	4:45	Collaborations to Assess Land Effects of Bioenergy	ORNL	Keith Kline
4:45	5:05	Bioenergy Knowledge Discovery Framework	ORNL	Aaron Myers
5:05	5:35	Reviewer/Lead Reviewer De-briefing		
Day 3 - Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	9:50	Introduction	BETO	Alicia Lindauer

9:50	10:35	Enabling Sustainable Landscape Design for Continual Improvement of Operating Bioenergy Supply Systems	Antares Group Inc	Kevin Comer
10:35	11:05	Integrated Landscape Management	INL	Mike Griffel
11:05	11:35	Economic Analysis of Risk	INL	Jason Hansen
11:35	1:00	Lunch		
1:00	1:45	Biomass Production and Nitrogen Recovery	ANL	Cristina Negri
1:45	2:15	Short Rotation Woody Biomass Sustainability	ORNL	Natalie Griffiths
2:15	2:45	Sustainable Biomass through Forest Restoration	PNNL	Mark Wigmosta
2:45	3:10	Break		
3:10	3:40	Visualizing Ecosystem Service Portfolios of Agricultural and Forestry Biomass Production	ORNL	Yetta Jager
3:40	4:10	Spatially resolved measurements of environmental sustainability indicators for bioenergy	ORNL	Natalie Griffiths
4:10	5:00	Reviewer/Lead Reviewer De-briefing		

Performance-Advantaged Bioproducts and Separations

Day 1 - Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:15	Separations Consortium: Session Introduction	BETO	Nichole Fitzgerald
1:15	1:35	Separations Consortium - Overview	ANL	Jennifer Dunn
1:35	2:10	Separations Consortium - Separations for Biochemical Processes	NREL	Gregg Beckham
2:10	2:45	Separations Consortium - Separations for Thermochemical Processes	NREL	Kim Magrini
2:45	3:15	Break		
3:15	3:45	Separations Consortium - Analysis	NREL	Mary Bidy
3:45	4:15	Separations Consortium - Overview of CRADAs	LBNL	Todd Pray
4:15	4:45	Reviewer/Lead Reviewer De-briefing		
Day 2 - Tuesday, March 5, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	9:50	Performance Advantaged Bioproducts: Session Introduction	BETO	Nichole Fitzgerald
9:50	10:20	Biomass Conversion to Acrylonitrile Monomer- Precursor for Production of Carbon Fibers	Southern Research Institute	Amit Goyal
10:20	10:50	Renewable Carbon Fibers Consortium	NREL and ORNL	Mary Bidy
10:50	11:20	Melt-stable engineered lignin thermoplastic: a printable resin	ORNL	Amit Naskar
11:20	11:50	Bioderived Materials for Large- Scale Additive Manufacturing	ORNL	Erin Webb
11:50	1:00	Lunch		
1:00	1:05	Performance Advantaged Bioproducts: A Consortium Approach – Opening Remarks	BETO	Nichole Fitzgerald
1:05	1:35	Analysis in support of novel biobased products and functional replacements	NREL	Mary Bidy
1:35	2:05	Inverse biopolymer design through machine learning and molecular simulation	NREL	Mike Crowley
2:05	2:35	Performance-Advantaged Bioproducts via Selective Biological and Catalytic Conversions	NREL	Gregg Beckham
2:35	3:05	Analysis in support of performance advantaged bio- products from catalytic fast pyrolysis	NREL	Mark Nimlos

3:05	3:20	Break		
3:20	3:50	Tailored Polymers through Rational Monomer Development	LANL	Andy Sutton
3:50	4:30	Reviewer/Lead Reviewer De-briefing		

Waste to Energy

Day 1 - Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:10	Waste to Energy: Session Introduction	DOE	Mark Philbrick/David Babson
1:10	1:40	Thermochemical Interface (for algae and HTL)	PNNL	Dan Anderson
1:40	2:10	Bench Scale HTL of Wet Waste Feedstocks	PNNL	Justin Billing
2:10	2:40	Analysis and Sustainability Interface - PNNL	PNNL	Sue Jones
2:40	3:00	Reviewer networking opportunity		
3:00	3:15	Break		
3:15	3:45	Production of Methane From Organic Waste Streams with Novel Biofilm-Enhanced Anaerobic Membrane Bioreactors	ANL, LANL	Meltem Urgan-Demirtas
3:45	4:15	Biomethanation to Upgrade Biogas to Pipeline Grade Methane	NREL	Kevin Harrison
4:15	4:45	Modular Microbial Electromethanogenesis Flow Reactor for Biogas Upgrading	LLNL	Sarah Baker
4:45	5:10	Reviewer/Lead Reviewer De-briefing		
Day 2 - Tuesday, March 5, 2019				
9:45	10:15	Waste-to-Energy: Feedstock Evaluation and Biofuels Production Potential - PNNL	PNNL	Tim Seiple
10:15	10:45	Waste-to-Energy: Feedstock Evaluation and Biofuels Production Potential - NREL	NREL	Anelia Milbrandt
10:45	11:15	Waste to Energy System Simulation Model	NREL	Danny Inman
11:15	11:45	Panelist free time		
11:45	1:00	Lunch		
1:00	1:30	Arrested Methanogenesis for Volatile Fatty Acid Production	ANL	Meltem Urgan-Demirtas
1:30	2:00	Separations in Support of Arresting Anaerobic Digestion	NREL	Eric Karp
2:00	2:30	Reverse Engineering Anaerobic Digestion of Wet Waste for Biofuels Intermediates and Bioproducts	NREL	Steve Decker
2:30	3:00	Analysis in Support of Biofuels and Bioproducts from Organic Wet Waste Feedstocks	NREL	Ling Tao
3:00	3:15	Break		
3:15	3:45	Biogas to Liquid Fuels and Chemicals Using a Methanotrophic Microorganism	NREL	Mike Guarneri

3:45	4:15	Biogas Valorization: Development of a Biogas-to- Muconic Acid Bioprocess	NREL	Mike Guarnieri
4:15	5:15	Reviewer/Lead Reviewer De-briefing		

Advanced Development and Optimization: Integration and Scale-Up

Day 1 - Monday, March 4, 2019				
Start Time	End Time	Presentation	Organization	Presenter
1:00	1:30	Advanced Development and Optimization: Integration and Scale-Up -- Session Introduction	BETO	Liz Moore
1:30	2:00	An Affordable Advanced Biomass Cookstove with Thin Film Thermoelectric Generator	LBNL	Vi Rapp
2:00	2:30	Development and Standardization of Techniques for Bio-oil Characterization	NREL	Jack Ferrell
2:30	3:00	The Engineering of Catalyst Scale Up	NREL	Fred Baddour
3:00	3:15	Break		
3:15	3:45	LIBERTY - Launch of an Integrated Bio-refinery with Eco-sustainable and Renewable Technologies in Y2009	POET Project Liberty, LLC	Mike Dishman
3:45	4:15	Biomass - Feedstock User Facility	INL	Neal Yancey
4:15	4:45	IMPROVED FEEDING AND RESIDUAL SOLIDS RECOVERY SYSTEM FOR IBR	Thermochemical Recovery International Inc.	Ravi Chandran
4:45	5:10	Reviewer/Lead Reviewer De-briefing		
Day 2 - Tuesday, March 5, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:15	Advanced Development and Optimization: Integration and Scale-Up -- Opening Remarks	BETO	Liz Moore
10:15	10:45	Biomass Gasification for Chemicals Production Using Chemical Looping Techniques	The Ohio State University	Andrew Tong
10:45	11:15	Building Blocks from Biocrude: High Value Methoxyphenols	Research Triangle Institute (RTI)	Ofei Mante
11:15	11:45	Pilot-Scale Algal Oil Production	Global Algae Innovations	David Hazlebeck
11:45	1:00	Lunch		
1:00	1:30	Integration and Scale Up - NREL	NREL	Kristin Smith
1:30	2:00	Strategies for Co-processing in Refineries	NREL	Robert Baldwin
2:00	2:30	Improved Hydrogen Utilization and Carbon Recovery for Higher Efficiency Thermochemical Bio-oil Pathways	Research Triangle Institute	David Dayton
2:30	3:00	Low Carbon Hydrocarbon Fuels From Industrial Off Gas	LanzaTech, Inc.	Laurel Harmon
3:00	3:15	Break		
3:15	3:45	Small Scale Decentralized Fuel Production Facilities Via Advanced Heat Exchanger-Enabled Biorefineries	ThermoChem Recovery International, Inc.	Ravi Chandran

3:45	4:15	Converting MSW Into Low-Cost, Renewable Jet Fuel	Fulcrum Bioenergy	Pete Tiverios
4:15	4:45	Woody Biomass Biorefinery Capability Development	Red Rocks Biofuels	Terry Kulesa
4:45	5:15	Reviewer/Lead Reviewer De-briefing		
Day 3 - Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:15	Advanced Development and Optimization: Integration and Scale-Up -- Opening Remarks	BETO	Liz Moore
10:15	10:45	Upgrading of Stillage Syrup into Single Cell Protein for Aquaculture Feed	White Dog Labs	Shawn Jones
10:45	11:15	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
11:15	11:45	Multi-stream Integrated Biorefinery Enabled by Waste Processing	Texas A&M Agrilife Research	Joshua Yuan
11:45	1:00	Lunch		
1:00	1:30	Hydrothermal Processing of Biomass	PNNL	Dan Anderson
1:30	2:00	HYPOWERS: Hydrothermal Processing of Wastewater Solids	Water Research Foundation (WRF)	Jeff Moeller
2:00	2:30	Rialto Advanced Pyrolysis Integrated Biorefinery	Rialto Bioenergy Facility LLC	Yaniv Scherson
2:30	3:00	LBNL ABPDU Support	LBNL	Todd Pray
3:00	3:15	Break		
3:15	3:45	Pilot Scale Integration	NREL	Dan Schell
3:45	4:15	Advanced Biofuels and Bioproducts with AVAP	AVAPCO LLC	Theodora Retsina
4:15	4:45	Materials Degradation in Biomass Derived Oil	ORNL	Jim Keiser
4:45	5:15	Reviewer/Lead Reviewer De-briefing		

Feedstock Supply and Logistics

Day 3 – Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:00	Feedstock Supply and Logistics: Session Introduction	BETO	Mark Elless
10:15	10:45	Feedstock Supply Chain Analysis	INL	David Thompson
10:45	11:15	Supply Scenario Analysis	ORNL	Matthew Langholtz
11:15	11:45	Resource Mobilization	INL	Damon Hartley
11:45	1:00	Lunch		
1:00	1:30	Development of a wet logistics system for bulk corn stover	INL	Lynn Wendt
1:30	2:00	Size Reduction, Drying and Densification of High Moisture Biomass	INL	Jaya Tumuluru
2:00	2:30	Biomass Supply Chain Risk Standards	INL	Rachel Emerson
2:30	3:00	Sensors and Measurement in Harvest & Collection for Rapid Quality Control of Corn Stover	INL	Bill Smith
3:00	3:15	Break		
3:15	3:35	Demonstration of an Advanced Supply Chain for Lower Cost, Higher Quality Biomass Feedstock Delivery	FDC Enterprises	Kevin Comer
3:35	3:55	Next Generation Logistics Systems for Delivering Optimal Biomass Feedstocks to Biorefining Industries in the Southeastern United States	University of Tennessee	Tim Rials
3:55	4:15	Improved Advanced Biomass Logistics Utilizing Woody and other Feedstocks in the Northeast and Pacific Northwest	The Research Foundation of SUNY/SUNY-ESF	Tim Volk
4:15	4:45	CEMAC: Evaluation of Agricultural Equipment Manufacturing for a Bio-based Economy	NREL	Chad Augustine
4:45	5:05	Waste to Wisdom: Utilizing forest residues for the production of bioenergy and biobased products	Humboldt State University	Han-Sup Han
5:05	5:35	Reviewer/Lead Reviewer De-briefing		

Lignin Utilization

Day 3 – Wednesday, March 6, 2019				
Start Time	End Time	Presentation	Organization	Presenter
9:45	10:00	Lignin Utilization: Session Introduction	BETO	Jay Fitzgerald
10:00	10:30	Upgrading Lignin-containing Biorefinery Residues for Bioplastics	Texas A & M	Joshua Yuan
10:30	11:00	Biomass Electrochemical Reactor for Upgrading Biorefinery Waste to Industrial Chemicals and Hydrogen	Ohio University	John Staser
11:00	11:30	Lignin First Biorefinery Development	NREL	Gregg Beckham
11:30	12:00	Oxidative Valorization of Lignin	PNNL	Xiao Zhang
12:00	1:00	Lunch		
1:00	1:30	Lignin Utilization	NREL	Gregg Beckham
1:30	2:00	Gas Phase Selective Partial Oxidation of Lignin for Co-products from Biomass Conversion	NREL	Matt Yung
2:00	2:30	Electrocatalytic Oxidation of Lignin Oligomers	NREL	Josh Schaidle
2:30	3:00	Biological Lignin Valorization - NREL	NREL	Davinia Salvachua
3:00	3:15	Break		
3:15	3:45	Biological Lignin Valorization – SNL	SNL	Kenneth Sale
3:45	4:15	Metabolic engineering for lignin conversion	ORNL	Adam Guss
4:15	4:45	Biological Conversion of Thermochemical Aqueous Streams	NREL	Gregg Beckham
5:15	5:45	Reviewer/Lead Reviewer De-briefing		

Agile BioFoundry

Day 4 - Thursday, March 7, 2019				
Start Time	End Time	Presentation	Organization	Presenter
8:30	8:40	Agile BioFoundry: Session Introduction	BETO	Jay Fitzgerald
8:40	9:30	Agile BioFoundry Overview	LBNL	Nathan Hillson
9:30	10:00	Break		
10:00	10:40	<i>Pseudomonas putida</i>	NREL	Gregg Beckham
10:40	11:20	<i>Rhodospiridium toruloides</i>	SNL	John Gladden
11:20	12:00	<i>Aspergillus pseudoterreus</i>	PNNL	Jon Magnuson
12:00	1:00	Lunch		
1:00	1:50	Design-Build-Test-Learn Infrastructure	LBNL	Nathan Hillson
1:50	2:20	Integrated Analysis	NREL	Mary Bidy
2:20	2:50	Host Onboarding	ORNL	Adam Guss
2:50	3:15	Break		
3:15	3:45	Process Integration and Scale-Up	LBNL	Deepti Tanjore
3:45	4:15	Industry Outreach	ANL	Phil Laible
4:15	4:45	Directed Funding Opportunities and Partnerships	LBNL	Blake Simmons
4:45	5:15	Reviewer/Lead Reviewer De-briefing		

Carbon Dioxide Utilization

Day 4 – Thursday, March 7, 2019				
Start Time	End Time	Presentation	Organization	Presenter
8:30	8:40	Carbon Dioxide Utilization: Session Introduction	BETO	Ian Rowe
8:40	9:10	Feasibility Study of Utilizing Electricity to Produce Intermediates from CO2	NREL	Josh Schaidle
9:10	9:40	Break		
9:40	10:10	CO2 Utilization: Thermo- and Electro-catalytic routes to fuels and chemicals	NREL	Jack Ferrell
10:10	10:30	CCB DFAs: Catalyst Development for Selective Electrochemical Reduction of CO2 to High-value Chemical Precursors w/Opus-12	NREL	Fred Baddour
10:30	11:00	Hybrid electro- and thermo-catalytic upgrading of CO2 to fuels and C2+ chemicals	ORNL	Adam Rondinone
11:30	12:00	CO2 valorization via rewiring carbon metabolic network	NREL	PinChing Maness
9:40	10:10	CO2 Utilization: Thermo- and Electro-catalytic routes to fuels and chemicals	NREL	Jack Ferrell
12:00	1:00	Lunch		
1:00	1:30	Improving formate upgrading by Cupriavidus necator	NREL	Christopher Johnson
1:30	2:00	Enhancing Acetogen Formate Utilization to Value-Added Products	NREL	Jonathan Lo
2:00	2:30	Synthetic C1 Condensation Cycle for Formate-Mediated ElectroSynthesis - NREL	NREL	Wei Xiong
3:00	3:15	Break		
3:15	3:45	Integration of CO2 Electrolysis with Microbial Syngas; Upgrading to Rewire the Carbon Economy	NREL	Michael Resch
3:45	4:15	Biomethanation to Upgrade Biogas to Pipeline Grade Methane	NREL	Kevin Harrison
4:15	4:45	Novel Cell-Free Enzymatic Systems for CO2 Capture and Utilization: Bio-energy based Biologically Carbon Capture and Valorization (BeCC&V)	NREL	Min Zhang
4:45	5:15	Reviewer/Lead Reviewer De-briefing		

Co-Optimization of Fuels and Engines

Day 4 - Thursday, March 7, 2019				
Start Time	End Time	Presentation	Organization	Presenter
8:30	8:40	Co-Optimization of Fuels and Engines: Session Introduction	BETO	Alicia Lindauer
8:40	9:10	Co-Optima Overview	Co-Optima Consortium	Daniel Gaspar
9:10	9:40	Co-Optima Bioblendstock Structure Property and Predictions	Co-Optima Consortium	Anthe George
9:40	10:00	Break		
10:00	10:30	Co-Optima Bioblendstock Fuel Property Characterization	Co-Optima Consortium	Gina Fioroni
10:30	11:00	Co-Optima Bioblendstock Generation	Co-Optima Consortium	Derek Vardon
11:00	11:30	Integrated analysis of efficiency-enhancing bio-blendstocks	Co-Optima Consortium	Jennifer Dunn
11:30	12:00	Break		
12:00	1:00	Lunch		
1:00	1:30	Combustion of petroleum-based transportation fuels and their blends with biofuels: a new approach for developing surrogates and understanding the effects of blending	Cornell University	C. Thomas Avedisian
1:30	2:00	Multitude Characterization and Prediction of DOE Advanced Biofuels Properties	The University of Central Florida Board of Trustees	Kareem Ahmed
2:00	2:30	Rapid Construction of Validated Chemistry Models for Advanced Biofuels	Massachusetts Institute of Technology	William Green
2:30	3:00	MISR: Miniature Ignition Screening Rapid Compression Machine for Kinetic Measurements of Novel Fuels	University of Illinois at Chicago	Patrick Lynch
3:00	3:30	Reviewer/Lead Reviewer De-briefing		

Advanced Development and Optimization: Analysis and Modeling

Day 4 - Thursday, March 7, 2019				
Start Time	End Time	Presentation	Organization	Presenter
8:30	8:40	Advanced Development and Optimization: Analysis and Modeling Session Introduction	BETO	Siva Sivasubramanian
8:40	9:10	Codes and Standards in IBR's	ORNL	Erin Webb
9:10	9:40	Feedstock to Function: Improving biobased product and fuel development through adaptive technoeconomic and performance modeling	LBNL	Vi Rapp
9:40	10:00	Break		
10:00	10:30	Integrated Computational Tools to Optimize and De-Risk Feedstock Handling & High-Pressure Reactor Feedings Systems: Application to Red Rock Biofuels' Biorefinery	NREL	Jonathan J. Stickel
10:30	11:00	Integrated Process Optimization for Biochemical Conversion	Clemson University	Sandra Eksioglu
11:00	11:30	Analytical Modeling of Biomass Transport and Feeding Systems	Purdue University	Michael Ladisch
11:30	12:00	Improved biomass feedstock materials handling and feeding engineering data sets, design methods, and modeling/simulation tools	Forest Concepts, LLC	James Dooley
12:00	1:00	Lunch		
1:00	1:30	Sustainable Production of JP-10	LANL	Andrew Sutton
1:30	2:00	Analysis for JET High Performance Fuels	SNL	Anthe George
2:00	2:30	GARDN collaboration U.S. - Canada Aviation Fuels at PNNL	PNNL	Corinne Drennan
2:30	3:00	Evaluation of Bio-oils for Use in Marine Engines	ORNL	Michael Kass
3:00	3:15	Break		
3:15	3:45	Reviewer/Lead Reviewer De-briefing		

Feedstock-Conversion Interface Consortium

Day 4 - Thursday, March 7, 2019				
Start Time	End Time	Presentation	Organization	Presenter
8:15	8:30	Feedstock-Conversion Interface Consortium: Session Introduction	BETO	Beau Hoffman
8:30	8:50	FCIC Overview Presentation – 2017 and 2018	NREL	Michael Resch
8:50	9:30	Feedstock Variability and Specification Development	INL	Allison Ray
9:30	10:00	Break		
10:00	10:40	Process Integration	NREL	Ed Wolfrum
10:40	11:20	Feedstock Physical Performance Modeling	INL	Tyler Westover
11:20	12:00	Process Controls and Optimization	INL	Quang Nyugen
12:00	1:00	Lunch		
1:00	1:40	System-wide Throughput Analysis	INL	David Thompson
1:40	2:20	Industry Engagement and Project Management	NREL	Michael Resch
2:20	3:00	FCIC Future Plans (FY19 and beyond)	TBD	TBD
3:00	3:15	Break		
3:15	3:45	Pretreatment and Process Hydrolysis	NREL	Mel Tucker
3:45	4:30	Reviewer/Lead Reviewer De-briefing		