

## 2015 Project Peer Review

U.S. Department of Energy  
Bioenergy Technologies Office

### Technology Area Agenda – Biochemical Conversion

<b>Day 1: Monday, March 23, 2015</b>			
<b>Time</b>	<b>Biochemical Conversion Technology Area</b>		
	<b>Project Title</b>	<b>Organization</b>	<b>Presenter</b>
1:00 p.m.–1:10 p.m.	Biochemical Conversion Process Overview	U.S. DOE-BETO	Bryna Guriel
1:10 p.m.–1:55 p.m.	Biochemical Conversion Feedstock Supply Interface	NREL	Nick Nagle
1:55 p.m.–2:25 p.m.	Determining the Impact of Municipal Solid Waste as a Feedstock Blending Agent on Pretreatment Efficacy, Hydrolysate Production, and Convertibility	SNL	Seema Singh
2:25 p.m.–2:55 p.m.	Biochemical High-Throughput Characterization of Feedstocks	INL	Gary Gresham
2:55 p.m.–3:15 p.m.	<b>Break</b>		
3:15 p.m.–3:45 p.m.	Biochemical Platform Analysis	NREL	Ryan Davis
3:45 p.m.–4:15 p.m.	Technical Market Analysis	PNNL	Jim Collett
4:15 p.m.–4:45 p.m.	Pretreatment and Process Hydrolysis	NREL	Melvin Tucker
<b>Day 2: Tuesday, March 24, 2015</b>			
9:45 a.m.–10:15 a.m.	New Catalytic Conversion of Lignocellulosic Biomass to Hydrocarbon Fuels	PNNL	Mike Lilga
10:15 a.m.–10:45 a.m.	Process Improvements to Biomass Pretreatment for Fuels and Chemicals	Michigan Biotechnology Institute (MBI)	Farzaneh Teymouri
10:45 a.m.–11:15 a.m.	Biochemical Conversion Validation Activities	NREL	Jim McMillan
11:15 a.m.–11:45 a.m.	Waste-to-Energy Life-Cycle Analysis, Waste-to-Energy Techno-Economic Analysis	ANL	Jeongwoo Han
12:00 p.m.–1:00 p.m.	<b>Lunch</b>		
1:00 p.m.–1:30 p.m.	Enhanced Anaerobic Digestion	ANL	Meltem Urgun-Demirtas
1:30 p.m.–2:00 p.m.	Biogas to Liquid Fuels and Chemicals Using a Methanotrophic Microorganism	NREL	Mike Guarnieri
2:00 p.m.–2:30 p.m.	Biological and Chemical Upgrading & Renewable Carbon Fibers Overview	U.S. DOE-BETO	Bryna Guriel
2:30 p.m.–3:00 p.m.	Targeted Microbial Development	NREL	Michael Himmel
3:00 p.m.–3:15 p.m.	<b>Break</b>		
3:15 p.m.–3:45 p.m.	Direct Catalytic Upgrading of Current Dilute Alcohol Fermentation Streams to Hydrocarbons for Fungible Fuels	ORNL	Brian Davison
3:45 p.m.–4:15 p.m.	Catalytic Upgrading of Sugars	NREL	David Johnson
4:15 p.m.–4:45 p.m.	Lignin Utilization	NREL	Gregg Beckham

<b>Day 3: Wednesday, March 25, 2015</b>			
9:45 a.m.–10:15 a.m.	Synthetic Metabolic Pathways for Bioconversion of Lignin Derivatives to Biofuels	ORNL	Adam Guss
10:15 a.m.–10:45 a.m.	Biological Lignin Depolymerization	NREL	Gregg Beckham
10:45 a.m.–11:15 a.m.	Fungal Genomics	PNNL	Jon Magnuson
11:15 a.m.–11:45 a.m.	Hydrolyzed Lignocellulose as a Feedstock for Fuels Synthesis	LANL	Andy Sutton
12:00 p.m.–1:00 p.m.	<b>Lunch</b>		
1:00 p.m.–1:30 p.m.	Biological Upgrading of Sugars	NREL	Gregg Beckham
1:30 p.m.–2:00 p.m.	Development of an Integrated Biofuel and Chemical Refinery	Genomatica	John Trawick
2:00 p.m.–2:30 p.m.	Development of a Thermophilic Consolidated Bioprocessing Organism for Butanol Production	INL	Vicki Thompson
2:30 p.m.–3:00 p.m.	Bench Scale Integration	NREL	Nancy Dowe
3:00 p.m.–3:15 p.m.	<b>Break</b>		
3:15 p.m.–3:45 p.m.	Separations Development and Application	NREL	Jim McMillan
3:45 p.m.–4:15 p.m.	Pilot Scale Integration	NREL	Dan Schell
4:15 p.m.–4:45 p.m.	Cellulosic Biomass Sugars to Advantaged Jet Fuel	Virent	Randy Cortright
4:45 p.m.–5:15 p.m.	LBNL Process Demonstration Unit	LBNL	Todd Pray
<b>Day 4: Thursday, March 26, 2015</b>			
9:45 a.m.–10:15 a.m.	Analytical Development and Support	NREL	Ed Wolfrum
10:15 a.m.–10:45 a.m.	Biochemical Process Modeling and Simulation	NREL	Michael Crowley
10:45 a.m.–11:15 a.m.	Advanced Supervisory Control and Data Acquisition (SCADA) for Biochemical Process Integration (with Bend)	PNNL	Jim Collett
11:15 a.m.–11:45 a.m.	Enzyme Engineering and Optimization	NREL	Michael Himmel
12:00 p.m.–1:00 p.m.	<b>Lunch</b>		
1:00 p.m.–1:30 p.m.	Maximizing Multi-Enzyme Synergy in Biomass Degradation in Yeast	J. Craig Venter Institute	Yo Suzuki
1:30 p.m.–2:00 p.m.	SynTec: Synthetic Biology for Tailored Enzyme Cocktails	Novozymes	Sarah Teeter
2:00 p.m.–2:30 p.m.	Design, Construction, and Implementation of Novel Biofuel Production Capabilities in Filamentous Fungi—SynBio	PNNL	Kenneth Bruno
2:30 p.m.–3:00 p.m.	Design and Optimization of Biofuel Production with Biosensor-Guided Synthetic Evolution	Lygos, Inc.	Eric Steen
3:00 p.m.–3:15 p.m.	<b>Break</b>		
3:15 p.m.–3:45 p.m.	Synthetic Design of Microorganisms for Lignin Fuel	Texas Agri-Life Research	Joshua Yuan
3:45 p.m.–4:15 p.m.	Advanced Biofuels from Cellulose via Genetic Engineering of Clostridium Thermocellum	NREL	Pin-Ching Maness
4:15 p.m.–4:45 p.m.	Low-Energy Magnetic-Field Separation using Magnetic Nanostructured Absorbents	ANL	Phil Laible