2020 RAPID Manufacturing Institute™ Peer Review Agenda

Monday, September 28, 2020 – Plenary Session

9am-3pm EST

RAPID Overview

9:00	5 min	Welcome	Kate Peretti, DOE
9:05	20 min	RAPID Overview	Bill Grieco & Paul Yelvington, RAPID
9:25	30 min	Portfolio Rationalization	Paul Yelvington & Ignasi Palou-Rivera, RAPID

Enabling Projects

9:55	5 min	Introduction to Enabling Projects	Paul Yelvington, RAPID
10:00	25 min	2.7 - Metrics Project	Paul Yelvington & Ignasi Palou-Rivera, RAPID
10:25	20 min	Break	
10:45	25 min	10.9 - Modeling the Cost of Ownership	Brian Paul, Oregon State University
11:10	25 min	9.5 - RAPID Reaction Software Ecosystem	Dion Vlachos, Univ. of Delaware
11:35	25 min	9.3 - SYNOPSIS	Stratos Pistikopoulos, Texas A&M
12:00	30 min	Break	

Education and Workforce Development

12:30	25 min	EWD Overview	Ashley Smith-Schoettker, RAPID
12:55	15 min	Emerging Processes for Water Purification	Andrea Achilli, Univ. of Arizona
1:10	20 min	COMPLETE: Computer-aided, Model-based Process Intensification Learning, Training, and Education	Faruque Hasan, Texas A&M
1:30	20 min	Fundamentals of Batch to Continuous	Andrew Teixeira, WPI
1:50	5 min	Break	
1:55	30 min	**Institute Sustainability**	Bill Grieco & Ashley Smith-Schoettker, RAPID
2:25	5 min	Wrap up session	Kate Peretti, DOE
2:30	30 min	Closed Session: Reviewer Debrief with DOE	

Revision Date: 8/10/20

Tuesday, September 29, 2020 – Distillation and Novel Separations

10am-1pm EST

10:00	5 min	Intro to the session	RAPID Technical Staff
10:05	15 min	Task 7.8 – High purity Ethanol without distillation: Carbon nanotube Enabled Ethanol Dewatering	Jeffrey McCutcheon, UConn
10:20	15 min	Task 7.9 – Use of Power Ultrasound for Nonthermal, Nonequilibrium Separation of Ethanol/Water Solutions	Hao Feng, Univ. of Illinois Urbana Champaign
10:35	20 min	Task 8.7 – Energy Efficient Technology for Metals Separation	Ramana Reddy, Univ. of Alabama
10:55	20 min	Task 10.5 – Development and Demonstration of Novel Thermal Technologies for Enhanced Air-Side and Two-Phase Performance of CPI-Relevant Heat Exchangers	Ari Glezer, Georgia Tech
11:15	10 min	Break	
11:25	15 min	Task 5.4 – Dynamic Intensification of Chemical Processes	Michael Baldea, UT Austin
11:40	20 min	Task 7.7 – Three-Way Catalytic Distillation to Renewable Surfactants via Triglycerides	Paul Dauenhauer, Univ. of Minnesota
12:00	20 min	Task 8.6 – Multiphase Microchannel Separator	Goran Jovanovic, Oregon State University
12:20	15 min	Task 8.10 - Hybrid Process for Concentrate Management from Desalination	Kerri Hickenbottom, Univ. of Arizona
12:35	5 min	Wrap up session	Kate Peretti, DOE
12:40	20 min	Closed Session: Reviewer Debrief with DOE	

Wednesday, September 30, 2020 - Membranes

9:30am-1pm EST

9:30	5 min	Intro to the session	RAPID Technical Staff
9:35	20 min	Task 5.7 – Energy Efficient Separations of Olefins and Paraffins through a membrane	Hannah Murnen, Compact Membrane Systems
9:55	20 min	Task 8.5 – Thermoneutral Propane Dehydrogenation via a Solid Oxide Membrane Reactor	Suljo Linic, Univ. of Michigan
10:15	20 min	Task 8.8 – Modular Mechanical Vapor Compression-Membrane Distillation (MVC-MD) for Treatment of High TDS Produced Water	Mahdi Malmali, Texas Tech
10:25	20 min	Task 10.7 – On Demand Treatment of Wastewater Using 3D-Printed Membrane	Lei Li, Univ. of Pittsburgh
10:45	20 min	Break	
11:05	20 min	Task 10.8 – Deploying Intensified, Automated, Mobile, Operable, and Novel Designs ("DIAMOND") For Treating Shale Gas Wastewater	Mahmoud El-Halwagi, Texas A&M
11:25	15 min	Task 5.5 – Para-xylene Selective Membrane Reactor	Michael Tsapatsis, Univ. of Minnesota
11:40	15 min	Task 6.6 – Advanced Nanocomposite Membrane for Natural Gas Purification	Benny Freeman, UT Austin
11:55	15 min	Task 7.5 – Robust Membranes for Black Liquor Concentration	Sankar Nair, Georgia Tech
12:10	15 min	Task 6.9 - Gas Separation Using Furan Based Membranes	Mark Shiflett, Univ. of Kansas
12:25	5 min	Wrap up session	Kate Peretti, DOE
12:30	20 min	Closed Session: Reviewer Debrief with DOE	

Thursday, October 1, 2020 – Novel Reactors and Non-traditional Heating

8:30am-12:30pm EST

8:30	5 min	Introduction to the session	RAPID Technical Staff
8:35	20 min	Task 6.7 – Microwave Catalysis for Process Intensified Modular Production of Value-Added Chemicals from Natural Gas	John Hu, West Virginia University
8:55	20 min	Task 8.3 – Intensified Microwave Reactor Technology	Dion Vlachos, Univ. of Delaware
9:15	20 min	Task 9.4 – Optimization Modeling for Advanced Syngas to Olefins Reactive Systems	Paul Witt, Dow Larry Biegler, Carnegie Mellon Univ.
9:35	15 min	Break	
9:50	20 min	Task 5.8 – Intensified Commercial Scale Production of Dispersants	Götz Veser, Univ. of Pittsburgh
10:10	20 min	Task 7.6 – Sugars-to-Bioproducts Scalable Platform Technology	Torren Carlson, Univ. of Delaware
10:30	20 min	Task 10.4 – Manufacturing Supply Chain Development for the STARS Technology Modular Solar-Thermochemical Conversion	Ward TeGrotenhuis, PNNL
10:50	15 min	Break	
11:05	20 min	Task 7.4 – Autothermal pyrolysis of lignocellulose wastes to sugars and other biobased products	Robert Brown, Iowa State
11:25	15 min	Task 9.7 - Integrated Model for Sustainably Managing Dairy and Food Wastes	Jefferson Tester, Cornell Univ.
11:40	15 min	Task 6.8 – Aqueous Electrochemical Reforming for H2 Production	Su Ha, Washington State Univ.
11:55	5 min	Wrap-up session	Kate Peretti, DOE
12:00	20 min	Closed Session: Reviewer Debrief with DOE	

Friday, October 2, 2020 – Novel Active Materials and Intensified Processes

9am-12:30pm EST

9:00	5 min	Introduction to the session	RAPID Technical Staff
9:05	20 min	Task 8.9 – Modular Catalytic Partial Oxidation Reactors Using Microstructured Catalyst Structures with Combined High Thermal Conductivity and Flame Extinction Capacity	Bruce Tatarchuk, Auburn Univ.
9:25	20 min	Task 8.4 – Microfibrous Entrapped Sorbents for High Throughput Modular Process Intensified Gas Separation and Ion Exchange	Paul Dimick, IntraMicron
9:45	20 min	Task 9.6 – An Experimentally Verified Physical Properties Database for Sorbent Selection and Simulation	David Sholl, Georgia Tech
10:05	15 min	Task 2.7 - RAPID Center for Process Modeling (Sorption work)	Joseph Scott, Georgia Tech
10:20	20 min	Break	
10:40	15 min	Task 6.4 – Nitrogen Removal from Natural Gas	Yang Luo, Praxair
10:55	15 min	Task 10.6 – Modular Catalytic Desulfurization Units for Sour Gas Sweetening	Paul Dimick, Intramicron
11:10	15 min	Task 5.9 - Absorber-enhanced ammonia synthesis	Alon McCormick, Univ. of Minnesota
11:25	20 min	Task 5.6 – Modular Conversion of Stranded Ethane to Liquid Fuels	Fanxing Li, NC State Univ.
11:45	20 min	Task 6.5 – Efficient Chemicals Production via Chemical Looping	Raul Lobo, Univ. of Delaware
12:05	5 min	Wrap up the review	Kate Peretti, DOE
12:10	20 min	Closed Session: Reviewer Debrief with DOE	