

TUESDAY, JUNE 23 – RESEARCH WORKSHOPS: WHAT ARE THE SOLUTIONS?

Schwebel Auditorium, Youngstown State University, located in the College of STEM in Moser Hall

8:30 AM Continental breakfast and Workshop room assignments

Part 2 - WHAT ARE THE SOLUTIONS (continued from day 1, Monday June 22)?

Papers listed below are in alphabetical order for each workshop

9:00 AM – Noon		
Biofuels	Carbon Management	Energy Conservation & Reuse
<p>1. Anaerobic Digestion Enhancement with Ultrasound Disintegration Presenter: Miguel A. Vera Company: Elmco Water Technologies</p> <p>2. Biogas Purification System Presenter: Lowell E. Howard Company: Environmental Systems and Composites, Inc.</p> <p>3. Biomass Conversion to Liquid Fuels Presenter: Chuck Taylor Company: NETL</p> <p>4. Conversion of LFG to LNG Presenter: John Barclay Company: Prometheus Energy</p> <p>5. Crude Glycerin Presenter: Richard Krystowski Company: AfterHeat Co</p> <p>6. Energy Efficient & Environmentally Safe Clean-up of Bio Gases Author: Sam Bassen Company: Pioneer</p> <p>7. Production of Ultra Pure Biogas for Fuel Cells using Multiple Stages of Treatment Presenter: Paul Tower Company: AFT</p>	<p>1. Advanced Catalyst Nanotechnology for Treatment of Exhaust Sources Presenter: Dr. Gary Carlson Company: MemPro Ceramics Corporation</p> <p>2. Green Car Opportunities Presenter: Paul West Company: Mahoning Automotive Design, LLC</p> <p>3. Hydrogen Engines Presenter: Brian Davis Company: Mizar Technologies, LLC</p> <p>4. Integrated Coal & Renewable Energy System for Energy Sustainability Presenter: Ray Hobbs Company: Arizona Public Service</p> <p>5. Research in Carbon Management Presenter: Abbie Layne Company: NETL</p> <p>6. Small Car Opportunities Presenter: Paul West Company: Mahoning Automotive Design, LLC</p> <p>7. Structured Bed for CO2 Capture Author: William A. Whittenberger Company: Catacel Corp</p>	<p>1. Adaptive Liquid Crystal Windows Presenter: Bahman Taheri Company: AlphaMicron Inc.</p> <p>2. Advanced Ceramic Composites for Improved Thermal Management in Molten Metal Applications Presenter: Klaus-Markus Peters Company: Fireline TCON, Inc.</p> <p>3. Electron Beam an Innovative and Energy Efficient Technology for Water Treatment and Other Cleantech Applications Presenters: Dr. Nathan Zommer and Dr. Bum-Soo Han Company: Pele Inc.</p> <p>4. Higher Efficiency via More Conductive Copper Presenters: Louis A. Luedtke Company: Third Millenium Metals</p> <p>5. Highly Efficient and Low Energy Mixing Presenter: Miguel A. Vera Company: Elmco Water Technologies</p> <p>6. Powering the World: An Overview on Rexorce Thermionics Inc. Presenter: Phil Brennan Company: Rexorce Thermionics Inc.</p> <p>7. Research to Improve Energy Efficiency in Materials Manufacture Presenter: Cindy Powell Company: NETL</p>

2:30 PM – 5:00 PM		
Renewable Energy	Hydrogen Systems	Sustainable Energy from Geological Sources
<p>1. Renewable Energy Hydrogen Systems Concentrated Solar Thermal with Storage in Spain Presenters: Mike Brady and Ernesto Martinez Company: Parsons and TSK</p> <p>2. Mobile Power System Presenter: Kurt Lauer Company: ADI Wind</p> <p>3. Nickel-Zinc Battery Technology and Strategic Potential Presenter: Dr. Barry Rosenbaum Company: The University of Akron Research Foundation</p> <p>4. Tremont Electric: An Alternative Energy Company Presenter: Aaron P. LeMieux Company: Tremont Electric</p> <p>5. WindCube Presenter: Mark Cironi Company: Green Energy Technologies</p>	<p>1. Alternative Fuel Cell Membrane Electrolytes Presenter: Clovis A. Linkous Company: Youngstown State University</p> <p>2. On-board Hydrogen Storage Using Borohydrides Presenter: Clovis A. Linkous Company: Youngstown State University</p> <p>3. PEM Water Electrolysis for On-site Hydrogen Generation Presenter: Everett B. Anderson Company: Proton Energy Systems</p> <p>4. Photochemical Recovery of Hydrogen from Hydrogen Sulfide Presenter: Clovis A. Linkous Company: Youngstown State University</p> <p>5. Sustainable Energy #3 Hydrogen Engines Presenter: Brian Davis Company: Mizar Technologies, LLC</p>	<p>1. Fossil Fuel Liquefaction As Part Of A Long Term Sustainable Energy Strategy Presenter: Elliot Kennel Company: WVU, Dept. of Chemical Engineering</p> <p>2. Natural Gas Hydrates: A Case Study in Collaboration Presenter: Michael Bailey and Van Kuren Company: Miami University</p> <p>3. Next Generation Technology for Economically Producing U.S. Conventional Gas Resources Presenter: Guy Lewis Company: Gas Technology Institute</p>

Community Synergies

The objective of the by-product synergy (BPS) workshop is to provide the participants with an overview of the BPS work process, participate in a BPS practice session, and then explore the requirements of initiating a regional BPS Network. The session starts with an overview of the BPS work process and benefits. Then moves to a “practice by-product challenge” where they presents 2-3 by-products for discussion that are either actual materials from their company/organization, or by-products provided to them from a previous real life by-product challenge session. A brainstorming session will identify synergies for the materials presented during the challenge session and conclude with a discussion of the requirements for initiating a Youngstown BPS project.