



# **MBI** INTERNATIONAL

*Monday August 25, 2008  
James B. Henry Center  
Michigan State University*

## **Symposium Developing Bio-based Fuels, Chemicals and Materials: A Collaboration of Land Grant Universities, Government, and Industry**



## **Program**

1:00

### **Welcome**

Bobby Bringi, MBI

### **Opening Remarks Distinguished Guest**

Hon. Mike Rogers, US House of Rep.

### **Presentations**

#### **MBI Bio-based Technologies Development**

Bernie Steele, MBI

#### **Developing a Biomaterials Industry in ND**

Larry Leistriz, NDSU

#### **Bio-based Nanocomposites: Challenges and Opportunities**

Larry Drzal, MSU

## **Refreshment Break**

#### **Improved Uses and Values for the By products of the Developing Biofuels Industry: the USDA-ARS, SDSU and MBI Consortium**

Kurt Rosentrater, USDA-ARS

#### **Michigan State University and Bio-based Technologies**

Bryan Ritchie, Office of Bio-based Technologies, MSU

#### **Regional Biomass Processing Centers**

Joseph Carolan, MSU

#### **Economic and Land Use Benefits of Animal Feed Co-production with Cellulosic Biofuels**

Bruce Dale, MSU

5:00

### **Closing Remarks**

Bobby Bringi, MBI



**Honorable Mike Rogers**  
**House of Representatives**

U.S.

A 1985 graduate of Adrian College in Michigan, Mike earned his reputation as a leader, problem solver and "people person" during service as a U.S. Army officer/company commander (1985-88), FBI Special Agent investigating public corruption as a member of the Chicago Bureau's organized crime unit (1988-94), and in the Michigan Senate (1995-2000) where he served as Senate Majority Floor Leader (1999-2000). Mike has been aggressive in Congress on a number of issues, including measures that strengthen the economy and help build a stronger jobs base for Michigan communities, including more investment in developing alternative fuels to help get America off its dependence on foreign oil. He has recently unveiled a plan he believes could free the country of overseas oil by Independence Day 2015.



**Bobby Bringi**  
**President & CEO, MBI International**

Bobby joined MBI International in late 2006 as President and CEO. Bobby brings to MBI broad expertise in bio-based technology development; scale-up and commercialization; strategic partnerships; licensing and intellectual property management; and entrepreneurial start-ups. Bobby is a proven technology innovator and entrepreneur. He previously co-founded and built Phytion, Inc., a biotechnology company that pioneered and commercialized a breakthrough plant cell fermentation technology to produce the anti-cancer drug, paclitaxel. Following successful commercialization with partner Bristol Myers Squibb, he completed a successful merger with a private pharmaceutical company. Bobby received his Ph.D. in Chemical Engineering from Cornell University in 1991, with training in plant and biochemical sciences.



**Bernie Steele**  
**Director, Operations, MBI International**

Bernie is a senior manager with a background in microbial physiology and over 25 years of experience in biotechnology. He is currently responsible for all Research and Development operations including Quality Assurance and Laboratory Safety and serves as Biosafety Officer of MBI. Before joining MBI, Bernie held faculty positions at Auburn University, where he was responsible for the Fermentation and Bioprocessing Laboratory, and the University of Tennessee/Oka Ridge National Laboratory. As a Senior Research Scientist at Boeing Defense and Space Group he was involved in the early development of the Environmental and Life Support Systems for the International Space Station. Bernie has spent much of his career leading research aimed at the discovery and development of microbial products, such as enzymes and specialty chemicals, as well as strain development and the use of microorganisms for remediation of environmental contaminants. He has conducted research programs throughout the world including the United States, Mexico, Honduras, Peru, Bolivia, Thailand, Nepal and Belarus.



**F. Larry Leistritz**  
**NDSU Distinguished Professor of Agribusiness & Applied Economics, North Dakota State University**

Dr. Leistritz is a Distinguished Professor of Agribusiness & Applied Economics at North Dakota State University, Fargo. For more than 35 years, he has been actively engaged in research, teaching, and outreach activities focused on economic assessments of agricultural and natural resource development initiatives. He has authored more than 400 professional publications, most dealing with economic assessment of agricultural and natural resource development, including effects on the regional economy, the population, and infrastructure of affected communities. He also has authored or co-authored 12 books and more than 120 refereed journal articles, as well as more than 40 book chapters dealing with these topics. Dr. Leistritz has supported his research program primarily through grants and contracts from a wide variety of federal, state, and local government agencies, from agricultural commodity and other interest groups, and from private firms. He has served as principal investigator/project leader for more than 160 grant and contract projects, totaling more than \$7 million, including many that involved multidisciplinary project teams. Professional service has been an important aspect of Leistritz's career. Notable among his many professional service activities has been serving as President of two major professional organizations – the Western Agricultural Economics Association and the International Association for Impact Assessment .



**Lawrence T. Drzal**  
**University Distinguished Professor, Dept. of Chemical Engineering & Material Science Michigan State University**

Professor Drzal is the Director of the Michigan State University Composite Materials & Structure Center. His research involves nanocomposite and biocomposite materials. This includes new biobased biofiber reinforcements from plants, biopolymers from plant chemicals, and new methods for processing biocomposites with high reinforcement contents. He has been awarded 18 patents. Dr. Drzal obtained a BChE from the University of Detroit and a PhD from Case Western Reserve University in Chemical Engineering in 1974. From 1972 until 1985 he was employed as military and civilian scientist at the Air Force Materials Laboratory at Wright-Patterson Air Force Base where he worked on surface and interfacial aspects of adhesively bonded joints and the fiber-matrix inter phase in composite materials.



**Joe Carolan**  
**Department of Agricultural, Food and Resource Economics**

Joe Carolan is a Doctoral Candidate in Agricultural Economics at Michigan State University. He received a B.A. degree from Cornell University, a M.B.A. from Oakland University and a M.A. in Economics from Michigan State University. He has been active in the alternative energy industry since 1997, working with public, private and academic entities. His current research involves supply chain and channel configuration issues for the emerging lingo-cellulosic ethanol industry.



**Kurt Rosentrater**  
**Agricultural & Bioprocess Engineer**  
**USDA-ARS North Central Agricultural Research Laboratory**

Dr. Rosentrater is currently spearheading an initiative to develop value-added uses for co-product and residue streams resulting from biofuel manufacturing operations. His expertise is in Value-Added Product Development, Alternative Recycling and Reprocessing Strategies for Food and Organic Waste Streams, Modeling and Simulation of Food and Organic Processing Systems, Economic Modeling, Physical and Chemical Characterization Methods, and Plant Layout, Material Handling, Unit Operations, and Process Design. He is formerly an assistant professor at Northern Illinois University, DeKalb, IL, in the Department of Engineering and Industrial Technology, where he taught in the areas of research methods, manufacturing systems, engineering mechanics, and design. While in industry, he was responsible for process and equipment design as well as plant and site layout for large-scale agri-industrial facilities, including grain, feed, flour, pet food, and biodiesel manufacturing plants.



**Bryan Ritchie**

**Associate Director for External Strategy, Office of Biobased Technologies**  
**Associate Professor of International Relations, James Madison College**  
**Co-director, Michigan Center for Innovation and Economic Prosperity**

A former entrepreneur who started two computer companies and consulted for Novel, USRobotics, 3Com and Iomega before moving to academia, Bryan Ritchie studies the processes of innovation and technological development in the fast-growing economies of Southeast Asia. Ritchie's technological and research background allows him to understand the needs of both the university and the business world. As associate director for external strategy for the Office of Biobased Technologies, Bryan ensures that the private sector has access to the full range of bioeconomy research and resources available at Michigan State University. Bryan received his doctorate in political science from Emory University, his MBA from the Marriott School at Brigham Young University and his bachelor's degree from the University of Nevada-Las Vegas.

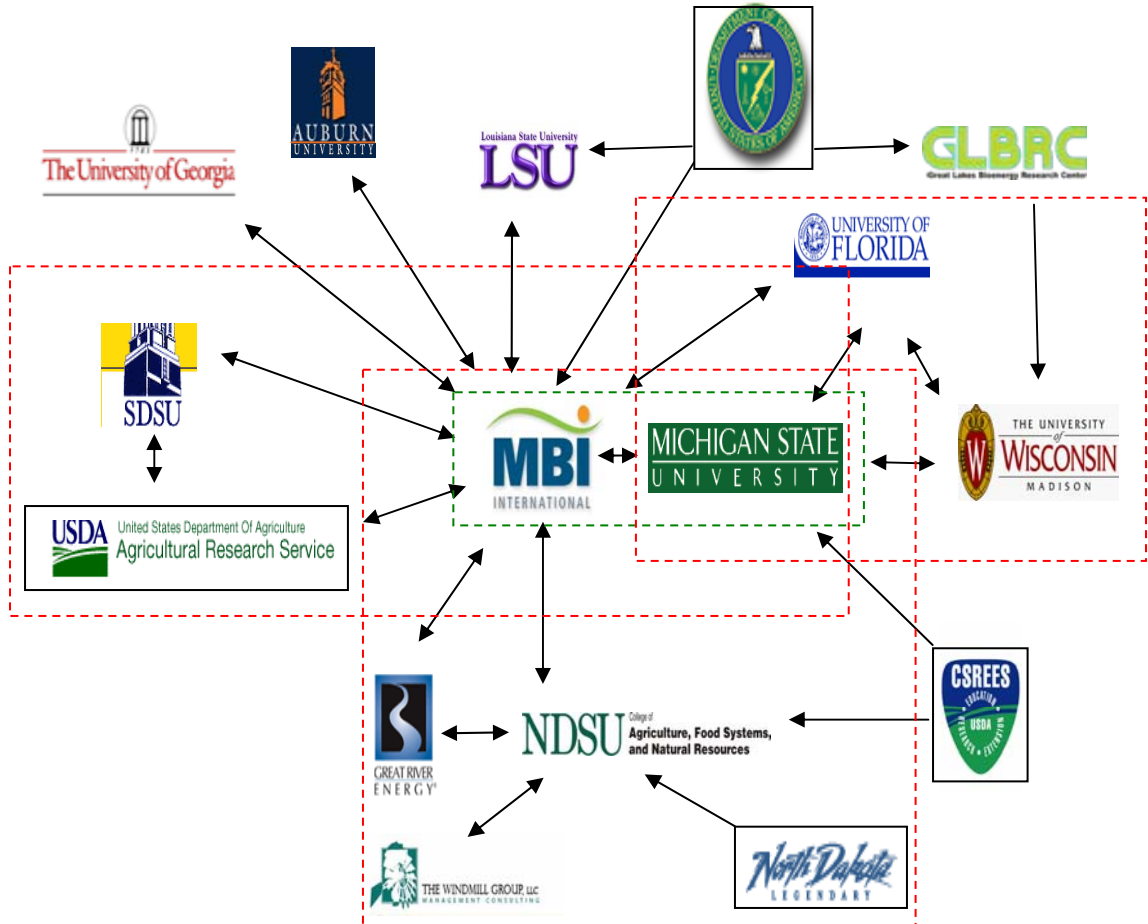


**Bruce Dale**

**Associate Director, Office of Biobased Technologies**  
**Professor of Chemical Engineering and Materials Science Faculty Adviser, MSU Biomass Conversion Research Laboratory**

Bruce Dale is a nationally known leader in exploring alternatives to fossil fuels. He is an expert in research aimed at converting agricultural crops -- such as corn -- into fuel. Such materials, called plant biomass, have the potential to provide cost-effective and environmentally beneficial ways to generate fuels, chemicals, materials, foods and feeds from renewable resources. Dale, who has been at MSU for 10 years, has developed a patented process called ammonia fiber expansion (AFEX), which makes the breakdown of cellulose more efficient, thus tackling one of the thornier problems of producing ethanol. Dale received his doctorate in chemical engineering from Purdue University and his master's and undergraduate degrees from the University of Arizona. He has received 13 U.S. and international patents and has filed eight patent disclosures during the past 2 years.

**A Collaboration of Land Grant Universities, Government & Industry**





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