

GPEC® 2009 Technical Chair Report

GPEC 2009 Conference Update

Adrian Merrington, Technical Chair

This year's GPEC is starting to take shape. Abstracts have all been assessed and we will have 59 scientific papers presented at this year's conference in three tracks: Recycling, Reclamation and Supply and Bio-based and Biodegradable Materials. Our Plenary speakers will be Eric Connell from Toyota who will discuss *Automotive Applications and Expectations of Bio-Based Materials* and John Christy of Alabama University, co-recipient of the Nobel Peace Prize in 2007, who will present *Climate Change by the Numbers*. We will also have a session organized and presented by the scientists at Battelle as part of the Bio track this year. With this variety of content, I'm sure there are more than a few things to interest all in attending **Plastics: The Wonderful World of Sustainability and Recycling**; SPE's Environmental Division's Global Plastics Environmental Conference 2009 being held in Orlando Florida February 25-27, 2009.



Dr. Adrian Merrington
GPEC® Technical Chair

Info on Our GPEC® 2009 Technical Chair:

Dr. Adrian Merrington is currently a *Senior Associate Scientist* and *Assistant Professor* at the *Michigan Molecular Institute* (MMI). He was born in England, graduated from the *University of Greenwich* with Honours in *Applied Chemistry*, became a *Chartered Chemist* and *Chartered Scientist* through the *Royal Society of Chemistry* and received a Ph.D. in *Chemical Engineering* from the *University of Bradford*. He has been at MMI since 1992 when he joined as a *Visiting Scientist* and *Post-doctoral Fellow*. He is an *Adjunct Professor* with *Central Michigan University*. His work in the areas of *Plastics Recycling*, *Plastics Processing* and *Rheology* has earned him many awards including inclusion into both *Who's Who in Polymers* and *Outstanding Scientists of the 21st Century*. He has been a principal investigator and collaborator on a number of programs, specifically dealing in the areas of *plastics recycling*, *rheology*, *additives*, *colloids* and *particulates*, *fillers*, *composites* and *blends*. He has been and continues to be very active with the *mid-Michigan Section of SPE* having served terms as *President*, *Vice-President*, *Past-President*, *Program Chair*, *House Chair*, *Public Interest Chair*, *Website Editor* and *Director*. He is an *Advocate* with *Habitat for Humanity* and *Head Road Captain* of the local *Harley Owners Group*. He has been happily married to *Randi* for 10 years and they have one wonderful 7-year old son, *Ian*.



We are soliciting Student Posters for GPEC® 2009. Students presenting exceptional posters will receive cash prizes.

Students wishing to have their posters published in the conference program need to submit their name, poster title, and their affiliation to by **December 31, 2007**:

Richard Bopp

Richard_C_Bopp@natureworksllc.com

952-742-0454

or

Gwen Mathis

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800-798-1241

Biobased and Biodegradable

- “Quantifying the Biobased Carbon Content within Plastics using ASTM-D6866: A Technical Overview.”: D. Hood - Beta Analytic Inc.
- “Renewably Sourced High Performance Polymers: Properties, Applications and Markets”: J.V. Kurian & M.A. Craig - DuPont Performance Materials
- “Curaua Fiber Plastic Composites”: J.Amarasekera, P. Aparecido dos Santos, J.C. Giriolli & G.Moraes - SABIC Innovative Plastics
- “High Performance Bioplastics from Arkema”: T. Rogers, B. Lalgudi & L. Grimes - Arkema
- “Synthesis of Bio Based Epoxy and Curing Agent using Rosin and Study of Cure Reactions”: J. Zhang & Xiaoqing Liu - Washington State Univ.
- “Sustainability in Perspective”: P. R Mishra - PA Consulting Group
- “Impact-Modified PC Blends with Sustainable, Environment-Friendly Polylactide”: J.Y. Chung & J.P. Mason - Bayer Material Science LLC
- “Samsung’s Environment-Friendly Materials: Sustainable & Durable.”: C. Jung - Samsung Cheil Industries
- “Advances in the Manufacture, Development and Commercialization of Poly Hydroxy Butyrate Valerate (PHBV) Biopolymers”: J.Lunt - Tianan Biologic
- “A Novel Bioplastic - An Experience from Laboratory to Business“: M. Sain - U. Toronto
- “Novel Bioplastic Blends and Nanocomposite”: J. R. Dorgan, M. Sobkowicz & R. Patel - Colorado School of Mines

- “Oxo-Biodegradable Plastics Association”: M. Stephen - Symphony Environmental
- “Conversion of Beer Bottoms Waste and Rice Waste to Biodegradable Plastics via Bacterial Transformation”: J. P. Greene, L. F. Hanne & L. L. Kirk - California State U.
- “Sustainable Communities Need Sustainable Biomaterials”: B. Platt - Institute for Local Self-Reliance
- “Advanced Hybrid Composite Materials Biodegradable Super Absorbent Polymer”: Z. Meiri - Exotech BioSolutions Ltd.
- “Improvement of Mechanical Properties of Southern Yellow Pine through Impregnation with BORR Resin”: T. Osswald, J. Cruz & K. Sanchez - Univ. of Wisconsin-Madison
- “Novel Method to Control the Rheological Properties and Processability for Microbial Poly(3-hydroxybutyrate)”: M. Yamaguchi - Japan Advanced Institute of Science and Technology

Recycling

- “Uses of Recycled Rubber Powder in Thermoplastic Resins as Feedstock Extender, Impact Modifier and Functional Filler”: R. Desrocher and W. Schreiber - Lehigh Technologies, Inc.
- “R-HDPE Bottle to Bottle – Processing and Safety in the Worlds First Food Grade HDPE Recycling Plant“: J. Donaldson - Greenstar WES Ltd.
- “Analytical Approaches to Characterize Products and Issues Associated With Recycled Materials”: J.E. Brooks & S. R. Hamm – Polymer Solutions Incorporated

- “The Development of HDPE Corrugated Drainage Pipe Containing Recycled HDPE for Highway Applications“: R.W. Thomas - TRI/Environmental
- “Commercial Application of Post Consumer Recycled Resins in Flexible Packaging“: P.M. Clark & J.H. Wang - Kimberly-Clark Corporation
- “Carpet America Recovery Effort”: F. Hurd - Carpet America Recovery Effort
- “Case Study: The GLOBAL P.E.T. Company“: A. Georges - AMUT N.A., Inc.
- “PET Bottle Recycling“: M. Hendley - Buhler Inc
- “Recycling of Agricultural Film“: D. J. Lefrancois - Resource Recycling Systems
- “Physical Properties of Recycled Polypropylene with Agricultural Fillers“: L.C. Simon & A. Manier - University of Waterloo
- “Sorting Out the Economics and Science of Green Polymers“: R.F. Jones & M.H. Baumann - Franklin International LLC and G.H. Associates
- “Recycling... It's Not Optional Anymore!": W. Unger - FRP Green, Inc. / Seawolf Design
- “Germany’s New Recycling Ways In Packaging Waste“: S. Schuh - ASCON GmbH
- “Recycling of PVC“: J.Macaluso - Teknor Apex Corp
- “New FR Bayblend GR Resins Based on Post-Consumer Plastic Waste“: M. Rogunova, J. Mason & G. DiBattista - Bayer MaterialScience.

Recycling (cont.)

- “X-ray Fluorescence Spectroscopy (XRF) as a Public Health Screening Tool for the Presence of Hazardous Chemicals in Plastics”: J. Gearhart, H. Posselt, & M. Patel - Ecology Center
- “New Coupling Technology Helps Olefin-Based Thermoplastic Composites Make Products Greener”: L.W. Martin – Addcomp North America, Inc.

Reclamation & Supply

- “Engineered Recycling Systems for Post-Consumer and Post-Industrial Scrap”: B.Woodcock - PSI-Polymer Systems
- “Size Reduction Equipment for Reclaim Extrusion”: J. Farney - Cumberland Engineering Corporation
- “Automated Optical Sorting of Electronic Scrap – Case Studies from the USA and Europe”: F.Hottenstein - MSS, Inc.
- “Titanates and Zirconates for Recycled, Compostable and Biobased Polymer Composites”: S. Monte – Kenrich
- “Screw Optimization for Bio-Based Resins”: C. Ronaghan - Davis-Standard Converting Systems
- “How to Reclaim Your Bio Resin Scrap”: B. Harrison - Wittmann, Inc.
- “The Use Less Stuff Report”: R.Lilienfeld- The Cygnus Group
- “An Eco-efficiency Life Cycle Analysis of Food Waste Collection and Disposal”: K. Edwards, D. Steinmetz, C. A. Bradlee, J. F. Connolly - BASF Corporation and JF Connolly & Associates

- “Life-Cycle-Analysis of Hot Beverage Cup Technologies: Coated Paper, PS Foam and Expanded Recycled PET”: T. Malone - MicroGREEN Polymers Inc.
- “Innovation in Extruded Sheet Products: Offering Advancement in Recycling, Reclamation and Supply”: B.Rickle - Rowmark - PMC
- “An Innovative Equipment Solution To Reclaim Post Industrial And Post Consumer Film That Contains High Levels Of Moisture And Printing”: K. Slusarz - Davis-Standard LLC
- “Reverse Supply Chain Coordination for Profitable Returns”: R.Shaikh, A. Z. Zeng, H.(Hua) Bai - Nypro Inc. and Worcester Polytechnic Institute
- “Fuel Pellets Comprising Polyolefin-Coated Paper Waste”: R. D. Moffitt - Virginia Polytechnic Institute & State U
- “New Aliphatic TPU Material Makes PV Solar Panels More Environmentally Friendly”: C. Cooper, K. Martin & J.Charron-Bayer Material Science LLC
- “Addition of Tracers into the Polypropylene in View of Automatic Sorting of Plastic Wastes, by using Magnetic and X-ray Fluorescence Spectrometry Detection”: F.Bezati, D.Froelich, V.Massardier - Institut ENSAM Savoie Technolac and INSA de Lyon Bat. Jules VERNE
- “What Is the Current Regulatory Status and Future Landscape For Flame Retardants?": R. B. Dawson and S.D. Landry - Albemarle Corp.
- “Zero Waste Energy Systems Compactors Developed to Remove Liquids from Plastic Containers”: B. Coxhead - Zero Waste Energy Systems
- “Composites from Recycled Plastics Co-Blends with Micro-Fibrillar Structures”: Qinglin Wu - Louisiana State Univ.

- “Recycling Machinery for Plastics”: R. Northrup - Advanced Extrusion Solutions
- “Auxiliary Equipment for Reclaim Extrusion”: K.Larson - Colortronic North America Inc.

Battelle Session

- “Accelerating Development and Commercialization of BioProducts in Ohio” : D. Hall – OBIC/OSU
- “Production of Algae in a Hybrid Pond PBR, Primarily for Bio-Plastics and Fuel”: R. Youngs – Univenture
- “A New Class of Biobased Polyols Utilizing Cost-Effective Feedstocks and their Applications”: J. Cafmeyer – Battelle
- “Carbon Footprints—What are they and What are they good for?": C. Holodak & S. Blenis – Ciba
- “Improving PLA Performance for Injection-Molding Applications”: C. Linden – Battelle