

AIChE Spring Meeting 2005

# DOE / ITP Funding of Novel Technologies 2005

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## T4 - DOE/ITP Funding of Novel Technologies

### Session 21 - Novel Reaction Technologies R&D Funded by U.S. DOE/ITP

Chair: Joseph V. Porcelli

Vice Chair: Jo Rogers

- 1 **Membranes for Corrosive Reactions**  
*Jamie A. Hestekin, Michael P. Henry, Seth W. Snyder and Yupo J. Lin*
- 2 **Low Temperature Electrochemical Ammonia Synthesis**  
*Adrian Denvir, Kyle Usselton and Oliver Murphy*
- 3 **Nanostructured Polymeric Heterogeneous Catalyst for Industrial Applications**  
*Brian J. Elliott and Douglas L. Gin*
- 4 **Direct Conversion of Alkane to Valuable Chemicals - Gas-phase Selective Oxidation of n-Butane to Methyl Ethyl Ketone**  
*D. Strongin, F. Dautzenberg, J. Hao, K. Pillai, L. Li, M. Lin, M. Zubic, N. Burm, P. Jain, V. Chilukuri and X. Wang*
- 5 **Production and Separation of Fermentation-Derived Acetic Acid**  
*David J. Law, Edward J. St. Martin, Kelly A. Skinner-Nemec, Mark Donnelly, Michael P. Henry, Mike Muskett, Milind Patel, Rathin Datta, Robert J. Niedzielski and Seth W. Snyder*
- 6 **Methane to Methanol Conversion – Compatibility study of Using Ionic Liquids as Novel Reaction Media**  
*William A. Goddard III*
- 7 **Biphasic Hydroformylation of Higher Olefins**  
*Steven Dietz and Trudy Sholten*

### Session 22 - Novel Separations and Enabling Technologies R&D Funded by the U.S. DOE/ITP

Chair: Joseph V. Porcelli

Vice Chair: Jo Rogers

- 12 **Low Emission Diesel Engines**  
*Don Stookey and Stuart Nemser*
- 41 **Thin Film Ceria Membranes for Oxygen Separation**  
*Edward M. Sabolsky, Matthew M. Seabaugh and Scott L. Swartz*
- 54 **Novel Polymer Nanocoating Processing to Produce Ceramic Nanocomposites**  
*Alan Weimer, John Ferguson, Joseph Spencer, Karen J. Buechler and Steven George*
- 55 **Novel Air-VOC Chemically Inert Reverse Separation Membranes**  
*J. Bowser, S. Nemser and R. Grantham*
- 99 **Hollow Fiber as Structured Packing for Olefin/Paraffin Separation**  
*Craig Colling, Dali Yang, David Devlin, E. L. Cussler, Martin E. Carrera and Robert Barbero*

- 105**    **Distillation Column Flooding Predictor; A Cost Effective Distillation Column Debottlenecking Technology for Petrochemical Industry**  
*George E. Dzyacky*

**Session 23 - Miscellaneous Enabling Technologies R&D Funded by the U.S. DOE/ITP**

Chair: Joseph V. Porcelli  
Vice Chair: Jo Rogers

- 106**    **A New Corrosion Management Technology for the Chemicals Industry**  
*A. D. Pelton, A. L. Young, I. G. Wright, Randy C. John and W. T. Thompson*

- 107**    **Flow Mapping of Gas-Solid Riser**  
*M. H. Al-Dahhan, M. P. Dudukovic and S. Bhusarapu*