

Symposium 9

Title: **Nanoparticles, Colloids and Surfaces in Advanced Catalytic Materials**  
Chair: F. H. Ribeiro  
Chair Assistant: Jingbo Louise Liu  
Location: Student Senate Room, Cheel

**Monday June 13, 2005**

Presiding: F. H. Ribeiro

Paper	Time	Title and Authors
9-01*	11:00 - 11:40 AM	Methanol Oxidation to Methyl Formate and Dimethoxymethane on Supported RuO <sub>x</sub> and H <sub>3</sub> PV <sub>x</sub> Mo <sub>12-x</sub> O <sub>40</sub> Clusters E. IGLESIA
9-02*	11:40 - 12:00 AM	Chemistry-Aided Design of Future Clean Fuels E. SUGHRUE and Uday T. Turaga
9-03*	12:00 - 12:20 PM	The Role of Liquid Products in Catalyst Pores for Influencing Product Olefin Readsorption and Hydrocarbon Chain Initiation in Fischer-Tropsch Synthesis R. MADON and E. Iglesia
9-04*	1:30 – 2.10 PM	C-H Bond Activation by Platinum G. SOMORJAI
9-05*	2:10 - 2:30 PM	Parameter Estimation in Nonlinear Models when the Estimates Really Matter G.BLAU, S.Orcun, S. Aydogan, J. Caruthers, N. Delgass, S-H Hsu, F Ribeiro, and V. Venkatasubramanian
9-06*	2:30 - 2:50 PM	Mobility of Catalytic Nanoparticles A. DATYE, T. Hansen, M. Bore, Q. Xu, R. Goeke, L. Sanders, B.Swartzentruber, <sup>1</sup>
9-07*	3:20 - 4:00 PM	Scanning Transmission Electron Tomography and Supported Nanoparticle Catalysts J. THOMAS and P. Midgley

- 9-08\* 4:00 - 4:20 PM A New Approach to Obtain Highly-Dispersed Supported Ru/SiO<sub>2</sub> Catalysts  
S. SOLED, A. Malek, S. Miseo, J. Baumgartner, C. Kliewer, M. Afeworki, and P. A. Stevens
- 9-09\* 4:20 - 4:40 PM Poisoning and Deactivation of Cobalt-based Fischer-Tropsch Catalysts By ppm and Sub-ppm Level Reactive Nitrogen Compounds  
S. C. LEVINESS, H. J. Robota, X. Zhan, and J. Engman
- 9-10\* 4:40 - 5:20 PM Spectroscopic Identification of Carbonaceous Species on Silica-Supported, and Platinum-Promoted Iron Fischer-Tropsch Catalysts  
C. BARTHOLOMEW and J. Xu

**Tuesday June 14, 2005**

Presiding: F. H. Ribeiro

- 9-11\* 10:30 – 11:10 AM Structure-function Relationships in Pd-Au Catalysts  
D. WAYNE GOODMAN
- 9-12\* 11:10 - 11:30 AM The Nature of the Active Sites in Au/TS-1 Catalysts for Propene Epoxidation by Oxygen and Hydrogen  
B. Taylor, L. Cumarantunge, A. M. Joshi, K.T. Thomson, and W. N. DELGASS
- 9-13\* 11:30 - 11:50 AM Poisoning, and Fouling of V<sub>2</sub>O<sub>5</sub>/TiO<sub>2</sub> SCR Catalysts by Ash from Coal- and Biomass-Fired Boilers  
W. C. HECKER, Xiaoyu Guo, A. Nackos, J. Ashton, C. H. Bartholomew, and L. L. Baxter
- 9-14\* 11:50 - 12:10 PM Renewable Liquid Alkanes from Aqueous-Phase Processing of Biomass-Derived Carbohydrates  
G. W. HUBER, J. N. Chheda, C. J. Barrett and J. A. Dumesic
- 9-16\* 1:30 – 2:10 PM Recyclable Polymerization Catalysts – Silica-Tethered CuBr-Bipyridine Atom Transfer Radical Polymerization Catalysts

9-17*	2:10 - 2:30 PM	C. W. JONES, J. V. Nguyen Naturally Chiral Surfaces A. J. Gellman, J. D. Horvath, A. Koritnik, D. RAMPULLA
9-18*	2:30 - 2:50 PM	NO Oxidation Reaction Kinetics on Pt/Al <sub>2</sub> O <sub>3</sub> Catalyst S.S. Mulla, N. Chen, W. N. Delgass, W. S. Epling, and F. H. RIBEIRO
9-19	3:20 - 3:40 PM	Surface Properties of Supported Gold and Alloy Nanoparticle Catalysts J. Luo, M. M. Maye, N. Kariuki, L. Wang, P. Njoki, D. Mott, Y. Lin, M. Schadt, S. I-Im Lim, V. W. Jones <sup>+</sup> , C-J ZHONG*
9-20	3:40 - 4:00 PM	Electro-catalytical Performance Improvement of La <sub>1-x</sub> Sr <sub>x</sub> Co <sub>1-y</sub> Fe <sub>y</sub> O <sub>3</sub> (LSCF) Cathodes Formed Using the Sol-Gel Method L. J.B. LIU and V. V. Birss
9-21	4:00 - 4:20 PM	Liquid-Phase Reductive Deposition as Novel Preparation Method of Hybrid Nano-particulate Catalysts A. MURAMATSU, Y. Sunagawa, S. Myagmarjav, and H. Takahashi
9-22	4:20 - 4:40 PM	Active Media Effect on Strength and Durability of Catalysts E. D. SHCHUKIN, A. I. Bessonov, L. N. Sokolova, S. I. Kontorovich, L. N. Burenkova, B. V. Romanovsky
9-23	4:40 - 5:00 PM	Synthesis of Nanosized TiO <sub>2</sub> -SiO <sub>2</sub> Complex Particles and Their Photocatalytic Activity G. W. ZHOU, Y. Y. Wang, Z. Y. Shao, G. Y. Xu and G. Z. LI