

## Daniel E. Resasco

### *Education and Training*

- Ph.D., Chemical Engineering, Yale University, New Haven, CT, Dec. 1983. Thesis: “Strong Metal-Support Interaction in Rh/TiO<sub>2</sub> Catalysts”. Supervising Professor: Gary L. Haller
- BS, Chemical Engineering, Universidad Nacional del Sur, Argentina. Dec. 1975.

### *Professional Experience*

- Professor, University of Oklahoma, CEMS, 1998 to date
- Associate Professor. University of Oklahoma, CEMS, 1993-98
- Senior Scientist. Sun Company Inc., Marcus Hook, PA, 1991-93
- Professor, Chemical Eng. Dept. National University of Mar del Plata, 1983-90
- Principal Investigator. National Research Council, Argentina, 1984-90
- Project Engineer, Engineering Department Somisa, Steel Mill, Argentina, 1976-78
- Visiting Professor. Chemical Eng. Dept. Yale University, 1986-87 and Fall 91
- Visiting Professor, Chulalongkorn University, Bangkok Thailand (since 1998 to date)
- Guest Professor, Dept of Physics, Danmarks Tekniske Universitet, Copenhagen, Aug-Dec. 2000
- Guest Professor, University of Helsinki-VTT, Espoo, Finland, June 2005
- Guest Professor, University of Zaragoza, Spain. June 2006, May 2010, and May 2011.

### *Relevant Publications (from over 180)*

1. “Conversion of furfural and 2-methylpentanal on Pd/SiO<sub>2</sub> and Pd-Cu/SiO<sub>2</sub> catalysts” Surapas Sitthisa, Trung Pham, Teerawit Prasomsri, Tawan Sooknoi, Richard G. Mallinson, Daniel E. Resasco, *Journal of Catalysis*, 280 (2011) 17–27, 2011
2. “Amphiphilic silica nanoparticles at the decane-water interface: Insights from atomistic simulations,” Heng Fan, Daniel E. Resasco, and Alberto Striolo, *Langmuir*, 27, 5264-5274, 2011
3. “Bifunctional transalkylation and hydrodeoxygenation of anisole over a Pt/HBeta catalyst,” Xinli Zhu, Lance L. Lobban, Richard G. Mallinson, Daniel E. Resasco, *Journal of Catalysis*, 281, 21-29, 2011.
4. “Hydrodeoxygenation of furfural over supported metal catalysts: A comparative study of Cu, Pd, and Ni,” Surapas Sitthisa and Daniel E. Resasco, *Catalysis Letters*, 141, 784-791, 2011.
5. “Kinetics and mechanism of hydrogenation of furfural on Cu/SiO<sub>2</sub> catalysts,” Surapas Sitthisa, Tawan Sooknoi, Yuguang Ma, Perla B. Balbuena, Daniel E. Resasco, *Journal of Catalysis*, 277, 1-13, 2011.
6. “CO Adsorption on Noble Metal Clusters: Local Environment Effects,” Morrow, BH; Resasco, DE; Striolo, A, *Journal of Physical Chemistry C* 115, 5637-5647, 2011
7. “Kinetics and mechanism of hydrogenation of furfural on Cu/SiO<sub>2</sub> catalysts,” Surapas Sitthisa, Tawan Sooknoi, Yuguang Ma, Perla B. Balbuena, Daniel E. Resasco, *Journal of Catalysis*, 277, 1-13, 2011
8. “Condensation reactions of propanal over CexZr1-xO<sub>2</sub> mixed oxide catalysts” Gangadharan, A; Shen, M; Sooknoi, T, Resasco Daniel E., Mallinson, Richard G. *Applied Catalysis A-General*, 385, 80-91, 2010

9. "Phase-Selective Catalysis in Emulsions Stabilized by Janus Silica-Nanoparticles" Jimmy Faria, M. Pilar Ruiz, Daniel E. Resasco, *Advanced Synthesis & Catalysis*, 352, 2359–2364, 2010
10. "Conversion of 1-tetralone over HY zeolite: An indicator of the extent of hydrogen transfer" Teerawit Prasomsri, Roberto E. Galiasso Tailleur, Walter E. Alvarez, Tawan Sooknoi, Daniel E. Resasco, *Applied Catalysis A*, 389, 140-146, 2010
11. "A Comparison of the Reactivities of Propanal and Propylene on HZSM-5," Trung Q. Hoanga, Xinli Zhua, Tawan Sooknoi, Daniel E. Resasco and Richard G. Mallinson, *Journal of Catalysis* 271, 201-208, 2010
12. "Stabilization of Aqueous Carbon Nanotube Dispersions Using Surfactants: Insights from Molecular Dynamics Simulations." Tummala NR, Morrow BH, Resasco DE, Striolo A., *ACS Nano*, 4, 7193-7204, 2010.
13. "Conversion of 1- and 2-Tetralone Over HY Zeolite" Teerawit Prasomsri, Roberto E. Galiasso Tailleur, Walter E. Alvarez, Tawan Sooknoi, and Daniel E. Resasco, *Catalysis Letters*, 135, 226, 2010
14. "Tailoring the Mesopore Structure of HZSM-5 to Control Product Distribution in the Conversion of Propanal," Xinli Zhu, Lance L. Lobban, Daniel E. Resasco, Richard G. Mallinson, *Journal of Catalysis*, 271, 88-98, 2010
15. "Solid Nanoparticles that Catalyze Biofuel Upgrade Reactions at the Water-/Oil Interface," Steven Crossley, Jimmy Faria, Min Shen, Daniel E. Resasco, *Science*, 327, 68, 2010.

*Invited Lectures (in the last year)*

- "On the catalytic strategies to improve diesel fuel quality," *Invited Speaker*, Topsøe Catalysis Forum Catalysis in new refinery processes Munkrupgaard, Denmark, 19-20 August 2010.
- "Metrology of Single-walled Carbon Nanotube Products Manufactured in Large Scale." Daniel E. Resasco, *Invited Speaker*, 4th International Workshop on Metrology, Standardization and Industrial Quality of Nanotubes, (MSIN10), Montreal, Canada, June 27-30 2010.
- "Interfacially active nanoparticles to catalyze biofuel upgrading in biphasic systems." *Departmental Seminar*, Michigan Tech University, October 15, 2010.
- "Bio-oil Refining on Recoverable Catalysts that Stabilize Emulsions in Bi-Phasic Liquid Systems." Daniel E. Resasco, *Keynote Lecture*, Symposium on Clean Fuels from Coal, Natural Gas and Biomass, PacifiChem 2010, Honolulu, HI, December 15-20, 2010.
- "Model compound studies towards the catalytic upgrade of bio-oil in vapor and liquid phases." Daniel E. Resasco, *Invited Speaker*, 21<sup>th</sup> ACS National Meeting & Exposition, Anaheim, California, March 27-31, 2011.
- "Solid nanoparticles to stabilize water/oil emulsions and catalyze reactions at the liquid/liquid interface." Daniel E. Resasco, *Invited Speaker*, Symposium in Honor of Harold Kung, 21<sup>th</sup> ACS National Meeting & Exposition, Anaheim, California, March 27-31, 2011.
- "Model compound studies towards the catalytic upgrade of bio-oil in vapor and liquid phases." *Seminar*, University of South Florida, April 8, 2011.

### *Synergistic Activities*

- George Lynn Cross Research Professorship. Highest research honor that a faculty member may receive from the University of Oklahoma, April 2003
- The Douglas and Hilda Bourne Chair of Chemical, Biological, and Materials Engineering. University of Oklahoma, January 2006
- Editor: *Journal of Catalysis*, 2001-2007
- Editorial Board: *Journal of Catalysis*, 2007-2010
- Founder and Chief Scientist SouthWest Nanotechnologies.
- Director Carbon Nanotube Technology Center, CANTEC (2006-to date)
- Director Center for Interfacial Reaction Engineering, CIRE (2010-to date)

### *PhD Thesis advisor:*

Gary L. Haller (Chemical Engineering, Yale University)

### *Collaborators in the last five years:*

Tobias Hertel, Warren Ford, Bruce Weisman, David Geohegan, Jose Herrera, Walter Alvarez, Ed Sughrue, Jeff Scheibel, Leandro Balzano, Felix Requejo, Siriporn Jongpatiwut

### *Selected Thesis and Post Doctoral Advisees*

- Walter E. Alvarez (Chief Scientist ConocoPhillips)
- Susan M. Stagg (Associate Professor, U. Kansas)
- Gary Jacobs (Senior Research Engineer, U. Kentucky)
- Luke Kitiyanan (Assistant Professor, Chulalongkorn University)
- Siriporn Jongpatiwut (Assistant Professor, Chulalongkorn University)
- Jose E. Herrera (Assistant Professor, University Western Ontario)
- Leandro Balzano (Senior Scientist, Shell)
- Zhang, Liang, (postdoctoral fellow PNNL)
- Giulio Lolli (Research Engineer, Bayer)
- Steven Crossley (Research Scientist, ConocoPhillips)