

JOHN R. REGALBUTO

Department of Chemical Engineering, University of South Carolina

Professional Preparation

B.S. Chemical Engineering, Cum Laude, Texas A&M University, 1981
M.S. Chemical Engineering, University of Notre Dame, 1983 Ph.D.
Chemical Engineering, University of Notre Dame, 1986

Appointments and Professional Experience

Department of Chemical Engineering, University of South Carolina
Endowed Chair in Catalysis for Renewable Fuels and Professor, 2011-present
Department of Chemical Engineering, University of Illinois at Chicago
Professor, 2005 - 2011
Associate Professor, 1992 - 2005
Assistant Professor, 1986 - 1992 National
Science Foundation, Arlington, Virginia
Catalysis and Biocatalysis Program Director, Engineering Directorate, 2006 - 09 Honeywell,
Des Plaines, Illinois
Sabbatical Leave, 2003-04
UOP Research Center, Des Plaines, Illinois
Sabbatical Leave, 1994-95
Argonne National Laboratory, Argonne, Illinois Summer
Faculty Research Program, 1990
Amoco Oil Company, Naperville, Illinois
University Methane Utilization Program, 1987

Significant Awards and Honors

Fellow, AIChE, 2016
Excellence in Catalysis Award, Catalysis Society of Metropolitan New York, 2014
Chair, 2014 Gordon Research Conference on Catalysis
Director's Commendation, NSF, for vision and promotion of "green gasoline", 2009
UIC Council for Excellence in Teaching and Learning, 1996 – 1999, Chair, 2005-06
Who's Who Among America's Teachers, 2002, 2005
UIC Award for Excellence in Teaching (all-university), 1996
UIC Professional Engineering Societies Council Best Advisor Award, 1996
UIC College of Engineering Harold A. Simon Award (teaching), 1990
Tau Beta Pi Advisor, Illinois Zeta Chapter, 1988-98

Professional Consulting

BP Chemical Company, Naperville, Illinois, 2009, 2011
- development of supported metal catalysts Catalytic Solutions, Oxnard, California, 2005
- development of reforming catalysts
Scientific Design Corporation, Little Ferry, New Jersey, 2002
- development of alkoxylation catalysts
The Catalyst Group, Spring House, Pennsylvania, 1996, 2000-2001
- technical reviews of novel catalyst supports Korean
Institute of Energy Research, Taejon, Korea, 1997
- lecture series on catalyst characterization
United Nations Industrial Development Organization, Vienna, Austria, 1996
- lecture series on catalyst preparation for the Tianjin Research Institute, China Shell
Chemical Company, West Hollow Technology Center, Houston, Texas, 1996
- catalytic reactor characterization
Gas Research Institute, Chicago, Illinois, 1992 – 1996
- feasibility surveys in environmental catalysis

Five Publications Related to Project

Wong, A., Liu, Q., Griffin, S., Nicholls, A., and Regalbuto, J.R., Synthesis of Ultrasmall, Homogeneously Alloyed, Bimetallic Nanoparticles on Silica Supports, *Science* 358 (2017) 1427.

O'Connell, K.C., Monnier, J.R., and Regalbuto, J.R., The Curious Relationship of Sintering to Activity in Supported Gold Catalysts for the Hydrodechlorination of Acetylene, *Appl. Catal. B: Env.* 225 (2017), 264.

Mehrabadi, B.A.T., Esklandari, S., Khan, U., White, R.D., and Regalbuto, J.R., A Review of Preparation Methods for Supported Metal Catalysts, *Adv. Catal.* 61 (2017) 1.

Liu, Q., Samad, J., Copple, J., Eskandari, S., Satterwhite, C., and Regalbuto, J.R., A Pinch of Salt to Control Supported Pt Particle Size, *Catal. Tod.* 280 (2017) 246.

Wong, A., Kyriakidou, E.A., Toops, T.J., and Regalbuto, J.R. The Catalytic Behavior of Precisely Synthesized Pt-Pd Bimetallic Catalysts for Use as Diesel Oxidation Catalysts, *Catal. Tod.* 267 (2016) 145.

Five Other Significant Publications

Samad, J., Blanchard, J., Sayag, C., Louis, C., and Regalbuto, J.R., The Controlled Synthesis of Metal-Acid Bifunctional Catalysts: Selective Pt Deposition and Nanoparticle Synthesis on Amorphous Aluminosilicates, *J. Catal.* 342 (2016) 213.

Samad, J., Blanchard, J., Sayag, C., Louis, C., and Regalbuto, J.R., The Controlled Synthesis of Metal-Acid Bifunctional Catalysts: The Effect of Metal:Acid Ratio and Metal-Acid Proximity in Pt Silica-Alumina Catalysts for n-Heptane Isomerization, *J. Catal.* 342 (2016) 203.

D'Souza, L., Barnes, S., and Regalbuto, J.R., The Simple, Effective Synthesis of Highly Dispersed Pd/C and CoPd/C Heterogeneous Catalysts Via Charge-Enhanced Dry Impregnation, *Catalysts* 6 (2016) 72.

Diao, W.J., Tengco, J.M.M., Regalbuto, J.R., and Monnier, J.R., Preparation and characterization of Pt-Ru Bimetallic Catalysts Synthesized by Electroless Deposition Methods, *ACS Catal.* 5, 2015, 5123.

Cho, H.-R. and Regalbuto, J.R., The Rational Synthesis of Pt-Pd Bimetallic Catalysts by Electrostatic Adsorption, *Cat. Tod.* 246 (2015) 143.

Synergistic Activities

NSF EPSCoR Track II center with U. Kansas (Catalysis for Renewables: Applications, Fundamentals, and Technology; CRAFT), 2015 – 2019.

NSF I/UCRC, Center for Rational Catalyst Synthesis (CeRCas), with Virginia Commonwealth U. USDA-NIFA team member with USDA ARS (Wyndmoor, PA), U. Maine, Villanova, and U. Delaware.

Student J. Samad spent four months in lab of C. Louis at U. Pierre et Marie Curie, 2013, 2014

NSF GOALI: student H.R. Cho spent one month with D. Thompsett (Johnson-Matthey, UK), 2013
Obtained NSF GRS for T. Feltes to study six months with B. Weckhuysen (Utrecht), 2008

Chicago Catalysis Club; President, 2000, 2005, Program Chair, 1999, 2004 Chair, all-U. of Illinois
faculty seminar on pedagogy of online teaching, 1998-99

Conflicts of Interest

Collaborators: Espinosa-Alonso L., de Smit, E., and Weckhuysen, B.M. (Utrecht U.), R.J. Meyer and R. Klie (UIC), J.T. Miller and A.J. Kropf (Argonne), S. Lambert, N. Job, M.F. Ribeiro Pereira,

R. Pirard, B. Heinrich, J.L. Figueiredo, and J.P. Pirard (U. Liege), D. Thompsett (Johnson-Matthey), G. Shaw and G. Hutchings, (Cardiff U.), Hervier, A., Blanchard, J., Costentin, G., Louis, C., and Boujday, S. (U. Pierre et Marie Curie), B. Subramaniam, (KU)

Ph.D. Advisor: E.E. Wolf (Notre Dame); Ph.D. students graduated: R. Banerjee (USC), K. O'Connell (Exide), S. Cao (Clariant), J. Samad (SRI), J.M.M. Tengco (USC), H.R. Cho (Samsung), X. Zhu (West Virginia), S. Barnes (Tulsa), T. Feltes (Chevron Phillips Chemical), X. Hao (Chevron Phillips Chemical), L. Jiao (Chevron), M. Schreier (W.R. Grace), Y. Zha (Cummins), J. Liu, Bill Newren, W. Spieker (UOP), K. Agashe, S. Manarungsun, J. Park (KIER), J.-W. Ha, J.-G. Kim, P. Kumar, A. Datta

Postdoctoral Associates: S. Lambert (U. Liege), L. D'Souza (Shell Bangalore), C. Cao (U. Liege), E. Sambandan, U. Joshi, W. Diao (INL), B. Tavakoli (USC)