

Curriculum Vitae

JOHN R. REGALBUTO

Department of Chemical Engineering (m/c 110)
University of Illinois at Chicago
810 S. Clinton Street, Chicago, Illinois 60607
Phone: (312) 996-0288 Fax: (312) 996-0808 E-mail: jrr@uic.edu

Education

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

Personal Information

Born April 14, 1959, Princeton, New Jersey
Married (wife also Ph.D. in chemical engineering), 3 children

Professional Experience

National Science Foundation, Directorate for Engineering
Catalysis and Biocatalysis Program Director, 2006 - 2009

Department of Chemical Engineering, University of Illinois at Chicago
Professor, 2005 - present
Associate Professor, 1992 - 2005
Assistant Professor, 1986 - 1992

Honeywell, Division of Catalysis and Separations, 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, 1991

Amoco Oil Company, Naperville, Illinois
University Methane Utilization Program, 1987

Consulting

BP Chemical Company, Naperville, Illinois, 2009
- catalyst synthesis via strong electrostatic adsorption

The Catalyst Group, Spring House, Pennsylvania, 1996, 2000, 2006
- technical reviews of novel catalyst supports, catalyst characterization

Catalytic Solutions, Inc., Oxnard, California, 2005
- development of refining catalysts

Scientific Design Company, Inc., Little Ferry, New Jersey, 2002
- design of next generation epoxidation catalysts

Korean Institute of Energy Research, Taejon, Korea, 1997
- lecture series on oxide 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

Honors and Professional Activities

Director's Commendation, NSF, for vision and promotion of "green gasoline", 2009
Chair, Biomass Conversion Interagency Working Group of the National Biomass
R&D Board, 2007-present

New England Catalysis Society 2006 Award Lecture

Council for Excellence in Teaching and Learning, 1996 – 2000, Chair 2005-6

Academic Affairs Subcommittee, U. Illinois Global Campus Initiative, 2005-6

Faculty Sponsor, AIChE Student Chapter, 2005-6

Catalysis Club of Chicago; Program Chair, 1999, 2004, President, 2000, 2005

Co-Chair, 5th International Symposium on Group 5 Compounds, 2005

Who's Who in American Teachers, 2002, 2005

Chair, all-U. of Illinois faculty seminar on "Teaching at an Internet Distance," 1998-9

Phi Kappa Phi Honors Society, 1999

Officer, 15th North American Catalysis Society Meeting, 1997

UIC Award for Excellence in Teaching (all-university), 1996

Professional Engineering Societies Council Best Advisor Award, 1996

Dept. of Chemical Engineering "Best Teacher Award," 1996

College of Engineering Harold A. Simon Award (teaching), 1990

Tau Beta Pi Advisor, Illinois Zeta Chapter, 1988-98

American Institute of Chemical Engineers

American Chemical Society

Eagle Scout

Research Experience and Interests

Fundamental studies of catalyst preparation, adsorption theory

Catalyst characterization, kinetics of gas-solid reactions

Engineering ethics, engineering education

Refereed Publications

1. Regalbuto, J., Kaul, D., and Wolf, E., Transient FTIR Studies of the CO-NO-O₂ Reaction on Pt/SiO₂. 8th International Congress on Catalysis, Vol. 3, 1984, 253.
2. Regalbuto, J. R. and Wolf, E. E., FTIR Studies of Self-sustained Oscillations During the CO-NO-O₂ Reaction on Pt/SiO₂ Catalysts, Chemical Engineering Communications 41, 1986, 315.
3. Regalbuto, J.R., Fleisch, T.H., and Wolf, E.E., An Integrated Study of Pt/WO₃/SiO₂ Catalysts for the NO-CO Reaction I. Catalyst Characterization by XRD, Chemisorption, and XPS, Journal of Catalysis 107, 1987, 114-128.

4. Regalbuto, J.R., Allen, C.W., and Wolf, E.E., An Integrated Study of Pt/WO₃/SiO₂ Catalysts for the NO-CO Reaction II. TEM Investigation of Overlayer Formation on Model Pt/WO₃/SiO₂ Catalysts, *Journal of Catalysis* 108, 1987, 304-322.
5. Regalbuto, J.R., and Wolf, E.E., Promotion of Pt/SiO₂ Catalysts by WO₃ for the NO-CO Reaction. In Crucq, A., and Frennet, A., eds., *Catalysis and Automotive Pollution Control*, Elsevier, Amsterdam, 1987.
6. Regalbuto, J.R., and Wolf, E.E., An Integrated Study of Pt/WO₃/SiO₂ Catalysts for the NO-CO Reaction III. FTIR Kinetic Study and Correlation of Promotional Effects, *Journal of Catalysis* 109, 1988, 12-24.
7. Fleisch, T.H., Bell, A.T., Regalbuto, J.R., Thomson, R.T., Lane, G.S., Wolf, E.E., and Hicks, R.F., X-ray Photoemission Studies of Strong Metal-Support Interaction (SMSI): Metal Decoration and Electronic Effects, *Studies in Surface Science and Catalysis* 38, 1988, 791-802.
8. Datta, A., and Regalbuto, J.R., TEM and In-Situ EM Study of the Dispersion of Silica Supported MoO₃, *Ultramicroscopy* 29, 1989, 233-246.
9. Datta, A., Ha, J.-W., and Regalbuto, J.R., The Controlled Dispersion of Silica Supported MoO₃: the Role of Ammonia, *Journal of Catalysis* 133, 1992, 55.
10. Hannoun, H., and Regalbuto, J.R., The Mixing Characteristics of a MicroBerty Catalytic Reactor, *Industrial and Engineering Chemistry Research*, 31, 1992, 1288.
11. Kim, J.-G., Shyu, J. and Regalbuto, J.R., The Effect of Calcination On Morphology and Hydrogen Spillover in Pt/MoO₃, I. Characterization and Kinetics, *Journal of Catalysis* 139, 1993, 153.
12. Kim, J.-G., and Regalbuto, J.R., The Effect of Calcination On Morphology and Hydrogen Spillover in Pt/MoO₃, II. Kinetic Modeling, *Journal of Catalysis* 139, 1993, 175.
13. Shah, A., and Regalbuto, J. R., The Retardation of Pt Adsorption Over Oxide Supports at pH Extremes: Oxide Dissolution of High Ionic Strength?, *Langmuir* 10, 1994, 500.
14. Santhanam, N., Conforti, T., Spieker, W., and Regalbuto, J.R., On the Nature of Metal Precursors Adsorbed on Oxide Supports, *Catalysis Today* 21, 1994, 141.
15. Regalbuto, J.R., and Ha, J.-W., A Corrected Procedure and Consistent Interpretation for Temperature Programmed Reduction of Supported MoO₃, *Catalysis Letters* 29, 1994, 189.
16. Hong, Z., and Regalbuto, J. R., Nature of Adsorption Sites on Sulfided Mo Catalysts and Their Selectivity in Chemisorption of Probe Molecules, *Journal of Physical Chemistry* 99, 1995, 9452.
17. Park J.-H., and Regalbuto, J.R., A Simple, Accurate Determination of Oxide PZC and the Strong Buffering Effect of Oxide Surfaces at Incipient Wetness, *Journal of Colloid and Interface Science* 175, 1995, 239.
18. Agashe K., and Regalbuto, J.R., A Revised Physical Theory for Adsorption of Metal Complexes at Oxide Surfaces, *Journal of Colloid and Interface Science* 185, 1997, 174.

19. Li, W. B., Yang, R. T., Krist, K., and Regalbuto, J. R., Selective Adsorption of NO_x from Hot Combustion Gases by Ce-Doped CuO/TiO₂, *Energy and Fuels* 11, 1997, 428.
20. Miller, J., Glusker, E., Peddi, R., Zheng, T., and Regalbuto, J. R., The Role of Acid Sites in Cobalt Zeolite Catalysts for Selective Reduction of Lean NO_x, *Catalysis Letters* 51, 1998, 15.
21. Regalbuto, J.R., Agashe K., Navada, A., Bricker, M. L., and Chen, Q., A Scientific Description of Pt Adsorption onto Alumina, *Studies in Surface Science and Catalysis* 118, 1998, 147.
22. Regalbuto, J.R., Zheng, T., and Miller, J. T., The Bifunctional Reaction Pathway and Dual Kinetic Regimes in NO_x SCR by Methane over Cobalt Mordenite Catalysts, *Catalysis Today* 184, 1999, 1.
23. Regalbuto, J.R., Shadid, S., Chen, Q., and Bricker, M., An Experimental Verification of the Physical Nature of CPA Adsorption onto Alumina, *Journal of Catalysis* 184, 1999, 335.
24. Spieker, W., Regalbuto, J., Rende, D., Bricker, M., and Chen, Q., Experimental Investigation and Modeling of Platinum Adsorption onto Ion-Modified Silica and Alumina, *Studies in Surface Science and Catalysis* 130, 2000, 203.
25. Spieker, W., and Regalbuto, J. R., A Fundamental Model of Pt Impregnation onto Alumina, *Chemical Engineering Science* 56, 2001, 3491.
26. Regalbuto, J. R., Schreier, M., Hao, X., Spieker, W.A., Kim, J.-G., Miller, J. T., and Kropf, J., Toward a Molecular Understanding of Noble Metal Catalyst Impregnation, *Studies in Surface Science and Catalysis* 143, 2002, 45.
27. Spieker, W., Liu, J., Miller, J. T., Kropf, J., and Regalbuto, J. R., An EXAFS Study of the Coordination Chemistry of Hydrogen Hexachloroplatinate I. Speciation in Aqueous Solution, *Applied Catalysis A: General* 232, 2002, 219.
28. Spieker, W., Liu, J., Hao, X., Miller, J. T., Kropf, J., and Regalbuto, J. R., An EXAFS Study of the Coordination Chemistry of Hydrogen Hexachloroplatinate II. Speciation of Complexes Adsorbed onto Alumina, *Applied Catalysis A: General* 243, 2003, 53.
29. Korah, J., Spieker, W., and Regalbuto, J. R., Why Ion-Doped, PAC-Altered Silica and Alumina Fail to Influence Platinum Adsorption, *Catalysis Letters* 85, 2003, 123.
30. Hao, X., and Regalbuto, J. R., A Further Simplification of the Revised Physical Adsorption (RPA) Model, *Journal of Colloid and Interface Science* 267, 2003, 259.
31. Schreier, M., and Regalbuto, J.R., A Fundamental Study of Pt Ammine Impregnation of Silica 1. The Electrostatic Nature of Pt Adsorption, *J. Catal.* 225, 2004, 190.
32. Miller, J. T., Kropf, A. J., Schreier, M., and Regalbuto, J.R., A Fundamental Study of Pt Ammine Impregnation of Silica 2. The Effect of Method of Preparation, Loading, and Calcination Temperature on (Reduced) Particle Size, *J. Catal.* 225, 2004, 203.
33. Hao, X., Quach, L., Korah, J., and Regalbuto, J. R., The Engineering of Pt Impregnation onto Oxides and Carbon, *Journal of Molecular Catalysis* 219, 2004, 97.

34. Park, C., Fenter, P., Sturchio, N., and Regalbuto, J.R., Probing Outer-sphere Adsorption of Aqueous Metal Complexes at the Oxide-Water Interface with Resonant Anomalous X-ray Reflectivity, *Physics Review Letters* 94, 2005, 076104/1.
35. Yang, J.Y., Henao, J. D., Costello, C., Kung, M.C., Kung, H.H., Miller, J.T., Kropf, A.J., Regalbuto, J.R., Kim, J.G., Bore, M., Pham, H.N., Datye, A.K., Laeger, J. D., and Kharas, K., Understanding Preparation Variables in the Synthesis of Au/Al₂O₃ using EXAFS and Electron Microscopy, *Applied Catalysis A: General* 291, 2005, 73.
36. Schreier, M., Terens, S., Belcher, L. and Regalbuto, J.R., The Nature of "Overexchanged" Copper and Platinum on Zeolites, *Nanotechnology* 16, 2005, S582.
37. Park, Changyong; Fenter, Paul; Sturchio, Regalbuto, John. R., Neil C.; Resonant anomalous X-ray reflectivity: A New Structural and Spectroscopic Probe of Metal Adsorption at Mineral-Water Interfaces, *Geochimica et Cosmochimica Acta* 69 (2005), A42.
38. Miller, J.T., Kropf, A.J., Zha, Y., Regalbuto, J.R., Delannoy, L., Louis, C., Bus, E., and van Bokhoven, J.A., The Effect of Gold Particle Size on the Au-Au Bond Distance in Supported Catalysts, *J. Catal.* 240, 2006, 222.
39. Regalbuto, J.R., Ansel, O., and Miller, J.T., An Evaluation of Pt Sulfite Acid (PSA) as Precursor for Supported Pt Catalysts, *Topics in Catalysis* 39, 2006, 237.
40. Regalbuto, J.R., Simple, Scientific Syntheses with Common Catalyst Precursors, *Studies in Surface Science and Catalysis* 267 (2006) 191.
41. D'Souza, L., Regalbuto, J.R., Miller, J.T., and Kropf, A.J., Preparation of Silica- and Carbon-supported Cobalt by Electrostatic Adsorption of Co(III) Hexaammines, *Journal of Catalysis* 248 (2007) 165.
42. D'Souza, L., Regalbuto, J.R., and Miller, J.T., Preparation of Carbon Supported Cobalt by Electrostatic Adsorption of [Co(NH₃)₆]Cl₃, *Journal of Catalysis* 252 (2008) 157.
43. Jiao, L., and Regalbuto, J.R., The Synthesis of Highly Dispersed Noble and Base Metals on Silica via Strong Electrostatic Adsorption: I. Amorphous Silica, *Journal of Catalysis* 260, 2008, 329.
44. Jiao, L., and Regalbuto, J.R., The Synthesis of Highly Dispersed Noble and Base Metals on Silica via Strong Electrostatic Adsorption: II. Mesoporous Silica, *Journal of Catalysis*, 260, 2008, 342.
45. S. Lambert, N. Job, L. D'Souza, M. F. R. Pereira, R. Picard, B. Heinrichs, J.L. Figuerido, J.-P. Pirard, and Regalbuto, J.R., Synthesis of Very Highly Dispersed Platinum Catalysts Supported on Carbon Xerogels by the Strong Electrostatic Adsorption Method, *Journal of Catalysis*, 261, 2009, 23.
46. N. Job, S. Lambert, M. Chatenet, C. J. Gommès, F. Maillard, . Berthon-Fabry, J. R. Regalbuto, J.-P. Pirard, Preparation of Highly Loaded Pt/carbon Xerogel Catalysts for Proton Exchange Membrane Fuel Cells by the Strong Electrostatic Adsorption Method, *Catalysis Today*, 2009, in press.

47. T. E Feltes, L. Espinosa-Alonso, E. de Smit, L. D'Souza, R. J. Meyer, B. M Weckhuysen, J. R. Regalbuto , Selective Adsorption of Manganese onto Cobalt for Optimized Mn/Co/TiO₂ Fischer-Tropsch Catalysts, *J. Catalysis*, in press.
48. Schreier, M., Timmons, M., Feltes, T., and Regalbuto, J.R., A Simple Optimization Procedure to Obtain Intrinsic Acidity Constants of Oxides for Metal Adsorption Modeling, in preparation.
49. Hao, X., and Regalbuto, J. R., The Adsorption of Anionic and Cationic Pt Complexes onto Carbon 1. Electrostatic Behavior at Short Contact Time, in preparation.
50. Hao, X., Regalbuto, J. R., Kropf, A.J., and Miller, J.T., The Adsorption of Anionic and Cationic Pt Complexes onto Carbon 2. Low pH Pt Reduction at Long Contact Time, in preparation.
51. Castorano, M., Robles, J.T., Regalbuto, J. R., Kropf, A.J., and Miller, J.T., A Fundamental Study of Pt Adsorption onto Carbon 3. Extension to High Surface Area Carbon Black, in preparation.
52. Zha, Y., Barnes, S., Dering, A., and Regalbuto, J.R., Rational Syntheses of Oxide Supported Au Catalysts, 1. Preparations using anionic tetrachloroaurate, in preparation.
53. Barnes, S., A., and Regalbuto, J.R., Rational Syntheses of Oxide Supported Au Catalysts, 2. Preparations using cationic gold bis-ethylenediamine, in preparation.
54. Pham, H., and Regalbuto, J.R., The Correlation of Carbon PZC to DRIFTS Characterization, in preparation.
55. Schreier, M., and Regalbuto, J.R., The Adsorption of Anionic and Cationic Pt Complexes onto Ceria, Zirconia, and Titania, in preparation.

Nonrefereed Publications

1. Regalbuto, John. R. and Wolf, E.E.; Characterization of SMSI Effects and FTIR Study of the NO-CO Reaction on Pt/WO₃/SiO₂ Catalysts, Abstracts of Papers, 191st ACS National Meeting (1986), 255-Coll.
2. Kumar, P., Agashe, K., Shah, A., and Regalbuto, John. R.; Verification of a Fundamental Liquid-Solid Adsorption Theory, Abstracts of Papers, 202nd ACS National Meeting (1991), 188-Coll.
3. Regalbuto, John. R., Santhanam, N.K.; The Reversibility of Metallic Complexes on Oxide Supports, Abstracts of Papers, 206th ACS National Meeting (1993), 126-PETR.
4. Regalbuto, John. R.; Some Fundamentals of Noble Metal Catalyst Impregnation, Abstracts of Papers, 223rd ACS National Meeting (2002), 044-IEC, U634.
5. Schreier, M., Teren, S., and Regalbuto, John. R.; Nature of Overexchanged Metals on Zeolites, Abstracts of Papers, 227th ACS National Meeting (2004), 129-Coll, U823.

6. Regalbuto, John. R., Schreier, M., Liu, J., Miller, J.T., and Kropf, A.F.; Survey of Noble Metal Adsorption onto Oxide Supports, Abstracts of Papers, 227th ACS National Meeting (2004), 128-Coll, U823.
7. Park, Changyong; Fenter, Paul; Regalbuto, John. R., Sturchio, Neil C.; X-ray Reflectivity Study of Pt Solution Complexes Adsorbed at the Quartz-Water Interface, Abstracts of Papers, 227th ACS National Meeting (2004), 125-Coll, U823.
8. Regalbuto, John. R., Neil C.; Evaluation of Pt Sulfite Acid (PSA) as Precursor for Supported Pt Catalysts, Abstracts of Papers, 229th ACS National Meeting (2005), 125-Fuel, U870
9. Park, Changyong; Fenter, Paul; Sturchio, Neil C., Regalbuto, John. R.; Probing geometric and spectroscopic structures of aqueous metal species adsorption at mineral-water interfaces with resonant anomalous X-ray reflectivity. Abstracts of Papers, 229th ACS National Meeting (2005), 405-Phys, U764.
10. Regalbuto, John R.; Paving the trail blazed by Jim Schwarz: A scientific method to prepare supported metal catalysts. Abstracts of Papers, 230th ACS National Meeting (2005), 100-Coll, U1085
11. Park, Changyong; Fenter, Paul; Sturchio, Neil C.; Regalbuto, John. R., New capabilities of probing ion adsorption at solid-liquid interfaces with resonant anomalous X-ray reflectivity. Abstracts of Papers, 231st ACS National Meeting (2006), 204-Coll.
12. Regalbuto, J.R., Foreword (Special Issue on Group 5 Compounds), Catalysis Today 118 (2006), 267.
13. (Perspective) Regalbuto, J.R., Cellulosic Biofuels: Got Gasoline?, Science 325 (2009), 822.

Patents

1. Hao, X., and Regalbuto, J.R., Method for Preparing Highly Loaded, Highly Dispersed Platinum Metal on a Carbon Substrate, U.S. Patent 7,312,174, filed Sept. 9, 2003, issued December 25, 2007.
2. Michalakos, P., Kaiser, M., Seminara, G., Regalbuto, J., Structured Adsorbent Media for Purifying Contaminated Air, U.S. Patent 7,425,521, filed June 16, 2004, issued September 16, 2008.
3. Regalbuto, J.R., Dry Impregnation of Platinum onto Carbon, U.S. Pat. Appl. Publ. (2007), US 2007105007.

Technical Reports

1. GRI Technical Report 92/0045, "An Analysis of Post Combustion Catalytic Emissions Treatment," Gas Research Institute, Chicago, Illinois, 1992.
2. GRI Technical Report 94/0032, "A Survey of Methane Conversion Reactors," Gas Research Institute, Chicago, Illinois, 1994.

3. GRI Technical Report 94/0184, "A Comparison of NO_x Abatement Strategies Utilizing Adsorption," Gas Research Institute, Chicago, Illinois, 1994.
4. Catalytic Advances Program, "Developments in Catalyst Support Technology," Chapter 3, The Catalyst Group, Spring House, Pennsylvania, 1996.
5. Report of an all-U. of Illinois Faculty seminar, "Teaching at an Internet Distance: The Pedagogy of Online Teaching and Learning," www.vpaa.uillinois.edu/tid/report, 2000.
6. Catalytic Advances Program, "Developments in Catalyst Support Technology," Chapter 3, The Catalyst Group, Spring House, Pennsylvania, 2001.
7. The Catalyst Review, "Not Your Professor's Electron Microscope," The Catalyst Group, Spring House, Pennsylvania, 2006.

Books/Journal Volumes

1. Catalyst Preparation: Science and Engineering, Regalbuto, J.R., editor, Taylor and Francis/CRC Press, 2007.
2. Special Issue on the 5th International Symposium on Group 5 Compounds, Catalysis Today, Regalbuto, J.R., guest editor, Elsevier, 2006.

Book Chapters

1. Working with Chemistry. A Laboratory Inquiry Program, Measurement of Chemical Reaction Rates: Clean Up Waste Water, Wink, D.J., Fetzer Gislason, S., and Ellefson Kuehn, J. editors, Freeman Publishers, 2001.
2. Naphtha Reforming, Chapter 5: Preparation of Reforming Catalysts, Antos, G. J. editor, with G.J. Antos, Marcel Dekker, 2004.
3. Surface and Nanomolecular Catalysis, Chapter 6: A Scientific Method to Prepare Supported Metal Catalysts, Richards, R. editor, Taylor and Francis/CRC Press, 2006.
4. Catalyst Preparation: Science and Engineering, Chapter 13: Strong Electrostatic Adsorption of Metals onto Catalyst Supports, Regalbuto, J.R., ed., Taylor and Francis/CRC Press, 2007.
5. Synthesis of Solid Catalysts, Chapter 3: Electrostatic Adsorption, de Jong, K., ed., Wiley-VCH Verlag, 2009.
6. Silica and Silicates in Modern Catalysis, Chapter 14: A Simple, Rational Method to Prepare Nanodispersed Metal Catalysts Supported on Silica., Istvan Halacz, ed., Transworld Research Network, in press.

Conference Presentations

1. "SMSI Effects and TEM Studies of Overlayer Formation on Pt/WO₃/SiO₂," Regalbuto, J.R., and Wolf, E. E., Chicago Catalysis Club, Chicago, Il., May, 1986.
2. "Tungsta Promoted Pt/SiO₂ Catalysts for the NO-CO Reaction" Regalbuto, J.R., and Wolf, E. E., AIChE Annual Meeting, Chicago, Il., Nov., 1986.

3. "Strong Metal-Support Interactions (SMSI): Metal Decoration and Electron Transfer," Fleisch, T. H., Hicks, R.F., Bell, A.T., Regalbuto, J.R., Lane, G.S., and Wolf, E.E., 10th North American Meeting of the Catalysis Society, San Diego, CA, May, 1987.
4. "Kinetic Modeling and FTIR Study of the NO-CO Reaction on Tungsta Promoted Pt/SiO₂ Catalysts," Regalbuto, J.R., and Wolf, E.E., 10th North American Meeting of the Catalysis Society, San Diego, CA, May, 1987.
5. "Are Co-Mo HDS Catalysts SMSI Materials?" Regalbuto, J.R., Gordon Research Conference on Catalysis, New London, NH, June, 1987.
6. "The Controlled Dispersion of Silica Supported MoO₃," Datta, A., Allen, C.W., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1988.
7. (poster) "The Effect of Calcination on Morphology and Spillover Kinetics in Pt/MoO₃," Kim, J.-G., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1988.
8. "The Controlled Dispersion of Silica Supported MoO₃," Datta, A., Allen, C.W., and Regalbuto, J.R., AIChE Annual Meeting, Washington, D.C., Nov. 1988.
9. "Characterization of a Novel Micro-Berty Reactor for Gas-Solid Catalytic Reactions," Hannoun, H., and Regalbuto, J.R., AIChE Annual Meeting, Washington, D.C., Nov. 1988.
10. (poster) "The Effect of Calcination on Morphology and Kinetics of Hydrogen Spillover in Pt/MoO₃," Kim, J.-G., and Regalbuto, J.R., 11th North American Meeting of the Catalysis Society, Dearborn, MI, May, 1989.
11. (poster) "Theoretical and Experimental Studies of Chloroplatinate Adsorption on Alumina," Kazeminy, M., and Regalbuto, J.R., 11th North American Meeting of the Catalysis Society, Dearborn, MI, May, 1989.
12. "An A Priori Model of Chloroplatinate Adsorption onto Alumina," Kazeminy, M., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1989.
13. (poster) "The Effect of Calcination on Morphology and Kinetics of Hydrogen Spillover in Pt/MoO₃," Kim, J.-G., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1989.
14. "The Effect of Calcination on Morphology and Kinetics of Hydrogen Spillover in Pt/MoO₃," Kim, J.-G., and Regalbuto, J.R., AIChE Annual Meeting, San Francisco, CA, Nov. 1989.
15. "Engineering Ethics Education: The Tough Dilemma Can be Resolved" Regalbuto, J.R., AIChE Annual Meeting, San Francisco, CA, Nov. 1989.
16. (poster) "An A Priori Model of Chloroplatinate Adsorption onto Alumina," Kazeminy, M., and Regalbuto, J.R., AIChE Annual Meeting, San Francisco, CA, Nov. 1989.
17. "A Revived Electric Double Layer Theory for an A Priori Model of Wet Impregnation," Kazeminy, M., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1990.

18. "A Fundamental A Priori Model for Wet Impregnation of Catalysts," Kazeminy, M., and Regalbuto, J.R., AIChE Annual Meeting, Nov. 1990.
19. "The Controlled Dispersion of Silica Supported MoO₃: The Role of Ammonia," Datta, A., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1991.
20. "A Revived Electric Double Layer Theory for an A Priori Model of Wet Impregnation," Kazeminy, M., and Regalbuto, J.R., 12th North American Meeting of the Catalysis Society, Lexington, KY, May, 1991.
21. "Verification of a Fundamental Liquid-Solid Adsorption Theory," Kumar, P., Agashe, K., Shah, A., and Regalbuto, 202nd ACS National Meeting, New York City, Aug., 1991.
22. "Retardation of Platinum Adsorption on Alumina at Low pH: Aluminum Dissolution or Ionic Strength?" Shah, A., and Regalbuto, J.R., AIChE Annual Meeting, Los Angeles, Nov. 1991.
23. "The Controlled Dispersion of Silica Supported MoO₃: The Role of Ammonia," Datta, A., and Regalbuto, J.R., AIChE Annual Meeting, Los Angeles, Nov. 1991.
24. "The Effect of MoO₃ Morphology on Benzene Hydrogenation over Pt/MoO₃/SiO₂," Kim, J.-G., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1992.
25. "The Adsorption of Noble Metal Precursors over Oxide Supports," Agashe, K., and Regalbuto, J.R., AIChE Annual Meeting, Miami, 1992.
26. "The Effect of Calcination on Benzene Hydrogenation over Pt/MoO₃/SiO₂," Kim, J.-G., and Regalbuto, J.R., AIChE Annual Meeting, Miami, 1992.
27. "Structure-Function Relationships in Controlled Morphology MoO₃/SiO₂ for Methanol Oxidation," Ha, J.-W., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1993.
28. "Fundamental Studies of Noble Metal Adsorption over Oxide Supports," Agashe, K., and Regalbuto, J.R., 13th North American Meeting of the Catalysis Society, Pittsburgh, May, 1993.
29. (invited) "The Reversibility of Adsorption of Metallic Complexes on Oxide Supports," 206th ACS National Meeting, Chicago, Aug. 1993.
30. "A Corrected Procedure and Consistent Interpretation for Temperature Programmed Reduction of Supported MoO₃," Ha, J.-W., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1994.
31. "The Selective Adsorption of Pd onto CeO₂/Al₂O₃ Composites," Manarungsun, S., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1994.
32. "A Corrected Procedure and Consistent Interpretation for Temperature Programmed Reduction of Supported MoO₃," Ha, J.-W., and Regalbuto, J.R., AIChE Annual Meeting, Chicago, 1994.

33. "The Selective Adsorption of Pd onto CeO₂/Al₂O₃ Composites," Manarungsun, S., and Regalbuto, J.R., AIChE Annual Meeting, Chicago, 1994.
34. (invited keynote) "Practical Fundamentals of Noble Metal Adsorption onto Alumina," Regalbuto, J.R., 14th North American Meeting of the Catalysis Society, Snowbird, UT, June, 1995.
35. "The Nature of CPA Adsorption onto Alumina," Regalbuto, J.R., AIChE Annual Meeting, Miami, Nov. 1995.
36. "The Nature of CPA Adsorption into Catalyst Pellets," Bradley, S.A., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1996.
37. (poster) "The Nature of CPA Adsorption onto Alumina," Regalbuto, J.R., 11th International Congress on Catalysis, Baltimore, July, 1996.
38. (invited) "A Revised Physical Adsorption Model for CPA Impregnation of Alumina," Agashe, K., and Regalbuto, J.R., AIChE Annual Meeting, Nov. 1996.
39. "The Bifunctional Mechanism of Lean NO_x Reduction over Zeolite Based Catalysts," Miller, J.T., Peddi, R., Zheng, T., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1998.
40. "The Science of Pt Impregnation onto Alumina," Regalbuto, J.R., 7th International Symposium on Scientific Bases for the Preparation of Heterogeneous Catalysts, Louvain-la-Neuve, Belgium, Sept. 1998.
41. "The Estimation of Mixed Oxide Surface Composition Using Ph/PZC Measurements," Hashim, S., and Regalbuto, J.R., AIChE Annual Meeting, Miami, Nov. 1998.
42. "The Bifunctional Mechanism of Lean NO_x Reduction over Zeolite Based Catalysts," Miller, J.T., Peddi, R., Zheng, T., and Regalbuto, J.R., AIChE Annual Meeting, Miami, Nov. 1998.
43. "A Comparison of Pt Adsorption onto Zeolites and Oxides," Spieker, W., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 1999.
44. "Selective Partitioning of Pt onto Zeolites in Extruded Catalysts," Spieker, W.A., and Regalbuto, J.R., AIChE Annual Meeting, Dallas, Nov. 1999.
45. (invited) "A Structured Approach to Engineering Ethics," Regalbuto, J.R., AIChE Spring Meeting, Atlanta, March, 2000.
46. "EXAFS Study of Dissolved Pt Complexes," Spieker, W., Miller, J.T., Kropf, A.J., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 2000.
47. (keynote panel) "The Good News and the Bad News of Online Pedagogy," Regalbuto, J.R., Internet & Society 2000 Conference, Harvard University, May 31, 2000.
48. "Spieker, W., Regalbuto, J.R., Rende, D., Bricker, M., and Chen, Q., "Experimental Investigation and Modeling of Platinum Adsorption onto Ion-Modified Silica and Alumina," 12th International Congress on Catalysis, Granada, Spain, Jul. 2000.

49. (invited) "The Good News and the Bad News of Online Pedagogy," Regalbuto, J.R., Gordon Research Conference on Materials Education, Plymouth State University, Jul. 31, 2000.
50. (keynote) "The Good News and the Bad News of Online Pedagogy," Regalbuto, J.R., National College Testing Association, Chicago, Il., Aug. 2, 2000.
51. (invited) "The Good News and the Bad News of Online Pedagogy," Regalbuto, J.R., American Sociological Association, Washington, D. C., Aug. 15, 2000.
52. (distinguished presenter) "The Good News and the Bad News of Online Pedagogy," Regalbuto, J.R., International Engineering Consortium's National Communications Forum, Chicago, Il., Oct. 15, 2000.
53. (invited) "The Good News and the Bad News of Online Pedagogy," Regalbuto, J.R., Conference on Information Technology of the League for Innovation in Community Colleges, Anaheim, CA, Nov. 16, 2000.
54. "A Scientific Model of Catalyst Impregnation," Spieker, W., and Regalbuto, J.R., AIChE Annual Meeting, Los Angeles, Nov. 2000.
55. "EXAFS Study of Dissolved and Adsorbed Pt Complexes," Spieker, W., Miller, J.T., Kropf, A.J., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 2001.
56. "EXAFS Investigation of Dissolved and Adsorbed Pt Complexes Derived from CPA," Spieker, W., Miller, J.T., Kropf, A.J., and Regalbuto, J.R., 17th North American Meeting of the Catalysis Society, Toronto, Jun. 2001.
57. "EXAFS Study of Dissolved and Adsorbed Pt Complexes," Spieker, W., Miller, J.T., Kropf, A.J., and Regalbuto, J.R., AIChE Annual Meeting, Reno, Nov. 2001.
58. (invited) "Some Fundamentals of Noble Metal Catalyst Impregnation," Regalbuto, J.R., ACS Annual Meeting, Orlando, March, 2002.
59. "A Molecular Characterization of Noble Metal Adsorption over Alumina," Regalbuto, J.R., Kim, J.-G., Miller, J.T., and Kropf, A.J., Chicago Catalysis Club Spring Symposium, May, 2002.
60. (keynote) "Toward a Molecular Understanding of Noble Metal Catalyst Impregnation," Regalbuto, J.R., Kim, J.-G., Miller, J.T., and Kropf, A.J., 8th International Symposium of the Scientific Bases for the Preparation of Heterogeneous Catalysts, Louvain-la-Neuve, Belgium, Sept. 2002.
61. "Molecular Characterization of Noble Metal Catalyst Impregnation," Hao, X., Liu, J., Regalbuto, J.R., Miller, J.T., and Kropf, A.J., AIChE Annual Meeting, Indianapolis, Nov. 2002.
62. "The Engineering of Pt Impregnation onto Carbon," Hao, X., and Regalbuto, J.R., AIChE Annual Meeting, Indianapolis, Nov. 2002.
63. (invited) "A Simple Method to Prepare Highly Loaded, Highly Dispersed Pt on Carbon," Hao, X., and Regalbuto, J.R., Materials Research Society Fall Meeting, Boston, Dec. 2002.

64. (invited) "A Simple Method to Prepare Highly Loaded, Highly Dispersed Pt onto Carbon Nanostructures," Hao, X., and Regalbuto, J.R., The Knowledge Foundation Small Fuel Cell Workshop, New Orleans, May, 2003.
65. "An In-situ, Real-Time XANES and EXAFS Characterization of Noble Metal Catalyst Impregnation, Hao, X., Liu, J., Regalbuto, J.R., Miller, J.T., and Kropf, A.J., Chicago Catalysis Club Spring Symposium, May, 2003.
66. "An In-situ, Real-Time XANES and EXAFS Characterization of Noble Metal Catalyst Impregnation, Hao, X., Liu, J., Regalbuto, J.R., Miller, J.T., and Kropf, A.J., 18th North American Meeting of the Catalysis Society, Cancun, Jun. 2003.
67. (invited) "A Simple Method to Prepare Highly Loaded, Highly Dispersed Pt on Carbon," Hao, X., and Regalbuto, J.R., Gordon Conference on Fuel Cells, New Orleans, July, 1993.
68. "A Survey of Noble Metal Adsorption onto Oxide Supports," Schreier, M., Liu, J., and Regalbuto, J.R., AIChE Annual Meeting, San Francisco, Nov., 2003.
69. "The Engineering of Pt Impregnation of Carbon," Hao, X., and Regalbuto, J.R., AIChE Annual Meeting, San Francisco, Nov., 2003.
70. (invited) "A Survey of Noble Metal Adsorption onto Oxide Supports," Liu, J., Schreier, M., and Regalbuto, J.R., 227th ACS Meeting, Anaheim, CA, Mar., 2004.
71. (invited) "The Nature of Over-Exchanged Metals on Zeolite Supports," Schreier, M., and Regalbuto, J.R., 227th ACS Meeting, Anaheim, CA, Mar., 2004.
72. (invited) "X-ray Reflectivity Studies of Pt Complex Adsorption at the Quartz-Water Interface," Park, C., Fenter, P., Sturchio, N., and Regalbuto, J.R., 227th ACS Meeting, Anaheim, CA, Mar., 2004.
73. "The Nature of Over-Exchanged Metals on Zeolite Supports," Schreier, M., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 2004.
74. "Non-Electrostatic Adsorption of Pt onto Alumina," Lui, J., and Regalbuto, J.R., Chicago Catalysis Club Spring Symposium, May, 2004.
75. "A Survey of Noble Metal Adsorption onto Oxide Supports," Liu, J., Schreier, M., and Regalbuto, J.R., 13th International Congress on Catalysis, Paris, Jul., 2004.
76. "The Engineering of Pt Impregnation of Carbon," Hao, X., Robles, J., Castorano, M., and Regalbuto, J.R., 13th International Congress on Catalysis, Paris, Jul., 2004.
77. "The Nonelectrostatic Adsorption of CPA onto Alumina," Liu, J., and Regalbuto, J.R., AIChE Annual Meeting, Austin, Nov., 2004.
78. "A Simple, Efficient Method to Synthesize Highly Loaded, Highly Dispered Pt on Carbon Black," Castorano, M., and Robles, J., and Regalbuto, J.R., AIChE Annual Meeting, Austin, Nov., 2004.
79. (invited) "X-ray Absorption Methods for the Molecular Characterization of Catalyst Synthesis," J. R. Regalbuto, J. T. Miller, and A. J. Kropf , 229th ACS Meeting, San Diego, Mar. 2005

80. (invited) "An Evaluation of Pt Sulfite Acid (PSA) as Precursor for Supported Pt Catalysts," J. R. Regalbuto, J. T. Miller, and A. J. Kropf , 229th ACS Meeting, San Diego, Mar. 2005
81. "Probing Geometric and Spectroscopic Structures of Aqueous Metal Species Adsorbed at Mineral-Water Interfaces with Resonant Anomalous X-ray reflectivity" Park, C., Fenter, P, Sturchio, N., and Regalbuto, J. R., 229th ACS Meeting, San Diego, Mar. 2005.
82. "Resonant Anomalous X-ray Reflectivity: a New Structural and Spectroscopic Probe of Metal Adsorption at Mineral-Water Interfaces" Park, C., Fenter, P, Sturchio, N., and Regalbuto, J. R., 15th Annual Goldschmidt Conference, Moscow, ID, May 2005.
83. "The Synthesis of Niobia-Supported Noble Metal Catalysts," J. R. Regalbuto, Y. Zha, A. Dering, and J.T. Miller, 5th International Symposium on Group 5 Compounds, Hancock, Massachusetts, May, 2005.
84. "A Simple Method to Synthesize Highly Loaded, Highly Dispersed Pt on Carbon," J. R. Regalbuto, J. T. Miller, and A. J. Kropf , 19th North American Meeting of the Catalysis Society, Philadelphia, May 2005.
85. "An Evaluation of Pt Sulfite Acid (PSA) as Precursor for Supported Pt Catalysts," J. R. Regalbuto, J. T. Miller, and A. J. Kropf , 19th North American Meeting of the Catalysis Society, Philadelphia, May 2005.
86. "Paving the Trail Blazed by Jim Schwarz: A Scientific Method to Prepare Supported Metal Catalysts," Regalbuto, J.R., 230th ACS Meeting, Washington, D.C., August, 2005.
87. "New capabilities of probing ion adsorption at solid-liquid interfaces with resonant anomalous X-ray reflectivity" Park, C., Fenter, P, Sturchio, N., and Regalbuto, J. R., 231st ACS Meeting, Atlanta, March 2006.
88. "Simple, Scientific Syntheses with Common Catalyst Precursors," Regalbuto, J.R., 9th International Symposium of the Scientific Bases for the Preparation of Heterogeneous Catalysts, Louvain-la-Neuve, Belgium, Sept. 2006.
89. "A Simple, Rational Method to Prepare Highly Dispersed Catalysts," Michigan Catalysis Society, October, 2006
90. "An Overview of Biochemical Conversion Research at NSF," National Biofuels Action Plan Meeting, DOE, November, 2006
91. "The Production of Highly Dispersed Metals via 'Strong Electrostatic Adsorption'" (SEA), Liu, J., and Regalbuto, J.R., AIChE Annual Meeting, San Francisco, Nov., 2006.
92. "Electrostatic 'Nano-engineering' of Promoted and Bimetallic Catalysts," D'Souza, L., Zha, Y., and Regalbuto, J.R., AIChE Annual Meeting, San Francisco, Nov., 2006.
93. "The Catalysis and Biocatalysis Program at NSF," AIChE Annual meeting, San Francisco, November, 2006
94. "The Production of Highly Dispersed Metals via 'Strong Electrostatic Adsorption'", New England Catalysis Society, Springfield, MA, December, 2006

95. "The Production of Highly Dispersed Metals via 'Strong Electrostatic Adsorption'", The Catalysis Society of Metropolitan New York, Woodbridge, NJ, March, 2007
96. "Highly Dispersed Noble and Base Metals on Amorphous and Mesoporous Silica via Strong Electrostatic Adsorption (SEA)," Catalysis Club of Chicago, May, 2007
97. "Highly Dispersed Bimetallic Catalysts by Selective Adsorption of Metal Complexes onto Mixed Metal Oxides," Catalysis Club of Chicago, May, 2007
98. Workshop Overview, "Breaking the Chemical and Engineering Barriers to Lignocellulosic Biofuel," workshop ancillary to the ACS Green Chemistry and Engineering Conference, June 2007, Washington, D.C.
99. "Strong Electrostatic Adsorption of Supported Metal Catalysts," ACS Fall meeting, August, 2007
100. "A Rational Method to Prepare Bimetallic Catalysts," ACS Fall meeting, August, 2007
101. "The CBET Division at NSF," AIChE Annual Meeting, Salt Lake City, November, 2007
102. "NSF Grant Writing Workshop," AIChE Annual meeting, Salt Lake City, Nov. 2007
103. "Strong Electrostatic Adsorption of Metals onto Silica," AIChE Annual Meeting, Salt Lake City, November, 2007
104. "A Rational Method to Prepare Promoted and Bimetallic Catalysts," AIChE Annual Meeting, Salt Lake City, November, 2007
105. (Congressional Briefing) "Green Gasoline: An Alternative Alternate Fuel," Congressional R&D Caucus, Oct. 4, 2007
106. "Green Gasoline: A New Biofuels Paradigm," Institute of Medicine, November, 2007
107. "The Production of Jet Fuel from Biomass-Derived Carbohydrates," 3rd Military Energy Alternatives Conference, Washington, D.C., Jan. 2008
108. (Invited) "Next Generation Hydrocarbon Biorefineries," AIChE/ACS Spring Meeting, New Orleans, LA, March 2008.
109. "(Invited) A Rational Method to Prepare Bimetallic Catalysts," AIChE/ACS Spring Meeting, New Orleans, LA, March 2008.
110. "Next Generation Hydrocarbon Biorefineries," Biofuels Deployment Collaborative, Madison, Wisconsin, Apr. 2008
111. "The Production of Jet Fuel from Biomass-derived Carbohydrates," World Wide Energy Conference, Washington, D.C., Apr. 2008
112. "Z-Contrast Imaging and EELS Study of Supported CoPd Nano-Catalyst," Zhao, Y., D'Souza, L.D., Regalbuto, J.R., and Klie, R.F., Microscopy and Microanalysis 2008, Albuquerque, NM, Aug. 2008.
113. Next Generation Hydrocarbon Biorefineries, International Workshop of Defining Issues in Biofuels R&D, Cetraro, Italy, Aug. 2008
114. (Keynote panelist) Thermochemical Conversion of Biomass, Growing the Bioeconomy Conference, Ames, Iowa, Aug. 2008

115. Next Generation Hydrocarbon Biorefineries, International Conference on Sorghum for Biofuels, Houston, Aug. 2008
116. Next Generation Hydrocarbon Biorefineries, Military Alternate Energy Conference, Wash, D.C., Oct. 2008
117. NSF grant writing workshop, AIChE Annual meeting, Salt Lake City, Nov. 2008
118. Young Faculty Workshop, AIChE Annual meeting, Salt Lake City, Nov. 2008
119. A Simple, Rational Method to Prepare Supported Metal Catalysts, American Chemical Society Spring Meeting, Salt Lake City, Mar. 2009
120. Next Generation Hydrocarbon Biorefineries, American Chemical Society Spring Meeting, Salt Lake City, Mar. 2009
121. Next Generation Hydrocarbon Biorefineries, Military Energy and Fuels Conference, Wash, D.C., Apr. 2009
122. Next Generation Hydrocarbon Biorefineries, Year of Science Conference, Arlington, VA, May 2009
123. Next Generation Hydrocarbon Biorefineries, Frontiers of Computer Aided Process Design Conference, Breckenridge, CO, Jun. 2009
124. Next Generation Hydrocarbon Biorefineries, National Academies Conference on Expanding the Production of Biofuels, Madison, Wisc. Jun. 2009
125. The Use of Strong Electrostatic Adsorption to Optimize Titania Supported Cobalt for Fischer Tropsch Synthesis, 21st Meeting of the North American Catalysis Society, San Francisco, Jun. 2009
126. Green Gasoline at NSF, ACS Green Chemistry and Engineering Conference, Washington, D.C., June, 2009
127. An NSF Perspective on Next Generation Hydrocarbon Biorefineries: Implications on Land and Water Use, Pan American Biofuels Conference, Atibaia, Brazil, Aug. 2009
128. Next Generation Hydrocarbon Biorefineries, Next Generation Biofuels Markets, Amsterdam, Sept. 2009

Invited Seminars

1. "The Effect of Calcination on Hydrogen Spillover Kinetics in Pt/MoO₃," U. Wisconsin at Milwaukee, April, 1988.
2. "A Theoretical Perspective of Industry's Responsibility for the Environment," Massachusetts Institute of Technology, Boston, Massachusetts, Dec. 8, 1989.
3. "A Fundamental Model for Wet Impregnation of Catalysts," University of Notre Dame, Jan. 29, 1991
4. "Short Course on Catalyst Impregnation Fundamentals," UOP Research Center, Riverside, Illinois, July 30, 1995
5. "A Structured Approach to Engineering Ethics," Tulane University, Nov. 1996

6. "Some Fundamentals of Pt Impregnation onto Alumina," University of Iowa, Oct. 20, 1997
7. "Some Fundamentals of Pt Impregnation onto Alumina," Northwestern University, Feb. 20, 1998
8. "The Good News and the Bad News of Online Pedagogy," Lorain County Community College (Ohio), Aug. 20, 1999.
9. "The Science of Pt Impregnation onto Alumina," Engelhard Corp., Iselin, N. J., Feb. 1, 2000.
10. "The Good News and the Bad News of Online Pedagogy," UI-Online Retreat (U. of Illinois), Decatur, Il., Feb. 28, 2000.
11. "The Good News and the Bad News of Online Pedagogy," Savannah State University, Savannah, Ga., Mar. 10, 2000.
12. "The Good News and the Bad News of Online Pedagogy," Lehigh University, Mar. 15, 2000.
13. "The Good News and the Bad News of Online Pedagogy," keynote address at the University of Richmond Tech Fair, May 2, 2000.
14. "The Good News and the Bad News of Online Pedagogy," keynote address at the Austin Community College Faculty Workshop, Austin, Tx., Jan. 8, 2001.
15. "The Science of Pt Impregnation onto Alumina," Engelhard Corp., Beachwood, OH, August, 2001.
16. "The Science of Pt Impregnation onto Alumina," Scientific Design Corp., Little Ferry, N. J., March, 2002.
17. "Molecular Fundamentals of Noble Metal Catalyst Impregnation," ABB Lummus, Newark, NJ, May, 2002.
18. "The Science of Pt Impregnation onto Alumina," Degussa Corp., Paducah, KY., Jan. 2003
19. "On the Way to Scholarship," University of Notre Dame, March 2003.
20. "Molecular Fundamentals of Noble Metal Catalyst Impregnation," Degussa Corp., Wolfgang-Hanau, Germany, July, 2003.
21. "The Engineering of Pt Adsorption onto Carbon," Degussa Corp., Wolfgang-Hanau, Germany, July, 2003.
22. "Molecular Fundamentals of Noble Metal Catalyst Impregnation," Umicore Corp., Wolfgang-Hanau, Germany, July, 2003.
23. "The Engineering of Pt Adsorption onto Carbon," Umicore Corp., Wolfgang-Hanau, Germany, July, 2003.
24. "Molecular Fundamentals of Noble Metal Catalyst Impregnation," Johnson Matthey Corp., Royston, England, July, 2003.
25. "Molecular Fundamentals of Noble Metal Catalyst Impregnation," Catalytic Solutions, Inc. and Heraeus, Oxnard, CA, October, 2003.

26. "A Structured Approach to Engineering Ethics," UOP/Honeywell Research Center, Des Plaines, Il., April, 2004.
27. "A Simple, Scientific Model of Noble Metal Catalyst Impregnation," Rutgers University, September, 2004.
28. "A Simple, Scientific Method to Prepare Catalysts with Conventional Precursors," Catalytic Solutions, Inc., Oxnard, CA, February, 2005.
29. "A Simple, Efficient Method to Prepare Pt/C Electrocatalysts," Dow Chemical Company, Midland, MI, June, 2005.
30. "A Simple, Efficient Method to Prepare Pt/C Electrocatalysts," Engelhard Corporation, Beachwood, OH, June, 2005.
31. "A Scientific Approach to Catalyst Impregnation," Division of Chemical Engineering, Argonne National Laboratory, Argonne, Il, October, 2005.
32. "A Scientific Approach to Catalyst Impregnation," Division of Chemistry, Argonne National Laboratory, Argonne, Il, January, 2006.
33. "The Impregnation of Carbon with Noble Metals," University of Missouri at Rolla, March, 2006.
34. "The Catalysis and Biocatalysis Program at NSF," U. Michigan, October, 2006
35. "A Rational Synthesis of Pt/C Fuel Cell Electrocatalysts," Ford Research Center, Dearborn, Michigan
36. "The Catalysis and Biocatalysis Program at NSF," U. Massachusetts Amherst, December, 2006
37. "Funding in Catalysis at the National Science Foundation," Honeywell/UOP Research Center, Des Plaines, Illinois, February, 2007
38. "The Production of Highly Dispersed Metals via "Strong Electrostatic Adsorption"," BASF, Iselin, NJ, March, 2007
39. "Catalysis for Biofuels," National Renewable Energy Laboratory, Golden, Colorado, March, 2007
40. "A Simple, Rational Method to Prepare Highly Dispersed Catalysts," Utrecht University, Utrecht, The Netherlands, March, 2007
41. "Catalysis for Biofuels: an NSF Perspective," Pacific Northwest National Laboratory, Pasco, Washington, April, 2007
42. "Next Generation Hydrocarbon Biorefineries," University of Iowa, Sept. 2007
43. "Rational Methods of Catalyst Preparation," Chevron Philips, Houston, Jan. 2008
44. "Tales from a Schizophrenic Engineer: Funding Catalysis Research and Doing It, Too," Columbia University, Feb. 2008
45. "Green Gasoline," NSF Press Briefing, Arlington, VA, Sept. 2008
46. "Green Gasoline," Congressional Briefing, Wash. D.C., Sept. 2008
47. "Clean Energy Research at NSF," Joint Consultative Meeting with Poland, State Department, Wash. D.C., Mar. 2009

48. "Next Generation Hydrocarbon Biorefineries," Earth Day Talk, Ft. Belvoir, VA Apr. 2009
49. "Next Generation Hydrocarbon Biorefineries," American Petroleum Institute, Austin, Tx., Oct. 2009
50. "Simple, Scientific Syntheses of Supported Catalysts," University of Delaware, Newark, DE, Nov., 2009
51. "Next Generation Hydrocarbon Biorefineries," Philadelphia Catalysis Club, Philadelphia, PA, Nov. 2009

Research Funding

<u>No.</u>	<u>Proposal Title</u>	<u>Sponsor</u>	<u>Status</u>	<u>Amount</u>	<u>Period</u>
1.	Hydrogen Bronze Promoters for Reduction Reactions	CRB	PI	\$6,500	07/1/86 – 6/30/87
2.	Characterization of HDS Catalysts	UOP	PI	\$10,000	3/1/87 – 2/28/88
3.	The Direct Conversion of Methane to Ethylene	Amoco	PI	\$26,000	6/1/87 – 5/30/88
4.	Methane Conversion Catalysis	Amoco	PI	\$26,000	2/1/88 – 1/31/89
5.	Improved Utilization of Natural Gas Resources	Illinois DCCA	PI	\$25,000	
6.	Fundamental Studies of Catalyst Preparation	NSF	PI	\$77,000	01/01/87 – 12/30/90
7.	Analysis of Post-Combustion Catalytic Emissions Treatment	GRI	PI	\$60,000	6/8/92 – 8/31/94
8.	A Catalytic Converter for Natural Gas Engines	CRB	PI	\$14,000	1/7/96 – 6/30/97
9.	The Selectivity of Noble Metal Adsorption over Mixed Oxides	UOP	PI	\$84,600	1/1/96 – 9/30/98
10a.	The Extension of a Scientific Model of Catalyst Impregnation	NSF	PI	\$299,000	12/15/99 – 11/30/02
10b.	IBHE match	IBHE	PI	\$79,998	7/1/99 – 6/30/01
10c.	REU Supplement	NSF	PI	\$15,375	12/15/99 – 11/30/02
	10. total			\$394,373	
11.	REU Site for Novel Materials	NSF	coPI (1/5)	\$204,000	2/1/02 – 3/31/05
12a.	The Engineering of Noble Metal Catalyst Impregnation	NSF	PI	\$306,096	1/1/03 – 6/30/06
12b.	IBHE match	IBHE	PI	\$44,550	7/1/03 – 6/30/04
12c.	REU supplement	NSF	PI	\$8,500	7/1/03 – 6/30/06
12d.	Foreign travel supplement	NSF	PI	\$10,000	7/1/04 – 6/30/05
	12. total			\$369,146	
13a.	Acquisition of Surface Analysis Instrumentation for Teaching and Research at the University of Illinois at Chicago	NSF	PI, 4 co-PIs	\$280,000	8/15/03 – 2/28/05
13b.	IBHE match	IBHE	PI, 4 co-PIs	\$165,000	7/1/03 – 6/30/04
	13. total			\$465,000	
14.	A Survey of Metal Adsorption onto Bulk and Supported Niobia	CBMM	PI, 1 co-PI	\$180,000	8/1/04 – 7/31/07
15.	The Development of Metal Supported Carbon Materials	Honeywell	PI	\$150,000	3/1/05 – 12/31/06,

16a. Simple, Scientific Syntheses of Bimetallic and Mixed Oxide Catalysts	NSF	PI	\$319,541	7/1/06 – 6/30/09
16b. REU supplement	NSF	PI	\$6,000	7/1/07 – 6/30/08
16c. IREE supplement	NSF	PI	\$18,000	7/1/07 – 6/30/08
16. total			\$343,541	
17a. Non-Platinum Cathode Catalysts	DOE/ EERE	PI sub- contracted by ANL	\$400,000	2/01/07 – 1/30/11
17b. OVCR match	UIC		\$80,000	2/01/07 – 1/30/11
17. total			\$480,000	
			Total of all PI awards*:	\$2,710,160

* sum less item 11.

Postdoctoral Associates Advised

1. Marc Schreier, “Fundamental Studies of Noble Metal Impregnation of Titania and other Oxides,” 2005.
2. Stefanie Lambert (Fullbright Scholar, U. Liege, Belgium), “The Impregnation of Platinum onto Novel Carbon Xerogels,” 2006
3. Lawrence D’Souza, “Fundamental Studies of Noble Metal Impregnation of Titania and Other Oxides,” 2006-2008.
4. E. Sambandan, “The Preparation of Bimetallic Electrocatalysts,” 2009
5. Chongjiang Cao, “Optimization of Promoted FT Catalysts,” 2008-9

Graduate Students Advised

Ph. D. degrees completed

1. Abhay Datta, “A Study of the Morphology of Silica Supported MoO₃,” 1990.
2. Promod Kumar, “Preparation of Silica, Surface Characterization and Adsorption at the Oxide/Aqueous Interface,” 1991.
6. Jin-Gul Kim, “The Effect of Calcination on Benzene Hydrogenation over Pt/MoO₃/SiO₂, 1992.
7. Muhamed Kazeminy, “An A-Priori Model for Pt Adsorption over Alumina,” 1992.
8. Jin-Wook Ha, “Structure-Function Relationships in Controlled Morphology MoO₃/SiO₂ for Methanol Oxidation, 1993.
9. Jaehyeon Park, “The pH Buffering Effect and Charging Behavior of Oxides in Aqueous Solutions,” 1995.
10. Su Manarungsun, “The Selectivity of Pd Adsorption onto CeO₂/Al₂O₃ Supports, 1995
11. Krishna Agashe, “A Revised Physical Adsorption Model,” 1998.

12. Wolfgang Spieker, "The Selectivity of Pt Adsorption over Mixed Oxides," 2000.
13. Xianghong Hao, "The Engineering of Pt Adsorption onto Carbon," 2004.
14. Marc Schreier, "Toward a Fundamental Understanding of Oxide Impregnation," 2004.
15. Bill Newren (with co-advisors June Wencel-Drake and James Ferguson), "Flow Dependent Blood-Material Interactions on Prosthetic Vasculature," 2004.
16. Jianming Liu, "A Fundamental Investigation of Noble Metal adsorption onto Alumina," 2005.
17. Yuhui Zha, "Noble Metal Adsorption over Niobia Supports," 2007.
18. Ling Jiao, "The Synthesis of Highly Dispersed Metals on Silica by Strong Electrostatic Adsorption," 2007.

Ph. D. degrees in progress

1. Theresa Feltes, "The Synthesis of Promoted Catalysts by Strong Electrostatic Adsorption," expected 2010.
2. Sean Barnes, "Fundamental Aspects of the Pt-Carbon Interaction," expected 2010.
3. Xiaoru Zhu, "The Preparation of Pt/Re/C and Pd/Re/C Bimetallic Catalysts by Strong Electrostatic Adsorption," expected 2011.
4. HyeRan Cho, "The Preparation of Pd/Cu/C Bimetallic Catalysts by Strong Electrostatic Adsorption," expected 2011.

M.S. degrees completed

1. Hasan Hannoun, "Characterization of a Novel Micro-Berty Reactor," 1989
2. Amal Shah, "Retardation of Platinum Adsorption over Different Supports," 1992
3. Narendra Santhanam, "The Reversibility of Metal Precursor Adsorption onto Oxide Supports," 1993.
4. Zongxuan Hong, "A Study of Sulfided Mo Catalysts: On Structure-Function Relationships and Nature of Adsorption Sites," 1995.
5. Elina Glusker (with co-advisor, Jeff Miller), "Selective Reduction of Nitrogen Oxides by Methane with Cobalt-Mordenite Catalysts in the Presence of Excess Oxygen," 1995.
6. Rajasekar Peddi (with co-advisor, Jeff Miller), "The Role of Metal and Proton Sites in Lean NO_x Reduction with Propylene," 1997.
7. Safoora Hashim, "The Estimation of Oxide Surface Composition by pH Measurement," 1998
8. Krithiga Sundaram, "A Comparison of Pt Adsorption on Oxide and Zeolite Supports," 1998
9. Silas Shadid, "A Fundamental Study of CPA Adsorption onto Alumina," 1998.
10. Syed Massarat, "Catalytic Lean NO_x Reduction," 2000.
11. Weiyu Xu, "The Speciation of Noble Metal Coordination Complexes," 2002.

12. Mark Liska "The Activity of Novel Nanolayer Catalysts for the Water Gas Shift Reaction," 2003.
13. Mike Castorano "Optimization of Pt Adsorption over High Surface Area Carbon Blacks," 2005
14. Eric Kratzer "The Impregnation of Carbon with Palladium," 2006
15. Rick Shen, "TPR and XPS Characterization of Co/Nb₂O₅/Al₂O₃ Materials," 2007
16. Kirk McNamara "The pH and Coverage Dependence of Pt Adsorption onto Silica via Strong Electrostatic Adsorption," 2007

M.S. degrees in progress

1. PJ Patel, "Pt/TiO₂ catalysts for Propane Oxidation," expected 2010
2. Malini Pasupan, "The Simulation of Platinum Adsorption onto Carbon," expected 2010

Undergraduate Projects Completed:

1. Alpen Pandy "Computer Interfacing of Unit Operations Reaction Engineering Experiment," spring 1996
2. Harsh Walia, "Development of Reaction Engineering Unit Ops Experiment," fall 1996
3. Seema Verma, Development of Reaction Engineering Unit Ops Experiment," spring 1997
4. Tim Gilligan, "Intrinsic Kinetic Modeling of Catalytic Reactions," fall 1996, spring, 1997
5. Elinor Yu, "Simulation of pH Shifts Caused by Oxide Surfaces," spring 1997
6. Ginalyn Teng, "Application of Parameter Optimization Program to pH Shift Data," spring, 1997
7. Kelly Harmon, "PZC Measurements of Oxides and Zeolites," fall, 1999.
8. Erika Villareal, "PZC Measurements of Oxides and Zeolites," summer, 2000.
9. Nelida Flores, "A PZC Survey of Carbon Catalyst Supports." 2001.
10. Jancy Korah (REU), "The Effect of Ion Doping on Oxide PZC," 2001.
11. Linh Quach (REU), "The Effect of Ion Doping on Oxide PZC," 2001.
12. Teresa Feltes (REU), "A Simple Method to Determine Oxide Charging Parameters," 2002.
13. Melanie Timmons (REU), "A Simple Method to Determine Oxide Charging Parameters," 2002.
14. Barbara Hendrickson (REU), "Novel Water Gas Shift Catalysts," 2002.

15. Jenny Anderson, "Numerical Optimization of Oxide Surface Charging Parameters," 2002.
16. Peter O'Brien, "A Survey of Pt/C Preparation Methods," 2002.
17. Joe Bucik, "A Survey of Pt/C Preparation Methods," 2002.
18. Sarah Terens (REU), "The Nature of Over-Exchanged Metal on Zeolites," 2003.
19. Tonya Belcher (REU), "The Nature of Over-Exchanged Metal on Zeolites," 2003.
20. Jaime Robles (REU), "Synthesis of Next Generation Pt/C Fuel Cell Electrodes," 2003-4
21. Joe Lahay, 2005-6
22. Tom Vander Velde, 2006-6
23. Jennifer Hamlet, 2006-7
24. Joe Gomes, 2007-8

Summary of Teaching Assignments and Evaluations

Year	Fall	Winter	Spring
1985-6			ChE 493 (5.8/6) Catalyst Characterization
1986-7	ChE 201 (5.5/6, 5.2/6) Intro. Thermodynamics		ChE 235/7 (4.5/6, 4.8/6) Unit Operations Lab.
1987-8	ChE 201 (5.2/6, 5.1/6) Intro. Thermodynamics	ChE 493 Catalyst Characterization	ChE 287 (5.3/6) Mass Transfer
1988-9	ChE 201 (5.4/6, 5.3/6) Intro. Thermodynamics	ChE 299 (4.9/5) Engineering Ethics	ChE 287 (4.0/5) Mass Transfer
1989-90	CEMM 393 Solid Thermodynamics	CEMM 392 Electron Microscopy	ChE 287 (4.5/5) Mass Transfer
1990-1	ChE 424 (4.8/5) Catalyst Characterization	ChE 299 (4.3/5) Engineering Ethics	ChE 201 (4.3/5, 4.4/5) Intro. Thermodynamics
1991-2	ChE 321 (4.3/5) Reaction Engineering		ChE 392 (4.6/5) Engineering Ethics
1992-3	ChE 321 (4.6/5) Reaction Engineering ChE 524 Catalyst Characterization		ChE 527 (4.2/5) Advanced Reaction Engineering ChE 201 (summer) Intro. Thermodynamics
1993-4	ChE 210 (4.2/5) Material and Energy Balances		ChE 527 (4.3/5) Advanced Reaction Engineering ChE 423 (4.3/5) Catalytic Reaction Engineering ChE 210 (summer) Material and Energy Balances
1994-5		Sabbatical leave	
1995-6	ChE 321 (4.5/5) Reaction Engineering		ChE 201 (4.5/5) Intro. Thermodynamics ChE 301 (4.0/5) ChE Thermodynamics
1996-7	ChE 321 (4.3/5) Reaction Engineering ChE 524 Catalyst Characterization		ChE 311 Transport I
1997-8	ChE 494 (4.4/5) Intro to Catalysis		ChE 321 (4.3/5) Reaction Engineering ChE 301 ChE Thermodynamics
1998-9	ChE 524 (4.2/5) Catalyst Characterization		ChE 398 (3.8/5) Senior Design II ChE 381/2 Unit Operations Lab HON 201 (1 hr) Ethics Seminar

1999-00	ChE 201 (4.5/5) Intro. Thermodynamics ChE 313 (4.3/5) Transport III	ChE 321 (4.7/5) Reaction Engineering HON 201 (1 hr) Ethics Seminar
2000-1	ChE 201 (4.5/5) Intro. Thermodynamics ChE 524 (4.4/5) Catalyst Characterization	ChE 313 (4.5/5) Transport III HON 201 (1 hr) Ethics Seminar
2001-2	ChE 321 (4.7/5) Reaction Engineering ChE 423 Catalytic Reaction Engineering	ChE 313 (4.9/5) Transport III HON 201 (1 hr) (4.7/5) Ethics Seminar
2002-3	ChE 201 (4.7/5) Intro. Thermodynamics	ChE 301 (4.6/5) ChE Thermodynamics ChE 527 (4.5/5) Advanced Reaction Engineering ChE 397 (project advisor) Senior Design II
2003-4	Sabbatical leave	
2004-5	ChE 201 (4.7/5) Intro. Thermodynamics HON 201 (1 hr) Ethics Seminar	ChE 201 (4.8/5.0) Intro. Thermodynamics ChE 321 (3.6/5.0) Reaction Engineering
2005-6	ChE 201 (4.7/5) Intro. Thermodynamics	Hon 103 (4.6/5) Professional Ethics ChE 524 (4.9/5) Catalyst Characterization

Service

Departmental

Graduate Committee 1992-3 (DGS, 1995-8, 2002-3, Assoc. DGS 1998-2001, 2004-6)
 Search Committee, Department Head, 1995-6, 2001-2002
 Undergraduate Committee 1992-4, 98-99, 2000-01 (chair, 1997-8, 2001-2)
 Advisory Committee 1992-3, 95-6, 2004-6
 Student Appeals Board, 1991-2, 2001-2, 2003-6
 Seminar Coordinator, 1993-4
 Computer/Unit Ops Lab Committee 1992-3

College of Engineering

Awards Committee, 1995-9, 2000-01
 Faculty Advisor for Tau Beta Pi, 1988-98
 Galassini Award Committee Chair, 1992-8
 Materials Education Committee, 1994
 Environmental Engineering Program Development Committee 1993-4

Educational Policy Committee, 1999-2001

University

UIC Council for Excellence in Teaching and Learning (CETL), 1996-2000, Chair 2005-6
U. of Illinois Global Campus Initiative, Academic Affairs Subcommittee, 2005-6
UIC Online Oversight Committee, 2000-3, 2005-6
UIC Blended Learning Steering Committee, 2005-6
Campus Research Board Reviewer, 2003-5
RRC Advisory Committee, 1988, 2006
RRC Project Coordinator Search Committee, 1994
UIC Excellence in Teaching Awards Committee, 1997, 98
Internal Review Committee, MPA program, 1998-9
Graduate College Executive Committee, 1998-2000
Chair, all-U. of Illinois (Chicago, Urbana-Champaign, Springfield) faculty seminar on
“Teaching at an Internet Distance: The Pedagogy of Online teaching and Learning,”
1998-99

External to University

Session Chair: Characterization and Kinetic Studies of Multimetallic Catalysts, AIChE
Annual Meeting, 1989
Session Chair: Fundamentals of Oxides II, AIChE Annual Meeting, 1992
Registration Chair: 15th North American Meeting of the Catalysis Society, Chicago, 1997
Program Chair, Catalysis Society of Chicago, 1999-2000, 2004-5
President, Catalysis Society of Chicago, 2000-01, 2005-6
Session Chair: Fundamentals of Supported Catalysts, AIChE Annual Meeting, 2001
Session Chair: Fundamentals of Supported Catalysts, AIChE Annual Meeting, 2002
Symposium Organizer: The Science and Engineering of Catalyst Preparation, 227th ACS
Meeting, 2004
Conference Co-Chair and Secretary: The 5th International Symposium on Group 5
Compounds, 2005
Session Chair: Symposium in Memory of Professor Jim Schwarz, 230th ACS Meeting,
2005
Session Chair: Fundamentals of Supported Catalysts I, II, and III, AIChE Annual
Meeting, 2006
Session Chair: Fundamentals of Supported Catalysts I and II, AIChE Annual Meeting,
2007
Session Chair: Fundamentals of Catalyst Preparation I and II, AIChE Annual Meeting,
2007
Session Chair: Fundamentals of Catalyst Preparation I and II, AIChE Annual Meeting,
2008
Reviewer:
J. Catalysis, Applied Catalysis A, J. Colloid and Interface Science, Langmuir, J.
Physical Chemistry, Catalysis Today, Catalysis Letters, J. Molecular Catalysis, J.
American Chemical Society, Energy and Fuel, California Energy Agency, NSF
Individual and Panel Reviews: XYZ on a Chip (2001), NIRT Catalysis (2002), SBIR
Phase I Manufacturing Innovations (2003), Unsolicited – Catalysis and Biocatalysis

(2005), SBIR Phase II Manufacturing Innovations (2005), SBIR Phase I Manufacturing Innovations (2006).