

Tom Apple
Dean of Arts and Sciences
The University of Delaware
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Education

Ph.D. Physical Chemistry, University of Delaware, 1982
B.S. Biology, Pennsylvania State University, 1976

Professional Experience

Dean, College of Arts and Sciences, University of Delaware 2005 – present
Professor of Chemistry and Biochemistry, University of Delaware 2005 – present
Vice Provost, Rensselaer Polytechnic Institute 2002 – 2005
Dean of Graduate Education, Rensselaer Polytechnic Institute 2001 - 2005
Interim Vice Provost for Institute Diversity, Rensselaer 2002 - 2003
NCAA Faculty Representative, Rensselaer 2004 - 2005
Chair, Department of Chemistry, Rensselaer Polytechnic Institute 1997 - 2001
Professor of Chemistry, Rensselaer Polytechnic Institute 1997 - 2005
Associate Professor of Chemistry, Rensselaer Polytechnic Institute 1991 – 1997
Associate Professor of Chemistry, University of Nebraska 1988 - 1991
Assistant Professor of Chemistry, University of Nebraska 1983 - 1988
Postdoctoral Research Fellow, Iowa State University 1981 – 1983

Panels, Committees, Awards

Review Panel - National Science Foundation – Founder's Award, Distinguished Teacher Scholar – 2004
Review Panel Chair - NJ Commission of Higher Education – Distance Learning Program in Chemistry, Molecular Biology and Business Administration – Lehigh Univ. - 2004
Review Panel - National Science Foundation - Divisions of Chemistry and Materials Science - Nanoinitiatives Research Teams - 2002
Visiting Committee – Lehigh University Chemistry Department - 2001
Review Panel - National Science Foundation - Division of Undergraduate Education - Chemistry Division - 2000
NSF Short Course for College Teachers' Instructor, The Chataqua Program, May 2000.
Review Panel - National Science Foundation - Division of Undergraduate Education - Chemistry Division - 1999
Review Panel - National Science Foundation - Division of Undergraduate Education - Chemistry Division - 1997
Worcester Polytechnic Institute – Feature of Conference on Studio Classroom - 1997
Trustees Outstanding Teacher Award - Rensselaer Polytechnic Institute - 1996
Review Panel - National Science Foundation - SBIR (Analytical Chemistry) - Chemistry Division - 1993
Program Review Panel - Department of Energy - Catalysis Division - 1992

University of Nebraska Parents Assoc. Teaching Award - 1991
University of Nebraska Parents Assoc. Teaching Award - 1990
Gulf Oil Fellowship 1981
Gulf Oil Fellowship 1980
Top Student Award, Society for Applied Spectroscopy, Delaware Section 1981.
Top Student Award, Society for Applied Spectroscopy, Delaware Section 1979.
National Student Runner-up Society for Applied Spectroscopy 1979

Refereed Publications

- "High-temperature polybenzimidazole fuel cell membranes via a sol-gel process", L. Xiao, H.F. Zhang, E. Scanlon, L.S. Ramanathan, E-W. Choe, D. Rogers, T. Apple, B.C. Benicewicz, Chem. Mater., **17** 5328-5333, (2005).
- "Transformation of the Graduate Program of a Technological Research University", Tom Apple, Journal for Higher Education Strategists, **2**, 3-20 (2004).
- "Cross-Linkable Carbosilane Polymers with Imbedded Disilacyclobutane Rings Derived by Acyclic Diene Metathesis Polymerization." Wu, Zhizhong; Papandrea, Jerry P.; Apple, Tom; Interrante, Leonard V., Macromolecules, **37**, 5257-5264, (2004).
- "Carbosilane films formation by thermal cross-linking of cycloliner polycarbosilanes." Wu, Zhizhong; Papandrea, Jerry P.; Singh, A. P.; Ganesan, P. G.; Apple, T.; Ganapathiraman, R.; Interrante, L. V. Polym. Prepr. **45**, 118 (2004).
- "Synthesis and Thermal Crosslinking of Cycloliner Carbosilane Polymers", Zhizhong Wu, Jerry Papandrea, Tom Apple, and Leonard V. Interrante, Polym. Prepr. **44**, 789-790, (2003),
- "Motional Studies of Deuterated Polysilaethylene by 2H-NMR." Christopher J. Wiegand, Leonard V. Interrante, and Tom Apple, Polym Prepr., **44**, 309 (2003).
- "Synthesis and characterization of cyano-substituted disilacyclobutane rings and poly(silylenemethylene) polymers", M. Lienhard, C. Wiegand, T. Apple and L. V. Interrante, J. Organometal. Chem. **686**(1-2), 272-280 (2003).
- "Synthesis of Silicon Carbide Films from Partially Oxidized Polyvinylsilane by Carbon Tetrachloride Solution Casting", M. Narisawa, T. Hasegawa, K. Okamura, M. Itoh, T. Apple, K. Moraes, L. Interrante, J. Mater. Res., **1**, 214 (2002).
- "Mechanical Properties of Al₂O₃/ Polymethylmethacrylate Nanocomposites", B.J. Ash, D. F. Rogers, L.S. Schadler, R. W. Siegel, B.C. Benicewicz and T. Apple, Polymer Composites, **23**, 1014 (2002).
- "Investigation into the Thermal and Mechanical Behavior of PMMA/Alumina Nanocomposites" B. J. Ash, J. Stone, D. F. Rogers, L.S. Schadler, R.W. Siegel, B. C. Benicewicz, and T. Apple, Mat. Res. Soc. Symp. Proc., 661 (2001).
- "Thermal Redistribution Reactions of Blackglas Ceramic", Feng Wang, Tom Apple and William N. Gill, J. Appl. Poly., **81**, 143 (2001).
- "Solid-State NMR Studies of the Ammonia Adsorption on thr DeNO_x Catalyst V₂O₅/TiO₂", Danica Nowosielski and Tom Apple, Am. Lab. N., **33**, 24 (2001).
- "Curing Chemistry of Phenylethynyl-Terminated Imide Oligomers: Synthesis of ¹³C Labeled Oligomers and Solid State NMR Studies" C. Chad Roberts, Tom M. Apple and Gary E. Wnek, J. Poly. Science A: Poly. Chem. **38**, 3486 (2000).

- "NMR Characterization of Postcure Temperature Effects on the Microstructures of Blackglas Resin and Ceramic" Feng Wang, William N. Gill, Christian A. Kirk, and Tom Apple, J. Non-Cryst. Solids, 275, 210 (2000).
- "Synthesis of the First Cyano-Substituted Polycarbosilanes", M. Lienhard, C. Wiegand, T. Apple, L.V. Interrante, Polym Prepr. 41, 570 (2000).
- "Workshop General Chemistry: Full Merging of Laboratory and Discussion", T. Apple and A. Cutler, J. Chem. Ed. 76, 462 (1999).
- "Synthesis and characterization of the new fluoropolymer poly (difluoro-silylenemethylene); an analog of poly(vinylidene fluoride)", Lienhard, M.; Wiegand, C.; Apple, T.; Farmer, B.; Interrante, L. V. Polym. Prepr., 39, 808(1998).
- "Role of Precursor Molecular Structure on the Microstructure and High Temperature Stability of Silicon Oxycarbide Glasses Derived from Methylene-Bridged Polycarbosilanes", G. Soraru, Q. Liu, L. Interrante, and T. Apple, Chem. Mater., 10, 4047, (1998).
- "²⁷Al and ²⁹Si Solid State NMR Study of SiC/AlN Systems: Effect of Si(N)/Al Ratio and Pyrolysis Temperature", G. Verdecia, W. Schmidt and T. Apple, Chem. Mater. 10, 1003 (1998).
- "Synthesis and Characterization of the New Fluoropolymer Poly(difluoro-silylenemethylene); An Analogue of Poly(vinylidene fluoride)", M. Lienhard, I. Rushkin, G. Verdecia, T. Apple and L.V. Interrante, J. Am. Chem. Soc., 119, 12020 (1997).
- "¹⁵N NMR Study of the Adsorption of NO and NH₃ on Titania-Supported Vanadia Catalysts", J. Catal., 158, 199 (1996).
- "Synthesis of an Inorganic/Organic Network Polymer by the Hydrolysis/condensation of Poly(diethoxy silylenemethylene) and its Pyrolytic Conversion to Silicon Oxycarbide", Q. Liu, T. Apple, Z. Zheng and L. Interrante, in 'Better Ceramics Through Chemistry VII: Organic/Inorganic Hybrid Materials', Eds. B. Coltrain et al., Materials Research Society, 1996.
- "Reactions in Zeolites", T. Apple, in Encyclopedia of NMR, (John Wiley & Sons, Sussex) 1996.
- "NMR Applied to Materials Analysis", T. Apple, Applied Spectroscopy, 50, 12 (1995).
- "Reactions of P(Me)₃ with Mo(CO)₆ in Y Zeolite", S. Hu and T. Apple, J. Phys. Chem., 98, 13365 (1994).
- "Polysilaethylene - A Novel Analog of Polyethylene", L.V. Interrante, H.-J. Wu, T. Apple, Q. Shen, B.Ziemann, D.M. Narsavage and K. Smith, J. Am. Chem.Soc., 116, 12085 (1994).
- "The Reactions of Ethylene Over Ru-Y Zeolite", Y. Kye, S. Wu and T. Apple, in Selectivity in Catalysis, Eds. M.E. Davis and S.L. Suib (American Chemical Society, Washington DC 1993).
- "Characterization of RuCl₃ Impregnated NaY Zeolite", C. Tway, T. Apple, S. Bonafede, A. Ghazi, C. Reed and R. DeAngelis, in Selectivity in Catalysis, Eds. M.E. Davis and S.L. Suib (American Chemical Society, Washington DC 1993).
- "Aggregate Size Effects in the ¹²⁹Xe NMR of Y-Type Zeolites", C. Tway and T. Apple, J. Catal., 133, 42 (1992).
- "¹³C NMR Studies of Ethylene Adsorbed on Ru-Y Zeolite", Y.S. Kye, S.X. Wu and T.M. Apple, J. Phys. Chem., 96, 2632 (1992).

- "¹²⁹Xe NMR of Molybdenum Subcarbonyls in Zeolites", C. Tway and T. Apple, Inorganic Chemistry, **31**, 2885 (1992).
- "Characterization of Adsorbed Dicarboxyls of Rh", P. Molitor and T. Apple, Colloids and Surfaces, **45**, 33 (1990).
- "Conduction ESR of Vapor Grown Carbon Fibers", B. Marshik and T. Apple, Colloids and Surfaces, **45**, 225 (1990).
- "Motional Narrowing of the Conduction ESR of Vapor-Grown Carbon Fibers" B. Marshik and T. Apple, J. Phys. D., **22**, 676 (1989).
- "Detection and Structural Characterization of Rhodium Dicarboxyls Adsorbed in Y Zeolites", P. Molitor, R. Shoemaker and T. Apple, J. Phys. Chem., **93**, 2891 (1989).
- "ESR of Vapor-Grown Carbon Fibers", B. Marshik and T. Apple, 19th International Conference on Carbon, (American Carbon Society, University Park, Pa. 1989) p.536.
- "Motions of Adsorbed Rh(CO)₂ in Y Zeolites" P. Molitor and T. Apple, J. Phys. Chem., **93**, 7055 (1989).
- "Co-cation Effects in Metal-Exchanged Zeolites" R. Shoemaker and T. Apple, Microstructure and Properties of Catalysts, Ed. M.J. Treacy, J.M. Thomas and J.M. White (Materials Research Society, Pittsburgh, Pa. 1988) p. 113.
- "Carbon: Electrochemical and Physicochemical Properties" by Kim Kinoshita, book review for the J. Am. Chem. Soc., **110**, 6283 (1988).
- "A PC-Based Data Acquisition and Analysis System for NMR Spectroscopy and Other Fourier Transform Techniques" D. Barabino, C. Buzzard, T. Apple, J. Noggle and C. Dybowski, Spectroscopy, **3**, 42 (1988).
- "Electron Spin Resonance Studies of Vapor Grown Carbon Fibers", B. Marshik, D. Meyer and T. Apple, J. Appl. Phys., **62**, 3974 (1987).
- "ESR of Vapor Grown Graphite Fibers", B. Marshik and T. Apple, Ext. Abstracts 18th Biennial Conference on Carbon, Worcester MA., 1987 p. 11.
- "Redox Behavior of Ruthenium in Zeolite Y" R. Shoemaker and T. Apple, J. Phys. Chem., **91**, 4024 (1987).
- "Theory of ESR Lineshapes in Vapor Grown Graphite Fibers" T. Apple, Graphite Intercalation Compounds Eds. G. Dresselhaus, M. Dresselhaus and S. Solin, (Materials Research Society, Pittsburgh, Pa. 1986) p.123.
- "Experimental Studies of ESR in Pristine and Boron Doped Vapor Grown Graphite Fibers" B. Marshik, T. Apple, D. Meyer, J. Mills, G. Wagoner and J. Woollam, Graphite Intercalation Compounds, Eds. G. Dresselhaus, M. Dresselhaus and S. Solin, (Materials Research Society, Pittsburgh, Pa. 1986) p.120.
- "A Magic-Angle Spinner for Sealed Samples for Use in Narrow-Gap Electromagnets" R. Shoemaker and T. Apple, J. Magn. Reson., **67**, 367 (1986).
- "¹³C Magic Angle Spinning of CO Adsorption on Ru-Exchanged Zeolite Y" R. Shoemaker and T. Apple, J. Phys. Chem., **89**, 3185 (1985).
- "Doubly Wound Coils for Solid-State Double-Resonance and Multiple Pulse NMR" C. Fry, J. Iwamiya, T. Apple and B. Gerstein, J. Magn. Reson., **63**, 214 (1985).
- "Surface Properties of Offretite and ZSM-34 Zeolites" M. Ocelli, R. Innes, B. Gerstein and T. Apple, Proceedings of the Sixth International Zeolite Conference, Reno, Nevada (1983) p.674.
- "ESR Study of Reduced Rh/TiO₂ and TiO₂" T. Apple, S. Decanio and C. Dybowski, J. Phys.

- Chem., 87, 194 (1983).
- "TPD-NMR Study of Hydrogen Irreversibly Adsorbed on Rh/TiO₂" T. Apple and C. Dybowski, Surface Science, 121, 243 (1982).
- "Solid State ¹⁹F NMR Studies of Deformed PTFE" A. Brandolini, T. Apple, C. Dybowski and R. Pembleton, Polymer, 23, 39 (1982).
- "Effect of Coadsorption of CO on the Adsorption of H₂ on Rh/TiO₂" T. Apple and C. Dybowski, J. Catal., 71, 316 (1981).
- "NMR, ESR and TPD Study of H₂ Adsorption on Rh/TiO₂ Catalyst" T. Apple, P. Gajardo and C. Dybowski, J. Catal., 68, 103 (1981).
- "Observation of Surface States of Hydrogen on a Rh/TiO₂ Catalyst by NMR Spectroscopy" P. Gajardo, T. Apple and C. Dybowski, Chem. Phys. Lett., 74, 306 (1980).

Research Funding

- National Science Foundation - "ADVANCE Partnerships for Adaptation, Implementation, and Dissemination (PAID) Award: Resources for Recruitment & Retention (RRR) of Women Faculty in STEM Fields at U. Delaware," \$307,936 8/1/08 – 7/31/10 (co-PI)
- National Science Foundation – "Polycarbosilanes as Precursors to Ceramics and as Functional Polymeric Materials" \$662,372 9/1/04-8/31/07 (co-PI)
- National Science Foundation – "Alliance for Graduate Education for the Professoriate" \$625,000 9/1/02 – 8/31/07
- National Science Foundation - "Polycarbosilanes As Precursors To Ceramics And As Functional Polymeric Materials" \$599,573 9/1/01-8/31/04
- National Science Foundation – "Acquisition of a MALDI-TOF Mass Spectrometer" \$193,575 9/1/00 – 8/31/01 (co-PI)
- National Science Foundation – "Acquisition of an LC/MS Spectrometer" \$157,282 4/1/01 – 3/31/02 (co-PI)
- National Science Foundation – Polycarbosilanes as Precursors to Ceramics and as Functional Polymeric Materials" \$725,232 8/15/98 - 7/31/2001
- National Science Foundation - "Synthesis and NMR Studies of Linear Polycarbosilanes" \$625,000 9/95 to 8/98
- National Science Foundation - ILI - "Instrumentation for Workshop General Chemistry" \$30,322 4/97 to 4/00
- National Science Foundation - "Studio General Chemistry with Full Merging of the Laboratory and Classroom Experiences" \$110,000 11/95 - 10/97 (co-PI)
- National Science Foundation ILI - "Instrumentation for Workshop General Chemistry" \$30,322 5/96 to 4/99
- National Institutes of Health - "Vapor Grown Carbon Fibers for Biomedical Applications" - \$636,370 12/1/90 to 11/30/95
- National Science Foundation - "Multinuclear Solid State NMR Investigation of Cocation Effects in Group VIII Metal-Exchanged Zeolites" - \$197,818 12/87 to 7/91
- National Science Foundation - "Advanced NMR Techniques for Small College Faculty" - \$34,211 11/91 to 4/93
- Universal Energy Systems - "NMR Study of Diamond-like Carbon" \$11,514 1/87 to 12/88
- Petroleum Research Fund - "Solid State NMR Study of Zeolite and Zeolite-Supported Metal

Catalysts" - \$15,000 9/85 to 8/87
Research Corporation - "Novel NMR Studies of Catalysts" - \$15,000 3/84 to 3/86.
Department of Health - State of Nebraska - "Structural Studies of Tumor Hexokinase" -
\$52,377 7/84 to 6/86
The Layman Fund - "Structural Studies of Amorphous Hydrogenated Silicon" - \$13,000
11/86 to 12/87
Research Council - "NMR of Zeolites" \$4,300 - 1/85 to 1/86

Internal Proposals

Strategic Initiatives (with A. Cutler), \$20,000, 1993/94 - Proposal to Create 'Studio General Chemistry.'
Strategic Initiatives \$20,000, 1994/95 - Proposal for 'General Chemistry for High School Students.'
Strategic Initiatives \$25,000, 1997 - 'Remote Chemistry Instruction.'

Professional and Public Lectures

Center for Integration of Research, Teaching, and Learning Conference, 'Graduate Education Reform at Rensselaer', Madison, WI Nov. 2003.
American Chemical Society National Meeting, "Motional Studies of Deuterated Poly(silaethylene)", New Orleans, LA April 2003.
GE Global Research Center, "NMR Investigation of the deNO_x Catalyst V₂O₅/TiO₂", Niskayuna, NY May 2002.
University of Vermont, "Solid-state NMR of V₂O₅/TiO₂ Catalysts for the Selective Catalytic Reduction of NO_x with Ammonia", Burlington, VT, September 2001.
NERM, American Chemical Society, "Aggregation of Organic Guests in Smectite Nanocomposite Materials", Durham, NH, June 2001.
NERM, American Chemical Society, "Solid-state NMR of V₂O₅/TiO₂ Catalysts for the Selective Catalytic Reduction of NO_x with Ammonia", Durham, NH, June 2001.
NERM, American Chemical Society, "Solid-state NMR of Novel Polycarbosilanes", Durham, NH, June 2001.
NERM, American Chemical Society, "Studio General Chemistry at RPI: Development of the 50-Minute Labs", Durham, NH, June 2001.
Materials Research Society, "Novel Properties of Polymer Nanocomposites", Boston, MA, November 2000.
American Chemical Society, "Synthesis of the First Cyano-Substituted Polycarbosilanes", March, 2000
Biennial Conference on Chemical Education, "Studio General Chemistry", Ann Arbor, MI, August 2000.
Eastern Analytical Symposium, "Solid State NMR Studies V₂O₅/TiO₂ Catalysts for SCR of NO with Ammonia", Garden State Convention Center, NJ, November 1999.
Eastern Analytical Symposium, "Solid-state NMR Studies of Novel Polycarbosilane Systems", Garden State Convention Center, NJ, November 1999.
Union College, "NMR Studies of Heterogeneous Catalysts", Schenectady, NY, April, 1999.
NEACT (New England Association of Chemistry Teachers), "Workshop General Chemistry", (Plenary Talk and Workshop) Keene, NH August 1999.

MAALACT (Middle Atlantic Area Liberal Arts Chemistry Teachers) "Workshop General Chemistry", Staunton, VA, September 1998 (Plenary Lecture).

American Chemical Society National Meeting, Symposium "Chemistry of Materials", Boston, MA, August, 1998.

2nd Annual Multimedia Conference in Chemistry, "Studio General Chemistry", Troy, NY, October, 1998. (Keynote Speaker).

Gordon Conference on Chemical Education, "Workshop General Chemistry", Ventura, CA, January 1998.

American Chemical Society National Meeting, NSF-Sponsored Symposium "Studio General Chemistry", Dallas, TX, April, 1998.

American Chemical Society, New York Section, "Workshop General Chemistry", Troy, NY, April 1998.

Juniata College, "Solid-State NMR of Surfaces", Huntingdon, PA, May 1998.

Eastern Analytical Symposium, "Solid State NMR Studies of SiC/AlN Systems", Garden State Convention Center, NJ, November 1997.

Worcester Polytechnic Institute, "Workshop General Chemistry", Worcester, MA, October 1997. (plenary lecture)

SUNY - Binghamton Conference on Chemical Education, "Workshop General Chemistry", Binghamton, NY, August 1997. (plenary lecture)

Warner-Lambert Corp., "Solid-State NMR of Surfaces", Morris Plains, NJ, July 1997.

Midwest Regional ACS Meeting, "SCR of NO by Ammonia over V₂O₅/TiO₂", Sioux Falls, SD, November 1996.

Rocky Mountain Conference, "¹⁵N NMR Studies of NO and NH₃ Adsorption on Vanadia/Titania Catalysts", Denver, CO, August 1996.

Great Lakes Regional ACS Meeting, "¹⁵N NMR Studies of NO and NH₃ Adsorption on Vanadia/Titania Catalysts", Normal IL, May 1996.

Biennial Conference on Chemical Education, "Workshop General Chemistry with Full Merging of Laboratory and Discussion", Clemson, SC, August 1996.

Biennial Conference on Chemical Education, "Laboratories for Workshop General Chemistry", Clemson, SC, August 1996.

SUNY - Albany Chemistry Department, "Solid-State NMR Studies of Reactions in Zeolites", Albany, NY, November 1995.

Sienna College Chemistry Department, "Adsorption of CO by Metal-Exchanged Zeolites", Loudonville, NY, October 1995.

Rocky Mountain Conference, "Substitution Reactions of Mo(CO)₆ in Zeolites", Denver, CO August 1994.

SUNY - Albany Chemistry Department, "NMR Studies of CO on Rh-Y Zeolite", Albany, NY, April 1993.

Mobil Oil, "Solid-state NMR of Zeolites", Edison, NJ, March 1993.

Universite de Sherbrooke, "The Chemistry of CO on Supported Metals", Sherbrooke, Quebec, October, 1993.

Eastern Analytical Symposium, "Substitution Reactions of Mo(CO)₆ in Zeolites", Garden State Convention Center, NJ, November 1993.

National ACS Meeting, "The Reactions of Ethylene Over Ru-Y Zeolite", New York, NY, September, 1992.

National ACS Meeting, "Characterization of RuCl₃ Impregnated NaY Zeolite", New York, NY, September, 1992.

Middlebury College, "ESR Studies of Vapor-Grown Carbon Fibers", Middlebury, VT, October 1992.

North American Catalysis Society, "Solid-State NMR of Catalyst Systems", Yale University, New Haven, CT, March 1992. (Plenary Lecture)

Engelhardt Corporation, "Xe NMR of Zeolites", Edison, NJ, February 1992.

United Technologies, "NMR Studies of Catalyst Systems", November 1991.

Rensselaer Polytechnic Institute, "Magnetic Resonance Studies of Catalysts and Materials", Troy, NY, February 1991.

International Symposium on Magnetic Resonance on Surfaces, "Characterization of Adsorbed Dicarboxyls of Rh", Newark, DE, April 1990.

International Symposium on Magnetic Resonance on Surfaces, "Conduction ESR of Vapor Grown Carbon Fibers", Newark, DE, April 1990.

Carbon Conference, "ESR of Vapor-Grown Carbon Fibers", University Park, PA 1989.

8th Annual Blue Hen NMR Conference, "Solid-State NMR Studies of Metal Containing Zeolites", Newark, DE, June 1988.

Rocky Mtn. Conference, "NMR Studies of Modified Metal-Exchanged Zeolites" Denver, CO, August 1988.

Materials Research Society Meeting, "Co-cation Effects in Rhodium Exchanged Y Zeolites" Boston MA, December 1987.

American Chemical Society Meeting - Symposium on Solid-State NMR, "Cocation Effects in Metal Exchanged Y Zeolites", New Orleans, LA, September 1987.

American Physical Society Annual Meeting, "The Electron Spin Resonance of Vapor Grown Graphite Fibers" New York, N.Y., March 1987.

St. Louis University, "Solid-State NMR of Surfaces", St. Louis, MO, October 1987.

FACSS Meeting, "Multinuclear NMR Study of Metal Exchanged Zeolites", Detroit MI, October 1987. - chaired

Rocky Mountain Conference, "1-H NMR Studies of Metal-Exchanged Zeolites", Denver, CO, August 1987.

Iowa State University, "NMR Studies of Zeolite-Supported Metals", Ames, IA January 1987.

Materials Research Society Meeting, "Experimental Studies of ESR in Pristine and Boron Doped Vapor Grown Graphite Fibers" Boston MA, December 1986.

Materials Research Society Meeting, "Theory of ESR Lineshapes in Vapor Grown Graphite Fibers" Boston MA, December 1986.

28th Rocky Mountain Conference, "A Study of CO Adsorbed on Supported Group VIII Metals by ¹³C Magic Angle Spinning" Denver CO, August 1986.

27th Experimental NMR Conference, "High Resolution NMR of Abundant Spins in Solids by Combined Hopping and Multiple Pulse NMR" Baltimore, MD, April 1986.

27th Experimental NMR Conference, "Analysis of Surface Adsorbed Carbonyls by ¹³C Magic Angle Spinning NMR" Baltimore, MD, April 1986.

National ACS Meeting, "¹³C NMR Studies of Catalytic Intermediates in Zeolite Chemistry", Anaheim, CA, September 1986.

University of Delaware, "Magnetic Resonance of Surfaces" Newark, DE, December 1986.

University of Nebraska, Physics Dept., "Solid-State NMR of aSi:H" Lincoln, NE March 1985.

Colorado State University, "¹H NMR of Hydrogen in Amorphous Hydrogenated Silicon" Fort Collins, CO November 1984.
Conference on Cancer and Smoking Disease, "Solvent Suppression in NMR of Proteins" Omaha, NE, December 1984.
American Physical Society, Midwest Section Meeting, "Solid-State NMR Studies of Hydrogen in Amorphous Hydrogenated Silicon" Lincoln, NE, October 1984.
University of Nebraska, "Proton NMR Studies of Rh/TiO₂ Catalysts" Lincoln, NE, February 1983.
SUNY - Albany, "Proton NMR Studies of Rh/TiO₂ Catalysts", Albany, NY, November 1982.
National Bureau of Standards, "Proton NMR Studies of Rh/TiO₂ Catalysts", Gaithersburg, MD, October 1982.
Pittsburgh Conference, "Hydrogen Adsorption on Rh/TiO₂", Atlantic City, NJ March, 1980.

Professional Societies

Council of Graduate Studies
American Chemical Society
Council for Chemical Research
Sigma Xi

Consulting

2004, NJ State Commission of Higher Education
1993 - 2003, United Technologies

Thesis Supervision

A. Doctoral

Richard Shoemaker - 1988 - Univ. of Nebraska

Thesis Title: Nuclear Magnetic Resonance Studies of Ruthenium and Rhodium-Exchanged Y Zeolites"

Barbara Marshik - 1989 - University of Nebraska

Thesis Title: Electron Spin Resonance Studies of Vapor-Grown Carbon Fibers

Paul Molitor - 1991 - University of Nebraska

Thesis Title: NMR Studies of Adsorption of Carbon Monoxide in Metal-Exchanged Zeolites

Shaoxiong Wu - 1991 - University of Nebraska

Thesis Title: Pulsed Field Gradient Nuclear Magnetic Resonance and Applications in Y Type Zeolites

Cathy Tway - 1992 - University of Nebraska

Thesis Title: Characterization Studies of Metal-containing Y-Type Zeolites

Sanlin Hu - 1995 - Rensselaer Polytechnic Institute

Thesis Title: Solid State NMR Studies of the Reaction of Mo(CO)₆ with P(Me)₃ in NaY Zeolite and the SCR of NO_x with NH₃ on Supported V₂O₅ Catalyst

Danica Nowosielski - 2001 - Rensselaer Polytechnic Institute

Thesis Title: Solid-state NMR Studies of Vanadia/Titania Catalysts for Selective Catalytic Reduction of NO_x

Gissel Mentore - 2001 – Rensselaer Polytechnic Institute

Thesis Title:

Chris Wiegand – 2002 – Rensselaer Polytechnic Institute
Thesis Title: Solid-state NMR Studies of Polycarbosilanes

B. Masters

Judy Rodeghero - 1986 - University of Nebraska

Thesis Title: Characterization of Supported Group VIII Metal Catalysts

Mark Hamilton - 1986 - University of Nebraska

Thesis Title: Software Development for a Solid-State NMR Pulse Programmer

Ross Johnson - 1990 - University of Nebraska

Thesis Title: Multinuclear NMR Studies of Hydrogen-Exchanged Y Zeolites

Young-Sik Kye - 1991 - University of Nebraska

Thesis Title: Carbon-13 NMR Studies of Ethylene Adsorbed on Ru-Exchanged Y Zeolites

Brita Ziemann - 1994 - Rensselaer Polytechnic Institute

Thesis Title: Molecular Motion in Linear Poly(Silaethylene)

Eric Fiveland – 2002 – Rensselaer Polytechnic Institute

Thesis Title: NMR Studies of Water in Smectites

Teaching

Courses taught at Rensselaer

Undergraduate

Studio Chemistry I & II

Physical Chemistry I & II

Physical Chem. for Engineers

Chemistry of Materials I & II

Graduate

Nuclear Magnetic Resonance

Molecular Spectroscopy

Biological Spectroscopy

Quantum Mechanics

Service to University

Date

Committee

At Delaware

9/07 – 1/08

Chair, Search Committee, Dean of Engineering

1/08 – 8/08

Chair, Search Committee, Jefferson Chair

9/07 – 5/08

Negotiator, Faculty Collective Bargaining Agreement

At Rensselaer

7/04 – 5/05

Chair, Search Committee, Dean of Engineering

3/04 – 5/05

Search Committee, Vice President for Research

9/04 – 5/05

Search Committee, Dean of Lally School of Management

1/03 – 8/03

Chair, Search Committee, Vice Provost for Institute Diversity

12/01 – 3/02

Chair, Graduate Tuition Advisory Committee

1/97 – 9/01

Chair, Chemistry Department

7/01 – 2003

Student Orientation Advisor

8/01 – 8/03

Advisor for Undecided Science Students

9/00 – 2002	Faculty Intervention Program
4/99 - 9/99	Presidential Inauguration Symposium Committee
7/98 - 4/99	Athletics Task Force
1/99 - 3/99	School of Science Planning Committee
10/95 - 7/96	Chemistry Faculty Search Committee
11/95 - 4/96	Strategic Initiatives Steering Committee - Co-chair
11/94 - 4/95	Strategic Initiatives Steering Committee - Co-chair
10/93 - 12/93	Chemistry Chair Search Committee
9/92 – 5/96	Advisor for Chemistry Class of '96
9/92 - 9/97	Chemistry Graduate Admissions Committee
9/92 – 1/97	Chemistry Instrumentation Committee
9/91 - 1/93	Chemistry Seminar Chairman
9/91 - 10/92	Chemistry Curriculum Committee