

#### STATE UNIVERSITY OF NEW YORK

Harvey G. Stenger President Binghamton University State University of New York 4400 Vestal Parkway East Binghamton, NY 13902

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#### **University Experience**

1/2012 to Present: President, Binghamton University

4/2011 to 12/2011: Interim Provost, University at Buffalo

8/2006 to 4/2011: Dean, School of Engineering and Applied Sciences, University at Buffalo

Professor of Chemical and Biological Engineering, University at Buffalo

1991 to 2006: Professor of Chemical Engineering, Lehigh University

1993 to 1999: Dean, College of Engineering and Applied Science, Lehigh University

1993: Associate Dean, Engineering and Applied Science, Lehigh University

1991 to 1993: Director, Environmental Studies Center, Lehigh University

1989 to 1991: Co-Chairman, Dept. of Chemical Engineering, Lehigh University
1988 to 1991: Associate Professor of Chemical Engineering, Lehigh University
1984 to 1988: Assistant Professor of Chemical Engineering, Lehigh University

### **Education**

**Bachelor of Science**, Chemical Engineering, Cornell University, Ithaca, NY, May 1979, graduated with distinction

**Doctor of Science**, Chemical Engineering, Massachusetts Institute of Technology, Cambridge, MA, Dec. 1983, thesis: "Studies of the Slurry Reactor Fischer Tropsch Synthesis"

#### **Research Areas**

Hydrogen Production, Selective Catalytic Reduction of Nitrogen Oxides, Mercury Reaction Pathways, Catalytic Destruction of Chlorinated Hydrocarbons, Fuel Cell Modeling and Optimization.

# **Teaching Areas**

Chemical Engineering Thermodynamics; Chemical Reactor Design; Engineering Computations and Numerical Methods; Process Design; Heterogeneous Catalysis; Unit Operations Lab I & II; Electronic Materials Lab; Semiconductor Materials Processing; Fundamentals of Air Pollution.

### **Professional Registration**

Professional Engineer, Commonwealth of Pennsylvania # PE-040757-E

## **Professional, University and Community Service**

2010	Chair, College of Arts and Sciences Dean Search Committee
2009-	University Representative to the Board of Directors, University at Buffalo Foundation
2008	Chair, School of Management Dean Search Committee
2006-	Board of Directors, Buffalo-area Engineering Awareness for Minorities
2006-10:	Board of Directors, CUBRC, Inc.
2004-06:	Lehigh University Junior Varsity Hockey Coach
2001-05:	Board of Directors, Talbert Fuel Systems
1997-99:	Board of Directors, Ben Franklin Technology Center
1997-99:	Member Engineering Advisory Council, Drexel University
1996-99:	Board of Directors, Pennsylvania Infrastructure Technology Alliance
1996-97:	President, Association of Engineering Colleges of Pennsylvania
1994-95:	University Chair for United Way Campaign
1993-94:	College Chair for United Way Campaign
1994-97:	Board of Directors, South Bethlehem Neighborhood Center
1988-91:	Faculty Athletics' Representative to the NCAA
1988-92:	Member of Engineers Week Joint Planning Council.
1988-92:	Director, Vice-Chair, and Chair, Lehigh Valley Section of AIChE

## **Recognition and Awards**

2010:	Buffalo Engineering Awareness for Minorities, Charles Campbell Service Award
2009:	Distinguished Alumni Award, Cornell University
2006:	Engineering College Teacher of the Year, Lehigh University
2004:	Engineering College Teacher of the Year, Lehigh University
2003:	Hillman Award: University Graduate Advisor of the Year, Lehigh University
2002:	Deming Lewis Alumni Award – Faculty member of the Year, Lehigh University
2002:	Donald Stabler Award: University Teacher of the Year, Lehigh University
2000:	Engineering College Teacher of the Year, Lehigh University
1998:	National Society of Black Engineers Faculty Award, Lehigh University
1993:	National Society of Professional Engineers Engineer of the Year Lehigh Valley
1991:	Alan S. Foust Award for Service to the American Institute of Chemical Engineers
1989:	Engineering College Teacher of the Year, Lehigh University
1988:	Alfred N. Robinson Award: Young Faculty Achievement, Lehigh University

### **Grants and Contracts Received**

- "Gateway to Power", \$300,000 August 2010 to August 2013. Sponsor: DOE, with Alex Domijan of University of South Florida and Ken Lanquedoc of Florida Power and Light.
- "Realizing UB's Readiness, Innovation and Commitment to STEM Student Support", \$600,000
   December 2008 to December 2011. Sponsor: NSF, with Joe Gardella, Henry Durand, Bill
   Wild and Bruce McCombe.
- "Launching the Biomedical Engineering Program at University at Buffalo", \$3,000,000 April 2008 to April 2012, with Michael Cain. Sponsor: Oishei Foundation and matching organizations.
- "Oxidation of Mercury over SCR Catalysts", \$110,000 April 2004 to December 2006. Sponsor: EPRI.
- "Airpreheater Fouling and Heterogeneous Formation of SO<sub>3</sub> in Power Plant Flue Gases", \$175,000 January 2006 to December 2006, Sponsor: EPRI, with Hugo Caram and Ed Levy.
- "Pretreatment and Removal of Ammonia in Refinery Acid Gases", \$15,000, January 2006 to December 2006. Sponsor: Dupont.
- "Removal of Mercury from Power Plant Flue Gases", \$650,000, December 2001 to December 2006. Sponsor: Foster Wheeler.
- "Separation of Calcium Nitrate from Flue Gas Scrubber Effluent", \$120,000 December 1999 to September 2002, Sponsor: BOC Gases and Pennsylvania Infrastructure Alliance.
- "Low Temperature Selective Catalytic Reduction of NO", \$700,000 December 1996 to September 2003. Sponsor: Utility Consortium, with Co-investigators: Charlie Lyman and Rick Herman.
- "Fundamental Studies of the Oxidation of Sulfur Dioxide to Sulfur Trioxide over Supported Metal-Oxide Catalysts", \$315,000 October 1996 to September 1999. Sponsor: NSF; with PI: Israel Wachs.
- "Selective Catalytic Oxidation of Organosulfur Compounds to Valuable Chemical Intermediates", \$420,000 October 1999 to September 2002 Sponsor: NSF; with PI: Israel Wachs.
- "Separation and Concentration of Sulfur Dioxide in Flue Gas Streams", \$59,000, August 1993 to September 1994, Sponsor: Pennsylvania Energy Development Authority.
- "Plasma Enhanced Catalytic Oxidation of Methane", \$35,000, December 1992 to July 1994, Sponsor: Air Products, with Co-investigator Dennis Hess.

- "Catalytic Destruction of Chlorinated Hydrocarbons", \$32,300, March 1991 to August 1992. Sponsor: Ben Franklin Technology Center.
- "Development of a New Mordenite Material for Removal of Sulfur Dioxide from Flue Gas", \$170,000, Sept. 1990 to Aug. 1993. Sponsor: Pennsylvania Energy Development Authority, with Co-investigator: Dale Simpson.
- "Analytical Electron Microscopy of Catalyst Preparations" \$563,345 July 1986 to 1993. Sponsor: DOE, with Co-investigator: Charles Lyman.
- "Coupled Reactor-Column Experiment for Chemical Engineers", \$39,000, Oct. 1992 to Sept. 1994 Sponsor: NSF, with Bill Luyben.
- "Removal of Water from MTBE", \$17,000, March 1992 to July 1992, Sponsor: Chevron, with Co-investigator: Fred Stein.
- "Environmental Liaison Program", \$58,000, January 1992 to June 1993. Sponsors: Air Products, Aircor, Precision Grinding, Superior Combustion, Bethlehem Steel.
- "Electrical Resistivity of Fly Ash" \$140,000, June 1990 to January 1993. Sponsor: Allegheny Power Systems, with PI: Ed Levy.
- "Assessment of In-Situ Measurement Techniques for the analysis of Sulfur trioxide in Flue Gases", \$15,000, June 1990 to Oct. 1990 Sponsor: Alleghany Power Systems and New York State Electric and Gas.
- "Optimization of the Catalyst Packing for the Production of Cyanopyridines", \$30,000, June 1988 to June 1989, Sponsor: Nepera Inc.
- "Graduate Fellows Program in Chemical Engineering" \$675,000, September 1988 to August 1991. Sponsor: United States Department of Education. Co-investigators: H.S. Caram, J.A. Phillips, J.C. Chen, and H.G. Stenger, Jr.
- "Heat, Mass, and Momentum Transfer in an Agitated Vessel-Reactor", \$21,000, October 1988 to 1991, Sponsor: NSF.
- "Plasma Deposition Reaction Models", \$24,000, September 1988 to June 1991, Sponsor: AT&T.
- "Catalyst-Sorbent For Flue Gas Emission Clean-Up" \$192,000, September 1988 to June 1991, Sponsors: Pennsylvania Energy Development Authority, Baltimore Gas and Electric, and Corning Glass Works.
- "Intelligent Control of Spray Etching Reactors", \$144,000, September 1988 to 1991, Sponsor: IBM, with Co-Investigator: Christos Georgakis.
- "Engineering Research Equipment Grant: Batch Reactor Facility" \$46,000, May 1987, Sponsor: NSF, with Co-investigator: Christos Georgakis.

- "Endothermic Fuels for Hypersonic Transport", \$6,000 January 1987 to October 1987, Sponsor: Advanced Fuels Research Hartford, Connecticut.
- "Cacao Alkalization Kinetics", \$132,000, July 1986 to June 1988. Sponsor: General Foods Inc.
- "Center of Excellence for Semiconductor Materials Processing", \$25,000, Sept 1985 to Aug 1986. Sponsor: AT&T and Ben Franklin Co-investigator Sid Butler.

### **Journal Publications**

- 1. "Effect of Carbon Formation on Liquid Viscosity and Performance of Fischer-Tropsch Bubble Column Reactors", <u>Industrial Engineering Chemistry</u>, <u>Process Design and Development</u>, 20, (1981), 666. C.N. Satterfield, G.A. Huff, and H.G. Stenger, Jr
- 2. "Fischer-Tropsch Synthesis on a Precipitated Mn/Fe Catalyst in a Well Mixed Slurry Reactor", <u>Industrial Engineering Chemistry</u>, <u>Process Design and Development</u>, <u>23</u>, (1984), 26, H.G. Stenger, Jr and C.N. Satterfield
- 3. "Molecular Weight Distribution of the Heavy Wax Fraction from the Fischer-Tropsch Synthesis", <u>Journal of Catalysis</u>, <u>86</u>, (1984), 477, H.G. Stenger, Jr, H.E. Johnson, and C.N. Satterfield
- 4. "Fischer-Tropsch Synthesis in a Slurry Reactor: Precipitated Iron-Copper Catalyst", <u>Industrial Engineering Chemistry, Process Design and Development, 23, (1984), 849, H.G. Stenger, Jr and C.N. Satterfield</u>
- 5. "A Comparison of Fischer-Tropsch Synthesis in a Fixed Bed Reactor and in a Slurry Reactor", <u>Industrial Engineering Chemistry</u>, <u>Fundamentals</u>, <u>24</u>, (1985), 450, H.G. Stenger, Jr, C.N. Satterfield, G.A. Huff, J.L. Carter, and R.J. Madon
- "Effect of Liquid Composition on the Slurry Fischer-Tropsch Synthesis, I. Rate of Reaction", <u>Industrial Engineering Chemistry, Process Design and Development, 24</u>, (1985), 407, H.G. Stenger, Jr and C.N. Satterfield
- 7. "Effect of Liquid Composition on the Slurry Fischer-Tropsch Synthesis II. Product Selectivity", <u>Industrial Engineering Chemistry</u>, <u>Process Design and Development</u>, <u>24</u>, (1985), 411, H.G. Stenger, Jr and C.N. Satterfield
- 8. "Effects of Sulfur Addition on the Slurry Fischer-Tropsch Synthesis", <u>Industrial Engineering Chemistry</u>, <u>Process Design and Development</u>, <u>24</u>, (1985), 415, H.G. Stenger, Jr and C.N. Satterfield
- 9. "Distributed Chain Growth Probabilities for the Fischer-Tropsch Synthesis", <u>Journal of Catalysis</u>, 92, (1985), 426, H.G. Stenger, Jr
- 10. "Thermodynamic Product Distributions for the Fischer-Tropsch Synthesis", <u>Industrial</u> <u>Engineering Chemistry, Fundamentals, 25,</u> (1986), 410, H.G. Stenger, Jr and C.A. Askonas

- 11. "Uniformity of Etch Rate in Plasma Etching Reactors", <u>World Congress III of Chemical Engineering</u>, Vol. I, (1986), 315, H.G. Stenger, Jr, R. Sellamuthu, J.A. Barkanic, and R.J. Jaccodine
- 12. "Enhanced Fischer-Tropsch Selectivity through Sulfur Poisoning", <u>Division of Petroleum Chemistry</u>, ACS, (1986) <u>31</u>(1), H.G. Stenger, Jr
- 13. "Kinetics of Plasma Etching Silicon with Nitrogen Trifluoride", <u>Mat. Res. Soc. Symp. Proc.</u> 68, (1986), 267, H.G. Stenger, Jr and G.S. Akiki
- 14. "Reaction Kinetics and Reactor Modeling of Plasma Etching Silicon", <u>AIChE Journal</u>, <u>33</u>(7) (1987), 1187, H.G. Stenger, Jr, H.S. Caram, C.F. Sullivan, W.M. Russo
- 15. "NO Reduction by Al<sub>2</sub>O<sub>3</sub> Supported Rh, Pd, and Pt. I. Intrinsic Activities and Selectivities", Energy and Fuels 1(5) (1987) 407, H.G. Stenger, Jr and J.S. Hepburn
- 16. "Nitric Oxide Reduction Using a Co-impregnated Rhodium on Alumina Celcor Honeycomb", <u>Chem. Eng. Science</u>, <u>43</u> (1988) 2067, H.G. Stenger, Jr J.S. Hepburn, E.C. Meyer, and C.E. Lyman
- 17. "NO Reduction by Al<sub>2</sub>O<sub>3</sub> Supported Rh, Pd, and Pt. II. Effects of Poisoning by Sulfur Dioxide", <u>Energy and Fuels</u>, <u>2</u>(3) (1988) 289 H.G. Stenger, Jr and J.S. Hepburn
- 18. "Rh and Pt Distributions in Rh/Alumina and Pt/Alumina Catalysts", <u>Microbeam Analysis</u>, (1988), 511, H.G. Stenger, Jr, J.S. Hepburn and Charles E. Lyman
- 19. "A Review of Plasma Etching Applications Using Nitrogen Trifluoride", <u>Solid State Technology</u>, April, (1989) 109, H.G. Stenger, Jr, J.A. Barkanic, D.M. Reynolds, R. Jaccodine, and H. Vedage
- 20. "Effects of Drying on the Preparation of Co-impregnated Alumina Honeycomb Supports", Applied Catalysis, 55, 1989 287, H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 21. Co-impregnation of Rhodium into Alumina Honeycombs with Acids and Salts", <u>Applied Catalysis</u>, <u>56</u>, (1989) 107, H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 22. "Distributions of HF Co-impregnated Rh, Pt and Pd in Alumina Honeycomb Supports", Applied Catalysis, 55, 1989 271, H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 23. "Analysis of Nonuniformities in Plasma Etching of Silicon with Carbon Tetrafluoride in Oxygen", (1989), <u>J. Electrochemical Society</u> 137(3) 954 1990, H.G. Stenger, Jr, A.S. Kao
- 24. "Quantitative Pt and Rh Distributions in Pollution-Control Catalysts", <u>Ultramicroscopy</u> 34, 73 (1990), H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 25. "Tendency Modeling and Optimization of Batch Processes", <u>45</u>(8), (1990), 2067, <u>Chemical Engineering Science</u>, 1990, H.G. Stenger, Jr, C. Georgakis and A. Rastogi

- 26. "Co-impregnated Rh/Alumina 1. Preparation", <u>J. Catalysis</u>, <u>128</u>, 34 (1991), H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 27. "Co-impregnated Rh/Alumina 2. Nitric Oxide Reduction and Sulfur Dioxide Poisoning", <u>J. Catalysis</u>, <u>128</u>, 48, (1991), H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 28. "Temperature Swing Adsorption of Sulfur Dioxide and Nitric Oxide", <u>Division of Petroleum Chemistry</u>, <u>36</u>(1) (1991), H.G. Stenger, Jr and E.C. Meyer
- 29. "Co-Impregnation of Rhodium Chloride with Hydrofluoric Acid into Dry and Pre-Wet Alumni", <u>Applied Catalysis</u>, <u>71</u>(2) 205, (1991) H.G. Stenger, Jr, J.S. Hepburn and C.E. Lyman
- 30. "Etch Profile Development in Spray Etching Processes", <u>Electrochemical Society Journal</u>, <u>139(9)</u> 2206 (1992), H.G. Stenger, Jr, Christos Georgakis, Alan Kao, Kathleen Covert, and John Kurowski
- 31. "Laboratory Scale Combustor for Flue Gas Emission Studies", <u>Energy and Fuels</u>, <u>6</u>(3) 277 (1992), H.G. Stenger, Jr and Eduardo C. Meyer
- 32. "State Estimation and Control of Spray Etching Processes", <u>Journal of Process Control</u>, <u>2</u>(2) 87 (1992), H.G. Stenger, Jr, Christos Georgakis and Alan Kao
- 33. "The Identification of Kinetic Expressions and the Evolutionary Optimization of Specialty Chemical Batch Reactors Using Tendency Models", <u>Chemical Engineering Science</u>, <u>47</u> (9-11) 2487, (1992), H.G. Stenger, Jr, Christos Georgakis, Jake Fotopoulos, and Alok Rastogi
- 34. "Competitive Adsorption of Sulfur Dioxide, Nitric Oxide, and Water onto Mordenite Synthesized from Perlite", <u>Gas Separation and Purification 7</u> (1) 19, (1993), H.G. Stenger, Jr, Dale R. Simpson and K. Hu
- 35. "Catalytic Oxidation and Destruction of Chlorinated Hydrocarbons", <u>Applied Catalysis B Environmental</u> 2, 117, (1993), H.G. Stenger, Jr, G.E. Buzan and J.M. Berty
- 36. "Chromatographic Separation and Concentration of Sulfur Dioxide in Flue Gas", <u>Ind Eng Chem Research</u>, <u>32</u>, 2736, (1993), H.G. Stenger, Jr
- 37. "Oxidation and Removal of Chlorinated Hydrocarbons", <u>New Frontiers in Catalysis</u>, 1571 (1993), H.G. Stenger, Jr, G.E. Buzan, K. Hu, and J.M. Berty
- 38. "Uncertainty Issues in the Modeling and Optimization of Batch Reactors with Tendency Models", <u>Chemical Engineering Science</u>, <u>49</u>, 5533, (1995), H.G. Stenger, Jr, J. Fotopolous and C. Georgakis
- 39. "X-ray Emission Spectrometry of Phase Segregation in Pt-Rh Nanoparticles for Nitric Oxide Reduction", Ultramicroscopy, 58, 25, (1995), H.G. Stenger, Jr., R.E. Lakis and C.E. Lyman

- 40. "Alumina Supported Pt-Rh Catalysts, Part I: Microstructural Characterization", <u>J. Catalysis</u>, <u>154</u>, 261, (1995), H.G. Stenger, Jr, R.E. Lakis and C.E. Lyman
- 41. "Alumina Supported Pt-Rh Catalysts, Part II: Kinetic Characterization and Synergistic Effects", <u>J. Catalysis</u>, <u>154</u>, 276, (1995), H.G. Stenger, Jr, R.E. Lakis, Yeping Cai, and C.E. Lyman
- 42. "A Test and Demonstration Unit for Concentrating Sulfur Dioxide from Flue Gas", <u>Ind. Eng. Chem. Research</u>, 35 (4), 1409, (1996), H.G. Stenger, Jr, J.P. Dunn, Yeping Cai, and L.S. Liebmann
- 43. "Catalytic CO Oxidation over Pt-Rh/Alumina Catalysts", <u>J. Catalysis</u>, <u>161</u>, 123, (1996), H.G. Stenger, Jr, Yeping Cai and Charles E. Lyman
- 44. "Use of Tendency Models and Their Uncertainty in the Design of State Estimators for Batch Reactors", <u>Chemical Engineering and Processing</u>, <u>37</u>, 545-558, (1998), H.G. Stenger, Jr, J. Fotopoulos, and C. Georgakis
- 45. "Oxidation of Sulfur Dioxide to Sulfur Trioxide over Supported Vanadia Catalysts", <u>Applied Catalysis B</u> (1998), 19(2), 103-117, H.G. Stenger, Jr, J. P. Dunn, P. R. Koppula, and I.E. Wachs
- 46. "Interactions between Surface Vanadate and Surface Sulfate Species on Metal Oxide Catalysts", <u>Journal of Physical Chemistry</u>, (1998) <u>102</u>(32) 6212-6218, , H.G. Stenger, Jr, J.P. Dunn, I.E. Wachs
- 47. "Oxidation of Sulfur Dioxide over Supported Vanadia Catalysts: Molecular Structure Reactivity Relationships and Reaction Kinetics", <u>Catalysis Today</u>, <u>51</u>, 1999 p 301-318, H.G. Stenger, Jr, J.P. Dunn and I. E. Wachs
- 48. "Molecular Structure-Reactivity Relationships for the Oxidation of Sulfur Dioxide over Supported Metal Oxide Catalysts" <u>Catalysis Today</u> (1999), 53(4), 543-556, H.G. Stenger, Jr, J. P. Dunn and I. E. Wachs
- 49. "Oxidation of SO<sub>2</sub> over Supported Metal Oxide Catalysts." <u>J. Catalysis</u> (1999), 181(2), 233-243, H.G. Stenger, Jr, J. P. Dunn, and I. E. Wachs
- 50. "Testing Zeolite SCR Catalysts Under Protocol Conditions for NOx Abatement from Stationary Emission Sources." <u>Catalysis Today</u> (2000), <u>55(3)</u>, 281-290, H.G. Stenger, Jr, B. Ramachandran, R.G. Herman, S. Choi, C. E. Lyman, and J. W. Sale
- 51. "Analysis of Alloy Nanoparticles", Mikrochim Acta, (2000), 132(2-4), 301-308, H.G. Stenger, Jr, C. E. Lyman, R. E. Lakis, B. Totdal, and T. Prestvik
- 52. "Monitoring Aging and Deactivation of Emission Abatement Catalysts for Selective Catalytic Reduction of NO<sub>x</sub>", <u>Topics in Catalysis</u>, (2002), <u>18</u>(3-4), 251-257, H.G. Stenger, Jr, R. G. Herman, J. W. Sale, C. E. Lyman, J. E. Agogliatti, Y. Cai, B. Ramachandran, S. Choi

- 53. "Fuel Cell Grade Hydrogen from Methanol on a Commercial Cu/ZnO/Al<sub>2</sub>O<sub>3</sub> Catalyst" Applied Catalysis, B: Environmental, (2002), 38(4), 259-269, H.G. Stenger, Jr and Y. Choi
- 54. "Kinetics of Methanol Decomposition and Water Gas Shift Reaction on a Commercial Cu-ZnO/Al<sub>2</sub>O<sub>3</sub> Catalyst", American Chemical Society, <u>Division of Fuel Chemistry</u>, (2002), 47(2), 723-724, H.G. Stenger, Jr and Y. Choi
- 55. "Water Gas Shift Reaction Kinetics and Reactor Modeling for Fuel Cell Grade Hydrogen", <u>Journal of Power Sources</u>, (2003) <u>124</u>, 432-439, H.G. Stenger, Jr and Y. Choi
- 56. "Kinetics, Simulation and Insights for CO Selective Oxidation in Fuel Cell Applications", <u>Journal of Power Sources</u>, (2004) <u>129</u> 246-254, H.G. Stenger, Jr and Y. Choi
- 57. "Kinetics, Simulation and Optimization of Methanol Steam Reformer for Fuel Cell Applications", <u>Journal of Power Sources</u> (2005), <u>142</u>, 81-91, H.G. Stenger, Jr and Y. Choi
- 58. "Computational Fluid Dynamics Modeling of Polymer Electrolyte Membrane Fuel Cells", <u>Journal of Power Sources</u>, (2005), 147, 95-106, H.G. Stenger, Jr and G. Guvelioglu
- 59. "Mercury Oxidation in Selective Catalytic Reduction Reactors", <u>Energy and Fuels</u>, (2005), 19(6) 2328-2334, H.G. Stenger, Jr and S. Eswaran
- 60. "Main and Interaction Effects of PEM Fuel Cell Design Parameters", <u>Journal of Power Sources</u>, (2006), <u>156</u>(2) 424-433, H.G. Stenger, Jr and G. Guvelioglu
- 61. "The Effects of H<sub>2</sub>O, SO<sub>2</sub>, and NO on the Homogeneous Oxidation of Mercury by Cl<sub>2</sub>" Energy and Fuels, (2006) 20(3) 1068-1075, H.G. Stenger, Jr, H. Agarwal, S. Wu, and Z. Fan
- 62. "Development of a Predictive Kinetic Model for Homogeneous Hg Oxidation Data", <u>Mathematical and Computer Modeling</u>, (2007), <u>45</u>(1-2) 109-125, H.G. Stenger, Jr and H. Agarwal
- 63. "Gas-Phase Mercury Adsorption Rate Studies", <u>Energy and Fuels</u> (2007), <u>21(2)</u>, 852-857, H.G. Stenger, Jr, S. Eswaran and Z. Fan
- 64. "Comparing and Interpreting Laboratory Results of Hg Oxidation by a Chlorine Species", Fuel Processing Technology, (2007) 88(7) 723-730, H.G. Stenger, Jr, H. Agarwal and C. Romero
- 65. "Effect of Halogens on Mercury Conversion in SCR Catalysts", <u>Fuel Processing Technology</u>, (2008), <u>89</u>; 1153-1159, H.G. Stenger, Jr and S. Eswaran

#### **Patent**

A Process for Removing Sulfur Oxides from a Gas Stream, Dale Simpson and Harvey Stenger, June 1993 #5,223,237.

# **Books**

"An Interactive Introduction to C++, Excel, Matlab, and Basic Engineering Numerical Methods v 1.1", H.G. Stenger Jr. and Chuck Smith, ISBN-10: 0136120245, Pearson 2009.

"Chapter 18 Academic Careers and Graduate School", <u>Ready for Take Off</u>, Dean C. Millar, ISBN-10: 0136081274, Pearson, 2010.