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EDUCATION

1981 *Ph.D.* Chemical Engineering, City College of the City University of New York
1975 *M.S.* Chemical Engineering, Polytechnic Institute of New York
1975 *M.S.* Applied Mathematics and Statistics, State University of New York at Stony Brook
1973 *B.S.* Chemical Engineering, Tunghai University

CONTINUING EDUCATION

1981 Coal Science, Pennsylvania State University
1986 Permitting Incinerators, U.S. EPA

EXPERIENCE

1990-present
UNIVERSITY OF MISSISSIPPI
Professor, 2000-
Associate Professor of Chemical Engineering, 1993-2000
Research Associate Professor of Center for Computational Hydroscience and Engineering, 1996
Assistant Professor of Chemical Engineering, 1990-1993

1987-1990
LOUISIANA STATE UNIVERSITY
Research Assistant Professor

1981-1987
GULF SOUTH RESEARCH INSTITUTE
Manager of Fuel Engineering, 1984-1987
Senior Research Engineer, 1981-1984

RESEARCH GRANTS AND CONTRACTS

"Characterization of Alkylated Coals," Private Sponsor, Co-Principal Investigator, $35,000, 1981.

"Pyrolysis of Petroleum Residuum," Private Sponsor, Principal Investigator, $5,000, 1982.

"Coal Liquefaction with Supercritical Amines," U.S. Department of Energy, DE-AC22-83PC60046, Principal Investigator, $208,062, 1983-1985.

"Shale Retorting," U.S. Department of Energy, DE-AP21-86MC04569, Principal Investigator, $10,000, 1986.

"Coal Modification," U.S. Department of Energy, DE-AP21-87MC05014, Principal Investigator, $10,000, 1987.

"Formation and Destruction of Nitrogen Oxides in Coal Combustion," U.S. Department of Energy, DE-AC22-88PC88859, Principal Investigator, $292,647, 1988.

"Enhancement of Soot Yield by Carbon Monoxide," Center for Energy Studies, Louisiana State University, Co-Principal Investigator, $20,000, 1988; $20,000, 1989.

"Diagnostics for the Analysis of High Temperature and Reacting Flows," Louisiana State Board of Regents' Education Quality Support Fund, Co-Principal Investigator, $80,000, 1988.

Travel Fund from National Science Foundation through the Engineering Foundation for Attending the International Fluidization IV Conference, Banff, Calgary, Canada, $375, May 7 - 12, 1989.

"*Advanced Utilization of Fossil Fuels Resources*," Summer Faculty Research Fund, the Graduate School of the University of Mississippi, Principal Investigator, $4,543, 1991.

"*The Effects of Calcium Oxide in Lignites on the Reductions of Nitrogen Oxides and Nitrous Oxide during Coal Combustion*," Mississippi Mineral Resources Institute, U.S. Bureau of Mines Contract G1114128 and MMRI Project Number 92-9F, Principal Investigator, $17,232, June, 1991.

"*Control of Trace Constituent Emissions during Wood Waste Combustion. Phase I. Characterization of Sources, Chemical Forms, and Dispositions,"* Mississippi Chemical Corporation, MCC Contract 501T-910016, Principal Investigator, $125,532, September, 1991.

"*Nitrous Oxide Formation and Destruction Mechanisms during Fluidized Bed Coal Combustion*," U.S. Department of Energy's EPSCoR Program, Principal Investigator, $15,625, December, 1991; $31,250, August, 1992.

"Combustion Diagnostics - Horiba's Process Gas Analyzer, VIA510," University of Mississippi Associates' Funds 30-0220603042, UMF Associates 93-06, Principal Investigator, $11,900, December, 1992.

"*Role of Lignite Char during Reburning of Nitrogen Oxide*," U.S. Bureau of Mines (through Mississippi Mineral Resources Institute) Grant G1134228, Principal Investigator, $20,118, January, 1993.

"*Summer Research - A Proposal*," College of Engineering, the University of Mississippi, Principal Investigator, $7,983, 1993.

"*Role of Char during Reburning of Nitrogen Oxide*," Grant from Advanced Coal Research Program, U.S. Universities, U.S. Department of Energy, DE-FG22-93PC93227, Principal Investigator, $194,886, September, 1993.

"*Flue Gas Cleanup and Metals Recovery with Offshore Minerals*," Grant from the U.S. Bureau of Mines (G1135128-2807) through the Continental Shelf Division, Marine Minerals Technology Center, Principal Author, $189,910, September, 1993.

"*Feasibility Study on Applications of Stochastic Analysis to Modeling Turbulent Flows and Sedimentation Processes*," Summer support from the Center for Computational Hydroscience and Engineering, Principal Investigator, $9,917, May, 1996.

"*Lignite-Based Material for Environmental Cleanup*," Faculty Small Grants Program, The University of Mississippi Project #25-0220603046, Principal Investigator, $3,000, October, 1996.

"*Computer Software for Exploring Complexity: Matlab, Mathematica and Gaussian 98W,*" Lapsed Salary Equipment Funds, The University of Mississippi, 601755004Z, Principal Investigator, $6,300, November, 2001.

"*Equipment for Sample Preparation,*" Associates Funds, The University of Mississippi, UMF Associates 02-07, Principal Investigator, $18,000, December, 2001.

"*Char Deactivation in Flame Environments,*" National Science Foundation, NSF Grant #CTS-0122504, Principal Investigator, $386,000 (NSF) and $39,000 (UM cash), August, 2002.

"*Heterogeneous Reburning by Mixed Fuels, Phase I,*" Innovative Concepts, University Coal Research Program, U.S. Department of Energy, DE-FG26-02NT41552, Principal Investigator, $49,999, 2002.

"*Heterogeneous Reburning by Mixed Fuels, Phase II*," Innovative Concepts, University Coal Research Program, U.S. Department of Energy, DE-FG26-04NT42183, Principal Investigator, $200,000 (DOE), $35,884 (UM cash), September, 2004.

"Device for Feeding Particles Feeder at Low and Steady Rates," device fabricated for and invention licensed to Babcock and Wilcox Power Generation Group, Principal Investigator, $11,000, December 12, 2007.

"Acquisition of a High Resolution Inductively Coupled Plasma Mass Spectrometer for the Mid-South Region" Major Research Instruments, National Science Foundation, Co-Principal Investigator, $494,094 (NSF) and $276,688 (UM) for five years, August, 2009.

BOOKS

Chen, W.Y., J. Seiner, T. Suzuki, and M. Lackner, ed., "*Handbook of Climate Change Mitigation*," Volume I, Springer, New York (2011), about 1100 pages / 34 chapters.

Chen, W.Y., J. Seiner, T. Suzuki, and M. Lackner, ed., "*Handbook of Climate Change Mitigation*," Volume II, Springer, New York (2011), about 1100 pages / 33 chapters.

ENTRY IN ENCYCLOPEDIA (Invited)

Chen, W.Y, "*Stochastic Processes*," in "*Encyclopedia of Nonlinear Science*," A. Scott ed., pp.881-883, Routledge, Taylor Francis, London, England (2005).

KEYNOTE AND DISTINGUISHED LECTURESHIPS

"Stochastic Analysis of Nonlinear Biological and Ecological Processes," International Conference on Mathematical Biology and Ecology, World Scientific and Engineering Academy and Society, Corfu Island, Greece, August 17-19, 2004; see http://www.worldses.org/plenary/index.html.

"*Global Warming: Causes, Effects and Solutions*," Keynote Lecture, 12th Mainland-Taiwan Environmental Protection Conference, Kaohsiung, Taiwan, October 20-26, 2008.

"*Stochastic Analysis of Nonlinear Biological and Ecological Processes*," Distinguished Alum Lecture, Tunghai University, Taichung, Taiwan, October 20, 2008.

"*Climate Change: Causes, Impacts and Solutions*," Distinguished Alum Lecture, Tunghai University, Taichung, Taiwan, October 23, 2008.

"*Characterization of Char Oxidation in Early-Stage of Coal Combustion*," Distinguished Alum Lecture, Tunghai University, Taichung, Taiwan, October 24, 2008.

"*Chemical Modification of Coals by Supercritical CO_2*," lecture presented at the Ceremony for the Award of Visiting Professorship of Wei-Yin Chen, Zhejiang University, Hangzhou, China, May 4, 2010.

PATENTS AND INVENTIONS

Chen, W.Y., and H. Sarv, "*In-Furnace Reduction of Nitrogen Oxide by Mixed Fuels Involving A Biomass Derivative,*" Patent application, Serial No. 11/426,906, June 27, 2006.

Chen, W.Y., and G.C. Gowan, *"Feeding Particles at Various Modes without Moving Connections*," US patent application submitted to the Commissioner for patent, Serial number 12/395,285, February 27, 2009; licensed to a major boiler company, December, 2007.

BOOK CHAPTERS

Chen, W.Y., and F.M. Kazimi, *"Coal Liquefaction with Supercritical Ammonia and Amines,"* in *"Supercritical Fluid Technology*," J.M.L. Penninger et al., ed., Elsevier Science Publishers B.V., Netherlands, pp.281-307 (1985).

Fan, L.T., S.T. Chou, W.Y. Chen, M.T. Bai, and J.P. Hsu, "*Modeling Fluctuations in the Growth Rate of a Single Crystal*," in *"Mixing and Crystallization*," S. Shaliza and B. Sen Gupta ed., Kluwer Academic Publishers, Dordrecht, The Netherlands, pp.253-265 (2000).

Wang, L.K., C.W. Williford, and W.Y. Chen, "*Fabric Filtration*," in "Handbook of Environmental Engineering, Volume 1. Air Pollution Control Engineering," L.K. Wang, N.C. Pereira, and Y.T. Hung, ed., pp.59-95, Humana Press, New Jersey (2004).

Wang, L.K., C.W. Williford, and W.Y. Chen, *"Condensation*," in "Handbook of Environmental Engineering, Volume 1. Air Pollution Control Engineering," L.K. Wang, N.C. Pereira, and Y.T. Hung, ed., pp.307-328, Humana Press, New Jersey (2004).

Wang, L.K., C.W. Williford, and W.Y. Chen, "*Flares*," in "Handbook of Environmental Engineering, Volume 1. Air Pollution Control Engineering," L.K. Wang, N.C. Pereira, and Y.T. Hung, ed., pp.329-345, Humana Press, New Jersey (2004).

Wang, L.K., C.W. Williford, and W.Y. Chen, "*Desulfurization and Emission Control*," in "Handbook of Environmental Engineering, Volume 2. Advanced Air and Noise Pollution Control," L.K. Wang, N.C. Pereira, and Y.T. Hung, ed., pp.35-95, Humana Press, New Jersey (2005).

Yeh, J.T., and W.Y. Chen, "*Control of Nitrogen Oxides during Coal Combustion*," in "Handbook of Environmental Engineering, Volume 2. Advanced Air and Noise Pollution Control," L.K. Wang, N.C. Pereira, and Y.T. Hung, ed., pp.113-126, Humana Press, New Jersey (2005).

Scovazzo, P., W.Y. Chen, L.K. Wang, and N.K. Shammas, *"Solvent Extraction, Leaching and Supercritical Extraction*," in "Handbook of Environmental Engineering, Volume 4. Advanced Physicochemical Treatment Processes," L.K. Wang, Y.T. Hung, and N.K. Shammas, ed., pp.581-614, Humana Press, New Jersey (2006).

Williford, C.W., W.Y. Chen, L.K. Wang, and N.K. Shammas, *"Lime Stabilization*," in "Handbook of Environmental Engineering, Volume 6. Biosolids Treatment Processes," L.K. Wang, N.K. Shammas, and Y.T. Hung, ed., pp.207-242, Humana Press, New Jersey (2007).

Wang, L.K., C.W. Williford, W.Y. Chen, and N.K. Shammas, *"Low Temperature Thermal Processe*," in "Handbook of Environmental Engineering, Volume 6. Biosolids Treatment Processes," L.K. Wang, N.K. Shammas, and Y.T. Hung, ed., pp.299-230, Humana Press, New Jersey (2007).

Wang, L.K., C.W. Williford, W.Y. Chen, N.K. Shammas, and G.P. Sakellaropoulos, *"Evaporation Processe*," in "Handbook of Environmental Engineering, Volume 6. Biosolids Treatment Processes," L.K. Wang, N.K. Shammas, and Y.T. Hung, ed., pp.583-612, Humana Press, New Jersey (2007).

Williford, C.W., W.Y. Chen, L.K. Wang, and N.K. Shammas, *"High Temperature Thermal Processe*," in "Handbook of Environmental Engineering, Volume 6. Biosolids Treatment Processes," L.K. Wang, N.K. Shammas, and Y.T. Hung, ed., pp. 613-644, Humana Press, New Jersey (2007).

Cizdziel, J., and W.Y. Chen, "*GC/MS for Combustion Research*," in "Combustion Handbook, Volume 2. Combustion Diagnostics and Pollutants," M. Lackner, F. Winter and A. Agarwal, ed., Wiley-VCH Verlag, Weinheim, Germany, pp.51-74, 2010.

COURSE MATERIALS

Chen, W.Y, "*Supplementary Volume for Undergraduate Engineering Mathematics*," University of Mississippi, 240 pages, updated yearly since 1997.

Chen, W.Y, "*Study Guide for Undergraduate Thermodynamics*," revised, University of Mississippi, 252 pages, update yearly since 1998.

Chen, W.Y, "*Supplementary Volume for Reaction Engineering*," University of Mississippi, 100 pages (1998).

Chen, W.Y, "*Supplementary Volume for Graduate Thermodynamics*," University of Mississippi, 50 pages (1999).

Chen, W.Y, "*Supplementary Volume for Nonlinear Engineering Mathematics I. Regular and Singular Perturbations and Method of Weighted Residuals*," University of Mississippi, 150 pages (2000).

Chen, W.Y, "*Supplementary Volume for Nonlinear Engineering Mathematics 2. Nonlinear Dynamics*," University of Mississippi, 100 pages (2003).

Chen, W.Y., "*Notes for the Preparation of the Mathematics Part of the FE Exam*," 13 pages (2003).

REFEREED JOURNALS

Solomon, P.R., R.H. Hobbs, D.G. Hamblen, W.Y. Chen, A.I. LaCava, and R.A. Graff, *"Correlation of Coal Volatile Yield with Oxygen and Aliphatic Hydrogen,"* Fuel, **60**(4), 342-346 (1981).

Chen, W.Y., A.I. LaCava, and R.A. Graff, *"Flash Hydrogenation of Coal. 3. A Sample of U.S. Coals,"* Fuel, **62**(1), 56-61 (1983).

Khan, M.R., W.Y. Chen, and E. Suuberg, *"Influence of Steam Pretreatment on Coal Composition and Devolatilization,"* Energy and Fuel, **3**(2), 223-230 (1989).

Chen, W.Y., and F.M. Kazimi, *"Coal Liquefaction in Primary Aliphatic Amine Systems."* Industrial & Engineering Chemistry Research, **29**(7), 1109-1119 (1990).

Burch, T.E., R.B. Conway, and W.Y. Chen, "*A Practical Pulverized Coal Feeder for Bench-Scale Combustion Requiring Low Feed Rate*s," Review of Scientific Instruments, **62**(2), 480-483 (1991).

Burch, T.E., F.R. Tillman, W.Y. Chen, T.W. Lester, R.B. Conway, and A.M. Sterling, "*Partitioning of Nitrogenous Species in the Fuel-Rich Stage of Reburning*," Energy and Fuels, **5**(2), 231-237 (1991).

Chen, W.Y., G. Nagarajan, Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Devolatilization-Induced Coal Fragmentation during Fluidized Bed Combustion*," Industrial and Engineering Chemistry Research, **33**(1), 137-145 (1994).

Burch, T.E., W.Y. Chen, T.W. Lester, and A.M. Sterling, "*Interaction of Fuel Nitrogen with Nitric Oxide during Reburning with Coal*," Combustion and Flame, **98**(4), 391-401 (1994).

Shen, B.C., L.T. Fan, and W.Y. Chen, "*Stochastic Modeling of Adsorption in a Batch System*," Journal of Hazardous Materials, **38**(3), 353-371 (1994).

Chen, W.Y., Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Tar Molecular Weight Distribution during Coal Pyrolysis*," Chemical Engineering Science, **49**(22), 3687-3698 (1994).

Chen, W.Y., "*Pyrolysis and Combustion Kinetics of Pine Bark*," in "Advances in Pulping and Papermaking," P.W. Hunt ed., AIChE Symposium Series, **91**(307), 143-153 (1995).

Chen, W.Y., "*Asymptotic Expansions of the Washout Function for Stirred Tanks in Series*," Hungarian Journal of Industrial Chemistry, **24**(1), 21-24 (1996).

Chen, W.Y., and L. Ma, "*Extent of Heterogeneous Mechanisms during Reburning of Nitrogen Oxide*," AIChE Journal, **42**(7), 1968-1976 (1996).

Fan, L.T., M.T. Bai, and W.Y. Chen, "*Modeling Bed-Load Transport by the Master-Equation Approach*," in *"Fluidization and Fluid-Particle Systems, Recent Research and Development*," AIChE Symposium Series, **94**(319), 63-69 (1998).

Chen, X.Y., W.Y. Chen, A.H. Hikal, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Controlled Drug Release*," Biochemical Engineering Journal, **2**(2), 161-177 (1998).

Tang, L., and W.Y. Chen, "*Improvements on A Particle Feeder for Experiments Requiring Low Feed Rate*s," Review of Scientific Instruments, **70**(7), 3143-3144 (1999).

Chen, W.Y., "*Rate Measurement with a Laboratory-Scale Tubular Reactor*," Chemical Engineering Education, **33**(3), 238-243 (1999).

Chen, W.Y., A.U. Kulkarni, J.L. Milum, and L.T. Fan, "*Stochastic Modeling of Carbon Oxidation*," AIChE Journal, **45**(12), 2557-2570 (1999).

Chen, W.Y., and L. Tang, "*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," AIChE Journal, **47**(12), 2781-2797 (2001).

Dickson, J.L., J.A. Hart, and W.Y. Chen, "*Construction and Visualization of VLE Envelopes in Mathcad*," Chemical Engineering Education, **37**(1), 20-23 (2003).

Chen, W.Y., P. Annamreddy, and L.T. Fan, "*Modeling Growth of a Heterogeneous Tumor*," Journal of Theoretical Biology, **221**(2), 205-227 (2003).

Fan, L.T., A. Argoti-Caicedo, S.T. Chou, and W.Y. Chen, *"Stochastic Modeling of Thermal Death Kinetics of a Cell Population: Revisited*," Chemical Engineering Education, **37**(3), 228-235 (2003).

Chen, W.Y., "*Stochastic Modeling of Tumor Growth*," WSEAS Transactions on Biology and Biomedicine, **3**(1), 320-325 (2004).

Chen, W.Y., and S. Bokka, "*Stochastic Modeling of Nonlinear Epidemiology*," Journal of Theoretical Biology, **234**(4), 455-470 (2005).

Chen, W.Y., and B. B. Gathitu, "*Design of Mixed Fuel for Heterogeneous Reburning*," Fuel, **85**(12-13), 1781-1793 (2006).

Chen, W.Y., S. Wan, and G. Shi, *"Stable Surface Oxides on Chars and Impact of Reactor Materials at High Temperatures*," Energy and Fuels, **21**(2), 778-792 (2007).

Chen, W.Y., and J. Liu, *"Mathcad Modules for Supercritical Fluid Extraction Based on Mixing Rules*," Chapter 45, Innovations 2008, International Network for Engineering Education and Research (iNEER), W. Aung, J. Mecsi, J. Moscinski, I. Rouse, P. Willmot, ed., pp.511-518, July, 2008.

Chen, W.Y., G.C. Gowan, G. Shi, and S. Wan, "*A Gravity-Driven Low-Rate Particle Feeder*," Review of Scientific Instruments, **79**, 083904-1 to 083904-5 (2008).

Chen, W.Y., G. Shi, and S. Wan, *"Characterization of Early-Stage Coal Oxidation by Temperature-Programmed Desorption*," Energy and Fuels, **22**(6), 3724-3735 (2008).

Chen, W.Y., and S. Wan, "*Effects of Diffusion on Char-Desorption Profiles*," Energy and Fuels, **23**(1), 586-587 (2009).

Wan, S., W.Y. Chen, and G. Shi, *"Roles of Mineral Matters in the Early Stage of Coal Combustion*," Energy and Fuels, **23**(2), 710-718 (2009).

Chen, W.Y., G. Shi, and S. Wan, "*Characterization of Oxy-Coal Combustion by Temperature-Programmed Desorption*," Energy and Fuels, **23**(2), 1134-1135 (2009).

Gathitu, B.B., W.Y. Chen, and M.C. McClure, "*Effects of Coal Interaction with Supercritical CO_2: Physical Structure,*" Industrial and Engineering Chemistry Research, **48**(10), 5024-5034 (2009).

Wan, S., G.C. Gowan, and W.Y. Chen, "*Improvements on a Gravity-Driven Low-Rate Particle Feeder*," Review of Scientific Instruments, **80**, 073904-1 to 073904-5 (2009).

Gathitu, B.B., and Chen, W.Y., "*Effects of Pretreatment of Coal by CO_2 on Nitric Oxide Emission and Unburned Carbon in Various Combustion Environments*," Industrial and Engineering

Chemistry Research, Industrial and Engineering Chemistry Research, **48**(23), 10364-10374, 2009.

Su, Y., B.B. Gathitu, and W.Y. Chen, "*Efficient and Cost-Effective Reburning Using Common Wastes as Fuel and Additives,*" Fuel, **89**, 2569-2582 (2010).

Gathitu, B.B., and W.Y. Chen, "*Post-Combustion Reduction of Nitrogen Oxide from Stationary and Mobile Sources,*" submitted to Fuel Processing Technology (2009).

Chen, W.Y., G. Shi, and B.B. Gathitu, "*Effects of Coal Interaction with Supercritical CO_2: Chemical Structure,*" to be submitted to *Fuel* (**2010**).

Chen, W.Y., A.K. Mohammed, and M.C. Mossing, "*Stochastic Modeling of Genetic Toggle Switch and Noise-Induced Transitions,*" to be submitted to Biophysical Journal (2008).

Chen, W.Y., and L. Gordji, "*A Nonlinear Stochastic Model of Carbon Oxidation*," to be submitted to Chemical Engineering Science (2008).

REFEREED INTERNATIONAL PROCEEDINGS

Chen, W.Y., *"A Kinetic Model of Coal Hydropyrolysis,"* Proceedings of 1983 International Conference on Coal Science, International Energy Agency, pp.487-490 (1983).

Chen, W.Y., X.Y. Chen, R.F. Tavlin, Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Randomness of Primary Coal Fragmentation,*" Proceedings of the 7-th International Conference on Coal Science, Volume 1, pp.355-358, International Energy Agency (1993).

Zhang, Z.P., W.Y. Chen, and L.T. Fan, "*Stochastic Analysis of Particle Dynamics by Master Equation Approach,*" Proceedings of the Third International Symposium on Coal Combustion, Beijing, China, pp.167-174, September 18-21, 1995.

Chen, W.Y., and L. Ma, "*Importance of Heterogeneous Mechanisms during Reburning of Nitrogen Oxide,*" Proceedings of the Third International Symposium on Coal Combustion, Beijing, China, pp.594-601 (1995).

Chen, X.Y., W.Y. Chen, A.H. Hikal, B.C. Shen, and L.T. Fan, "*Modeling Fluctuations during Controlled Drug Release,*" Proceedings of the Fifth World Congress of Chemical Engineering, San Diego, CA, Volume 2, pp.834-839 (1996).

Chen, W.Y., L.T. Fan, and M.T. Bai, "*Applications of Master Equation Approach to Sediment Transport Research - Einstein's Model Revisited,*" Proceedings of the Conference on Management of Landscapes Disturbed by Channel Incision, Oxford, Mississippi, pp. 911-916 (1997).

Lin, L., and W.Y. Chen, "*Carrousel Activated Sludge Process for Leachate*," Proceedings of the Thirteenth International Conference on Solid Waste Technology and Management, Volume 1, Philadelphia, PA, November 16-19, 1997.

Chou, S.T., L.T. Fan, W.Y. Chen, M.T. Bai, and J.P. Hsu, *"Effects of the Size-Dependent Growth Rate on Fluctuations of the Transient Crystal-Size Distribution in a Batch Crystallizer*," in *"International Conference on Mixing and Crystallization*," S. Shaliza and B. Sen Gupta ed., Tioman Island, Malaysia, pp.P-1 - P-12 (1998).

Fan, L.T., S.T. Chou, W.Y. Chen, M.T. Bai, and J.P. Hsu, "*Modeling Fluctuations in the Growth Rate of a Single Crystal*," in *"Mixing and Crystallization*," Proceedings of the International Conference on Mixing and Crystallization," S. Shaliza and B. Sen Gupta ed., Tioman Island, Malaysia, pp.10-1-1~10-1-12, April 22-25, 1998.

Chen, W.Y., "*Heterogeneous Reburning of Nitrogen Oxide*," Proceedings of the 4-th Asia-Pacific Conference on Combustion, Nanjing, Peoples' Republic of China, pp.232-235, November 23-26, 2003.

Chen, W.Y., "*Effective Reduction of NO for Coal-Fired Boilers by Mixed, Multi-Functional Agents*," Proceedings of the Sino-American Technology and Engineering Conference, Beijing, China, pp.53-60, October 16-24, 2006.

Su, Y., Gathitu, B.B., and W.Y. Chen, *"Cost-Effective Reburning by Natural Gas Substitutes*," Proceedings of the 2007 International Conference on Coal Science and Technology, Paper #3A3, 7 pages, Nottingham, United Kingdom, August 28-31, 2007.

Su, Y., Gathitu, B.B., and W.Y. Chen, *"Efficient Reburning by Multi-Functional Mixed Fuels*," Proceedings of the 6th International Symposium on Coal Combustion, Wuhan, P.R. China, pp.558-564, December 1-4, 2007.

CONFERENCE PAPERS AND PRESENTATIONS

Chen, W.Y., R.A. Graff, and A.I. LaCava, "*Comparative Study of U.S. Coals in Flash* Hydrogenation*,"* ACS Preprints of Div. of Petroleum Chem., **23**(4), 1316-1321 (1978).

Chen, W.Y., S.J. Shen, Y. Suzuki, A.I. LaCava, and R.A. Graff, "*Flash Hydrogenation of Bituminous Coals: A Comparison of the Products Distribution Patterns of Illinois No. 6 and Pittsburgh No. 8 (Ireland Mine) Coals*," Paper presented at 13-th Middle Atlantic Regional ACS Meeting, March, 1979.

Chen, W.Y., A.I. LaCava, and R.A. Graff, "*Correlation of Flash Hydrogenation Yields with Petrographic Properties*," ACS Preprints, Div. of Fuel Chem., **24**(3), 94-98 (1979).

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Chen, W.Y., W.L. Yauger, and R.L. Meek, "*Pyrolysis of Solvent-Refined Coals*," ACS Preprints, Div. of Fuel Chem., **27**(3-4), 207-213 (1982).

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Kazimi, F.M., W.Y. Chen, J.K. Chen, R.R. Whitney, and B. Zimny, "*Coal Liquefaction in Amine Systems*," ACS Preprints, Div. of Fuel Chem., **30**(4), 402-413 (1985).

Chen, W.Y., "*Recent Progress in Coal Liquefaction in Amine Systems*," Proceedings of the U.S. Department of Energy Direct Coal Liquefaction Contractors' Review Meeting, pp.VI-117 - VI-149 (1985).

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Chen, W.Y., T.W. Lester, and L. Babcock, "*Formation and Destruction of Nitrogen Oxide during Coal Combustion*," Paper presented at the DOE's Contractors' Review Conference, Pittsburgh, PA, August 8-11, 1988. (abstract only)

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Chen, W.Y., and T.W. Lester, "*Effects of Reburning Fuel Types on Nitrogen Oxide Reduction*," Proceedings of the Eighth Annual Coal Preparation, Utilization, and Environmental Control Contractors Conference, the U.S. Department of Energy, Pittsburgh, PA, pp.231-239, 1992.

Shen, B.C., L.T. Fan, and W.Y. Chen, "*Stochastic Modeling of Adsorption in a Batch System*," Presented at the 1992 AIChE Summer National Meeting, Paper #56c, Minneapolis, MN, August 10, 1992.

Chen, W.Y., Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Dynamic Modeling of Tar Molecular Weight Distribution during Coal Pyrolysis: A Stochastic Approach*," presented at the 1992 Annual AIChE Meeting, Paper #209g, Miami Beach, Florida, November 2, 1992.

Chen, W.Y., G. Nagarajan, Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Volatile Pressure-Induced Coal Fragmentation*," presented at the 1992 Annual AIChE Meeting, Paper #65f, Miami Beach, Florida, November 3, 1992.

Chen, W.Y., Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Volatile Pressure-Induced Coal Fragmentation*," Proceedings of the Midwest-American Chinese Science and Technology Conference, St. Louis, Missouri, p.48, June 4-6, 1993 (abstract only).

Chen, X.Y., W.Y. Chen, A.H. Hikal, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Controlled Drug Release*," Proceedings of the Midwest-American Chinese Science and Technology Conference, St. Louis, Missouri, p.124, June 4-6, 1993 (abstract only).

Chen, W.Y., "*Control of Nitrogen Oxides during Coal Combustion*," Proceedings of the Fourth Chinese American Academic & Professional Convention, Chicago, Illinois, pp.2.71-2.75, July 2-5, 1993.

Chen, X.Y., W.Y. Chen, A.H. Hikal, B.C. Shen, and L.T. Fan, "*Stochastic Modeling of Controlled Drug Release*," Presented at the Annual AIChE Meeting, Paper #100e9, St. Louis, Missouri, November 7-12, 1993.

Chen, W.Y., R.F. Tavlin, Z.P. Zhang, B.C. Shen, and L.T. Fan, "*Dynamics of Primary Coal Fragmentation during Fluidized-Bed Combustion*," Presented at the Annual AIChE Meeting, Paper #215c, St. Louis, Missouri, November 7-12, 1993.

Chen, W.Y., X.Y. Chen, B.C. Shen, and L.T. Fan, "*Particle Size Distribution after Primary Fragmentation of Coal: an Application of the Maximum Entropy Formalism*," Presented at the Annual AIChE Meeting, Paper #213a1, St. Louis, Missouri, November 7-12, 1993.

Chen, W.Y., "*Formation and Destruction of Nitrogen Oxides during Coal Combustion*," Proceedings of the Second Mainland-Taiwan Environmental Protection Seminar, Vol. 2, pp. 597-605, Taipei, Taiwan, December 21-26, 1993.

Cui, X., and W.Y. Chen, "*Bark Combustion Kinetics and Partitioning of Trace Elements in Bark Combustion*," Presented at the Sigma Xi/Graduate School Graduate Student Poster Symposium, University of Mississippi, February 24-25, 1994, (abstract only).

Zhang, Z.P., and W.Y. Chen, "*Stochastic Modeling of Fly-ash Particle Agglomeration*," Presented at the Sigma Xi/Graduate School Graduate Student Poster Symposium, the University of Mississippi, February 24-25, 1994, (abstract only).

Chen, W.Y., "*Trace Metal Transformation during Combustion of Barks from Pine*," Presented at the Eleventh Midwest-American Chinese Science and Technology Conference, St. Louis, Missouri, June 17-19, 1994.

Chen, W.Y., X. Cui, D.E. Graves, and R.S. Gurley, "*Fates of Trace-Metals during Bark Combustion*," Presented at the Twenty-Fifth International Symposium on Combustion, Irvine, California, July 31 - August 5, 1994.

Zhang, Z.P., W.Y. Chen, and L.T. Fan, "*Modeling Coagulation of Combustion-Generated Aerosols by Master Equation Formalism*," Presented at the Twenty-Fifth International Symposium on Combustion, Irvine, California, July 31 - August 5, 1994.

Chen, W.Y., Comments in the 25th Symp. (Int'l) on Combustion, p.226, Combustion Institute, Pittsburgh, Pennsylvania, 1994.

Zhang, Z.P., W.Y. Chen, and L.T. Fan, "*Stochastic Modeling of Aerosol Agglomeration*," Presented at the Annual AIChE Meeting, Paper #240a, San Francisco, California, November 13-18, 1994.

Zhang, Z.P., W.Y. Chen, and L.T. Fan, "*Simulation of Agglomeration of Smoke and Fly-Ash Particles*," Presented at the Annual AIChE Meeting, Paper #215d, San Francisco, California, November 13-18, 1994.

Chen, W.Y., and X. Cui, "*Bark Combustion Kinetics*," Presented at the Annual AIChE Meeting, Paper #251a, San Francisco, California, November 13-18, 1994.

Chen, W.Y., X. Cui, D.E. Graves, and R.S. Gurley, "*Partitioning of Trace Metal Compounds during Bark Combustion*," Presented at the Annual AIChE Meeting, Paper #252f, San Francisco, California, November 13-18, 1994.

Burch, T.E., and W.Y. Chen, "*Tracing of NO Formation and Destruction in Reburning by Isotope-Labeling Technique*," Presented at the Annual AIChE Meeting, Paper #77r, San Francisco, California, November 13-18, 1994.

Lantrip, M.C., Lu, T.C., L. Ma, and W.Y. Chen, "*Flue Gas Desulfurization by Manganese Nodule under Chemical Equilibrium Conditions*," Presented at the Annual AIChE Meeting, Paper #170s, San Francisco, California, November 13-18, 1994.

Chen, W.Y., "*Role of Char during Reburning of Nitrogen Oxide*," Presented at the Department of Energy Peer Review, the U.S. Department of Energy, Coraopolis, Pennsylvania, January 24-26, 1995.

Ma, L., and W.Y. Chen, "*Role of Char during Reburning of Nitrogen Oxide*," Presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 4, 1995.

Chen, W.Y., "*Role of Char during Reburning of Nitrogen Oxide*," Presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Nashville, Tennessee, June 13-14, 1995.

Zhang, Z.P., W.Y. Chen, and L.T. Fan, "*Stochastic Analysis of Particle Dynamics by Master Equation Approach*," Proceedings of the Third International Symposium on Coal Combustion, Beijing, China, pp.167-174, September 18-21, 1995.

Chen, W.Y., and L. Ma, "*Importance of Heterogeneous Mechanisms during Reburning of Nitrogen Oxide*," Proceedings of the Third International Symposium on Coal Combustion, Beijing, China, pp.594-601, September 18-21, 1995.

Chen, W.Y., and L. Ma, "*Char-Enhanced Reburning of Nitrogen Oxide*," Presented at the Annual meeting of the American Institute of Chemical Engineers, Paper #78k, Miami Beach, Florida, November 12-17, 1995.

Chen, W.Y., and L.T. Fan, "*Modeling Fluctuations of Particulate Process during Combustion*," Presented at the Sixth International Conference on Numerical Combustion, Society for Industrial and Applied Mathematics, New Orleans, LA, March 4-6, 1996.

Chen, W.Y., "*Rates of Bark Pyrolysis and Combustion by Thermogravimetric Analysis*," Preprints of Div. of Fuel Chemistry, Am. Chem. Soc., **41**(1), 22-26 (1996); Presented at the American Chemical Society Meeting, New Orleans, LA, March 24-28, 1996.

Chen, W.Y., "*Role of Char during Reburning of Nitrogen Oxide*," Presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Pittsburgh, PA, June 4-5, 1996.

Chen, W.Y., "*Heterogeneous Reburning of Nitrogen Oxide*," Proceedings of the 1996 Chinese American Academic and Professional Convention, pp.4.19.1- 4.19.4, Ottawa, Canada, June, 29 - July 2, 1996.

Chen, X.Y., W.Y. Chen, A.H. Hikal, B.C. Shen, and L.T. Fan, "*Modeling Fluctuations during Controlled Drug Release*," Proceedings of the Fifth World Congress of Chemical Engineering, San Diego, CA, Volume 2, pp.834-839, July 14-18, 1996.

Chen, W.Y., "*Effects of Oxidants on NO Reduction on Chars of Different Origins*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper#122v, Chicago, Illinois, November 10-15, 1996.

Chen, W.Y., "*Lignite-Based Material for Environmental Cleanup*," presented at the Annual Meeting of the Mississippi Academy of Science, Biloxi, Mississippi, February 20-21, 1997.

Chen, W.Y., and L.T. Fan, "*Modeling Fluctuations during Particulate Agglomeration*," presented at the Annual Meeting of the Mississippi Academy of Science, Biloxi, Mississippi, February 20-21, 1997.

Chen, W.Y., "*Heterogeneous Reburning of Nitrogen Oxide*," Journal of Overseas Chinese Environmental Engineers and Scientists Association, Vol. 14, #1, pp.19-21 (1997).

Bai, M., and W.Y. Chen, "*Applications of Master Equation Approach to Sediment Transport Research - Einstein's Model Revisited*," Presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 10, 1997.

Tang, L., and W.Y. Chen, "*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," Presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 10, 1997.

Zhang, Z., and W.Y. Chen, "*Nitrous Oxide Reduction by Coals and Chars*," Presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 10, 1997.

Milum, J.L., and W.Y. Chen, "*Monte Carlo Simulation of Char Gasification*," Presented at the Sigma Xi/Undergraduate Student Poster Symposium, the University of Mississippi, April 10, 1997.

Kulkarni, A., and W.Y. Chen, "*Stochastic Modeling of Char Gasification*," Presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 10, 1997.

Chen, W.Y., L.T. Fan, and M.T. Bai, "*Applications of Master Equation Approach to Sediment Transport Research - Einstein's Model Revisited*," Proceedings of the Conference on

Management of Landscapes Disturbed by Channel Incision, Oxford, Mississippi, pp.911-916, May 19-22, 1997.

Chen, W.Y., and L. Tang, "*Parameters, Kinetics and Mechanisms of Heterogeneous Reburning*," Proceedings of the 23rd Biennial Conference on Carbon, pp.384-385, State College, Penn., July 13-18, 1997.

Chen, W.Y., A. Kulkarni, J.L. Milum, and L.T. Fan, "*Stochastic Modeling of Carbon Gasification*," Proceedings of the 23rd Biennial Conference on Carbon, pp.398-399, State College, Penn., July 13-18, 1997.

Chen, W.Y., and X. Zhang, "*N_2O Reduction by Coals and Chars*," Proceedings of the 23rd Biennial Conference on Carbon, pp.364-365, State College, Penn., July 13-18, 1997.

Lin, L., and W.Y. Chen, "*Carrousel Activated Sludge Process for Leachate*," Proceedings of the Thirteenth International Conference on Solid Waste Technology and Management, Volume 1, Philadelphia, PA, November 16-19, 1997.

Fan, L.T., M.T. Bai, and W.Y. Chen, "*Modeling Bed-Load Transport by Master Equation Approach*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #129a, Los Angeles, CA, November, 16-21, 1997; also in *"Topical Conference Preprints, Fluidization and Fluid-Particle Systems*," American Institute of Chemical Engineers, pp.75-79, November, 1997.

Chen, W.Y., and L. Tang, "*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #185i, Los Angeles, CA, November, 16-21, 1997.

Chen, W.Y., and L. Tang, "*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #187u (invited), Los Angeles, CA, November, 16-21, 1997.

Chen, W.Y., A. Kulkarni, J.L. Milum, and L.T. Fan, "*Dynamics of Carbon Oxidation - Effects of Cluster Size on Fluctuations*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #275f, Los Angeles, CA, November, 16-21, 1997.

Chen, W.Y., and X. Zhang, "*N_2O Reburning by Various Volatile and Solid Fuels*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #187h, Los Angeles, CA, November, 16-21, 1997.

Milum, J.L., and W.Y. Chen, "*Monte Carlo Simulation of Gasification of Disordered Char*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #145g, Los Angeles, CA, November, 16-21, 1997.

Chou, S.T., L.T. Fan, W.Y. Chen, M.T. Bai, and J.P. Hsu, *"Effects of the Size-Dependent Growth Rate on Fluctuations of the Transient Crystal-Size Distribution in a Batch Crystallizer*," Proceedings of the International Conference on Mixing and Crystallization," S. Shaliza and B. Sen Gupta ed., Tioman Island, Malaysia, pp.P-1~P-12, April 22-25, 1998.

Fan, L.T., S.T. Chou, W.Y. Chen, M.T. Bai, and J.P. Hsu, "*Modeling Fluctuations in the Growth Rate of a Single Crystal*," in *"Mixing and Crystallization*," Proceedings of the International Conference on Mixing and Crystallization," S. Shaliza and B. Sen Gupta ed., Tioman Island, Malaysia, pp.10-1-1~10-1-12, April 22-25, 1998.

Bai, M.T., and W.Y. Chen, "*Monte Carlo Simulation of Crystallization Dynamics*," presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 2, 1998.

Tang, L., and W.Y. Chen, "*A New Technique for Feeding Particles at Low Feeding Rate*," presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 2, 1998.

Chen, W.Y., and L. Tang, "*Further Investigation of Heterogeneous Reburning*," presented at the 5th Mainland-Taiwan Environmental Protection Seminar, Nanjing, China, May, 26-30, 1998.

Chen, W.Y., "*Simplified Tubular Reactor Models for Rate Measurement*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #318at, Miami Beach, FL, November 15-20, 1998.

Chen, W.Y., M.T. Bai, L.T. Fan, and S.T. Chou, "*Applications of Monte Carlo Simulation for Modeling Particle Dynamics in A Batch Crystallizer*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #136i and 137j, Miami Beach, FL, November 15-20, 1998.

Tang, L., and W.Y. Chen, "*Improvements on A Particle Feeder for Bench-Scale Experiments Requiring Low Feed Rate*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #318ap, Miami Beach, FL, November 15-20, 1998.

Chen, W.Y., A.U. Kulkarni, J.L. Milum, and L.T. Fan, "*Stochastic Modeling of Carbon Oxidation*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #319e, Miami Beach, FL, November 15-20, 1998.

Chen, W.Y., P. Annamreddy, and L.T. Fan, "*Modeling Growth of Heterogeneous Tumor*," presented at the Annual Meeting of the Mississippi Academic of Science, Tupelo, Mississippi, February 25-26, 1999.

Chen, W.Y., P. Annamreddy, and L.T. Fan, "*Modeling Growth of Heterogeneous Tumor*," presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 27, 1999.

Chen, W.Y., and L. Gordji, "*A Nonlinear Model of Carbon Oxidation*," presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 27, 1999.

Chen, W.Y., P. Annamreddy, and L.T. Fan, "*Modeling Growth of a Heterogeneous Tumor*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Dallas, Texas, #236f, October 31 - November 5, 1999.

Chen, W.Y., L. Gordji, and L.T. Fan, "*A Nonlinear Model of Carbon Oxidation*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Dallas, Texas, #289f, October 31 - November 5, 1999.

Chen, W.Y., and L. Gordji, "*A Nonlinear Model of Carbon Oxidation*," presented at the Sigma Xi/Graduate Student Poster Symposium, the University of Mississippi, April 13, 2000.

Chen, W.Y., P. Annamreddy, and L.T. Fan, "*Stochastically Modeling the Growth of a Heterogeneous Tumor*," presented at the Second Annual Memphis Area Engineering Societies Conference, May 11, 2000.

Chen, W.Y., "*Parameters, Kinetics and Mechanisms of Heterogeneous Reburning*," presented at the Second Annual Memphis Area Engineering Societies Conference, May, 11, 2000.

Chen, W.Y., "*Role of Carbon Monoxide during Heterogeneous Reburning of Nitrogen Oxide*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #39g, Los Angeles, California, November 12-17, 2000; Proceedings of the Topical Conference on Energy and the Environment, pp.128-131.

Chen, W.Y., "*Modeling Oxidation of Carbon Sheet*," Presented at the third Annual Memphis Area Engineering Societies Conference, Memphis, TN, May 10, 2001.

Chen, W.Y., "*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Pittsburgh, PA, June 5-6, 2001.

Dickson, J.L., J.A. Hart, and W.Y. Chen, "*Construction and Visualization of VLE Envelopes in Mathcad*," presented at the Annual Meeting of the American Institute of Chemical Engineers, paper #219a, Reno, Nevada, November 4-9, 2001.

Dickson, J.L., J.A. Hart, and W.Y. Chen, "*Construction and Visualization of VLE Envelopes in Mathcad*," presented at the third Annual Memphis Area Engineering Societies Conference, May 10, 2002.

Chen, W.Y., "*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," presented at the First Combustion Technology University Alliance Workshop, US Department of Energy, Cambridge, Ohio, September 12-13, 2002.

Chen, W.Y., "*Estimation of Joule-Thomson Coefficient Based on Theory of Corresponding States*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #162a, Indianapolis, Indiana, November 3-8, 2002.

Fan, L.T., A.A. Argoti, S.T. Chou, and W.Y. Chen, *"Stochastic Modeling of Thermal Death Kinetics of a Cell Population: Revisited*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #159a, Indianapolis, Indiana, November 3-8, 2002.

Gidh, A.V., and W.Y. Chen, "*Design of Enzyme-Catalyzed Tubular Reactors with Axial Dispersion by Perturbation Methods*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #278f, Indianapolis, Indiana, November 3-8, 2002.

Bannerman, B.M., and W.Y. Chen, "*Monte Carlo Simulation of a Simple Nonlinear Epidemic Model*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #278g, Indianapolis, Indiana, November 3-8, 2002.

Chen, W.Y., and S. Bokka, "*Stochastic Modeling of Nonlinear Epidemiology*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #253b, Indianapolis, Indiana, November 3-8, 2002.

Smith, A., and W.Y. Chen, "*Solubility of Naphthalene in Supercritical Carbon Dioxide, Experiments and Thermodynamic Models*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #159-2k, Students' poster presentations, Indianapolis, Indiana, November 3-8, 2002 (received **Second Place Award**, the Separation Group of AIChE).

Chen, W.Y., "*Heterogeneous Reburning by Mixed Fuels*," Presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Pittsburgh, PA, June 3, 2003.

Chen, W.Y., and R. B. Mutyala, "*Bifurcation Analysis of HIV-1 Dynamics in Vivo*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #107cp, San Francisco, CA, November 16-21, 2003.

Chen, W.Y., and J. M. Coyne, "*Extraction of Natural Products by Supercritical Carbon Dioxide*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #313f, San Francisco, CA, November 16-21, 2003.

Chen, W.Y., "*Heterogeneous Reburning of Nitrogen Oxide*," Proceedings of the 4-th Asia-Pacific Conference on Combustion, Nanjing, Peoples' Republic of China, pp.232-235, November 23-26, 2003.

Chen, W.Y., and R. B. Mutyala, "*HIV-1 Dynamics in Vivo under Drug Therapy*," presented at the Sixth Annual Memphis Area Engineering and Sciences Conference, Memphis, TN, May 12, 2004.

Chen, W.Y., and B. B. Gathitu, "*Effective Catalysts for Efficient Reburning*," presented at the Sixth Annual Memphis Area Engineering and Sciences Conference, Memphis, TN, May 12, 2004.

Chen, W.Y., and B. B. Gathitu, "*Design of Reburning Fuel*," presented at the Department of Energy's Conference on Reburning for NO_x Control, Morgantown, WV, May 18, 2004.

Chen, W.Y., and B. B. Gathitu, "*Design of Reburning Fuel*," presented at the Thirtieth International Symposium on Combustion, Paper 2F2-04, p.160 of the Abstract Book, Chicago, Illinois, July 25-30, 2004.

Chen, W.Y., T. W. Taylor, and S. L. Wan, "*Surface Oxides on Young Chars*," presented at the Thirtieth International Symposium on Combustion, Paper 5F4-16, p.436 of the Abstract Book, Chicago, Illinois, July 25-30, 2004.

Chen, W. Y., *"Stochastic Modeling of the Growth of Heterogeneous Tumor*," Special Session on Theory and Models in Biomedicine, WSEAS International Conference on Mathematical Biology and Ecology, Corfu Island, Greece, August 17-19, 2004.

Chen, W.Y., and B. B. Gathitu, "*Design of Reburning Fuel*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #548c, Austin, TX, November 7-14, 2004.

Chen, W.Y., T. W. Taylor, and S. Wan, "*Surface Oxides on Young Chars*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #548f, Austin, TX, November 7-14, 2004.

Chen, W.Y., and B. B. Gathitu, "*Design of Reburning Fuels*," presented at the First Annual Intellectual Property Forum and Technology Expo, Jackson, Mississippi, November 30 - December 1, 2004.

Gathitu, B.B., and W.Y. Chen, "*Design of Reburn Fuel*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 14, 2005 (**won one of the three best papers award in engineering**).

Gathitu, B.B., and W.Y. Chen, "*Post-Combustion Reduction of Nitrogen Oxide from Stationary and Mobile Sources*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 14, 2005.

Wan, S, and W.Y. Chen, "*Reaction of Young Chars with Oxygen*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 14, 2005.

Liu, J., and W.Y. Chen, "*Development of Totally Predictive Models for Supercritical Fluid Extraction of Natural Products*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 14, 2005.

Chen, W.Y., "*Heterogeneous Reburning by Mixed Fuels*," presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Pittsburgh, PA, June 7-8, 2005.

Chen, W.Y., and B. B. Gathitu, "*Heterogeneous Reburning by Mixed Fuels*," presented at the 5th International Symposium on Multiphase Flow, Heat and Mass Transfer, and Energy Conversion, Xian, China, July 3-8, 2005.

Chen, W.Y., and J. Liu, "*Predictive Models for Supercritical Fluid Extraction of High Molecular Weight Compounds*," presented at Celebration of 10th Anniversary of the Cochran Center, University of Mississippi, September 23, 2005.

Chen, W.Y., and J. Liu, "*Predictive Models for Supercritical Fluid Extraction of High Molecular Weight Compounds*," presented at the 14th Symposium on Separation Science and Technology for Energy Applications, Gatlinburg, TN, October 23 - 27, 2005.

Chen, W.Y., "*Analysis of Fluctuations of Lumped Kinetics in Reactors*," presented at the Annual Meeting of the American Institute of Chemical Engineers, paper #104c, Cincinnati, Ohio, October 30 to November 4, 2005.

Chen, W.Y., and B. B. Gathitu, "*Post-Combustion Reduction of Nitrogen Oxide from Stationary and Mobile Sources*," presented at the Annual Meeting of the American Institute of Chemical Engineers, paper #126e, Cincinnati, Ohio, October 30 to November 4, 2005.

Chen, W.Y., S. Wan, and G. Shi, "*Reaction of Oxygen with Young Chars and Contributions from Wall Reactions*," presented at the Annual Meeting of the American Institute of Chemical Engineers, paper #289ak, Cincinnati, Ohio, October 30 to November 4, 2005.

Chen, W.Y., and J. Liu, "*Totally Predictive Models for Supercritical Fluid Extraction of Natural Products*," presented at the Annual Meeting of the American Institute of Chemical Engineers, paper #524a, Cincinnati, Ohio, October 30 to November 4, 2005.

Chen, W.Y., A.K. Mohammed, and M.C. Mossing, "*Stochastic Modeling of Genetic Toggle Switch*," presented at the Joint 57th Southeast - 61st Southwest Regional Meeting, paper #156, Memphis, TN, November 1-4, 2005.

Wan, S., G. Shi, and W.Y. Chen, *"Reactions of Commonly Used Tubes and Supporting Materials in the Study of Surface Oxides on Chars at High Temperatures*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 4, 2006.

Mohammed, A.K., W.Y. Chen, and M.C. Mossing, "*Stochastic Modeling of Genetic Toggle Switch*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 4, 2006.

Chen, W.Y., "*Heterogeneous Reburning by Mixed Fuels*," presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Pittsburgh, PA, June 6-7, 2006.

Chen, W.Y., "*Effective Reduction of NO for Coal-Fired Boilers by Mixed, Multi-Functional Agents*," Proceedings of the Sino-American Technology and Engineering Conference, Beijing, China, pp.53-60, October 16-24, 2006.

Chen, W.Y., S. Wan, and G. Shi, *"Reactions of Commonly Used Tubes and Supporting Materials in the Study of Surface Oxides on Chars at High Temperatures*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #373d, **SW earned travel award from AIChE for this presentation**, San Francisco, CA, November 12-17, 2006.

Chen, W.Y., A.K. Mohammed, and M.C. Mossing, "*Stochastic Modeling of Genetic Toggle Switch*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #302x, San Francisco, CA, November 12-17, 2006.

Chen, W.Y., "*Reduction of NO from Coal-Fired Boilers*," Journal of Overseas Chinese Environmental Engineers and Scientists, **23**(2), 51-56, 2006.

Chen, W.Y., S. Wan, and G. Shi, "*Impact of Reactor Materials in the Study of Stable Surface Oxides on Chars at High Temperatures*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, March 26, 2007.

Chen, W.Y., G. Shi, and S. Wan, "*Oxidation of Young Chars Derived from Coals*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, March 26, 2007.

Su, Y., Gathitu, B.B., and W.Y. Chen, "*Cost-Effective and Efficient Method for NO Reduction*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, March 26, 2007.

Chen, W.Y., S. Wan, and G. Shi, "*Wall Reactions in Study of Stable Surface Oxides on Chars at High Temperatures*," presented at the Mid-South Area Engineering and Sciences Conference, Oxford, MS, May 17-18, 2007.

Chen, W.Y., G. Shi and S. Wan, "*Stable Surface Oxides on Young Chars Derived from Coals*," presented at the Mid-South Area Engineering and Sciences Conference, Oxford, MS, May 17-18, 2007.

Su, Y., Gathitu, B.B., and W.Y. Chen, "*Novel Reburning using Wastes*," to be presented at the Mid-South Area Engineering and Sciences Conference, Oxford, MS, May 17-18, 2007.

Chen, W.Y., "*Heterogeneous Reburning by Mixed Fuels*," presented at the University Coal Research Contractors' Review Conference, the U.S. Department of Energy, Pittsburgh, PA, June 5-6, 2007.

Su, Y., Gathitu, B.B., and W.Y. Chen, *"Cost-Effective Reburning by Natural Gas Substitutes*," Proceedings of the 2007 International Conference on Coal Science and Technology, Paper #3A3, 7 pages, Nottingham, United Kingdom, August 28-31, 2007.

Su, Y., Gathitu, B.B., and W.Y. Chen, "*Reburning by Mixed Fuels of Waste Materials*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, Utah, November 4-9, 2007.

Chen, W.Y., G. Shi and S. Wan, "*Stable Surface Oxides on Coal-Derived Chars*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, Utah, November 4-9, 2007.

Su, Y., Gathitu, B.B., and W.Y. Chen, *"Efficient Reburning by Multi-Functional Mixed Fuels*," Proceedings of the 6th International Symposium on Coal Combustion, Wuhan, P.R. China, pp.558-564, December 1-4, 2007.

Shi, G., S. Wan, and W.Y. Chen, "*Reactivities of Young Chars at High Temperature*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 16, 2008.

Wan, S., G. Shi, and W.Y. Chen, *"The Origins of Oxides on Young Chars Derived from Coals*,"presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 16, 2008.

Su, Y., Gathitu, B.B., and W.Y. Chen, "*Effective Reburning by Novel Selection of Mixed Fuels*," Proceedings of the 12th Mainland-Taiwan Environmental Protection Conference (MTEPC) Kaohsiung, Taiwan, Volume II, pp.4-135 - 4.140, October 20-26, 2008.

Wan, S., W.Y. Chen, and G. Shi, *"Catalytic Effects of Minerals Matters on Stable Surface Oxides and Oxidation Rate in the Early Stage of Coal Combustion*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #265a, Philadelphia, Pennsylvania, November 16-21, 2008.

McClure, M., Gathitu, B.B., and W.Y. Chen, "*Structure Change of Coals after Solvent Treatment*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Philadelphia, Pennsylvania, November 16-21, 2008.

Webster, D., W.Y. Chen, and S. Wan, *"Effects of Flue Gas Recycle on Residence-Time Distribution and NO Reduction*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Philadelphia, Pennsylvania, November 16-21, 2008.

Chen, W.Y., "*Climate Change - Causes, Impacts and Solutions*," presented at the 2009 Taiwan-US Conference on Environmental Protection and Recycling, Chinese-American Academic and Professional Association in Southeastern United States, Atlanta, GA, July 10-12, 2009.

Chen, W.Y., and B.B. Gathitu, "*Changes in Structures and Combustion Behaviors of Coals after Supercritical CO_2 Treatment*," presented at the 2009 Wuhan International Conference of Environment, Wuhan, China, October 15-18, 2009.

Gathitu, B.B., W.Y. Chen, and M.C. McClure "*Effects of Coal Interaction with Supercritical CO_2: Physical Structure*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #558b, Nashville, Tennessee, November 8-13, 2009.

Chen, W.Y., G. Shi, and B.B. Gathitu, "*Effects of Coal Interaction with Supercritical CO_2: Chemical Structure*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #67f, Nashville, Tennessee, November 8-13, 2009.

Chen, W.Y., and S. Wan, *"Effects of Gas Residence Time on NO Reduction in Oxy-Coal Combustion*," presented at the Annual Meeting of the American Institute of Chemical Engineers, #267e, Nashville, Tennessee, November 8-13, 2009.

Gathitu, B.B., and W.Y. Chen, "*Changes in Structures and Combustion Behaviors of Coals after Supercritical CO_2 Treatment*," presented at the 13rd Mainland-Taiwan Environmental Protection Conference (MTEPC), Chongqing, China, April, 23-25, 2010.

Chen,W.Y., G. Shi, B.B. Gathitu, "*Chemical Modification of Coals by Supercritical CO_2*," presented at the First Global Chinese Environmental Protection Forum, Shanghai, China, May 5-7, 2010.

Chen,W.Y., G. Shi, B.B. Gathitu, "*Chemical Modification of Coals by Supercritical CO_2*," presented at the Joint Workshop of the Overseas Chinese Environmental Engineers and Scientists Association and East China University of Science and Technology, Shanghai, China, May 8-10, 2010.

Chen,W.Y., G. Shi, B.B. Gathitu, "*Chemical Modification of Coals by Supercritical CO_2*," for presentation at the Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, Utah, November 7-12, 2010.

PUBLISHED REPORTS

Chen, W.Y., "*Flash Hydrogenation of Coal*," Ph.D. Dissertation, The City University of New York, 1981.

Chen, W.Y., "*Enhanced Coal Liquefaction with Ammonia and Amines in Single and Binary Solvent System*," Seven quarterly reports and one final report to U.S. Department of Energy, DE-PC/60046, 1983-1985.

Chen, W.Y., "*Characterization of Steam Treated Coals*," Final Report to U.S. Department of Energy, DE-AP21-87MC05014, 1987.

Chen, W.Y., "*Determination of Enthalpies and Heat Capacities of Raw Shales, Typical Shale Minerals, Retorted Shales, Combusted Spent Shales, and Kerogens*," Final Report to U.S. Department of Energy, DE-AP21-86MC04569.

Chen, W.Y., T.W. Lester, L.M. Babcock, T.E. Burch, and F.R. Tillman, "*Formation and Destruction of Nitrogen Oxide during Coal Combustion*," Seven quarterly reports, 23 monthly reports and one final report submitted to US DOE, 1988-1990.

Sterling, A.M., and W.Y. Chen, "*Enhancement of Soot Yield by Carbon Monoxide*," Progress Report submitted to the Center for Energy Studies, the Louisiana State University, July 12, 1989, August, 1990.

Chen, W.Y., K. Subramanian, and X. Cui, "*The Effects of Calcium Oxide in Lignites on the Reductions of Nitrogen Oxides and Nitrous Oxide during Coal Combustion*," Two Semi-Annual Reports and One Final Report to Mississippi Mineral Resources Institute, U.S. Bureau of Mines Contract G1114128 and MMRI Project Number 92-9F, 1992.

Chen, W.Y., and D. Graves, "*Control of Trace Constituent Emissions during Wood Waste Combustion. Phase I. Characterization of Sources, Chemical Forms, and Dispositions,"* Quarterly Reports and Final Report to the Mississippi Chemical Corporation, MCC Contract 501T-910016, 1992.

Chen, W.Y., "*Nitrous Oxide Formation and Destruction Mechanisms during Fluidized Bed Coal Combustion*," Semiannual reports and annual reports to the U.S. Department of Energy's EPSCoR Program, 1992-1995.

Chen, W.Y., and L. Ma, "*Role of Lignite Char during Reburning of Nitrogen Oxides*," Two Semi-Annual Reports and One Final Report to Mississippi Mineral Resources Institute, U.S. Bureau of Mines Contract G1134228, 1993-1994.

Chen, W.Y., "*Role of Char during Reburning of Nitrogen Oxide*," First Quarterly Reports under U.S. Department of Energy Grant DE-FG22-93PC93227, 1994.

Chen, W.Y., L.T. Fan, L. Ma, and M. Yashima, "*Role of Char during Reburning of Nitrogen Oxide*," Second to Sixth Quarterly Reports under U.S. Department of Energy Grant DE-FG22-93PC93227, 1994-1995.

Chen, W.Y., L.T. Fan, Te-Chang Lu, and M. Yashima, "*Role of Char during Reburning of Nitrogen Oxide*," Seventh, Eighth, and Ninth Quarterly Reports under U.S. Department of Energy Grant DE-FG22-93PC93227, 1995-1996.

Chen, W.Y., L.T. Fan, Te-Chang Lu, L. Tang, and F. Meng, "*Role of Char during Reburning of Nitrogen Oxide*," Tenth, Eleventh, and Twelfth Quarterly Reports under U.S. Department of Energy Grant DE-FG22-93PC93227, 1996.

Chen, W.Y., L.T. Fan, Te-Chang Lu, L. Tang, L. Ma, M. Yashima, and F. Meng, "*Role of Char during Reburning of Nitrogen Oxide*," Final Report under U.S. Department of Energy Grant DE-FG22-93PC93227, October, 1996.

Chen, W.Y., L.T. Fan, and M.T. Bai, "*Stochastic Modeling of Sediment Transport*," Annual Report to the Center for Computational Hydroscience and Engineering, University of Mississippi, June 9, 1997.

Chen, W.Y., "*Lignite-Based Material for Environmental Cleanup*," Progress Report, The University of Mississippi, April, 1998.

Chen, W.Y., "*Char Deactivation in Flame Environments*," Annual Report to The National Science Foundation under Grant #CTS-0122504, July 30, 2003.

Chen, W.Y., "*Char Deactivation in Flame Environments*," Second Annual Report to The National Science Foundation under Grant #CTS-0122504, July 30, 2004.

Chen, W.Y., and B. B. Gathitu, "*Heterogeneous Reburning by Mixed Fuels, Phase I*," Final Report submitted to the University Coal Research Program, U.S. Department of Energy under grant DE-FG26-02NT41552, October, 2004.

Chen, W.Y., and B. B. Gathitu, "*Heterogeneous Reburning by Mixed Fuels, Phase II*," Monthly Reports submitted to the University Coal Research Program, U.S. Department of Energy under grant DE-FG26-02NT42183, Since October, 2004.

Chen, W.Y., "*Char Deactivation in Flame Environments,*" Third Annual Report to The National Science Foundation under Grant #CTS-0122504, July 30, 2005.

Chen, W.Y., "*Char Deactivation in Flame Environments,*" CBET Annual Nugget to The National Science Foundation under Grant #CTS-0122504, January, 2006.

Chen, W.Y., "*Char Deactivation in Flame Environments,*" Fourth Annual Report to The National Science Foundation under Grant #CTS-0122504, July 30, 2006.

Chen, W.Y., "*Char Deactivation in Flame Environments*," CBET Annual Nugget to The National Science Foundation under Grant #CTS-0122504, January 25, 2007.

Chen, W.Y., "*Char Deactivation in Flame Environments,*" Fifth Annual Report to The National Science Foundation under Grant #CTS-0122504, March, 2007.

Chen, W.Y., "*Char Deactivation in Flame Environments,*" Final Report to The National Science Foundation under Grant #CTS-0122504, March, 2008.

Chen, W.Y., and B. B. Gathitu, "*Heterogeneous Reburning by Mixed Fuels, Phase II*," Fianl Report submitted to the University Coal Research Program, U.S. Department of Energy, DE-FG26-04NT42183, June 30, 2009.

INVITED SEMINARS AND LECTURES

"*Coal Hydropyrolysis*," Department of Chemical Engineering, University of Missouri - Columbia, July 14, 1980.

"*Coal Hydropyrolysis*," Department of Chemical Engineering, New Jersey Institute of Technology, February 12, 1982.

"*Coal Hydropyrolysis*," Department of Chemical Engineering, West Virginia University, May 26, 1982.

"*Coal Hydropyrolysis*," Department of Chemical Engineering, Tulane University, November, 1983.

"*Coal Liquefaction*," University of North Dakota Energy Research Center, October 29, 1984.

"*Coal Liquefaction*," Department of Chemical Engineering, Tulane University, January, 1985.

"Nitrogen Oxide Reburning with Hydrocarbon Fuels," University of Mississippi, January 11, 1990.

"Nitrogen Oxide Reburning with Hydrocarbon Fuels - the Effects of Mineral Matters," Sandia National Laboratories, Livermore, California, April 25, 1991.

"Nitrogen Oxide Reburning with Hydrocarbon Fuels - the Effects of Mineral Matters," Auburn University, Auburn, Alabama, January 21, 1992.

"Nitrogen Reaction Chemistry during Coal Combustion," Massachusetts Institute of Technology, July 31, 1992.

"Air Pollution - Sources, Effects and Control," University of Mississippi, February 19, 1993.

"Formation and Destruction of Nitrogen Oxide during Coal Combustion," Tunghai University, Taichung, Taiwan, December 28, 1993.

"Stochastic Modeling," "Emissions of Nitrogen Oxide during Coal Combustion," and "*Particle Size Distribution after Primary Fragmentation of Coal: an Application of the Maximum Entropy Formalism*," National Cheng-Kung University, Tainan, Taiwan, December 29, 1993.

"Emissions of Nitrogen Oxide during Coal Combustion," Industrial Technology Research Institute, Hsinchu, Taiwan, December 30, 1993.

"Nitrogen Reaction Chemistry during Coal Combustion," Christian Brother University, March 31, 1994.

"Air Pollution - Sources, Effects and Control," University of Mississippi, September 1, 1994.

"*Stochastically Modeling of Particle Dynamics by Master Equation Approach*," National Sedimentation Laboratory, Oxford, Mississippi, April 6, 1995.

"*Role of Char during Reburning of Nitrogen Oxide*," Prairie View University, August 10, 1995.

"*Stochastically Modeling of Particle Dynamics*," Center for Computational Hydroscience and Engineering, University of Mississippi, August 25, 1995.

"Air Pollution - Sources, Effects and Control," University of Mississippi, August 31, 1995.

"*Mechanisms of Nitrogen Oxide Formation and Destruction*," Tsinghua University, Beijing, China, September 22, 1995.

"*Mechanisms of Nitrogen Oxide Formation and Destruction*," Xian Jiaotong University, Xian, China, September 25, 1995.

"*Applications of Stochastic Theory to Sediment Transport Research*," Center for Computational Hydroscience and Engineering, University of Mississippi, June 21, 1996.

"Air Pollution - Sources, Effects and Control," University of Mississippi, August 22, 1996.

"*Stochastically Modeling of Particle Dynamics*," Mathematics Department, University of Mississippi, October 16, 1996.

"*Heterogeneous Reburning for the Control of Nitrogen Oxide During Stationary Combustion*," The City College of New York, May 11, 1998.

"*Heterogeneous Reburning for the Control of Nitrogen Oxide During Stationary Combustion*," The University of Arkansas, Fayetteville, Arkansas, March 11, 1999.

"*Stochastically Modeling of Particle Dynamics*," Department of Civil Engineering, University of Mississippi, February 24, 2000.

"*Heterogeneous Reburning for the Control of Nitrogen Oxide During Stationary Combustion*," Tunghai University, Taichung, Taiwan, May 22, 2000.

"*Heterogeneous Reburning for the Control of Nitrogen Oxide During Coal Combustion*," Department of Chemical Engineering, University of Mississippi, September 1, 2000.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," Department of Mechanical Engineering and Energy Processes, Southern Illinois University at Carbondale, May 7, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," Department of Chemical Engineering, Tulane University, October 24, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," Energy and Environmental Research Center, University of North Dakota, October 31, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," College of Energy and Power Engineering, Xian Jiaotong University, Xian, China, November 28, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," Thermal Power Research Institute, Xian, China, December 1, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning*," Dongfang Boiler Works, Zigong, Sichuan, China, December 3, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning,*" Wuhan Boiler Works, Wuhan, China, December 9, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning,*" Donghua University, Shanghai, China, December 11, 2003.

"*Variables, Kinetics and Mechanisms of Heterogeneous Reburning,*" Zhejiang University, Hangzhou, China, December 12, 2003.

"*Activities of the Thermal Science, Applied Mathematics and Separation Science at the University of Mississippi*," U.S. Army Engineer Research and Development Center (ERDC), Geotechnical and Structures Laboratory (GSL), Vicksburg, Mississippi, September 24, 2004.

"*Effective Reduction of NO for Coal-Fired Boilers by Mixed, Multi-Functional Agents,*" Donghua University, Shanghai, China, December 14, 2005.

"*Development of Totally Predictive Models for Supercritical Fluid Extraction of Natural Products,*" Donghua University, Shanghai, China, December 19, 2005.

"*Stochastic Analysis of Nonlinear Biological and Ecological Processes,*" Donghua University, Shanghai, China, December 21, 2005.

"*Effective Reduction of NO for Coal-Fired Boilers by Mixed, Multi-Functional Agents,*" Zhejiang University, Hangzhou, China, December 23, 2005.

"*Effective Reduction of NO for Coal-Fired Boilers by Mixed, Multi-Functional Agents,*" Shanghai Jiaotong University, Shanghai, China, December 26, 2005.

"*Development of Predictive Models for Extraction by Supercritical Fluids,*" Chemistry and Biochemistry, University of Mississippi, February 23, 2006.

"*Effective Reduction of NO for Coal-Fired Boilers by Mixed, Multi-Functional Agents,*" Mississippi State University, Mississippi State, MS, October 6, 2006.

"*Coal Combustion Research at the University of Mississippi,*" University of Wyoming, Laramie, Wyoming, MS, February 18, 2007.

"Reduction of Nitrogen Oxide for Coal-Fired Boilers and New Initiative on Mitigating Global Warming" Industrial Technology Research Institute, Hsinchu, Taiwan, December 27, 2007.

"Reduction of Nitrogen Oxide for Coal-Fired Boilers and New Initiative on Mitigating Global Warming," National Cheng-Kung University, Tainan, Taiwan, December 28, 2007.

"Activities of the Climate Change Study Group at the University of Mississippi," Focus the Nation, Roots and Shoots Chapter, University of Mississippi, January 31, 2008.

"*Stochastic Analysis of Nonlinear Biological and Ecological Processes*," Department of Biology, University of Mississippi, October 10, 2008.

"*Changes in Structures and Combustion Behaviors of Coals after Supercritical CO_2 Treatment*," Shanghai Jiaotong University, Shanghai, China, October 12, 2009.

"*Changes in Structures and Combustion Behaviors of Coals after Supercritical CO_2 Treatment*," Zhejiang University, Hangzhou, China, May 4, 2010.

"*Engineers without Borders*," Tunghai University, Taichung, Taiwan, May 13, 2010.

"*Engineers without Borders*," National Pingtung University of Science and Technology, Pingtung, Taiwan, May 14, 2010.

"*Mitigating Climate Change*," USDA-ARS-National Sedimentation Laboratory, Oxford, MS, May 28, 2010.

"*Engineering for Disadvantaged Communities: An Update on Service Learning and Engineers Without Borders*," with Dr. Cristiane Queiroz Surbeck, Regional Meeting, North MS American Society for Civil Engineers, Southaven, MS, June 1, 2010.

"*Changes in Structures and Combustion Behaviors of Coals after Supercritical CO_2 Treatment*," Akron University, Ohio, September 16, 2010.

SOCIETY MEMBERSHIPS

Student Chapter of the Engineers Without Borders, University of Mississippi (2010-)
Founder, Faculty Advisor, and Member

American Institute of Chemical Engineers (since 1975, now a life member)
- member of the Division of Catalysis and Reaction Engineering
- member of the Computational Molecular Science and Engineering Forum
- member of the Computing and Systems Technology Division
- member of the Fuels and Petrochemicals Division
- member of the Nanoscale Science and Engineering Forum
- member of the Separation Division

American Chemical Society (1975-)
- member of Division of Fuel Chemistry

Sigma Xi (1975-)

The Combustion Institute (1986-)

Engineers Without Borders (2010-)

American Society for Engineering Education (1990-1995, 2002)

Chinese Institute of Engineers (1994-)

Overseas Chinese Environmental Engineers and Scientists Association (1994-)

American Carbon Society (1997- 1998)

Air and Waste Management Association (1986-1990)

Society for Industrial and Applied Mathematics (1986-1989)

American Society for Microbiology (1986-1988)

Mississippi Academy of Science (1996-1997)

HONORS

Outstanding Environmental Service Award, Overseas Chinese Environmental Engineers and Scientists Association, April, 2010.

School of Engineering Senior Faculty Research Award, 2009.

Distinguished Alum Lecturer, Tunghai University, October, 2008.

School of Engineering Outstanding Teacher Award, 2006.

School of Engineering Senior Faculty Research Award, 2003.

Sigma Xi, since 1975.

Awarded Outstanding Research Achievement Award by the management of Gulf South Research Institute, 1984.

Who's Who among Asian Americans, Gale Research Inc., Detroit, Michigan, 1994-.

Who's Who Worldwide, Who's Who Worldwide Registry, Inc., Lake Success, New York, 1994-.

Who's Who in the South and Southwest, Marquis Who's Who, New Providence, New Jersey, 1995-.

Who's Who in Science and Engineering, Marquis Who's Who, New Providence, New Jersey, 1996-.

Who's Who in America, Marquis Who's Who, New Providence, New Jersey, 2000-.

Who's Who in the World, Marquis Who's Who, New Providence, New Jersey, 1996-.

Who's Who in Finance and Business, Marquis Who's Who, New Providence, New Jersey, 2005-.

Who's Who in American Education, 2002-.

Lexington Who's Who, Garden City, New York, 2000-.

Dictionary of International Biography, Cambridge, England, 1996-.

Men of Achievement, Cambridge, England, 1996-.

The International Directory of Distinguished Leadership, American Biographical Institute, Inc., 1995-.

International Who's Who of Contemporary of Achievement, American Biographical Institute, 1997-.

Who's Who in the 21st Century, Cambridge, England, 2001-.

American Men and Women of Science, 1998-.

Outstanding People of the 20th Century, 1998-.

Outstanding Scientists of the 20th Century, 2000-.

Reference Asia: Asia's Who's Who of Men and Women of Achievement, 1998-.

Asia/Pacific Who's Who, New Delhi, India, 2004-.

Asian/American Who's Who, New Delhi, India, 2004-.

Afro-Asian Who's Who, New Delhi, India, 2006-.

America's Registry of Outstanding Professionals, New York, 2005-.

Distinguished and Admirable Achievers, Delhi, India, 2005-.

STUDENT AWARDS UNDER MY GUIDANCES

Hailey, A., **Barry Goldwater Scholarship** award, April, 2010.

Hailey, A., G. Shi, W.Y. Chen, N.I. Hammer, "New Catalysts for the Photocatalytic Conversion of Carbon Dioxide to Hydrocarbons," Poster paper competition, Mississippi Experimental Program to Stimulate Competitive Research, Jackson, MS, April 15, 2010. (Anna Hailey won the First-Place Award in Computational Chemistry)

Tsai, E., "Photocatalytic Conversion of CO_2 to Hydrocarbons," Second Place Award in Chemistry, Synopsys Silicon Valley Science and Technology Championship, California, April 7, 2010; Evaline Tsai also received 3 other special awards from the same competition, including NASA award.

Wan, S., G. Shi, and W.Y. Chen, *"Reactions of Commonly Used Tubes and Supporting Materials in the Study of Surface Oxides on Chars at High Temperatures*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 4, 2006. (**Mr. Shaolong Wan earned the first-place award).**

Chen, W.Y., S. Wan, and G. Shi, *"Reactions of Commonly Used Tubes and Supporting Materials in the Study of Surface Oxides on Chars at High Temperatures*," presented at the Annual Meeting of the American Institute of Chemical Engineers, Paper #373d, **Mr. Shaolong Wan earned travel award from AIChE for this presentation**, San Francisco, CA, November 12-17, 2006.

Gathitu, B.B., and W.Y. Chen, "*Design of Reburn Fuel*," presented at the Sigma Xi Poster Symposium, the University of Mississippi, April 14, 2005 (**Mr. Benson Gathitu won one of the three best papers award in engineering**).

Smith, A., recipient of the Second Place Award by the Separations Group of the American Institute of Chemical Engineers, Students' poster presentations, Annual Meeting of the AIChE, Indianapolis, Indiana, November 3-8, 2002.

Zhang, Z., recipient of the outstanding student paper award at the Midwest-America Chinese Science and Technology Conference, Environmental Science and Engineering Session, St. Louis, Missouri, June 4-6, 1993.

Chen, X., recipient of the outstanding student paper award at the Midwest-America Chinese Science and Technology Conference, Poster Session, St. Louis, Missouri, June 4-6, 1993.

PROFESSIONAL ACTIVITIES

Visiting Professor, College of Environmental & Resource Sciences, Zhejiang University, Hangzhou, China, 2009-

Adjunct Professor, College of Environmental Science and Engineering, Donghua University, Shanghai, China, 2006-

Adjunct Professor, College of Energy and Power Engineering, Xian Jiaotong University, Xian, China, 2004- 2006.

Member, Advisory Committee, Department of Chemical Engineering, Tunghai University, Taichung, Taiwan, January, 2008 -

Overseas Reviewer, International Review of School of Environmental Science and Resource, Shanghai Jiaotong University, Peoples Republic of China, May, 2010.

Overseas Reviewer, Natural Science Foundation, Peoples Republic of China, June, 2010.

Overseas Reviewer, Chang-Jiang Scholars (State-funded Chaired Professors), Ministry of Education, Peoples Republic of China, October, 2009.

Overseas Reviewer, Chang-Jiang Scholars (State-funded Chaired Professors), Ministry of Education, Peoples Republic of China, March, 2009.

Overseas Reviewer, Chang-Jiang Scholars (State-funded Chaired Professors), Ministry of Education, Peoples Republic of China, October, 2007.

External Reviewer, faculty tenure and promotion, Louisiana Tech University, October, 2009.

External Assessor, faculty promotion, Universiti Sains Malaysia, June, 2009.

External Reviewer, faculty promotion, Jordan University of Science and Technology, July, 2008.

External Reviewer, faculty promotion, Zhejiang University, October, 2006.

External Reviewer, faculty tenure and promotion, University of Arkansas, 2000.

Founder and Member of the Organizing Committee, First Global Chinese Scientists Environmental Forum, Shanghai, China, May 5-7, 2010.

Member, International Advisory Committee of the 6th International Conference on Combustion, Incineration/Pyrolysis and Emission Control: Waste to Wealth, Kuala Lumpur, Malaysia, July 26-29, 2010.

Co-Chair, Joint Workshop of Shanghai Jiaotong University and Overseas Chinese Environmental Engineers and Scientists Association on Environmental Science and Engineering, Shanghai, China, October 12-13, 2009.

Member, International Advisory Committee of the 5th International Conference on Combustion, Incineration/Pyrolysis and Emission Control: Eco-conversion of Biomass and Waste, Chiang Mai, Thailand, December 16-19, 2008.

Chair, Session on Control of Air Pollutants, 12th Mainland-Taiwan Environmental Protection Conference, Kaohsiung, Taiwan, October 20-26, 2008.

Chair, Session on Alternative Fuels, Annual Meeting of the American Institute of Chemical Engineers, Philadelphia, PA, November 16-21, 2008.

Chair, Thematic Symposium on Advances in Fuel Sciences and Technology, 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008.

Chair, Thematic Symposium on Oxy-Fuel Combustion, 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008.

Chair of the Students' Paper Competitions, and *Chair* of the Sessions on Alternative Fuels, Mid-South Area Engineering and Science Conference, Oxford, Mississippi, May 17-18, 2007.

Co-Chair of the Award Committee, and Chair of the Attendance Committee, Asian American Engineer of the Year Award, Chinese Institute of Engineers - USA, Washington, DC, March 31, 2007.

Member, National Council, Chinese Institute of Engineers - USA, 2007-

Ex-Officio, Overseas Chinese Environmental Engineers and Scientists Association, 2010-2011.

President, Overseas Chinese Environmental Engineers and Scientists Association, 2009-2010.

Vice President, Overseas Chinese Environmental Engineers and Scientists Association, 2008-2009.

Secretary / Treasurer, Overseas Chinese Environmental Engineers and Scientists Association, 2007-2008.

Director, Board of Directors, Overseas Chinese Environmental Engineers and Scientists Association, 2006-2007.

Member, Editorial Committee of the Journal of the Overseas Chinese Environmental Engineers and Scientists 2006-

Member, International Advisory Committee of the 4th International Conference on Combustion, Incineration,/Pyrolysis and Emission Control, Kyoto University, Kyoto, Japan, September 26-29, 2006.

Member, International Scientific Committee of the 5th International Symposium on Multiphase Flow, Heat and Mass Transfer, and Energy Conversion, Xian, China, July 3-8, 2005.

Vice Chair, sessions on Reactions in Near and Supercritical Fluids, and on Developments in Chemical-Based Alternative Fuels, Annual Meeting of the American Institute of Chemical Engineers, Cincinnati, Ohio, October 30 to November 4, 2005.

Chair, sessions on Alternative Fuels I, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 12-17, 2006.

Chair, sessions on Alternative Fuels II, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 12-17, 2006.

Chair, sessions on Design, Analysis and Operations Under Uncertainty, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 12-17, 2006.

Chair, sessions on System Engineering Approaches in Biology I, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 12-17, 2006.

Co-Chair, sessions on System Engineering Approaches in Biology II, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA, November 12-17, 2006.

Member, International Advisory Committee of the 3rd International Conference on Combustion, Incineration,/Pyrolysis and Emission Control, Zhejiang University, Hangzhou, China, October 21-23, 2004.

Vice Chair, session on Developments in Chemical-Based Alternative Fuels, Annual Meeting of the American Institute of Chemical Engineers, Austin, Texas, November 7-12, 2004.

Member, International Editorial Committee for Chemical Engineering, Foxwell and Davies Italia srl, 2003- .

Chair, Sessions on Pollution Control and Chemical Kinetics, the 4-th Asia-Pacific Conference on Combustion, Nanjing, Peoples' Republic of China, November 23-26, 2003.

Ambassador, 6th World Congress of Chemical Engineering, Melbourne, Australia, September 23-27, 2001.

Member of the Technical Program Committee and Session Chair, the Second Annual Memphis Area Engineering Societies Conference, May 11, 2000.

Session Chair, International Conference on Management of Landscapes Disturbed by Channel Incision, May 20-22, 1997.

Director, Board of Directors, Overseas Chinese Environmental Engineer and Scientist Association, 1995-1996.

Session Chair, Sixth International Conference on Numerical Combustion, SIAM, March 4-6, 1996.

Judge, Student Poster Paper Session, Annual Meeting of the American Institute of Chemical Engineers, San Francisco, California (1994).

Organizer and Session Chair, Midwest-America Chinese Science and Technology Conference, St. Louis, Missouri, June 4-6, 1993.

Session Chair, Second Mainland-Taiwan Environmental Protection Seminar, Taipei, Taiwan, December 21-26, 1993.

Consultant, Gulf South Research Institute, Baton Rouge, Louisiana, October, 1988 - October, 1989.

Panelist, SBIR / STTR Panel on Chemical Processing & Reactor Design, National Science Foundation, Washington, DC, August 12, 2009.

Panelist, SBIR / STTR Panel on Coatings and Surfaces, National Science Foundation, Washington, DC, July 30, 2009.

Reviewer, Ralph Powe Junior investigator proposals, Oak Ridge Associated Universities, April, 2009.

Panelist, SBIR / STTR Panel on Nano-structured materials, Multi-functional Materials, National Science Foundation, Washington, DC, April 22, 2009.

Panelist, SBIR / STTR Panel on Surface Modification, National Science Foundation, Washington, DC, January 29, 2009.

Panelist, SBIR / STTR Panel on Biofuels, National Science Foundation, Washington, DC, July 31, 2008.

Reviewer, Division of Analytical and Surface Chemistry, National Science Foundation, Washington, DC, September, 2007.

Panelist, SBIR / STTR Panel on Coal and Carbon, National Science Foundation, Washington, DC, August 21, 2007.

Panelist, Combustion Panel, National Science Foundation, Washington, DC, January 8, 2007.

Panelist, Graduate Research Fellowship Program, National Science Foundation and American Society for Engineering Education, Washington, DC, February 10–12, 2006.

Reviewer, Thermal Science Program, National Natural Science Foundation of China, March, 2006.

Reviewer, Global Climate and Energy Project, Stanford University (2006).

Reviewer, National Science Foundation (1996, 1998, 2003).

Reviewer, U.S. Department of Energy, National Energy Technology Laboratory (2003).

Reviewer, U.S. Department of Energy, Pittsburgh Energy Technology Center (1984, 1987).

Reviewer, U.S. Department of Energy, Washington D.C. (1985, 1988, 1989, 1991, 1992).

Member of Panel and Superpanel, U.S. Environmental Protection Agency, Washington D.C. (1996).

Reviewer, State-wide review of proposals to the Dept. of Defense EPSCoR Program (1999).

Reviewer, proposals submitted to the Mississippi Alternative Energy Enterprise (2003).

Reviewer, one chapter of the textbook entitled "Methods of Applied Mathematics for Engineers and Scientists," Cambridge University Press, New York (2009).

Reviewer, two chapters of the textbook entitled "Engineering and Chemical Thermodynamics," Wiley (2005).

Reviewer, two chapters of the textbook entitled "Complete Business Statistics," McGraw-Hill (2005).

Reviewer, a 15-chapter textbook entitled "Applied Differential Equations for Engineers," Marcel Dekker, Inc. (2002).

Reviewer, five chapters of the textbook entitled "Applied Mathematics for Engineers," McGraw-Hill (1999).

Reviewer, four chapters of the textbook entitled "Applied Mathematics for Engineers," McGraw-Hill (1997).

Reviewer, Fuel (1984, 1998, 2002, 2006, 2007, 2/2008, 6/2008, 10/2009, 6/2010).

Reviewer, Microporous & Mesoporous Materials (2008; 5/2010).

Reviewer, Environmental Science and Technology (7/2006, 8/2006, 10/2006, 1/2007, 11/2008, 5/2009, 10/2009; 1/2010; 4/2010).

Reviewer, Energy and Fuels (1992, 2006, 11/2008, 5/2009, 12/2009, 3/2010).

Reviewer, Chemical Engineering Journal (1/2010).

Reviewer, Catalysis Today (12/2009).

Reviewer, Catalysis Communications (5/2007, 7/2007, 10/2007, 7/2008, 10/2008, 6/2009, 12/2009).

Reviewer, International Journal of Energy Research (5/2009, 12/2009 review article).

Reviewer, Asia-Pacific Journal of Chemical Engineering (11/2009).

Reviewer, Chemical Engineering Education (2004, 2006, 2007, 2009).

Reviewer, Industrial and Engineering Chemistry Research (1987, 1988, 1990, 1991, 1992, 1994, 1998, 1999, 5/2000, 9/2000, 2/2001, 2008, 9/2009).

Reviewer, Chemoshpere (7/2009, 9/2009).

Reviewer, Journal of Physical Chemistry (6/2009, 7/2009).

Reviewer, Combustion and Flame (5/2009).

Reviewer, A.I.Ch.E. Journal (3/1995, 7/1995, 1997, 2004, 2005, 2007, 1/2009).

Reviewer, Colloids and Surfaces B: Biointerfaces (1/2009).

Reviewer, Environmental Engineering Science (2007, 2/2008, 10/2008, 12/2008).

Reviewer, Fuel Processing Technology (1984, 8/2006, 9/2006).

Reviewer, Chemical Engineering Processing (2006).

Reviewer, Carbon (2005).

Reviewer, Journal of Molecular Modeling (2005).

Reviewer, Journal of Mathematical and Computer Modelling (2005).

Reviewer, Chemical Engineering Communication (2004).

Reviewer, Chemical Engineering Science (1994, 1995, 1996, 1997, 1998, 1999).

Reviewer, Industrial and Engineering Chemistry - Process Design and Development (1984).

Reviewer, Industrial and Engineering Chemistry - Product Research and Development (1983).

Reviewer, International Journal of Environment and Waste Management (2004)

Reviewer, Combustion Theory and Modelling, Institute of Physics, England, August (1997).

Reviewer, 27th International Association for Hydraulic Research Congress (1997).

Reviewer, Combustion Science and Technology (2000).

Reviewer, Journal of Energy Engineering (1991, 1995, 7/1996, 12/1996, 1999, 2000, 5/2001, 10/2001, 7/2002, 10/2002, 12/2002, 2003).

Reviewer, Journal of Professional Issues in Engineering Education and Practice (2001).

Reviewer, The Canadian Journal of Chemical Engineering (1994, 1999).

Reviewer, Journal of the Chinese Institute of Environmental Engineering (1994).

UNIVERSITY AND COMMUNITY SERVICES

Member, Innovative STEM Education Task Force, Appointed by Provost, and Chaired by Vice Chancellor for Research and Sponsored Program, May, 2010.

University of Mississippi Representative, Carbon Capture and Sequestration Committee, Mississippi Energy Policy Institute, 2009-

Member, Task Force of Energy, Environment and Sustainability, Office of the Chancellor, University of Mississippi, 2009-

Founder and Group Leader, Climate Change Study Group, University of Mississippi. The Group is offering courses, editing a 2-volume handbook, collaborating on research, and developing outreach programs. It has over 100 members around the world. 2007-

Faculty Senator, 2000-2004

Honors Day Committee, Member, 1990-2006, 2007- ; Chair, 1996-2006, 2007-

Library Council, Member, 1992-1994

Council of Sally McDonnell Barksdale Honors College, Member, 2004-

Tenure and Promotion Appeals Committee, Member, 2004-

Chinese Students Association, Co-Advisor, 2004-2005

Sabbatical Leave Review Committee, Alternate Member, 2004-

Graduate Council, Alternate Member, 2003-2005

Science Fair, Judge, 1992, 1993, 1994, 2003, 2008

Sigma Xi Student Poster Symposium, University of Mississippi, Judge, 4/14/2005, 4/4/2006, 3/26/2007, 4/16/2008

Panelist, Consequences of Climate Change: Policy, Law and Community, Environmental Law Society, University of Mississippi, April 23, 2009.

Founder and Faculty Advisor, Student Chapter of the Engineers without Boarders, (under establishment), 2006-

Five-Year Research Agreement between the University of Mississippi and Zhejiang University, Hangzhou, China, 2009-

School of Engineering Core Course Committees
- Member of ENGR310, Engineering Analysis I, 1992-2003
- Chair of ENGR310, Engineering Analysis I, 1996-2003

- Member of ENGR309, Introductory Mechanics, 1995-2002

School of Engineering Core Area Committees
- Chair of Advanced Engineering Mathematics, 2003-
- Member of Engineering Computation, 2003-

University of Mississippi Faculty Achievement Award Selection Committee; Member, 2002, 2003, 2004

Engineering Dean's Council on Promotion and Tenure, Member, 2002

Engineering Dean's Council on Promotion and Tenure, Chair, 2004

School of Engineering Junior Research Award Selection Committee, Member, 2003

FE Exam Review Session on Mathematics, Member, 2003, 2007

School of Engineering Senior Research Award Selection Committee, Chair, 2004, 2005, 2006

School of Engineering Curriculum and Policy Committee, 2002-2003

Engineering School Graduate Committee, Member, 1995

Member, Technician Search Committee, Department of Chemical Engineering, University of Mississippi, 2004

Graduate Advisor, Department of Chemical Engineering, 1990-1992
Undergraduate Advisor, Department of Chemical Engineering, 2001-

TEACHING EXPERIENCES

At The City College of New York:
"*Programming and Numerical Methods*," CSC101-4K, Spring, 1980; Fall, 1980.

At the Louisiana State University:
"*Principles of Thermodynamics, II,"* ME4343, Fall, 1988.

At the University of Mississippi:
"*Climate Change - Causes, Impacts and Solutions*," ENGR597, 3 credit hours, Spring, 2008; Spring, 2009.

"*Approximate Methods of Engineering Analysis, I,*" ENGR593, 3 credit hours, Summer, 1990; Spring, 1991.

"Engineering Analysis I," ENGR310; 4 credit hours, Fall, 1990; Fall, 1991, (two sessions, one at Oxford the other one at Iuka, Mississippi); Fall, 1992; Fall, 1996; Fall, 1997; Fall, 1998; Spring, 1999; Spring, 2000; Spring, 2001; Spring, 2002; Spring, 2003; Spring, 2004; Spring, 2005; Spring, 2006; Fall, 2006; Fall, 2007; Fall, 2008; Fall, 2009.

"*Engineering Analysis*," ENGR591 (graduate); 4 credit hours, Fall, 1990; Fall, 1991; Fall, 1992; Fall, 1996; Fall, 1997; Fall, 1998; Spring, 1999; Spring, 2000; Spring, 2001; Spring, 2002; Spring, 2003; Spring, 2004; Spring, 2005; Spring, 2006; Fall, 2006; Fall, 2007; Fall, 2008; Fall, 2009.

"Special Topics," ENGR691; 3 credit hours, Spring, 1991; Fall, 1991; Spring, 1992; Fall, 1992; Spring, 1993; Fall, 1993; Spring, 1994; Fall, 1994; Spring, 1995; Fall, 2006; Fall 2007.

"Seminar," ENGR411, 1 credit hour; Fall, 1991; Fall, 1992; Spring, 1993.

"*Graduate Seminar*," ENGR515, 1 credit hours; Fall, 1991; Spring, 1992; Fall, 1992; Spring, 1993.

"*Chemical Reaction and Reactor Analysis*," ChE423, 3 credit hours, Spring, 1992; Spring, 1994; Spring, 1995; Spring, 1996; Spring, 1997.

"*Chemical Reaction and Reactor Analysis*," ENGR669, 3 credit hours, Spring, 1992; Spring, 1996; Fall, 1997; Fall, 1998.

"*Stochastic Processes*," ENGR691, 3 credit hours, Spring, 1993; Fall, 1995; Spring, 1998; Spring, 2008.

"*Chemical Engineering Thermodynamics*," ChE421, 3 credit hours, Fall, 1993; Fall, 1994; Fall, 1995; Fall, 1999; Fall, 2000; Fall, 2001; Fall, 2004; Fall, 2005, Fall, 2006; Fall, 2007; Fall, 2008; Fall, 2009.

"*Nonlinear Sciences I - Perturbation Methods and Methods of Weighted Residuals*," ENGR597, 3 credit hours, Fall, 2000; Fall, 2001.

"*Nonlinear Sciences II - Nonlinear Dynamics*," ENGR597, 3 credit hours, Fall, 2002.

"*Chemical Engineering Simulation and Design*," CHE303, 1 credit hours, Spring, 1993; Spring, 1994.

"*Thermodynamics of Chemical Processes*," ENGR665, 3 credit hours, Fall, 1994; Spring, 1997; Spring, 1998; Spring, 1999; Spring, 2000; Spring, 2001; Spring, 2002; Spring, 2003; Spring, 2004; Spring, 2005; Spring, 2006; spring, 2007; spring 2010.

"*Chemical Engineering Projects - Monte Carlo Simulations*," ChE407, 3 credit hours, Spring, 1998; Fall, 2001; Spring, 2002.

"*Chemical Engineering Projects - Control of Nitrogen Oxide by Heterogeneous Reburning*," ChE407, 3 credit hours, Fall, 2000; Spring, 2001, Fall, 2002; Spring, 2002.

"*Review of Mathematics for the FE Exam*," Spring, 2003; spring, 2007; spring, 2008.

THESES SUPERVISED

Burch, Thomas E., "*The Formation and Destruction of Nitrogen Oxides in Fuel Rich Environments*," Ph.D., Mechanical Engineering, May, 1990.

Tillman, Franz R., "*NO_x Reduction through Reburning with Coal*," M.S., Mechanical Engineering, May, 1990.

Nagarajan, Ganesh, "*Stochastic Modeling of Coal Fragmentation Induced by Volatile Pressure*," M.S., Chemical Engineering, August, 1992.

Subramanian, Kannikeswaran, "*Reburning of Nitric Oxide Involving Char*," M.S., Chemical Engineering, May, 1993.

Chen, Xueyu, *"Stochastic Modeling of Controlled Drug Release*," M.S., Chemical Engineering, May, 1993.

Tavlin, Robert F., "*Observations and Experimentations on Pre-Combustion Fragmentation of Coal in a Fluidized Bed Combustor*," M.S., Chemical Engineering, May, 1993.

Cui, Xinli, "*Partitioning of Trace Elements in Bark Combustion and Bark Combustion Kinetics*," M.S., Chemical Engineering, May, 1994.

Zhang, Zhaoping, *"Stochastic Modeling of Aerosol Agglomeration*," M.S., Chemical Engineering, August, 1994.

Ma, Long, "*Relative Importance of Heterogeneous and Homogeneous Mechanisms during Reburning of Nitrogen Oxide*," M.S., Chemical Engineering, May, 1995.

Lu, Te-Chang, "*Parameters and Kinetics of Heterogeneous Reburning*," M.S., Chemical Engineering, August, 1996.

Kulkarni, Advait U., "*Stochastic Modeling of Carbon Oxidation,*" M.S., Chemical Engineering, April, 1998.

Annamreddy, Phanidhar, "*Modeling Growth of a Heterogeneous Tumors*," M.S., Chemical Engineering, July, 1999.

Tang, Lin, "*Elucidation of the Mechanisms of Heterogeneous Reburning Through Parameter and Kinetic Studies*," M.S., Chemical Engineering, May, 2000.

Gordji, Leili, "*A Nonlinear Stochastic Model of Carbon Oxidation,*" M.S., Chemical Engineering, May, 2000.

Smith, Adam, "*Supercritical Fluid Extraction of Natural Products,*" thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, May, 2002.

Bannerman, Blair, "*Monte Carlo Simulation of Infectious Disease,*" thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, April, 2003.

Henegan, Clark, "*Reburning of Nitrogen Oxide by a Mixed Fuel Containing Natural Gas and Lignite Char*," thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, May, 2003.

Bokka, Sankar, "*Stochastic Modeling of Nonlinear Epidemic Dynamics*," M.S., Chemical Engineering, August, 2003.

Mutyala, Revanth Babu, "*Bifurcation Analysis of HIV-1 Dynamics in Vivo*," M.S., Chemical Engineering, August, 2003.

Coyne, John, "*Separation of Nature Products by Batch Distillation*," M.S., Chemical Engineering, August, 2004.

Faulks, Emily R., "*Using Bioforce Probe Technique to Study Primitive Red Blood Cell Membrane Stability,*" thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, April, 2006.

Liu, Jiangping, "*Predictions of Supercritical Fluid Extraction Based on Mixing Rules Derived from Matching EOS / G^E*," M.S., Chemical Engineering, April, 2006.

Gathitu, Benson, "*Design of Mixed Fuel for Heterogeneous Reburning*," M.S., Chemical Engineering, May, 2006.

Mohammed, Asad, "*Stochastic Analysis of Internal Noises in Genetic Toggle Switch*," thesis of the Sally McDonnell-Barksdale Honors College, B.S., Electrical Engineering, April, 2006.

Wan, Shaolong, "*Stable Surface Oxides on Chars and Impact of Reactor Materials at High Temperatures*," M.S., Chemical Engineering, September, 2006.

Shi, Guang, "*Feeding Particles at Various Modes without Moving Connections at System Periphery*," M.S., Chemical Engineering, September, 2006.

Gathitu, Benson, "*Heterogeneous Reburning by Mixed Fuels*," Ph.D., Chemical Engineering, December, 2008.

Wan, Shaolong, "*Char Deactivation in Flame Environments*," Ph.D., Chemical Engineering, May 2009.

McClure, Michael C., "*Structure Change of Coals after Solvent Treatment*," thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, May, 2009.

Shi, Guang, "*Reactions of Young Chars with CO_2*," Ph.D., Chemical Engineering, in progress.

Li, Bingyu, "*Roles of Stable Surface Oxides on Young Chars in Oxy-Coal and Air-Fired Combustion*," Ph.D., Chemical Engineering, in progress.

Liao, Joy, "*Stochastic Models of Population Extinction*," (co-advisor), Ph.D., Biology, in progress.

Chausse, Daniel, "Experiments for Disseminating Knowledge on Climate Change," thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, May, 2011.

Hailey, Anna, "Photocatalytic Conversion of CO_2 to Hydrocarbons," thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, May, 2011.

Senter, James Corbett, "Photochemical Fixation of CO_2 on Carbonaceous Materials," thesis of the Sally McDonnell-Barksdale Honors College, B.S., Chemical Engineering, May, 2012.

RESEARCH ASSOCIATE SUPERVISED AND VISITING SCHOLARS COLLABORATED

Su, Yaxin, "*Heterogeneous Reburning by Mixed Fuels*," Visiting Professor from Donghua University, Shanghai, China, August, 2006 - 2007.

Conway, Rodger B., *"Formation and Destruction of Nitrogen Oxides in Coal Combustion,"* 1987-1990.

Dou, Binlin, "*Char Deactivation in Flame Environments*," 2004.