

CURRICULUM VITAE

BILL BATCHELOR

October 2017

Senior Professor

Zachry Department of Civil Engineering
Texas A&M University
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College Station, Texas 77843-3136

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Education:

Rice University	Chemical Engineering	B.A.	1971
Rice University	Environmental Science and Engineering	M.S.	1974
Cornell University	Sanitary Engineering	Ph.D.	1976

Professional Registration:

Registered Professional Engineer, Texas No. 47095

Experience:

Senior Professor, Zachry Department of Civil Engineering, Texas A&M University, since 2016.
R.P. Gregory '32 Chair in Civil Engineering, Zachry Department of Civil Engineering, Texas A&M University, 2011-2016.
Arthur McFarland Professor, College of Engineering, Texas A&M University, 2007-2011.
Professor, Water Management and Hydrological Science, since 2005.
Director, Institute for Environmental Engineering, Texas Engineering Exper. Station, 1992-1998.
Professor, Zachry Department of Civil Engineering, Texas A&M University, since 1986.
Associate Professor, Civil Engineering Department, Texas A&M Univ., 1981-1986
Assistant Professor, Civil Engineering Department, Texas A&M Univ., 1976-1981

Society Memberships:

American Chemical Society
American Society of Civil Engineers
American Water Works Association
Association of Environmental Engineering Professors
Water Environment Federation

Honors:

Civil Engineering Research Impact Award, Zachry Department of Civil Engineering, Texas A&M University, 2013.
R.P. Gregory '32 Chair in Civil Engineering, Zachry Department of Civil Engineering, Texas A&M University, since 2011.
Arthur McFarland Professorship, College of Engineering, Texas A&M University, 2007-2011.
Truman R. Jones Excellence in Graduate Teaching Award, Zachry Department of Civil Engineering, Texas A&M University, 2007.
Charles H. Barclay Jr. '45 Fellow, College of Engineering, Texas A&M University, 2006-2007.

Klotz Associates Faculty Fellow, College of Engineering, Texas A&M University, 1997-1998.
E.D. Brockett Professor, College of Engineering, Texas A&M University, 1995-1996.
Environmental Science and Engineering Fellow, American Association for the Advancement of Science, 1989.
Halliburton Professor, College of Engineering, Texas A&M University, 1986-1987.
Select Young Research Fellow, Texas Engineering Experiment Station, 1985.
Harrison Prescott Eddy Medal, awarded by Water Pollution Control Federation for "Outstanding research contributing in an important degree to the existing knowledge of the fundamental principles of wastewater treatment," 1983
Association of Environmental Engineering Professors, Engineering Science Inc. Award for best thesis relevant to environmental engineering practice, 1977
Standard Oil of Indiana Fellow in Environmental Engineering, 1971-73

Courses Taught:

Graduate Courses

CVEN 604 Theory of Treatment Processes (Introduction to Unit Operation Theory, >30 times)
CVEN 606 Environmental Engineering Design I (1 time)
CVEN 610 Industrial Wastes (5 times)
CVEN 619 Environmental Engineering Processes I (physical processes, 5 times)
CVEN 620 Environmental Engineering Processes II (chemical processes) (>10 times)
CVEN 681 Seminar
CVEN 682 Environmental Remediation of Contaminated Sites (>10 times)
CVEN 689 Special Topics in Chemical Treatment of Water and Wastewater (2 times)
CVEN 689 Special Topics in Laboratory Analysis of Water and Wastewater Treatment (3 times)
CVEN 685 Directed Studies
CVEN 691 Research

Undergraduate Courses Taught:

ENGR 101. Introduction to Engineering (3 times)
ENGR 109 Engineering Problem Solving and Computing (2 times)
ENGR 212 Conservation Principles in Thermal Science (Thermodynamics, 1 time)
CVEN 301. Environmental Engineering (many times)
CVEN 302. Computer Applications in Engineering and Construction (8 times)
CVEN 338. Water Resources Engineering (4 times)
CVEN 348. Engineering Economy (1 time)
CVEN 384. Civil Engineering Systems II (1 time)
CVEN 402 Engineered Environmental Systems (Water and Wastewater Treatment, 7 times)

Graduate Student Research Advising

Doctor of Philosophy

Diana Alkis Tsimis, "A Model Incorporating Stripping, Sorption, and Biodegradation as Mechanisms for Removing Organic Compounds from Wastewaters", August 1989.
Yi-chu Huang, "Surfactant-based Ultrafiltration of Heavy Metal Ions from Aqueous Streams", Doctor of Philosophy, December 1994.

Stanley Duane Merritt, "Immobilization of Uranium and Nickel in Sludges Treated by Solidification and Stabilization", August 1996.

Ling-Kwei Tseng, "A Simple Model for Pump-and-Treat Remediation", August 1997.

Joo-Yang Park, "Leach Models For Risk-Based Characterization Of Stabilized/Solidified Wastes", May, 1998.

Inseong Hwang, "Fe(II)-Based Reductive Dechlorination of Tetrachloro-ethylene in Soils Treated by Degradative Solidification/Stabilization, May 2000.

Woojin Lee, "Abiotic Reductive Dechlorination of Chlorinated Ethenes by Soil Minerals and Soils", August 2001.

Sukil Son, "Reductive Dechlorination of Chlorinated Hydrocarbons Using Fe(II) And Modified Green Rusts In Degradative Solidification/Stabilization", August 2002.

Jon Schwantes, "Equilibrium, Kinetic And Reactive Transport Models For Pu ", December 2002.

Ahmed Abdel Wahab, "Removal of Chloride from Recycled Cooling Water by the Ultra-high Lime Process", May 2003.

Sae Bom Ko, "Identification of Active agents for Tetrachloroethylene Degradation in Portland Cement Slurry containing Ferrous Iron", May 2005.

Jeongyun Choi, "Study of reduction capacity of high-activity modified green rusts", August 2005.

Bahng Mi Jung, "Reductive Dechlorination of Chlorinated Aliphatic Hydrocarbons using Fe(II) in Degradative Solidification/Stabilization", December 2005.

Hun-Young Wee, "Remedial Extraction and Catalytic Hydrodehalogenation (REACH) Treatment of Soils Contaminated by Halogenated Hydrophobic Organic Compounds", May 2007 (co-advisor as courtesy, with Jeff Cunningham).

Chun Woo Lee, "Perchlorate Reduction Using Electrochemically Induced Pitting Corrosion of Zero-Valent Titanium, December 2007.

Si Hyun Do, "DNAPL Source Control by Reductive Dechlorination With Iron-based Degradative Solidification/Stabilization", December 2007.

Jin Kun Song, "Arsenic Removal and Stabilization by Synthesized Pyrite", December 2008.

Eun Jung Kim, "Macroscopic and Spectroscopic Investigation of Interactions of Arsenic With Synthesized Pyrite", December 2008.

Dong Suk Han, "Sorption of Arsenic, Mercury, Selenium onto Nanostructured Adsorbent Media and Stabilization Via Surface Reactions", December 2009.

Aditya Babu Raut Desai, "Reduction of Perchlorate and Nitrate by Aluminum Activated by pH Change and Electrochemically Induced Pitting Corrosion", May 2010.

Sung-Hyuk Park, "Perchlorate Degradation Using Partially Oxidized Titanium Ions and Ion Exchange Membrane Hybrid System", May 2010.

Sanjay Tewari, "Regeneration of Carbon Aerogel Exhausted in Water Purification", December 2011.

Bhanu Prakash Vellanki, "Advanced Reduction Processes – A New Class of Treatment Processes", August 2012.

Xu Liu, "Degradation of Vinyl Chloride and 1,2-Dichloroethane by Advanced Reduction Processes", August 2013.

Venkata Sai Vamsi Botlaguduru, "UV-Sulfite Based Advanced Reduction Treatment of Disinfection Byproducts and Perfluorooctanoic Acid", May 2016.

Yuhang Duan, "Removal of Mercury from Water by a Reactive Adsorbent – Pyrite", May 2016.

Master of Science

- Joe Dan Shannon, "Efficiency of Alum Coagulation for Removal of Trihalomethanes Precursors", August 1980.
- Pe-der Yang, "Organic Removal from Domestic Wastewater by Activated Alumina Adsorption", May 1982
- Reid L. Dennis, "Activated Alumina Adsorption of Trace Amounts of Chromium and Lead from Wastewater", May 1984.
- John Howard Lindner, "Treatment of Domestic Wastewater for Reuse with Activated Silica and Magnesia", December 1984.
- J. Brock McEwen, "Kinetics of Aluminum Hydrolysis: Speciation and Coagulation", December 1984.
- Michael Patrick McDevitt, "Measurement of Surface Area Concentration of Solids Produced by Ultra-high Lime Softening, May 1985.
- Mary Alice Burnett, "An Automatic Control System for a Laboratory Precipitation Process", May 1986.
- Edward Dale Peacock, "Precipitation Kinetics in Ultra-high Lime Softening", August 1986.
- Duane Lee Hicks, "Reduction of Trichloroethylene in a Model Aquifer Using Methanotrophic Bacteria", December, 1990.
- Glen Gregory Taffinder, "Determining the Effective Diffusivity of Ions in Hazardous Wastes Solidified by Portland Cement", May 1991.
- Michael Craig Worsham, "Heavy Metal Characterization of Municipal Solid Waste Compost", May 1992.
- Aye Aye Kyi, "The Effect of Additives on Effective Diffusivities in Solidified/Stabilized Wastes", August 1992.
- Saman Ahmadi, "Micellar Enhanced Ultrafiltration", December 1992.
- Stewart Craig Little, "A Shrouded Probe Aerosol Sampling Cyclone", May 1992.
- Krishnan Sabharwal, "A Mathematical Model to Predict Leaching of Hazardous Inorganic Wastes from Solidified/Stabilized Waste Forms", August 1993.
- Joo-Yang Park, "The Application of a Chemical Equilibrium Model, SOLTEQ, To Predict the Chemical Speciations in Stabilized/Solidified Waste Forms", December, 1994
- Susan Ann Trussell, "A Study of Immobilization of Four Heavy Metals by Solidification/Stabilization with Portland Cement", May, 1994.
- Vishwanathan V. Arangath, "A Stochastic Approach to Risk Assessment of Hazardous Waste Sites, May 1995 (Co-chair with Dr. Juan Valdes)
- Indratjahja Sofjan, "Determining the Leaching Characteristics of Solidified/Stabilized Wastes Using Constant pH Leaching Tests", Master of Science, December 1995.
- Sanjay Ramabhadran, "Solidification/Stabilization of Simulated Uranium and Nickel Contaminated Sludges", August 1996.
- Declan O'Clérigh, "A Multi-component Partitioning Model to Predict Organic Leaching from Stabilized/Solidified Oily Wastes", December 1997.
- Inchul Kim, "A Leach Model for Solidified/Stabilized Waste Forms Based on Empirical Partitioning of Contaminants", December 1997.
- Evan Cook, "Effects of Aluminosilicate Minerals in Clay Soil Fractions on Porewater Hydroxide Ion Concentrations in Soil/Cement Matrices", May, 1998.

Sae Bom Ko, "Identification and Characterization of Agent for Reductive Dechlorination in Mixtures of Ferrous Iron and Portland Cement", December 2001.

Fabienne Marchal, "Dechlorination of PCE by Mixtures of Green Rust and Zero-valent Iron", August 2002.

Min Ahn, "Remediation of Chromium(VI) in the Vadose Zone: Stoichiometry and Kinetics of Chromium(VI) Reduction by Sulfur Dioxide", August 2003.

Dhananjay Kulkarni, "Electrochemical Deposition of Green Rust On Zero-Valent Iron", May 2006.

Trenton W. Hughes, "An Evaluation Of Membrane Materials For the Treatment Of Highly Concentrated Suspended Salt Solutions In Reverse Osmosis and Nanofiltration Processes For Desalination", December 2006 (Co-Chair with Tim Kramer).

Yuhang Duan, "Impacts of Natural Organic Matter on Perchlorate Removal by an Advanced Reduction Process", August 2012.

Jingyuan Zhang, "Tetrachloroethylene Degradation by Dithionite with Ultraviolet Activation", August 2013.

Guofan Luo, "Degradation of Selenocyanate with an Advanced Reduction Process (ARP)", August 2014.

Samarpita Roy, "Effect of Extraction Using Ion-Exchange Resins on Batch Mixed-Acid Fermentations", August 2014 (Co-Chair as courtesy with Mark Holtzaple).

Li Wang, "Ebeam Irradiation for Water Reuse: Removal of Bromate", August 2015.

Vishakha Kaushik, "Arsenic Removal Using Advanced Reduction Process", May 2016.

Research Interests:

Simulation, design and operation of chemical, physical and biological processes for treating water, wastewater and hazardous wastes and remediating contaminated media.

Reductive treatment processes for chlorinated organics, arsenic, chromium, selenium and nitrate.

Precipitation for removal of scale-forming compounds in zero-liquid desalination and recycled cooling water

Water management in energy systems

Water reuse and recycle

Solidification/stabilization of hazardous wastes

Cooling water chemistry, treatment and impacts

Funded Projects as Principal or Co-principal Investigator:

"Solar-driven Advanced Reduction Processes for Destroying Persistent Contaminants in Water", National Priorities Research Program, Qatar National Research Fund, October 1, 2015 to October 1, 2018; \$809,607; with principal investigators Dr. Ahmed Abdel Wahab and Dr. Ying Li.

"Integrated Approach for Water, Brine, and Salt Management at Shell Pearl GTL Plant", Shell Oil Company, November 1, 2014 to October 31, 2016; with principal investigator Dr. Ahmed Abdel-Wahab, \$408,891.

"Significant Expansion of Water Reuse using Electron Beam (eBeam) Technology", Creation and Deployment of Water-Use Efficient Technology Platforms Program, Texas A&M

- Engineering Experiment Station and Texas A&M Agrilife Research, February 1, 2014 to August 31, 2015, with principal investigator Dr. Suresh Pillai principal, \$ 242,902.
- “Reductive Immobilization and Removal of Arsenic and Selenium from Contaminated Water Using Advanced Reduction Processes”, National Priorities Research Program, Qatar National Research Fund, January 15, 2014 to January 14, 2017; with co-investigator Dr. Ahmed Abdel Wahab, and Prof. Mohamed Mahmoud; \$968,208.
- “Modeling Land Application of High Salinity Wastewaters”, Texas Hazardous Waste Research Center, July 5, 2012, July 15, 2013; with principal investigator Dr. Gretchen Miller, \$25,000.
- “Disinfection Byproducts Removal from Water Using Advanced Reduction Processes”, National Priorities Research Program, Qatar National Research Fund, January 15, 2012 to January 14, 2015; with co-investigator Dr. Ahmed Abdel Wahab; \$1,021,537.
- “Removal of Mercury from Wastewater Using Reactive Adsorbent/Membrane (RAM) Hybrid Filtration Process”, National Priorities Research Program, Qatar National Research Fund, January 15, 2012 to January 14, 2015; with co-investigator Dr. Ahmed Abdel Wahab, and Dr. Patrick Linke; \$830,289
- “An Advanced Reduction Process Using Sulfite and Ultraviolet Light”, Texas Hazardous Waste Research Center; September 1, 2010 to June 30, 2012; \$24,000.
- “Advanced Reduction Processes for Hazardous Waste Treatment”, National Priorities Research Program, Qatar National Research Fund, \$1,021,537, September 1, 2009 to September 30, 2012; with co-investigators Dr. Ahmed Abdel Wahab, Dr. Patrick Linke.
- “Study of Residual Chlorine and Chlorinated By-Products in Sea Near Mesaieed Industrial Area”, Qatar Fertiliser Company, February 2009 to February 2010, \$880,000; with Dr. Ahmed Abdel Wahab, Dr. Mahmoud El-Halwagi, Dr. Patrick Linke.
- “Discovery Investigation of Advanced Reduction Processes”, Texas Hazardous Waste Research Center; September 1, 2008 to August 31, 2010; \$52,265.
- “Inland Desalination with Zero Liquid Discharge for Brackish Groundwater”, Qatar Science and Technology Park Proof-of-Concept, \$411,753, July 2008 to December 2009; with Dr. Ahmed Abdel Wahab, Dr. Mahmoud El-Halwagi, Dr. Patrick Linke.
- “A Holistic Approach to the Sustainable Use of Seawater for Process Cooling”, Qatar National Research Fund, \$745,499, March 2008 to March 2011; with co-investigators Dr. Ahmed Abdel Wahab, Dr. Mahmoud El-Halwagi, Dr. Patrick Linke.
- “Perchlorate Remediation by Divalent Titanium”, Texas Hazardous Waste Research Center; September 1, 2006 to August 31, 2010; \$43,665.
- “UHL Treatment of Tailings Pond Water”, Suncor Energy, February 12, 2007 to August 13, 2007, \$33,525.
- “Elimination of Oxidants Using Zero Valent Metals”, Transportation Technology Center, American Association of Railroads, January 1, 2007 to December 31, 2008, \$50,000.
- “Perchlorate Ion (ClO_4^-) Reduction Using an Electrochemically Induced Catalytic Reaction on Activated Carbon”, Texas Hazardous Waste Research Center; September 1, 2006 to August 31, 2007; \$15,000.
- “Arsenic Removal by Novel Nanoporous Adsorbents – Kinetics, Equilibrium and Regenerability”, U.S. Geological Survey, National Institute for Water Research, through the Texas Water Resources Institute, March 2006 to February 2007; \$5,000.

- “Novel Adsorbent-Reactants for Treatment of Ash and Scrubber Pond Effluents”, U.S. Department of Energy, National Energy Technology Laboratory, February 2006 to January 2009; \$199,987.
- “Development of Contact Systems for Removal of Arsenic from Drinking Water Using Synthesized Pyrite”, Advanced Technology Program, Texas Higher Education Coordinating Board, January 1, 2004 to December 31, 2005; \$133,260
- “Arsenic Removal and Stabilization with Synthesized Pyrite”, Gulf Coast Hazardous Substance Research Center (USEPA) and Texas Hazardous Waste Research Center; January 1, 2004 to August 31, 2006; \$115,000.
- “DNAPL Source Control by Reductive Dechlorination with Iron-based Degradative Solidification/Stabilization”, Gulf Coast Hazardous Substance Research Center (USEPA) and Texas Hazardous Waste Research Center; January 1, 2004 to August 31, 2006; \$85,000.
- “Application of High-Activity Modified Green Rusts for Treatment of Water and Wastewater”, Advanced Technology Program, Texas Higher Education Coordinating Board, January 1, 2002 to August 31, 2004; \$146,697.
- "An Innovative Technology for Recycled Industrial Wastewater Treatment"; Texas Hazardous Waste Research Center, September 1, 2001 to February 28, 2005; \$91,608.
- "Degradative Solidification/Stabilization for Aliphatic Chlorinated Hydrocarbons"; Texas Hazardous Waste Research Center; September 1, 2001 to February 28, 2005; \$91,608.
- “Creating a Faculty Incubator Group to Encourage Distributed Water Processing and Recycling (DWPR) in Oil and Gas Operations”; Texas Water Resources Institute; May 2000 to August 2001; \$15,000; Mr. David Burnett, Dr. Sefa Koseoglu, Dr. Ray Anthony, Dr. Maria Barrufet, Dr. Duane McVay, Dr. Steve Holditch Co-Investigators.
- “Low Cost Electron-beam Remediation of Industrial Water and Wastewater”; Texas Water Resources Institute; May 2000 to August 2001; \$15,000; Dr. Peter McIntyre, Dr. Bruce Herbert, Co-Investigators.
- “Degradation of Halogenated Aromatic Hydrocarbons in Soils and Sediments”; Advanced Technology Program, Texas Higher Education Coordinating Board; January 2000 to August 2002; \$130,904.
- "Equilibrium, Kinetic and Reactive Transport Models for Plutonium"; Department of Energy (through Amarillo National Resource Center for Plutonium and the University of Texas at Austin); January 1999 to May 2000; \$52,805.
- "Reductive Dechlorination by Soils and Soil Minerals", Texas Hazardous Waste Research Center, September 1, 1998 to August 31, 2001; \$105,300.
- "Remediation of Chromium in the Vadose Zone", Texas Hazardous Waste Research Center, September 1, 1998 to August 31, 2001; \$67,200.
- "Chemical Models and Redox Chemistry of Chromium"; Department of Energy (through Amarillo National Resource Center for Plutonium and the University of Texas at Austin); January 1997 to January 1998, \$118,136; Dr. Mark Schlautman, Co-Investigator.
- “Risk-based Performance Criteria for Solidification/Stabilization”; Gulf Coast Hazardous Substance Research Center; September 1, 1996 to August 31, 1998; \$115,744.
- “Degradative Solidification/Stabilization Technology for Chlorinated Hydrocarbons”; Gulf Coast Hazardous Substance Research Center; September 1, 1996 to August 31, 1999; \$236,925; Dr. Elizabeth Carraway Co-Investigator.

- “Reactive Containment of Hazardous Wastes by Degradative Solidification/Stabilization”, E.I. duPont de Nemours and Company, September 1, 1995 to August 31, 1997, \$26,543; Dr. Elizabeth Carraway Co-Investigator.
- “Environmental Restoration and Monitoring at the Pantex Plant: Chromium Remediation”, Department of Energy through the University of Texas at Austin; November 1994 to January 1996, \$178,508; Dr. Mark Schlautman and Dr. Elizabeth Carraway, Co-Investigators.
- “Develop Mechanisms for Independent Monitoring of Pit Storage at Pantex Plant”, Department of Energy through the University of Texas at Austin, July 1994 to January 1995, \$10,048.
- “Environmental Education and Training for DoD”, Uniform Services University of the Health Sciences, Department of Defense, September 1994 to September 1995, \$858,598 (training), September 1994 to September 1999, \$440,217 (fellowships), Dr. Robin Autenrieth and Dr. David Breeding, Co-Investigators.
- "Stochastic Risk Assessment of Bioremediation", Gulf Coast Hazardous Substance Research Center, June 1993 to May 1996, \$135,026; Dr. Juan Valdés, Co-Investigator.
- "Solidification/Stabilization of Uranium Contaminated Sludges", Martin Marietta Energy Systems, June 1993 to September 1995; \$133,628; Dr. Wilson Pitt, Co-Investigator.
- "Permanence of Metals Containment in Solidified and Stabilized Wastes", Gulf Coast Hazardous Substance Research Center, June 1994 to May 1997; \$99,562; Dr. Larry P. Wilding, Co-Investigator.
- "A Stochastic Model for Pump-and-Treat Remediation", Office of Exploratory Research, U.S. Environmental Protection Agency, October 1992 to January 1996, \$199,193.
- "Removal of Heavy Metal Ions by Surfactant-Based Ultrafiltration: On-Site Testing", Gulf Coast Hazardous Substance Research Center, June 1994 to May 1995, \$37,342; Dr. Sefa Koseoglu, Co-Investigator.
- "Removal of Toxic Heavy Metal Ions from Metal Finishing Industries Effluents by Pilot Plant Scale Membrane Separation Technology", Gulf Coast Hazardous Substance Research Center, June 1990 to May 1994; \$182,159; Dr. Sefa Koseoglu, Co-Investigator.
- "Binding Chemistry and Leaching Mechanisms in Solidified Hazardous Wastes", Gulf Coast Hazardous Substance Research Center, May 1988 to April 1994; \$280,369.
- "Chemical Immobilization Processes in Solidified Wastes", Texas Advanced Technology Program, January, 1990 to January 1992, \$113,897.
- "A Kinetic Model of the Biostrip Process", Texas A&M University Research Enhancement Program, March 1987 to August 1988, \$19,000.
- "Speciation and Behavior of Silica in Recycled Cooling Water", Texas A&M University Research Enhancement Program, March 1987 to August 1988, \$13,000.
- "Ultra-high Lime Treatment of Recycled Cooling Water," Bureau of Reclamation, Office of Water Research, September 1983 to August 1985, \$142,342.
- "Development of a Rapid Haloform Formation Potential Test for Water Treatment Plant Control," American Water Works Association Research Foundation, January 1983 to December 1983, \$15,000.
- "Kinetics of Aluminum Hydrolysis," U.S. Environmental Protection Agency, July 1982 to June 1984, \$110,957.

- "Wastewater Treatment and Reuse at Lignite-Fueled Power Generating Stations and Conversion Plants," Center for Energy and Mineral Resources, September 1981 to August 1983, \$20,500.
- "Treatment of Domestic Wastewater for Reuse with Inorganic Oxide Adsorbents," Office of Water Research and Technology, September 1980 to August 1983, \$133,521.
- "Survey and Control of Synthetic Organics in Texas Water Supplies", Texas Water Resources Institute, October 1978 to December 1980, \$36,432.
- "Research Initiation: Design and Control of Biological Wastewater Treatment Systems for Concurrent Nitrogen and Carbon Removal," National Science Foundation, April 1977 to December 1979, \$20,000.

Patents

- "Method for Remediating Contaminated Soils", U.S. Patent 5,789,649, August 4, 1998; B. Batchelor, A.M. Hapka, G.J. Igwe, R.H. Jensen, M.F. McDevitt, D. Schultz, J.M. Whang, Co-Inventors.
- "Method for Remediating Contaminated Soils", U.S. Patent 6,492,572, December 10, 2002; B. Batchelor, A.M. Hapka, G.J. Igwe, R.H. Jensen, M.F. McDevitt, D. Schultz, J.M. Whang, Co-Inventors.

Professional Service

- American Academy of Environmental Engineering
Reviewer of monographs on site remediation technology, 1993.
- American Society of Civil Engineers
Environmental Engineering Research Council, member, 1984 – 1989.
- American Water Works Association
Research Committee on Coagulation, member, 1984 – 1988.
Student Activities Committee, member 1987 – 1991.
Texas Section, Representative to Brazos Valley Science and Engineering Fair, 1986-1988.
- Association of Environmental Engineering Professors
Director, 1984 – 1986
Secretary-Treasurer, 1985-1986
Task Committee for Application of Computers in Environmental Engineering Education, 1984-1986.
Education Committee, Chair, 1987-1989.
Legislative Affairs Committee, member, 1992-1994; chair 1995.
- Center for Environmental Research
Management Committee, member 1989-1993; chair 1992-1993.
- Environmental Engineering Science*
Reviewer
- Environmental Science and Technology*
Reviewer
- Environment Technology Letters*
Editorial Board, 1988-1998
Reviewer

Gulf Coast Hazardous Substance Research Center

University Contact, 1991-2006.

International Association on Water Quality (International Association for Water Pollution Research and Control)

Host Organizing committee for Workshop on Instrumentation and Control of Water and Wastewater Treatment and Transport Systems, member, 1985.

Specialist Group on Wastewater Reclamation, Recycle and Reuse, member, since 1988.

Journal of Environmental Engineering

Reviewer

Journal of Hazardous Materials

Reviewer

National Science Foundation

Proposal reviewer; Review panel member, 1995, 2000, 2010.

National Research Council

Reviewer

Sustainable Technologies, Systems & Policies

Reviewer

Texas Natural Resources Conservation Commission

Ad Hoc Committee on Low-Flow Policy for Wastewater Treatment Plants, 1994.

Texas Air Research Center

Technical Advisory Committee, member, since 1999.

Texas Hazardous Waste Research Center

Member, Steering Committee, since 1991.

U.S. Environmental Protection Agency

Environmental Engineering and Pollution Control Processes Review Panel, member 1985-1996; Chair 1993.

Waste Management

Editorial Board, 1998-2000

Reviewer

Waste Management Education and Research Consortium

Research Proposal Review Committee, 1992-1993.

Water Environment Federation (Water Pollution Control Federation)

Eddy Medal Award Subcommittee, Chair, 1985; member 1984-1985.

Program Committee, member, 1982-1992; Poster Session Subcommittee, chair, 1989-1992, Executive Committee, member, 1989-1992.

Water Research

Reviewer

University Service

Civil Engineering Department

Undergraduate Advisor for Environmental Engineering Option, 1976-1981, 1986.

Career Day Committee, Chair, 1979-1982; member 1976-1979.

Curriculum Committee, member, 1976-1986, 1993-1994, chair 2007-2010.

Socials Committee, member, 1979-1981.

Conclave Committee, member 1980-1981.

Ad Hoc Mathematics Committee, member, 1977-1978.
CE Practice Committee, member 1980-1982.
Library Representative, 1984-1985.
Graduate Studies Committee, 1983-1986.
A.P. and Florence Wiley Chair Search Committee, member, 1983-1984; chair, 1988-1990.
Ad Hoc Committee on Grade Change, member 1984.
Promotion and Tenure Committee; Chair, 2002, 2014, 2015; member, 1986-1987, 1989-1990, 1992-1993, since 2001.
Area Leader, Environmental and Water Resources Engineering Area, 1988-1995.
Steering Committee, 1988-1995.
Civil Engineering Research Report, Co-editor, 1988-1993
Gregory Chair Search Committee, Chair, 1991-1993.
Course Coordinator for CVEN 302, 1986-1996.
Course Coordinator for CVEN 301, 2000-2009.
Course Coordinator for CVEN 402, since 2007.
Undergraduate Advisor, since 1993.
Faculty Awards Committee, 1996.
Ad-Hoc Committee on Chemistry in the Curriculum, 2005.
Ad-Hoc Committee on Compensation of Graduate Students, 2004-2005, member.
Biotechnology Faculty Search Committee, 2004 to 2005
Environmental Engineering Faculty Search Committee, Chair, 2006-2007
Graduate Advisor for Environmental Engineering, 2007 - 2009.
Water Faculty Search Committee, member, 2007-2008.
Water Faculty Search Committee, chair, 2013-2014.

College of Engineering

Engineering Faculty Advisory Council, member 1981-1984.
Liaison Committee, member 1985-1986.
Halliburton/Brockett/Crawford Award Committee, member 1990.
Faculty Awards Committee, member 1994, 2011-2012.
Freshman Chemistry Advisory Committee, member, 1994-1995.
Computer and Numerical Methods Review for Fundamentals of Engineering Exam, 1996-1997.
Faculty Tenure and Promotion Committee, 1987, 2005-2007.
Faculty Awards Committee, 2011-2013.
Civil Engineering Department Head Search Committee, 2013-2014.

Texas Engineering Experiment Station

Water Research Task Force, Chair, 1984.
Energy Task Force for TEES Research Conference, 1983.
Advisory Committee for Institute for Environmental engineering, Chair, 1990-1998
Search Committee for Director of Offshore Technology research Center, 1990-1991.
Faculty representative to Federal Demonstration Partnership, 2004-2006.

Texas A&M University

Library Council, 1985-1987.

Proposed Faculty of Ecology and Environmental Sciences, Executive Committee, 1990-1991.

Center for Energy and Mineral Research, Proposal Review Committee, 1992.

Office of Honors Programs and Academic scholarships, Academic Scholarship Selection Committee, member, 1993-1995.

Office of Research and Graduate Studies, Review Committee for Multi-disciplinary research program, 1996.

Office of Research and Graduate Studies, Committee on Graduate Imperatives, 1997 to 1998.

Office of Graduate Studies, Research Integrity Inquiry Committee, April 2000 to June 2000.

Office of Graduate Studies, Committee to Develop Graduate Water Degrees, 2002-2005.

Office of Graduate Studies, Graduate Appeals Panel, 2006 - 2009.

Biological and Agricultural Engineering Department, Faculty Search Committee. 2005 - 2006.

Water Management and Hydrological Science Faculty, member, since 2005; Executive Committee, member, since 2005.

Association of Former Students Award Committee, 2012.

Office of Vice-President for Research, National Science Foundation of China Program Reviewer, 2012.

Search Committee for Director of Texas Water Resources Institute, 2015.

Texas Engineering Extension Service

Water and Wastewater Training Division Advisory Council, member, 1992-1998.

Emergency Services Training Institute, Brayton Fire Training Field, Water Treatment System Evaluation, May 2002 to August 2002.

Publications and Presentations:

Refereed Journal Articles (* indicates student for whom Bill Batchelor was the major advisor):

Deng, W., Zhao, H., Pan, F., Feng, X., Jung, B., Abdel-Wahab, A., Batchelor, B., Li, Y., "Visible-light-driven photocatalytic degradation of organic water pollutants promoted by sulfite addition", accepted *Environmental Science and Technology*, 2017.

Duan,* Y., Kaushik, V., Jung, B. Batchelor, B., Abdel-Wahab, "A Kinetic Study of Selenium Removal Using Advanced Reduction Process with Dithionite", accepted, *Environmental Engineering Science*, 2017.

Rao, G., Zhao, H., Chen, J., Jung, B., Abdel-Wahab, A., Batchelor, B., Li, Y., "FeOOH and Fe₂O₃ co-grafted TiO₂ photocatalysts for bisphenol A degradation in water", *Catalysis Communications*, 97(5): 125-129, 2017.

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