

## *Curriculum Vitae*

### **Terry E. Baxter, Ph.D., P.E.**

Associate Professor of Environmental Engineering • Northern Arizona University  
Civil and Environmental Engineering • College of Engineering and Natural Science  
15600 S. McConnell Drive, Box 15600 • Flagstaff, Arizona 86011-1560  
Office: (928) 523-2008 • Fax: (928) 523-2300  
E-mail: terry.baxter@nau.edu

#### **EDUCATION**

---

- **Doctor of Philosophy in Engineering** (Honors received), University of Kansas, Lawrence, KS, 1988.  
Dissertation: *The Effects of Sludge Rheology on Mixing in the Anaerobic Digestion Process*
- **Master of Science in Environmental Health Engineering** (Honors received), University of Kansas, Lawrence, KS, 1981  
Thesis: *A Mathematical Model and Computer Program for Anaerobic Digestion*
- **Bachelor of Science in Civil Engineering**, University of Kansas, Lawrence, KS, 1979

#### **PROFESSIONAL REGISTRATION**

---

- Kansas P.E. No. 12407

#### **ACADEMIC/TEACHING EXPERIENCE**

---

**Associate Professor of Environmental Engineering** with Tenure, Northern Arizona University, Department of Civil and Environmental Engineering, 1993 to Present

- Initial appointment as Assistant Professor of Environmental Engineering in August 1993.
- Promotion to Associate Professor effective in July 2000.

**Graduate Teaching Assistant**, University of Kansas, Department of Civil Engineering (1/1981-12/1988)

- Taught an undergraduate lab for surveying (CE 240, 1 semester), an undergraduate course in environmental pollution and controls (CE 477, 2 semesters), and a graduate lab course in chemical analyses (CE 771, 3 semesters)
- Assisted with an undergraduate course in environmental pollution and controls (CE 477, grading and course management, 1 semester), an undergraduate senior design course in water supply and wastewater (CE 576, grading, and design lab management, 5 semesters), and a graduate course in environmental chemistry (CE 770, grading, 3 semesters)

#### **COURSES & WORKSHOPS TAUGHT**

---

- CENE 150 Introduction to Environmental Engineering
- CENE 150L Environmental Engineering Computations Lab
- CENE 280 Fundamentals of Environmental Engineering
- CENE 281L Water Quality Lab
- CENE 282L Air and Site Investigations Lab
- CEME 330 Air Quality Engineering
- CENE 335 Environmental Biotechnology (redesigned and formally CENE 435)
- CENE 386W Engineering Design. The Methods
- CENE 430 Air Pollution Control Design

- CENE 435 Environmental Biotechnology
- CENE 599/535 Sustainability of Environmental Biotechnology
- EGR 286 Engineering Design. The Process
- Air Pollution Technology I (American Indian Air Quality Training Program)
- Air Pollution Technology II (American Indian Air Quality Training Program)
- Ambient monitoring Network Design (American Indian Air Quality Training Program)
- Comprehensive Environmental Management (Utah State University/NSF)
- Data Management and Assessment for the MiniVol Sampler (American Indian Air Quality Training Program)
- Environmental Data Management and Assessment (American Indian Air Quality Training Program)
- Emissions Inventory (American Indian Air Quality Training Program)
- Fundamentals of Air Pollution Technology (American Indian Air Quality Training Program)
- Introduction to Air Quality Management (American Indian Air Quality Training Program)
- Orientation to Indoor Air Quality (American Indian Air Quality Training Program)

### **COURSES & WORKSHOPS DEVELOPED**

---

- CENE 150 Introduction to Environmental Engineering (for Web-based delivery)
- CENE 280 Fundamentals of Environmental Engineering
- CENE 281L Water Quality Lab
- CENE 282L Water Quality Lab
- CENE 330 Air Quality Engineering (for traditional and Web delivery)
- CENE 435 Environmental Biotechnology
- CENE 430 Air Pollution Control Design
- CENE 435 Environmental Biotechnology
- CENE 599/535 Sustainability of Environmental Biotechnology
- Air Pollution Technology I (American Indian Air Quality Training Program)
- Air Pollution Technology II (American Indian Air Quality Training Program)
- Ambient monitoring Network Design (American Indian Air Quality Training Program)
- Comprehensive Environmental Management (Utah State University/NSF)
- Data Management and Assessment for the MiniVol Sampler (American Indian Air Quality Training Program)
- Environmental Data Management and Assessment (American Indian Air Quality Training Program)
- Emissions Inventory (American Indian Air Quality Training Program)
- Fundamentals of Air Pollution Technology (American Indian Air Quality Training Program)
- Orientation to Indoor Air Quality (American Indian Air Quality Training Program)

### **RESEARCH & SCHOLARLY**

---

**Principal Investigator**, Civil and Environmental Engineering Department, Northern Arizona University

- NAU/NASA Space Grant Project, Algae Biomass-Anaerobic Digestion: Integrating Gases, NAU/NASA Space Grant Intern, funded by NAU/NASA Space Grant Program (2012-2013)
- Curriculum Redesign Project Description for Environmental Engineering, funded by NAU (2010)

- Development of a Global Curriculum Strategy for Environmental Engineering, funded by NAU (2010)
- Enhancing Sustainable Water Reclamation using Algae-based Biotechnology, funded by Arizona Water Institute (2008)
- Evaluating the Outdoor Operation of a Photobioreactor for Optimizing Algal Biomass Production and a Survey of Algae in a Wastewater Treatment Pond, funded by ERDENE Seed Grant/TRIF and ERDENE Continuation Grant (2006-2008)
- Enhancing the production and digestion of microalgae biomass grown in wastewater, funded by NAU-IGP (2005 2006)
- Recruiting the Web-generation to Engineering. Prototyping and Assessing a Web-based 3D Game Environment, funded by NAU Hewlett Foundation Talent Pipeline (2003-2004), unfunded activity (inactive)
- 23rd Avenue Wastewater Treatment Plant Virtual Training Tools Project, funded by the City of Phoenix, Arizona (1999-2000)
- Anaerobic Sludge Digester Model, NAU Civil and Environmental Engineering (1998 - Present)
- Residential Wood Smoke Emissions, NAU Civil and Environmental Engineering (1998)
- Northern Arizona University - Lawrence Livermore National Laboratory Atmospheric Release Advisory Capability Initiative. Instructional Application of NAU-ARAC Site Workstation System and ARAC Student Internship Program, funded by Lawrence Livermore National Laboratory/University of California (1996-2000).
- Wastewater Treatment Facility Tour for use with Interactive Multimedia Instruction Technology, funded by NAU/DOE-HBCU/MI Undergraduate Research (1996-1998)
- Baseline Residential Wood Burning Emissions Inventory for Flagstaff, funded by NAU/DOE-HBCU/MI Undergraduate Research (1996)
- Air Emissions Inventory for Small Stationary Combustion Sources on Hopi Reservation, funded by NAU/DOE-HBCU/MI Undergraduate Research (1996)

**Co-Principal Investigator**, Civil and Environmental Engineering Department, Northern Arizona University

- Using wastewater for mass culture of algae for food, feed and fuel., UA-ASU-NAU, Regent Innovation Funds (submitted 2012)
- Comparative Assessment of Instructional-based Technology for Learning Wastewater Treatment Process Operations, NAU Civil and Environmental Engineering (1998)
- Undergraduate Faculty Enhancement: Environmental Management, Utah State, Manhattan College and Northern Arizona University, funded by National Science Foundation (1995)

**Research Associate**, Civil Engineering Department, University of Kansas

- Evaluation/characterization experiments for particle collection and bounce in inertial impactor; ambient testing of impactor/denuder air sampling system; and scanning electron microscopy of generated aerosol particles (9/1988-1/1989)

**Research Assistant**, Center for Research, Inc., University of Kansas

- Calibration/evaluation experiments on aerosol impactor; and impaction surface design development (1/87-8/88)
- Evaluation/analysis of anaerobic digestion treatment of industrial wastewater (8/1984-1/1985)
- Calibration/evaluation experiments on cyclonic inhalable particle monitor; and scanning electron microscopy of generated aerosol particles (6/1982-7/1982)

- Developed/administered hazardous materials management survey; and calibration/evaluation experiments on horizontal elutriator inhalable particle monitor (2/1981-12/1981)
- Evaluation experiments on chemical suppressant dust control (fugitive emissions) applications (5/1980-12/1980)

## UNIVERSITY SERVICE

- NAU Assessment Committee (2009 - 2012)
- Master of Science in Engineering Committee (2009 - 2012)
- Tau Bet Pi, Faculty Advisor (Fall 2007 – Present)
- CENE ABET and Assessment Committee (On-going)
- CENE CoFS Committee (On-going, as needed)
- EE Department CoFS Committee (Fall 2006)
- Chair Environmental Engineering Faculty Search Committee (2003)
- CET Design Committee (2001-2002)
- ME Department CoFS Committee (Fall 1999)
- CE/EnE Space Committee (1998)
- EnE Curriculum Committee (1998)
- College Computing Committee (1998)
- Curriculum Committee, College of Engineering and Technology (1993-1995)
- College Promotion and Tenure Document Committee (1993-1994)
- College Curricula Redesign - Humphries Team (1994-1995)
- Masters of Engineering Committee (1994-1997)
- NAU-LLNL Steering Committee (1995)
- University Curriculum Committee (1995)
- Civil/Environmental Engineering Department Curriculum Review Team (1993-1996)

## PROFESSIONAL SERVICE

---

- Civil Engineering Program Evaluator, ABET (2007-Present)
- Part 2000 Coordinator, Standard Methods Committee, APHA/AWWA/WEF (2001 - Present)
- Chair (appointed) Section 2710 Joint Task Group to Standard Methods Committee for 20th edition of *Standard Methods for the Examination of Water and Wastewater*, APHA/AWWA/WEF (1996 - Present).
- National Chair (appointed) - Present State Work Group for Delivery of Analytical Services Task Force; U.S. EPA, OERR (9/1991-4/1992).
- Member (appointed) Standard Methods Committee - Water Environment Federation (1991 – Present).
- Member (appointed) Hazardous Waste Committee - Water Environment Federation (8/90-10/96).
- Member (appointed) SW-846 Review Work Group - U.S. EPA Office of Solid Wastes (7/90-8/89).

## RELATED PROFESSIONAL WORK EXPERIENCE/CONSULTING

---

**Environmental Engineer Consultant**, Great Plains/Rock Mountain Hazardous Substance Research Center, Kansas State University, Manhattan KS

- Science Advisory Committee member responsible for the annual reviews and ranking of new research project proposals submitted for funding, the on-going review and tracking of active

research projects, and the representative to the Native American and Other Minority Institutions (NAOMI) Program Committee (1991-2003)

- Vice-chair (elected) of the Science Advisory Committee responsible for assisting the Committee Chair (1994 – 1998)
- Chair (elected) of the Science Advisory Committee responsible for coordinating Committee review (1998 -2003).

**Environmental Engineer, Peer Reviewer**, U.S. Environmental Protection Agency, National Center for Environmental, Research and Quality Assurance, Washington DC

- Peer review applications for centers funded through the U.S. EPA National Center for Environmental Research and Quality Assurance (1997)

**Environmental Engineer**, U.S. Environmental Protection Agency, Region 7, Kansas City KS

- Review/approve project, sampling and analysis plans; review/validate environmental data; conduct/report on audits of sampling activities and program management reviews; develop/manage Regional QA manual and standard operating procedures; provide QA and statistical assistance for sampling and monitoring network design (6/1989-8/1993)
- Acting Section Chief (appointed); U.S. EPA Region 7 Laboratory Branch (2/1991-5/1991)

**Engineering Consultant**, to Ralph B. Carter Co., Hackensack NJ

- Independent consultant for monitoring and reporting on testing and evaluation of anaerobic digester mixing equipment and mixing performance (9/1984-10/1984)

**Environmental Engineer**, Ross E. McKinney Consulting Engineer, Lawrence KS

- Coordination and implementation of a lake water quality monitoring project involving monthly sampling, analysis, and reporting (2/1983-6/1984)

**Civil Engineer**, E.T. Archer Engineering, Kansas City MO

- Sanitary sewer design and surveying, construction design plans, and water supply development and source cost comparisons (6/1979-7/1979).

**Surveyor & Draftsman**, Construction inspection; subdivision plan development plats; bridge and road design plans; and construction (preliminary and final), topographic, and property surveys

- Schmidt Engineering Company, Topeka KS (1977-1978)
- Burgwin, Pasely & Assoc., Topeka KS (1974-1976)
- William H. Burgwin & Assoc., Denver CO (1974)
- Burgwin, Martin & Assoc., Topeka KS (1973-1974)
- J & M Development Co., Berryton KS (1972)

## PUBLICATIONS

---

### Books and CDs

- **Baxter, T.E.** (2002) *23rd Avenue WWTP Operations Training* (Trainer CD No. RM2TB5PF2-C, September 9, 2002), NAU Virtual Training Tools Project + Remote Teaching Experiment.
- **Baxter, T.E.** (2001) *23rd Avenue WWTP Operations Training* (Trainer CD No. RM2TB5PF2, December 3, 2001), NAU Virtual Training Tools Project.
- **Baxter, T.E.** (2001) *23rd Avenue WWTP Visitors' Center* (Visitor Center CD No. RM1TB4F, August 29, 2001), NAU Virtual Training Tools Project.
- Dupont, R. Ryan, **Terry E. Baxter** and Louis Theodore, “Environmental Management Workbook Problems and Solutions.” CRC Press/Lewis Publishers (1998).
- **Baxter, T.E.** (1998) *Virtual Tour of Wildcat Hill Wastewater Treatment Facility*, (Demonstration Prototype CD, May 7, 1998), NAU Virtual Training Tools Project.

## Journals and Proceedings

- Harvey Charles, **Terry Baxter**, Sheryl Howard, Phillip Mlsna and Niranjana Venkatraman (2011) Global Learning and the Transformation of the 21st Century Science and Engineering Curriculum, Proceedings of The 9th International Conference on Education and Information Systems, Technologies and Applications: EISTA 2011, In the Context of the 5<sup>th</sup> International Multi-Conference on Society, Cybernetics and Informatics: IMSCI 2011, July 19 -July 22, 2011, Orlando, Florida, USA.
- **Baxter, T.E.**, Schell, D. and Holec, S. (2001) "Virtual tour of a wastewater treatment facility. A multimedia tool for training and education." *WEFTEC 2001 Conference Proceedings* (Atlanta, GA, October 13-17, 2001), Water Environment Federation.
- DeMendonca, M. and **Baxter, T.E.** (2001) "Design for the environment (DFE). An approach to achieve the ISO 14000 international standardization." *Environmental Management and Health*, Vol. 12, No. 1, pp. 51-56.
- DeMendonca, M. and **Baxter, T.E.** (2000) "DFE Application to Achieve ISO-14000 Compliance." *Proceedings of the 5th International Symposium on Environmental Geotechnology and Global Sustainable Development*, Belo Horizonte, Minas Gerais, Brazil, August 17-23, 2000.
- **Baxter, T.E.** and Ramirez, B. Bobby, "Training Tribal Environmental Officials: Using a Project, Not a Projector." *Proceedings of A&WMA 92nd Annual Meeting*, Saint Louis, Missouri, June 20-24, 1999.
- DeMendonca, M. and **Baxter, T.E.** (1999) "Comparative assessment of instructional-based technology for learning wastewater treatment process unit operations." *Proceedings of the 1999 International Conference on Simulation and Multimedia in Engineering Education*, Society for Computer Simulation, San Francisco, CA, January 17-20, 1999.
- **Baxter, T.E.**, "Comparison of Neighborhood-Scale Residential Wood Smoke Emissions Inventories Using Limited and Intensive Survey Data." *Proceedings of A&WMA 91st Annual Meeting*, San Diego, California, June 14-18, 1998.
- **Baxter, T.E.**, et. al. "Adaptation and Delivery of Indoor Air Quality Training for Tribal Officials." *Proceedings of A&WMA 91st Annual Meeting*, San Diego, California, June 14-18, 1998.
- **Baxter, T. E.** and D. Broussard, "Neighborhood-scale Screening Estimation of Ambient Wood Smoke Pollutant Levels Using Limited Emissions Inventory Data," in Proceedings of the CSCE/ASCE 1997 Environmental Engineering Conference, Edmonton, Alberta, July 22-26, 1997.
- **Baxter, T.E.**, Iannacone, A. and Messbarger, D., "Assessing the Quality and Quantity of Environmental Data," in Proceedings of Water Environment Federation Specialty Conference, Santa Clara, CA, August 8-11, 1993.
- **Baxter, T.E.**, "Quality in Research and QA/QC," in Proceedings of the Conference on Hazardous Waste Research, Boulder, CO, June 1-2, 1992, pp. 349-366.
- **Baxter, T.E.**, "Region 7 Academic Research Priorities," in Proceedings of the Conference on Hazardous Waste Research, Boulder, CO, June 1-2, 1992, pp. 367-369
- Randtke, S.J., G. Guinn, C. Adams, **T. Baxter** and D. Lane, "Chemical Artifacts Formation on Oiled and Greased Impaction Surfaces," transactions of the EPA/AWMA International Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, NC, May 1-5, 1989

- Lane, D.D., S.J. Randtke and **T.E. Baxter**, "Development of a Sampling Procedure for Large Nitrogen Particles: Preliminary Results," transactions of the EPA/APCA Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, NC, May 1-4, 1988
- **Baxter, T.E.**, D.D. Lane, C. Cowherd, Jr., and F. Pendleton, "Calibration of a Cyclone for Monitoring Inhalable Particles," Journal of the Environmental Engineering Division, ASCE, Vol. 112, No. 3, pp. 468-478, 1986
- Lane, D.D., **T.E. Baxter**, T. Cuscino, and C. Cowherd, Jr., "Horizontal Elutriator Preliminary Test Results Under Nonstill Air Conditions," Journal of the Environmental Engineering Division, ASCE, Vol. 111, No. 2, pp. 198-208, 1985
- Lane, D.D., **T.E. Baxter**, T. Cuscino, and C. Cowherd, Jr., "Use of Laboratory Methods to Quantify Dust Suppressant Effectiveness," Society of Mining Engineers Transactions, Vol. 274, pp. 2001-2004, 1984

### Technical Reports

- **Baxter, Terry E.** (2012) Report on the Assessment of Program Educational Objectives for the Civil and Environmental Engineering Programs, Department of Civil Engineering, Construction Management and Environmental engineering, March 24, 2012 (edited April 3, 2012; August 27, 2012)
- **Baxter, Terry E.** (2011) International Program Curriculum Integration Pilot Project. Report to College of Geology and Environmental Engineering, Xi'an University of Science and Technology, City of Xi'an, Shaanxi, Peoples Republic of China, June 2011.16
- **Baxter, Terry E.** (2010) Report on Environmental Engineering Program Curriculum Strategy for Implementing Global Learning Outcomes. Submitted to the Global Implementation Committee and the Vice Provost for International Education. September 23, 2010
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 7. Strategy for Developing a Global-oriented Curriculum in Environmental Engineering. Prepared for Global Curriculum Strategy, August 31, 2010 (minor edits, 9/12/2010)
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 6. Example Programs of Study and ABET Criteria. Prepared for Global Curriculum Strategy, August 26, 2010 (minor edits, 9/12/2010)
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Addendum 1 to Part 5. Program Objectives and Outcomes with a Global Perspective. Prepared for Global Curriculum Strategy, September 16, 2010
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 5. Program Objectives and Outcomes with a Global Perspective. Prepared for Global Curriculum Strategy, August 18, 2010 (edited 9/16/2010)
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 4. Recognizing Assets. Prepared for Global Curriculum Strategy, August 17, 2010 (minor revisions 9/15/2010)
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 3. Barriers to Curriculum Change. Prepared for Global Curriculum Strategy, August 14, 2010 (minor edits, 9/14/2010)
- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 2. What are the Elements of a Global-oriented Curriculum? Prepared for Global Curriculum Strategy, August 1, 2010 (edited 9/14/2010)

- **Baxter, Terry E.** (2010) Developing a Strategy for a Global-Oriented Curriculum in Environmental Engineering. Part 1. The Need for a Globalized Curriculum. Prepared for Global Curriculum Strategy, July 19, 2010 (minor edits, 9/12/2010)
- **Baxter, T.E.** (2007) *Outdoor photobioreactor and survey of algae in wastewater ponds*, FY2007 TRIF (ERDENE) Annual Project Report, June 27, 2007
- **Baxter, T.E.** (2006) *Enhancing the production of microalgae biomass grown in wastewater*, Final report to the Intramural Grant Program, Northern Arizona University, June 26, 2006
- **Baxter, T.E.** (2004) *Evaluation of Envi-Rox 200. Results of the CENE 330 emissions inventory project*, June 9, 2004
- **Baxter, T.E.** (2002) *Final Report on Northern Arizona University - Lawrence Livermore National Lab Atmospheric Release Advisory Capability (ARAC) Initiative. Instructional Application of NAU-ARAC Site Workstation System and Continuation of ARAC Student Internship Program*, report to University of California, Lawrence Livermore National Laboratory, Livermore, California, February 28, 2002
- Holec, S.L. and **Baxter, T.E.** (2000) *23rd Avenue Wastewater Treatment Plant Virtual Training Tools Project Software Development and Maintenance Plan*, report to City of Phoenix, Water Services Department, Phoenix, Arizona, April 25, 2000
- **Baxter, T.E.** (1999) *Progress Report on Northern Arizona University - Lawrence Livermore National Lab Atmospheric Release Advisory Capability (ARAC) Initiative. Instructional Application of NAU-ARAC Site Workstation System and Continuation of ARAC Student Internship Program*, report to University of California, Lawrence Livermore National Laboratory, Livermore, California, February 22, 1999
- **Baxter, T.E.** (1997) *Final Report on Establishing the ARAC Site Workstation System and the ARAC Student Internship Program at NAU*, report to University of California, Lawrence Livermore National Laboratory, Livermore, California, February 12, 1997.
- **Baxter, T.E.** (1993), *Ambient Air Quality Surveillance. Quality Assurance Requirements and Implementation Review for State and Local Air Monitoring Stations (SLAMS) and Prevention of Significant Deterioration (PSD)*, report to Regional QA Manager, Air Branch Chief and Environmental Monitoring and Compliance Branch Chief, U.S. EPA Region 7, Kansas City, KS, March 3, 1993.
- **Baxter, T.E.** (1992) *Effect of the Number of Samples Collected on Total Measurement Precision, Calculating the 95% UCL and a Removal Decision*, report to the Environmental Services Division Director, U.S. EPA Region 7, Kansas City, KS, November 19, 1992.
- **Baxter, T.E.** (1992) *Report on Quality Assurance Management System Review of Superfund Program State EPA Cooperative Agreement for Region 7 Superfund Branch*, report to Regional QA Manager and Waste Management Division Director, U.S. EPA Region 7, Kansas City, KS, September 24, 1992.
- **Baxter, T.E.** (1992) *Report on Quality Assurance Management System Review of Superfund Program State EPA Cooperative Agreement with Missouri Department of Natural Resources*, report to Regional QA Manager and Waste Management Division Director, U.S. EPA Region 7, Kansas City, KS, September 24, 1992.
- **Baxter, T.E.** (1992) *Report on Quality Assurance Management System Review of Superfund Program State EPA Cooperative Agreement with Kansas Department of Health and Environment*, report to Regional QA Manager and Waste Management Division Director, U.S. EPA Region 7, Kansas City, KS, September 24, 1992.



- **Baxter, T.E.** (1992) *Report on Quality Assurance Review of National Pollution Discharge Elimination System (NPDES) for Storm Water Discharge*, report to Regional QA Manager and Water Division Director, U.S. EPA Region 7, Kansas City, KS, September 24, 1992.
- **Baxter, T.E.** (1992) *Issues on Data Quality Assessments*, report to Regional QA Manager, U.S. EPA Region 7, Kansas City, KS, August 13, 1992.
- **Baxter, T.E.** (1992) *On-Site QA Review of Kansas City Model Landfill Sampling*, report to QA Manager and Superfund Branch, Waste Management Division, U.S. EPA Region 7, Kansas City, KS, July 1, 1992.
- **Baxter, T.E.** (1992) *Final Report of the Present State Work Group*, report to the Delivery of Analytical Services Task Force, Office of Emergency and Remedial Response, U.S. EPA, Washington, DC, April 14, 1992.
- **Baxter, T.E.** (1991) *Work Plan for the Delivery of Analytical Services Present State Work Group*, report to Delivery of Analytical Services Task Force, Office of Emergency and Remedial Response, U.S. EPA, Washington, DC, October 11, 1991.
- **Baxter, T.E.** (1991) *Report of QA Review of the Superfund Program*, report to Regional QA Manager and Superfund Branch, Waste Management Division, U.S. EPA Region 7, Kansas City, KS, September 20, 1991.
- **Baxter, T.E.** (1991) *Report on QA Review of Technical Assistance Team Oversight of Indoor Air Sampling at the Aidex Site, Council Bluffs, Iowa*, report to Regional QA Manager and Superfund Branch, Waste Management Division, U.S. EPA Region 7, Kansas City, KS, August 30, 1991.
- **Baxter, T.E.** (1991) *Report on QA Review of Emergency Planning and Response/Technical Assistant Team Sampling at the Big River Mine Tailings Site*, report to Regional QA Manager and Emergency Planning and Response Branch, Environmental Services Division, U.S. EPA Region 7, July 24, 1991.
- **Baxter, T.E.** and Marchin, L. (1991) *Rationale for Assessment of Liquidated Damages Due to Late Data Delivery at Dioxin Sites in Eastern Missouri*, report to Contract Management Division, Office of Administration and Resources Management, U.S. EPA, Research Triangle Park, NC, April 4, 1991.
- **Baxter, T.E.** (1991) *QA Review of the Region 7 Laboratory*, report to the Regional QA Manager and Laboratory Branch, Environmental Services Division, U.S. EPA Region 7, Kansas City, KS, April 3, 1991.
- **Baxter, T.E.** (1990) *Report on NIES Site Quarterly Sampling Field Blank Data Review*, report to Division Director, Environmental Services Division, U.S. EPA Region 7, Kansas City, KS, October 18, 1990.
- **Baxter, T.E.** (1990) *Verification Study results for Volatile Organic QC Ampoule Stability*, report to Laboratory Branch, Environmental Services Division, U.S. EPA Region, Kansas City, KS, September 20, 1990.
- **Baxter, T.E.** (1990) *Trip report for Monitoring Process Gas Emissions at Schuylkill Metals Corporation*, report to Regional QA Manager, U.S. EPA Region 7, Kansas City, KS, June 13, 1990.
- **Baxter, T.E.** (1989) *Bliss Farm Control and Calibration Standards*, report to Environmental Monitoring Systems Laboratory, U.S. EPA Office of Research and Development, Las Vegas, NV, December 11, 1989.
- **Baxter, T.E.** (1989) *Statistical Association of X-Ray Fluorescence Lead Screening Measurements with Inductively Coupled Argon Plasma and EP Toxicity Lead Analyses*, report

to Deputy Division Director, Environmental Services Division, U.S. EPA Region 7, Kansas City, KS, September 25, 1989.

- Randtke, S.J., D.D. Lane and **T.E. Baxter**, "Development of a Sampling Procedure for Large Nitrogen- and Sulfur-Bearing Aerosols," Final Report to EMSL ORD, US EPA, Research Triangle Park, NC, June, 1989.
- McKinney, R.E., D.D. Lane, C. Reifschneider, J. Sandino, T. Wallace, R. Babu, **T. Baxter**, S. Tao, R. Nafar, and Q. Yang, "Development of Improved Microbial Strains for Anaerobic Digestion of Municipal Solid Waste: Effects of Trace Metals on Methanogenesis and Control of Sulfate Reducing Bacteria," Final Report to Argonne National Laboratory, January, 1988.
- **Baxter, T.E.**, "Hydraulic Evaluation of Mixing in Anaerobic Digesters," *Splashings*, Kansas Water Pollution Control Association, Vol. 35, No. 3, pp. 2-3, 1986.
- **Baxter, T.E.** "Anaerobic Digestion of Primary Sludge: Mixing Things Up at 20 Degrees C," *Splashings*, Kansas Water Pollution Control Association, Vol. 34, No. 2, pp. 9-10, 1985.
- McKinney, R.E., J. Sandino, C. Reifschneider, R. Nafar, **T.E. Baxter**, S. Tao, and D.D. Lane, "Development of Improved Microbial Strains for Anaerobic Digestion of MSW and Waste water," Final Report to Argonne National Laboratory, March, 1985.
- **Baxter, T.E.**, D.D. Lane, and C. Cowherd, Jr., "Cyclone Samplers for Measuring Inhalable Particles," Technical Report to U.S. EPA, 1983.
- Lane, D.D., **T.E. Baxter**, and C. Cowherd, Jr., "Horizontal Elutriator Test Results Under Simulated Windy Conditions," Technical Report to U.S. EPA, 1983.

## PRESENTATIONS

---

- Zhao, Lu and **T.E. Baxter** (2013) Seeking sustainable RO brine management: preliminary study of microalgae dissolved minerals removal. Presentation accepted as the International Desalination Association World Congress 2013, October 20-25, 2013, Tianjin, China.
- **Baxter, T.E.** and Lu Zhao (2013) A green alternative for treating RO brine dissolved solids – microalgae, Presented at the AZ Water 86th Annual Conference, May 1-3, 2013, Glendale, Arizona.
- **Baxter, T.E.** (2012) A Review of Trends in the Detection and Measurement of Contaminants in Water. Presented at International Conference on Non-destructive Testing and Evaluation, Xi'an University of Science and Technology, May 28, 2012, City of Xi'an, Shaanxi, Peoples Republic of China.
- Harvey Charles, **Terry Baxter**, Sheryl Howard, Phillip Mlsna and Niranjana Venkatraman (2011) Global Learning and the Transformation of the 21st Century Science and Engineering Curriculum, Presentation by Harvey Charles and Terry Baxter at The 9th International Conference on Education and Information Systems, Technologies and Applications, Education in Science, Technology, Engineering and Mathematics I, July 20, 2011, Orlando, Florida.
- **Baxter, T.E.** (2011) Update Report on Integration of International Engineering Curricula, XUST + NAU Engineering Integration Pilot Project for China 1+2+1 in Civil & Environmental Engineering. Presented to the engineering faculty of the College of Geology and Environmental Engineering, Xi'an University of Science and Technology, June 28, 2011, City of Xi'an, Shaanxi, Peoples Republic of China.
- **Baxter, T.E.** (2011) NAU Engineering and 1+2+1 Program. What Engineering Programs offer the 1+2+1 program, and some issues, lessons, and solutions. Presented at the Seminar on STEAM, June 21, 2011, Chengdu, Sichuan, China.
- **Baxter, T.E.** and Wilbert I. Odem (2003) "Enhancing Environmental Engineering Education with Multimedia: Case Study of Developing and Using A Customized Professional

Multimedia CBT Program in Undergraduate Environmental Engineering” Second International Seminar on Environmental Engineering Education, International Water Association, Zurich, Switzerland, September 24 - September 26, 2003.

- **Baxter, T.E.** (2003) "Estimating PM Exposure from Smoke in Residential Neighborhoods During Wintertime Inversions" Particulate Matter: Atmospheric Sciences, Exposure and the Fourth Colloquium on PM and Human Health, American Association for Aerosol Research, Pittsburgh, PA, March 31 - April 4, 2003.
- **Baxter, T.E.** (2002) "Continuous Improvement of Engineering at Northern Arizona University" American Society for Quality, Valley of the Sun Section Meeting, Phoenix, AZ, October 10, 2002.
- **Baxter, T.E.**, Schell, D. and Holec, S. (2001) "Virtual tour of a wastewater treatment facility. A multimedia tool for training and education." WEFTEC 2001, Water Environment Federation 74th Annual Conference and Exposition, Atlanta, GA, October 13-17, 2001 (presented by co-author).
- Ellsworth, P., Allison, A.M., **Baxter, T.E.** and Ramirez, B.B. (2001) "Training tribal environmental professionals: Using a project, not a projector – an update." 10th International Emission Inventory Conference, Emission Factor and Inventory Group, Emissions Monitoring and Analysis Division, Office of Air Quality Planning & Standards, US Environmental Protection Agency, Denver, CO, May 1-3, 2001 (presented by co-author).
- DeMendonca, M. and **Baxter, T.E.** (2000) "DFE Application to Achieve ISO-14000 Compliance," 5th International Symposium on Environmental Geotechnology and Global Sustainable Development, Belo Horizonte, Minas Gerais, Brazil, August 17-23, 2000 (presented by co-author).
- **Baxter, T.E.** and Ramirez, B.B. (1999) "Training tribal environmental officials: Using a project not a projector," 92nd Air and Waste Management Annual Meeting and Exhibition, Air and Waste Management Association, St. Louis, Missouri, June 20-24, 1999 (presented by co-author).
- DeMendonca, M. and **Baxter, T.E.** (1999) "Comparative assessment of instructional-based technology for learning wastewater treatment process unit operations." 1999 Western MultiConference, International Conference on Simulation and Multimedia in Engineering Education, Society for Computer Simulation, San Francisco, CA, January 17-20, 1999.
- **Baxter, T.E.**, (1998) "Comparison of neighborhood-scale residential wood smoke emissions inventories using limited and intensive survey data." 91st Air and Waste Management Annual Meeting and Exhibition, Air and Waste Management Association, San Diego, CA, June 14-18, 1998.
- **Baxter, T.E.**, Ellsworth, P.M., Bero, B.N., Masayeva, V., Weimerskirch, P., Marshall, M.T. and Madrone, B.C. (1998) "Adaptation and delivery of indoor air quality training for tribal officials." 91st Air and Waste Management Annual Meeting and Exhibition, Air and Waste Management Association, San Diego, CA, June 14-18, 1998.
- **Baxter, T.E.**, DeSpain, D., Adams, L., Mudd, D. and Doba, R. (1989), "Virtual Tour of Wildcat Hill Wastewater Treatment Facility. A Community Educational Tool." 71st Annual Conference, Arizona Water and Pollution Control Association, Chandler, Arizona, May 6-8, 1998.
- **Baxter, T.E.** (1997) "Community Partnering Towards and Instructional Outcome." 3rd Annual Instructional Innovation Fair, NAU Office for Teaching and Learning Effectiveness, Flagstaff, AZ October 23, 1997.
- **Baxter, T. E.** and D. Broussard (1997) "Neighborhood-scale Screening Estimation of Ambient Wood Smoke Pollutant Levels Using Limited Emissions Inventory Data,"

- CSCE/ASCE 1997 Environmental Engineering Conference, Canadian Society of Civil Engineers and American Society of Civil Engineers, Edmonton, Alberta, July 22-26, 1997.
- **Baxter, T.E.**, Iannacone, A. and Messbarger, D. (1993) "Assessing the Quality and Quantity of Environmental Data," Specialty Conference on Challenges Facing Environmental Laboratories: Methods, Quality, Media and Liability, Water Environment Federation, Santa Clara, CA, August 8-11, 1993.
  - **Baxter, T.E.** (1992). "Quality in Research and QA/QC," 7th Annual Conference on Hazardous Waste Research, Great Plains-Rocky Mountain Hazardous Substance Research Center, Boulder, CO, June 1-2, 1992.
  - **Baxter, T.E.**, "Region 7 Academic Research Priorities," 7th Annual Conference on Hazardous Waste Research, Great Plains-Rocky Mountain Hazardous Substance Research Center, Boulder, CO, June 1-2, 1992.
  - **Baxter, T.E.** (1992) "Findings of the Present State Work Group on the Delivery of Analytical Services to the Superfund Program," 4th Meeting of the Joint Delivery of Analytical Services Task Force and Steering Committee, Office of Emergency and Remedial Response, US Environmental Protection Agency, Arlington, VA, March 17-19, 1992.
  - **Baxter, T.E.** (1991) "Present State Work Group Status and Issues," 3rd Meeting of the Long-Term Strategy for the Delivery of Analytical Services Task Force, Office of Emergency and Remedial Response, US Environmental Protection Agency, San Francisco, CA, November 19-20, 1991.
  - Randtke, S.J., G. Guinn, C. Adams, **T. Baxter** and D. Lane (1989) "Chemical Artifacts Formation on Oiled and Greased Impaction Surfaces," EPA/AWMA International Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, North Carolina, May 1-5, 1989 (presented by co-author).
  - **Baxter, T.E.**, D.D. Lane and S.J. Randtke (1989) "Comparison of Two Impaction Plate Surfaces Used in an Impactor/Denuder Sampling Apparatus: Particle Bounce Entrapment Properties," American Association for Aerosol Research Annual Meeting, Reno, NV, October 9-13, 1989.
  - **Baxter, T.E.**, D.D. Lane and S.J. Randtke (1989) "Particle Loss and Collection Characteristics of an Impactor/Denuder/Filter-Pack System Used for Acidic Aerosol and Gas Measurement," American Association for Aerosol Research Annual Meeting, Reno, NV, October 9-13, 1989.
  - Lane, D.D., S.J. Randtke and **T.E. Baxter** (1988) "Development of a Sampling Procedure for Large Nitrogen Particles: Preliminary Results," EPA/APCA Symposium on Measurement of Toxic and Related Air Pollutants, Raleigh, NC, May 1-4, 1988 (presented by co-author).
  - **Baxter, T.E.** and D.D. Lane (1987) "Initial Performance Testing of a Glass Jet Impactor Designed for Use in Dry Deposition Sampling," American Association for Aerosol Research Annual Meeting, Seattle, WA, September 14-17, 1987.
  - **Baxter, T.E.** (1986) "Hydraulic Evaluation of Mixing in Anaerobic Digesters," Annual Meeting, Kansas Water Pollution Control Association, Hutchinson, KS, April 9-11, 1986.

## PROFFESIONAL AFFILIATIONS

---

- Air and Waste Management Association
- American Association for Aerosol Research (prior to 2007)
- American Indoor Air Quality Council (prior to 2007)
- American Society of Civil Engineers
- American Society for Quality

- Arizona Water Pollution and Control Association
- International Desalination Association
- International Association of Water Quality
- Kansas Society of Professional Engineers (prior to 2007)
- National Society of Professional Engineers (prior to 2007)
- The Honor Society of Phi Kappa Phi
- Tau Beta Pi Honor Society
- Water Environment Federation

## **HONORS AND AWARDS**

---

- Exemplary Faculty for Service. College of Engineering, Forestry and Natural Science, Northern Arizona University (2012).
- Part-Time Professor in the Area of Environment Science and Engineering of Xi'an University of Science and Technology (2012)
- Boeing Outstanding Educator Award (1999)
- Director's Special Achievement Award - U.S. EPA, Office of Solid Waste and Emergency Response, 1993.
- Superfund OERR Award - U.S. EPA, Office of Emergency Removal and Response, 1992.
- National Chair (appointed) - Present State Work Group for Delivery of Analytical Services Task Force; U.S. EPA, OERR (9/91-4/92).
- Special Achievement Awards - U.S. EPA, Region VII Environmental Services Division, (1991 and 1990).
- Ph.D. Honors - School of Engineering, University of Kansas (1988).
- Dissertation Fellowship - Graduate School, University of Kansas (1986/87).
- J. Lloyd Barron Award - Environmental Health Engineering Department, University of Kansas (1981).
- M.S. Honors - School of Engineering, University of Kansas (1981).
- Elected to membership in The Phi Kappa Phi Honor Society
- Elected to memberships in The Tau Beta Pi Association

## **PROFFESIONAL DEVELOPMENT**

---

### **Coursework, Training, and Workshop Attendance**

- ABET PEV Mentor Training, May 19, 2013
- ABET Program Evaluator Refresher Training, June 13, 2011.
- ABET Program Evaluator "Just-in-Time" Training, Fall 2010.
- JPN 201, Second Year Japanese, Fall 2009
- JPN 102, First Year Japanese, Spring 2008
- Faculty Workshop on Assessing Program Outcomes, Accreditation Board for Engineering and Technology, Phoenix, AZ, January 12, 2008.
- JPN 101, First Year Japanese, Fall 2007
- CS 136 Software Techniques, Fall 2007
- CS 126 Introduction to Computer Science, Spring 2007
- First Aid Training: Adult CPR and AED (2006)
- Safety Training: Chemical Hygiene (2006)
- Safety Training: Bio-Infectious Wastes (2006)

- Safety Training: Hazmat Shipping and Handling (2006)
- ABET Evaluator Training, Web based, ASCE, Feb 16, 23 and March 2, 2005.
- Jet Tech and Aerator Products Seminar, US Filter, Edwardsville, KS, April 24-25, 2002
- Wastewater Microbiology. WEFTECH 2001 Workshop #103, Atlanta, GA, October 13, 2001
- Engineering and Technology: Pollution Prevention Workshop, Pollution Prevention Institute, Kansas State University, May 21, 2001
- ABET EC2000 Engineering Faculty Workshop, Baltimore, MD, January 8-9, 2000
- Terramodel Training, January 12-14, 2000 (organized this training course as well)
- ADEQ Emission Inventory Workshop, 1995
- Instructor Workshop on Orientation to Indoor Air Quality, 1994
- Air Pathway Analysis; 1993
- Risk Assessment and Decision Making; 1993
- NPDES Storm Water Permit Applications; 1992
- American Sign Language; 1991-1993
- DOT Hazardous Materials Transportation; 1991
- Contracts Administration; 1991
- Analytical Methods Selection under RCRA; 1991
- Statistical Methods for Air Monitoring; 1990
- Anaerobic Treatment Technology for Municipal & Industrial Waste Water (IAWPRC Workshop, Valladolid, Spain); 1990
- Compliance Inspector Training; 1990
- Hazardous Materials Incidence Response Operations; 1989
- Ground Water Investigation; 1989

### **Conference Attendance**

- AZ Water 86th Annual Conference, May 1-3, 2013, Glendale, Arizona.
- International Conference on Non-destructive Testing and Evaluation, Xi'an University of Science and Technology, May 28, 2012, City of Xi'an, Shaanxi, Peoples Republic of China.
- The 9th International Conference on Education and Information Systems, Technologies and Applications, Education in Science, Technology, Engineering and Mathematics I, July 20, 2011, Orlando, Florida.
- Seminar on STEAM, June 21, 2011, Chengdu, Sichuan, China.
- Arizona Water Reuse Conference, Arizona Water and Pollution Control Association, Flagstaff, AZ, July 30 – July 31, 2008.
- Second International Seminar on Environmental Engineering Education, International Water Association, Zurich, Switzerland, September 24 - September 26, 2003
- Fourth Colloquium on PM and Human Health, American Association for Aerosol Research, Pittsburgh, PA, March 31 - April 4, 2003
- WEFTECH 2001 74<sup>th</sup> Conference and Exhibition, Water Environment Federation, Atlanta, GA, October 13-17, 2001
- 2001 Conference on Environmental Research and Workshops, Kansas State University in Manhattan, Kansas, May 21-24, 2001
- HSRC Research Symposium, Asilomar, CA, July 9-12, 2000.
- 9<sup>th</sup> Annual HSRC T3 Conference: Mohonk II, New Paltz, NY October 20-22, 1999.
- Hazardous Waste Conference, St. Louis, MO, May 24-27, 1999

- 1999 Society for Computer Simulation International Western MultiConference /International Conference on Simulation and Multimedia in Engineering Education, San Francisco, CA, January 17-20, 1999.
- 91st Annual Meeting and Exhibition of the Air and Waste Management Association, June 14-18, 1998, San Diego, California
- 13th Annual Conference on Hazardous Waste Research, May 18-21, 1998, Snowbird, UT
- Arizona Water Pollution Control Association, 71<sup>st</sup> Annual Conference, Chandler, AZ, May 6-8, 1998
- CSCE-ACSE Environmental Engineering Conference, July 23-25, 1997, Edmonton, Alberta, Canada
- 12th Annual Conference on Hazardous Waste Research, May 20-22, 1997, Kansas City, MO
- Water Environment Federation 69th Annual Conference, October 5-9, 1996, Dallas, TX
- HSRC/WERC Joint Conference on the Environment, May 21-23, 1996, Albuquerque, NM
- 9th Annual Conference on Hazardous Waste Remediation, June 8-10, 1994, Bozeman, MT
- Challenges Facing Environmental Laboratories: Methods, Quality, Media and Liability, August 8-11, 1993, Santa Clara, CA
- 8th Annual Conference on Hazardous Waste Research, May 25-26, 1993, Manhattan, KS
- Annual Conference on Hazardous Waste Research, June 1-2, 1992, Boulder, CO