

**Curriculum Vita
for
CLIFFORD B. FEDLER, Ph.D., P.E.**

Texas Tech University
Lubbock, Texas 79409-1023
Phone: (806) 834-3964
Fax: (806)742-1749
email:clifford.fedler@ttu.edu

EDUCATION:

October, 1985 **University of Illinois** - at Urbana-Champaign, Illinois
Doctor of Philosophy, Agricultural Engineering

May, 1981 **Iowa State University** - Ames, Iowa
Master of Science, Agricultural Engineering
Master of Science, Civil Engineering

May, 1979 Bachelor of Science, Agricultural Engineering

EMPLOYMENT:

Sept 1997 - **PROFESSOR** - Texas Tech University, Lubbock, TX
present Department of Civil, Environmental and Construction Engineering

Sept 2024 - **Associate Vice Provost**- Texas Tech University, Lubbock, TX
present Office of International Affairs

Sept. 2014 - **SENIOR ASSOCIATE DEAN** - Graduate School, Texas Tech University, Lubbock, TX
Jan 2016

Sept. 2004 - **ASSOCIATE DEAN** - Graduate School, Texas Tech University, Lubbock, TX
2014

Aug. 2001- **DIRECTOR** - International Center for Arid and Semiarid Land Studies
May 2003 Texas Tech University, Lubbock, TX

Sept. 1991 - **ASSOCIATE PROFESSOR** - Texas Tech University, Lubbock, TX
Sept. 1997 Department of Civil Engineering.

Sept. 1990 - **ASSOCIATE CHAIR** - Texas Tech University, Lubbock, TX
Sept. 1991 Department of Agricultural Engineering.

July, 1985 - **ASSISTANT PROFESSOR** - Texas Tech University, Lubbock, TX
Aug. 1990 Department of Agricultural Engineering.

**DISSERTATIONS
AND THESES**

Doctoral Dissertations:

(* denotes chair)

*Computations fluid dynamics modeling of the Pond-in-Pond Wastewater treatment System. Luis Carlos Soares da Silva Junior, May 2024.

Uptake of Phosphorous from Wastewater by Various Aquatic Plants. Neha Kumari, Current.

Effective Thickness of Laminated Glass Units as a Function of Temperature and Glass Thickness. Samir Blanchet, Current.

*Economic and Ecological Effects of Transboundary Ground Water Conflicts. Joseph Munn, Current.

The Anammox Process. Behanz Jalili, May 2023.

System Improvement Opportunities Across Water Infrastructure Management, Keith Horbatuck, Current.

Exploring Information Literacy in the Context of the Attention Economy: A Heuristic-Based Framework for Attitude Certainty, Peter Brown, December 2020.

Nitrogen oxidation in membrane aerated bioreactors (MABRs) treating wastewater with high concentrations of nitrogen with nitrification and nitritation, Maryam Salehi, May 2022.

*Reactivity Assessment of Sulfidated Zero-Valent Iron for Dechlorination of Chlorinated Ethenes. A.S.M. Syful Islam, December 2021.

*Design of Wastewater Ponds for Water Reuse. Kushal Adhikari, May 2020.

*Analysis of long-term climatic trends in Awash River Basin, Ethiopia. Solomon Mulugeta, March 2020.

*Modeling the Effects of Hail Damage on Structures. Matthew Phelps, December 2018.

A System Analysis of Sustainable Groundwater Management in California: Homology and Isomorphology with Monetary Policy. Guy Wallace Bates, Jr. May 2017.

Evaluation of Nutrient Fate and Transport in Drainage Ditches Carrying Agricultural Runoff. Sreeram Singaraja, August 2014.

*Fate of PPCPs in On-site Surface Application Systems. Bahar Hosseini Amoli. December 2012. Taguchi Method and Principal Component Analysis Application for Yarn White Speck Quality Defect. Pelin Z. Altintas. December 2010.

*Design and Operation of Land Application Systems from a Water, Nitrogen, and Salt Balance Approach, Runbin Duan, May 2009.

Natural Transformation in Aeromonas species. Jennifer R. Huddleston. May 2008.

Modeling Agricultural Recycling Systems for System Size and Economic Potential. Jeffery L. Hanson. December 2007.

Reliability and Validity of the Graduate Student Behaviors Inventory (GSBI). Allison D. Boroda. December 2007.

Detecting Assignable Cause of Growth: The Case for Non-zero Slope Causal Variation Measurement. Ana Maria Canto Esquivel. December 2007.

Analysis of High Rate Fluctuation Systems Using Statistical Control Methods, Non-Zero Slope Development Systems Theory and the Stock Market. Luis Alberto Barroso. December 2005.

Adaptation of Bermudagrass [*Cynodon dactylon* (L.) Pers.] to the Texas High Plains Grown Under Saline and Limited Irrigation Conditions. Mark A. Marsalis, August, 2004

*Compost Mulch as an Aid to Establishment of Roadside Vegetation, Philip Pearson, December, 2003. Effects of Herbivory and Competition on Growth of Lemnaceae in Systems for Wastewater Treatment and Livestock Feed Production, Louis Landesman, December, 2002.

Habitat for Humanity Housing Project: A Case Study Emphasizing Water Conservation Design for a Semi- Arid Land Site, Jane U. Henry, May 2001.

The Validation of a Model of the Structure of Knowledge for the Field of Physical Education, Rick Beelby, March, 2000.

Influence of Nutrient-Challenged Water on Soil and Forage Quality, Donald L. Clark, December, 1999. Perceptions

of the Development Process in a Large Public Research II University, Margaret L. Durham, May 1999.

Livestock Waste Management and Policy Through the Utilization of Aquatic Feedstuffs, Jay Johnson, May 1998.

Structure of Knowledge of Curriculum Development, Gary Ergish, May 1997.

*Ammonia-Nitrogen Removal from Feedlot Lagoon Effluent by Algae System, Seyoung Ahn, August, 1996. The Determination of the Validity, Usefulness, and Comprehensiveness of a Structure of Knowledge for the Nursing Discipline, Carol Boswell, December, 1995.

Wind Erosion: Mechanics of Saltation and Dust Generation, Udai Bhan Singh, December, 1994.

*Anaerobic Treatment of Cattle Feedlot Waste for the Production of Purple Sulfur Bacteria, Alemayehu Gebriel, May, 1994.

The Structure of Knowledge for Mathematics, Paul M. Tunstall, Jr., August, 1993.

Combine Simulation Model to Evaluate Design and Operation Alternatives, Sang H. Kim, December, 1990.

*Thermal Properties of Porous Media with Applications in Multi-Layer Ground-Coupled Heat Pumps, Yueying Deng, August, 1990.

A Computer Algorithm for Improving the Day-to-Day Well Field Operation for Energy Conservation, Tehfang Lee, December 1989.

*Modeling Optimal Alcohol Production from Various Agricultural Crops, Luis A. B. Cortez, May, 1989.

Master's Theses:

Comparing Effective Thickness Method to Test Data of Laminated Glass Units. Samir Blanchet. August 2015.

Do geographical strain and lifestyle issues have an affect on crime due to NAFTA. Oscar Rosales. May 2014.

The recovery of DNA in indoor and outdoor area environments. Paris Favorite. May 23014.

Black-an-Blue: The destruction of forensic evidence due to blue-on-blue shootings and racial bias. Amanda Miller, May 2013.

*Determining the production of algae in Texas. Cheri Lollis, May 2013.

*Utilization of nitrogen from surface and subsurface applied systems. Richard Francis, December 2012.

*Refining Infiltration Rates for On-Site Surface Application Systems. Feng Li, May 2011.

*Fate of Nitrogen in On-Site Surface Application Systems. Joshua L. Wheeler, August 2005 Denitrification from Fields Treated with Wastewater on the Southern High Plains. Bradley Mueller, December 2004.

Use of Alternative Water Sources in Construction Operations. Srinath Rajagopalan, May 2003.

Seeded Bermudagrass Establishment using Subsurface Drip Irrigation. Justin D. Weeaks, August 2003.

*Effects of Hydroperiods on Plant Growth and Water Quality in Constructed Wetlands. Troy L. White, May 2002.

*The Fate of Wastewater Nitrogen in a Land Application System. Philip R. Pearson, May 2001

Survival and Growth of 8 Species of Fish in Various Standards of Reclaimed Water From Cattle Feed Lots, T.J. Cox, March 2000

*Effects of Enzymes on Volatile Fatty Acid Production, Prasanno Rao, August, 1998

*Nutrient Reduction From a Series Wetland System, Michael Ancell, August, 1998

- *Effects of Infiltration Beneath a Waste Stabilization Pond, Mari Garza, July, 1998
 - *Effects of Additives on Microbial Populations and Municipal Waste in Anaerobic Digesters, Randy Bush, May 1998
 - *Effects of Biocatalysts on Anaerobic Methane Production, Radhica Sastry, May 1998
 - Selecting a Procedure for Estimating Free Water Evaporation for the State of Texas, Laxman Obalapuram, May 1997.
 - *Aquatic Invertebrate Biodiversity Model to Rate Effluent Strengths, Timothy Parker, December 1996.
 - *Land Application of Combined Sludge and Secondary Effluent, Wade Brooks, August, 1995.
 - *Modeling Greenhouse Air Temperature, Murali B. Arumugam, August, 1994.
 - *Effects of Enzyme Addition on Anaerobic Digestion of Cattle Waste, Rajesh Krishnamurthy, May, 1995. The Effects of Bacterial Numbers on Diesel Degradation, Catherine C. Mueller, August, 1994.
 - *Thiopedia Growth on Cattle Waste in Sealed Reactors, Dayuan Han, May, 1994.
 - *Estimation of Crop Coefficients For Wetland Vegetation, Matt B. Phelps, May 1993.
 - *Light Energy Effect on Spirulina Platensis Growth Rate, Ayman Esmat Benyamin, August, 1993.
 - *Effects of Limiting Nutrients on Growth of Spirulina on Digested Cattle Waste, Melih Ahmet Pulluoglu, December, 1992.
 - *Effect of Moisture on Flow of Granular Material, Hong Tan, December, 1992.
 - Production of Spirulina Platensis From a Cattle Waste Medium, Mark Christian Bates, August, 1992.
 - *Long-Term Average Hourly, Daily, and Annual Temperature Prediction Model, Ying Wu, May, 1992. Sprinkler System Performance and Irrigation Scheduling Effects on Turfgrass Quality, Sonny Ray Dean, December, 1991.
 - Threshold Friction Velocity: Moisture and Particle Size Effects, Mukaddes Darwish, December, 1991. Effect of Hopper Angle on Flow of Granular Materials Through Rectangular Orifices, Chien Kuei Tsai, December, 1991.
 - Probability of Working Days for Various Agricultural Operations, Edwin G. Solorazano-Campos, December, 1990.
 - Evaluation of Water Application Efficiencies for Handmove Sprinkler Systems, Ali (Kalifia) Larguech, 1990.
 - Numerical Simulation of the Hydraulic Parameters of an Alluvial Aquifer Using a 3-D Finite Element Computer Model, Veen C. Foong, May, 1990.
 - Tillage Affects on Residue Cover, Kahelifa M'Hedhbi, May, 1989.
 - *Hydraulic Characteristics of Chemical Movement in Groundwater, Yueying Deng, May, 1988.
 - A Finite Difference Model for Flow of a Contaminant Through Porus Media, Binayak P. Acharya, May, 1986.
- Master's Reports or Non-Thesis:**
- *Human health risk assessment of carbamazepine in surface waters and from consumption of crops irrigated with biosolids containing carbamazepine, Sadia Anjum, May 2021.
 - *Arpita Bose. Application of enzymes in the field of wastewater treatment. December 2021.
 - *Justin Johns, May 2020, Internship in Civil, Environmental, and Construction Engineering
 - *Limeimei Xu, December 2019, Internship in Civil, Environmental, and Construction Engineering
 - *Kushal Adhikari. Analysis of the design of wastewater ponds. December 2018.
 - *Afredo Payan, Internship in construction engineering.

- *Gregory Graham, portfolio on electronic portfolio development. May 2015.
- *Yamini Pradeepika, Internship in database development. August 2015. Ashley Dunham, Internship with the coroners laboratory, May 2014.
- *Laura Villalva, Internship in a DNA laboratory. May 2014.
- *Wasana Subashini Warnakulasooriya, Interdisciplinary Studies, May 2014
- Stepanie Ramos, The making of a forensic scientist testimony-Internship. May 2013. Biological and chemical analysis of drugs-Internship. Marvin Lethridge. May 2013.
- *Fate of Applied Nitrogen in Soil and its Effect on Groundwater Contamination. Dhiraj Parekh, December 2010.
- Cynthia Lopez, Internship with the museum laboratory. May 2012.
- *Biomass Potential in Texas and the US. Pardha Chennupati. May 2009.
- *Air Quality and Particulate Transport Analysis of Wichita County. Phillip Zane Young. December 2008.
- *Recycling Wastewater with Water Hyacinths for Energy Production. Rushu Ranjan, August 2007.
- *Minimizing EAF dust from Steel Production. Paul C. Wright, December 2005.
- An Analysis of Coastal Erosion in Southeastern Texas. Jason Bewley, May 2004.
- *Biomass to Energy - A Sustainable Development Strategy. Jose Luis Felix Canul. May 2004.
- *Effects of Hydrogen Sulfide in Wastewater Collections Lines. Kartik Venkataraman. August 2002.
- *Fate of Nitrogen in a Wetland System, Todd Seebaum, June, 2000
- *Dissolved Oxygen Variation in a Constructed Wetland, Scott Modderman, December, 2000
- *Modeling Crop Yield Grown Under Drip Irrigation, Lennon Bhagwandin, December, 2000
- Fate of Lanthanide Particles After Digestion of Cellulose Containing Materials with Cellulase, Lisset Verde, December, 2000
- *Nitrogen Removal Model of Constructed Wetland Systems, Jie Xia, May, 1999.
- A Review of the Application of Land Applying Sludge and Effluent, Donald Baldwin, December 1998. Constructed Wetlands for Stormwater Treatment: Leroy Elmore Park, James R. Josephson, May 1998. Soil Erosion Mitigation Alongside Interstate Highway 20 Near Longview, Gregg County, Texas, December 1997.
- *Polymers: A Comparison of Cross-Linked and Linear Polymers for Water Retention in Soil, Clayton Black, December 1997.
- *Effects of Photoperiod on Reproductive Success of Fathead Minnows, Pimephales Promelas, John B. Clayton, December 1997.
- *Stochastic Design of a Wastewater Equalization Basin, Aziz Ahmed, May 1997.
- *Reducing Environmental Impacts with Energy Saving Concepts for the Home, Beth Madis, December 1996.
- Utilization Alternatives for Wood Waste, Mahesh Venkat, November 1996.
- *Metals and Their Interaction with the Plant-Soil System, Rabindra Nath Das, November, 1995.
- *Toxicity Testing of Sludge Using Ceriodaphnia Dubia and Pimephales Promelas, Buford R. Green, May, 1995.
- *Soil Factors Affecting In Situ Bioremediation of Hydrocarbon Contaminated Soils, Jatinder Patro, April, 1995.

- *Long-term Effects of Land Application of Domestic Wastewater, Ravi V. Kalmath, August, 1994.
- *Long-term Effects of Metals in Land Application Sludge, Rajesh Jivangikar, July 26, 1994.
- Multimedia Pollution Prevention and the Consolidation of Texas Environmental Agencies, Jennifer Hickox, April, 1994.
- *Source Reduction of Sludge Contaminants: An Analysis, Srinu Danturthy, April, 1994.
- *Applying Natural Processes for Control of Eutrophication of Lakes, John Keith, April, 1994.
- *Post-Lime Stabilization of Wastewater Treatment Plant Sludges-A Case Study, David N. Fleming, April, 1994.
- Attenuating Materials in Composite Liners, Girish S. Ramakrishna, December, 1993.
- *Phase Changes for Flow of Granular Materials Through Orifices, Jianyi Zhou, July 1993.

DEVELOPMENT

- ACTIVITIES:** Discretionary funding for graduate student workshops. July 2015. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers.
- Ed and Linda Whitacre Graduate Fellowship Endowment. June 2014. (\$15,000,000). K. Hance, B. Haley, D. Rogers, C.B. Fedler.
- Discretionary funding for graduate student workshops. July 2014. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers.
- Talkington Graduate Fellowship Endowment. September 2013. (\$2,000,000). B. Haley, D. Rogers, C.B. Fedler, P.G. Miller. Submitted for the Texas Research Incentive Program (TRIP) matching.
- Discretionary funding for graduate student workshops. July 2013. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers.
- Talkington Graduate Fellowship Endowment. December 2012. (\$10,000,000). B. Haley, D. Rogers, C.B. Fedler, P.G. Miller. Submitted for the Texas Research Incentive Program (TRIP) matching.
- Discretionary funding for graduate student workshops. July 2012. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers.
- United Supermarkets Graduate Fellowship Endowment. December 2011. (\$2,000,000). D. Rogers, C.B. Fedler, D. Crawford, P.G. Miller. This grant was matched by the Texas Research Incentive Program (TRIP) for \$2,000,000.
- Doctoral Fellowship Endowment. July 2011. (\$500,000) CH Foundation. D. Rogers, C.B. Fedler, D. Crawford, P.G. Miller. This grant was matched by the Texas Research Incentive Program (TRIP) for \$500,000.
- Helen Devit Jones Graduate Fellowship. July 2011. (\$800,000). Helen Devit Jones Foundation. C.B. Fedler, D. Rogers, D. Crawford, P.G. Miller. This grant was matched by the Texas Research Incentive Program (TRIP) for \$275,000.
- Discretionary funding for graduate student workshops. July 2011. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers, D. Crawford.
- Excellence in graduate Student Teaching Endowment. July 2010. (\$100,000) Helen Jones Foundation. D. Rogers, C.B. Fedler, and D. Crawford.
- Discretionary funding for graduate student workshops. July 2010. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers, D. Crawford.

Doctoral Fellowship Endowment. July 2009. (\$2,226,875) CH Foundation. D. Rogers, C.B. Fedler, D. Crawford, E. Haley, F. Hartmeister.

Graduate Fellowship Program. July 2009. (\$250,000) Helen Jones Foundation. D. Rogers, C.B. Fedler, D. Crawford, E. Haley, F. Hartmeister.

Helen Devit Jones Part-Time Graduate Student Scholarship Endowment. July 2006 (\$100,000), December 2006 (\$250,000), August 2007 (\$80,000), December 2007 (\$200,000), and July 2008 (\$400,000). Helen Jones Foundation. \$1,030,000 total. C.B. Fedler.

Discretionary funding for graduate student workshops. July 2009. (\$25,000) Helen Devit Jones Foundation. C.B. Fedler, D. Rogers, D. Crawford.

Graduate Student Recruitment Enhancement Program. Texas Student Recruitment Fund. July 2009. (\$138,000) D. Crawford, C.B. Fedler, D. Rogers, F. Hartmeister.

Discretionary funding for graduate student workshops. Helen Devit Jones Foundation. July 2006 (\$50,000), July 2008 (\$25,000).

Preston and Ima Smith Graduate Scholarship Fund. November 2005, Private Donation, \$50,000. November 2007, Private Donation, \$20,000. December 2009, \$20,000. C.B. Fedler.

SPECIAL PROJECTS:

Produced two of the five sections of the TTU Congressional Red Book Initiative proposal for the Vice-President for Research for the project titled: Desert Fuels: Systems approach to biofuel production and energy storage for the arid and semi-arid regions of southwestern United States. 2005-2007.

Special assistant to the Vice-President for Research to develop the Rural Particulate Matter Center. 1996.

Special assistant to the Dean of Engineering to develop and write the City of Lubbock based Proposal to locate the Super Magnetic Energy Storage facility in Lubbock County. 1991.

Special assistant to the Dean of Engineering to develop and write the City of Lubbock based proposal to locate the Super Conducting Super Collider in Lubbock County. 1990.

Special assistant to the Dean of Engineering to develop the Center for Advanced Research in Engineering. 1988.

RESEARCH GRANTS:

Lubbock Air Monitoring. September 2021. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Lubbock Air Monitoring. September 2020. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Lubbock Air Monitoring. September 2019. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Lubbock Air Monitoring. September 2018. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Lubbock Air Monitoring. September 2017. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Lubbock Air Monitoring. September 2016. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Lubbock Air Monitoring. September 2015. Texas Commission on Environmental Quality. \$37,214. C.B. Fedler.

Wichita Falls and Lubbock Air Monitoring. September 2014. Texas Commission on Environmental Quality. \$36,400. C.B. Fedler.

Wichita Falls Air Monitoring. September 2013. Texas Commission on Environmental Quality. \$15,550. C.B. Fedler.

Wichita Falls Air Monitoring. September 2012. Texas Commission on Environmental Quality. \$14,490. C.B. Fedler.

Expanded Development of Nitrogen and PPCP Fate in OSSF Surface Applied Systems. August 2011. Texas Commission on Environmental Quality. \$34,000. C.B. Fedler.

Wichita Falls Air Monitoring. September 2010. Texas Commission on Environmental Quality. \$12,900. C.B. Fedler.

Literature Search on available Wastewater disinfection Technologies. December 2010. \$26,839. Texas Commission on Environmental Quality. C.B. Fedler.

Wichita Falls Air Monitoring. September 2010. Texas Commission on Environmental Quality. \$11,000. C.B. Fedler.

Wichita Falls Air Monitoring. September 2009. Texas Commission on Environmental Quality. \$10,000. C.B. Fedler.

Texas Algal Fuels Research Center. June 2008. Department of Defense: Defense Advanced Research Projects Agency (DARPA). \$3,146,000 total for 3 years through the Texas AgriLife Research and Extension Center, \$734,571 shared portion for Year 1 and Year 2. M. Burow, M. Foster, C. Fedler, A. Kemanian, R. Lacey, and R. Srinivasan.

Development of Algal Culture for Biodiesel Production. September 2008. Strategic Fuel Supply-Department of Defense, Airforce. \$197,000 total. Collaborative project with the Texas AgriLife Research and Extension Center M.D. Burow, A.M. Schubert, C.B. Fedler, and J.V.Moroney.

Refining the Application Rates for On-Site Surface Application Systems. September 2008. Texas Commission on Environmental Quality. \$184,852. C.B. Fedler.

Effectiveness and Utility of Surface Application and Soil Percolation for Removal of Pharmaceutical and Primary Care Product Microcontaminants. September 2008. Texas Commission on Environmental Quality. \$251,974. C.B. Fedler, B.W. Brooks (Baylor University), and M.J. Hooper.

Manual for Designing Surface Application of OSSF Wastewater Effluent. January 2008. Texas Commission on Environmental Quality. \$57,567. C.B. Fedler.

Wichita Falls Air Monitoring. September 2008. Texas Commission on Environmental Quality. \$8,000. C.B. Fedler.

Wichita Falls Air Monitoring. September 2007. Texas Commission on Environmental Quality. \$8,000. C.B. Fedler.

Utilizing Agricultural Biomass in Energy Production and Economic Development. January 2007. Department of Energy through the Texas State Energy Conservation Office. \$98,123. C.B. Fedler, C. Lyford, M. Beruvides, and J. Simonton.

Wichita Falls Air Monitoring. September 2006. Texas Commission on Environmental Quality. \$8,000. C.B. Fedler.

Biomass Production from Recycled Waste and Water. April 2005. Department of Energy through

the Texas State Energy Conservation Office. \$17,800. C.B. Fedler.

Design and Operation of Land Application Systems from a Water, Nitrogen, and Salt Balance Approach. April 2005 through April 2008. Texas Onsite Wastewater Treatment Research Council, TCEQ. \$205,000. C.B. Fedler, C.J. Green and J. Borrelli.

Wichita Falls Air Monitoring. May 2005. Texas Commission on Environmental Quality. \$8,000. C.B. Fedler.

Design and Operation of Land Application Systems from a Water, Nitrogen, and Salt Balance Approach. December 2004. Texas Onsite Wastewater Treatment Research Council, TCEQ. \$20,000. C.B. Fedler, C.J. Green and J. Borrelli.

Design and Operation of Land Application Systems from a Water, Nitrogen, and Salt Balance Approach. August 2004. Texas Onsite Wastewater Treatment Research Council, TCEQ. \$12,000. C.B. Fedler and C.J. Green.

Wichita Falls Air Monitoring. May 2004. Texas Commission on Environmental Quality. \$8,000. C.B. Fedler.

Utilizing Compost as an Alternative Method to Standard Seeding. September 2002. Texas Department of Transportation - \$109,945. C.B. Fedler, C.J. Green, J. Borrelli.

Denitrification from Land Applied Treated Wastewater. January 2002. Joint project funded by the City of Lubbock - \$21,930; and April 2002. Texas Natural Resource Conservation Commission - \$32,837. C.B. Fedler, C.J. Green, J. Borrelli.

Use of Alternative Water Sources in Construction Operations. September 2001. Texas Department of Transportation - \$154,670. A. Jackson, P. Jayarickrama, C.B. Fedler, M. Darwish.

Re-evaluating Surface Application Rates for Texas, On-Site Sewage Facilities (OSSF) Systems. December 2000. Texas Natural Resources Conservation Commission - \$38,264. C.B. Fedler and J. Borrelli.

Fate of Nitrogen in a Land Application System. October 2000. City of Lubbock - \$9,600. C.B. Fedler.

H₂ONET Version 3.0 for AutoCAD R14 (30 licenses). May, 1999. MW Soft, Inc. - \$48,050. C.B. Fedler.

Fate of Nitrogen in a Land Application System. October 1999. City of Lubbock - \$9,600. C.B. Fedler.

Formate Enhancement of Anaerobic Methanogenesis. September 1998. Center for Energy Research-Texas Tech University - \$19,800. C.B. Fedler.

Enhanced Waste Treatment by Wetlands with Duckweed. September 1998. Texas Tech University Water Resources Center - \$11,400. C.B. Fedler and N.C. Parker

Fate of Nitrogen in a Land Application System. October 1998. City of Lubbock - \$9,600. C.B. Fedler.

Effective Waste Treatment by Wetlands with Wetting and Drying Cycles. January 1998. Texas Higher Education Coordination Board Advanced Research Program. Austin, Texas - \$185,400. C.B. Fedler and N.C. Parker.

Cost Effective Waste Treatment through Aquatic Protein Production. January 1998. Texas Higher Education Coordination Board Advanced Research Program. Austin, Texas - \$189,000. C.B. Fedler and N.C. Parker.

Fate of Nitrogen in a Land Application System. October 1997. City of Lubbock - \$9,600. C.B. Fedler.

Enhanced Waste Treatment by Wetlands with Wetting and Drying Cycles. September 1997. Texas Tech University Water Resources Center - \$13,400. C.B. Fedler.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogallala Aquifer. GSE Lining Technology, Inc. - Matching for pond cover material and installation. April 1997 - \$15,000. C.B. Fedler.

Fate of Nitrogen in a Land Application System. October 1996. City of Lubbock - \$9,600. C.B. Fedler.

Enhanced Waste Treatment Using Enzymes. September 1996. Texas Tech University Water Resources Center - \$11,000. C.B. Fedler.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogalalla Aquifer. Lee Lewis Construction, Inc. - Matching in terms of equipment rental. June 1996 - \$700. C.B. Fedler.

Effect of Enzymes on High-Strength Waste Treatment. January 1996. Texas Higher Education Coordination Board Advanced Research Program. Austin, Texas - \$179,820. C.B. Fedler and N.C. Parker.

A Manual for Mean Crop Consumptive Use and Free-Water Evaporation for the State of Texas. October, 1995. Texas Water Development Board. Austin, Texas - \$100,000.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogalalla Aquifer. Environmental Protection Agency - Part II. November 1995 - \$228,410. C.B. Fedler and N.C. Parker.

Design Procedures for Advanced Integrated Wastewater Pond Systems. September 1995. Texas Tech University Water Resources Center - \$13,600. C.B. Fedler and N.C. Parker.

Phase II, Biological and Chemical Study of the Wastewater Treatment Facility. August 1995. U.S. Department of Energy - Pantex Plant - \$333,410. N.C. Parker and C.B. Fedler.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogalalla Aquifer. Williams and Peters Construction, Inc. - Matching, with earthwork. June 1995 - \$25,000. C.B. Fedler.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogalalla Aquifer. Environmental Spill Control - Matching in terms of pond construction. July 1995 - \$6,000. C.B. Fedler.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogalalla Aquifer. College of Engineering Higher Education Assistance Funds - Matching Funds. June 1995 - \$30,000. C.B. Fedler.

Nutrient Reduction in Playa's Associated with Feedlots Overlying the Ogalalla Aquifer. Environmental Protection Agency - Part I. November 1994 - \$105,000. C.B. Fedler and N.C. Parker.

Integrated Conversion of Dairy and Feedlot Wastes Into Methane and High Value Protein -- Algae and Fish. October, 1994. U.S. Department of Energy Western Area Power Administration - \$65,000. C.B. Fedler and N.C. Parker.

Biological and Chemical Study of Wastewater Treatment Facility. October, 1994. U.S. Department of Energy - Pantex Plant - \$316,983. N.C. Parker and C.B. Fedler.

Wastewater Ammonia Removal with Algae for Fish Production. September, 1994. Texas Tech University Water Resources Center - \$10,500. C.B. Fedler and N.C. Parker.

Southwest Center for Advanced Technological Education (SCATE) - TSTC Sweetwater. August, 1994. National Science Foundation - \$1,711,637 (3 years).

Land Application of Stabilized Sludge. May 1994. Chemical Management Co., Ft. Worth, Texas - \$15,000. C.B. Fedler and N.C. Parker.

Constructed Wetlands Project. April 1994. Village of Lake Tanglewood, Texas - \$6,000.

Evaluation of Land Applying Stabilized Sludge. January, 1994. City of Lubbock, Texas - \$133,000.

Development of the Journal of Epistecybernetics. December, 1993. The CH Foundation, Lubbock, Texas - \$8,000.

Integrated Wastewater Treatment and Fish Protein Production - Phase II. September, 1993. Water Resources Center, Texas Tech University - \$15,900.

Low Energy Waste Treatment. September, 1992. COE Research in Alternate Sources of Energy Account

Texas Tech University - \$19,350.

Laboratory and Large-Scale Study to Determine the Most Effective Utilization of Cotton Fibers For Removal of Crude Oil and Petroleum Spills From Aquatic Environments. March, 1992. Texas General Land Office. Austin, Texas - \$389,932.

Integrated Wastewater Treatment and Fish Protein Production. September, 1992. Water Resources Center Texas Tech University - \$12,450.

Production, Harvesting and Processing of *Thiopedia* as a Protein Source for Fish and Livestock. October, 1991. Texas Higher Education Coordination Board Advanced Research Program. Austin, Texas - \$238,000.

Production of *Spirulina* for Fish and Livestock Feeds. December 1991. Texas Department of Agriculture. Austin, Texas - \$22,250. Matched by Select Omega-3 with \$30,000.

Reducing Contamination of Surface and Ground Water Resources Caused by Cattle Waste. October, 1991. Water Resources Center, Texas Tech University - \$11,000.

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Heat Energy Analysis Task (HEAT): Model to Evaluate Natural and Artificial Lake Resources. August, 1990. College of Engineering, Texas Tech University - \$11,600.

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*Fedler, C.B., M.A. Pulluoglu and N.C. Parker. 1993. Integrating Livestock Waste Recycling With Production of Microalgae. Paper to be presented at Aquaculture Engineering: An International Conference of Engineering Techniques for Modern Aquaculture. Spokane, WA. June 20-23, 1993.

*Fedler, C.B., H. Tan and J.M. Gregory. 1993. Modeling the Effect of Moisture on Flow of Granules Through Orifices. Paper No. 936044 presented at the International Summer Meeting of the ASAE. Spokane, WA. June 20-23, 1993.

*Fedler, C.B. and N.C. Parker. 1993. High-Value Product Development Potential From Biomass. Paper No. 936056 presented at the International Summer Meeting of the ASAE. Spokane, WA. June 20-23, 1993.

*Fedler C.B., O.D. Hensley; P. Sisler; and P.M. Tunstall, Jr. 1993. Epistocybernetics: A New Approach to Restructuring the Engineering Curriculum. Proceedings of the Gulf-Southwest Region ASSEE Meeting. Austin, TX. April 1-2, 1993.

Hensley, O.D., C.B. Fedler; P.M. Tunstall, Jr.; and P. Sisler. 1993. Moving Engineering Education Into an Era of Structured Knowledge. Proceedings of the Gulf-Southwest Region ASSEE Meeting. Austin, TX. April 1-2, 1993.

*Nevill, J.D., C.B. Fedler and J.P. Craig. 1992. Generator Re-configuration For Low Wind Speed Operation. Paper No. 923568 presented at the International Winter Meeting of the ASAE. Nashville, TN. December 15-18, 1992.

Parker, N.C., C.B. Fedler and M.C. Bates. Aquaculture: Bioremediation for Agriculture and Industry. Proceedings of the Texas Chapter of the American Fisheries Society. Kerrville, TX. Sept. 24-25, 1992.

Neal, B.A., C.B. Fedler and J.M. Gregory. Effect of Mixed Sizes on the Flow of Hygroscopic Granular Materials. Paper No. 926068 presented at the International Summer Meeting of the ASAE. Charlotte, NC. June 21-24, 1992.

*Tsai, C.K., C.B. Fedler, J.M. Gregory and R.S. Narayan. Effect of Hopper Angle on Flow of Granular Materials Through Rectangular Orifices. Paper No. 926067 presented at the International Summer Meeting of the ASAE. Charlotte, NC. June 21-24, 1992.

*Wu, Y., C.B. Fedler and J.M. Gregory. Modeling Average Temperature as a Function of Latitude, Elevation, Day of Year and Time of Day. Paper No. 922109 presented at the International Summer Meeting of the ASAE. Charlotte, NC. June 21-24, 1992.

Otey, J.M. and C.B. Fedler. 1991. Controlled Atmosphere Storage of Fruits and Vegetables: A Review. Paper No. 911574 presented at the International Winter Meeting of the ASAE. Chicago, IL. December 17-20, 1991.

Gregory, J.M., C.B. Fedler, S.H. Kim, and B.S.S. Neelakanton. 1991. Grain Damage Equation for Harvesting and Handling Processes. Paper No. 911608 presented at the International Winter Meeting of the ASAE. Chicago, IL. December 17-20, 1991.

*Fedler, C.B. and R.S. Narayan. 1990. Inert Gas Storage of Food Products: A Review. Paper No. 90-6616 presented at the International Winter Meeting of the ASAE. Chicago, IL. December.

*Fedler, C.B. and O.D. Hensley. 1990. Structure of Knowledge for Engineering Curriculum Development. Paper No. 90-5007 presented at the International Winter Meeting of the ASAE. Chicago, IL. December.

*Deng, Y. and C.B. Fedler. 1990. Predictions of Thermal Characteristics for Mixed Porous Media. Paper No. 90-4510 presented at the International Winter Meeting of the ASAE. Chicago, IL. December.

*Deng, Y. and C.B. Fedler. 1990. Ground-Coupled Heat Pump Performance In Multi-Layered Soils. Paper No. 90-4549 presented at the International Winter Meeting of the ASAE. Chicago, IL. December.

*Fedler, C.B. and O.D. Hensley. 1990. The Coalition For Upgrading Educational Strategies (CUES) For Engineering Education. Proceedings of the Gulf and Southwest ASEE Meeting. Ed. R. T. Doty. Waco, Tx. March 11-13, 1990.

Gregory, J.M., C.B. Fedler, and J. Borrelli. 1989. Climatic Effects on Threshold Friction Velocity. Paper No. 89-2630 presented at the International Winter Meeting of the ASAE. New Orleans, Louisiana. December.

Gregory, J.M., C.B. Fedler, and J. Borrelli. 1989. TEAM: Texas Erosion Analysis Model. Paper No. 89-3519 presented at the International Winter Meeting of the ASAE. New Orleans, Louisiana. December.

Gregory, J.M., C.B. Fedler, and S.H. Kim. 1989. COMBINE: Combine Optimization Model Bridging Industry Numerically with Education. Paper No. 89-3520 presented at the International Winter Meeting of the ASAE. New Orleans, Louisiana. December.

*Fedler, C. B., J.M. Gregory, and J Borrelli. 1989. MAP - Model Analysis Programs. Paper No. 89-3517 presented at the International Winter Meeting of the ASAE. New Orleans, Louisiana. December.

*Fedler, C. B., L.A.B. Cortez, and J.M. Gregory. 1989. Physical Parameter Microbial Growth Model for Ethanol Production. Paper No. 89-6591 presented at the International Winter Meeting of the ASAE. New Orleans, Louisiana. December.

Borrelli, J. and C.B. Fedler. 1989. Management Options to Reduce Storage for Land Treatment Systems: Where Deficit Irrigation is Required. Paper No. 89-2003. Presented at the Summer Meeting of the ASAE. Quebec, Canada. June.

*Fedler, C.B. and J.M. Gregory. 1989. Consolidated Model for Bulk Solids Flow Through Orifices - A Summary. Proceedings of Powder and Bulk Solids Storage in Silos. Rosemont, IL. May.

*Fedler, C.B. and J.M. Gregory. 1988. Prediction Equation for Granular Flow Through Non-Horizontal Orifices. Paper No. 88-6575 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

*Fedler, C.B., R. Tasker and C.E. Heintz. 1988. Degradation of Diesel Components by Aerobic Soil Bacteria. Paper No. 88-2572 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

Abtew, W., J. Borrelli, and C.B. Fedler. 1988. Methodology for the Optimization of Storage Requirements and Water

Management of the Slow Rate Land Treatment System. Paper No. 88-2508 presented at the Winter Meeting of ASAE. Chicago, IL. December.

Fedler, C.B., J.M. Gregory and J. Borrelli. 1988. Visual, Functional and Statistical Analysis of Simple and Non-Linear Data. Paper No. 88-3013 presented at the Summer Meeting of the ASAE. Rapid City, SD. June.

*Gregory, J.M., C.B. Fedler and J. Borrelli. 1988. TEAM--Texas Erosion Analysis Model. Paper No. 88-2121 presented at the Summer Meeting of the ASAE. Rapid City, SD. June.

*Gregory, J.M. and C.B. Fedler. 1988. Granular Flow Predictions for Non-Horizontal Orifices. Paper No. 88-107 presented at the Summer Meeting of the ASAE. Rapid City, SD. June.

*Fedler, C.B., K.A. Rainwater, D. Yueying and M.J. Dvoracek. 1987. Field Study to Trace Chemical Movements in Groundwater. Paper No. 87-2628 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

*Fedler, C.B. and J.M. Gregory. 1987. Material Factors that Affect Granular Flow through Orifices. Paper No. 87-6507 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

*Fedler, C.B. and E.T. Farley. 1987. Quality Low Cost Computer/Real World Interface System. Paper No. 87-3518 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

*Belknap, S.B., C.B. Fedler, G.L. Barker and J. Borrelli. 1987. Weather Effects on Stripper Harvested Cotton Quality. Paper No. 87-1508 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

Fedler, C.B., J. Borrelli, and R.H. Ramsey, III. 1987. Sixty-two Years of Wastewater Application to Agricultural Lands. Paper No. 87-2019 presented at the Summer Meeting of the ASAE. Baltimore, MD. June.

*Fedler, C.B. and J.M. Gregory. 1986. Orifice and Material Size Effects on Granular Flow. Paper No. 86-6567 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

Gregory, J.M. and C.B. Fedler. 1986. Mathematical Relationship Predicting Grain Separation in Combines. Paper No. 86-1522 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

Gregory, J.M. and C.B. Fedler. 1986. New Sprayer Performance Reliability Analysis Technique. Paper No. 86-1503 presented at the Winter Meeting of the ASAE. Chicago, IL. December.

Gregory, J.M. and C.B. Fedler. 1986. Model Evaluation and Research Verification (MERV). Paper No. 86-5032 presented at the Summer Meeting of the ASAE. San Luis Obispo, CA. June/July.

*Fedler, C.B., R.A. Hartwig, D.L. Day and M.P. Steinberg. 1985. Biogas from Biomass in Developing Countries. Paper for the International Symposium on Sustainable Development of Natural Resources in the Third World. Ohio State University, Columbus, OH. October.

*Fedler, C.B., G.R. Hrubant, L.L. Berger and D.L. Day. 1984. High-rate Ensiling of Cracked Corn and Manure for Beef Rations. Paper No. 84-3581 presented at the 1984 Winter Meeting of the ASAE. New Orleans, LA. December.

BOOKS: Landesman, L., C.B. Fedler, and R. Duan. 2010. Plant Nutrient Phytoremediation Using Duckweed. In: Eutrophication: Causes Consequences and Control. Eds.: A.A. Ansari, S. Singh, G.R. Lanza, and R. Walter, pps. 341-354 of 700. Springer Publications, Netherlands. DOI 10.1007/978-90-481-9625-8_17.

Borrelli, J., C.B. Fedler and J.M. Gregory. 1998. Mean Crop Consumptive Use and Free-Water Evaporation for Texas. Texas Tech University, Lubbock, TX. 79409.

OTHER PUBLICATIONS:

(* with presentation)

*Silva Junior, L. C. S., Fedler, C.B. 2023. From scarcity to abundance: Nature-based strategies for small communities experiencing water scarcity in West Texas. In: WateReuse Texas, Frisco, TX, 2023.

*Silva Junior, L. C. S., Fedler, C.B. 2023. Pond-In-Pond (PIP) - An Upgraded Pond Design Towards Water Sustainability. In: 2023 ASCE EWRI World Congress, Henderson NV.

*Silva Junior, L. C. S., Fedler, C.B. 2022. Pond-in-Pond's anaerobic pit performance over conventional anaerobic ponds: a hydrodynamics comparison. In: 2022 Texas Water, San Antonio TX, 2022

- Fedler, C.B., J. Littlejohn, R. Duan, and L. Feng. 2012. Refining the application rates for onsite surface application. Final Report for Project No. 582-9-90351. Texas Commission on Environmental Quality. Austin, TX. 15 December 2012.
- Fedler, C.B., R. Francis, D. Parekh, and S. Blanchet. 2012. Review of potential onsite wastewater disinfection technologies. Final Report for Project No. 582-11-11054. Texas Commission on Environmental Quality. Austin, TX. 15 December 2012.
- Fedler, C.B., B.H. Amoli, T. Anderson, and Q. Cai. 2012. Effectiveness and utility of surface application and soil percolation for removal of pharmaceutical and personal care products. Final Report for Project No. 582-9- 90351. Texas Commission on Environmental Quality. Austin, TX. 15 December 2012.
- Fedler, C.B., J. Borrelli, R. Duan. 2009. Manual for Designing Surface Application of OSSF Wastewater Effluent. Final Report for Project No. 582-8-88017. Texas Commission on Environmental Quality. Austin, TX. 1 December 2009.
- Fedler, C.B., J.L. Hanson, M. Beruvides, J. Simonton, and C. Lyford. 2008. Utilizing Agricultural Biomass in Energy Production and Economic Development. Final Report for Project No. CM707. Texas State Energy Conservation Office, Austin, TX. 1 December 2008.
- Fedler, C.B., R. Duan, J. Borrelli, and C.J. Green. 2008. Design and Operation of Land Application Systems from a Water, Nitrogen, and Salt Balance Approach. Final Report for Project No. 582-5-73601. Texas Commission on Environmental Quality. Austin, TX. 1 December 2008.
- Fedler, C.B., R.D. Hammond, P. Chennupati, and R. Ranjan. 2007. Biomass Production from Recycled Waste and Water. Final Report for Project No. CM526, State Energy Conservation Office, Austin, TX. September 2007.
- Jayawickrama,P., A. Jackson, C.B. Fedler, A. Morse, and S. Rajagopalan. 2005. Use of Alternative Water Sources. Final Report for Project No. TX-05/0-4412-1, Texas Department of Transportation. October 2005.
- Fedler, C. B., P. Pearson, J. Borrelli, C.J. Green, M. Galyean, T. Provin, D. Rivera. 2003. Utilizing Compost as an Alternative Method to Standard Seeding. Final Report for Project No. TX-03/0-4571-1, Texas Department of Transportation. November 2003.
- *Fedler, C.B. 2003. Integration of Gasification for Processing Animal Residuals. Animal Residuals Conference: Alternative Technologies, Approaches, and Biosecurity. Water Environment Federation, Arlington, VA. 2-4 November 2003.
- Fedler, C.B., C.J. Green, B. Mueller and P.R. Pearson. 2003. Denitrification for Land Applied Treated Wastewater. Final Report for Project No. 582-2-49496, Texas On-site Wastewater Treatment Research Council. Texas Commission on Environmental Quality.
- Fedler, C.B., C.J. Green, B. Mueller and P.R. Pearson. 2003. Denitrification for Land Applied Treated Wastewater. Final Report for City of Lubbock, Lubbock, Texas.
- Fedler, C.B. and J. Borrelli. 2001. Re-evaluating Surface Application Rates for Texas OSSF Systems. Final Report to the Texas On-Site Wastewater Treatment Research Council Conference. Contract No. 582-1-83219. Texas Natural Resource Conservation Commission. Austin, TX 78711-3087.
- *Parker, N.C. and C.B. Fedler. 1999. Aquaculture and Confined Animal Operations: An Integrated Approach to Recycle Resources. Book of Abstracts. World Aquaculture 1999, April 26-May 2, 1999. Sydney, Australia, pp. 583.
- *Parker, N.C., C.B. Fedler, and T.J. Cox. 1999. Potential for Aquaculture in Effluents from Cattle Feedlots, Book of Abstracts. World Aquaculture 1999, April 26-May 2, 1999. Sydney, Australia, pp. 584.
- Borrelli, J., C.B. Fedler and J.M. Gregory. 1998. Mean Crop Consumptive Use and Free-Water Evaporation for Texas. Final Report for the Texas Water Development Board. Contract No. 95-483-137. Austin, TX.
- Fedler, C.B. and N.C. Parker. 1998. Utilization of Biomass Resources for Energy Production. Final Report to the U.S. DOE. Texas Tech University. 17 November 1998.
- Fedler, C.B., J. Borrelli and R. E. Zartman. 1996. Combined Land Application of Sludge and Secondary Treated Municipal Wastewater. Final Report to The City of Lubbock, Texas. Texas Tech University. 16 December, 1996.
- *Fedler, C.B. and N.C. Parker. 1995. Constructed Wetland for Nutrient Reduction at Lake Tanglewood, Amarillo, Texas. Final Research Report to Lake Tanglewood Association. Texas Tech University. 20 January 1995.

- Fedler, C.B. and J.M. Gregory. 1994. Travel Report for Visit to Sierra Army Depot and Tooele Army Depot Environmental Site Visit for CERL, Corps of Engineers, Champaign IL.
- Fedler, C.B. and J.M. Gregory. 1994. Travel Report for Visit to Pine Bluff Arsenal and Anniston Army Depot Environmental Site Visit for CERL, Corps of Engineers, Champaign IL.
- Fedler, C.B. 1994. Travel Report for Visit to Picatinney Arsenal, Seneca Army Depot and Letterkenny Army Depot Environmental Site Visit for CERL, Corps of Engineers, Champaign IL.
- Fedler, C.B. and N.C. Parker. 1993. Low Energy Consumption Waste Treatment System. Final Report for the Center for Energy Research, Texas Tech University, Lubbock, TX.
- Fedler, C.B., N.C. Parker, H.L. Schramm, Jr. and J. Borrelli. 1991. Integrated Production of Algal Protein, Omega-3 Fatty Acids, and Fish in West Texas. Final Report to the U.S. Department of Commerce, Economic Development Administration, Project No. 08-06-02714. Austin, Texas.
- *Deng, Y. and C.B. Fedler. 1989. Thermal Conductivity Characteristics and Prediction for Binary Mixture of Porous Media. Final Report for Texas Tech University Graduate School Summer Research Award. Lubbock, Texas.
- *Fedler, C.B., J.M. Gregory and J. Borrelli. 1988. Optimizing Under-Utilized Water Resources From Urban Areas in the Arid Southwest. Final Report to the Water Resources Center, Texas Tech University, Lubbock, TX. November.
- Fedler, C.B., K.A. Rainwater, M.J. Dvoracek, and R.H. Ramsey. 1988. Field Study of Potential Pollutant Movement in the Environment. Final Report to the Texas Water Development Board Project No. 55-61017. Texas Tech University, Lubbock, TX. February.
- *Fedler, C.B., S.B. Belknap, G.L. Barker and J. Borrelli. 1988. Models for Predicting Weather Effects on Stripper Harvested Cotton Quality. Final Report to Cotton, Inc. Project No. 86-605. Texas Tech University, Lubbock, TX. January.
- Borrelli, J. and C.B. Fedler. 1988. Report on Recommendations for Crops and Irrigation of Wastewater Effluent on the Gray Farm. Report for the City of Lubbock. Texas Tech University, Lubbock, TX. June.
- Yueying, D. and C.B. Fedler. 1988. Optimizing Under-Utilized Water Resources from Urban Areas in the Arid Southwest. Final Report for Texas Tech University Graduate School Summer Research Award.
- Cortez, L.A.B. and C.B. Fedler. 1988. Technical-Economical Analysis of Ethanol Distillation Using the "Process Simulation Program". Final Report for Texas Tech University Graduate School Summer Research Award.
- Gregory, J.M., C.B. Fedler, and R.E. Zartman. 1988. Study to Evaluate Salt Movement at the Deaf Smith Nuclear Repository Site. Final Report to the State of Texas, Project No. 0750. Texas Tech University, Lubbock, TX. May.
- North, J.R., C.B. Fedler, T.H. Chen and D.L. Day. 1987. The University of Illinois Digester - Principles of Operation. Paper presented at the CIGR Section 2 Conference. University of Illinois at Urbana-Champaign. June.
- *Fedler, C.B. 1987. Antibiotic Effects on Anaerobic Digestion of Swine Manure. Paper No. SWR-87-303 presented at the ASAE Southwest Region Meeting. Fayetteville, AR. April.
- *Fedler, C.B. and J.M. Gregory. 1987. Writing Technical Documents Objectively. Paper No. SWR-87-General Session presented at the ASAE Southwest Region Meeting. Fayetteville, AR. April.
- Gregory, J.M. and C.B. Fedler. 1987. Grain Bin Safety. Paper No. SWR-87-304 presented at the ASAE Southwest Region Meeting. Fayetteville, AR. April.
- *Gregory, J.M. and C.B. Fedler. 1986. Equation Describing Granular Flow Through Circular Orifices. Paper No. SWR-86-003, Electrical Power and Processing, presented at the ASAE Southwest Region Meeting. Baton Rouge, LA. April.
- *Gregory, J.M. and C.B. Fedler. 1986. Performance Reliability for Spray Application. Paper No. SWR-86-004, Power and Machinery, presented at the ASAE Southwest Region Meeting. Baton Rouge, LA. April.

Gregory, J.M. and C.B. Fedler. 1986. Separation Function for Combine Straw Walkers. Paper No. SWR-86-003, Power and Machinery, presented at the ASAE Southwest Region Meeting. Baton Rouge, LA. April.

Fedler, C.B. 1985. Kinetic Modeling of Mesophilic Digestion of Swine Manure Containing an Antibiotic Inhibitor. Ph.D. Dissertation. University of Illinois, Urbana-Champaign, IL. June.

*Fedler, C.B. and D.L. Day. 1985. Methane Production from Hog Manure: Update on the U of I Methane Digester. 1985 Livestock Waste Management Conference. Champaign, IL. March.

*Hrubant, G.R., C.B. Fedler, D.L. Day and L.L. Berger. 1985. High-Rate Ensiling of Cracked Corn and Manure for Beef Rations. 1985 Livestock Waste Management Conference. Champaign, IL. March.

*Fedler, C.B. and D. L. Day. 1985. Biogas Plant for an Integrated Farm Biomass Energy System. Paper presented at the Conference on Alternate Energy in the Midwest. Schaumburg, IL. February.

*Fedler, C.B. 1983. The Anaerobic Digester on the Swine Research Farm at the University of Illinois. Paper presented at the 1983 Livestock Waste Management Conference. Champaign, IL. March.

Smith, R.J., C.B. Fedler and D.S. Bundy. 1983. Recycling, Heat Exchanger and Comminution, as Means of Improving the Energy Yield from an On-farm Anaerobic Digester for Beef Manure. Grant No. EW-79-G47-1008, Department of Energy Appropriate Technology Region, VII. March.

Fedler, C.B. 1981. Mechanically Agitated Heat Exchanger for an Anaerobic Digester. Master's Thesis. Iowa State University, Ames, IA. May.

INVITED PRESENTATIONS:

Global water stewardship with a Brazilian perspective. Centro Universitario das Cataratas (UDC). Foz de Iguacu. June 2019.

Research Education: How to build interdisciplinary integrated technology teams. Jimma Institute of Technology, Jimma University. February 2019.

Global water stewardship with an Ethiopian perspective. Jimma Institute of Technology, Jimma University. February 2019.

Global water stewardship for Texas, the U.S., and globally. Osher Lifelong Learning Institute, Texas Tech University, Fredricksburg, TX. February 2019.

Integrated technologies for wastewater treatment-applications in Brazil. Centro Universitario das Cataratas (UDC). Foz de Iguacu. June 2018.

Global water stewardship for Texas and the U.S. Osher Lifelong Learning Institute, Texas Tech University, Lubbock, TX. April 2018.

Integrating technologies for recycling water and biomass. Tianjin Agricultural University, Tianjin, China. In addition, I presented two talks, one to students about studying their graduate studies in America and one to faculty on current teaching strategies used in the U.S. Two additional talks were presented one for the Agricultural Research Institute on biomass and water recycling and the second to the Tianjin Environmental Institute on techniques for biomass recycling and energy production. June 2014.

Alternative feedstocks for the biodiesel process. International Oil Mill Superintendents Association Convention. Nashville, TN 21 June 2011.

Utilization of Biomass for Energy. Corporate Integration of Renewable Energy Conference. San Antonio, TX 1-2 February 2010. Q1 Productions. Chicago, IL.

Keynote speaker for the Symposium for IDEAS (Ideas and Development for Educational Advancement of Scholarship) Conference. Pittsburgh State University, Pittsburgh, KS, 12-13 March, 2008.

Onsite Wastewater Treatment. Bayou Preservation Association: Preserving our Natural Assets as the Region Grows. October 21, 2008.

Integrated Wastewater Treatment and Sustainable Economic Development. The 19th Annual Colorado Energy and Sustainability Fair, Crestone, CO. August 30, 2008.

Integration of Gasification for Processing Animal Residuals. Animal Residuals Conference: Alternative Technologies, Approaches, and Biosecurity. Water Environment Federation. Arlington, VA. 2-4 November 2003.

Improving N Removal in Constructed Wetland for Animal Waste Treatment. USDA-NRCS Workshop on Wetlands. Syracuse NY. 16-19 June, 2003.

KRFE Radio AM 580 Talk Show Interview with Ed Wilkes. Future Water Issues In Texas. 9 July, 2003. Ag Ed

Radio Talk Show Interview with Eddie Griffith, KRFE Radio AM 580. 3 July 2003.

KRFE Radio AM 580 Talk Show Interview with Ed Wilkes. Water Recycling and Its Potential Use In Texas. 17 February, 2003.

Ag Ed Radio Talk Show Interview with Eddie Griffith, KRFE Radio AM 580. 12 February 2003.

Television interview for ABC Affiliate News on the Integrated Facultative Pond Waste Treatment System, April, 1997.

Integrated Facultative Ponds: Their use for Wastewater Treatment Prior to Reuse. Australian Waste Water Association Conference, Melbourne, Australia, March 16-21, 1997.

Television interview for CBS Affiliate News on the Integrated Waste Treatment System, August, 1996. Land

Application of Biosolids. Presented to the Water Environment Association of Texas. January, 1996.

Constructed Wetland for Nutrient Reduction at Lake Tanglewood, Amarillo, Texas. Presented to the Lake Tanglewood Association. January 1995.

Wastewater Renovation/Recycle From An Advanced Facultative Pond/Land Application System. Innovative Technologies Committee of the Texas Natural Resource Conservation Commission. February, 1995.

Presentation on "Essential Elements of Oral/Written Communications: Tools and Rules." 1994 International Summer Meeting of ASAE.

Sea Grant Institute radio interview on "Feedlot Fish" for the Earthwatch Radio. 1994.

Land Application of Wastewater Seminar. Presented to the Water Environment Association of Texas. 1994. (Full day seminar).

OTHER PROFESSIONAL ACTIVITIES:

Jimma Institute of Technology, Jimma University. External Examiner for PhD defense for Dawit Teweldebirhan Tsige. May 2020.

Jimma Institute of Technology, Jimma University. External Examiner for PhD defense for Dawd Temam Ahmed. May 2020.

Jimma Institute of Technology, Jimma University. External Examiner for PhD defense for Teyba Wedajo Mahdi. May 2020.

Hauncayo, Peru: Invited to present a talk on designing integrated facultative ponds for municipal wastewater treatment. August 2014

Tianjin, China: Invited to present talks on integrating technologies for recycling water and biomass at Tianjin Agricultural University. In addition, I presented two talks, one to students about studying their graduate studies in America and one to faculty on current teaching research strategies used in the U.S. Two additional talks were presented one for the Agricultural Research Institute on biomass and water recycling and the second to the Tianjin Environmental Institute on techniques for biomass recycling and energy production. June 2014.

Changuinola, Panama: Took a team of students with Engineers Without Borders to visit the Naso Village in Solong to finalize a design for a water treatment system for residents of the village. In addition, designed a self-cleaning floating debris system for their water collection system. July 2009, July 2014, May 2018.

Hosted three researchers from the Kazan State Agro University in Kazan, Russia for three weeks on a research exchange program on alternative energy research. Participants were Drs. Fiak Safilollin, Elmas Nurullin, and Liubov

Chumarova. A memorandum of understanding to develop a cooperative research program was signed as a result of the visit. February 2008.

Ankara, Turkey: Invited to present a talk on water and biomass recycling for energy production through integrated systems, present new techniques for developing and delivering distance education courses, development of cooperative research exchange. May 2003.

Hauncayo, Peru: Invited to present a talk on water recycling, wastewater treatment for desert mountain regions, and analyze their current water and wastewater treatment systems for the purpose of developing cooperative research program. August 2001.

Sydney and Dubbo, NSW, Australia: negotiated research opportunities with various entities on land application of waste, use of the IFP pond, energy recovery from waste, and by-product development from water and wastewater reuse systems. In addition, met with the distance learning personnel at Stuart University to share our activities and develop a cooperative effort between the two entities, 1999.

Tepatitlan, Mexico: Assisted in developing a cooperative research program at the University of Guadalajara campus of Centro Universitario De Los Altos at the request of TTU's director of International Affairs, 1998.

Melborne and Dubbo, NSW, Australia: presented an invited paper on the use of the integrated facultative pond and land application for effective wastewater treatment and water reuse in arid and semi-arid regions. 1997.

Serve on the Rule Revision Committee for the Texas Natural Resource Conservation Commission to revise the State Guidelines for the Design of Natural Wastewater Treatment Systems, 1995.

Irbid, Jordan: member of a USAID project to a) evaluate the agricultural engineering program, b) develop a research plan for environmental engineering, and c) develop cooperative research plan between Jordan University of Science and Technology and Texas Tech University, 1991.

PROFESSIONAL ORGANIZATIONS:

Fellow in the ASABE, 2018
Board Certified Environmental Engineer, 2017
Licensed Professional Engineer, Texas, 65112
American Society of Civil Engineers - Member
American Society of Agricultural and Biological Engineers - Member
Water Environment Federation - Member
American Society for Engineering Education - Associate Member
World Aquaculture Society - Member
International Society for Epistocybernetics - Member (President, 1996-2006)
Water Environment Association of Texas

TECHNICAL COMMITTEES:

ASABE Environmental Quality Group (new T-09)
Chair, 2000-2001
Vice-Chair, 1999-2000
Program Chair, 1998-1999
Associate Editor for FPE Division of ASAE 1994-1996
ASABE Southwest Region Paper Award Committee
Chair, 1988
Environmental Quality Coordinating Committee-ASABE
Chair, 1994-1996
Vice-Chair, 1993-1994
Secretary, 1992-1993
Physical Properties of Agricultural Products Committee-ASABE
Chair, 1992-1994
Vice-Chair, 1991-92
Secretary, 1989-91
Land Application of Waste Committee-ASABE
Chair, 1989-90
Vice-Chair, 1988-89
Secretary, 1987-88
Agricultural Sanitation and Waste Management Committee
Liquid Materials Application Committee
Grain and Feed Processing and Storage Committee
Biomass Energy Conversion
Southwest Region ASAE
Vice-Chair for Membership, 1987-88+

**UNIVERSITY
COMMITTEES:**

Faculty Senate
College of Engineering (1994-97; 2016-19)
Representative At Large (1990-93)
Secretary, 1995-1996
Academic Programs Sub-committee to the Faculty Senate
International Center for Arid and Semi-Arid Land Studies
Technical Advisory Committee
Intellectual Property Policy Committee
International Education Committee
International Affairs Committee
Effective Teaching Committee, College of Engineering (Chair, 1988-90)
Superconducting Supercollider Task Force with the City of Lubbock
Super Magnetic Energy Storage System Task Force with the City of Lubbock
Engineering Freshman Task Force
Graduate Faculty Advisors Committee
Departmental Curriculum Revision Committee
Committee to Define and Adopt a Research Philosophy for Texas Tech University

AWARDS:

TTU Dads and Moms Association Spencer A. Wells Faculty Award for Creative Teaching, 1998.

Engineer of the Year Award awarded by the Texas Section of the American Society of Agricultural Engineers. 1997.

Top Paper Award, Gulf/Southwest Regional Conference of the ASEE, 1992.

Halliburton Outstanding Teaching Award. College of Engineering, Texas Tech University, 1990.

Outstanding Professor of the Year Award. ASAE Student Branch. Texas Tech University. 1990, 1992.

Recipient of two 1988 ASAE Top Paper Awards (annual award presented to authors of the top 2.5 percent of the published papers).

Halliburton Outstanding Researcher Award. College of Engineering, Texas Tech University, 1986.

Outstanding Teacher. University of Illinois, 1981, 1982, and 1983.

The Reverend P.T. Taganidies Award for Outstanding Graduate Student in Agricultural Engineering. Iowa State University, 1981.

Alpha Epsilon, Honor Society for Agricultural Engineers. 1981

Gamma Sigma Delta, Honor Society for Agriculture. 1984

CONSULTING:

Facility Engineering Consulting LLC. Fayetteville, AK. Design of RAS waste treatment systems. 2019-present.

Andy Barrett, Attorney at Law, Austin, Texas. Serve as an expert witness for a design of a surface applied wastewater recycling system. 2013 - present.

Cook-Joyce, Inc. Design of industrial wastewater land application systems. 2006-present.

Frank A. Spencer and Associates, Inc. Design of natural wastewater treatment system for the City of Presidio, TX and for the city of Valentine, TX. 2003-2014.

Hoynes Wheeler & Thorne Pty Ltd. Design of Natural Wastewater Treatment Systems for water reuse in the arid and semi-arid regions in NSW, Australia. 1995-2002.

BioCOPE, Inc. Consulting on enzymatic system for enhancing wastewater treatment processes. 1995-present.

City of Lubbock, TX. Design of the water reuse land application system and analysis of groundwater remediation project. 1988-2001.

Dowdey, Anderson, and Associates. Design of integrated facultative pond and land application of wastewater treatment system for Colorado City, Texas. May 1994-2002.

Thompson, Coe, Cousins & Irons Attorneys and Counselors at Law, Dallas, TX. Serving as an expert witness for claim nos. 474486 and 474485 for gin trash fire. August 1990 - 1992.

The New Northrup King, New Deal, TX. Evaluation of structural integrity of an existing building for the purpose of additional overhead storage. May 1989 - 1991.

LEVCO Systems, Amarillo, TX. Analysis of waste processing and land application of a meat packing plant in Kansas. July, 1988 - 1992.

Associated Cotton Growers, Crosbyton, TX. Cotton gin trash processing. March, 1987 - December, 1988.

Law Office of Scott, Douglass & Luton, Austin, TX. Waste processing for 10,000 head cattle feedlot operation. March, 1987 - February, 1988.

COOPERATE ACTIVITIES:

Founding Member and Board of Director for The Renewable Energy Institute (501C3), Board Member, Austin, TX, USA, appointed. (July 2007 - 2014).

American Air Scrubbers, Inc, Board Member, Lubbock, TX. (June 2005 - 2016). General

Steel Warehouse, Inc, Board Member, Lubbock, TX. (October 2004 - Present). Global

Scientific, Inc., Board Member, Lubbock, TX. (January 2002 - Present).

CIVIC ACTIVITIES:

Member of the Board of Directors for General Steel Warehouse, Inc. Lubbock, TX. October 2004-present.

Lubbock Lions Club, (*Largest Lions Club in the United States*) 1992-present, Member, Board of Director (3 years), program coordinator for the Habitat for Humanity 20-in-2000 house building project, and Chair of Projects Committee July 2006 to present. 3rd Vice-President July 2007-June 2008. 2nd Vice-President July 2008-June 2009. 1st Vice-President July 2009-June 2010. President Elect July 2010-June 2011. President July 2011-June 2012.

Odyssey of the Minds Gifted and Talented Programs: Judge, Structures in Harmony, City, Regional, and State competitions. 1990, Head Judge 1991 and 1992, Program Captain 1993, 1994, 1995, 1996. World Competition Judge 1994. City competition only in 1997 to 2000

Salvation Army disaster volunteer, 1993 to present.

Lubbock Food Bank Dehydration Facility waste treatment system design (volunteer services), 1992-1994.

Lubbock's Habitat for Humanity volunteer, 1993-present.

United Way of Lubbock; Departmental Campaign Chair: 1985, 1986 and 1987.

Lubbock Arts Festival volunteer: 1986, 1987, 1988 and 1989.

Lubbock Cruise for the Disabled volunteer: June 27, 1987.

**STUDENT
ORGANIZATIONS:**

Faculty Advisor for Delta Chi Fraternity, 2009-2017.

Faculty Advisor (Founding) for the Society of STEM Education, 2015 to 2020. Faculty

Advisor (Founding) for the Tech Lions Club, 2013 to 2020.

Faculty (Founding) Advisor for TTU Student Chapter for Engineers Without Borders, 2008-present. Went to Panama for an environmental assessment of the water and wastewater system, July 2009 and again in July 2014.

Faculty Advisor (Founding) for the Society of Environmental Professionals (SEP), 1998-present (developed this student organization through Water Environment Federation).

ASAE Student Branch Advisor, 1989-1993.