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### **I. EDUCATION**

**Ph. D.** Hydrology/Hydrogeology, Minor in Geological Engineering, 1996, University of Nevada, Reno, Nevada, USA  
**M. Sci.** Engineering Geology/Hydrogeology, 1987, Institute of Geology, Chinese Academy of Sciences, Beijing, China  
**B. Eng.** Hydrogeology/Engineering Geology, 1983, Tongji University, Shanghai, China  
**AgriLife Advanced Leadership Cohort III**, 2016. Texas A&M University.

### **II. EMPLOYMENT HISTORY**

**Professor**, Department of Biological and Agricultural Engineering (BAEN), Texas A&M University, Texas A&M AgriLife Research Center at El Paso, TX, 2014 – present, **Associate Professor**, 2007 – 2014, **Assistant Professor**, 2001 – 2007  
**Adjunct Professor**, Texas Tech University, Lubbock, Texas, 2009 - present  
**Adjunct Professor & Graduate Faculty**, Department of Civil Engineering, New Mexico State University, Las Cruces, New Mexico, 2004 - present  
**Adjunct Professor**, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, 2007-2009  
**Hydrogeologist**, El Paso Water Utilities, El Paso, TX, 1998 - 2001  
**Postdoctoral Fellow /Visiting Assistant Professor**, Department of Civil Engineering, Morgan State University, Baltimore, Maryland, 1997 – 1998  
**Research Assistant**, Nevada Bureau of Mines and Geology, Reno, Nevada, 1991 – 1996  
**Assistant Professor**, Institute of Geology, Chinese Academy of Sciences, Beijing, China, 1989 – 1991,  
**Research Assistant**, 1983 – 1988

### **III. PROJECTS AND FUNDING**

Improving Technologies for Multi-Well Aquifer Storage and Recovery (ASR) Systems, Texas A&M University Water Seed Grant, Co-PI.  
Implementing the Pecos River watershed protection plan thru hydrogeological assessment & airborne electromagnetic survey, EPA 319 Program, TSSWCB, PI.  
A Hydro-Econometric analysis of producer water use and aquifer hydrology in the Texas High Plains, U.S. Department of Agriculture -CSREES, PI; Team with Texas Tech University  
Transboundary aquifer assessment program, U.S. Department of Interior, U.S. Geological Survey, Co-PI  
Development of RiverWare model of the Rio Grande for water resources management in the Paso Del Norte watershed, U.S. Army Corps of Engineers, PI  
Assessment of snowmelt and runoffs in an inland river in an arid region in response to climate changes, National Science Foundation of China, Ministry of Human Resources and Social Security, Xinjiang Water Resources Bureau, Co-PI.  
Crop water conservation system in arid regions, 948 Projects, Ministry of Water Resources, China, Technical advisor.  
Economic assessment of Rio Grande salinity, U.S. Army Corps of Engineers, Co-PI  
Evaluation of irrigation efficiency strategies for Far West Texas: Feasibility, water savings and cost considerations, Texas Water Development Board, Co-PI

Groundwater and surface water interaction and conjunctive uses in the Qiadam Basin – case study at the Xiangride-Qiadam River, Institute Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Co-PI.

Membrane treatment of impaired irrigation return and other flows for creating new sources of high quality water, AWWARF, U.S. Bureau of Reclamation & El Paso Water Utilities, Co-PI

Installation of river and drain instrumentation stations to monitor flow and water quality and internet data sharing, sponsored by USBR, EPWU and TAES: PI.

Evaluation of alternatives for improvement of water delivery efficiency, hydrological modeling of the Rio Grande basin (Soil and Water Assessment Tool), and decision support system for irrigation district management (Rio Grande Basin Initiative on Irrigation Efficiency, USDA): Co-PI.

Coordinated water resources database and GIS (El Paso Water Utilities, U.S. Army Corps of Engineers, and PdN Watershed Council): PI.

Integrated management strategies to protect and conjunctively use water resources in the Paso Del Norte Region (USDA Hatch Project): PI.

Conceptual model for the Rio Grande flow between Elephant Butte Reservoir and El Paso (U.S. Army Corps of Engineers and Paso del Norte Watershed Council): PI.

Saltcedar control and water uses studies and monitoring; watershed protection plan development for the Pecos River, PI, C. Hart, sponsored by USEPA and Texas State Soil and Water Conservation Board; Co-PI.

The use of reclaimed effluents and salty groundwater as irrigation sources for cotton culture and vegetable production; the Texas Cotton Incorporated and USBR; PI.

Regional water resources plan for the Far West Texas (Senate Bill 2, TWDB): Co-PI.

Water conservation through reuse of gray water (USBR): Co-PI.

Seepage losses and water salvage by canal lining (TWRI, USBR and El Paso County Water Improvement District No. 1): PI

#### **IV. SELECTED PUBLICATIONS**

- Li, Y., X. Shao, and **Z. Sheng**. 2016. Field experiments on reducing pollutants in agricultural-drained water using soil-vegetation buffer strips, *Pol. J. Environ. Stud*, 25(1): 183-192.
- McDonald, A. K., B. P. Wilcox, G. W. Moore, C. R. Hart, **Z. Sheng**, and M. Keith Owens. 2015. Tamarix transpiration along a semiarid river has negligible impact on water resources, *Water Resour. Res.*, 51, doi:10.1002/2014WR016866.
- Sun, Ge, Ari Michelsen, **Zhuping Sheng**, Andrew Feng Fang, Yizi Shang, and Huilan Zhang, 2015. Featured Collection Introduction: Water for Megacities - Challenges and Solutions, *Journal of AWWRA*, 51(3): 585-588. DOI: 10.1111/1752-1688.12317.
- Zhang, N., and **Z. Sheng**. 2015. New analytical solutions for one dimensional steady-state flow in an unconfined aquifer with a sloping base, *Journal of Engineering Geology (in Chinese)*, 23 (SUPPL.): 223-228.
- Sheng, Z.**, and X. Zhao, 2014. Special Issue on Managed Aquifer Recharge: Powerful management tool for meeting water resources challenges, *Journal of Hydrologic Engineering*, DOI: 10.1061/(ASCE)HE.1943-5584.0001139.
- Ahmed, N., S.W. Taylor, and **Z. Sheng** (eds.) 2014. *Hydraulics of Wells: Design, Construction, Testing, and Maintenance of Water Well Systems*, ASCE Manuals and Reports on Engineering Practice No. 127. ASCE, Reston, 498p.
- Abudu, S., **Z. Sheng**, C. Cui, and D. Guan. 2014. The karez system in China's Xinjiang Region, in John Calabrese (ed.), *Harvesting Water and Harnessing Cooperation: Qanat Systems in the Middle East and Asia*, Middle East-Asia Project (MAP), Middle East Institute, January 18, 2014, available at: <http://www.mei.edu/content/harvesting-water-and-harnessing-cooperation-qanat-systems-middle-east-and-asia>.
- Zhang, N., **Z. Sheng**, S. Qi, J. He, and S. Li. 2014. Mechanisms and conditions of compression extrusion of a horizontal-dip thin soft rock strata. *Journal of Engineering Geology (in Chinese)*. 22(4): 610-624.

- Gutchick, V.P., and **Z. Sheng**. 2013. Control of atmospheric fluxes from a pecan orchard by physiology, meteorology, and canopy structure: modeling and measurement. *Agricultural Water Management*. 129: 200-211, DOI: 10.1016/j.agwat.2013.08.004
- Liu, Y., and **Z. Sheng**. 2013. Soil moisture statuses in an irrigated pecan field. *Journal of Irrigation and Drainage Engineering*. 139(1): 26-40.
- McDonald, A.K., **Z. Sheng**, C.R. Hart, and B.P. Wilcox. 2013. Studies of a regulated dryland river: surface-groundwater interactions. *Hydrological Processes*. 27(12): 1819–1828, DOI: 10.1002/hyp.9340.
- Sheng, Z.**, G. Fox, and S. Abudu. 2013. Interconnection of atmospheric water, surface water, and groundwater. *Journal of Hydrologic Engineering*. 18(10): 1-2
- Sheng, Z.** 2013. Impacts of groundwater pumping and climate variability on groundwater availability in the Rio Grande Basin. *Ecosphere*. 4(1):Art5. <http://dx.doi.org/10.1890/ES12-00270.1>
- Sheng, Z.**, M. Darr, J. P. King, J. Bumgarner, and A. Michelsen. 2013. Mesilla Basin/Conejos-Médanos Section of the Transboundary Aquifer Assessment Program, in Alley, W.M. (ed.) Five-Year Interim Report of the United States – Mexico Transboundary Aquifer Assessment Program: 2007 – 2012, U.S. Geological Survey Open-File Report 2013–1059, Reston, VA: 19-30.
- Ganjugunte, G.K., **Z. Sheng**, and J.A. Clark. 2012. Soil salinity and sodicity appraisal by electromagnetic induction in soils irrigated to grow cotton, *Land Degradation and Development*. DOI: 10.1002/ldr.1162.
- Zhang, N., X. Li, **Z. Sheng**, S. Li, and J. He. 2012. Mechanisms of tensile failure under uniaxial compression test – analytical interpretation of non-Griffith theory of a closed crack model, *Journal of Engineering Geology*, 20 (Supp. In Chinese): 886-899.
- Abudu S., J.P. King, and **Z. Sheng**. 2012. Comparison of the performance of statistical models in forecasting monthly total dissolved solids in the Rio Grande, *Journal of American Water Resources Association*. 48(1): 10-23.
- Ganjugunte, G.K., **Sheng, Z.** and J.A. Clark. 2012. Evaluating the accuracy of soil water sensors for irrigation scheduling to conserve freshwater, *Appl. Water Sci.* 2:119-125.
- Jana, R.B., B.P. Mohanty, and **Z. Sheng**. 2012. Upscaling soil hydraulic parameters in the Picacho Mountain region using Bayesian neural networks, *Transactions of the ASABE*. 55(2): 463-473.
- Sheng, Z.**, C. Wang, J. Gastelum, S. Zhao, and J. Bordovsky. 2012. Desired future conditions for groundwater availability in the High Plains aquifer system, in Lal R. and Stewart, B.A. (eds.), *Advance in Soil Science: Soil Water and Food Security*, Taylor & Francis Group, LLC, 85-116.
- Liu, Y. and **Z. Sheng**. 2011. Trend-outflow method for understanding interactions of surface water with groundwater and atmospheric water for eight reaches of the upper Rio Grande, *J. of Hydrology*. 409(3-4): 710-723.
- Ganjugunte, G.K., **Z. Sheng**, and R.J. Braun. 2011. Salinity management using anionic organic polymer in a pecan field with calcareous-sodic Soil in El Paso, Texas, *J. Environ. Qual.* 40:1314–1321.
- Zhang N., **Z. Sheng**, X. Li, S. Li, and J. He. 2011. Study on relationship between Poisson's ratio and angle of internal friction for rocks, *Chinese Journal of Rock Mechanics and Engineering* (in Chinese). 30 (Supp. 1, in Chinese): 2599-2609.
- Fahy, M. P., J. E. Balliew, A. J. Tarquin, A. M. Michelsen, S. Miyamoto, G. Di Giovanni, **Z. Sheng**, G. Niu, N. Garcia, J. P. King and F. Cortez. 2011. Membrane Treatment of Impaired Irrigation Return and Other Flows: Creating New Sources of High-Quality Water. Water Research Foundation Project 4069 Final Report. 205p.
- Sheng, Z.**, J. Li, J.P. King, and W. Miller. 2011. Development of groundwater resources, Chapter 8 in M.M. Aral and S.W. Taylor (eds.) *Groundwater Quantity and Quality Management*, ASCE, Reston, p. 203-294.
- Li, J. and **Z. Sheng**. 2011. Geological hazards due to groundwater discharge/recharge, Chapter 17 in A.N. Findikakis and K. Sato (eds.) *Groundwater Management Practices (IAHR Monograph)*, CRC Press, p. 238-281.

- Gastelum J., G. Small, and **Z. Sheng**. 2010. Application of the Drop Pipe Hydraulic and Aquifer Hydraulic Equations in Design and Operation of Artificial Recharge Wells, Proceedings, 7th International Symposium on Managed Aquifer Recharge, Abu Dhabi, UAE, October 9-13, 8p.
- Sheng, Z.** (Contributing author), National Research Council. 2008. *Prospects for Managed Underground Storage of Recoverable Water*, Committee Chair: Dr. Edward Bouwer, The National Academies Press.
- Sheng, Z.**, J. Arthur, J. Restrepo, and R. Allen-King. 2007. On Recovery Efficiency of Managed Underground Storage of Recoverable Water Systems, Proceedings of the 6th Biennial International Symposium on Managed Aquifer Recharge, Phoenix, Arizona, USA, October 29 – November 2: 84-95.
- Sheng, Z.** and J. Devere. 2005. Understanding and managing the stressed Mexico-USA transboundary Hueco bolson aquifer in the El Paso del Norte region as a complex system, *Journal of Hydrogeology*. 13(5-6): 813-825.
- Sheng, Z.**, A. Sturdivant, A. Michelsen, and R. Lacewell. 2005. Rapid economic assessment of flood-control failure along the Rio Grande: A case study, *International Journal of Water Resources Development*. 21(4): 629-649.
- Sheng, Z.**, Y. Liu, A. Michelsen, and D. Xu. 2005. Comparative study in water resources development of western regions in the United States and China, *Transaction of American Society of Agricultural Engineers*. 48(3): 1015-1024.
- Sheng, Z.** 2005. An aquifer storage and recovery system with reclaimed wastewater to preserve native groundwater resources in El Paso, Texas, *Journal of Environmental Management*. 75(4): 367-377.
- Hart, C. R., L.D. White, A.K. McDonald and **Z. Sheng**. 2005. Saltcedar control and water salvage on the Pecos River, Texas, 1999-2003, *Journal of Environmental Management*. 75(4): 399-409.
- Sheng, Z.**, D.C. Helm, and J. Li. 2003. Mechanisms of earth fissuring caused by groundwater withdrawal: *Journal of Environmental & Engineering Geoscience*. IX(4): 313-324.
- Assadian, N., C. Gogel, **Z. Sheng**, and U.V. Figueroa. 2003. Heavy metal distribution in open canals and drains in the Upper Rio Grande Basin, *Soil and Sediment Contamination*. 12(3): 305-323.

## **V. HONORS AND AWARDS**

- Texas Environmental Excellence Award: Rio Grande Basin Initiative Project – Texas Water Resources Institute, 2008.
- National Water Program Award as the Outstanding Integrated Activities for Water Resources: Rio Grande Basin Initiative Project, U.S. Department of Agriculture –Cooperative State Research, Education and Extension Service (USDA–CSREES), 2007.
- Vice Chancellor's Award in Excellence Research Team for the Rio Grande Basin Initiative, TAMU Agriculture Program, 2006.

## **VI. PROFESSIONAL ACTIVITIES AND LICENSES**

- Invited Committee Member, Advisory Committee on Sustainable Underground Storage of Recoverable Water, National Academy of Sciences, National Research Council, Water Science and Technology Board; 2005-06.
- Invited Expert: Aquifer Storage & Recovery Experts Meeting, EPA, May 5-6, 2009, Chicago, IL.
- Panelist: NSF 1631 Infrastructure Panel, Reston, VA, 2010.
- Past President, President (2012-13), President-Elect (2011-12), Association of Oversea Chinese Agricultural, Biological and Food Engineers.
- Vice President for International Affairs, American Institute of Hydrology, 2016-2017
- American Society of Civil Engineers (ASCE), Environmental and Water Resources Institute
- Past Chair, Chair (2011-2013) and Vice Chair (2009-2011), Committee of Groundwater Hydrology.
- Chair (2009) and Co-chair (2008 and 2010), EWRI Groundwater Symposium.
- Chair (2008–2009) and Vice Chair (2006–2008), Committee of Groundwater Management – Program

Secretary, Land Subsidence Task Committee, 2002-present.  
Award Committee Member, the Groundwater Council, 2008–2010.  
Co-Chair (2014-present), Chair (2011-2013), AWRA International Affairs Committee.  
Chair of Technical Committee on Aquifer Storage and Recovery (ASR); American Water Resources Association (AWRA); 2002-03  
Board Member, 2012-2015, Chinese American Water Resources Association (CAWRA).

Vice Chair, 2011-2012, Basin and Bay Expert Science Team (BBEST) for upper Rio Grande, TCEQ.  
Technical Committee Co-Chair, Executive Member, 2002-present, Paso del Norte Watershed Council.  
Outstanding Research Fellow, 2010-present, Ministry of Human Resources and Social Security and Oversea Chinese Scholars Committee of Xinjiang Bureau of Human Resources and Social Security, Urumqi, China.  
Outstanding Research Fellow, 2007-2013, Collaborative research on hydrologic cycle in arid region; sponsored by Institute of Geographical Sciences and Natural Resource Research, Chinese Academy of Sciences and Institute of Water Resources and Hydropower, Qinghai Province.  
Technical Expert, 2003-05, International Association of Hydrology (IAH), International Hydrology Program (IHP)-UNESCO Program, ISARM Americas (Internationally Shared Aquifer Resources Management).  
Expert Team: Analysis and Strategic Plan: Water for Sustainable Agriculture in Qatar, Submitted to Barwa, Qatar, Matrix Process Integration, March 2008.  
Expert Testimony: Hydrologic impacts review in support of protest of the New Mexico Office of State Engineering water rights application No. 4830: The City of Albuquerque proposal to divert surface water from the Rio Grande; William J. Miller Engineers and Peter Thomas White, Attorney; Santa Fe, New Mexico, 2002.

Associate Editor, Transactions of ASABE & Journal of Application of Engineering in Agriculture, 2010–present.  
Section Editor, International Journal of Agricultural and Biological Engineering, 2012-present  
Associate Editor, Journal of Hydrologic Engineering, ASCE, 2009–2015.

Professional Engineer License in Texas (87496) since 2001.  
Professional Hydrologist, National Registration (06-H-1656), American Institute of Hydrology since 2005.