



COLLEGE OF AGRICULTURE
AND LIFE SCIENCES
BIOLOGICAL & AGRICULTURAL ENGINEERING DEPARTMENT

November 14, 2012

## <u>M E M O R A N D U M</u>

TO:

David W. Reed, Associate Dean for Graduate Programs

College of Agriculture & Life Sciences

FROM:

Stephen W. Searcy

Professor and Department Head /

SUBJECT:

**Graduate Faculty Nomination** 

Enclosed herewith is the documentation nominating Dr. Zhuping Sheng to the Graduate Faculty.

Please note that also attached is the approval naming him an Associate Member in 2006. We are proposing to change his status to Member.

Please call if you have questions or need additional information.

SWSss Attachments

201 Scoates Hall 2117 TAMU College Station, TX 77843-2117 Tel. 979.845.3931 Fax. 979.862.3442 www.baen.tamu.edu

# Texas A&M University Office of Graduate Studies Graduate Faculty Personal Record Form

(Submit original with vitae only)

Nominating Departm	ment: Biological & Agricultural Engine	ering Mail !	Stop: 2117		
Name of Nominee: Zhuping Sheng			UIN (if applicable):		
Department of Nominee: Biological & Agricultural Engr.			Email Address: zsheng@ag.tamu.edu		
Date of Appointme	ent to Texas A&M: 2001	Loca	Location (if not on campus): El Paso, Texas		
Academic Rank or	Position Title: Associate Professor,	Texas A&M AgriL	ife Research Center a	at El Paso	
Tenured or Tenure	e Track: ☐ Yes 🔀 No	Gend	der: 🗵 Male 🗀 Fe	male	
Membership Type	: 🔀 Member 🔲 Associat	e Member	Adjunct Me	mber	
	Special Appointment - Please student's NAME and UIN or		nd semester)	nt (i.e. specific	
	Student Name:		Student UIN:		
	Course Number:		Semester:		
Educational Backg	round (Please specify advanced degr	rees received)			
Degree	Institution	Date Awarded	Major	Area	
Ph.D.	University of Nevada	1996	Hydrology/Hydrogeo	logy	
M.Sci.	Chinese Academy of Sciences, Beijing	1987	Engineering Geology.	/Hydrogeology	
B. Eng.	Tongji University, Shanghai, China	1983	Hydrogeology/Engine	eering Geology	
,					
Signature Requi	rements: App	roval Recommend	ed:		
required on all random Common College signature requests for A Adjunct Member	es are required on all ssociate Membership,	Steplen Wind of Department		///14/12 Date	
faculty or staff requests for spec	(with the exception of	Dean of College Date			
	Ass	ociate Provost for 0	Graduate Studies	Date	

zea ii Oili tile Vi	ta, present evidence th	at	
ominee Zhup	oing Sheng		
) has taught a g tle	raduate class, or Institution		When/Times Taught
	,		
) has actively se udent	rved on a graduate student	dent's advisory cor <u>Degree</u>	mmittee, or <u>Major</u>
alyson McDonald	Texas A&M University	PHD Water Mana Sciences	gement & Hydrologic
) has held a defi university; and	nite administrative ass I that	ignment in the gra	duate program of a
	,		
!   b -	· · · · · · · · · · · · · · · · · · ·		(or, in the case of a profescomplishment). (Most r
ine, has exhibit	ed appropriate evident rticles as primary author.	-	

## **Zhuping Sheng Publications**

## **Peer-Reviewed Journal Articles:**

- Abudu S., King, J.P. 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*: in press.
- Ganjegunte, G.K., **Sheng, Z.** 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.
- 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: 710-723. doi:10.1016/j.jhydrol.2011.09.004.
- Ganjegunte, G.K., **Sheng, Z.** 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. doi:10.2134/jeq2010.0490.
- Zhang N., **Sheng, Z.**, Li, X., Li, S., 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*, 30 (Supp. 1): 2599-2609.
- **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.**, Sturdivant, A., Michelsen, A. 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., White, L.D., McDonald, A.K. 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.**, Helm, D.C. and Li, J. 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, *Int. Journal of Soil and Sediment Contamination*, 12(3): 305-323.
- Liu, Z., **Z. Sheng**, J. Lu, and B. Yao. 1996. Numerical Simulation of the Mining Area Stability of Sanshandao Gold Mine, *Chinese Journal of Engineering Geology* (sponsored by Chinese Association of Engineering Geology, in Chinese), 4(2): 24-30.
- Zhang, C., **Z. Sheng**, and B. Yao. 1990. Experimental investigation on the Kaiser effect of acoustic emission using the core of the stress-measuring hole at an underground plant of Ertan Project, *Chinese Journal of Hydroelectric Engineering* (sponsored by Chinese Association of Hydroelectric Engineering, in Chinese), 29(2): 72-81.

## **Books or Chapters:**

- **Sheng, Z.**, Wang, C., Gastelum, J., Zhao, S. and Bordovsky, J. 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, in press.
- **Sheng, Z.**, J. Li, J. P. King and W. Miller. 2011. Development of groundwater resources (Chapter 8), in Aral, M.M. and Taylor S.W. (eds.) *Groundwater Quantity and Quality Management*, ASCE, Reston, 203-294.
- Li, J. and **Z. Sheng**, 2011. Geological Hazards due to Groundwater Discharge/Recharge (Chapter 17), in Findikakis, A.N., and Sato, K. (eds.) *Groundwater Management Practices (IAHR Monograph)*, CRC Press, 238-281.
- **Sheng, Z.**, Sturdivant, A., Michelsen, A. and R. Lacewell. 2008 Rapid economic assessment of flood-control failure along the Rio Grande: A case study, in *Water and Disasters*, eds. by C. Gopalakrishnan and N. Okada: ISBN 10-0-415-45426-3, Routledge, London and New York: 86-106.
- **Sheng, Z.**, R.E. Mace, and M.P. Fahy. 2001. Chapter 6 The Hueco Bolson: An aquifer at the crossroads, in *Aquifers of West Texas*, Texas Water Development Board Report 356: TWBD, Austin, TX: 66-75.
- **Sheng, Z.**, Z. Liu, and B. Yao. 1994. Numerical models (Chapter 7), in *Investigation on Stability of Underground Mining* (in Chinese), ed. by Yao, B. Liu, Z. and C. Li, Chinese Scientific and Technological Press, Beijing: 141-168



## 2005-2006 Texas A&M University Office of Graduate Studies Graduate Faculty Personal Record Form

MAY 1 6 2006

GRADUATESTUDIES

(Submit original with vitae only)

Nominating Department: E	Biological & Ag	riculural Engineer	ing	Lile,
<ol> <li>Name of Nominee: Zhu</li> <li>Department of Nomine</li> <li>Academic Rank or Post</li> <li>Date of Appointment to</li> <li>Location (if not on can</li> <li>UIN (if TAMUS): 4</li> <li>Tenured or Tenure Tra</li> </ol>	eé: Biological & Assistion Title: Assistion Title: Assistant Assis	istant professor  University: April 2 al Research & Extension SSN (if	2001_	
8. Gender    Male    F 9. Membership Type (che	emale eck one) r ent – <i>Please i</i>	nclude the purpo	se of the appointme	ent (i.e. specific
student's <b>NAME</b> & Student Nan		ecific course and	- · · · · · · · · · · · · · · · · · · ·	
10. Educational Backgrou	und (Please s	pecify advanced	degrees received)	
<b>Degree</b> Ph.D.	Institution University	n of Nevada, Reno	<b>Date Awarded</b> 1996	<b>Major Area</b> Hydrology/Hydrogeology
M.Sci.	Chinese A	cademy of Science	s 1987	Engineering Geology
B.Eng.	Tongji Ur	niversity, Shangha	ai 1983	Hydrogeology
and the second s		Approval Recom	nmended:	
Signature Requirements: The Department Head signature on all requests. The Gradus	ate Instruction	Head of Departm	Relative	W70/06
Committee Chair and Dear signatures are required on a Associate Membership, Membership, and on all Membership for non-tenure to	Il requests for Adjunct requests for rack faculty or	War	du nice tion Committee Chain	Date  May 10 16  Date
staff (with the exception of special appointment, which signature of the Department He	require the	Dean of College	mbll	<u>5-/5</u> -0 <b>5</b> Date
	(	Dean of Graduat	Studies	5/19/06 Date

Revised 08/05

assicute

## Zhuping Sheng, Ph.D., P.E., P.HG.

Texas AgriLife Research Center at El Paso, Texas A&M System Department of Biological and Agricultural Engineering, TAMU 1380 A&M Circle, El Paso, TX 79927

(915) 859-9111 ext. 233; Fax: (915) 859-1078 E-mail: zsheng@ag.tamu.edu

# 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

## II. EMPLOYMENT HISTORY

**Associate Professor**, Department of Biological and Agricultural Engineering (BAEN), Texas A&M University, Texas AgriLife Research at El Paso, TX, 2007 – present

**Assistant Professor**, Department of Biological and Agricultural Engineering (BAEN), Texas A&M University, Texas Agricultural Research and Extension Center, El Paso, TX, 2001 – 2007

**Adjunct Professor**, Institute Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, Beijing, China, 2007-2009

Adjunct Professor, Department of Civil, Agricultural and Geological Engineering, New Mexico State University, Las Cruces, New Mexico, 2004 - present

Hydrogeologist, El Paso Water Utilities, El Paso, TX, 1998 - 2001

Visiting Assistant Professor/Post Doctoral Fellow, 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, Institute of Geology, Chinese Academy of Sciences, Beijing, China, 1983 - 1988

## III. PROJECTS AND FUNDING

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

- Abudu S., King, J.P., Sheng, Z. (2012). Comparison of the performance of statistical models in forecasting monthly total dissolved solids in the Rio Grande, Journal of American Water Resources Association: in press.
- Ganjegunte, G.K., Sheng, Z., Clark, J.A. (2012). Soil salinity and sodicity appraisal by electromagnetic induction in soils irrigated to grow cotton, Land Degradation and Development DOI: 10.1002/ldr.1162.
- Liu, Y., Sheng, Z. (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: 710-723. doi:10.1016/j.jhydrol.2011.09.004
- Ganjegunte, G.K., Sheng, Z., Braun, R.J. (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 (2011) doi:10.2134/jeq2010.0490.
- Sheng, Z., Li, J., King, J.P., Miller, W. (2011). Development of groundwater resources (Chapter 8), in Aral, M.M. and Taylor S.W. (eds.) *Groundwater Quantity and Quality Management*, ASCE, Reston, 203-294.
- Li, J., Sheng, Z. (2011). Geological Hazards due to Groundwater Discharge/Recharge (Chapter 17), in Findikakis, A.N., and Sato, K. (eds.) *Groundwater Management Practices* (IAHR Monograph), CRC Press, 238-281.
- Zhao, S., Wang, C., Bordovsky, J., Sheng, Z., Gastélum, J.R. (2011). Estimating the Spatial Distribution of Groundwater Demand in the Texas High Plains. *Proceedings, The 2011 American Agricultural and Applied Economics & Northeastern Agricultural and Resource Economics Association Joint Annual Meeting*, Pittsburgh, PA, July (Paper published online at AgEcon Search).
- Brown, W.A., Cegon, A., Sheng, Z. (2011). Utilizing Continuous Resistivity Profiling for Characterization of Canal Seepage in El Paso, Texas, *Proceedings, 24th Annual Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP)*. Charleston, South Carolina, April 10-14, 2011: 235-244.
- Gastelum J., Small, G., Sheng Z. (2010). Application of the Drop Pipe Hydraulic and Aquifer Hydraulic Equations in Design and Operation of Artificial Recharge Wells, *Proceedings, 8th International Symposium on Managed Aquifer Recharge*, Abu Dhabi, UAE, October 9-13. 8p.

- Sheng Z., Michelsen, A., Liu, Y., Creel, B., McGuckin, T., Lacewell, R. (2010). Statistical analysis of flow exchange and salt loading between the Rio Grande and underlying aquifers, *Proc. Of World Environmental and Water Resources Conference*, ASCE, Providence, RI, May 16-20, CD-ROM: 1002-1011.
- Liu, Y., Sheng, Z. (2009). Analytical-numerical solution for seepage along an earth canal disconnected from the shallow aquifer, *Proc. Of World Environmental and Water Resources Conference*, ASCE, Kansas City, MO, May 17-21, 11p. CD-ROM.
- Sheng, Z. (contributing author) (2008). National Research Council; Prospects for managed underground storage of recoverable water: The National Academies Press, Washington, D.C., 337 p.
- Sheng, Z., Sturdivant, A., Michelsen, A., Lacewell, R. (2008). Rapid economic assessment of flood-control failure along the Rio Grande: A case study, in Water and Disasters, eds. by C. Gopalakrishnan and N. Okada: ISBN 10-0-415-45426-3, Routledge, London and New York: 86-106.
- Sheng, Z., Herrera, E., Ganjegunte, G., Bader, R. (2008). Potential Use of Graywater and Brackish Groundwater for Cotton Production, Proceedings, American Society of Agricultural and Biological Engineering Annual International Conference, Providence, Rhode Island, June 29 July 2, 9p. CD-ROM.
- Sheng, Z., Arthur, J., Restrepo, J., Allen-King, R. (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., Assadian, N., Villalobos, J. (2007). Characterization of Graywater and Brackish Water Flow Patterns through a Column Experiment, Proceedings Of World Environmental and Water Resources Conference, ASCE, Tampa, FL, May 14-19, 2007, 7p. CD-ROM.
- Qi, S., Wu, F., Yan, C., Sheng, Z. (2006). Impacts of inundation of Houziyan reservoir on Zang nationality blockhouse group relics along the Dadu River, Proceedings, World Environmental and Water Resources Conference, ASCE, Omaha, NE, May 21-25, 2006, CD-ROM.
- Sheng, Z., Devere, J. (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., Sturdivant, A., Michelsen, A., Lacewell, R. (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., Liu, Y., Michelsen, A., Xu, D. (2005). Comparative study in water resources development of western regions in the United States and China, Trans. ASAE, 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., White, L.D., McDonald, A., Sheng, Z. (2005). Saltcedar control and water salvage on the Pecos River, Texas, 1999-2003, Journal of Environmental Management, 75(4): 399-409.
- Sheng, Z., Helm, D.C., Li, J. 2003. Mechanisms of earth fissuring caused by groundwater withdrawal: Journal of Environmental & Engineering Geoscience, IX(4): 313-324.
- Assadian, N., Gogel, C., Sheng, Z., Figueroa, U.V. (2003). Heavy Metal Distribution in Open Canals and Drains in the Upper Rio Grande Basin, Int. Journal of 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.

President-Elect (2011), Association of Oversea Chinese Agricultural, Biological and Food Engineers. Chair, AWRA International Affairs Committee, 2011 - present.

Chair of Technical Committee on Aquifer Storage and Recovery (ASR); American Water Resources Association (AWRA); 2002-03

American Society of Civil Engineers (ASCE), Environmental and Water Resources Institute

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.

Associate Editor, Journal of Hydrological Engineering, ASCE, 2009–2012.

Associate Editor, Transactions of ASABE & Journal of Application of Engineering in Agriculture, 2010–2012.

Basin and Bay Expert Science Team (BBEST) for upper Rio Grande, TCEQ, 2011 – present Executive Member, Paso del Norte Watershed Council (PdNWC), 2002-present

- Outstanding Research Fellow, Ministry of Human Resources and Social Security and Oversea Chinese Scholars Committee of Xinjiang Bureau of Human Resources and Social Security, Urumqi, China, 2010-2012.
- Outstanding Research Fellow, 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. 2007-2009.
- Technical Expert, International Association of Hydrology (IAH), International Hydrology Program (IHP)-UNESCO Program, ISARM Americas (Internationally Shared Aquifer Resources Management), 2003-05.
- 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.

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