

**MUTHU KUCHANUR, Ph.D., P.E.**

**Curriculum Vitae**

**EDUCATION**

- Ph. D., 2006** Environmental Engineering, Texas A&M University – Kingsville (GPA 4.0/4.0)  
Dissertation: “Simulation-Optimization methodologies to estimate groundwater availability in the semi-arid region of South Texas”
- M.S., 2002** Industrial Engineering, Texas A&M University – Kingsville (GPA 4.0/4.0)
- B.S., 1999** Mechanical Engineering, Bharathiar University, India (GPA 3.84/4.0)

**PROFESSIONAL LICENSE**

Registered Professional Engineer No. 13445, Wyoming

**PROFESSIONAL APPOINTMENTS**

- Land Quality Division, Department of Environmental Quality, Wyoming, 2011 to Present  
Geology Supervisor
- Daniel B. Stephens & Associates, Inc., Albuquerque, New Mexico, 2006 to 2011  
Water Resources Engineer
- Sharda University, New Delhi, India, Fall 2010  
Invited Visiting Faculty, Department of Civil Engineering
- New Mexico Institute of Mining and Technology, Socorro, New Mexico, Spring 2008  
Adjunct Instructor, Department of Earth and Environmental Science
- Texas A&M University, Kingsville, Texas, 2002-2006  
Graduate Research Assistant
- Texas A&M University, Kingsville, Texas, 2001-2002  
Graduate Teaching Assistant

**PUBLICATIONS AND REPORTS**

1. Blandford, N., M.Kuchanur, et al., 2008. Groundwater Availability Model of the Edwards – Trinity (High Plains) Aquifer in Texas and New Mexico. Austin, Texas Water Development Board, 282 pp.
2. Kuchanur, M. 2006. Simulation-Optimization methodologies to estimate groundwater availability in the semi-arid region of South Texas. Doctoral Dissertation, 188 pp.
3. Kuchanur, M. and V. Uddameri. 2006. A Decision Support System to Develop Sustainable Groundwater Management Policies for a Multi-county Single Aquifer System. Submitted to USGS, 27pp.
4. Kuchanur, M. and V. Uddameri. 2006. Achieving Consensus Yield: A Goal-programming Approach. Conference Proceedings of Texas Section ASCE Spring 2006 Meeting, Beaumont, Texas.
5. Uddameri, V. and M. Kuchanur. 2006. Estimating Aquifer Recharge in Mission River Watershed, Texas - Model Development and Calibration using Genetic Algorithms. *Environmental Geology* 51(6):897-910.
6. Uddameri, V. and M. Kuchanur. 2006. Simulation-Optimization approach to assess groundwater availability in Refugio County, Texas. *Environmental Geology* 51(6):921-929.

7. Uddameri, V. and M. Kuchanur. 2006. A Multi-county Groundwater Availability Model for the Gulf Coast Aquifer in the Coastal Bend Region of South Texas. Kingsville, Texas, Texas A&M University Kingsville: 80 pp.
8. Uddameri, V., M. Kuchanur, et al. 2006. Optimization-based Approaches for Groundwater Management. Aquifers of the Gulf Coast of Texas, Austin, Texas, Texas Water Development Board.
9. Uddameri, V. and M. Kuchanur. 2004. A Fuzzy QSAR Model for Predicting log Kow of Persistent Organic Pollutants. *Chemosphere* 54(6): 771-776.
10. Uddameri, V. and M. Kuchanur. 2003. Environmental Technology and Knowledge Transfer Opportunities and Challenges along the South Texas-Mexico Border." *Journal of Technology Transfer and Commercialization* 2(4): 429-450.
11. Kuchanur, M., V.Uddameri, et al. 2003. An Assessment of Groundwater Resources in Refugio County Texas. Refugio, Texas A&M University Kingsville: 63pp.

### PRESENTATIONS

1. Kuchanur M. and V.Uddameri. 2008. Fuzzy Goal Programming Approach to Estimate Groundwater Availability. Presented at the Joint Meeting of the Geological Society of America, Soil Science Society of America, American Society of Agronomy, and Crop Science Society of America. Houston, Texas. October 5-9, 2008.
2. Blandford, T. N. and M. Kuchanur. 2008. Consideration of Administrative Management Constraints in the Development of Groundwater Supply Strategies Presented at the Joint Meeting of the Geological Society of America, Soil Science Society of America, American Society of Agronomy, and Crop Science Society of America. Houston, Texas. October 5-9, 2008.
3. Blandford, T. N., M. Kuchanur and R. Smith. 2008. Groundwater Modeling of the Southern High Plains Aquifer - Effects of Pre- and Post-Development Recharge on Water Availability. Presented at the joint meeting of the Geological Society of America, Soil Science Society of America, American Society of Agronomy, and Crop Science Society of America. Houston, Texas. October 5-9, 2008.
4. Blandford, T. N. and M. Kuchanur. 2008. Simulation of Brine Remediation – A Case Study from the East Poplar Field, Northeastern Montana, USA, Poster presentation at AAPG International Conference and Exhibition, Cape Town, South Africa. October 26-29, 2008
5. Kuchanur, M. and V. Uddameri. 2006. Achieving Consensus Yield: A Goal-programming Approach. Conference Proceedings of Texas Section ASCE Spring 2006 Meeting, Beaumont, Texas.
6. Kuchanur, M. and V. Uddameri. 2006. Calibration Non-uniqueness: An Obstacle or Opportunity for Groundwater Model Selection. National Ground Water Summit, San Antonio, Texas.
7. Kuchanur, M. and V. Uddameri. 2005. Achieving Sustainability: A Game theoretic approach. National Ground Water Summit, San Antonio, Texas.
8. Kuchanur, M. and V. Uddameri. 2005. Calibration Non-uniqueness: A Tool for Model Evaluation and Selection. **Award winning Presentation** at the Emerging Technologies for a Sustainable Environment, South Padre Island, Texas.

9. Kuchanur, M. and V. Uddameri. 2005. Groundwater Management: Analysis of Policy Choices and Management Strategies. Modeling and Decision Support for Environmental Systems, San Antonio, Texas.
10. Kuchanur, M. and V. Uddameri. 2005. Simplicity Vs Scalability in Groundwater Models and its Impacts on Policy Formulation. Poster Presentation at the Third Annual Pathways Symposium, Kingsville, Texas.
11. Uddameri, V. and M. Kuchanur. 2004. A Fuzzy QSAR Model for Predicting log Kow of Persistent Organic Pollutants. Chemosphere 54(6): 771-776.
12. Kuchanur, M. and V. Uddameri. 2004. Evaluation of Scale Issues in Groundwater Availability Models. Poster Presentation at Texas Groundwater-2004: Towards Sustainability, Austin, Texas.
13. Kuchanur, M. and V. Uddameri. 2004. Groundwater Levels Prediction: A Fuzzy Time Series Approach. Honorable mention at Texas Groundwater-2004: Towards sustainability, Austin, Texas.
14. Kuchanur, M. and V. Uddameri. 2004. A Heuristic Approach for Prediction of Water Table Dynamics Using Fuzzy Sets. Annual Rio-Bravo conference, Kingsville, Texas.
15. Kuchanur, M. and V. Uddameri. 2004. Multi-county Groundwater Availability Modeling in the Semi-arid Region of South Texas. Poster Presentation at the Second Annual Pathways Symposium, Corpus Christi, Texas.
16. Kuchanur, M. and V. Uddameri. 2004. Relative Impacts of Decision-makers' Preferences and Conceptual Uncertainty on Water Availability Estimates. National Ground Water Association, Las Vegas, Nevada.
17. Kuchanur, M. and V. Uddameri. 2004. Sustainable Groundwater Management Under Uncertainty. **Award winning Presentation** at the Texas Groundwater-2004: Towards Sustainability, Austin, Texas.
18. Kuchanur, M. and V. Uddameri. 2003. Sustainable Groundwater Resources Management. Poster Presentation at National Ground Water Association, Orlando, Florida.
19. Kuchanur, M. and V. Uddameri. 2003. Water Resources Management in the Semi arid region of South Texas. Poster Presentation at Texas Water Summit, Austin, Texas.
20. Kuchanur, M. and V. Uddameri. 2003. Groundwater Management in South Texas: A Simulation-Optimization Approach. Poster Presentation at First Annual Pathways Symposium, Galveston, Texas.
21. Uddameri, V. and M. Kuchanur. 2003. Fuzzy-Rule Based Systems for Risk-Based Decision Making. Annual International Conference on Contaminated Soils, Sediments and Water, University of Massachusetts, Massachusetts.
22. Kuchanur, M. and V. Uddameri. 2002. Refugio County Groundwater Availability Modeling. **Award winning Poster Presentation** at Rio Grande International conference, South Padre Island, Texas.

## PROFESSIONAL EXPERIENCE

### November 2011 – Present:

Geology Supervisor, Land Quality Division, Department of Environmental Quality, Cheyenne, Wyoming

- Provide groundwater hydrology support for environmental compliance and permitting of the coal and non-coal programs

**August 2006 – October 2011:**

Water Resources Engineer/Hydrologist, Daniel B. Stephens & Associates,  
Albuquerque, New Mexico

- Managed and worked on several projects to support clients in various states including Texas, New Mexico, Arizona, Nevada, Colorado, Florida, New York and California.

**August – December 2010 (Fall Semester):**

Visiting Faculty, Department of Civil Engineering, Sharda University,  
New Delhi, India

- Invited visiting faculty to teach undergraduate students and to set up a hydrology lab
- Involved as a committee member to set up a masters and doctoral program in environmental engineering

**January 2008 – May 2008 (Spring Semester):**

Applied Hydrologic Modeling Course Instructor, New Mexico Institute  
of Mining and Technology, Socorro, New Mexico

- Served as course instructor for several sessions of graduate-level hydrologic modeling course (Hydrology 571- Advanced Topics in Hydrology: Hydrological Modeling )
- Developed and presented course materials on numerical model development, model calibration and automated parameter estimation for a class of 14 students (Masters and PhD)

**April 2002 – August 2006:**

Texas A&M University - Kingsville, Texas, Graduate Research Assistant

- As part of doctoral dissertation, developed a transparent and pragmatic decision support framework that guides the water managers to formulate and evaluate sustainable regional water management policies in South Texas
- Principal Investigator(P.I) on the project funded by USGS through Texas Water Resources Institute
- Collected data by involving in several field studies and analyzed all the input data needed for the development of several hydrology models

**Jan 2001 – April 2002:**

Texas A&M University - Kingsville, Texas, Graduate Teaching Assistant

- Teaching assistant for numerical methods for engineering
- Taught mathematics in University College Program

**COURSES TAUGHT**

*OSM Training Program, Office of Surface Mining, 2013 to Present*

Quantitative hydrogeology, Groundwater Modeling with Groundwater Vistas and Permitting Hydrology

*Sharda University, New Delhi (Visiting Faculty)*

**Fall 2010** Physical hydrology (Masters)  
Introduction to Environmental Engineering (Undergraduate)

*New Mexico Institute of Mining and Technology, Socorro, New Mexico (Adjunct Instructor)*

**Spring 2008** Applied hydrologic modeling (Doctoral and masters)

*Texas A&M University, Kingsville, Texas (Teaching Assistant)*

**Spring 2001** Numerical methods for engineering

**Fall 2001** Mathematics (University College Program)