Curriculum Vitae

Lichun Wang

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EDUCATION

2015-present **Postdoctoral research fellow**
Department of Geological Sciences, The University of Texas at Austin
Advisor: Bayani M. Cardenas

2010 - 2015 **Ph.D., Geological Sciences (Hydrogeology)**
The University of Texas at Austin
Advisor: Bayani M. Cardenas
Thesis title: Flow and transport through and deformation of rough fractures: theoretical and numerical modeling studies

2007 - 2010 **M.E., Hydrology and Water Resources (Hydrogeology)**
China University of Geosciences
Advisor: Jingli Shao
Thesis title: The study on deep groundwater resources and its effect on land subsidence, Tianjin, China

2003 - 2007 **B.S., Hydrology and Water Resources (Hydrogeology)**
China University of Geosciences

RESEARCH INTERESTS

- Flow and transport in porous and fractured media
- CO_2 geological sequestration
- Fracture deformation
- Groundwater and surface-water interactions
- Groundwater modeling

TEACHING AND RESEARCH EXPERIENCES

- Teaching Assistant for 'Physical Hydrogeology', UT Austin   Fall 2014
- Teaching Assistant for 'Intro Math Modeling Geosci', UT Austin   Spring 2014
- Teaching Assistant for 'Physical Hydrology', UT Austin   Fall 2013
- Research Assistant, Jackson School of Geosciences, UT Austin   2010-2013
- Geosciences Intern, Statoil   Summer 2014

PUBLICATIONS (Include published and submitted papers)

- **Wang, L**., and M. B. Cardenas (submitted to Geophysical Research Letters), Linear permeability evolution of an expanding conduit due to feedback between flow and fast phase-change.
- **Wang, L**., and M. B. Cardenas (submitted to Journal of Contaminant Hydrology), Scale (in)variance of Fickian and non-Fickian transport models for fractures from pre-asymptotic to asymptotic regimes.
- Liu, D., A. P. Jivkov, **L. Wang**, G. Si, J. Yu (submitted to Journal of Hydrology), Non-Fickian dispersive transport of strontium in laboratory-scale columns: Modelling and evaluation.
- **Wang, L.,** and M. B. Cardenas (2016), Development of an empirical model relating permeability and specific stiffness for rough fractures from numerical deformation experiments, *J. Geophys. Res.-Sol. Ea.*, 121(7), 4977-4989, doi: 10.1002/2016JB013004.
- Zheng, L., M. B. Cardenas, and **L. Wang** (2016), Temperature effects on nitrogen cycling and nitrate removal-production efficiency in bed form-induced hyporheic zones, *J. Geoph. Res.: Biogeo.*, doi: 10.1002/2015JG003162.
- **Wang, L.**, and M. B. Cardenas (2015), An efficient quasi-3D particle tracking-based approach for transport through fractures with application to dynamic dispersion calculation, *J. Contam. Hydrol.*, *179*(0), 47-54, doi: 10.1016/j.jconhyd.2015.05.007.
- **Wang, L.**, M. B. Cardenas, D. T. Slottke, R. A. Ketcham, and J. M. Sharp, Jr. (2015), Modification of the Local Cubic Law of fracture flow for weak inertia, tortuosity, and roughness, *Water Res. Res.*, doi: 10.1002/2014WR015815.
- **Wang, L.,** M. B. Cardenas (2014), Non-Fickian transport through two-dimensional rough fractures: Assessment and prediction*, Water Res. Res.*, 50(*2*), 871-884, doi: 0.1002/2013wr014459.
- Su, C., Y. Cui, **L. Wang,** L. Li (2013). Estimation of the groundwater exploitation based on land subsidence numerical model: A case study in the plain area of Tianjin. *Adv. Mat.s Res.*, 610, 2734-2739, ISSN: 3037855509.
- **Wang, L.,** M. B. Cardenas, W. Deng, and P. C. Bennett (2012), Theory for dynamic longitudinal dispersion in fractures and rivers with Poiseuille flow, *Geophys. Res. Lett.*, *39*, L05401, doi: 10.1029/2011GL050831.

CONFERENCES ABSTRACTS

- **Wang, L**., M. B. Cardenas, *Development of an empirical model relating permeability and specific stiffness for rough fractures*, GSA Meeting, 2016.
- **Wang, L**., M. B. Cardenas, *Fracture permeability and specific stiffness relations across varying fracture roughness and aperture correlation length*, AGU Fall Meeting, 2015.
- **Wang, L**., M. B. Cardenas, *Origins and nature of non-Fickian transport through fractures*, AGU Fall Meeting, 2014.

- **Wang, L**., M. B. Cardenas, D. T. Slottke, R. A. Ketcham, J. M. Sharp, *Generalized Local Cubic Law for inertial fluid flow and solute transport through tortuous and rough fractures*, AGU Fall Meeting, 2013.
- **Wang, L**., M. B. Cardenas, W. Deng and P. C. Bennett, *Theory for dynamic dispersion in Poiseuille and Hagen-Poiseuille flow*, AGU Fall Meeting, 2012.
- **Wang, L**., W. Deng, M. B. Cardenas, J. M. Sharp, R. A. Ketcham, P.C.Bennet, D. T. Slottke, *comparison of analytical and CFD solution-derived flow and transport properties within discrete 2D fractures*, AGU Fall Meeting, 2011.

FELLOWSHIP AND HONORS

- Frank E. Kottlowski Memorial Grant (AAPG)   2013
- Outstanding Undergraduate in Beijing   2007
- Outstanding Academic Student Leader of CUGB   2006
- National Merit Fellowship   2004

ACADEMIC SERVICES

Proposal Reviewer**:** National Science Foundation (Hydrologic Sciences)

Manuscript Reviewer: Advances in Water Resources, European Journal of Environmental and Civil Engineering, Environmental Science & Technology, Geophysical Research Letters, Hydrogeology Journal, International Journal of Rock Mechanics and Mining Sciences, Journal of Hydrology, Scientific Reports, Stochastic Environmental Research and Risk Assessment, Water Science and Engineering.

Organized seminars
- Monthly Lunch Seminars of Center for Frontiers of Subsurface Energy Security (The University of Texas at Austin and Sandia National Laboratories)   2015 - 2016
- Hydro Brown Bag, Jackson School of Geosciences, UT Austin   Spring 2013

Chaired sessions in conferences
- The 2nd China-Japan Graduate Student Forum, Beijing, China   September 2009

PROFESSIONAL MEMBERSHIP

- American Geophysical Union
- American Association of Petroleum Geologists