WANG Lichun

Professional Title: Associate Professor

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Biography

Lichun Wang, Associate Professor, Tianjin University

Education/Employment

2018.09~Now, Tianjin University, Associate Professor,.

2015.06~2018.07, The University of Texas at Austin, Postdoctoral Fellow,.

2010.08~2015.05, The University of Texas at Austin, Ph.D (Hydrogeology),.

2007.09~2010.07, China University of Geosciences (Beijing), M.E. (Hydrogeology),.

2003.09~2007.07, China University of Geosciences (Beijing), B.S. (Hydrogeology),.

Research

I am dedicated to understanding and quantitatively analyzing fluid flow in response to natural and anthropogenic stresses and how it mediates chemical and mechanical processes within a variety of geological environments for addressing sustainability challenges. I pursue this by studying a variety of coupled physical-chemical-mechanical processes that govern flow and transport in fractured and porous media. My research combines theory, process-based computational methods, and laboratory experiments complimented with field observations.

Selected Publications

(1) L. Wang* and M. B. Cardenas, 2018, Connecting pressure-saturation and relative permeability models to fracture properties: the case of supercritical CO2 and brine two-phase flow, Water Resources Research,.

(2) L. Wang* and M. Bayani Cardenas, 2017, Transition from non-Fickian to Fickian longitudinal transport through 3-D rough fractures: Scale-(in) sensitivity and roughness dependence, Journal of Contaminant Hydrology, doi: 10.1016/j.jconhyd.2017.02.002,.

(3) D. Liu*, A. P. Jivkov, L. Wang, G. Si, and J. Yu, 2017, Non-Fickian dispersive transport of strontium in laboratory-scale columns: Modelling and evaluation, Journal of Hydrology, doi:10.1016/j.jhydrol.2017.03.053,.

(4) L. Wang* and M. B. Cardenas, 2017, Linear permeability evolution of expanding conduits due to feedback between flow and fast phase change, Geophysical Research Letters, doi: 10.1002/2017gl073161,.

(5) L. Zheng*, M. B. Cardenas, and L. Wang, 2016, Temperature effects on nitrogen cycling and nitrate removal-production efficiency in bed form-induced hyporheic zones, Journal of Geophysical Research - Biogeosciences, doi: 10.1002/2015JG003162,.

(6) L. Wang* and M. B. Cardenas, 2016, Development of an empirical model relating permeability and specific stiffness for rough fractures from numerical deformation experiments, Journal of Geophysical Research - Solid Earth, doi: 10.1002/2016JB013004,.

(7) L. Wang*, 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 Resources Research, doi: 10.1002/2014WR015815,.

(8) L. Wang* and M. B. Cardenas, 2015, An efficient quasi-3D particle tracking-based approach for transport through fractures with application to dynamic dispersion calculation, Journal of Contaminant Hydrology, doi: 10.1016/j.jconhyd.2015.05.007,.

(9) L. Wang* and M. B. Cardenas, 2014, Non-Fickian transport through two-dimensional rough fractures: Assessment and prediction, Water Resources Research, doi: 0.1002/2013wr014459,.

(10) L. Wang*, M. B. Cardenas, W. Deng, and P. C. Bennett, 2012, Theory for dynamic longitudinal dispersion in fractures and rivers with Poiseuille flow, Geophysical Research Letters, doi: 10.1029/2011GL050831,.

Other

Teaching and Research Experiences

Lecturer for 'Intro Math Modeling Geosci', UT Austin	Spring 2017
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