

32 Dr. Chongxuan Liu



Name: Chongxuan Liu

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Education

PhD in Environmental Engineering from The Johns Hopkins University Baltimore Maryland

Research Interests

Diffusion and transport of petroleum hydrocarbons in porous media, biotechnologies of using microorganisms to degrade chemicals and remediate contaminants in subsurface environments, and multi-phase flow, displacement, and mixing at the pore and continuous scales. He is also interested in geochemistry and biogeochemistry, and reactive transport of solutes, contaminants, and radionuclides in subsurface environments

Services & Awards

He has served as a proposal reviewer for National Science Foundation Department of Energy and American Chemical Society Petroleum Research Fund

Major Publications

- Liu, C., Gorby, Y. A., Zachara, J. M., Fredrickson, J. K., Brown, C. F. (2002). Reduction kinetics of Fe(III), Co(III), U(VI), Cr(VI), and Tc(VII) in cultures of dissimilatory metal-reducing bacteria. *Biotechnology & Bioengineering*, 80(6), 637-49.
- Liu, C., Kota, S., Zachara, J. M., And, J. K. F., Brinkman, C. K. (2001). Kinetic analysis of the bacterial reduction of goethite. *Environmental Science & Technology*, 35(12), 2482-90.
- Liu, C., Zachara, J. M., Qafoku, N. P., Wang, Z. (2008). Scale-dependent desorption of uranium from contaminated subsurface sediments. *Water Resources Research*, 44(8), 421-437.
- Jaisi, D. P., Dong, H., Liu, C. (2007). Influence of biogenic Fe(II) on the extent of microbial reduction of Fe(III) in clay minerals nontronite, illite, and chlorite. *Geochimica Et Cosmochimica Acta*, 71(5), 1145-1158.
- Liu, C., Zachara, J. M., Qafoku, O., Mckinley, J. P., Heald, S. M., Wang, Z. (2004). Dissolution of uranyl microprecipitates in subsurface sediments at Hanford site, USA. *Geochimica Et Cosmochimica Acta*, 68(22), 4519-4537.
- Liu, C., Ball, W. P. (1999). Application of inverse methods to contaminant source identification from aquitard diffusion profiles at Dover AFB, Delaware. *Water Resources Research*, 35(7), 1975-1986.
- Mckinley, J. P., Zachara, J. M., Liu, C., Heald, S. C., Prenitzer, B. I., Kempshall, B. W. (2006). Microscale controls on the fate of contaminant uranium in the vadose zone, Hanford site, Washington. *Geochimica Et Cosmochimica Acta*, 70(8), 1873-1887.
- Liu, C., Zachara, J. M., Smith, S. C., Mckinley, J. P., & Ainsworth, C. C. (2003). Desorption kinetics of radiocesium from subsurface sediments at Hanford site, USA. *Geochimica Et*

Cosmochimica Acta, 67(16), 2893-2912.

- Liu, C., Szecsody, J. E., Zachara, J. M., Ball, W. P. (2000). Use of the generalized integral transform method for solving equations of solute transport in porous media. *Advances in Water Resources*, 23(5), 483-492.
- Liu, C., Ball, W. P. (2002). Back diffusion of chlorinated solvent contaminants from a natural aquitard to a remediated aquifer under well-controlled field conditions: predictions and measurements. *Ground Water*, 40(2), 175-84.
- Liu, C., Zachara, J. M., Fredrickson, J. K., And, D. W. K., & Dohnalkova, A. (2002). Modeling the inhibition of the bacterial reduction of u(vi) by β -mno2(s). *Environmental Science & Technology*, 36(7), 1452-9.
- Liu, C., Zachara, J. M., Qafoku, O., Smith, S. C. (2003). Effect of temperature on cs+ sorption and desorption in subsurface sediments at the hanford site, u.s.a. *Environ.sci.technol*, 37(12), 2640-2645.
- Kerisit, S., Liu, C. (2010). Molecular simulation of the diffusion of uranyl carbonate species in aqueous solution. *Geochimica Et Cosmochimica Acta*, 74(17), 4937-4952.