

Post-Doctoral Research Position, Department of Civil and Environmental Engineering, University of Illinois: pore-scale numerical modeling of microbial processes during bioreduction of metals

Candidates are invited to apply for a post-doctoral research assistant on a multi-disciplinary Department of Energy funded project that integrates bench-scale, micro-fluidic, and flow-cell experiments with numerical models to examine electron transfer processes during bioreduction of metals and radionuclides. The project focuses on microbial interactions among dissimilatory metal-reducing bacteria, syntrophs and methanogens in biofilms developed in microfluidic devices, that simulate bioremediation processes of the contaminated surface. The post-doc will work closely with other graduate students and researchers, and be responsible for pore-scale numerical modeling of reactive transport with metal reduction and multi-species biofilm growth, and coupling of pore scale and continuum-scale models. Experience with lattice-Boltzman, pore network, and/or individual-based models is desired; knowledge of reactive transport and biofilm modeling, electron transfer processes, and current metabolic modeling approaches would also be beneficial.

The position is available beginning October 1, 2011. Please send a current CV, research statement, and the names of three references by email to Professor Al Valocchi, valocchi@illinois.edu