

FENG HE

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EDUCATION

Ph.D. in Civil (Environmental) Engineering, Auburn University, Auburn, AL, 2007
M.S. in Environmental Engineering, Zhejiang University, Hangzhou, China, 2002
B. S. in Environmental Engineering, Zhejiang University, Hangzhou, China, 1999

PROFESSIONAL AFFILIATION, HONORS AND AWARDS

Member of American Association for the American Chemical Society (ACS) and American Society of Civil Engineer (ASCE). Held one US patents (7,581,902), and one US patent application pending (US 2008/0190865).

The C. Ellen Gonter Environmental Chemistry Award (ACS) and Graduate Student Award (ACS).

RESEARCH AND PROFESSIONAL EXPERIENCE

Staff Scientist, February 2010 – present; Environmental Science Division, Oak Ridge National Laboratory

- Lead DOE Environmental Management 32 (EM-32) mercury remediation project mercury adsorbents part and participate in DOE Science Focus Area (SFA) research program.

Staff Remediation Engineer, October 2007 – January 2010; Golder Associates Inc., Atlanta, Georgia

- Developed and managed groundwater and soil remediation, water treatment, and landfill gas to energy projects under the direct supervision of senior practitioners.

Research Assistant, August 2003 – October 2007; Department of Civil Engineering, Auburn University, Auburn, Alabama

- Developed and characterized food-grade polysaccharide stabilized nanoscale zero-valent iron (NZVI) and iron sulfide (FeS) for in situ destruction of chlorinated hydrocarbons and immobilization of heavy metals in groundwater and soils (both patented).

RECENT PUBLICATIONS

He, F., Zhao, D., Paul, C. (2010). “Field assessment of carboxymethyl cellulose stabilized iron nanoparticles for in situ destruction of chlorinated solvents in source zones” *Water Research*, 44(7), 2360-2370.

Xiong, Z., **He, F.**, Zhao, D., Barnett, M. (2009) “In-situ immobilization of mercury in sediment by stabilized iron sulfide (FeS) nanoparticles.” *Water Research*, 43(20), 5171-5179.

He, F., Liu, J., Zhao, D., Roberts, C. B. (2009). ““Green” and size controlled synthesis of Pd nanoparticles and their catalytic activity for trichloroethene hydrodechlorination.” *Industrial & Engineering Chemistry Research*, 48(14), 6550-6557.

Liu, J., **He, F.**, Gunn, T. M., Zhao, D., Roberts, C. B. (2009). “Precise seed-mediated growth and size-controlled synthesis of palladium nanoparticles using a green chemistry approach.” *Langmuir*, 25(12), 7116-7128.

He, F., Zhang, M., Qian, T., Zhao, D. (2009). “Transport of carboxymethyl cellulose stabilized iron nanoparticles in porous media: Column experiments and modeling.” *Journal of Colloid and*

Interface Science, 334 (1), 96-102.

- He, F., Zhao, D. (2008).** "Hydrodechlorination of trichloroethene using stabilized Fe-Pd nanoparticles: Reaction mechanism and effects of stabilizers, catalyst and reaction conditions." *Applied Catalysis B: Environmental*, 84 (3-4), 533-540.
- Liu, J., **He, F.**, Durham E., Zhao, D., Roberts, C. B. (2008). "Polysugar-stabilized Pd nanoparticles exhibiting high catalytic activities for hydrodechlorination of environmental deleterious trichloroethylene." *Langmuir*, 24 (1), 328-336.
- He, F., Zhao, D. (2008).** "Response to comment on "Manipulating the size and dispersibility of zerovalent iron nanoparticles by use of carboxymethyl cellulose stabilizers."" *Environmental Science and Technology*, 42(9), 3480.
- He, F., Zhao, D. (2007).** "Manipulating the size and dispersibility of zerovalent iron nanoparticles by use of carboxymethyl cellulose stabilizers." *Environmental Science and Technology*, 41(17), 6216-6221.
- He, F., Zhao, D., Liu, J., Roberts, C. B. (2007).** "Stabilization of Fe-Pd nanoparticles with sodium carboxymethyl cellulose for enhanced transport and dechlorination of trichloroethylene in soil and groundwater." *Industrial & Engineering Chemistry Research*, 46(1), 29-34.
- He, F., Zhao, D. (2005).** "Preparation and characterization of a new class of starch-stabilized bimetallic nanoparticles for degradation of chlorinated hydrocarbons in water." *Environmental Science and Technology*, 39(9), 3314-3320.

SYNERGISTIC ACTIVITIES

Research presentations at the International Conference on the Environmental Implications and Applications of Nanotechnology (2009); 237th ACS National Meeting (2009); 236th ACS National Meeting (2008); 21st Annual Alabama Water Resources Conference (2007); U.S. EPA Interagency Workshop on the Environmental Implications (2007); 11th Annual Green Chemistry and Engineering Conference (2007); AIChE's 2007 Annual Meeting (2007); 20th Annual Alabama Water Resources Conference (2006); 232th ACS National Meeting (2006); IWA World Water Congress and Exhibition (2006); 16th Annual AEHS Meeting & West Coast Conference on Soils, Sediments and Water (2006); 19th Annual Alabama Water Resources Conference (2005); 230th ACS National Meeting (2005); Annual Alabama Groundwater Conference (2004); 27th Annual Conference of Alabama's Water Environment Association (2004)

Peer reviewer for journals of *Environmental Science & Technology*, *Applied Catalysis B: Environmental*, *Bioresource Technology*, *Catalysis Today*, *Desalination*, and *Journal of Environmental Engineering (ASCE)*.

Planning committee member of Groundwater Resources Association of California symposium "Nanotechnology for Environmental Cleanup and Pollution Control - Science, Implementation, and Regulatory Issues" (November, 2009)

MAJOR COLLABORATORS: Bennett, P. J. (AMEC Geomatrix), Hoffmann, M. R. (Caltech), Paul, J. (Golder), Gu, B. (ORNL), Wang, W. (ORNL), Liang, L. (ORNL).

FORMER ADVISORS: Zhao, D. (Auburn, Ph.D.)