Chunming Su, Research Soil Scientist in EPA's National Risk Management Research Laboratory

Groundwater, Watershed, and Ecosystem Restoration Division
Mailing Address

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Area of Expertise: Applications and implications of environmental nanotechnology with respect to the fate and transport of nanomaterials in the subsurface and use of nanomaterials for soil and groundwater remediation; In situ treatment of organic (per- and polyfluoroalkyl substances, chlorinated solvents) and inorganic (heavy metals, arsenic, nitrate, phosphate) contaminants in groundwater and soils using biochar, permeable reactive barrier technologies, and monitored natural attenuation approaches; green infrastructure for storm water management.

Select Publications:

Park, C.M.; Wang, D.; **Su, C**. 2018. Recent developments in engineered nanomaterials for water treatment and environmental remediation. Chapter 46, pp 849–882. In C.M. Hussain (ed.) Handbook of Nanomaterials for Industrial Applications. Elsevier.

Park, C.M.; Wang, D.; Heo, J.; Her, N.; **Su, C**. 2018. Aggregation of reduced graphene oxide and its nanohybrids with magnetite and elemental silver under environmentally relevant conditions. Journal of Nanoparticle Research, 20: 93–105.

Wang, D.; Jin, Y.; Park, C.M.; Heo, J.; Bai, X.; Aich, N.; **Su, C**. 2018. Modeling the transport of the "new-horizon" reduced graphene oxide–metal oxide nanohybrids in water-saturated porous media. Environmental Science & Technology, 52: 4610–4622.

Park, C.M.; Heo, J.; Wang, D.; **Su, C.**; Yoon, Y. 2018. Heterogeneous activation of persulfate by reduced graphene oxide-elemental silver/magnetite nanohybrids for the oxidative degradation of pharmaceuticals and endocrine disrupting compounds in water. Applied Catalysis B: Environmental, 225: 91–99.

Wang, D.; Park, C.M.; Masud, A.; Aich, N.; Su, C. 2017. Carboxymethylcellulose mediates the transport of carbon nanotube-magnetite nanohybrid aggregates in water-saturated porous media. Environmental Science & Technology, 51: 12405–12415.

Su, C. 2017. Environmental implications and applications of engineered nanoscale magnetite and its hybrid nanocomposites: A review of recent literature. Journal of Hazardous Materials, 322: 48–84.

View more research publication by Chunming Su

Education:

- Ph.D., Washington State University, Pullman, Washington; Soil Chemistry, 1992
- M.S.; University of Guelph, Guelph, Canada; Soil Chemistry, 1988
- B.S., China Agricultural University, Beijing, China; Soil & Agrochemistry, 1984

Professional Experience:

Workgroups/Project Leads

- Co-convener of Session H058 (Fate, transport and remediation of contaminants of emerging concern and their transformation products in the critical zone), American Geophysical Union 2018 Fall Meeting, December 10–14, Washington, DC.
- Co-Executive Chairman of the 2017 International Conference on Groundwater Protection and Water System Security, hosted by Chinese Academy of Sciences and All-China Environment Federation, December 14–18, 2017, Shaoxing, Zhejiang Province, China
- EPA lead for Workshop on Remediation of Contaminated Land and Groundwater, organized by the Institute of Geographic Sciences and Natural Resources Research of the Chinese Academy of Sciences and Beijing Municipal Committee on Science and Technology, April 21–23, 2010, Beijing, China.

Committees and Memberships

- Member of the Editorial Board of journal "Applied Sciences" 1996-
- Member of the Editorial/Reviewer Board of journal "The Scientific Pages of Material Science", 1997-
- Reviewer for 109 scientific journals
- Member, Soil Science Society of America, American Society of Agronomy, American Geophysical Union

Honors and Awards

- USEPA Bronze Medal, 2008, 2009
- USEPA ORD Honor Award, 2006
- EPA Region 8 the Regional Administrator's Priorities Award, 2016
- USEPA Scientific and Technological Achievement Award Level III, 2004, 2006
- USEPA Scientific and Technological Achievement Award Honorable Mention, 2005, 2006, 2007, 2008 (twice), 2012, 2013, 2014, 2015, 2016 (twice)
- Washington State University Graduate Student Travel Grant, 1990
- Davidson Travel Grant, University of Guelph, Canada, 1987

Patent

- Ralph D. Ludwig and **Chunming Su**, 2007. A method of treating a subsurface formation with ferrous iron to reduce contaminants to harmless species. United States Patent # 7,166,228 B2.