

## SCOTT C. BROOKS

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### Education

1995 University of Virginia. Ph.D. Environmental Sciences  
1991 University of Virginia. M.S. Environmental Sciences  
1984 University of Virginia. B.A. Psychology

### Research Experience

2012 – Present: **Distinguished R&D Staff Scientist**, Oak Ridge National Laboratory, Environmental Sciences Division  
2005 – Present: **Team Leader**, Hydrogeochemical Dynamics, Environmental Sciences Division, Oak Ridge National Laboratory  
2006 – 2007: **Group Leader**, Earth Sciences, Environmental Sciences Division, Oak Ridge National Laboratory  
2004 – 2012: **Senior R&D Staff Scientist**, Oak Ridge National Laboratory, Environmental Sciences Division  
1997 – 2003: **Research Staff Scientist**, Oak Ridge National Laboratory, Environmental Sciences Division  
1994 – 1997 **Postdoctoral Research Associate**, Environmental Sciences Division, Oak Ridge National Laboratory  
1991 – 1994 **Research Assistant**, University of Virginia  
6/89 – 7/91: **Research Microbiologist**, part-time, Hydrosystems, Inc., Sterling, Virginia  
6/90 – 11/90: **Research Assistant** project funded by Virginia Department of Waste Management

### Teaching Experience

Spring 1992 Teaching Assistant for Quantitative Contaminant Hydrogeology  
1984 – 1988 Science teacher, Collegiate School, Richmond, Virginia

### Professional Service and Affiliations

National Academy of Sciences, National Research Council Committee Member – “Uranium Mining in Virginia”  
August 2010 – May 2012  
Reviewer – EPA’s draft, *In-Situ Leaching of Uranium: Risk Assessment in Support of the Revision of 40 CFR Part 192*. February – April 2012  
Expert Panel Member reviewing the study “Uranium Mining in Virginia: A Preliminary Assessment of Potential Impacts on Drinking Water Sources” (Michael Baker, Jr., Inc.), February 2010 – January 2011  
2004-2005 Associate Editor, *Water Resources Research*  
Member, American Geophysical Union  
Member, American Chemical Society, Environmental Chemistry and Geochemistry Divisions  
Member, Sigma Xi  
*Ad hoc* manuscript reviewer for numerous journals

### Honors

**Distinguished Scientific Achievement Award**, Environmental Sciences Division, ORNL, 2003  
**Award of Excellence**, Society for Technical Communication/ East Tennessee Chapter, 2001  
**Award of Excellence**, Society for Technical Communication/ East Tennessee Chapter, 2000  
**Award of Achievement**, Society for Technical Communication/ East Tennessee Chapter, 1997  
**Ph.D. Student Award**, Physical Sciences, University of Virginia chapter of the Society of Sigma Xi, 1994  
**DuPont Fellowship** of the University of Virginia, 1993-94  
Society of **Sigma Xi**, inducted April 1992  
**Governor’s Fellowship** of the University of Virginia, 1990-91  
**Sigma Gamma Epsilon**, earth science honor society, inducted September 1990  
**Raven Fellowship** for Independent Research, University of Virginia, April 1990

**Selected Publications (>50 journal articles; 6 books or chapters, 9 reports, >190 presentations and abstracts)**

- Southworth, George, Teresa Mathews, Mark Greeley, Mark Peterson, Scott Brooks, Dick Ketelle. *in press*. Sources of mercury to a contaminated stream – implications for the time scale of recovery. *Environ. Contam. Toxicol.*
- Green, Stefan, Om Prakash, Puja Jasrotia, Will Overholt, Erick Cardenas, Daniela Hubbard, James Tiedje, David Watson, Christopher Schadt, Scott Brooks, and Joel Kostka. 2012. Denitrifying bacteria from the genus *Rhodanobacter* dominate bacterial communities in the highly contaminated subsurface of a nuclear legacy waste site. *Appl. Environ. Microbiol.* 78(4):1039-1047. DOI: 10.1128/AEM.06435-11.
- Mosher, Jennifer J., Tatiana A. Vishnivetskaya, Dwayne A. Elias, Mircea Podar, Scott C. Brooks, Steven D. Brown, Craig C. Brandt, Anthony V. Palumbo. 2012. Characterization of the *Deltaproteobacteria* in contaminated and uncontaminated stream sediments and identification of potential mercury methylators. *Aquat. Microb. Ecol.* 66:271–282. doi: 10.3354/ame01563
- Tang, G., D. B. Watson, J. C. Parker, S. C. Brooks. 2012. A Spreadsheet Program for Two-Well Tracer Test Data Analysis. *Ground Water.* 50(4):614-620. doi: 10.1111/j.1745-6584.2011.00841.x
- Jardine, P. M. , T.L. Mehlhorn, W.B. Bailey, S.C. Brooks, S.E. Fendorf, R.W. Gentry, T.J. Phelps, and J.E. Saiers. 2011. Geochemical processes governing the fate and transport of Cr(III) and Cr(VI) in soils. *Vadose Zone J.* 10(3):1058-1070. doi:10.2136/vzj2010.0102
- Gihring, Thomas M., Gengxin Zhang, Craig C. Brandt, Scott C. Brooks, James H. Campbell, Susan Carroll, Craig S. Criddle, Stefan J. Green, Phil Jardine, Joel E. Kostka, Kenneth Lowe, Tonia L. Mehlhorn, Will Overholt, David B. Watson, Zamin Yang, Wei-Min Wu, and Christopher W. Schadt. 2011. A limited microbial consortium is responsible for longer-term bioreduction of uranium in a contaminated aquifer. *Appl. Environ Microbiol.* 77(17):5955-5965. doi:10.1128/AEM.00220-11
- Biswas, Abir, Scott C. Brooks, Carrie L. Miller, Jennifer J. Mosher, Xiangping L. Yin, Meghan M. Drake. 2011. Bacterial Growth Phase Influences Methylmercury Production by the Sulfate-Reducing Bacterium *Desulfovibrio desulfuricans* ND132. *Sci. Tot. Environ.* 409(19):3943-3948. doi:10.1016/j.scitotenv.2011.06.037.
- Wu, W-M., Jack Carley, David Watson , Baohua Gu, Scott Brooks, Shelly D. Kelly, Kenneth Kemner, Joy D. van Nostrand , Liyou Wu, Meiyong Xu, Jizhong Zhou, Jian Luo, Erick Cardenas, Chiachi Hwang, Matthew W. Fields, Terence L. Marsh, James M. Tiedje, Stefan J. Green, Joel E. Kostka, Peter K. Kitanidis, Philip M. Jardine, Craig S. Criddle. 2011. Bioreduction and immobilization of uranium in situ: a case study at a USA Department of Energy radioactive waste site, Oak Ridge, Tennessee. *Acta Scientiae Circumstantiae (Chinese language).* 31(3):449-459.
- Brooks, S. C., and G. R. Southworth. 2011. History of mercury use and environmental contamination at the Oak Ridge Y-12 Plant. *Environ. Poll.* 159(1):219-228. doi:10.1016/j.envpol.2010.09.009
- Spalding, B. P., S. C. Brooks, D. B. Watson. 2010. Hydrogel-Encapsulated Soil: A Tool to Measure Contaminant Attenuation In Situ. *Environ. Sci. Technol.* 44(8):3047-3051. DOI: 10.1021/es903983f
- Dong, Wenming, Baohua Gu, George R. Southworth, Scott C. Brooks, and Liyuan Liang. 2010. Roles of dissolved organic matter in the speciation of mercury and methylmercury in a contaminated ecosystem in Oak Ridge, Tennessee. *Environ. Chem.* 7(1):94-102. doi:10.1071/EN09091
- Miller, Carrie L., George Southworth, Scott Brooks, Liyuan Liang, and Baohua Gu. 2009. Kinetic controls on the complexation between mercury and dissolved organic matter in a contaminated environment. *Environ. Sci. Technol.* 43 (22): 8548-8553. DOI: 10.1021/es901891t
- Dong, W. and S. C. Brooks. 2008. Formation of aqueous  $MgUO_2(CO_3)_3^{2-}$  complex and uranium anion exchange mechanism onto an exchange resin. *Environ. Sci. Technol.* 42 (6):1979-1983. doi: 10.1021/es0711563.
- Dong, W. and S. C. Brooks. 2006. Determination of the formation constants of ternary complexes of uranyl and carbonate with alkaline earth metals ( $Mg^{2+}$ ,  $Ca^{2+}$ ,  $Sr^{2+}$ , and  $Ba^{2+}$ ) using anion exchange method. *Environ. Sci. Technol.* 40(15):4689-4695. doi: 10.1021/es0606327
- Spalding, B. P. and S. C. Brooks. 2005. Permeable environmental leaching capsules (PELCAPs) for in situ evaluation of contaminant immobilization in soil. *Environ. Sci. Technol.* 39(22):8912-8918.
- Brooks, S. C., J. K. Fredrickson, S. L. Carroll, D. W. Kennedy, J. M. Zachara, A. E. Plymale, S. D. Kelly, K. M. Kemner, and S. Fendorf. 2003. Inhibition of bacterial U(VI) reduction by calcium. *Environ. Sci. Technol.* 37(9):1850-1858. doi: 10.1021/es0210042
- Brooks, S. C. and S. L. Carroll. 2003. Geochemical reactions governing the fate of Co-NTA in contact with natural subsurface materials. *Appl. Geochem.* 18(3):423-433.
- Brooks, S. C. and S. L. Carroll. 2002. pH-dependent fate and transport of NTA-complexed cobalt through undisturbed cores of fractured shale saprolite. *J. Contam. Hydrol.* 58(3-4):191-207.