

SCOTT CARRUTHERS BROOKS

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Education

- 1995 University of Virginia. Ph.D. Environmental Sciences. Program focus: low-temperature geochemistry, environmental microbiology, hydrology. Dissertation: Geochemical and Microbiological Controls on Cobalt Mobility.
- 1991 University of Virginia. M.S. Environmental Sciences. Thesis: Influence of Inoculation with *Phanerochaete chrysosporium* Burds. on the Fate of Polynuclear Aromatic Hydrocarbons in Soils.
- 1984 University of Virginia. B.A. Psychology. Focus of major: neurobiology and physiology of memory.

Research Interests: Multidisciplinary research on the biogeochemical factors influencing the fate and transformation of solutes in the subsurface and across the groundwater-surface water interface; microbially mediated geochemical changes in groundwater; geochemical constraints on bacterial activity in soils and groundwater; influence of physical, chemical, and mineralogical heterogeneities on the rates and equilibrium of reactions. ORCID: 0000-0002-8437-9788

Research Experience

- 2012 – Present: **Distinguished R&D Staff Scientist**, Oak Ridge National Laboratory, Environmental Sciences Division
- 2005 – 2014: **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. Under the direction of Dr. Philip Jardine.
- 1991 – 1994 **Research Assistant** on project funded by the Co-contaminant Chemistry Subprogram of the Subsurface Science Program, sponsored by the U. S. Department of Energy. Responsible for the design and completion of original research on the biogeochemistry of mixed wastes in the subsurface. Active in the instruction and supervision of undergraduate research interns.
- 6/89 – 7/91: **Research Microbiologist**, part-time, Hydrosystems, Inc., Sterling, Virginia. Designed and conducted bioremediation feasibility study for the L. A. Clarke Superfund Site. Prepared final report for submittal to Hydrosystems and the U. S. Environmental Protection Agency.

6/90 – 11/90: **Research Assistant** on project funded by Virginia Department of Waste Management. Responsibilities included sampling soil, sediment, and water from the Commonwealth of Virginia Emergency Fuel Storage Facility and analyzing the samples for petroleum hydrocarbons.

Teaching Experience

Spring 1992 Teaching Assistant for Quantitative Contaminant Hydrogeology. Responsible for the instruction of graduate-level lab section of class including set up of physical demonstrations and instruction in the use of numerous computer models (WATEQ4F, PHREEQE, MOC, BIO1D).

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, Geological Society of America

Member, American Association for the Advancement of Science

Member, Sigma Xi

Ad hoc manuscript reviewer for numerous journals

Honors

Best of Show, Society for Technical Communication 2014 International Summit, for “*Research Priorities for Tropical Ecosystems Under Climate Change*”

ORNL Director’s Award for Outstanding Science Accomplishment by a team 2013

UT-Battelle Team Award in Scientific Research 2013

Distinguished Scientific Achievement Award, Environmental Sciences Division, Oak Ridge National Laboratory, 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, awarded by the 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

Journal Publications (ORCID: 0000-0002-8437-9788; H-index: 34, i10 index: 79, citations: 4546, Google Scholar [http://scholar.google.com/citations?user=_iTxW-kAAAAAJ&hl=en])

- Murphy, Samantha, Grace E. Schwartz, and Scott C. Brooks. *in press*. Demethylation or Sorption? The fate of Methylmercury in the Presence of Manganese Dioxide. *Environ. Eng. Sci.* doi: 10.1089/ees.2020.0068
- Devarajan, Deepa, Liyuan Liang, Baohua Gu, Scott C. Brooks, Jerry M. Parks, and Jeremy C. Smith. *in press*. Molecular dynamics simulation of structures, dynamics, and aggregation of dissolved organic matter. *Environ. Sci. Technol.*
- Pathak, Ashish, Rajneesh Jaswal, Xiaoyu Xu, John R. White, Bobby Edwards III, Jaden Hunt, Scott Brooks, Rajesh Singh Rathore, Meenakshi Agarwal, and Ashvini Chauhan. 2020. Characterization of Bacterial and Fungal Assemblages from Historically Contaminated Metalliferous Soils Using Metagenomics Coupled With Diffusion Chambers and Microbial Traps. *Frontiers in Microbiology*. 11(1024) doi: 10.3389/fmicb.2020.01024
- Lian, Peng, Luanjing Guo, Deepa Devarajan, Jerry M. Parks, Scott L. Painter, Scott C. Brooks, and Jeremy C. Smith. 2020. The *AQUA-MER* Databases and Aqueous Speciation Server: A Web Resource for Multiscale Modeling of Mercury Speciation. *Comp. Chem.* 41(2):147-155. doi: 10.1002/jcc.26081
- Guo, Luanjing, Scott L. Painter, Scott C. Brooks, Jerry M. Parks, Jeremy C. Smith. 2019. A Probabilistic Perspective on Thermodynamic Parameter Uncertainties: Understanding Aqueous Speciation of Mercury. *Geochim. Cosmochim. Acta.* 263(2019):108-121. doi: 10.1016/j.gca.2019.07.053
- Schwartz, Grace E., Todd A. Olsen, Katherine A. Muller, and Scott C. Brooks. 2019. Ecosystem controls on methylmercury production by periphyton in a contaminated freshwater stream: Implications for predictive modeling. *Environ. Toxicol. Chem.*, 38(11)2426-2435. doi: 10.1002/etc.4551
- Christensen, Geoffrey A, Caitlin M. Gionfriddo, Andrew J King, James G Moberly, Carrie L. Miller, Anil C Somenahally, Stephen J. Callister, Heather Brewer, Mircea Podar, Steven D. Brown, Anthony V. Palumbo, Craig C. Brandt, Ann M Wymore, Scott C. Brooks, Chiachi Hwang, Matthew W. Fields, Judy D. Wall, Cynthia C. Gilmour, and Dwayne A Elias. 2019. Determining the Reliability of Measuring Mercury Cycling Gene Abundance with Correlations with Mercury and Methylmercury Concentrations *Environ. Sci. Technol.* 53(15):8649-8663 DOI: 10.1021/acs.est.8b06389
- Johs, Alexander, Virginia A. Eller, Tonia L. Mehlhorn, Scott C. Brooks, David P. Harper, Melanie A. Mayes, Eric M. Pierce, Mark J. Peterson. 2019. Dissolved organic matter reduces the effectiveness of sorbents for mercury removal. *Sci. Tot. Environ.* 690:410-416. doi.org/10.1016/j.scitotenv.2019.07.001
- Muller, Katherine A., Craig C. Brandt, Teresa J. Mathews, and Scott C. Brooks. 2019. Methylmercury sorption onto engineered materials. *J. Environ. Management.* 245(2019):481-488. doi.org/10.1016/j.jenvman.2019.05.100 (data DOI: 10.17632/jcfwd5sg4w.1)
- McManamay, Ryan A., Franklin Linam, Teresa J. Mathews, Scott C. Brooks, Mark J. Peterson. 2019. Scaling mercury biodynamics from individuals to populations: implications of an herbivorous fish on mercury cycles in streams. *Freshw. Biol.* 2019;00:1-17. DOI: 10.1111/fwb.13265
- Muller, Katherine A. and Scott C. Brooks. 2018. Effectiveness of sorbents to reduce mercury methylation. *Environ. Eng. Sci.* 36(3):361-371. DOI: 10.1089/ees.2018.0375
- Dickson, Johnbull O., Melanie A. Mayes, Scott C. Brooks, Tonia L. Mehlhorn, Kenneth A. Lowe, Jennifer K. Earles, Leroy Goñez-Rodriguez, David B. Watson, and Mark J. Peterson. 2019. Source relationships between streambank soils and streambed sediments in a mercury-contaminated stream. *J. Soils Sediments.* 19(4):2007-2019. DOI: 10.1007/s11368-018-2183-0
- Devarajan, Deepa, Peng Lian, Scott C. Brooks, Jerry M. Parks, and Jeremy C. Smith. 2018. Quantum chemical approaches for calculating stability constants of mercury complexes. *ACS Earth Space Chem.* 2(11):1168-1178. DOI: 10.1021/acsearthspacechem.8b00102
- Pathak, Ashish, Rajneesh Jaswal, Paul Stothard, Scott Brooks, and Ashvini Chauhan. 2018. Draft Genome Sequence of *Pseudomonas* sp. Strain B1 Isolated from a Contaminated Sediment. *Genome Announcement.* 6(25):e00518-18. doi: 10.1128/genomeA.00518-18

- Demers, Jason D., Joel D. Blum, Scott C. Brooks, Patrick M. Donovan, Carrie L. Miller, Ami L. Riscassi, Wang Zheng, and Baohua Gu. 2018. Hg isotopes reveal in-stream processing and legacy inputs in East Fork Poplar Creek, Oak Ridge, TN, USA. *Environ. Sci.: Processes & Impacts*. 20(4):686-707. DOI: 10.1039/C7EM00538E.
- Olsen, Todd, Katherine A. Muller, Scott L. Painter, and Scott C. Brooks. 2018. Kinetics of Methylmercury Production Revisited. *Environ. Sci. Technol.* 52(4):2063-2070. DOI: 10.1021/acs.est.7b05152
- Christensen, Geoffrey, Anil Somenahally, James Moberly, Carrie Miller, Andrew King, Cynthia Gilmour, Steven Brown, Mircea Podar, Craig Brandt, Scott Brooks, Anthony Palumbo, Judy Wall, and Dwayne Elias. 2018. Carbon amendments alter microbial community structure and net mercury methylation potential in sediments. *Appl. Environ. Microbiol.* 84:e01049-17. doi: 10.1128/AEM.01049-17.
- Brooks, Scott C., Craig C. Brandt, and Natalie A. Griffiths. 2017. Estimating uncertainty in ambient and saturation nutrient uptake metrics from nutrient pulse releases in stream ecosystems. *Limnology and Oceanography: Methods*. 15(1):22-37. doi: 10.1002/lom3.10139
- Olsen, Todd A., Craig C. Brandt, and Scott C. Brooks. 2016. Periphyton biofilms influence net methylmercury production in an industrially contaminated system. *Environ. Sci. Technol.* 50(20):10843-10850. doi: 10.1021/acs.est.6b01538
- Riscassi, A.L., C. Miller, and S. C. Brooks. 2016. Seasonal and flow-driven dynamics of particulate and dissolved mercury and methylmercury in a stream impacted by an industrial mercury source. *Environ. Toxicol. Chem.* 35(6):1386-1400. doi:10.1002/etc.3310
- Zhang, Ping, Wei-Min Wu, Joy Van Nostrand, Ye Deng, Zhili He, Thomas Gihring, Gengxin Zhang, Christopher Schadt, David Watson, Phil Jardine, Craig Criddle, Scott Brooks, Terence Marsh, James Tiedje, Adam Arkin, and Jizhong Zhou. 2015. Dynamic succession of groundwater functional microbial communities in response to emulsified vegetable oil amendment during sustained in situ U(VI) reduction. *Appl. Environ. Microbiol.* 81(12):4164-4172. doi:10.1128/AEM.00043-15
- Vázquez-Rodríguez, A. I., C.M. Hansel, T. Zhang, C.H. Lamborg, C.M. Santelli, S.M. Webb, S.C. Brooks. 2015. Microbial- and Thiosulfate-Mediated Dissolution of Mercury Sulfide Minerals and Transformation to Gaseous Mercury. *Frontiers Microbiol.* 6, doi:10.3389/fmicb.2015.00596
- Smith, Mark, Andrea Rocha, Chris Smillie, Scott Olesen, Charles Paradis, Liyou Wu, James Campbell, Julian Fortney, Tonia Mehlhorn, Kenneth Lowe, Jennifer Earles, Jana Phillips, Stephen Techtmann, Dominique Joyner, Dwayne Elias, Katherine Bailey, Richard Hurt, Sarah Preheim, Matthew Sanders, Joy Yang, Marcella Mueller, Scott Brooks, David Watson, Ping Zhang, Zhili He, Eric Dubinsky, Paul Adams, Adam Arkin, Matthew Fields, Jizhong Zhou, Eric Alm, and Terry Hazen. 2015. Natural bacterial communities serve as quantitative geochemical biosensors. *mBio* 6(3):e00326-15. doi:10.1128/mBio.00326-15.
- Munasinghe, P. Sumudu, Andrew S. Madden, Megan E. Elwood Madden, Scott C. Brooks. 2015. Dynamic interplay between uranyl phosphate precipitation, sorption, and phase evolution. *Appl. Geochem.* 58:147-160. <http://dx.doi.org/10.1016/j.apgeochem.2015.04.008>
- Kim, Y.-J., S. C. Brooks, F. Zhang, J. C. Parker, J.-W. Moon, and Y. Roh. 2015. Fate and transport of uranium(VI) in weathered sapolite. *J. Environ. Radioact.* 139:154-162. DOI: 10.1016/j.jenvrad.2014.10.008
- Qian, Yun, Xiangping Yin, Hui Lin, Balaji Rao, Scott Brooks, Liyuan Liang, Baohua Gu. 2014. Roles of Dissolved Organic Matter (DOM) in Photodegradation of Methylmercury. *Environ. Sci. Technol. Lett.* 1(10):426-431. doi.org/10.1021/ez500254z
- Riscassi, A.L., Brooks, S., and C. Miller. 2014. Impact of collection container material and holding times on sample integrity for mercury and methylmercury in water. *Limnology and Oceanography: Methods*. 12(6):407-420. DOI 10.4319/lom.2014.12.407
- Gu, Baohua, Bhoopesh Mishra, Carrie Miller, Wei Wang, Barry Lai, Scott C. Brooks, Kenneth M. Kemner, and Liyuan Liang. 2014. X-ray fluorescence mapping of mercury on suspended mineral particles and diatoms in a contaminated freshwater system. *Biogeosciences Discuss.* 11:1-20. doi:10.5194/bgd-11-1-2014

- Trieu, Khang, Emily Heider, Scott C. Brooks, Fernando Barbosa Jr, and Andres D. Campiglia. 2014. Gold nanorods for surface plasmon resonance detection of mercury (II) in flow injection analysis. *Talanta*. 128(2014):196-202. <http://dx.doi.org/10.1016/j.talanta.2014.04.028>
- Donovan, Patrick M., Joel D. Blum, Jason D. Demers, Baohua Gu, Scott C. Brooks, John Peryam. 2014. Identification of multiple mercury sources to stream sediments near Oak Ridge, TN, USA. *Environ. Sci. Technol.* 48(7):3666-3674. dx.doi.org/10.1021/es4046549
- Jasrotia, Puja, Stefan Green, Andy Canion, Will Overholt, Om Prakash, Denis Wafula, Daniela Hubbard, David Watson, Christopher Schadt, Scott Brooks, and Joel Kostka. 2014. Watershed-scale fungal community characterization along a pH gradient in a subsurface environment cocontaminated with uranium and nitrate. *Appl. Environ. Microbiol.* 80(6):1810-1820. doi: 10.1128/AEM.03423-13.
- Jardine, P. M., M.A. Stewart, M.O. Barnett, N.T. Basta, S.C. Brooks, S. Fendorf, T.L. Mehlhorn. 2013. Influence of Soil Geochemical and Physical Properties on Chromium (VI) Sorption and Bioaccessibility. *Environ. Sci. Technol.* 47(19):11241-11248. doi: 10.1021/es401611h
- Venkatramanan, Raghav, Om Prakash, Tanja Woyke, Patrick Chain, Lynne A. Goodwin, David Watson, Scott Brooks, Joel E. Kostka, Stefan J. Green. 2013. Genome sequences for three denitrifying bacterial strains isolated from a uranium- and nitrate-contaminated subsurface environment. *Genome Announcements*. 1(4):1-2. doi:10.1128/genomeA.00449-13
- Kocman, David, Scott C. Brooks, Carrie L. Miller, and Xiangping L. Yin. 2013. Evaluation of centrifugal ultrafilters for size fractionation of total mercury and methylmercury in freshwaters. *Environ. Chem.* 10(4):323-332. dx.doi.org/10.1071/EN12199
- Watson, David B., Wei-Min Wu, Tonia Mehlhorn, Guoping Tang, Jennifer Earles, Kenneth Lowe, Thomas M. Gihring, Gengxin Zhang, Fan Zhang, Jana Phillips, Maxim Boyanov, Brian P. Spalding, Christopher Schadt, Kenneth M. Kemner, Craig S. Criddle, Philip M. Jardine, and Scott C. Brooks. 2013. In situ Bioremediation of Uranium with Emulsified Vegetable Oil as the Electron Donor. *Environ. Sci. Technol.* 47(12):6440-6448. doi: 10.1021/es3033555
- Tang, Guoping, David B. Watson, Wei-Min Wu, Christopher W. Schadt, Jack C. Parker, Scott C. Brooks. 2013. U(VI) Bioreduction with Emulsified Vegetable Oil as the Electron Donor – Model Application to a Field Test. *Environ. Sci. Technol.* 47(7):3218-3225. doi:10.1021/es304643h
- Tang, Guoping, Wei-Min Wu, David B. Watson, Jack C. Parker, Christopher W. Schadt, Xiaoqing Shi, Scott C. Brooks. 2013. U(VI) Bioreduction with Emulsified Vegetable Oil (EVO) as the Electron Donor – Microcosm Tests and Model Development. *Environ. Sci. Technol.* 47(7):3209–3217 DOI: 10.1021/es304641b
- Tang, Guoping, Wenshui Luo, David B. Watson, Scott C. Brooks, Baohua Gu. 2013. Prediction of Aluminum, Uranium and Co-contaminant Sorption and Precipitation during Titration of Acidic Sediments. *Environ. Sci. Technol.* 47(11):5787-5793. DOI: 10.1021/es400169y
- Southworth, George, Teresa Mathews, Mark Greeley, Mark Peterson, Scott Brooks, Dick Ketelle. 2013. Sources of mercury to a contaminated stream – implications for the time scale of recovery. *Environ. Contam. Toxicol.* 34(4):764-772. DOI: 10.1002/etc.2115
- GasperiKova, Erika, Susan S. Hubbard, David B. Watson, Gregory S. Baker, John E. Peterson, Michael B. Kowalsky, Meagan Smith, and Scott Brooks. 2012. Long-term electrical resistivity monitoring of recharge-induced contaminant plume behavior. *J. Contam. Hydrol.* 142-143(Nov):33-49. <http://dx.doi.org/10.1016/j.jconhyd.2012.09.007>
- Prakash, Om, Stefan J. Green, Puja Jasrotia, Will A. Overholt, Andy Canion, David B. Watson, Scott C. Brooks, and Joel E. Kostka. 2012. Description of *Rhodanobacter denitrificans* sp. nov., isolated from nitrate-rich zones of a contaminated aquifer. *International Journal of Systematic and Evolutionary Microbiology*. 62(10):2457–2462 doi:10.1099/ijs.0.035840-0
- Kostka, Joel E., Stefan J. Green, Lavanya Rishishwar, Om Prakash, Lee Katz, Leonardo Marino-Ramirez, King I. Jordan, David B. Watson, Steven D. Brown, Anthony V. Palumbo, and Scott C. Brooks. 2012. Genome sequences for six *Rhodanobacter* strains isolated from soils and the terrestrial subsurface with variable denitrification capabilities. *J. Bacteriol.* 194(16):4461-4462. doi:10.1128/JB.00871-12

- 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.
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- 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
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- Olsen, Todd A., Katherine A. Muller, and Scott C. Brooks. 2017. Measurement and Modeling of Methylmercury Production in Periphyton Biofilms. Environmental System Science Principal Investigator (PI) Meeting. April 25-26, 2017, Bolger Center, Potomac, MD.
- Painter, Scott L., and Scott C. Brooks. 2017. Modeling Solute Transport and Coupled Biogeochemical Transformations in Low-order Streams Using a Stochastic Travel-time Approach. Environmental System Science Principal Investigator (PI) Meeting. April 25-26, 2017, Bolger Center, Potomac, MD.
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- Peterson, Mark, Scott Brooks, Terry Mathews, Melanie Mayes, Dave Watson, Alex Johs, Tonia Mehlhorn, John Dickson, Charlie Mansfield, Elizabeth Phillips, Eric Pierce. 2017. An Integrated, Systems-based Approach to Mercury Research and Technology Development. Waste Management Symposium 2017. 5-9 March 2017, Phoenix, AZ.
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- Olsen, Todd A., Andrew J. King, Dwayne A. Elias, Scott C. Brooks. 2016. Periphyton Biofilms Influence Net Methylmercury Production in an Industrially Contaminated System. Environmental System Science Principal Investigator (PI) Meeting April 26-27, 2016, Bolger Center, Potomac, MD.
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- Dickson, J. O., M.A. Mayes, S.C. Brooks, D.B. Watson, T.L. Mehlhorn, M.J. Peterson, and E.M. Pierce. 2015. Mercury loading from floodplain soils in a southern Appalachian watershed. SETAC North America 36th Annual Meeting. 1-5 November 2015. Salt Lake City, UT.
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- Rocha, Andrea M., James H. Campbell, Tonia Mehlhorn, Kenneth Lowe, Jennifer Earles, Jana Phillips, Scott Brooks, David B. Watson, Mark B. Smith, Chris Smillie, Sarah Preheim, Scott Oleson, Matthew Sanders, Joy Yang, Eric Alm, Liyou Wu, Ping Zhang, Zhili He, Jizhong Zhou, Matthew W. Fields, Eric A. Dubinsky, Paul D. Adams, and Adam P. Arkin, Susan Pfiffner, Kati Ayers, Charles Paradis, Julian L. Fortney, Dominique C. Joyner, and T.C. Hazen. 2015. Biosensors for Predicting and Monitoring Environmental Perturbations and Microbial Response across a Uranium-Nitrate Contaminated Watershed. Third International Symposium on Bioremediation and Sustainable Environmental Technologies. 18-21 May 2015, Miami, FL.
- Pierce, Eric M., Brooks, Scott C., Gu, Baohua, Elias, Dwayne A., Parks, Jerry M., Johs, Alexander, Brandt, Craig C., Podar, Mircea, Brown, Steven D., Gilmour, C. C., Wall, Judy D., Smith, Jeremy C. 2015. Biogeochemical and molecular mechanisms controlling contaminant transformation in the environment. 3rd Annual Environmental System Science Principal Investigators Meeting. Potomac, MD. 28-29 April 2015.
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- Brooks, Scott, Ami L. Riscassi, Carrie Miller. 2014. Diel mercury-concentration variations in a mercury impacted stream. 126th Annual Meeting of the Geological Society of America, 19-22 October 2014, Vancouver, BC Canada.
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- Riscassi, A., Carrie Miller, Scott Brooks. 2014. Diel mercury-concentration variations in a mercury impacted stream. Goldschmidt 2014. 8-13 June 2014, Sacramento, CA.
- Riscassi, A. L., Carrie L. Miller, Scott C. Brooks. 2014. Diel mercury-concentration variations in a mercury impacted stream. 2nd Annual Joint TES/SBR Principal Investigators Meeting. 6-7 May

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- Elias, D. A., Scott Brooks, Richard A. Hurt Jr., Anil C. Somenahally, Romain Bridou, Steven D. Smith, Mircea Podar, Steven D. Brown, Craig C. Brandt, Anthony V. Palumbo, Judy D. Wall, Cynthia C. Gilmour. 2014. Organismal and Environmental Level Investigations of the Mercury Methylating Genes *hgcAB*. 2nd Annual Joint TES/SBR Principal Investigators Meeting. 6-7 May 2014, Potomac, MD.
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- Smith, J. C., Scott C. Brooks, Ariana Beste, Hao-Bo Guo, Hong Guo, Alexander Johs, Susan M. Miller, Jerry M. Parks, Demian Riccardi, Anne O. Summers, Stephen J. Tomanicek, Jing Zhou. 2014. Determining Mechanisms of Hg Methylation by *HgcA* and intramolecular Hg transfer by *MerA* at the Atomic Scale. 2nd Annual Joint TES/SBR Principal Investigators Meeting. 6-7 May 2014, Potomac, MD.
- Watson, D. B., Scott Brooks, Guoping Tang, Chris Schadt, Nathan Collier, Pengsong Li, and Fengming Yuan. 2014. Capturing Transient Climate-Driven Contributions of Surface to Subsurface Processes at Watershed Scales. 2nd Annual Joint TES/SBR Principal Investigators Meeting. 6-7 May 2014, Potomac, MD.
- Brooks, S. C. 2014. Isolation and removal of radionuclides from contaminated groundwater: Two applied examples from ORNL. 26th Annual Regulatory Information Conference, U.S. Nuclear Regulatory Commission. 11-13 March 2014, Bethesda, MD. *INVITED*.
- Riscassi, A.L., Brooks, S. and Miller, C, Yin, X. 2013. Storm dynamics of Hg and MeHg in an industrially contaminated creek: What can it tell us about source areas of Hg and MeHg within the catchment? Society of Environmental Toxicology and Chemistry, Nashville, TN. 17-21 November 2013
- Miller, Carrie, Ami Riscassi, Xiangping Yin and Scott Brooks. 2013. Comparison of Hg and MeHg cycling in a contaminated creek with uncontaminated systems. Society of Environmental Toxicology and Chemistry, Nashville, TN. 17-21 November 2013
- Mills, R. T., G. Bisht, J. Kumar, C.L.-Cheng, G. Tang, G. Hammond, B. Andre, D. Watson, S. Brooks. 2013. Simulation of Coupled Surface-Subsurface Hydrologic and Terrestrial Ecosystem Processes using PFLOTRAN and CLM. 125th Annual Meeting of the Geological Society of America, 27-30 October 2013, Denver, CO.
- Brooks, S. C. 2013. Mercury Use at ORNL & Its Environmental Legacy: What we knew, what we know now, what we are learning, and what we have to learn. East Tennessee Chapter of the American Health Physics Society. 17 September 2013.
- Riscassi, Ami, Scott Brooks, Carrie Miller, Xiangping Yin. 2013. Storm dynamics of Hg and MeHg in a contaminated creek: What can it tell us about transport and source areas within the catchment? 11th International Conference on Mercury as a Global Pollutant (ICMGP) Edinburgh, Scotland. 28 July-2 August 2013.
- Miller, Carrie, Scott Brooks, Ami Riscassi, David Kocman, Xiangping Yin. 2013. Factors influencing sediment methylmercury concentrations in a mercury contaminated creek. 11th International Conference on Mercury as a Global Pollutant (ICMGP) Edinburgh, Scotland. 28 July-2 August 2013.
- Vazquez-Rodriguez, A. I., T. Zhang, C.M. Santelli, S.C. Brooks, C.H. Lamborg, and C.M. Hansel. 2013. *Thiobacillus* species and thiosulfate implicated in HgS mobilization. 11th International Conference on Mercury as a Global Pollutant (ICMGP) Edinburgh, Scotland. 28 July-2 August 2013.
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- Gu, B., S. Brooks, D. Watson, G. Tang, T. Zimmerman, J. Earles, J. Stephens. 2013. Geochemical Controls on the Immobilization of Metals and Radionuclides and Microbial Activity in a Highly Contaminated, Acidic Aquifer. 1st Annual SBR-TES Joint Investigators Meeting. 14-15 May 2013, Potomac, MD.
- Tang, Guoping, Scott Brooks, David Watson, Chris Schadt , Weimin Wu, T. Mehlhorn, K. Lowe, P. Jasrotia, K. Kemner, J. Kostka. 2013. An Integrated Experimental and Modeling Study of U(VI) Bioreduction with Emulsified Vegetable Oil as Electron Donor from Laboratory to Field Scales. 1st Annual SBR-TES Joint Investigators Meeting. 14-15 May 2013, Potomac, MD.
- Watson, D., C. Schadt, J. Kostka, P. Jasrotia, S. Green, K. Kemner , G. Baker, D. Phillips, S. Brooks. 2013. Hydrobiogeochemical Interactions along “Flow Tubes” Controls Watershed Scale Contaminant Flow and Transformation at the Oak Ridge IFRC. 1st Annual SBR-TES Joint Investigators Meeting. 14-15 May 2013, Potomac, MD.
- Brooks, S. C. 2012. National Academy of Sciences Uranium Study and Uranium Mobility in Groundwater. Water Research Foundation Educational workshop “Issues and Impacts: Uranium Mining and Drinking Water Supplies” 11 December 2012, Richmond, VA.
- Riscassi, Ami L., Scott C. Brooks, Carrie L Miller. 2012. Using high-frequency in-situ optical sensors to understand seasonal and event-driven variability in mercury transport and transformations in a heavily contaminated creek. 124th Annual Meeting of the Geological Society of America, 4-7 November 2012, Charlotte, NC.
- Miller, Carrie L., Scott C. Brooks, Ami L. Riscassi, David Kocman, Xiangping Yin. 2012. Factors influencing sediment methylmercury concentrations in a mercury contaminated creek. 124th Annual Meeting of the Geological Society of America, 4-7 November 2012, Charlotte, NC.
- Mills, Richard T., Gautam Bisht, Glenn E. Hammond, Peter Lichtner, Jitendra Kumar, David B. Watson, Scott C. Brooks. 2012. Coupled simulation of surface-subsurface hydrologic processes with the open-source flow and reactive transport code PFLOTRAN. 124th Annual Meeting of the Geological Society of America, 4-7 November 2012, Charlotte, NC.
- Brooks, Scott C. 2012. ORNL Field to Laboratory Hydro-Bio-Geochemistry Research. Presented to BER Program Managers, ORNL, 24 October 2012.
- Brooks, Scott C., Baohua Gu, Liyuan Liang, Melanie Mayes, Richard Mills, Chris Schadt, David Watson. Walker Branch Watershed (WBW): An Integrated Field Laboratory Facility for Vertically Integrated Studies of Climate-Biogeochemical Cycling Feedbacks. Presented to BER Program Managers, ORNL, 24 October 2012.
- Brooks, Scott C. 2012. History of Hg use at the Y-12 Plant and its Environmental Legacy. Presented to Oak Ridge Institute for Continued Learning (ORICLE) 12 July 2012. Oak Ridge, TN.
- Brooks, Scott, David Kocman, Carrie Miller, Ami Riscassi. 2012. Biogeochemistry of mercury in contaminated sediments of East Fork Poplar Creek. Goldschmidt 2012. 24-29 June, Montreal, Canada.
- Watson, David, Guoping Tang, Jennifer Earles, Scott Brooks. 2012. Diffusion, deposition & remobilization of uranium in bioreduced zones. Goldschmidt 2012. 24-29 June, Montreal, Canada.
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- Green, Stefan J., Om Prakash, Puja Jasrotia, I. King Jordan, Lee S. Katz, Lavanya Rishishwar, Christopher W. Schadt, Scott C. Brooks, Joel E. Kostka. 2012. Genomic and physiological characterization of bacteria from the genus *Rhodanobacter*. Abstracts of the 112th General Meeting, American Society for Microbiology, San Francisco, CA, 16-19 June 2012.
- Brooks, S. C., 2012. The Oak Ridge IFRC – Accomplishments and remaining challenges. Subsurface Biogeochemical Research Program Annual Meeting. Washington, DC, 30 April – 2 May 2012.

- Brooks, Scott C., David B. Watson, Greg S. Baker, Maxim Boyanov, Craig C. Brandt, Craig S. Criddle, Baohua Gu, Susan S. Hubbard, Ken Kemner, Joel E. Kostka, Jack C. Parker, Chris W. Schadt, Wei-Min Wu, Trevor Zimmerman, Fan Zhang, Joe Zhou. 2012. Multiscale Investigations on the Rates and Mechanisms of Targeted Immobilization and Natural Attenuation of Radionuclides and Co-Contaminants in the Subsurface. Subsurface Biogeochemical Research Program Annual Meeting. Washington, DC, 30 April – 2 May 2012.
- Baker, G. S., M. Edmunds, S. Hubbard, E. Gasperikova, D. Watson, T. Mehlhorn, K. Lowe, S. Brooks. 2012. Utilizing Azimuthal Seismic First-Arrival Tomography (ASFT), Time-Lapse Electrical-Resistivity Tomography (TLERT), and Other Geophysical Methods for the Detection and Characterization of Physical Controls on Hydrologic Transport. Subsurface Biogeochemical Research Program Annual Meeting. Washington, DC, 30 April – 2 May 2012.
- Kostka, Joel E, Stefan J. Green, Om Prakash, Puja Jasrotia, Lavanya Rishishwar, Chris Schadt, David Watson, Scott Brooks. 2012. Nitrate Attenuation and the Impact of pH on the Predominant Denitrifying Microbial Groups in the OR-IFRC Subsurface. Subsurface Biogeochemical Research Program Annual Meeting. Washington, DC, 30 April – 2 May 2012.
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Other

Co-convener, Coupled Dynamics of Physical, Biological, Geomorphic, Hydrologic, and Chemical Processes in the Hyporheic Zone over a Range of Spatial and Temporal Scales, with KC Carroll (NMSU), Adam S Ward (Indiana University), Marie J Kurz (Academy of Natural Sciences of Drexel University). 2018 Fall Meeting, American Geophysical Union, Washington, D.C. 10-14 December 2018.

Co-convener, Mercury Characterization and Contaminated Site Remediation: Methods, Challenges, and Lessons Learned, with Teresa Mathews (ORNL). SETAC North America 34th Annual Meeting, 17-21 November 2013, Nashville, TN.

Co-convener, Understanding the Fate and Transformations of Metal and Radionuclide Contaminants in Unsaturated and Saturated Subsurface Environments, with Dawn Wellman (PNNL), Henning Prommer (CSIRO), Ann Miracle (PNNL). Goldschmidt 2011, 14-19 August 2011, Prague, Czech Republic

Co-convener, Hydrobiogeochemical Evolution of Groundwater Systems in Natural and Impacted Environments, with David Watson (ORNL), Debra Phillips (Queen's University Belfast), Paul Bayer (U. S. Dept. of Energy). Goldschmidt 2010, 13-18 June 2010, Knoxville, TN.

Co-convener, Biogeochemical Processes of Mercury in Natural and Contaminated Environments, with Baohua Gu (ORNL/ ESD), Hong Zhang (Tennessee Tech), Erin Mack (DuPont), 238th American Chemical Society (ACS) National Meeting, August 16-20, 2009, Washington, DC, USA

Patent disclosure submitted, spring 1998: Using bacteria and organic phosphorous to immobilize metals and radionuclides. with A.V. Palumbo and T.J. Phelps.

Co-convener, Influence of Coupled Processes on Solute Fate and Transport, special session 1998 Spring Meeting, American Geophysical Union, 26-29 May 1998, Boston, MA.

Invited speaker for session "Influence of Coupled Processes on Contaminant Fate and Transport", Soil Science Society of America Meeting 26-30 October, 1997, Anaheim, CA.

Invited speaker to the Program of Interdisciplinary Research in Contaminant Hydrogeology, University of Virginia, 14 September 1997.

Reviewer of proposals submitted to the U.S. Department of Energy, the state of Idaho, and the Oak Ridge Institute for Science and Education (ORISE). *Ad hoc* manuscript reviewer for the journals *Geochimica et Cosmochimica Acta*; *Water Resources Research*; *Environmental Science and Technology*; *Journal of Environmental Quality*; *Geophysical Research Letters*

Co-convener, Heavy Metal, Radionuclide, and Organic Sorption Transport, poster session, Symposium on Clay Sciences for Environmental Remediation and Waste Management. 33rd Annual Meeting, Clay Minerals Society, June 15-20, 1996, Gatlinburg, TN.

Chairman, Environmental Sciences Research Forum, University of Virginia, 1992.