

Stanford



Scott Fendorf

Terry Huffington Professor, Senior Associate Dean for Academic Affairs and Senior Fellow at the Woods Institute for the Environment
Earth System Science

Bio

ACADEMIC APPOINTMENTS

- Professor, Earth System Science
- Senior Fellow, Stanford Woods Institute for the Environment
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Senior Associate Dean of Academic Affairs, Stanford University, (2016- present)
- Chair, Earth System Science, (2007-2016)
- Professor Environmental Earth System Science, Stanford University, (2007- present)
- Senior Fellow (by courtesy) Woods Institute for the Environment, Stanford University, (2008- present)
- Terry Huffington Professor of Earth Science, Stanford University, (2011- present)

HONORS AND AWARDS

- Fellow, European Association of Geochemistry (2017)
- Fellow, Geochemical Society (2017)
- Soil Science Society of America's Research Award, Soil Science Society of America (2013)
- Outstanding Post-Doctoral Mentoring Award, Stanford University (2013)
- Fellow, Soil Science Society of America (2009)
- Presidential, Citation for Outstanding Achievement, University of Delaware (2005)
- Outstanding Teaching Award, School of Earth Science, Stanford University (2005)
- Stanford Fellow, Stanford University (2004-2006)
- Marion L. and Chrystie M. Jackson Soil Science Award for Outstanding Contributions in Soil Chemistry, Soil Science Society of America (2001)
- Terman Fellow, Stanford University (1999)
- Theodore Wolf Prize for Outstanding Dissertation in the Physical and Life Sciences, University of Delaware (1993)
- Emil Truog Award for Outstanding Dissertation in Soil Science, Soil Science Society of America (1993)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Soil Chemistry Division Chair Elect, Soil Science Society of America (2011 - 2012)
- Member, Conference Committee, Soil Science Society of America (2011 - 2013)

- Symposium Organizer (with Shawn Benner and Ruben Kretzchmar), “Biogeochemical Processes within Floodplain and Deltaic Sediments”, Goldschmidt conference, Prague, CZ, Goldschmidt conference (2011 - 2011)
- Advisory board member, Delaware Environmental Institute (2010 - present)
- Co-Chair, Wood Institute for the Environment EVP Selection Committee, Stanford University (2009 - 2010)
- Member, U.S. National Committee for Soil Science (2009 - present)
- Organizer, AGU Chapman Conference on Arsenic in Groundwater of Southern Asia, Siem Reap, Cambodia, American Geophysical Union (2009 - 2009)
- Symposium Organizer (with Ruben Kretzchmar), “Biogeochemistry at Redox Interfaces”, Goldschmidt Conference, Davos, Switzerland, Goldschmidt Conference (2009 - 2009)
- Invited Presentation: Stanford Ethics Society Seminar Series, Stanford University (2009 - 2009)
- Invited Presentation: Stanford Synchrotron Radiation Laboratory Seminar Series, Stanford Linear Accelerator Laboratory (2009 - 2009)
- Invited Presentation: ETH Seminar Series, Zurich, ETH Zürich (German: Eidgenössische Technische Hochschule Zürich) (2009 - 2009)
- Associate Editor, Vadose Zone Journal (2009 - present)
- Committee on Undergraduate Standards and Policy, Stanford University (2008 - present)
- SIGF Selection Committee, Stanford University (2008 - present)
- Facility Representative for the Environmental Spectroscopy and Biogeochemistry Program, and member of the Advisory Council, Environmental Molecular Science Laboratory, Pacific Northwest National Laboratory (2007 - 2009)
- University Committee on Environmental Health and Safety, Stanford University (2007 - present)
- Chair, EESS, Stanford University (2007 - present)
- Faculty Director, Environmental Measurements Facility, Stanford University (2006 - present)
- Associate Chair, GES, Stanford University (2006 - 2007)
- ERE Faculty Selection Committee, Stanford University (2006 - 2007)
- Session Organizer, Influence of Coupled Biological, Chemical, and Physical Processes on Contaminant Fate and Transport, Program Investigator meeting, DOE Environmental Remediation Science (2006 - 2006)
- Invited Lecture, "Biogeochemical Processes Governing the Fate of Chromium and Uranium within Soils and Waters", Stanford Environmental Engineering and Science Seminar Series, Stanford University (2006 - 2006)
- Invited Lecture: “Heterogeneity in Biogeochemical Processes Impacting Contaminant Fate and Transport, Annual Meeting, Department of Energy Environmental Remediation Science Program (2006 - 2006)
- Invited Lecture: “Pathways of Ferric (Hydr)oxide Reductive Transformation and Impacts on Contaminant Transport”, Telluride Workshop: Iron Redox Chemistry at Environmentally Relevant Surfaces, Telluride Workshop (2006 - 2006)
- Invited Lecture: Biogeochemical Processes Governing the Cycling of Arsenic in Surface and Subsurface Environments”, National Meeting, American Chemical Society (2006 - 2006)
- Invited Lecture: “The Largest Mass Poisoning in History: Arsenic in Drinking Water”, Pinhead Institute’s Public Lecture, Telluride, CO, Pinhead Institute (2006 - 2006)
- Invited lecture: “Processes Governing the Transport of Arsenic: Contrasts Between the Mekong and Ganges-Brahmaputra Deltas”, Columbia University Earth Science Forum (2006 - 2006)
- Invited Lecture: “Dependency of Electron Transfer Rates on Changing and Localized Solid Phase Chemistry”, Biogeochemical Grand Challenge, Pacific Northwest National Laboratory (2006 - 2006)
- Invited lecture: Processes Controlling the Toxicity and Transport of Chromium and Arsenic in Groundwater, Advanced Photon Source Scientific Advisory Board Meeting (2005 - 2005)
- EEES Advisory Committee, Stanford University (2005 - present)
- GES Undergraduate Environmental Earth Science Curriculum Committee, Stanford University (2005 - 2006)
- UPS Endowment Review Committee, Stanford University (2005 - present)
- SES Undergraduate Environmental Science Program Committee, Stanford University (2005 - present)
- Wood Institute for the Environment Research Committee, Stanford University (2005 - present)
- Invited lecture: Processes Controlling the Cycling of Arsenic in Soils and Sediments, Bath, UK, British Mineralogy Society (2005 - 2005)
- Stanford Institute for the Environment Research Committee, Stanford University (2005 - 2005)

- Invited lecture: Solid-Phase Species (Associations) of Arsenic in Bengal Basin Sediments, Symposium on Arsenic in Bangladesh, MIT (2005 - 2005)
- Invited lecture: What Stands Between Environmental Toxins and Drinking Water? Stanford Graduate Student Lecture Series, Stanford University (2005 - 2005)
- Invited lecture: Soils Earth Systems 10 Lecture; Biogeochemical processes controlling the cycling of arsenic, EMSI seminar, Stanford University (2005 - 2005)
- Invited lecture: Processes Governing the Largest Mass Poisoning in History: Arsenic in Drinking Water of Asia, University of Delaware (2005 - 2005)
- Invited lecture: Integrated Process Controls on Elemental Cycling within the Critical Zone. National Science Foundation Workshop on Frontiers in Exploration of the Critical Zone, University of Delaware (2005 - 2005)
- Invited lecture: Gaining a Molecular-Level Understanding of Processes Governing the Fate and Transport of Ions/Chemical within Soils Frontiers in Soil Science Research, Washington, DC, National Academy of Sciences (2005 - 2005)
- Invited lecture: Biotransformation Rates of Iron Governing Chromium and Uranium Transport (Winter), National Meeting, San Francisco, CA, American Geophysical Union (2005 - 2005)
- Participant and speaker for workshop on Frontiers in Soil Science Research, National Academy of Sciences (2005 - 2005)
- Participant in Workshop on Frontiers in Exploration of the Critical Zone, National Science Foundation (2005 - 2005)
- Invited lecture: The Greatest Mass Poisoning in History: Processes of Arsenic Liberation to Drinking Water in Asia. Earth Science Seminar Series, University of California, Santa Cruz (2005 - 2005)
- Guest Editor, special issue on Controls on Arsenic Transport in Near-Surface Aquatic Systems, Chemical Geology (2005 - 2006)
- GES Admissions Committee Chair, Stanford University (2004 - 2005)
- Symposium Organizer, Mechanisms of Electron Transfer at the Mineral-Water Interface, National Meeting, Seattle, Soil Science Society of America (2004 - 2004)
- SES Graduate Academic Programs Committee, Stanford University (2004 - 2005)
- Earth Science Council Member, Stanford University (2004 - present)
- NSF Workshop participant on Preparing for an Academic Career in Geosciences, University of Minnesota, 2004, National Science Foundation (2004 - 2004)
- Organizing member of ISSM/ISBE Symposia, ISSM/ISBE (2004 - 2005)
- Invited lecture: Mechanisms of arsenic cycling: Current conditions in Bangladesh and emerging situations throughout Asia. Geology Club Seminar, California Institute of Technology (2004 - 2004)
- Invited lecture: Processes controlling arsenic cycling in surface and subsurface environments, Purdue University (2004 - 2004)
- Invited lecture: Mechanisms of biomineralization of Fe(II) sequestration following dissimilatory iron reduction of structurally diverse Fe(III) (hydr)oxides. Water-Rock Interactions, Saratoga, NY, Saratoga, NY (2004 - 2004)
- Invited lecture: Soils of Jasper Ridge, Docent Lecture Series, JRBP, Stanford University (2004 - 2004)
- Invited lecture: What Stands Between Environmental Toxins and Drinking Water? Graduate Student Lecture, Stanford University (2004 - 2004)
- GES Admissions Committee, Chair, Stanford University (2003 - 2004)
- GES Long-range Planning Committee, Stanford University (2003 - 2003)
- NSF Workshop participant on Preparing for an Academic Career in Geosciences, Stanford University, National Science Foundation (2003 - 2003)
- Sexual Harassment Officer, School of Earth Sciences, Stanford University (2003 - 2009)
- Symposium Organizer, Arsenic Dynamics within Soils and Sediments, National Meeting, Denver, Soil Science Society of America (2003 - 2003)
- Review Panel Member for DOE-EPSCoR program, Department of Energy (2003 - 2003)
- Symposium Organizer, Synchrotron Techniques in Environmental Microbiology and Biogeochemistry, Annual Meeting, Stanford, CA, Stanford Synchrotron Radiation Laboratory (2003 - 2003)
- Invited Lecture: Process controlling the release of arsenic in surface and subsurface environments. USGS Seminar Series, Menlo Park, CA, U.S. Geological Survey (2003 - 2003)
- Invited Lecture: Processes governing the fate of arsenic within the surface and near-surface environment. Biogeochemistry Seminar Series, Stanford University (2003 - 2003)
- Invited Lecture: Arsenic cycling within surface and subsurface environments: The addiction to iron. Thermal Biology Institute Seminar Series, Bozeman, MT, Montana State University (2003 - 2003)
- Invited Lecture: Microbially mediated reductive transformations of ferric oxides: Impacts on Cr and U dynamics, Scripps Institute of Oceanography (2003 - 2003)
- Invited Lecture: Reductive biotransformations within soils and sediments: Controlling factors in the mobility of heavy metals and radionuclides, Oregon Graduate Institute (2003 - 2003)

- Invited Lecture: Cycling and global threats of arsenic, National Meeting, Denver, CO, Soil Science Society of America (2003 - 2003)
- Invited lecture: Arsenic cycling within surface and subsurface environments: Impact of iron mineralogy. National Meeting, New York, NY, American Chemical Society (2003 - 2003)
- Invited Lecture: Speciation and desorption mechanisms of arsenic within Bangladesh sediments, National Meetings, Denver, CO, Soil Science Society of America (2003 - 2003)
- Invited lecture: Mechanisms of arsenic cycling, School of Earth Sciences, Stanford University (2003 - 2003)
- Invited Lecture: Biogeochemistry of metal reduction, Grand Challenge Seminar, Pacific Northwest National Laboratory (2003 - 2003)
- Invited Lecture: Iron transformations under biological reducing conditions, Geological Sciences Seminar, UC Berkeley (2002 - 2002)
- Invited Lecture: Arsenic dynamics within reducing soil/sediment environments, Environmental Science: Water. Plymouth, NH, Gordon Conference (2002 - 2002)
- Invited Lecture: Biogenic evolution of microscale heterogeneity: Impact on contaminant dynamics Goldschmidt Conference, Davos, Switzerland, Goldschmidt Conference (2002 - 2002)
- Invited Lecture: Uranium retention by biogenic magnetite Goldschmidt Conference, Davos, Switzerland, Goldschmidt Conference (2002 - 2002)
- Invited Lecture: Sustained Microbial Metabolism and Contaminant Sequestration Upon Reductive Biomineralization of Ferric Hydroxides, San Francisco, CA, American Geophysical Union. (2002 - 2002)
- Invited Lecture: Modeling the reactive transport and biomineralization of ferrihydrite reductive dissolution, Orlando, FL, American Chemical Society (2002 - 2002)
- Invited Lecture: Mechanisms of Fe biomineralization induced by dissimilatory iron reduction, Orlando, FL, American Chemical Society (2002 - 2002)
- Invited Lecture: Impact of solid-phase alterations on reduction pathways of chromate, Orlando, FL, American Chemical Society (2002 - 2002)
- Goldschmidt Planning Committee, Geochemical Society (2002 - 2005)
- Invited Lecture: Unique Physical and Chemical Properties of Soils. Stanford Community Farm, Stanford University (2001 - 2001)
- Member, Search Committee, Geomicrobiology, Stanford University (2001 - 2002)
- Earth Systems Advisory Council, Stanford University (2001 - present)
- Member, GES Long-range Planning Committee, Stanford University (2001 - 2004)
- Invited Lecture Reduction of chromium in surface and subsurface environments: Contributions of biological and abiological processes. Goldschmidt Conference, Hot Springs, VA, Goldschmidt Conference (2001 - 2001)
- Invited Lecture Reductive dissolution and biomineralization of iron oxides under dynamic flow conditions. Goldschmidt Conference, Hot Springs, VA, Goldschmidt Conference (2001 - 2001)
- Invited Lecture Element-specific microtomographic imaging of metal distribution (and speciation) in contaminated systems, Chicago, IL, American Chemical Society (2001 - 2001)
- Member, Undergraduate Program Committee for GES, Stanford University (2001 - 2002)
- Invited Lecture Defining the speciation and chemical dynamics of contaminants within the vadose zone, San Francisco, CA, American Geophysical Union National Meetings (2001 - 2001)
- Invited Lecture: Speciating trace elements within natural environments: Impacts on bioavailability, International Conference on the Bioavailability of Trace Elements (2001 - 2001)
- Soil Science Advisory Council, Soil Science Department, San Luis Obispo, California Polytechnic State University (2000 - present)
- Committee member, Defining Contaminant Bioavailability in Soils and Sediments, National Research Council (2000 - 2002)
- Invited Lectures: Environmental influential reactions and speciation of sulfur within soils and waters, SSRL Workshop on Chemistry of Sulfur in the Environment, Stanford, CA, Stanford Synchrotron Radiation Lightsource (2000 - 2000)
- Review Panel Member for National Research Competitive Grants Program in Soil and Soil Biology, USDA (1999 - 1999)
- Review Panel Member for DoD's Strategic Environmental Research and Development Program (SERDP), Department of Defense (1999 - 1999)
- Selection committee member for Outstanding Researcher in Soil Science, Soil Science Society of America (1999 - 2002)
- Invited Lecture: Competing biological and geochemical processes in metal and radionuclide reduction, DOE workshop Combined Chemical and Microbiological Approaches to Remediating Metal and Radionuclide Contaminants, Reston, VA, DOE (1999 - 1999)
- Review Panel Member for PNNL's Laboratory Directed Research and Development Program, Pacific Northwest National Laboratory (1998 - 1998)
- Associate Editor, Journal of Environmental Quality (1998 - 2000)
- Invited Lecture: Trace element cycling within the Coeur d'Alene River system. Department of Geology Seminar Series, University of Idaho, Moscow (1998 - 1998)

- Invited Lecture: Metal ion structures within soil environments. Department of Chemistry Seminar Series, University of Idaho (1998 - 1998)
- Invited Lecture: Fundamental aspects and applications of x-ray absorption spectroscopy in clay and soil science. Clay Mineral Society Workshop on Applications of Synchrotron Radiation in Clay Science, Ottawa, Canada, Clay Mineral Society Workshop (1997 - 1997)
- Committee member for Soil Science Society of America Emil Truog Outstanding Graduate Student Award, Soil Science Society of America (1996 - 1998)
- Selection committee member for American Society of Agronomy Environmental Quality Research Award Committee (A447), American Society of Agronomy (1996 - 1999)
- Member of NCR-174, Soil Scientists for Synchrotron Based Research (1995 - present)
- W-184 Work Group, Western Soil Chemistry (1995 - present)

PROFESSIONAL EDUCATION

- Ph.D., University of Delaware , Soil & Environmental Chemistry (1992)
- M.S., University of California , Soil Chemistry (1990)
- B.S., California Polytechnic State University , Soil Science (1988)

LINKS

- Soil and Environmental Biogeochemistry: <http://soils.stanford.edu>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Research

I am interested in the chemical and biological processes that govern the fate and transport (and thus cycling) of contaminants (such as arsenic) and nutrients (such as phosphate) within soils, sediments, and surface waters. My research group examines the chemical environments that develop as a result of both biotic and abiotic processes, and we strive to account for the physical complexity, inclusive of solute transport, within natural settings. Our particular emphasis is on reactions that change the oxidation state (redox reactions) and associated speciation of contaminants and nutrients, or solids that control their partitioning, within soils and sediments.

Teaching

I teach a range of courses on soils and soil processes that encompass their rates of development, unique features for plant growth, ability to filter contaminants, management for sustained agricultural productivity, and their sensitivity to human disturbance. I am also a co-instructor for a course on field research in Earth Systems.

Professional Activities

Faculty Director for Environmental Measurements Facility (2006-present); Terman Fellow, Stanford University (1999-2002); Stanford University Fellow (2004-06); National Research Council Committee for Defining Contaminant Bioavailability in Soils and Sediments (2000-02); Advisory Council and Faculty Representative for Environmental Molecular Science Laboratory, Pacific Northwest National Laboratory (2007-present); Chemical Geology Editor for the special issue "Controls on Arsenic Transport in Near-Surface Aquatic Systems" (2006); NAS panel for Frontiers in Soil Science Research (2005); Panel organizer for DOE Environmental Remediation Science Program's "Influence of Coupled Biological, Chemical, and Physical Processes on Contaminant Fate and Transport" (2006)

Teaching

COURSES

2020-21

- Introduction to Earth Systems: EARTHSYS 10 (Aut)
- Mitigating Climate Change through Soil Management: ESS 233 (Win)
- Science of Soils: EARTHSYS 155, ESS 155 (Spr)

2019-20

- Introduction to Earth Systems: EARTHSYS 10 (Aut)
- Science of Soils: EARTHSYS 155, ESS 155 (Spr)
- Soil and Water Chemistry: EARTHSYS 256, ESS 256 (Win)

2018-19

- Earth Sciences of the Hawaiian Islands: EARTH 117, EARTHSYS 117, ESS 117 (Aut)
- Introduction to Earth Systems: EARTHSYS 10 (Aut)
- Science of Soils: EARTHSYS 155, ESS 155 (Spr)

2017-18

- Introduction to Earth Systems: EARTHSYS 10 (Aut)
- Science of Soils: EARTHSYS 155, ESS 155 (Spr)
- Soil and Water Chemistry: ESS 256 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Stephanie Bachas-Daunert, Emily Cardarelli, Glade Dlott, Stephen Galdi, Lizzie Paulus

Postdoctoral Faculty Sponsor

Meret Aeppli, Samuel Araya, Cherie DeVore, Christian Dewey

Doctoral Dissertation Co-Advisor (AC)

Randall Holmes, Allison Sherris

Doctoral (Program)

Aria Duncan, Anna Gomes, Randall Holmes, Emily Lacroix, Alandra Lopez, Allison Sherris, Tianmei Wang

Publications

PUBLICATIONS

- **Effect of Bicarbonate, Calcium, and pH on the Reactivity of As(V) and U(VI) Mixtures.** *Environmental science & technology*
Gonzalez-Estrella, J., Meza, I., Burns, A. J., Ali, A. S., Lezama-Pacheco, J. S., Lichtner, P., Shaikh, N., Fendorf, S., Cerrato, J. M.
2020
- **Complexation by Organic Matter Controls Uranium Mobility in Anoxic Sediments.** *Environmental science & technology*
Bone, S. E., Cliff, J., Weaver, K., Takacs, C. J., Roycroft, S., Fendorf, S., Bargar, J. R.
2020
- **Arsenic Fate in Peat Controlled by the pH-Dependent Role of Reduced Sulfur.** *Environmental science & technology*
Eberle, A., Besold, J., Kerl, C. F., Lezama-Pacheco, J. S., Fendorf, S., Planer-Friedrich, B.
2020
- **Calcium-Uranyl-Carbonato Species Kinetically Limit U(VI) Reduction by Fe(II) and Lead to U(V)-Bearing Ferrihydrite.** *Environmental science & technology*
Dewey, C., Sokaras, D., Kroll, T., Bargar, J. R., Fendorf, S.
2020
- **Contribution of clay-aquitard to aquifer iron concentrations and water quality.** *The Science of the total environment*
Liu, Y., Ma, T., Chen, J., Xiao, C., Liu, R., Du, Y., Fendorf, S.
2020; 741: 140061

- **Redox Heterogeneities Promote Thioarsenate Formation and Release into Groundwater from Low Arsenic Sediments.** *Environmental science & technology*
Kumar, N., Noël, V., Planer-Friedrich, B., Besold, J., Lezama-Pacheco, J., Bargar, J. R., Brown, G. E., Fendorf, S., Boye, K.
2020
- **Soil and Aquifer Properties Combine as Predictors of Groundwater Uranium Concentrations within the Central Valley, California** *Environmental Science & Technology*
Lopez, A. M., Wells, A., Fendorf, S.
2020: 10
- **Controlling Arsenic Mobilization during Managed Aquifer Recharge: The Role of Sediment Heterogeneity.** *Environmental science & technology*
Fakhreddine, S., Prommer, H., Gorelick, S. M., Dadakis, J., Fendorf, S.
2020; 54 (14): 8728–38
- **Governing Constraints of Chromium(VI) Formation from Chromium(III)-Bearing Minerals in Soils and Sediments** *SOIL SYSTEMS*
Hausladen, D., Fakhreddine, S., Fendorf, S.
2019; 3 (4)
- **Lithologic and redox controls on hexavalent chromium in vadose zone sediments of California's Central Valley** *GEOCHIMICA ET COSMOCHIMICA ACTA*
McClain, C. N., Fendorf, S., Johnson, S. T., Menendez, A., Maher, K.
2019; 265: 478–94
- **Rice production threatened by coupled stresses of climate and soil arsenic.** *Nature communications*
Muehe, E. M., Wang, T., Kerl, C. F., Planer-Friedrich, B., Fendorf, S.
2019; 10 (1): 4985
- **Sources of Blood Lead Exposure in Rural Bangladesh** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Forsyth, J. E., Weaver, K. L., Maher, K., Islam, M., Raqib, R., Rahman, M., Fendorf, S., Luby, S. P.
2019; 53 (19): 11429–36
- **Predicting drivers of groundwater Cr(VI) contamination in the Central Valley, CA: Integrated multivariate statistical & geospatial approach**
Lopez, A., Caers, J., Fendorf, S.
AMER CHEMICAL SOC.2019
- **Protecting groundwater quality from geogenic and emerging contaminants in actively managed aquifers**
Fakhreddine, S., Sherris, A., Lopez, A., Wells, A., Holmes, R., Nico, P., Babbitt, C., Fendorf, S.
AMER CHEMICAL SOC.2019
- **How natural organic compounds influence zinc retention by iron oxides**
Engel, M., Fendorf, S.
AMER CHEMICAL SOC.2019
- **Influence of redox interfaces on metal(loid) contaminant mobility in shallow alluvial groundwater aquifers**
Boye, K., Kumar, N., Noel, V., Bargar, J., Fendorf, S.
AMER CHEMICAL SOC.2019
- **Simplex-Centroid mixture design applied to arsenic (V) removal from waters using synthetic minerals** *JOURNAL OF ENVIRONMENTAL MANAGEMENT*
Dias, A., Ferreira Fontes, M., Reis, C., Bellato, C., Fendorf, S.
2019; 238: 92–101
- **Antimonite Complexation with Thiol and Carboxyl/Phenol Groups of Peat Organic Matter** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Besold, J., Kumar, N., Scheinost, A. C., Pacheco, J., Fendorf, S., Planer-Friedrich, B.
2019; 53 (9): 5005–15
- **Simplex-Centroid mixture design applied to arsenic (V) removal from waters using synthetic minerals.** *Journal of environmental management*
Dias, A. C., Fontes, M. P., Reis, C., Bellato, C. R., Fendorf, S.
2019; 238: 92–101
- **Sedimentogenesis and hydrobiogeochemistry of high arsenic Late Pleistocene-Holocene aquifer systems** *EARTH-SCIENCE REVIEWS*
Wang, Y., Pi, K., Fendorf, S., Deng, Y., Xie, X.
2019; 189: 79–98

- **Antimonite Complexation with Thiol and Carboxyl/Phenol Groups of Peat Organic Matter.** *Environmental science & technology*
Besold, J., Kumar, N., Scheinost, A. C., Lezama Pacheco, J., Fendorf, S., Planer-Friedrich, B.
2019
- **Turmeric means "yellow" in Bengali: Lead chromate pigments added to turmeric threaten public health across Bangladesh.** *Environmental research*
Forsyth, J. E., Nurunnahar, S., Islam, S. S., Baker, M., Yeasmin, D., Islam, M. S., Rahman, M., Fendorf, S., Ardoin, N. M., Winch, P. J., Luby, S. P.
2019; 179 (Pt A): 108722
- **Antimonite Binding to Natural Organic Matter: Spectroscopic Evidence from a Mine Water Impacted Peatland.** *Environmental science & technology*
Besold, J., Eberle, A., Noël, V., Kujala, K., Kumar, N., Scheinost, A. C., Pacheco, J. L., Fendorf, S., Planer-Friedrich, B.
2019
- **Experimental constrains on redox-induced arsenic release and retention from aquifer sediments in the central Yangtze River Basin.** *The Science of the total environment*
Duan, Y., Schaefer, M. V., Wang, Y., Gan, Y., Yu, K., Deng, Y., Fendorf, S.
2018; 649: 629–39
- **Quantifying biogeochemical heterogeneity in soil systems** *GEODERMA*
Wanzenek, T., Keiluweit, M., Baham, J., Dragila, M. I., Fendorf, S., Fiedler, S., Nico, P. S., Kleber, M.
2018; 324: 89–97
- **Hexavalent Chromium Sources and Distribution in California Groundwater** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Hausladen, D. M., Alexander-Ozinskas, A., McClain, C., Fendorf, S.
2018; 52 (15): 8242–51
- **Overpumping leads to California groundwater arsenic threat.** *Nature communications*
Smith, R., Knight, R., Fendorf, S.
2018; 9 (1): 2089
- **Prevalence of elevated blood lead levels among pregnant women and sources of lead exposure in rural Bangladesh: A case control study.** *Environmental research*
Forsyth, J. E., Saiful Islam, M., Parvez, S. M., Raqib, R., Sajjadur Rahman, M., Marie Muehe, E., Fendorf, S., Luby, S. P.
2018; 166: 1–9
- **Discerning Microbially Mediated Processes During Redox Transitions in Flooded Soils Using Carbon and Energy Balances** *FRONTIERS IN ENVIRONMENTAL SCIENCE*
Boye, K., Herrmann, A. M., Schaefer, M., Tfaily, M. M., Fendorf, S.
2018; 6
- **Oxidative uranium release from anoxic sediments under diffusion-limited conditions**
Bone, S., Cahill, M., Jones, M., Fendorf, S., Davis, J., Williams, K., Bargar, J.
AMER CHEMICAL SOC.2018
- **Vertical transport of uranium in the unsaturated zone: A likely plume persistence mechanism**
Roycroft, S., Noel, V., Boye, K., Johnson, R., Dam, W., Fendorf, S., Bargar, J.
AMER CHEMICAL SOC.2018
- **Understanding the natural mechanisms for chromium mobilization in groundwater**
Houlihan, M., Lopez, A., Fendorf, S.
AMER CHEMICAL SOC.2018
- **Intimate and complex coupling of carbon and iron cycles within terrestrial systems**
Fendorf, S., Keiluweit, M., Schaefer, M., Masue-Slowey, Y., Chadwick, O.
AMER CHEMICAL SOC.2018
- **Anoxic microsites in upland soils dominantly controlled by clay content** *SOIL BIOLOGY & BIOCHEMISTRY*
Keiluweit, M., Gee, K., Denney, A., Fendorf, S.
2018; 118: 42–50
- **Arsenic leaching from ceramic water filters** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*

- Schaefer, M. V., Shantz, A., Fendorf, S., Ying, S. C.
2018; 4 (2): 234–40
- **Synchrotron X-Ray Fluorescence Analysis** *ENCYCLOPEDIA OF GEOCHEMISTRY: A COMPREHENSIVE REFERENCE SOURCE ON THE CHEMISTRY OF THE EARTH*
Pacheco, J., Fendorf, S. E., White, W. M.
2018: 1415–17
 - **Fate of arsenic before and after chemical-enhanced washing of an arsenic-containing soil in Hong Kong** *SCIENCE OF THE TOTAL ENVIRONMENT*
Beiyuan, J., Li, J., Tsang, D. W., Wang, L., Poon, C., Li, X., Fendorf, S.
2017; 599: 679–88
 - **Anaerobic microsites have an unaccounted role in soil carbon stabilization** *NATURE COMMUNICATIONS*
Keiluweit, M., Wanzek, T., Kleber, M., Nico, P., Fendorf, S.
2017; 8
 - **Partitioning of uranyl between ferrihydrite and humic substances at acidic and circum-neutral pH** *GEOCHIMICA ET COSMOCHIMICA ACTA*
Dublet, G., Pacheco, J., Bargar, J. R., Fendorf, S., Kumar, N., Lowry, G. V., Brown, G. E.
2017; 215: 122–40
 - **Oxidative Uranium Release from Anoxic Sediments under Diffusion-Limited Conditions** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Bone, S. E., Cahill, M. R., Jones, M. E., Fendorf, S., Davis, J., Williams, K. H., Bargar, J. R.
2017; 51 (19): 11039–47
 - **Arsenic-containing soil from geogenic source in Hong Kong: Leaching characteristics and stabilization/solidification** *CHEMOSPHERE*
Li, J., Beiyuan, J., Tsang, D. W., Wang, L., Poon, C., Li, X., Fendorf, S.
2017; 182: 31–39
 - **Depth Stratification Leads to Distinct Zones of Manganese and Arsenic Contaminated Groundwater** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
Ying, S. C., Schaefer, M. V., Cock-Esteb, A., Li, J., Fendorf, S.
2017; 51 (16): 8926–32
 - **Thermodynamically controlled preservation of organic carbon in floodplains** *NATURE GEOSCIENCE*
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