



Scott Fendorf

Terry Huffington Professor, Senior Associate Dean for Integrative Initiatives, Senior Fellow at the Woods Institute for the Environment and Professor of Photon Science
Earth System Science

Bio

ACADEMIC APPOINTMENTS

- Professor, Earth System Science
- Professor, Photon Science Directorate
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Senior Associate Dean, Integrative Initiatives, Doerr School of Sustainability, (2022- present)
- Senior Associate Dean, Strategy and Planning, School of Earth, Energy, and Environmental Science, (2019-2022)
- Senior Associate Dean, Academic Affairs, School of Earth, Energy, and Environmental Science, (2016-2019)
- Chair, Earth System Science, (2007-2016)
- Professor, 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, American Geophysical Union (2022)
- 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: Processes 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 mediate 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

2024-25

- Science of Soils: EARTHSYS 155, ESS 155 (Spr)
- Soil and Water Chemistry: EARTHSYS 256, ESS 256 (Win)

2023-24

- Science of Soils: EARTHSYS 155, ESS 155 (Spr)
- Soil and Water Chemistry: ESS 256 (Win)

2022-23

- Earth Sciences of the Hawaiian Islands: EARTHSYS 117, SUSTAIN 117 (Aut)
- Science of Soils: EARTHSYS 155, ESS 155 (Spr)

2021-22

- Mitigating Climate Change through Soil Management: EARTHSYS 233, ESS 233 (Win)
- Science of Soils: EARTHSYS 155, ESS 155 (Spr)
- Soil and Water Chemistry: EARTHSYS 256, ESS 256 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Chandler Brown, Ankun Wang

Postdoctoral Faculty Sponsor

Alex Honeyman, Alandra Lopez, Ali Namayandeh, Vincent Scholz

Doctoral Dissertation Advisor (AC)

Tanya Arora, Aria Duncan

Master's Program Advisor

Bennie Hesser, Peter Muhitch, Cali Ordas, Tida Rau, Vivian Shay, Sicada Sloan, Sarah Yribarren

Doctoral (Program)

AyoOluwateso Coker, Aria Duncan, Anna Gomes, Katie Ann Huy, Samuel Pierce

Publications

PUBLICATIONS

- **Molecular insights and impacts of wildfire-induced soil chemical changes** *NATURE REVIEWS EARTH & ENVIRONMENT*
Lopez, A., Avila, C. E., Vanderroest, J. P., Roth, H. K., Fendorf, S., Borch, T.
2024
- **Water Supply Planning in the Face of Drought and Ecosystem Flows: Examining the Impact of the Bay-Delta Plan on Bay Area Water Supply.** *Environmental science & technology*
Gile, B. C., Sherris, A. R., Holmes, R. T., Fendorf, S., Luthy, R. G.
2024
- **Mid-season drain severity impacts on rice yields, greenhouse gas emissions and heavy metal uptake in grain: evidence from on-farm studies** *FIELD CROPS RESEARCH*
Perry, H., Carrijo, D. R., Duncan, A. H., Fendorf, S., Linquist, B. A.

2024; 307

- **Metal toxin threat in wildland fires determined by geology and fire severity.** *Nature communications*
Lopez, A. M., Pacheco, J. L., Fendorf, S.
2023; 14 (1): 8007
- **Consider the Anoxic Microsite: Acknowledging and Appreciating Spatiotemporal Redox Heterogeneity in Soils and Sediments** *ACS EARTH AND SPACE CHEMISTRY*
Lacroix, E. M., Aeppli, M., Boye, K., Brodie, E., Fendorf, S., Keiluweit, M., Naughton, H. R., Noel, V., Sihi, D.
2023: 1592-1609
- **Molecular Nature of Mineral-Organic Associations within Redox-Active Mountainous Floodplain Sediments** *ACS EARTH AND SPACE CHEMISTRY*
Anderson, C. G., Goebel, G. M., Tfaily, M. M., Fox, P. M., Nico, P. S., Fendorf, S., Keiluweit, M.
2023
- **Quantitative Separation of Unknown Organic-Metal Complexes by Liquid Chromatography-Inductively Coupled Plasma-Mass Spectrometry.** *Analytical chemistry*
Dewey, C., Kaplan, D. I., Fendorf, S., Boiteau, R. M.
2023
- **Uranium surface processes with sandstone and volcanic rocks in acidic and alkaline solutions.** *Journal of colloid and interface science*
Kenney, J. P., Lezama-Pacheco, J., Fendorf, S., Alessi, D. S., Weiss, D. J.
2023; 645: 715-723
- **Seasonal Oxygenation of Contaminated Floodplain Soil Releases Zn to Porewater.** *Environmental science & technology*
Dewey, C., Juillot, F., Fendorf, S., Bargar, J. R.
2023
- **Reactive iron, not fungal community, drives organic carbon oxidation potential in floodplain soils** *SOIL BIOLOGY & BIOCHEMISTRY*
Naughton, H. R., Tolar, B. B., Dewey, C., Keiluweit, M., Nico, P. S., Fendorf, S.
2023; 178
- **Iron Reduction in Profundal Sediments of Ultraoligotrophic Lake Tahoe under Oxygen-Limited Conditions.** *Environmental science & technology*
Aeppli, M., Schladow, G., Lezama Pacheco, J. S., Fendorf, S.
2023
- **Beaver dams overshadow climate extremes in controlling riparian hydrology and water quality.** *Nature communications*
Dewey, C., Fox, P. M., Bouskill, N. J., Dwivedi, D., Nico, P., Fendorf, S.
2022; 13 (1): 6509
- **Assessing Analytical Methods for the Rapid Detection of Lead Adulteration in the Global Spice Market.** *Environmental science & technology*
Lopez, A. M., Nicolini, C. M., Aeppli, M., Luby, S. P., Fendorf, S., Forsyth, J. E.
2022
- **Redox Properties of Solid Phase Electron Acceptors Affect Anaerobic Microbial Respiration under Oxygen-Limited Conditions in Floodplain Soils.** *Environmental science & technology*
Aeppli, M., Thompson, A., Dewey, C., Fendorf, S.
2022
- **Contributions of anoxic microsites to soil carbon protection across soil textures** *GEODERMA*
Lacroix, E. M., Mendillo, J., Gomes, A., Dekas, A., Fendorf, S.
2022; 425
- **Nitrate Controls on the Extent and Type of Metal Retention in Fine-Grained Sediments of a Simulated Aquifer.** *Environmental science & technology*
Engel, M., Noel, V., Kukkadapu, R. K., Boye, K., Bargar, J. R., Fendorf, S.
2022
- **Field science in the age of online learning: Dynamic instruction of techniques to assess soil physical properties** *FRONTIERS IN EDUCATION*
Hinckley, E. S., Fendorf, S.
2022; 7

- **Mechanism of Arsenic Partitioning During Sulfidation of As-Sorbed Ferrihydrite Nanoparticles.** *ACS earth & space chemistry*
Kumar, N., Noël, V., Besold, J., Planer-Friedrich, B., Boye, K., Fendorf, S., Brown, G. E.
2022; 6 (7): 1666-1673
- **Mechanism of Arsenic Partitioning During Sulfidation of As-Sorbed Ferrihydrite Nanoparticles** *ACS EARTH AND SPACE CHEMISTRY*
Kumar, N., Noel, V., Besold, J., Planer-Friedrich, B., Boye, K., Fendorf, S., Brown Jr, G. E.
2022
- **Sulfur Biogeochemical Cycling and Redox Dynamics in a Shale-Dominated Mountainous Watershed** *JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES*
Fox, P. M., Carrero, S., Anderson, C., Dewey, C., Keiluweit, M., Conrad, M., Naughton, H. R., Fendorf, S., Carroll, R., Dafflon, B., Malenda-Lawrence, H., Dwivedi, D., Gilbert, et al
2022; 127 (6)
- **Mineral Protection and Resource Limitations Combine to Explain Profile-Scale Soil Carbon Persistence** *JOURNAL OF GEOPHYSICAL RESEARCH-BIOGEOSCIENCES*
Lacroix, E. M., Masue-Slowey, Y., Dlott, G. A., Keiluweit, M., Chadwick, O. A., Fendorf, S.
2022; 127 (4)
- **Residual As(V) in Aqueous Solutions After Its Removal by Synthetic Minerals** *WATER AIR AND SOIL POLLUTION*
Dias, A., Ferreira Fontes, M., Ferreira, M., Vergutz, L., Fendorf, S.
2022; 233 (4)
- **Export of Organic Carbon from Reduced Fine-Grained Zones Governs Biogeochemical Reactivity in a Simulated Aquifer.** *Environmental science & technology*
Aeppli, M., Babey, T., Engel, M., Lacroix, E. M., Tolar, B. B., Fendorf, S., Bargar, J. R., Boye, K.
1800
- **Perchlorate and Agriculture on Mars** *SOIL SYSTEMS*
Oze, C., Beisel, J., Dabsys, E., Dall, J., North, G., Scott, A., Lopez, A., Holmes, R., Fendorf, S.
2021; 5 (3)
- **Nitrate in Drinking Water during Pregnancy and Spontaneous Preterm Birth: A Retrospective Within-Mother Analysis in California.** *Environmental health perspectives*
Sherris, A. R., Baiocchi, M., Fendorf, S., Luby, S. P., Yang, W., Shaw, G. M.
2021; 129 (5): 57001
- **Porewater Lead Concentrations Limited by Particulate Organic Matter Coupled With Ephemeral Iron(III) and Sulfide Phases during Redox Cycles Within Contaminated Floodplain Soils.** *Environmental science & technology*
Dewey, C., Bargar, J. R., Fendorf, S.
2021
- **The effect of porewater ionic composition on arsenate adsorption to clay minerals.** *The Science of the total environment*
Fakhreddine, S., Fendorf, S.
2021; 785: 147096
- **Development of energetic and enzymatic limitations on microbial carbon cycling in soils** *BIOGEOCHEMISTRY*
Naughton, H. R., Keiluweit, M., Tfaily, M. M., Dynes, J. J., Regier, T., Fendorf, S.
2021; 153 (2): 191–213
- **Effects of moisture and physical disturbance on pore-scale oxygen content and anaerobic metabolisms in upland soils.** *The Science of the total environment*
Lacroix, E. M., Rossi, R. J., Bossio, D., Fendorf, S.
2021; 780: 146572
- **Geochemical signatures and natural background values of rare earth elements in soils of Brazilian Amazon.** *Environmental pollution (Barking, Essex : 1987)*
Ferreira, M. d., Fontes, M. P., Bellato, C. R., Marques Neto, J. d., Lima, H. N., Fendorf, S.
2021; 277: 116743
- **Simulated Aquifer Heterogeneity Leads to Enhanced Attenuation and Multiple Retention Processes of Zinc.** *Environmental science & technology*
Engel, M., Boye, K., Noel, V., Babey, T., Bargar, J. R., Fendorf, S.

2021

- **Human health risk assessment and geochemical mobility of rare earth elements in Amazon soils.** *The Science of the total environment*
da Silva Ferreira, M., Fontes, M. P., Lima, M. T., Cordeiro, S. G., Wyatt, N. L., Lima, H. N., Fendorf, S.
2021: 151191
- **Bone manganese is a sensitive biomarker of ongoing elevated manganese exposure, but does not accumulate across the lifespan.** *Environmental research*
Conley, T. E., Richardson, C., Pacheco, J., Dave, N., Jursa, T., Guazzetti, S., Lucchini, R. G., Fendorf, S., Ritchie, R. O., Smith, D. R.
2021: 112355
- **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. n., Weaver, K. n., Takacs, C. J., Roycroft, S. n., Fendorf, S. n., Bargar, J. R.
2020
- **Arsenic Fate in Peat Controlled by the pH-Dependent Role of Reduced Sulfur.** *Environmental science & technology*
Eberle, A. n., Besold, J. n., Kerl, C. F., Lezama-Pacheco, J. S., Fendorf, S. n., Planer-Friedrich, B. n.
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. n., Sokaras, D. n., Kroll, T. n., Bargar, J. R., Fendorf, S. n.
2020
- **Contribution of clay-aquitard to aquifer iron concentrations and water quality.** *The Science of the total environment*
Liu, Y. n., Ma, T. n., Chen, J. n., Xiao, C. n., Liu, R. n., Du, Y. n., Fendorf, S. n.
2020; 741: 140061
- **Organic compounds alter the preference and rates of heavy metal adsorption on ferrihydrite.** *The Science of the total environment*
Engel, M. n., Lezama Pacheco, J. S., Noël, V. n., Boye, K. n., Fendorf, S. n.
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- **Redox Heterogeneities Promote Thioarsenate Formation and Release into Groundwater from Low Arsenic Sediments.** *Environmental science & technology*
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