Updated 03/23/2018

Yuanzhi Tang, PhD

Assistant Professor
School of Earth and Atmospheric Sciences
School of Civil and Environmental Engineering (Courtesy)
Georgia Institute of Technology
Phone: 404-894-3814
Email: yuanzhi.tang@eas.gatech.edu

EARNED DEGREES

B.S.	Geology	1999-2003	Peking University, China
B.Ec.	Economics	1999-2003	Peking University, China
M.S.	Geosciences	2003-2005	SUNY-Stony Brook
Ph.D.	Geosciences	2005-2008	SUNY-Stony Brook

EMPLOYMENT HISTORY

2006–2007	Acting Beamline Staff, Beamline X27A, National Synchrotron Light Source, Brookhaven National Laboratory
2003–2008	Graduate Research Assistant, Department of Geosciences, SUNY-Stony Brook (Advisor: Richard Reeder)
2008–2010	Postdoctoral Research Fellow, School of Engineering and Applied Sciences, Harvard University (Advisor: Scot Martin)
2010–2011	Postdoctoral Research Fellow, School of Engineering and Applied Sciences, Harvard University (Advisor: Colleen Hansel)
2012	Research Associate, School of Engineering and Applied Sciences, Harvard University (Advisor: Colleen Hansel)
2012.11– 2018.01–	Assistant Professor, School of Earth and Atmospheric Sciences, Georgia Tech School of Civil and Environmental Engineering, Georgia Tech (Courtesy appointment)

HONORS AND AWARDS

Received by Tang

2018	Fellow, Brook Byers Institute for Sustainable Systems, Georgia Tech
2016	Food-Energy-Water System Fellow, Serve-Learn-Sustain Initiative, Georgia Tech
2015	Travel Grant, Early Career Geosciences Faculty Workshop, the Cutting Edge Program
2013	American Chemical Society Petroleum Research Fund Doctoral New Investigator Award
2012	Postdoc Travel Grant, International Geobiology Conference, Wuhan, China
2008	Student Travel Grant, Goldschmidt Conference, Vancouver, Canada
2007	Student Travel Grant, Goldschmidt Conference, Cologne, Germany
2006	Travel Award, Preparing for an Academic Career in the Geosciences Workshop
2005	Dr. Mow Shiah Lin Scholarship, Brookhaven National Laboratory, NY
2002	Outstanding Work Award, Challenge Cup Science & Technology Competition, Peking University
2002	Hosogoe Fellowship, Peking University
2001	Chun-Tsung Undergraduate Research Fund, Peking University
2001	Outstanding Student Leader of the Communist Youth League, Peking University
2000	Outstanding Cadre of the Communist Youth League, Peking University

2000	San Hao Outstanding Student Award, Peking University
1999–2003	China National Geology Fellowship

Publicity

2017.11	"A Popular Tool to Trace Earth's Oxygen History Can Give False Positives". Georgia Tech Research Horizon. Featured by *Astrobiology Magazine*, *Science Daily*, and *Geochemical News*
2017.10	"Waste Not, Want Not: Georgia Tech researchers take aim at a super-multi-tasking waste treatment system". *Georgia Tech Daily Digest*
2017.09	"NSF awards $36.6 million in new food-energy-water system grants". *National Science Foundation News Release 17-093*
2007.03	"Student Experience the National Synchrotron Light Source via Webcast", *NSLS News*, Brookhaven National Laboratory
2005.10	Stony Brook University Student Winds the First Dr. Mow Shiah Lin Scholarship. *Brookhaven National Laboratory News*

RESEARCH, SCHOLARSHIP, AND CREATIVE ACTIVITIES

Refereed Publications and Submitted Articles

(* next to item number indicates work done at Georgia Tech; Tang group members are in **bold**; # indicates undergraduate students)
(Google Scholar profile at http://scholar.google.com/citations?user=MSQB5REAAAAJ)

Published and Accepted Journal Articles

42*. **Zhao SL**, **Li CN**[#], **Liu P**, **Huang RX**, **Saad EM**, **Tang YZ**. Zinc presence during mineral formation affects the sorptive reactivity of manganese oxide. *Soil Systems*. In press (Invited article for Special Issue on *Soil Processes Controlling Contaminant Dynamics*)

41*. Cavazos A, Taillefert M, **Tang YZ**, Glass JB. Kinetics of nitrous oxide production via hydroxylamine decomposition by birnessite in synthetic seawater. *Marine Chemistry*. In press.

40*. **Huang RX**, **Wan B**, **Hultz M**[#], Diaz JM, **Tang YZ**. Phosphatase mediated hydrolysis of polyphosphates with different chain lengths. *Environmental Science & Technology*. 2018, 1183-1190.

39*. **Huang RX**, **Zhang B**[#], **Saad EM**, Ingall E, **Tang YZ**. Speciation evolution of zinc and copper during pyrolysis and hydrothermal carbonization treatments of sewage sludges. *Water Research*. 2018, 132, 260-269.

38*. Yang LF, Li X, Ma XT, Xiong S, **Liu P**, **Tang YZ**, Cheng S, Hu YY, Liu ML, Chen HL. Design of high-performance cathode materials with single-phase pathway for sodium ion batteries: A study on P2-$Na_x(Li_yMn_{1-y})O_2$ compounds. *Journal of Power Sources*. 2018, 171-180.

37*. **Huang RX**, **Fang C**, **Zhang B**[#], **Tang YZ**. Transformations of phosphorus during (hydro)thermal treatments of animal manures. *Environmental Science & Technology*. 2017, 10284-10298.

36*. **Saad EM**, Wang XL, Planavsky NJ, Reinhard CT, **Tang YZ**. Chromium isotope fractionation induced by ligand-promoted mobilization of Cr(III). *Nature Communications*. 2017, 8, 1590.

35*. **Huang RX**, **Fang C**, Lu XW, Jiang RF, **Tang YZ**. Transformation of phosphorus during (hydro)thermal treatments of solid biowastes: Reaction mechanisms and implications for phosphorus reclamation and recycling. *Environmental Science & Technology*. 2017, 51, 10284-10298.

34*. Adhikari D, Zhao Q, Das K, Mejia J, **Huang RX**, Wang XL, Poulson S, **Tang YZ**, Roden EE,

Yang Y. Dynamics of ferrihydrite-bound organic carbon during microbial reduction. *Geochimica et Cosmochimica Acta*. 2017, 221-233.

33*. **Huang RX**, Yi P, **Tang YZ**. Probing interactions of organic molecules, nanomaterials, and microbes with solid surfaces using quartz crystal microbalance: Methodology, advantages, and limitations. *Environmental Science: Processes and Impacts*. 2017, **19**, 793-811.

32*. **Wan B**, Yan YP, **Tang YZ**, Bai YG, Liu F, Tan WF, Feng XH. Effects of polyphosphates and orthophosphate on the dissolution and transformation of ZnO nanoparticles. *Chemosphere*. 2017, 255–265.

31*. **Saad EM**, Sun JY, Chen S, Borkiewicz OJ, Zhu MQ, Duckworth O, **Tang YZ**. Siderophore and organic acid promoted dissolution and transformation of Cr(III)-Fe(III)-oxyhydroxides. *Environmental Science & Technology*. 2017, 51 (6), 3223–3232.

30*. Ginn BR, Meile C, Wilmoth J, Scherer M, **Tang YZ**, Thompson A. High-amplitude redox fluctuations prime tropical forest soils for rapid iron reduction rates. *Environmental Science & Technology*. 2017, 51 (6), 3250–3259.

29*. Sun WL, Renew JE, Zhang WL, **Tang YZ**, Huang CH. Sorption of Se(IV) and Se(VI) to fly ash/cement composite: Effect of Ca^{2+} and high ionic strength. Chemical Geology. 2017, 76-83.

28*. Zhao Q, Adhikari D, Mejia J, **Huang RX**, Patel A, Wang XL, **Tang YZ**, Obrist D, Roden E, Yang Y. Coupled dynamics of iron and iron-bound organic carbon in forest soils during anaerobic reduction. *Chemical Geology*. 2017, 118-126.

27*. Jie Xu, Luu L, **Tang YZ**. Phosphate removal using aluminum-doped magnetic nanoparticles. *Desalination and Water Treatment*. 2017, 239-248.

26*. Chambers L, Ingall ED, **Saad EM**, Longo AF, Takeuchi M, **Tang YZ**, Benitez-Nelson C, Haley ST, Dyhrman ST, Brandes J, Stubbins A. Enhanced dissolved organic matter recovery from saltwater samples with electrodialysis. *Aquatic Geochemistry*. 2016, 555-572.

25*. **Saad EM**, Longo AF, Chambers L, **Huang RX**, Benitez-Nelson C, Dyhrman ST, Diaz J, **Tang YZ**, Ingall E. Understanding marine dissolved organic matter production: Compositional insights from axenic cultures of *Thalassiosira pseudonana*. *Limnology and Oceanography*. 2016, 61, 2222-2233.

24*. **Huang RX**, **Tang YZ**. Evolution of phosphorus complexation and mineralogy during (hydro)thermal treatments of activated and anaerobically digested sludge: Insights from sequential fractionation and P K-edge XANES. *Water Research*. 2016, 439-447.

23*. Xu SN, Adhikari D, **Huang RX**, Zhang H, **Tang YZ**, Roden E, Yang Y. Biochar-facilitated microbial reduction of hematite. *Environmental Science & Technology*. 2016, 2389-2395.

22*. **Huang RX**, **Tang YZ**. Speciation dynamics of phosphorus during pyrolysis and hydrothermal treatment of sewage sludge. *Environmental Science & Technology*. 2015, 14466–14474.

21*. Hansel CM, Lentini CL, **Tang YZ**, Johnston DT, Wankel SD, Jardine PM. Dominance of sulfur fueled iron oxide reduction in low sulfate freshwater sediments. *ISME Journal*. 2015, 1-13.

20*. Na CZ, **Tang YZ**, Wang HT, Martin ST. Opposing effects of humidity on rhodochrosite surface oxidation. *Langmuir*. 2015, 31, 2366-2371.

19*. Troyer L, **Tang YZ**, Borch T. Simultaneous reduction of arsenic(V) and uranium(VI) by mackinawite (FeS): Role of uranyl arsenate precipitate formation. *Environmental Science & Technology*. 2014, 48, 14326-14334.

18*. **Tang YZ**, Webb SM, Estes ER, Hansel CM. Cr(III) oxidation by biogenic manganese oxides with varying structural ripening. *Environmental Science: Process & Impacts*. 2014, 16 (9), 2127-2136.

17*. Chen HL, Hao Q, Zivkovic O, Hautier G, Du LS, Hu YY, **Tang YZ**, Ma XH, Grey CP, Ceder G. Sidorenkite: A new intercalation cathode material for Na-ion batteries. *Chemistry of Materials* 2013, 25 (14), 2777–2786.

16. Reeder RJ, **Tang YZ**, Schmidt MP, Kubista LM, Cowan DF, Phillips BL. Characterization of structure in biogenic amorphous calcium carbonate: Pair distribution function and nuclear magnetic resonance studies of lobster gastrolith. *Crystal Growth & Design.* 2013, 13, 1905-1914.
15. **Tang YZ**, Zeiner CA, Santelli CM, Hansel CM. Fungal oxidative dissolution of the Mn(II)-bearing mineral rhodochrosite and the role of metabolites in manganese oxide formation. *Environmental Microbiology*. 2013, 15, 1063-1077.
14. Chen HL, Hautier G, Jain A, Moore C, Kang B, Doe R, Wu LJ, Zhu YM, **Tang YZ**, Ceder G. Carbonophosphates: A new family of cathode materials for Li-ion batteries identified computationally. *Chemistry of Materials*, 2012, 24 (11), 2009-2016.
13. Luo Y, Rakovan J, **Tang YZ**, Lupulescu M, Hughes J, Pan YM. Crystal chemistry of Th in fluorapatite. *American Mineralogist* 2011, 96, 23–33.
12. Li W, Harrington R, **Tang YZ**, Kubicki JD, Aryanpour M, Reeder RJ, Parise JB, Phillips BL. Differential Pair Distribution Function Study of the Structure of Arsenate Adsorbed on Nanocrystalline γ-Alumina. *Environmental Science & Technology* 2011, 45 (22), 9687-9692.
11. **Tang YZ**, Martin ST. Siderite dissolution in the presence of chromate. *Geochimica et Cosmochimica Acta.* 2011, 75, 4951–4962.
10. **Tang YZ**, Michel FM, Zhang L, Harrington R, Parise JB, Reeder RJ. Structural investigation of Cr(III)-Fe(III)-(oxy)hydroxide compositional series: Insights for nanomaterial "solid solution". *Chemistry of Materials* 2010, 22, 3589–3598.
9. Lee YJ, Stephens PW, **Tang YZ**, Li W, Phillips BL, Parise JB, Reeder RJ. Arsenate substitution in hydroxylapatite: Structural characterization of the $Ca_5(P_xAs_{1-x}O_4)_3OH$ solid solution. *American Mineralogist* 2009, 94, 666–675.
8. **Tang YZ**, Reeder RJ. Enhanced uranium sorption on aluminum oxide pre-treated with arsenate. I. Batch uptake behaviors. *Environmental Science & Technology* 2009, 43, 4446–4451.
7. **Tang YZ**, McDonald J, Reeder RJ. Enhanced uranium sorption on aluminum oxide pre-treated with arsenate. II. Spectroscopic studies. *Environmental Science & Technology* 2009, 43, 4452–4458.
6. Elzinga EJ, **Tang YZ**, McDonald J, DeSisto S, Reeder RJ. Macroscopic and spectroscopic characterization of selenate, selenite, and chromate adsorption at the solid-water interface of γ-Al_2O_3. *Journal of Colloid and Interface Science* 2009, 340, 153–159.
5. **Tang YZ**, Reeder RJ. Uranyl and arsenate co-sorption on aluminum oxide surface. *Geochimica et Cosmochimica Acta* 2009, 73 (10), 2727–2743.
4. **Tang YZ**, Chappell HF, Dove MT, Reeder RJ, Lee YJ. Zn incorporation into hydroxylapatite. *Biomaterials* 2009, 30 (15), 2864–2872.
3. **Tang YZ**, Elzinga EJ, Lee YJ, Reeder RJ. Coprecipitation of Cr(VI) with calcite: Batch experiments and spectroscopic characterization. *Geochimica et Cosmochimica Acta* 2007, 71, 1480–1493.
2. Mason HE, Douglas SF, **Tang YZ**, Reeder RJ, Phillips BL. Phosphorous speciation in calcite spelothems: Evidence from solid-state NMR. *Earth and Planetary Science Letters* 2007, 254, 313–322.
1. Ablett JM, Kao CC, Reeder RJ, **Tang YZ**, Lanzirotti A. X27A – A new hard X-ray micro-spectroscopy facility at the National Synchrotron Light Source. *Nuclear Instruments & Methods in Physics research. Section A.* 2006, 562, 487–484.

Submitted Journal Articles

4*. **Emily Saad**, Rebecca A. Pickering, **Kanaha Shoji**[#], Mohammad I. Hossain, T. Grant Glover, Jeffrey W. Krause, **Yuanzhi Tang***. Effect of cleaning method on the reactivity of diatom frustules. Under review.

3*. Huang YX, Liu MJ, Chen S, Jasmi II, **Tang YZ**, Lin SH. Enhanced adsorption and slow release of phosphate by dolomite- alginate composite beads as a potential fertilizer. Under review.

2*. **Shiliang Zhao**, Qian Wang, Jingying Sun, **Rixiang Huang**, **Emily M. Saad**, **Ben Fields**[#], Olaf J. Borkiewicz, Shuo Chen, Mengqiang Zhu, **Yuanzhi Tang***. Effect of Zn presence during mineral formation on the structure of Mn oxides. Under review.

1*. **Shiliang Zhao**, **Yaneira A. Gonzalez-Valle**[#], **Emily M. Saad**, Evert J. Elzinga, **Yuanzhi Tang**. Zn presence during mineral formation affects the reductive transformation of birnessite. Under review.

Presentations

(* next to item number indicates work done at Georgia Tech)
(Tang group members are in **bold**; [#] incidates undergraduate students)

Invited presentations and seminars

30*. Microbe mediated mineral (trans)formation. Session *Mechanistic understanding of mineral growth and dissolution*. American Chemical Society (ACS) Annual Meeting. Boston, MA (2018/08)

29*. Molecular scale mechanisms of Mn oxide interaction with contaminants. Session *Clay Interactions with Contaminants and Radionuclides: From Molecular Mechanisms to Environmental Fate*. Clay Mineral Society (CMS) Annual Meeting, Champaign, IL (2018/06)

28*. Impact of metal impurities on the structure and reactivity of Mn oxide nanoparticles. Session *Structures and reactivity of clays and nanoparticles in soils and water*. Clay Mineral Society (CMS) Annual Meeting, Champaign, IL (2018/06)

27*. Toward a molecular scale understanding of nutrient (re)cycling. Session *Nexus of Food, Energy, & Water: Adapting to Future Challenges* (Invited talks only), Multidisciplinary Program Planning Group (MPPG), American Chemical Society (ACS) Annual Meeting. New Orleans, LA (2018/03)

26*. Toward a molecular scale understanding of nutrient (re)cycling. School of Civil and Environmental Engineering, Georgia Institute of Technology (2017/10)

25*. Toward a molecular scale understanding of metal cycling. 1st Annual Geo-Symposium, Peking University, China (2017/10)

24*. Keynote: Understanding the structure-reactivity relationship of Mn oxides toward contaminant sequestration. Session *Geomicrobiology, biogeochemistry and environmental impact studies of trace elements and metals in Earth surface environments*. Goldschmidt Conference, Paris, France (2017/08)

23*. Small is big: Toward a molecular scale understanding of metal/nutrient (re)cycling. School of Environmental Science and Engineering, Tianjin University of Technology, China (2017/06)

22*. Understanding the structure-reactivity relationship of environmental nano minerals. School of Environment. Tsinghua University, China (2017/06)

21*. Microbial metabolite and metabolic byproducts promoted dissolution and transformation of Cr-containing minerals. Session *Microbially-Driven Geochemical Reactions: Kinetics and Communities*. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

20*. Small is big: Toward a molecular scale understanding of metal/nutrient (re)cycling. School of Civil and Environmental Engineering, Georgia Institute of Technology (2015/09)

19*. Toward a holistic understanding of metal transport and cycling. Department of Earth and Environmental Sciences, Rutgers University-Newark (2015/04)

18*. Toward a holistic understanding of metal transport and cycling. School of Earth Sciences and Engineering, Nanjing University (2015/03)

17*. Toward a holistic understanding of metal transport and cycling. Department of Geosciences, Georgia State University (2015/02)

16*. Application of synchrotron X-ray spectromicroscopy in environmental and material sciences.

Exploring New Science Opportunities with the National Synchrotron Light Source II workshop. Institute for Materials (IMAT), Georgia Institute of Technology (2015/01)

15*. Cr(III) oxidation by biogenic manganese oxides with varying structural ripening. Session 20g, Biogeochemistry, bioaccumulation, bioavailability, and bioaccessibility of trace metals and metalloids in aquatic and terrestrial systems. Goldschmidt Conference, Sacramento, CA (2014)

14*. Understanding the structure-reactivity relationship of environmental nano minerals. Department of Civil and Environmental Engineering, University of Wisconsin – Madison, WI (2014)

13. Molecular-scale perspectives on interfacial processes controlling metal speciation and transport. School of Earth and Atmospheric Sciences, Georgia Institute of Technology, GA (2012)

12. Molecular-scale perspectives of contaminant transport at microbe-mineral-solution interfaces. Department of Environmental Science and Technology, Xi'an Jiaotong University, China (2011)

11. Molecular-scale perspectives on interfacial processes controlling contaminant speciation and distribution. School of Civil and Environmental Engineering, Nanyang Technological University, Singapore (2011)

10. Surface structure and properties of minerals in complex environments. Schlumberger-Doll Research Center, Cambridge, MA (2010)

9. Molecular-scale perspectives on interfacial processes controlling contaminant speciation and distribution. Department of Civil & Environmental Engineering and Earth Sciences, Sustainable Energy Institute. University of Notre Dame, IN (2010)

8. Mineral surfaces in complex environments: Implications for contaminant sequestration. Chemical Sciences and Engineering Division, Argonne National Laboratory, IL (2010)

7. Effect of Cr doping on the structural properties of ferrihydrite. School of Earth and Planetary Sciences, Peking University, China (2010)

6. Enhanced uranium sorption on alumina through surface modification. Harvard University, MA (2008)

5. Enhanced uranium sorption on alumina through surface modification. University of Delaware, DE (2008)

4. Enhanced uranium sorption on alumina through surface modification. National Synchrotron Light Source, Brookhaven National Laboratory, NY (2008)

3. Laboratory Analytical Tools for Environmental Sciences. GeoPrep Teachers Workshop: Investigations in Environmental Forensics – Science, Tools and Techniques. SUNY-Stony Brook (2007)

2. Coprecipitation of Cr(VI) with calcite: Batch experiments and spectroscopic study. National Synchrotron Light Source, Brookhaven National Laboratory, NY (2005)

1. Structural investigation of chromate incorporation in calcite. The First Dr. Mow Shiah Lin Scholarship Ceremony, Brookhaven National Laboratory, NY (2005)

Contributed conference presentations

83*. Qingxu Jin, **Emily Saad**, Sarah Horden, **Yuanzhi Tang**, Kimberly Kurtis. Where does Nitrogen Go in TiO_2-based Photocatalytic Cement? The Fundamental Understanding of the Interactions between Photocatalytic Reaction Products and Cements. Sixth International Symposium on Nanotechnology in Construction, Hong Kong, China (2018/12).

82*. Qingxu Jin, **Yuanzhi Tang**, Kimberly Kurtis. The fundamental understanding of NOx sequestration of photocatalytic cementitious materials. The American Ceramic Society Meeting, 9th Advances in Cement-Based Materials. State College, PA (2018/06)

81*. Dinesh Adhikari, Qian Zhao, Sarrah Dunham-Cheatham, Kamol Das, Simon Poulson, Xilong Wang, **Yuanzhi Tang**, Eric E. Roden, Yu Yang. Biogeochemical Fate and Stability of Iron Oxide-Organic Carbon Complexes. 2018 World Congress of Soil Science (WCSS) meeting, Rio de Janeiro, Brazil (2018/08)

80*. Amanda Cavazos, Martial Taillefert, **Yuanzhi Tang**, Jennifer Glass. Potential role of Mn(IV) oxides in abiotic nitrous oxide production. American Chemical Society (ACS) Conference. New

Orleans, LA (2018/03).

79*. Eryn Eitel, **Shiliang Zhao**, **Yuanzhi Tang**, Martial Taillefert. Reduction of manganese (oxyhydr)oxides by organic sulfur electron shutttles. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03).

78*. **Pan Liu**, **Yuanzhi Tang**. Influence of organic ligands on the mobilization and pattern of rare earth elements. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03)

77*. Lufeng Yang, Xiang Li, Xuetian Ma, Shan Xiong, **Shiliang Zhao**, **Pan Liu**, **Yuanzhi Tang**, Shuang Cheng, Yan-Yan Hu, Meilin Liu, Hailong Chen. High performance Li-doped materials for Na-ion battery: Insights from electrochemistry, diffraction, and NMR investigations. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03)

76*. Shengnan Xu, Dinesh Adhikari, **Rixiang Huang**, **Yuanzhi Tang**, Eric Roden, Yu Yang. Biochar-Facilitated Microbial Reduction of Hematite. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03)

75*. Dinesh Adhikari, Qian Zhao, Kamol Das, Xilong Wang, Simon R. Poulson, **Yuanzhi Tang**, Daniel Obrist, Eric E. Roden, Yu Yang. Impact of redox reactions on carbon stability: Reduction, oxidation, and reduction-oxidation transition. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03)

74*. **Rixiang Huang**, **Ci Fang**, **Bei Zhang**, **Yuanzhi Tang**. Transformation of phosphorus during (hydro)thermal treatments of solid biowastes: Reaction mechanisms and implications for phosphorus reclamation and recycling. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03)

73*. **Rixiang Huang**, **Bei Zhang**, **Emily Saad**, Ellery Ingall, **Yuanzhi Tang**. Transformation of heavy metals during (hydro)thermal treatments of sewage sludges: Implications for resource recovery. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03)

72*. **Benjamin Fields**, Juergen Thieme, Kurt Haselwandter, **Yuanzhi Tang**. Resolving the spatial distribution of siderophores and other metabolites at lichen-mineral interface. American Chemical Society (ACS) Conference. New Orleans, LA (2018/03).

71*. Dinesh Adhikari, Qian Zhao, Sarrah Dunham-Cheatham, Kamol Das, Jacqueline Mejia, **Rixiang Huang**, Xilong Wang, Simon R. Poulson, **Yuanzhi Tang**, Daniel Obrist, Eric E. Roden, Yu Yang. Biogeochemical stability and reactions of iron-organic carbon complexes. American Geophysical Union (AGU) Conference, New Orleans, LA (2017/12)

70*. Dinesh Adhikari, Dawit Wordofa, Qian Zhao, Sarrah Dunham-Cheatham, Kamol Das, **Rixiang Huang**, Jacqueline Mejia, Simon Poulson, Xilong Wang, **Yuanzhi Tang**, Eric E. Roden, Yu Yang. Biogeochemical Fate and Stability of Iron Oxide-Organic Carbon Complexes. Soil Science Society of America (SSSA) Annual Meeting, Tampa, FL (2017/10)

69*. Jin Q, **Saad EM**, Michael VZ, Timothy R, **Tang YZ**, Kurtis K. Where does nitrogen go in photocatalytic cement? Advances in Cement-Based Materials Conference, Atlanta, GA (2017/06)

68*. Glass JB, Cavazos AR, Stanton CL, **Tang YZ**, Taillefert M, Stewart FJ, Ostrom NE. Tales from the Crypt: Fathoming Phantoms in the Nitrogen Cycle. Goldschmidt Conference, Paris, France (2017/08)

67*. Julia M. Diaz, **Yuanzhi Tang**, **Rixiang Huang**, **Biao Wan**, James G. Sanders, Karrie Bulski, Douglas Mollett. Marine polyphosphate: Linking modern and geologic P cycles. Goldschmidt Conference, Paris, France (2017/08)

66*. **Fang C**, **Huang RX**, Pavlostathis S, **Tang YZ**. Anaerobic digestion coupled with hydrothermal pretreatment for energy and nutrient recovery from organic wastes. Southeast Biogeochemistry Symposium. Athens, GA (2017/04)

65*. **Huang RX**, **Tang YZ**. Sorption, degradation, and transformation of polyphosphates – Implications for understanding the biogeochemical cycling of polyphosphate. Southeast Biogeochemistry Symposium. Athens, GA (2017/04)

64.* **Liu P**, **Tang YZ**. Fungal extraction of rare earth elements from coal fly ash. Southeast Biogeochemistry Symposium. Athens, GA (2017/04)

63.* **Saad EM**, **Tang YZ**. (Bio)chemical weathering of chromium (Cr) containing minerals. Southeast Biogeochemistry Symposium. Athens, GA (2017/04)

62.* Amanda Cavazos, Martial Taillefert, **Yuanzhi Tang**, Jennifer Glass. Rapid nitrous oxide production from hydroxylamine oxidation by birnessite. Southeast Biogeochemistry Symposium. Athens, GA (2017/04)

61.* Nadia Szeinbaum, **Shiliang Zhao**, **Yuanzhi Tang**, Cynthia Henny, Sean Crowe, Brook Nunn, Frank Stewart, and Jennifer Glass. Manganese biosignatures: Mn(III) mineral formation during Mn(IV) oxide reduction. Astrobiology Science Conference, Mesa, Arizona (2017/04)

60*. Thompson A, Meile C, Wilmoth J, Barcellos D, Chen C, Ginn B, Tang Y, Hodges C. Key features of redox-fluctuating systems that influence iron cycling. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

59*. **Wan B**, **Tang YZ**, **Huang RX**, Feng XH. Transformation of ZnO nanoparticles (NPs) into layered double hydroxide (LDH) precipitates on nano-γ-Al2O3: Implications for the fate of ZnO NPs under Al-enriched environment. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

58*. **Zhao SL**, **Huang RX**, **Tang YZ**. Effects of Zn presence on the structure and reductive transformation of birnessite. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

57*. Adhikari D, Zhao Q, Das K, Mejia J, **Huang RX**, Wang XL, Poulson SR, **Tang YZ**, Roden EE, Yang Y. Fate of ferrihydrite-bound organic carbon during microbial reduction. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

56*. Zhao Q, Adhikari D, **Huang RX**, Patel A, Wang XL, **Tang YZ**, Obrist D, Roden E, Yang Y. Coupled dynamics of iron and iron-bound organic carbon in forest soils during anaerobic reduction. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

55*. Adhikari D, Zhao Q, Das K, Xu SN, Mejia J, **Huang RX**, Wang XL, Poulson SR, **Tang YZ**, Obrist D, Roden EC, Yang Y. Linking carbon stability to iron redox reactions. American Chemical Society (ACS) Conference. San Francisco, CA (2017/04)

54*. Zhao Q, Adhikari D, Mejia J, **Huang RX**, Patel A, Wang XL, **Tang YZ**, Obrist D, Roden E, Yang Y. Coupled dynamics of iron and iron-bound organic carbon in forest soils during anaerobic reduction. Soil Science Society of America (SSSA) Annual Meeting. Phoenix, AZ (2016/11)

53*. **Brady A**, Wang XL, Planavsky N, Reinhard C, **Tang YZ**. Chromium incorporation into calcium carbonate minerals and associated isotopic fractionation: Implications for the Cr isotope paleoproxy. Geological Society of America (ASA) Annual Meeting. Denver, Co (2016/09)

52*. **Huang RX**, **Tang YZ**. Transformation of nitrogen and phosphorus during (hydro)thermal treatments of biosolids. American Chemical Society (ACS) Conference. Philadelphia, PA (2016/08)

51*. Ginn BR, Meile C, **Tang YZ**, Thompson A. The effect of high amplitude redox cycles on soil Fe reduction rates and mineral composition. Goldschmidt Conference. Yokohoma, Japan (2016/06).

50*. **Saad EM**, **Tang YZ**. Microbial metabolite promoted dissolution and transformation of mixed chromium(III)-iron(III)-oxyhydroxides. Goldschmidt Conference. Yokohoma, Japan (2016/06).

49*. **Brady A**, Wang XL, Plavavky NJ, Reinhard CT, **Tang YZ**. Chromium incorporation and isotopic fractionation in different calcium carbonate phases: Implications for the Cr isotope paleoproxy. American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

48*. **Zhao SL**, **Huang RX**, **Tang YZ**. Effect of Zn presence on the structure and reductive transformation of birnessite. American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

47*. **Huang RX**, **Tang YZ**. Effects of temperature and solution chemistry fluctuation on the sorption and desorption of NOM on oxides. American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

46*. **Huang RX**, **Tang YZ**. Speciation dynamics of metals and phosphorus during (hydro)thermal

treatments of sewage sludge. American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

45*. **Huang RX**, **Tang YZ**. Sorption, degradation, and transformation of polyphosphates: Implications for understanding the biogeochemical cycling polyphosphate. American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

44*. **Saad EM**, Wang XL, Reinhard CT, Plavavky NJ, **Tang YZ**. Isotope fractionation induced by ligand-promoted mobilization of Cr(III). American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

43*. **Saad EM**, **Tang YZ**. Microbial exudate promoted dissolution and transformation of chromium containing minerals. American Chemical Society (ACS) Conference. San Diego, CA (2016/03).

42*. Xu S, Adhikara D, Zhang H, **Huang RX**, **Tang YZ**, Roden E, Yang Y. Biochar-facilitated reduction of crystalline Fe(III) in hematite. American Geological Union (AGU) Annual Conference. San Francisco, CA (2015/12).

41*. **Shoji K** [#], Xu S, Wang L, Patel A, Yang Y, **Tang YZ**, Wee S, DiChristina T. Effects of carbon nanotubes on Fe oxide reduction by *Shewanella oneidensis* MR-1. American Geological Union (AGU) Annual Conference. San Francisco, CA (2015/12).

40*. **Saad EM**, **Tang YZ**. Microbial exudate promoted dissolution and transformation of chromium containing minerals. American Geological Union (AGU) Annual Conference. San Francisco, CA (2015/12).

39*. **Huang RX**, **Tang YZ**. Surface adsorption and enzymatic hydrolysis of polyphosphates: Implications for understanding the biogeochemical cycling polyphosphate. Geological Society of America (GSA) Annual Meeting. Baltimore, MD (2015/11).

38*. **Zhao SL**, **Huang RX**, **Tang YZ**. Effect of Zn presence on the structure and reactivity of Mn oxides toward phosphate sorption. Geological Society of America (GSA) Annual Meeting. Baltimore, MD (2015/11).

37*. **Huang RX**, **Tang YZ**. The critical role of phosphorus speciation in its cycling and recycling. Georgia Tech Postdoctoral Research Symposium (2015/10)

36*. **Huang RX**, **Tang YZ**. The critical role of elemental speciation in sewage sludge management: Insight from spectroscopic studies of the thermal treatments of sewage sludge. The Association of Environmental Engineering & Science Professors (AEESP) 2015 Conference. Yale University, CT (2015/06).

35*. **Huang RX**, **Tang YZ**. Speciation dynamics of metals and phosphorus during thermal treatments of sewage sludge. Georgia Water Resources Conference. Athens, GA (2015/04).

34*. **Saad EM**, **Tang YZ**. Elucidating the kinetics and mechanisms of biogenic silica in reverse weathering. Southeast Biogeochemistry Symposium. Atlanta, GA (2015/03)

33*. **Tang YZ**, **Zhao SL**, **Huang RX**, **Fields B** [#], Zhu MQ. Enhanced phosphate sorption on metal-doped birnessite. American Chemical Society (ACS) Spring National Meeting, Denver, CO (2015/03)

32*. **Saad EM**, **Tang YZ**. Elucidating the kinetics and mechanisms of biogenic silica in reverse weathering. American Chemical Society (ACS) Spring National Meeting, Denver, CO (2015/03)

31*. **Huang RX**, **Tang YZ**. Speciation dynamics of metals at biochar-soil interface: Effects of biochar and soil properties. American Chemical Society (ACS) Spring National Meeting, Denver, CO (2015/03)

30*. **Zhao SL**, **Huang RX**, **Tang YZ**. Sorption of phosphate on δ-MnO_2 pretreated with metal cations. Career, Research, and Innovation Development Conference (CRIDC). Georgia Tech (2015/03)

29*. **Saad EM**, **Tang YZ**. Mineralogical constraint of reverse weathering reactions. Career, Research, and Innovation Development Conference (CRIDC). Georgia Tech (2015/03)

28*. **Zhao SL**, **Huang RX**, **Tang YZ**. Enhanced adsorption of phosphate onto manganese oxide pretreated with metal cations. School of Earth and Atmospheric Sciences Graduate Student Symposium. Georgia Institute of Technology (2014)

27*. **Saad EM**, **Tang YZ**. Structural insights from siderophore promoted dissolution of mixed Cr(III)/Fe(III)(oxy)hydroxides. School of Earth and Atmospheric Sciences Graduate Student Symposium. Georgia Institute of Technology (2014)

26*. **Saad EM**, Taillefert M, **Tang YZ**. Mineralogical constraint of reverse weathering reactions. Southeast Biogeochemistry Symposium. Atlanta, GA (2014)

25*. Jardine PM, Hansel CM, Parker JC, Kim U, **Tang YZ**, Stewart MA, Lee L. Assessing the potential consequences of subsurface bioremediation: Fe oxide bioreductive processes and the propensity for secondary mineral precipitation and media structural breakdown. Geological Society of America (GSA) Annual Meeting, Denver, CO (2013)

24*. Chen HL, Hao Q, Zivkovic O, Hautier G, Du LS, **Tang YZ**, Hu YY, Ma XH, Grey CP, Ceder G. Sidorenkite ($Na_3MnPO_4CO_3$), a new intercalation cathode material for Na-ion batteries. Electrochemical Society (ECS) 224th meeting. San Francisco, CA (2013)

23. Wankel SD, Hansel CM, **Tang YZ**, Johnston DT. The groundwater nitrate isotope quandary: Is the dual isotopic composition of groundwater nitrate a recorder of interactions between N and Fe in the subsurface? American Geophysical Union (AGU) Fall Meeting. San Francisco, CA (2012)

22. **Tang YZ**, Hansel CM. Cr(III) oxidation by biogenic manganese oxides. Goldschmidt Conference, Montreal, Canada (2012)

21. Reeder RJ, Schmidt MP, Kubista LM, **Tang YZ**, Phillips BL. X-ray pair distribution function and NMR studies of biogenic amorphous calcium carbonate. Goldschmidt Conference, Montreal, Canada (2012)

20. Wei L, Harrington R, **Tang YZ**. Structures of arsenic adsorbed on nano-crystalline aluminum oxide as studied by Extended X-ray Absorption Spectroscopy (EXAFS) and differential Pair Distribution Function investigation (d-PDF). The 6th International Conference on Interfaces Against Pollution (IAP). Beijing, China (2010)

19. **Tang YZ**, Martin ST. Macroscopic and microscopic dissolution behavior of siderite in the presence of chromium. Goldschmidt Conference, Knoxville, TN (2010)

18. Beg TM, Wu JS, Sjiong S, **Tang YZ**. Leaching of arsenic from CCA-treated wood in a suburban setting: Field and spectroscopic study. American Chemical Society (ACS) Fall National Meeting (2010)

17. **Tang YZ**, Martin ST. Siderite dissolution in the presence of chromate. American Chemical Society (ACS) Spring National Meeting, San Francisco, CA (2010)

16. **Tang YZ**, Chappell, Dove MT, Reeder RJ, Lee YJ. Zinc incorporation into hydroxylapatite. Goldschmidt Conference (2009)

15. **Tang YZ**, Michel FM, Richard Harrington, John Parise, Reeder RJ. Structure characteristics of Cr(III)-Fe(III)-oxyhydroxide "solid solutions". Collaborative Research in Chemistry (CRC) Annual Meeting, Temple University, PA (2008)

14. **Tang YZ**, Michel FM, Zhang L, Parise JB, Reeder RJ. Structural investigation of Cr(III)-Fe(III)-oxyhydroxide "solid solutions". Goldschmidt Conference. Vancouver, Canada (2008)

13. Lee YJ, **Tang YZ**, Reeder RJ. Spectroscopic investigation of heavy metal incorporation into hydroxylapatite. Goldschmidt Conference. Vancouver, Canada (2008)

12. Arnason JG, Lloyd NS, Parrish RR, **Tang YZ**, Reeder RJ. Oxidation of uranium oxide aerosol particles in the near-surface environment. Goldschmidt Conference. Vancouver, Canada (2008)

11. **Tang YZ**, Michel FM, Parise JB, Reeder RJ. Structure investigation of Cr(III)-Fe(III)-oxyhydroxides. American Chemical Society (ACS) Spring National Meeting, New Orleans, LA (2008)

10. **Tang YZ**, Michel FM, Reeder RJ. Structure investigation of Cr(III)-Fe(III)-oxyhydroxide "solid solutions". Collaborative Research in Chemistry (CRC) Kick-off Meeting, SUNY-Stony Brook, NY (2007)

9. **Tang YZ**, Reeder RJ. Enhanced uranium sorption on alumina through surface modification. Goldschmidt Conference. Cologne, Germany (2007)

8. **Tang YZ**, Reeder RJ. Enhanced uranium sorption on alumina through surface modification. 2007

Joint NSLS and CFN Users' Meeting. Brookhaven National Laboratory, NY (2007)

7. **Tang YZ**, Schoonen MAA, Morrison J, Goldhaber M, Reeder RJ. Investigating the chemical speciation of high-Cr soils from northern California using synchrotron micro-X-ray techniques. Medical Mineralogy and Geochemistry Short Course, Mineralogical Society of America and the Geochemical Society. Menlo Park, CA (2006)
6. **Tang YZ**, McDonald J, Reeder RJ. Effects of arsenate on the sorption of uranyl onto gamma-alumina surface. Center for Environmental Molecular Science Fall 2006 Meeting. SUNY-Stony Brook, NY (2006)
5. **Tang YZ**, Plumlee GS, Schoonen MAA and Reeder RJ. Characterization of heterogeneous Hurricane Katrina flood sediments using micro-X-ray fluorescence mapping and X-ray absorption spectroscopy. American Chemical Society (ACS) Fall National Meeting. San Francisco, CA (2006)
4. Mason HE, Hausner D, Frisia S, **Tang YZ**, Reeder RJ, Strongin DR, Phillips BL. Phosphorus distribution in calciate speleothems from solid-state NMR and AFM. Goldschmidt Conference. Melbourne, Austrilia (2006)
3. **Tang YZ**, Elzinga EJ, Lee YJ, Reeder RJ. Coprecipitation of Cr(VI) with calcite: Batch experiments and spectroscopic study. Synchrotron Environmental Science III Meeting. Brookhaven National Laboratory, NY (2005)
2. **Tang YZ**, Elzinga EJ, Lee YJ, Reeder RJ. Coprecipitation of chromate with calcite: Batch experiments and spectroscopic study. American Chemical Society (ACS) Fall National Meeting. Washington, D.C. (2005)
1. **Tang YZ**, Elzinga EJ, Lee YJ, Reeder RJ. Coprecipitation of Cr(VI) with calcite: Batch experiments and spectroscopic characterization. Center for Environmental Molecular Sciences Spring 2005 Meeting, SUNY-Stony Brook, NY (2005)

Grants and Contracts

As Principal Investigator

1. INFEWS/T3: An integrated, tunable, and sustainable management system for improved energy, nutrient, and water recovery from biowastes (NSF-INFEWS; $2,430,953; PI; 2017/09/01–2020/08/31)

2. Probing the impact of metal impurities on the structure, reactivity, and transformation of biogenic manganese oxides (NSF-Environmental Chemical Science, $330,557; sole-PI; 2018/01/01–2020/12/31)

3. Collaborative Research: Exploring the role of exogenous polyphosphate in the precipitation of calcium phosphate minerals in the marine environment (NSF-Chemical Oceanography; $359,721; PI; 2016/02/01–2019/01/31)

4. Course development grant (Georgia Tech Serve-Learn-Sustain Program; $2,000; sole-PI; 2018/01/01–2018/06/20)

5. Engaging students in education and research on sustainable waste management and resource recovery (Georgia Tech Serve-Learn-Sustain Program; $4,000; Sole-PI; 2017/01/09–2017/06/30)

6. Phosphorus and metal speciation dynamics during thermal treatment of sewage sludges (USGS-Georgia Water Research Institute; $18,000; Sole-PI; 2016/03/01–2017/02/28)

7. Assessing the wettability alteration of carbonate minerals at nano scale (American Chemical Society–Petroleum Research Fund; $100,000; Sole-PI; 2014/01/01–2016/08/30)

As Co-Principal Investigator

1. Suschem: Development and fundamental investigation of a novel recycling technology for spent Li-ion batteries (NSF-Environmental Sustainability; $300,080; Co-PI, PI Hailong Chen; 2016/05/01–2019/04/31)

2. Calibrating the chromium isotope system as a tracer of atmospheric oxygenation (NASA Exobiology; $486,725; Co-I, PI Noah Planavsky; 2016/04/01–2019/03/31)

3. Alternative Earths: Explaining persistent inhabitation on a dynamic early Earth (NASA Astrobiology Institute CAN7; $8,000,000; Co-I, PI Timothy Lyons; 2015/01/01–2019/12/31)

TEACHING

Courses Taught (last 6 years)

Term	Course	Course Title	Enrollement	CIOS Course Evaluation Score
2018 Spring	EAS 8803	Mineral Surface Geochemistry	9	In progress
2017 Spring	EAS 8803	Earth and Planetary Materials	2	5.0 / 5.0
2016 Fall	EAS 4803	Mineral Surface Geochemistry	1	5.0 / 5.0
	EAS 8803		14	4.5 / 5.0
2015 Fall	EAS 4220	Environmental Geochemistry	7	4.6 / 5.0
	EAS 4221		7	5.0 / 5.0
	EAS 8803		3	4.5 / 5.0
2015 Spring	EAS 4803	Earth and Planetary Materials	3	5.0 / 5.0
	EAS 8803		8	5.0 / 5.0
2014 Fall	EAS 4801	Environmental Geochemistry	8	4.3 / 5.0
	EAS 4803		13	4.0 / 5.0
2014 Spring	EAS 8803	Mineral Surface Geochemistry	9	3.3 / 5.0
2013 Spring	EAS 4803	Earth and Planetary Materials	2	4.0 / 5.0
	EAS 8803		7	4.7 / 5.0

Individual Student Guidance

PhD Students

- Pan Liu (PhD, 2016 to present. Thesis title: Effects of microbial activities on the fate and transport of rare earth elements)
- Biao Wan (PhD, 2016 to present. Thesis title: Roles of exogenous polyphosphate in marine phosphorus mineralization)
- Shiliang Zhao (PhD, 2013–2018. Thesis title: Effects of impurities on the structure and reactivity of manganese oxides)
- Emily M. Saad (PhD, 2013–2017. Thesis title: Impact of biogeochemical processes on mineral weathering and transformation)

M.S. Students

- Benjamin P. Fields (MS, EAS, starting 2018 Fall)
- Weishi Wang (MS, CEE, 2017 to present)
- Ashley Brady (MS, co-advised with Dr. Chris Reinhard, 2015–2017. Thesis title: Calibrating the

Cr isotope system as a paleoproxy)

Undergraduate Students

- Benjamin P. Fields (Georgia Tech, 2014 summer to present)
- Anna Bass (Georgia Tech, 2016 Fall)
- Bei Zhang (Georgia Tech, 2016 Spring to 2016 Fall)
- Yaneira Gonzales Valle (University of Puerto Rico at Mayaguez, 2016 summer SENIC REU)
- Tania Lee Class-Martinez (University of Puerto Rico at Mayaguez, 2016 summer SURE REU)
- Kanaha Shoji (Georgia Tech, 2015 Fall to 2016 Summer)
- Olivia Bailey (Georgia Tech, 2015 Spring to 2015 Fall)
- Nedria Thomas (University of North Carolina Chapel Hill, 2015 Summer ACE-REU)
- Margot Hultz (Johns Hopkins University, 2015 Summer NNIN-REU)

PhD dissertation/defense committee

- Eryn Eitel, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (expected 2018)
- Xiaoxu Sun, advisor Joel Kostca, School of Biology (2018)
- Keaton Belli, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (2018)
- Mehdi Rashidi, advisor Kim Kurtis, School of Civil and Environmental Engineering (2017)
- Jay Renew, advisor Ching-Hua Huang, School of Civil and Environmental Engineering (2017)
- Amelia Longo, advisor Ellery Ingall, School of Earth and Atmospheric Sciences (2016)
- Ramanan Sekar, advisor Thomas DiChristina, School of Biology (2016)
- Peizhe Sun, advisor Ching-Hua Huang, School of Civil and Environmental Engineering (2014)

PhD proposal/comprehensive exam committee

- Nan Xie, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (2018)
- Angela Dapremont, advisor James Wray, School of Earth and Atmospheric Sciences (2018)
- Alexander Sessa, advisor James Wray, School of Earth and Atmospheric Sciences (2017)
- Mehdi Rashidi, advisor Kim Kurtis, School of Civil and Environmental Engineering (2016)
- Jay Renew, advisor Ching-Hua Huang, School of Civil and Environmental Engineering (2016)
- Gabriel Eggers, advisor James Wray, School of Earth and Atmospheric Sciences (2016)
- Amanda Cavazos, advisor Jen Glass, School of Earth and Atmospheric Sciences (2016)
- Xiaosu Sun, advisor Joel Kostca, School of Earth and Atmospheric Sciences (2014, 2015)
- Amelia Longo, advisor Ellery Ingall, School of Earth and Atmospheric Sciences (2015)
- Shannon Owings, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (2015)
- Nicole Kiriazis, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (2014)
- Eryn Eitel, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (2014)

Master thesis committee

- Josh Stanford, advisor Chris Reinhard, School of Earth and Atmospheric Sciences (2017)
- Alexander Sessa, advisor James Wray, School of Earth and Atmospheric Sciences (2016)
- Nicole Kiriazis, advisor Martial Taillefert, School of Earth and Atmospheric Sciences (2015)
- Luke Chambers, advisor Ellery Ingall, School of Earth and Atmospheric Sciences (2015)
- Xiaoxu Sun, advisor Joel Kostka, School of Biology (2014)

Mentorship of Postdoctoral Fellows and Visiting Scholars

- Haesung Jung (Postdoc, 2018/01 to present)
- Nadia Szeinbaum (Postdoc, 2017/11 to present)
- Rixiang Huang (Postdoc 2014/05–2015/05; Research Scientist 2015/05 to present)
- Ci Fang (visiting PhD student, China Agriculture University; 2016/11–2017/11)

- Chenning Li (visiting undergraduate student, Tsinghua University; 2017/07–09)
- Sahib Zada (visiting PhD student, Quaid-i-azam University, Pakistan; 2015/01 to 2016/01)

PROFESSIONAL SERVICES

Conference organization

2016/05	Organization committee, Clay Minerals Society (CMS) Annual Meeting, Atlanta, GA
2015/03	Faculty steering committee, Southeastern Biogeochemistry Symposium, Atlanta, GA
2014/03	Faculty steering committee, Southeastern Biogeochemistry Symposium, Atlanta, GA

Conference session chair

2018/06	Invited session chair, Abiotic redox processes related to clays and clay minerals, Clay Mineral Society (CMS) Annual Meeting, Champaign, IL
2016/03	Invited session presider, Symposium of Metal Sorption on Geomedia III, American Chemical Society (ACS) Spring Meeting, San Diego, CA
2015/12	Session chair, Soil organic matter: Mechanisms of stabilization and change, American Geophysical Union (AGU) Annual Meeting, San Francisco, CA
2015/11	Session chair, Mechanistic Insights into the Biogeochemical Processes Controlling Phosphorus Transport and Cycling, Geological Society of America (GSA) Annual Meeting, Baltimore, MD
2013/03	Invited session chair, Redox processes at mineral-water interfaces and their impacts on metal biogeochemical cycling and contaminant remediation, 2013 Spring American Chemical Society (ACS) Meeting, New Orleans

Member of professional affiliations

American Chemical Society (ACS); American Geophysical Union (AGU); Association of Environmental Engineering & Science Professors (AEESP); Clay Minerals Society (CMS); Geological Society of America (GSA); International Association of Geochemistry (IAGC); Mineralogical Society of America (MSA), European Association of Geochemistry (EAG) P

Invited reviewer for journals

ACS Sustainable Chemistry & Engineering, Applied Geochemistry, Canadian Journal of Soil Sciences, Chemical Geology, Journal of Environmental Radioactivity, Environmental Research, Environmental Science & Technology, FEMS Microbiology Letters, Geobiology, Geochemical Transactions, Geochimica et Cosmochimica Acta, PLOS ONE, Journal of Environmental Quality, Journal of Environmental Sciences, Journal of Hazardous Materials, Journal of Material Science, Scientific Reports, Separation Science and Technology, Spectroscopy Letters, Water Research

Invited reviewer for funding agency

- NSF Low Temperature Geochemistry and Geobiology Program (2013 to present)
- NSF INFEWS US-China Program (2018)
- NSF Graduate Research Fellowship Program (2017)
- American Chemical Society Petroleum Research Fund (2015, 2017)
- NASA Postdoc Fellowship Program (2016, 2017)
- New Jersey Water Resources Research Institute (2014)
- University of Wisconsin-Milwaukee Research Foundation Catalyst Grant Program (2016, 2017)
- University of Wisconsin-Milwaukee Research Growth Initiative (2016, 2017)

Invited user grant reviewer for DOE sponsored user facility

- Stanford Synchrotron Radiation Lightsource (2014 to present)