

YU YANG, Ph.D.

Assistant Professor

Department of Civil and Environmental Engineering
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Education

Ph.D. Environmental Science and Engineering	2004-2010
Peking University, China Dissertation: Bioavailability of natural organic matter-associated hydrophobic organic compounds	
B.S. Environmental Sciences	2000-2004
Peking University, China	

Professional Experience

Adjunct Faculty Member	03/2015-
Graduate Program of Environmental Science and Health, University of Nevada, Reno	
Adjunct Faculty Member	03/2014-
Graduate Program of Hydrologic Sciences, University of Nevada, Reno	
Assistant Professor	09/2013-
Department of Civil and Environmental Engineering, University of Nevada, Reno	
Postdoctoral Associate	07/2012-09/2013
Department of Chemical and Environmental Engineering, Yale University Advisor: <i>William A. Mitch</i>	
Postdoctoral Associate-Collaborative Project	2010-2012
School of Forestry and Environmental Studies, Yale University Advisor: <i>James E. Saiers</i>	
Department of Civil Engineering and Geological Sciences, University of Notre Dame Advisor: <i>Thomas E. Albrecht-Schmitt</i>	
Visiting Researcher	04/2011
Advanced Light Source, Lawrence Berkeley National Laboratory Collaborator: <i>David K. Shuh</i>	
Ph.D. Researcher	2004-2010
College of Urban and Environmental Sciences, Peking University Advisor: <i>Shu Tao, Xilong Wang</i>	
Junior Specialist	2007-2008
Department of Environmental Sciences, University of California, at Riverside Advisor: <i>Jay Gan</i>	
Research Associate	06/2006-11/2006
Croucher Institute for Environmental Sciences, Hong Kong Baptist University Collaborator: <i>Minghung Wong</i>	
Chun-Tsung Scholar	2002-2004
College of Urban and Environmental Sciences, Peking University Advisor: <i>Shu Tao, Fuliu Xu</i>	

Awards and Honors

- Listed in *Who's Who in America* 2015
- Travel Award from *Association of Environmental Engineering and Science Professors* 2015
- Travel Award from University of Nevada 2015
- Peking University Graduate Student Travel Grant 2009
- American Chemical Society Graduate Student Travel Award 2008
- China Scholarship Council High-Level University Scholarship 2007
- Award of Chun-Tsung Scholarship 2003
- Hong Kong Scholarship 2002

Advisee Award/Honor

Qian Zhao: American Chemical Society Geochemistry Division Student Travel Award	2017
Dawit Wordofa: UNR College of Engineering Differential Fee Fellowship	2016
Riley Murnane: Nevada Water Environment Association Annual Meeting Second Best Poster Award	2016
Kamol Das: Nevada Water Environment Association Annual Meeting Third Best Poster Award	2016
Qian Zhao: U.S. DOE-ESS PI Meeting Student Travel Fellowship	2016
Dinesh Adhikari: American Chemical Society Geochemistry Division Student Travel Award	2016
Kanaha Shoji: NSF EPSCoR Undergraduate Summer Research Scholarship	2015
Lin Wang: American Geophysical Union Fall Conference Student Travel Award	2015
Qian Zhao: Eastern Sierra Chapter Air & Waste Management Association Annual Scholarship	2015
Qian Zhao: UNR College of Engineering Differential Fee Fellowship	2014

Research Grants

USDA 04/2017-03/2020 Addressing Human Health Impacts from Emerging Contaminants in Reclaimed Water to Enhance its Use for Urban and Peri-Urban Agriculture. \$500,000. Krishna Pagilla (U. Nevada Reno) (PI), Loretta Singletary (U. Nevada Reno) (Co-PI), Paul Verburg (U. Nevada Reno) (Co-PI), Yu Yang (Co-PI), David Hanigan (U. Nevada Reno) (Co-PI).

DOE 08/2015-07/2018 Systematic Investigation on the Biogeochemical Stability of Iron-Oxide Bound Organic Carbon: Linking Redox Cycles and Carbon Persistence. \$650,000. Yu Yang (PI), Roden EE (U. Wisconsin Madison) (Co-PI), Obrist D (Desert Research Institute) (Co-PI), Gu BH (Oak Ridge National Lab) (Co-PI), Kersting AB (Lawrence Livermore National Lab) (Co-PI).

USDA-AFRI 01/2015-01/2017 Aromatic Carbon-Degrading Microorganism-Mediated Uptake of Carbon Nanotubes by Tomato Plants. \$150,000. Yu Yang (PI). Unfunded collaborator: Xing B.S. (U. Mass Amherst); Ling H.F. (U. Nevada Reno)

Truckee Meadows Water Reclamation Facility 04/2016-04/2017 Dissolved Organic Nitrogen Treatment Study: Feasibility Study of Ozone Treatment. \$32,502. Eric Marchand (U. Nevada Reno) (PI), Yu Yang (Co-PI).

Truckee Meadows Water Reclamation Facility 07/2015-07/2016 Dissolved Organic Nitrogen Treatment Study: Feasibility Study of Granular Activated. \$44,357. Eric Marchand (U. Nevada Reno) (PI), Yu Yang (Co-PI).

Enbio USA 01/2016-01/2017 Toxicity, bioaccumulation and toxicity of hydraulic fluid compound. \$39,000. Yu Yang (PI).

UNR-International Activity Grant 2015 Collaborative Visit to Swiss Federal Institute of Technology in Zurich, \$3,000. Yu Yang (PI).

International Collaboration

National Natural Science Foundation (China) 01/2017-01/2020 Coupled processes of organic carbon and pollutants in high-plateau regions. \$500,000. Bo Pan (Kunming University of Science and Technology) (PI), Yu Yang (Co-PI).

National/International Facility User Time

Stanford Synchrotron Radiation Lightsource Formation and dynamics of Fe-Ca-Organic Carbon Complexes. 2016. Donald Sparks (U. Delaware), Yu Yang.

Environmental Molecular Science Laboratory-Pacific Northwest National Lab FT-ICR-MS analysis of Fe-bound organic carbon. 2016. Yu Yang.

Canadian Light Source NEXAFS and STXM-NEXAFS. 2016. Jacqueline Mejia (U. Wisconsin-Madison), Yu Yang, Matthew Ginder-Vogel (U. Wisconsin-Madison), Eric Roden (U. Wisconsin-Madison).

Advanced Photon Source - Argonne National Laboratory Responses of Fe Oxide-Organic Carbon Complexes to the Redox Reactions. 2016. Yuanzhi Tang (Georgia Tech), Yu Yang.

Publications

Journal Issue Edited:

1. Yang Y, Fein JB. Chemical Geology Special Volume-Sorption of Metals on Geomedia III 2017.

Book Edited:

1. Yang Y, Keiluweit M, Senesi N, Xing BS. Multi-scale Biogeochemical Processes in Soil Ecosystems: Critical Reactions and Resilience to Climate Changes. IUPAC-Wiley Book Series. In process.

Non-Peer-Reviewed Publication

1. Yang Y, Fein JB. Introduction for the Chemical Geology Special Volume: Importance and Implication of Metal Sorption. Chemical Geology, 2017, In process.

Peer-Reviewed Publication ([#]student/postdoc advised, *corresponding author):

44 Published, 8 in process, Total citations (web of science): 787, H Index: 18

In Process:

1. Worfofa DN[#], Dunham-Cheatham S[#], Adhikari D[#], Zhao Q[#], Poulson S, Tang YZ, Yang Y*. Biogeochemical fate and stability of ferrihydrite-model organic matter complexes. *In preparation*.
2. Das K[#], You YQ[#], Torres M, Barrios-Masias, Xing BS, Yang Y*. Detection of uptake of pristine and carboxyl functionalized multi-walled carbon nanotube by lettuce. *In preparation*.
3. Zhao Q[#], Adhikari D[#], Patel A, Obrist D, Roden E, Yang Y*. Fate and transformation of iron and organic carbon during re-oxidation of reduced soils. *In preparation*.
4. You YQ^{#*}, Das K[#], Xing BS, Yang Y*. Critical genes for the microbial degradation of carbon nanotube. *In preparation*.
5. Zhang HY, Chen WX, Shen XF, Yang Y, White JC, Lead J, Tao S, Wang XL*. Influence of multiwalled carbon nanotubes and fullerene on bioaccumulation and elimination kinetics of phenanthrene by geophagous earthworms (*Metaphire guillelmi*). *In review*.
6. Wang L, Li H, Yang Y, Zhang D, Wu M, Pan B*, Xing BS. Identifying Structural Contribution in Humic Acid to Static and Dynamic Fluorescence Quenching of Phenanthrene, 9-Phenanthrol, and Naphthalene. *In review*.
7. Wang L[#], Xu SN[#], Pan B, Yang Y*. Organic matter-catalyzed degradation of triclosan: Dual role of electron shuttle and bioavailability. *In revision*.

8. Adhikari D[#], Poulson S, Mejia J, Roden E, **Yang Y***. Microbial reductive release of Fe-bound organic carbon. *In revision*.

Published

9. You YQ^{#*}, Das K[#], Guo HY, Chang CW, Navas-Moreno M, Chan JW, Verburg P, Poulson SR, Wang XL, Xing BS, **Yang Y***. Microbial Transformation of Multi-walled Carbon Nanotubes by Mycobacterium vanbaalenii PYR-1. 2017. *Environmental Science & Technology*. *In press*.
10. Zhao Q[#], Adhikari D[#], Huang RX, Patel A[#], Wang XL, Tang YZ, Obrist D, Roden E, **Yang Y***. 2016. Coupled dynamics of iron and iron-bound organic carbon in forest soils during anaerobic reduction. *Chemical Geology*. *In press*.
11. Zhang HY, Liu Y, Shen X, Zhang M, **Yang Y**, Tao S, Wang XL*. 2016. Influence of multiwalled carbon nanotubes and sodium dodecyl benzene sulfonate on bioaccumulation and translocation of pyrene and 1-methylpyrene in maize (*Zea mays*) seedlings. *Environmental Pollution*. *In press*
12. Adhikari D[#], Poulson S, Sumaila S, Dynes JJ, McBeth JM, **Yang Y***. 2016. Reductive dissolution kinetics of iron and carbon from hematite-humic substances complexes. *Chemical Geology*. 430:13-20.
13. Xu SN[#], Adhikari D[#], Huang RX, Zhang H[#], Tang YZ, Roden E, **Yang Y***. 2016. Biochar-mediated iron reduction. *Environmental Science & Technology*. 50: 2389-2395.
14. Zhao Q[#], Poulson S, Obrist D, Sumaila S, Dynes JJ, McBeth JM, **Yang Y***. 2016. Iron oxide stabilized aliphatic organic carbon in forest soils: Quantification and characterization. *Biogeosciences*. 13: 4777-4788.
15. Gu HP, Lou J, Wang HZ*, **Yang Y**, Wu LS, Wu JJ, Xu JM. 2016. Biodegradation, biosorption of phenanthrene and its trans-membrane transport by *Massilia* sp. WF1 and *Phanerochaete chrysosporium*. *Frontiers in Microbiology*. 7. Article 38.
16. Zhang M, Shu L, Guo X, Shen X, Zhang H, Liu Y, Cai F, Chen W, Gao Q, Shen G, Wang B, **Yang Y**, Tao S, Wang XL*. 2015. Impact of Humic Acid Coating on Sorption of Naphthalene by Biochars. *Carbon*. 94: 946-954.
17. Adhikari D[#], **Yang Y***. 2015. Selective stabilization of aliphatic organic matter by iron oxide. *Scientific Reports*. 5. Article Number: 11214.
18. **Yang Y**, Li YQ, Walse S, Mitch WA*. 2015. Degradation of Methyl Bromide by Reaction with Thiosulfate and Electrolysis. *Environmental Science & Technology*. 49: 4515-4521.
19. Wang L, Liang N, Li H, **Yang Y**, Zhang D, Liao S, Pan B*. 2015. Quantifying the dynamic fluorescence quenching of phenanthrene and ofloxacin by dissolved humic acids. *Environmental Pollution*, 196: 379-385.
20. **Yang Y***, Wang S, Albrecht-Schmitt TE. 2014. Bioavailability of crystalline-phase uranium to the microbial reduction by *Shewanella oneidensis* MR-1. *Chemical Geology*, 387: 59-65.
21. **Yang Y***, Saiers JE, Barnett MO. 2013. Impact of interactions between colloidal humic acid and metal oxides on the sorption-desorption kinetics of uranium. *Environmental Science & Technology* 47:2661-2669.
22. **Yang Y**, Wang S, Polinski MJ, Liu Y, Barnett MO, Albrecht-Schmitt TE*. 2013. Dissolution of uranyl and plutonyl borates: Influences of crystalline structures and aqueous ligands. *Chemical Geology* 357: 67-74.
23. **Yang Y**, Shu L, Wang XL*, Xing BS, Tao S. 2012. Mechanisms regulating bioavailability of phenanthrene sorbed on humic substances extracted from a peat soil. *Environmental Toxicology & Chemistry* 31: 1431-1437.
24. **Yang Y***, Saiers JE, Xu N, Minasian SG, Kozimor SA, Tylliszczak T, Shuh DK, Barnett MO. 2012. Impact of natural organic matter on uranium transport through saturated geologic materials: From molecular to column scale. *Environmental Science & Technology* 46: 5931-5938.
25. **Yang Y**, Shu L, Wang XL, Xing BS, Tao S*. 2011. Impact of de-ashing humic acid and humin on organic matter structural properties and sorption mechanisms of phenanthrene. *Environmental Science & Technology* 45: 3996-4002.
26. **Yang Y**, Zhang N, Xue M, Lu ST, Tao S*. 2011. Effects of soil organic matter on the development of the microbial polycyclic aromatic hydrocarbons (PAHs) degradation potentials. *Environmental Pollution* 159: 591-595.
27. Zhang N, **Yang Y**, Tao S*, Liu Y, Shi KL. 2011. Sequestration of organochlorine pesticides in soils of distinct organic carbon content. *Environmental Pollution* 159: 700-705.
28. Cui XY, Hunter W, **Yang Y**, Chen YX, Gan J*. 2011. Biodegradation of pyrene in sand, silt and clay fractions of sediment. *Biodegradation* 22: 297-307.

29. Wang XL*, Guo XY, Yang Y, Tao S, Xing BS. 2011. Sorption mechanisms of phenanthrene, lindane, and atrazine with various humic acid fractions from a single soil sample. *Environmental Science & Technology* 45: 2124-2130.
30. Wang B, Xue M, Lv Y, Yang Y, Zhong JJ, Su YH, Wang R, Shen GF, Wang XL, Tao S*. 2011. Cell absorption induced desorption of hydrophobic organic contaminants from digested soil residue. *Chemosphere* 83: 1461-1466.
31. Yang Y, Shu L, Wang XL, Xing BS, Tao S*. 2010. Effects of composition and domain arrangement of biopolymer components of soil organic matter on the bioavailability of phenanthrene. *Environmental Science & Technology* 44: 3339-3344.
32. Yang Y, Zhang N, Xue M, Tao S*. 2010. Impact of soil organic matter on the fractionation of polycyclic aromatic hydrocarbons (PAHs) in soils. *Environmental Pollution* 158: 2170-2174.
33. Yang Y, Tao S*, Zhang N, Zhang DY, Li XQ. 2010. The effect of soil organic matter on fate of polycyclic aromatic hydrocarbons in soil: a microcosm study. *Environmental Pollution* 158: 1768-1774.
34. Cui XY, Hunter W, Yang Y, Chen YX, Gan J*. 2010. Bioavailability of sorbed phenanthrene and permethrin in sediments to *chironomus tentans*. *Aquatic Toxicology* 98: 83-90.
35. Wang R, Tao S*, Wang B, Yang Y, Lang C, Zhang YX, Hu J, Ma JM, Hung H. 2010. Sources and pathways of polycyclic aromatic hydrocarbons transported to Alert, the Canadian high Arctic. *Environmental Science & Technology* 44: 1017-1022.
36. Tao S*, Zhang DY, Lv Y, Li L, Ding JN, Yang Y, Yang YF, Wang XL, Liu WX, Xing BS. 2010. Mobility of polycyclic aromatic hydrocarbons in the gastrointestinal tract assessed using an in vitro digestion model with sorption rectification. *Environmental Science & Technology* 44: 5608-5612.
37. Yang Y, Hunter W, Tao S, Gan J*. 2009. Effect of activated carbon on microbial bioavailability of phenanthrene in soils. *Environmental Toxicology & Chemistry* 28: 2283-2288.
38. Yang Y, Hunter W, Tao S, Gan J*. 2009. Microbial availability of different forms of phenanthrene in soils. *Environmental Science & Technology* 43: 1852-1857.
39. Yang Y, Hunter W, Tao S, Gan J*. 2009. Effects of black carbon on pyrethroid availability in sediment. *Journal of Agricultural & Food Chemistry* 57: 232-238.
40. Hunter W, Yang Y, Reichenberg F, Mayer P, Gan J*. 2009. Measuring pyrethroids in sediment pore water using matrix-solid phase microextraction. *Environmental Toxicology & Chemistry* 28: 36-43.
41. Zhang N, Yang Y, Liu Y, Tao S*. 2009. Determination of octanol-air partition coefficients and supercooled liquid vapor pressures of organochlorine pesticides. *Journal of Environmental Science & Health, Part B* 44: 649-656.
42. Tao S*, Lu Y, Zhang DY, Yang YF, Yang Y, Lu XX, Sai DJ. 2009. Assessment of oral bioaccessibility of organochlorine pesticides in soil using an in vitro gastrointestinal model. *Environmental Science & Technology* 43: 4254-4259.
43. Yang Y, Hunter W, Tao S, Gan J*. 2008. Relationships between desorption intervals and availability of sediment-associated hydrophobic contaminants. *Environmental Science & Technology* 42: 8446-8451.
44. Xing GH, Yang Y, Chan JKY, Tao S, Wong MH*. 2008. Bioaccessibility of polychlorinated biphenyls in different foods using an in vitro digestion method. *Environmental Pollution* 156: 1218-1226.
45. Tao S*, Liu WX, Li Y, Yang Y, Zuo Q, Li BG, Cao J. 2008. Organochlorine pesticides contaminated surface soil as reemission sources in the Haihe Plain, China. *Environmental Science & Technology* 42: 8395-8440.
46. Zuo Q, Duan YH, Yang Y, Wang XJ, Tao S. 2007. Source apportionment of polycyclic aromatic hydrocarbons in surface soil in Tianjin, China. *Environmental Pollution* 147: 303-310.
47. Liu YN, Tao S, Yang YF, Dou H, Yang Y, Coveney RM. 2007. Inhalation exposure of traffic police officers to polycyclic aromatic hydrocarbons during the winter in Beijing, China. *Science of the Total Environment* 383: 95-105.
48. Yang Y, Shi X, Wong PK, Dawson R, Xu FL, Liu WX, Tao S*. 2006. An approach to assess ecological risk for polycyclic aromatic hydrocarbons (PAHs) in surface water from Tianjin. *Journal of Environmental Science & Health, Part A* 41: 1463-1482.
49. Tao S*, Yang Y, Cao HY, Liu WX, Coveney RM, Xu FL, Cao J, Li BG, Wang XJ, Hu JY, Fang JY. 2006. Modeling the dynamic changes in concentrations of gamma-hexachlorocyclohexane (gamma-HCH) in Tianjin region from 1953 to 2020. *Environmental Pollution* 139: 183-193.

50. Tao S*, Li XR, **Yang Y**, Coveney RM, Lu XX, Chen HT, Shen WR. 2006. Dispersion modeling of polycyclic aromatic hydrocarbons from combustion of biomass and fossil fuels and production of coke in Tianjin, China. *Environmental Science & Technology* 40: 4586-4591.
51. **Yang Y**, Tao S*, Wong PK, Hu JY, Guo M, Cao HY, Coveney RM, Zuo Q, Li BG, Liu W, Cao J, Xu FL. 2005. Human exposure and health risk of alpha-, beta-, gamma- and delta-hexachlorocyclohexane (HCHs) in Tianjin, China. *Chemosphere* 60: 753-761.
52. Zhang XL, Tao S*, Liu WX, **Yang Y**, Zuo Q, Liu SZ. 2005. Source diagnostics of polycyclic aromatic hydrocarbons based on species ratios: A multimedia approach. *Environmental Science & Technology* 39: 9109-9114.

Presentations

Invited Talk

- Yang Y.** 04/2017 Linking Fe redox reactions with carbon biogeochemical stability. American Chemical Society 2017 Spring Meeting, San Francisco, USA
- Yang Y.** 10/2016 Molecular biogeochemistry for critical environmental issues: Climate change, nano-material pollution and antibiotic resistance. Clemson University, USA
- Yang Y.** 08/2016 Molecular biogeochemistry for critical environmental issues: Climate change, nano-material pollution and antibiotic resistance. Oak Ridge National Lab, USA
- Yang Y.** 07/2016 Molecular biogeochemistry for critical environmental issues: Climate change, nano-material pollution and antibiotic resistance. Washington University in St. Louis, USA
- Yang Y.** 05/2016 Molecular biogeochemistry for critical environmental issues: Climate change, nano-material pollution and antibiotic resistance. University of Delaware, USA
- Yang Y.** 04/2016 Coupled biogeochemical cycles of iron and organic carbon during redox reactions. Department of Energy-Environmental System Science 2016 PI Meeting, Potomac, USA
- Yang Y.** 04/2016 Molecular-level fight for global environmental issues: Climate change, antibiotic resistance and nanomaterial pollution. College of Engineering, University of Nevada, Reno, USA
- Yang Y.** 10/2015 Molecular biogeochemistry of natural organic matter: For cycling of pollutants and carbon. USGS, Carson City, NV, USA
- Yang Y.** 06/2015 Molecular biogeochemistry of natural organic matter: For cycling of pollutants and carbon. University of California, Davis, USA
- Yang Y.** 05/2015 Molecular biogeochemistry of natural organic matter: For cycling of pollutants and carbon. University of Tübingen, Tübingen, Germany
- Yang Y.** 05/2015 Molecular biogeochemistry of natural organic matter: For cycling of pollutants and carbon. University of Zurich, Zurich, Switzerland
- Yang Y.** 05/2015 Coupling redox chemistry and carbon stabilization. *ETH*, Zurich, Switzerland
- Yang Y.** 05/2015 Molecular biogeochemistry of natural organic matter: For cycling of pollutants and carbon. *Department of Natural Resources and Environmental Sciences*, UNR, Reno, NV, USA
- Yang Y.** 10/2014 Molecular biogeochemistry of natural organic matter. *University of Georgia*, Athens, GA, USA
- Yang Y.** 07/2014 Novel insights into the linked cycles of natural organic matter and critical pollutants. *Natural Organic Forum*, Beijing, China
- Yang Y.** 07/2014 Novel insights into the linked cycles of natural organic matter and critical pollutants. *Kunming University of Science & Technology*, Kunming, China
- Yang Y.** 07/2014 Novel insights into the linked cycles of natural organic matter and critical pollutants. *Nanjing Institute of Geology and Palaeontology*, Chinese Academy of Sciences, Nanjing, China
- Yang Y.** 07/2014 Organic matter-mediated dissolution, reduction and transport of actinides. *Soochow University*, Suzhou, China
- Yang Y.** 05/2014 Molecular Biogeochemistry of Natural Organic Matter (NOM)-A New Chapter in a Never-Ending Story? Davidson Academy of Science, Reno, NV, USA

- Yang Y.** 03/2013 New Insights into organic matter-mediated fate of critical pollutants: Important for protecting water resources under global climate change. Department of Civil and Environmental Engineering, *University of Nevada*, Reno, NV, USA
- Yang Y.** 02/2013 Heterogeneous organic matter mediated fate of critical pollutants: Reactions and transport. Glenn T. Seaborg Institute, *Lawrence Livermore National Laboratory*, Livermore CA, USA.
- Yang Y.** 06/2012 Coupling microscale processes with macroscale migration for actinides: From dissolution and reduction of crystals to column transport. *Gordon Research Seminar Environmental Sciences: Water*. Holderness, NH, USA.
- Yang Y.** 05/2012 Coupling microscale processes with macroscale migration for actinides: From dissolution and reduction of crystals to column transport. *Department of Energy-Subsurface Biogeochemical Research (SBR) Contractor-Grantee Workshop*. Washington D.C., USA.

Oral (# student/postdoc advised)

- Mejia J, **Yang Y.**, Roden E, Ginder-Vogel Matthew. 2017. Geochemical and genomic analysis of coupled redox transformation of humic substances and iron oxides. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Dunham-Cheatham S.[#], Zhao Q[#], Obrist D, **Yang Y.** 2017. Biogeochemical controls on the stability of iron-bound soil organic carbon. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- You YQ[#], Das K[#], Guo HY, Chang CW, Navas-Moreno M, Chan JW, Verburg P, Poulson SR, Wang XL, Xing BS, **Yang Y.** 2017. Microbial Transformation of Multi-walled Carbon Nanotubes by *Mycobacterium vanbaalenii* PYR-1. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Adhikari D[#], Zhao Q[#], Das K[#], Mejia J, Huang RX, Wang XL, Poulson SR, Tang YZ, Roden EE, **Yang Y.** 2017. Dynamics of ferrihydrite-bound organic carbon during microbial reduction. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Adhikari D[#], Zhao Q[#], Das K[#], Xu SN[#], Mejia J, Huang RX, Wang XL, Poulson SR, Tang YZ, Obrist D, Roden EE, **Yang Y.** 2017. Linking Carbon Stability to Iron Redox Reactions. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Zhao Q[#], Adhikari D[#], Mejia J, Huang RX, Patel A[#], Wang XL, Tang YZ, Obrist D, Roden EE, **Yang Y.** 2017. Coupled Dynamics of Iron and Iron-bound Organic Carbon in Forest Soils during Anaerobic Reduction. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Das K[#], You YQ[#], Torres M, Barrios-Masias F, Xing BS, **Yang Y.** 2017. Development and Application of a Method for Detection of Pristine and Carboxyl Functionalized Multi-walled Carbon Nanotube in Lettuce. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Wordofa D[#], **Yang Y.** 2017. Biogeochemical Fate and Stability of Ferrihydrite-Model Organic Matter Complexes. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Wang L[#], Xu SN[#], Pan B, **Yang Y.** 2016. Dual role of organic matter as electron shuttle and sequestrator governs the persistence of triclosan. Soil Science Society of America Annual Meeting, Phoenix, AZ, USA
- Adhikari D[#], Zhao Q[#], Das K[#], Mejia J, Huang RX, Wang XL, Poulson S, Tang YZ, Roden EE, **Yang Y.** 2016. Dynamics in ferrihydrite-bound organic carbon during microbial reduction. Soil Science Society of America Annual Meeting. Phoenix, AZ, USA
- You YQ[#], Das K[#], Wang L[#], Poulson S, Xing BS, **Yang Y.** 2016. Microbial Degradation of Multiwalled Carbon Nanotube by *Mycobacterium vanbaalenii* PYR-1. Soil Science Society of America Annual Meeting. Phoenix, AZ, USA
- Zhao Q[#], Adhikari D[#], Mejia J, Huang RX, Patel A[#], Wang XL, Tang YZ, Obrist D, Roden EE, **Yang Y.** 2016. Coupled Dynamics of Iron and Iron-bound Organic Carbon in Forest Soils during Anaerobic Reduction. Soil Science Society of America Annual Meeting. Phoenix, AZ, USA
- Yang Y.** 2016 Molecular biogeochemistry for critical environmental issues: Climate change, nano-material pollution and antibiotic resistance. University of Nevada, Reno, USA.
- Zhao Q[#]. 2016. Importance of Fe and soil physicochemical properties in stabilization of organic carbon. Eastern Sierra Chapter Air & Waste Management Association Annual Scholarship Meeting, Reno, NV, USA

- Zhao Q[#], Obrist D, Poulson SR, Yang Y. 2016. Stability of Fe-bound organic carbon in forest soils across the United States. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- You YQ[#], Wang L[#], Wang XL, Poulson SR, Xing BS, Yang Y. 2016. Aromatic carbon-degrading microorganism-mediated uptake of carbon nanotubes by tomato plants. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Adhikari D[#], Poulson SR, Sumaila S, Dynes JJ, McBeth JM, Yang Y. 2016. Mobilization of carbon in the abiotic and biotic reduction of ferrihydrite-organic matter complexes. *American Chemical Society Annual Meeting*. San Diego, CA, USA.
- Adhikari D[#], Poulson SR, Yang Y. 2015. Mobilization of carbon in the abiotic reduction of ferrihydrite-organic matter complexes. *12th Annual Student World Water Forum*. Reno, NV, USA.
- Zhao Q[#], Obrist D, Poulson SR, Yang Y. 2015. Stability of Fe-bound organic carbon in forest soils across the United States. *12th Annual Student World Water Forum*. Reno, NV, USA.
- Yang Y. 2014. Novel insights into the linked cycles of natural organic matter and critical pollutants. *2014 International Symposium on Environment and Health: Environmental Chemistry*. Beijing, China.
- Yang Y. 2013. Colloid organic matter-mediated fate of uranium: sorption, desorption and transport. *Geological Society of America 2013 annual meeting*. Denver, Colorado, USA.
- Mitch WA, Yang Y, Xu WQ. 2012. Improving methyl bromide destruction technologies. *Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions*. Orlando, Florida, USA.
- Wang XL, Yang Y, Tao S, Xing BS. 2011. Impact of chemical composition of biopolymers and spatial distribution of sorption domains on the sorption of hydrophobic organic contaminants. *The Sixth National Conference on Environmental Chemistry*. Beijing, China.
- Yang Y, Shu L, Wang XL, Xing BS, Tao S. 2010. Impact of organic matter-mineral interaction on sorption and bioavailability of phenanthrene. *The International Workshop of Sediment Pollution Assessment & Remediation in Multiple Countries*. Newcastle University, UK.
- Yang Y, Hunter W, Tao S, Gan J. 2008. Effects of black carbon on pyrethroids bioavailability in sediments. *Southern California Society of Environmental Toxicology & Chemistry Annual Meeting*. Dana Point, CA, USA.
- Yang Y, Zhang N, Tao S, Xue M, Lu ST, Hunter W, Gan J. 2008. Effects of organic matter on microbial polycyclic aromatic hydrocarbon degradation capacity in soil pore water. *American Chemical Society 237th National Meeting*. Philadelphia, PA, USA.
- Yang Y, Li XR, Zhang YX, Tao S. 2007. Spatial distribution of probabilistic health risk for Tianjin population exposure to PAHs. *The 12th International Conference of the Pacific Basin Consortium for Environment & Health Sciences*. Beijing, China.
- Tao S, Yang Y, Wong PK. Human exposure and health risks of HCHs in Tianjin, China. 2005. *2nd International Workshop on Strengthening Science-Based Decision Making to Reduce Risks from Persistent Organic Pollutants*. Beijing, China.

Poster (# student/postdoc advised)

- Howard D, Agnan Y, Harvey A, Yang Y, Obrist D. 2017. Investigating greenhouse gas fluxes from tundra soils during freeze and thaw cycles using GC-MS flux chambers. Toolik field scientist meeting, Fairbanks, AK, USA.
- Adhikari D[#], Sowers T, Stuckey J, Sparks DL, Yang Y. 2017. Formation and reactivity of ferrihydrite-soil organic carbon-calcium ternary complexes. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Sowers TD, Stuckey JW, Adhikari D[#], Yang Y, Sparks DL. 2017. Impact of Calcium on the Retention and Stability of OM in Fe-(Ca)-OM Adsorption Complexes. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- You YQ[#], Angermann JE, Xing BS, Cerniglia CE, Yang Y. 2017. Molecular Mechanisms underlying Mycobacterium vanbaalenii PYR-1-mediated Transformation of Carbon Nanotube. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Yang Y, Das K, Murnane R, Hou J, Edirveerasingam V. 2017. Toxicity and degradation of polyalkylene glycol. American Chemical Society Annual Meeting. San Francisco, CA, USA.
- Das K[#], You YQ[#], Torres M, Chang CW, Navas-Moreno M, Masias FB, Omaye S, Poulson SR, Verburg R, Wang XL,

- Chan JW, Xing BS, **Yang Y**. 2016. Microbial Degradation and Plant Uptake of Carbon Nanotubes. *UNR College of Engineering Distinguished Lecture*. Reno, NV, USA.
- Das K[#], You YQ[#], Torres M, Chang CW, Navas-Moreno M, Masias FB, Omaye S, Poulson SR, Verburg R, Wang XL, Chan JW, Xing BS, **Yang Y**. 2016. Microbial Degradation and Plant Uptake of Carbon Nanotubes. USDA-NIFA project director meeting. St. Louis, MO.
- Dinesh Adhikari[#], Qian Zhao[#], Shengnan Xu[#], Jacqueline Mejia, Rixiang Huang, Aman Patel, Samira Sumaila, Yannick Agnan, Christine Hedge, James J. Dynes, Joyce M. McBeth, Simon Poulson, Yuanzhi Tang, Annie B. Kersting, Baohua Gu, Daniel Obrist, Eric E. Roden, **Yu Yang**. 2016. Systematic Investigation of the Biogeochemical Stability of Iron Oxide-Bound Organic Carbon: Linking Redox Cycles and Carbon Persistence. DOE ESS-PI Meeting. Potomac, MD. USA.
- Qian Zhao[#], Dinesh Adhikari[#], Aman Patel[#], Jacqueline Mejia, Rixiang Huang, Samira Sumaila, James J. Dynes, Joyce M. McBeth, Simon Poulson¹, Yuanzhi Tang, Daniel Obrist, Eric E. Roden, **Yu Yang**. 2016. Biogeochemical Cycles of Iron-Bound Organic Carbon in Forest Soils. DOE ESS-PI Meeting. Potomac, MD. USA.
- Dinesh Adhikari[#], Qian Zhao[#], Kamol Das[#], Shengnan Xu[#], Hua Zhang, Rixiang Huang, Jacqueline Mejia, Samira Sumaila, James J. Dynes, Simon Poulson, Joyce M. McBeth, Yuanzhi Tang, Eric E. Roden, **Yu Yang**. 2016. Coupled Biogeochemical Fate of Iron and Organic Carbon. DOE ESS-PI Meeting. Potomac, MD. USA.
- Adhikari D[#], Poulson SR, Sumaila S, Dynes JJ, McBeth JM, **Yang Y**. 2016. Asynchronous reductive release of iron and organic carbon from hematite-humic acid complexes. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Zhao Q[#], Poulson SR, Obrist D, **Yang Y**. 2016. Importance of Iron in Stabilization of Organic Carbon with Emphasis on the Influences of Soil Physicochemical Properties. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- You YQ[#], Wang L[#], Wang XL, Poulson SR, Xing BS, **Yang Y**. 2016. Aromatic carbon-degrading microorganism-mediated uptake of carbon nanotubes by tomato plants. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Patel A[#], Zhao Q[#], **Yang Y**. 2016. Electron shuttling capacity of solid-phase organic matter in forest soils. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Wordofa D[#], **Yang Y**. 2016. Biogeochemical fate and stability of ferrihydrite-model organic matter complexes. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Das K[#], You YQ[#], **Yang Y**. 2016. The effect of surface chemistry of multi-walled carbon nanotube on its plant uptake. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Westermoreland R[#], **Yang Y**. 2016. Environmental impact of human-used antibiotics. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Murnane R[#], **Yang Y**. 2016. Polyalkylene glycol toxicity using duckweed. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.
- Adhikari D[#], Poulson SR, Sumaila S, Dynes JJ, McBeth JM, **Yang Y**. 2015. Asynchronous reductive release of iron and organic carbon from hematite-humic acid complexes. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.
- Zhao Q[#], Poulson SR, Obrist D, **Yang Y**. 2015. Importance of Iron in Stabilization of Organic Carbon with Emphasis on the Influences of Soil Physicochemical Properties. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.
- Xu SN[#], Adhikari D[#], Zhang H, Huang RX, Tang YZ, Roden E, **Yang Y**. 2015. Biochar-Facilitated Reduction of Crystalline Fe(III) in Hematite. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.
- You YQ[#], Wang L[#], Wang XL, Poulson SR, Xing BS, **Yang Y**. 2015. Aromatic carbon-degrading microorganism-mediated uptake of carbon nanotubes by tomato plants. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.
- Wang L[#], Xu SN[#], **Yang Y**. Humic substances-mediated microbial reductive dehalogenation of triclosan. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.
- Patel A[#], Zhao Q[#], **Yang Y**. 2015. Electron shuttling capacity of solid-phase organic matter in forest soils. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.
- Shoji K[#], Xu SN[#], Wang L[#], Patel A[#], **Yang Y**. 2015. Carbon nanotubes-mediated reduction of hematite by *Shewanella*

oneidensis MR-1. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.

Adhikari D[#], Zhao Q[#], **Yang Y**. 2015. Systematic investigation on the biogeochemical stability of iron-oxide bound organic carbon: Linking redox cycles and carbon persistence. *UNR College of Engineering Distinguished Lecture*. Reno, NV, USA.

Yang Y, You YQ[#], Wang L[#], Wang XL, Poulson SR, Xing BS. 2015. Aromatic carbon-degrading microorganism-mediated uptake of carbon nanotubes by tomato plants. USDA-NIFA project director meeting. Portland, OR, USA.

Shoji K[#], Xu SN[#], Wang L[#], Patel A[#], **Yang Y**. 2015. Carbon nanotube-mediated reduction of hematite by *Shewanella oneidensis* MR-1. University of Nevada Undergraduate Research Forum. Reno, NV, USA.

Yang Y, Adhikari D[#]. 2014. Molecular structure-driven sorption and stabilization of soil organic matter on hematite surface. The Sixth International Workshop on Soil and Sedimentary Organic Matter Stabilization and Destabilization (SOM6), Kiawah Island, SC, USA.

Adhikari D[#], **Yang Y**. 2014. Iron oxide-mediated sorptive fractionation of organic matter with implication on carbon stabilization. Goldschmidt Conference. Sacramento, CA, USA.

Adhikari D[#], **Yang Y**. 2014. Iron oxide-mediated sorptive fractionation of organic matter with implication on carbon stabilization. Nevada Water Environment Association Annual Meeting, Sparks, NV, USA.

Yang Y. 2012. Fate of uranium and transuranium actinides in groundwaters: Dissolution, interaction with colloids and transport. *Gordon Research Conference Environmental Sciences: Water*. Holderness, NH, USA.

Yang Y, Saiers JE, Xu N, Shuh DK, Tylliszczak T, Barnett MO. 2011. Impact of natural organic matter on uranium transport through saturated geologic materials: From molecular to column scale. *American Geophysical Union Fall Conference*. San Francisco, CA, USA.

Barnett M, Albrecht-Schmitt T, Saiers JE, Shuh D, **Yang Y**. 2011. Understanding and predicting the reactive transport of transuranic contaminants in porous media. *Department of Energy-Subsurface Biogeochemical Research (SBR) Contractor-Grantee Workshop*. Washington D.C., USA.

Yang Y, Shu L, Wang XL, Liu WX, Xing BS, Tao S. 2009. A molecular study on microbial availability of biopolymer-sorbed phenanthrene. *Gordon Research Conference: Applied and Environmental Microbiology*. South Hadley, MA, USA.

Yang Y, Hunter W, Tao S, Gan J. 2008. Effects of charcoal on pyrethroids bioavailability in sediments: Chemical and biological tests. *American Chemical Society 237th National Meeting*. Philadelphia, PA, USA.

Yang Y, Zhang YX, Zuo Q, Tao S. 2006. The impact of soil organic matter and water content on the biodegradation of PAHs. *Society of Environmental Toxicology & Chemistry Asia/Pacific Conference*. Beijing, China.

Other conference/workshop abstract

Gu, BH, Reckhow DA, Rosario-Ortiz FL, Sparks DL, Xing BS, **Yang Y**. 2015. Unambiguous Demonstration of the Critical Structure and Reaction of Molecularly-Uncharacterized Organic Matter (MUOM) in Natural and Engineered System: Last Chapter of Never-Ending Story *Association of Environmental Engineering and Science Professors Annual Meeting*. Grand Challenges and Opportunities in Environmental Engineering and Science in the 21st Century Workshop. New Haven. USA.

Teaching

Lecturer

Department of Civil and Environmental Engineering, University of Nevada, Reno

- Course: CEE771 Anthropogenic Contaminants (Graduate Level) 2015F
- Course: CEE458/658 Environmental Chemistry: Concepts and Design (Undergraduate/Graduate Level) 2016S;2015S
- Course: CEE756 Environmental Chemical Kinetics (Graduate Level) 2016S;2014F
- Course: CEE418/618 Principles for Water Quality Modeling (Undergraduate/Graduate Level) 2014S

Student/Researcher Mentoring

Department of Civil and Environmental Engineering, University of Nevada, Reno

Team Member

- Kamol Das, Ph.D student 2016-

- Dawit Wordofa, Ph.D student 2016-
- Dinesh Adhikari, Ph.D Student 2015-
- Qian Zhao, Ph.D Student 2014-
- Shengnan Xu, Postdoctoral Researcher 2014-2015
- Yaqi You, Postdoctoral Researcher 2015-
- Sarrah M Dunham-Cheatham, Postdoctoral Researcher 2016-
- Hua Zhang, Visiting Scholar 2014-2015
- Lin Wang, Visiting Student 2014-2015
- Kanaha Shoji, Undergraduate 2014-2015
- Riley Murnane, Undergraduate 2015
- Tayla Travella, High-school Intern 2014
- Breanna Kjoll, High-school Intern 2014
- Lindsey Zeising, High-school Intern 2014
- Aman Patel, High-school Intern 2015-

Others

- Kevin Salls, Master student, Committee Member 2013-2016
- Mi Lu, Ph.D. student, Committee Member 2012-2016
- Sarah Yang, Master student, Committee Member 2013-2016
- Tianling Song, Master student, Committee Member 2013-2015
- Ruchi Gakhar, Ph.D. student, Committee Member 2013-2015
- Alexander Mayorga, Master student, Committee Member 2015-2016
- Akira Nordmeier, Ph.D. student, Committee Member 2015-
- Brittany Trimble, Master student, Committee Member 2015-
- Cody Reed, Master student, Committee Member 2015-
- Christine Hedge, Ph.D. student, Committee Member/Co-advisor 2016-

Teaching Workshop/Conference

- UNR Instruction Training 2016
- Wakonse South Teaching Conference 2015
- AEESP-Teaching Workshop: Teaching Design in Environmental Engineering Curriculum 2015
- Speech Promotion Program-UNR 2015-

Professional Activities

Editorial Service

- Associate Editor: *Journal of Environmental Quality* 2017-
- Guest Editor: *Chemical Geology* 2016-2017
- Editorial Board Member: *Chemosphere* 2015-

Manuscript Reviewer (28 Journals, >100 manuscripts, ~10 manuscripts per year) (highlighted journals reviewed during the past 12 months)

*Air Quality, Atmosphere and Health; Bulletin of Environmental Contamination and Toxicology; Biogeosciences; Chemical Engineering Journal; **Chemical Geology; Chemosphere;** Colloids and Surfaces B: Biointerfaces; Current Organic Chemistry; Desalination and Water Treatment; Environmental Pollution; Environmental Science: Process & Impacts; **Environmental Science & Technology;** Environmental Toxicology & Chemistry; European Journal of Soil Science; Geochimica et Cosmochimica Acta; Groundwater; Inorganic Chemistry; International Journal of Agricultural Science Research; Journal of Colloid & Interface Science; Journal of Environmental Quality; Journal of Environmental Radioactivity; Journal of Environmental Science And Health, Part A; Journal of Environmental Engineering; Journal of Soils & Sediments; Journal of Hazard Materials; **Nature Communications;** Science of the Total Environment; Water Air & Soil Pollution*

Proposal Panel/Reviewer

- National Science Foundation Career Panel 2016
- National Science Foundation Panel (CBET-Environmental Engineering) 2015, 2016
- National Science Foundation Panel (Graduate Research Fellowship Program) 2016
- National Science Foundation (EAR - HYDROLOGIC SCIENCES) 2012, 2013, 2014
- Department of Energy-Environmental Molecular Sciences Laboratory Proposal Panel 2016
- Stanford Synchrotron Radiation Lightsource 2016

- U.S. Army Corps of Engineers Engineer Research and Development Center 2014
- University of Wisconsin Water Resources Institute 2016
- Czech Science Foundation

Thesis External Reviewer

- Southwest University, China, 2016

Conference Session Convener

- American Chemical Society Annual Meeting, 4/2017 (San Francisco, USA)-Redox-driven environmental geochemical reactions for metals, major elements and organic pollutants with Eric Roden (University of Wisconsin, Madison)
- American Chemical Society Annual Meeting, 4/2017 (San Francisco, USA)-Bioprocesses of engineered nanoparticles in soil-plant systems with Jason White (Connecticut Agricultural Experiment Station) and Baoshan Xing (University of Massachusetts, Amherst)
- American Chemical Society Annual Meeting, 3/2016 (San Diego, USA)-Adsorption of Metals by Geomedia III with Jeremy Fein (University of Notre Dame)
- American Geophysical Union Annual Conference, 12/2015 (San Francisco, USA)-Organic matter-mineral interfacial reactions with implications for the biogeochemical cycling of major elements and critical pollutants with Yuanzhi Tang (Georgia Tech) and Thomas Borch (Colorado State University)
- International Symposium on Environment and Health, 7/2014 (Beijing, China)-Environmental Chemistry with Feiyue Wang (University of Manitoba, Canada)
- Goldschmidt Conference, 6/2014 (Sacramento, USA)-Linking carbon and metal biogeochemistry: Advances in geochemical and biomolecular research of metal-organo-microbe interactions with Hui Lin, Alexander Johs (Oak Ridge National Lab), and Jeroen E. Sonke (Geosciences Environment Toulouse, France)
- Nevada Student World Water Forum, 2014.5: Faculty evaluator
- Geological Society of America Annual Meeting, 10/2013 (Denver, USA)-Coupling colloid-based heterogeneous geochemical processes with contaminant transport: Micro vehicles for large problems with Tao Cheng (Memorial University of Newfoundland, Canada)

Other National/International Committee Service

- Soil Science Society of America Student Competition Committee (Soil Chemistry Division) 2017
- American Chemical Society Student Travel Award Evaluator (Geochemistry Division) 2016

University/College/Department Service

- Hydrological Science Program Director Search Committee 2016
- Curriculum Development Committee Hydrological Sciences Program 2015
- College of Engineering Distinguished Lecture Poster Presentation 2015, 2016
- College of Engineering Innovation Day Demonstration 2016
- College of Engineering E-FIT Participant 2014
- Environmental Engineering Assistant Professor Search Committee 2015
- Environmental Engineering Full Professor Search Committee 2014
- Environmental Engineering Associate/Full Professor Search Committee 2013

Professional Association Membership

- American Geophysical Union
- American Chemical Society
- Society of Environmental Toxicology & Chemistry
- Association of Environmental Engineering & Science Professors
- Soil Science Society of America

Public Media

<http://www.unr.edu/nevada-today/news/2015/engineering-grant>
 DOE University Research Highlight: <http://science.energy.gov/science.energy.gov/>