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Education

1995 Ph.D., Environmental Engineering, Illinois Institute of Technology.
1995 M.ChE., Master of Chemical Engineering, Illinois Institute of Technology.
1992 M.S., Environmental Engineering, Illinois Institute of Technology.
1984 B.S., Geoscience, Geochemistry Option, Purdue University.

Professional Background

2015-present *Chair*, Otto H. York Department of Chemical and Materials Engineering, New Jersey Institute of Technology.
2012-2015 *Associate Dean for Academic Affairs*, School of Management, New Jersey Institute of Technology.
2009-2012 *Associate Dean for Administrative Affairs*, Newark College of Engineering, New Jersey Institute of Technology.
2006-present *Professor*, New Jersey Institute of Technology.
2000-2006 *Associate Professor*, New Jersey Institute of Technology.
1995-2000 *Assistant Professor*, New Jersey Institute of Technology.
1990-1995 *Research Assistant/Environmental Engineer*, Argonne National Laboratory.
1989-1990 *Associate*, A.T. Kearny, Chicago, IL.
1986-1989 *Project Scientist*, Roy F. Weston, Inc., Chicago, IL.
1984-1986 *Chemist*, LeaRonal, Inc., Freeport, NY.

Peer Reviewed Publications

1. Yin, X., Hua, H., Dyer, J., Landis, R., Fennell, D. E., Axe, L. 2022, Assessing Reactive Iron Mineral Coatings in Redox Transition Zones with Sequential Extraction, *ACS Earth and Space Chemistry* 6(2): 368-379.

2. Hua, H., Yin, X., Renno, M. I., Sale, T. C., Dyer, J., Landis, R., Axe, L. 2021, Impacts of Cryogenic Sampling Processes on Iron Mineral Coatings in Contaminated Sediment, *Science of the Total Environment* 765, 142796 https://doi.org/10.1016/j.scitotenv.2020.142796.

3. Hua, H., Yin, X., Fennell, D. E., Dyer, J., Landis, R., Axe, L. 2021, Roles of reactive iron mineral coatings in natural attenuation in redox transition zones preserved from a site with historical contamination, *Journal of Hazardous Materials*, 420, 126600. https://doi.org/10.1016/j.jhazmat.2021.126600

4. Landis, R.; Hua, H.; Yin, X.; Axe, L.; Morgan, S.; 2021. Biogeochemical coring and preservation method for unconsolidated sediment samples, *Groundwater Monitoring & Remediation,* 41(3): 72-81.

5. Yin, X., Hua, H., Burns, F., Fennell, D. E., Dyer, J., Landis, R., Axe, L. 2021, Identifying Redox Transition Zones in the Subsurface from a Site with Historical Contamination, *Science of the Total Environment* 762, 143105 https://doi.org/10.1016/j.scitotenv.2020.143105.

6. Zhang, S., Courtois, S., Gitungo, S., Dyksen, J. E., Raczko, R. R., Axe, L. 2021, Indicator Compounds Representative of Contaminants of Emerging Concern (CECs) in the Water Cycle in the United States, *International Journal of Environmental Research and Public Health*, 18, 1288. https://doi.org/10.3390/ijerph18031288

7. Hua, H., Yin, X., Dyer, J., Landis, R.; Axe, L. 2020, Characterizing Reactive Iron Mineral Coatings in Redox Transition Zones, *ACS Earth and Space Chemistry* 4(12): 2337-2346.

8. Zhang, S., Courtois, S., Gitungo, S., Dyksen, J. E., Raczko, R. R., Li, M., Axe, L. 2018, Microbial Community Analysis in Biologically Active Filters Exhibiting Efficient Removal of Emerging Contaminants and Impact of Operational Conditions, *Science of the Total Environment*, 640-641, 1455-1464.

9. Zhang, S., Gitungo, S., Axe, L. B., Dyksen, J. E., Raczko, R. R. 2017, Biologically Active Filters – An Advanced Treatment Process for Contaminants of Emerging Concern, *Water Research*, 114, 31-41.

10. Pan, Z., Personna, Y. R., Boufadel, M. C., King, T., Mason, J., Axe., L., Geng, X. 2017, Biodegradation of Dispersed Weathered Endicott Oil in Prince William Sound Water, *Journal of Environmental Engineering*, 143(9), 04017044- 1-9.

11. Zhang, S., Gitungo, S., Axe, L. B., Dyksen, J. E., Raczko, R. R. 2016, A Pilot Plant Study Using Conventional and Advanced Water Treatment Processes: Evaluating Removal Efficiency of Indicator Compounds Representative of Pharmaceuticals and Personal Care Products, *Water Research*, 105: 85-96.

12. Wang, B., Axe, L. B., Michalopoulou, Z.-H., Wei, L. 2016, Light absorption properties of the New York/New Jersey Harbor Estuary, *Hydrobiologia,* 766:173-188.

13. Personna, Y. R., King, T., Boufadel, M. C., Zhang, S., Axe., L. 2016, Dual Effects of a Dispersant and Nutrient Supplementation on Weathered Endicott Oil Biodegradation in Seawater, *AIMS Environmental Science*, 3(4), 739-751.

14. Shu, Z., Axe, L., Jahan, K., Ramanujachary, K. V., Kochersberger, C. 2015, Metal Concentrations and Distribution in Paint Waste Generated during Bridge Rehabilitation in New York State, *Science of the Total Environment*, 526, 262-270.

15. Shu, Z., Axe, L., Jahan, K., Ramanujachary, K. V. 2015, Field Methods for Rapidly Characterizing Paint Waste during Bridge Rehabilitation, *Chemosphere*, 134, 598-605.

16. Shu, Z., Axe, L., Jahan, K., Ramanujachary, K. V. 2015, Metal Leaching from the Bridge Paint Waste in the Presence of Steel Grit, *Chemosphere*, 119, 1105-1112.

17. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K. 2013, Metal and Metalloid Concentrations in Domestic and Imported Glass Beads Used for Highway Marking, *Environmental Engineering Science*, 30(7), 387-392.

18. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K. Ramanujachary, K. V., Magdaleno, T. V. 2013, Leaching of As, Pb, and Sb from Highway Marking Glass Beads, *Journal of Environmental Engineering*, 139(9), 1168-1177.

19. Sandhu, N. K., Axe, L., Jahan, K., Ramanujachary, K. V. 2013, Speciation of Metals and Metalloids in Highway Marking Glass Beads. *Environmental Science & Technology*, 47, 4383-4391.

20. Wang, B., Axe, L. B., Michalopoulou, Z.-H., Wei, L. 2011, Effects of Cd, Cu, Ni, and Zn on Brown Tide Alga Aureococcus anophagefferens Growth and Metal Accumulation, *Environmental Science & Technology, 46*(1) 517-524.

21. Ndiba, P., Axe, L. B. 2010, Risk to Groundwater Assessment of Phosphate and Thermal Treated Dredged Sediments, *Journal of Environmental Engineering, 136*(4), 427-434.

22. Ndiba, P., Axe, L. B. 2009, Sequential Extraction of Phosphate and Thermal Treated New York/New Jersey Harbor Dredged Sediments, *Environmental Engineering Science, 26*(12), 1755-1764.

23. Michalopoulou, Z.-H., Bagheri, S., Axe, L. B. 2009, Bayesian Estimation of Optical Properties of Nearshore Estuarine Waters: A Gibbs Sampling Approach. *IEEE Transactions on Geoscience and Remote Sensing, 47*(11), 1579-1587.

24. Boonfueng, T., Axe, L., Yee, N., Hahn, D., and Ndiba, P. 2009, Zn sorption mechanisms onto sheathed *Leptothrix Discophora* and the impact of the nanoparticulate biogenic Mn oxide coating, *Journal of Colloid and Interface Science* 333: 439-447.

25. Ndiba, P. K., Axe, L. 2009, Metal speciation in phosphate and thermal stabilization of contaminated dredged sediments In *Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support (GSP 187)* Iskander, M., Laefer, D. F., Hussein, M. H. eds. American Society of Civil Engineers, pp 512-519.

26. Ndiba, P., Axe, L., Boonfueng, T. 2008, Heavy Metal Immobilization through Phosphate and Thermal Treatment of Dredged Sediments, *Environmental Science & Technology* 42(3), 920-926.

27. Trivedi, P., Axe, L. 2007, Long-Term Fate of Metal Contaminants in Soils and Sediments: Role of Intraparticle Diffusion in Hydrous Metal Oxides in *Natural Attenuation of Trace Element Availability in Soils*, Ed. (R. Hamon, M. McLaughlin, E. Lombi), Society of Environmental Toxicology and Chemistry, CRC Taylor & Francis, NY.

28. Xu, Y., Axe, L., Boonfueng, T., Tyson, T. A., Trivedi, P., Pandya, K. 2007, Ni(II) complexation to amorphous hydrous ferric oxide: An X-ray absorption spectroscopy study, *Journal of Colloid and Interface Science* 314: 10-17.

29. Boonfueng, T., Axe, L., Xu, Y., Tyson, T. A. 2006, Nickel and Lead Sequestration in Manganese Oxide-Coated Montmorillonite, *Journal of Colloid and Interface Science* 303(1): 87-98.

30. Maeng, S., Axe, L., Tyson, T. A., Gladczuk, L., Sosnowski, M. 2006, Corrosion Behavior of Magnetron Sputtered α- and β-Ta Coatings on AISI 4340 Steel as a Function of Coating Thickness, *Journal of Corrosion Science* 48: 2154-2171.

31. Xu, Y., Axe, L., Yee, N., Dyer, J. A. 2006, Surface Complexation Modeling of Heavy Metal Adsorption and Competition on Goethite, *Environmental Science & Technology* 40(7): 2213-2218.

32. Xu, Y., Boonfueng, T., Axe, L., Maeng, S., Tyson, T. A. 2006, Surface Complexation of Pb(II) on Amorphous Iron Oxide and Manganese Oxide: Spectroscopic and Time Studies, *Journal of Colloid and Interface Science* 299(1): 28-40.

33. Maeng, S., Axe, L., Tyson, T. A., Gladczuk, L., Sosnowski, M. 2006, Corrosion Behavior of Magnetron Sputtered α-Ta Coatings on AISI 4340 Steel on Smooth and Rough Steel, *Surface and Coatings Technology* 200(20-21): 5717-5724.

34. Maeng, S., Axe, L., Tyson, T. A. 2006, Corrosion Behavior of Electrodeposited and Sputtered Cr Coatings and Sputtered Ta Coatings with α and β Phases, *Surface and Coatings Technology* 200(20-21): 5767-5724.

35. Boonfueng, T., Axe, L., Xu, Y., Fan, M. 2006, The impact of Mn oxide coatings on Zn distribution, *Journal of Colloid and Interface Science* 298(2): 615-623.

36. Jiang, A., Tyson, T. A., Axe, L. 2005, The Structure of Small Ta Clusters, *Journal of Physics: Condensed Matter*, 17(39): 6111-6121.

37. Jiang, A., Tyson, T. A., Axe, L. 2005, The stability of the β phase of tantalum: a molecular dynamics study, *Journal of Physics: Condensed Matter* 17(12), 1841-1850.

38. Fan, M., Thongsri, T., Axe, L., Tyson, T. A. 2005, Using a probabilistic approach in an ecological risk assessment simulation tool: test case for depleted uranium (DU), *Chemosphere* 60, 111-125.

39. Jiang, A., Tyson, T. A., Axe, L., Gladczuk, L., Sosnowski, M., Coate, P. 2005, The structure and stability of β-Ta thin films, *Thin Solid Films* 479(1-2), 166-173.

40. Maeng, S., Axe, L., Tyson, T., Jiang, A. 2005, An Investigation of Structures of Thermal and Anodic Tantalum Oxide Films, *Journal of the Electrochemical Society* 152(2), B60-B64.

41. Xu, Y., Axe, L. 2005, Synthesis and Characterization of Iron Oxide-Coated Silica and Its Effect on Metal Adsorption, *Journal of Colloid and Interface Science* 282(1), 11-19.

42. Boonfueng, T., Axe, L., Xu, Y. 2005, Properties and structure of manganese oxide-coated clay, *Journal of Colloid and Interface Science* 281(1), 80-92.

43. Fan, M., Boonfueng, T., Xu, Y., Axe, L., Tyson, T. A. 2005, Modeling Pb Sorption to Microporous Amorphous Oxides as Discrete Particles and Coatings, *Journal of Colloid and Interface Science* 281(1) 39-48.

44. Jiang, A., Yohannan, A., Nnolim, N. O., Tyson, T. A., Axe, L., Lee, S. L., Cote, P. 2003, Investigation of the structure of β-tantalum, *Thin Solid Films* 437(1-2), 116-122.

45. Nnolim, N. O., Tyson, T. A., Axe, L. 2003, Theory of the structural phases of group 5B-6B metals and their transport properties, *Journal of Applied Physics* 93(8), 4543-4560.

46. Lu, H., Axe, L., Tyson, T. A. 2003, Development and application of computer simulation tools for ecological risk assessment, *Environmental Modeling and Assessment* 8, 311-312.

47. Maeng, S. M., Axe, L., Tyson, T. A. 2002, Characterization of Gun-barrel Steel Corrosion as a Function of Time, *Corrosion* 58, 370-380.

48. Axe, L., Trivedi, P. 2002, Intraparticle Surface Diffusion of Metal Contaminants and their Attenuation in Amorphous Al, Fe, and Mn Oxides, Feature Paper, *Journal of Colloid and Interface Science* 247, 259-265.

49. Axe, L., Anderson, P. R., Trivedi, P. 2002, Diffusion along Oxide and Related Surfaces, in *Encyclopedia of Surface and Colloid Science* (A. Hubbard ed.), Marcel Dekker, 1447-1457.

50. Trivedi, P., Axe, L. 2001, Ni and Zn Sorption to Amorphous versus Crystalline Iron Oxides: Macroscopic Studies, *Journal of Colloid and Interface Science* 244, 221-229.

51. Trivedi, P., Axe, L., Tyson, T. A. 2001, An Analysis of Zinc Sorption to Amorphous versus Crystalline Iron Oxides using XAS, *Journal of Colloid and Interface Science* 244, 230-238.

52. Trivedi, P., Axe, L., Tyson, T. A. 2001, XAS Studies of Ni and Zn Sorbed to Hydrous Manganese Oxide, *Environmental Science & Technology* 35, 4515-4521.

53. Trivedi, P., Axe, L., Dyer, J. A. 2001, Adsorption of Metal Ions onto Goethite: Single-Adsorbate and Competitive Systems, *Colloids and Surfaces A: Physiochem. and Eng. Asp.* 191(1-2):107-121.

54. Trivedi, P., Axe, L. 2001, Predicting Divalent Metal Sorption to Hydrous Al, Fe, and Mn Oxides, *Environmental Science & Technology* 35, 1779-1784.

55. Trivedi, P., Axe, L. 2000, Modeling Cd and Zn Sorption to Hydrous Metal Oxides *Environmental Science & Technology* 34, 2215-2223.

56. Axe, L., Tyson, T., Trivedi, P., Morrison, T. 2000, Local Structural Analysis of Strontium Sorption to Hydrous Manganese Oxide, *Journal of Colloid and Interface Science* 224, 408-416.

57. Christophi, C. A., Axe, L. 2000, Competition of Cd, Cu, and Pb adsorption on Goethite, *Journal of Environmental Engineering* ASCE 126, 66-74.

58. Trivedi, P., Axe, L. 1999, A Comparison of Strontium Sorption to Hydrous Aluminum, Iron, and Manganese Oxides, *Journal of Colloid and Interface Science* 218, 554-563.

59. Axe, L., Anderson, P. R. 1999, Adsorption onto Oxides: The Role of Diffusion, in *Surfaces of Nanoparticles and Porous Materials* (J. A. Schwarz and C. Contescu, eds.), Chapter 9, 199-210, Marcel Dekker.

60. Axe, L., Bunker, G., Anderson, P., Tyson, T. 1998, An XAFS Analysis of Strontium at the Hydrous Ferric Oxide Surface, *Journal of Colloid and Interface Science* 199, 44-52.

61. Axe, L., Anderson, P. 1998, Intraparticle Diffusion of Metal Contaminants, in *Adsorption of metals by Geomedia: Variables, Mechanisms, and Model Applications* (E. Jenne ed.), Chapter 8, 193-208, Academic Press.

62. Axe, L., Anderson, P. R. 1997, Experimental and Theoretical Diffusivities of Cd and Sr in HFO, *Journal of Colloid and Interface Science* 185, 436-448.

63. Axe, L., Anderson, P. R. 1995, Sr Diffusion and Reaction within Fe Oxides: Evaluation of the Rate-Limiting Mechanism for Sorption, *Journal of Colloid and Interface Science* 175, 157-165.

Conference Proceedings

1. Axe, L. B, Redling, J, Nelson, P., Lubliner, D., Ravindra, N. M., Blackmore, D., 2012, First Year Engineering Experience Conference, "EXTENDED ABSTRACT: IMPROVING STUDENT ENGAGEMENT IN ENGINEERING," National Science Foundation, American Society for Engineering Education, University of Pittsburgh, Pittsburgh, PA. (August 10, 2012).

2. Boonfueng, T., and Axe, L., 2004, Adsorption of Heavy Metals on Manganese Oxide Coated Clay, *Proceedings of the Eleventh International Symposium on Water-Rock Interactions,* (Ed. Wanty, R.B. and Seal, R.R.II), Taylor & Francis Group plc, London, UK, 1259-1263.

3. Xu, Y., and Axe, L., 2004, Characterization and Pb adsorption to iron oxide-coated silica, *Proceedings of the Eleventh International Symposium on Water-Rock Interactions* (Ed. Wanty, R.B. and Seal, R.R.II), Taylor & Francis Group plc, London, UK, 1425-1429.

4. Yossapoll, C., Caudill, R., Axe, L., Dickinson, D., Watts, D., and Mosovsky, J., 2002, Carrying capacity estimates for assessing environmental performance and sustainability, Electronics and the Environment, *2002 IEEE International Symposium*, 6-9 May 2002 , 32 – 37.

5. Upadhya, H., Axe, L., Trivedi, P., Dyer, J. A., Competitive adsorption studies of Ni, Zn, and Ca to goethite: Single, binary, and tertiary systems, Hazard. Ind. Wastes (2000), 32nd, 767-776.

6. Lu, H., Thongsri, T., Jing, X., Axe, L., Tyson, T. A. Computer simulation tools for ecological risk assessments, Hazard. Ind. Wastes (2000), 32nd, 93-102.

7. Dowd, B. A., Campbell, G. H., Marr, R. B., Nagarkar, V., Tipnis, S., Axe, L., and D. P. Siddons, 1999, Developments in synchrotron x-ray computed microtomography at the National Synchrotron Light Source, *Proceedings of the 44th Annual Meeting of the International Society for Optical Engineering Conference*, vol. 3727, pp. 224-236, Denver, CO.

Presentations

1. Hua, H., Yin, X., Renno, M. I., Sale, T. C., Dyer, J., Landis, R., Axe, L. *Impacts of Cryogenic Sampling Processes on Iron Mineral Coatings in Contaminated Sediment.* ACS Fall 2020 Virtual Meeting & Expo, online poster, March 2020.

2. Yin, X., Hua, H., Burns, F., Fennell, D. E., Dyer, J., Landis, R., Axe, L. *Determining the Speciation of Reactive Iron Mineral Coatings in Redox Transition Zones with Sequential Extraction.* Global Virtual Conference, Goldschmidt 2020, June 21-26, 2020

3. Axe, L., Hua, H.; Ding, W., Yin, X. Axe, L. *Abiotic Degradation of 1,4-Dichlorobenzene with Reactive Iron Mineral Coatings*, 2019 AIChE Annual Meeting, Orlando, FL, November 10-15, 2019.

4. Russell, M., Yin, X., and Axe, L. *Degradation of 4-Chloroaniline by Activated Persulfate*. 2019 American Institute of Chemical Engineers (AIChE) Mid-Atlantic Regional Conference, Penn State, PA, US, April 5-6, 2019

5. Hua, H., Yin, X., Axe, L. *Reactive Iron Mineral Coatings in Redox Transition Zones (Oral Presentation)*, 28th Goldschmidt Conference, Reactions at the

Mineral-Fluid Interface: Dissolution, Precipitation and Controls on Geochemical Element Cycling, Boston, Massachusetts, US, August 12-17, 2018.

6. Yin, X., Hua, H., Axe, L. *Determining Reactive Iron Mineral Contributions in Redox Transition Zones with Sequential Extraction*, 28th Goldschmidt Conference, Reactions at the Mineral-Fluid interface: Dissolution, Precipitation and Controls on Geochemical Element Cycling, Boston, Massachusetts, US, August 12-17, 2018.

7. Axe, L., Zhang, S., Gitungo, S.W., Raczko, R.F., Dyksen, J.E. Biologically Active Filters: A Sustainable Treatment Process for Emerging, Sustainable Engineering Forum, The Energy-Water Nexus, American Institute of Chemical Engineers National Meeting, Minneapolis, MN, October 31, 2017.

8. Hua, H., Yin, X., Axe, L. *Characterizing reactive iron mineral coatings in redox transition zones,* 33rd Annual International Conference on Soils, Sediments, Water, and Energy, Session: Site Investigation, Amherst, Massachusetts, US, October 16-19, 2017.

9. Yin, X., Hua, H., Axe, L. *Identifying redox transition zones in the subsurface.* (Poster) 33rd Annual International Conference on Soils, Sediments, Water, and Energy, Session: Site Investigation, Amherst, Massachusetts, US, October 16-19, 2017.

10. Hua, H., Yin, X., Axe, L. *Characterizing reactive iron mineral coatings in redox transition zones (updated edition)* Iron & Manganese Oxides: Their Formation, Structure, Reactivity & Applications Symposium, 254th American Chemical Society Meeting & Exposition, Washington DC, US, August 20-24, 2017 (ACS Student Travel Awardee).

11. Yin, X., Hua, H., Axe, L. *Identifying redox transition zones in the subsurface*. Iron & Manganese Oxides: Their Formation, Structure, Reactivity & Applications Symposium, 254th American Chemical Society Meeting & Exposition, Washington DC, US, August 20-24, 2017.

12. Hua, H., Yin, X., Axe, L. *Characterizing reactive iron mineral coatings in redox transition zones* Fate & Transport of Environmental Contaminants Symposium, 45th Middle Atlantic Regional Meeting of the American Chemical Society, Hershey, PA, US, June 4-6, 2017.

13. Yin, X., Hua, H., Axe, L. *Identifying redox transition zones in the subsurface*. Fate & Transport of Environmental Contaminants Symposium, 45th Middle Atlantic Regional Meeting of the American Chemical Society, Hershey, PA, US, June 4-6, 2017.

14. Zhang, S., Gitungo, S.W., Axe, L.B., Raczko, R.F., Dyksen, J.E. Biologically Active Filters: An Advanced Treatment Process for Removal of Pharmaceuticals and Personal Care Products, 252th American Chemical Society (ACS) National Meeting, Division of Environmental Chemistry, Symposium: Innovative Materials

& Technologies for Environmental Sustainability, Philadelphia, Philadelphia, Pennsylvania, August 21-25, 2016.

15. Zhang, S., Gitungo, S.W., Axe, L.B., Raczko, R.F., Dyksen, J.E. Evaluation of Microbial Communities in Biologically Active Filters and Their Effectiveness in Treating Pharmaceuticals and Personal Care Products, 252th American Chemical Society National Meeting, Division of Environmental Chemistry, Symposium: Bioanalytical Tools for Chemicals of Emerging Concern in the Environment, Philadelphia, Philadelphia, Pennsylvania, August 21-25, 2016.

16. Zhang, S., Gitungo, S.W., Axe, L.B., Raczko, R.F., Dyksen, J.E. Biologically Active Filters - An Advanced Treatment Process for Removal of EDCs and PPCPs, AWWA Annual Conference & Exposition, Session: Is Biological Treatment the Next Silver Bullet? Chicago, Illinois, June 19-22, 2016.

17. Gitungo, S.W., Zhang, S., Axe, L.B., Raczko, R.F., Dyksen, J.E. Biologically Active Filters: An Advanced Treatment Process for Removal of PPCPs, AWWA NJ Annual Conference, Session: Surface Water Treatment, March 15-18, Atlantic City, New Jersey, 2016.

18. Raczko, R.F., Zhang, S., Gitungo, S.W., Axe, L.B. Converting Existing Filters to Operate Biologically to Remove Trace Organic Contaminants (PPCPs and EDCs), AWWA International Symposium: Biological Treatment, Long Beach, California, January 27-28, 2016.

19. Zhang, S., Gitungo, S.W., Axe, L.B., Raczko, R.F., Dyksen, J.E. Biofiltration - An Advanced Treatment Process for Removal of PPCPs, North Jersey Branch American Society for Microbiology (ASM) Meeting, Miniature, New Jersey, April 30, 2015.

20. Zhang, S., Gitungo, S.W., Axe, L.B., Raczko, R.F., Dyksen, J.E. Biofiltration: An Advanced Treatment Process for Removal of EDCs and PPCPs, 250th American Chemical Society (ACS) National Meeting, Division of Environmental Chemistry, Symposium: Assessing Transformation Products by Non-Target and Suspected Target Screening: The New Frontier in Environmental Chemistry and Engineering, Boston, Massachusetts, August 16-20, 2015.

21. Zhang, S., Gitungo, S.W., Axe, L.B., Raczko, R.F., Dyksen, J.E. Biologically Active Filters: An Advanced Treatment Process for PPCPs, 2nd Annual New England Graduate Student Water Symposium (NEGSWS), Amherst, Massachusetts, September 11-13, 2015.

22. Zhang, S., Gitungo, S.W., Axe, L.B., Dyksen, J.E., Raczko, R.F. Determining Indicator Compounds Representative of Pharmaceuticals and Personal Health Products (PPHCPs) in Water Cycle, 244th ACS National Meeting, Philadelphia, Symposium: Environmental Biotechnology and Sustainability: Applications to

Drinking Water, Industrial Waste Treatment, and Site Remediation Pennsylvania, August 19-23, 2012.

23. Gitungo, S.W., Zhang, S., Axe, L.B., Raczko, R.F. Pilot Plant Study on Indicator Compounds Representative of Pharmaceuticals and Personal Health Care Products (PPHCPs) in the water cycle, 244th ACS National Meeting, Philadelphia, Symposium: Environmental Biotechnology and Sustainability: Applications to Drinking Water, Industrial Waste Treatment, and Site Remediation, Pennsylvania, August 19-23, 2012.

24. Shu, Z., Axe, L. Jahan, K. Ramanujachary, K. V., Leaching Behavior of Lead and Chromium from Bridge Paint Waste in the Presence of Steel Grit, Session 748 of Steel Bridge Coating Systems, Part 2: Existing Structures, Transportation Research Board 92nd Annual Meeting, Washington, D.C., January 13-17, 2013.

25. Shu, Z., Axe, L. Jahan, K. Ramanujachary, K. V., Leaching Behavior of Lead and Chromium from Bridge Paint Waste in the Presence of Steel Grit, Session of Steel Bridges Committee, Transportation Research Board 92nd Annual Meeting, Washington, D.C., January 13-17, 2013.

26. Shu, Z., Axe, L. B., Jahan, K., Ramanujachary, K. V., 2012, 244th American Chemical Society (ACS) National Meeting, "Field methods for rapidly characterizing paint waste during bridge rehabilitation," American Chemical Society, Philadelphia, PA, August 2012.

27. Gitungo, S., Zhang, S., Axe, L. B., Dyksen, J. E., Raczko, R. R., 244th American Chemical Society National Meeting, Environmental Biotechnology and Sustainability: Applications to Drinking Water, Industrial Waste Treatment, and Site Remediation, "Pilot plant study on indicator compounds representative of pharmaceuticals and personal health care products (PPHCPs) in the water cycle," American Chemical Society, Philadelphia, PA, August 21, 2012.

28. Zhang, S., Gitungo, S., Axe, L. B., Dyksen, J. E., Raczko, R. R., 244th American Chemical Society National Meeting, Environmental Biotechnology and Sustainability: Applications to Drinking Water, Industrial Waste Treatment, and Site Remediation, "Determining indicator compounds representative of pharmaceuticals and personal health care products (PPHCPs) in water cycle," American Chemical Society, Philadelphia, PA, August 21, 2012.

29. Axe, L., Redling, J., Nelson, P., Lubliner, D., Ravindra, N. M., Blackmore, D., 2012, First Year Engineering Experience Conference, "EXTENDED ABSTRACT: IMPROVING STUDENT ENGAGEMENT IN ENGINEERING," National Science Foundation, American Society for Engineering Education, University of Pittsburgh, Pittsburgh, PA, August 10, 2012.

30. Dyksen, J. E., Axe, L., Raczko, R. R., Pilot Testing to Remove Pharmaceuticals and Personal Care Products from Drinking Water, American Water Works Association ACE12 Meeting, Dallas Texas, June 10-14, 2012.

31. Shu, Z., Axe, L., Jahan, K., Ramanujachary, K. V. Field methods for rapidly characterizing paint waste during bridge rehabilitation, 243rd American Chemical Society (ACS) National Meeting, San Diego, CA, March 25-29, 2012.

32. Dyksen, J. E., Raczko, R. R., Cummings, L., Spencer, C., Louis, J., Axe, L., New Jersey American Water Works Association Annual Conference, "Full Scale and Pilot Scale Evaluation of EDC Removal through WTP Processes," American Water Works Association, Atlantic City, NJ, March 2012.

33. Sandhu, N., Axe, L., Jahan, K. Heavy metal contamination in highway marking glass beads, 91st Annual Meeting of Transportation Research Board, Washington DC. January 22-January 26, 2012.

34. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V., Magdaleno, T. F. Leaching of heavy metals from highway marking beads. VIIth Annual Graduate Student Research Day. November 9, 2011, NJIT, Newark, NJ.

35. Shu, Z., Axe, L. Jahan, K. Ramanujachary, K. V., Field methods for rapidly characterizing paint waste during bridge rehabilitation, VIIth Annual Graduate Student Research Day, November 9, 2011, NJIT, Newark, NJ.

36. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V. Groundwater pollution from metals/metalloids present in highway marking glass beads. 96th Annual Conference on New Jersey Water Environment Association. May 10-14, 2011, Atlantic City, NJ.

37. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V. Effect of particle size on leaching of As, Pb, and Sb from imported glass beads. 95th Annual Conference on New Jersey Water Environment Association, May 10-14, 2010, Atlantic City, NJ. Awarded second best poster.

38. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V., Magdaleno, T. F. Leaching of heavy metals from highway marking beads. 12th Annual New Jersey Department of Transportation (NJDOT) Research Showcase. October 21, 2010, Mercer County College, Trenton, New Jersey.

39. Sandhu, N., Axe, L. B., Leaching of heavy metals from highway marking beads, 96th American Association of State Highway and Transportation Officials (AASHTO) Subcommittee Meeting on Materials, AASHTO, Madison, WI, August 12, 2010.

40. Axe, L. B., Sandhu, N., Jahan, K., Ramanujachary, K. V., Magdaleno, T. F., 96th AASHTO Subcommittee Meeting on Materials, Heavy Metal Contamination in Highway Marking Glass Beads, AASHTO, Madison, WI, August 8, 2010.

41. Axe, L. B., Saigal, S., PACE, Peer Mentoring at NJIT, Sloan Foundation, Washington, DC, March 17, 2010.

42. Wang, B., Axe, L. B., Wei, L., Michalopoulou, Z.-H. Bio-optical characteristics of New York/New Jersey Coastal Water, 95th Annual Conference of the New Jersey Water Environment Association, Water Environment Association, Atlantic City, NJ, May 9, 2010.

43. Sandhu, N., Axe, L. B., Jahan, K., Affect of particle size on leaching of As, Pb, and Sb from imported glass beads, 95th Annual Conference of the New Jersey Water Environment Association, Water Environment Association, Atlantic City, NJ, May 9, 2010.

44. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V. Metal Leaching from Highway Marking Glass Beads. 13th IACIS International Conference on surface and Colloid Science and the 83rd ACS Colloid and Surface Science Symposium. June 14-19, 2009, New York City.

45. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V. Leaching of as, Pb, Sb, and Zn from imported glass beads. 2009 Leo Hendrik Baekeland Symposium and Award Presentation, NJACS. November 13, 2009, Piscataway, NJ.

46. Wang, B. Axe, L. Wei, L., Bagheri, S., and Michalopoulou, Z. H., Ranheim, B. Absorption Coefficients of Particles and Colored Dissolved Organic Matter at New York/New Jersey Harbor Estuary. AGU 2008 Fall Meeting, San Fransico, CA, December 15-19, 2008.

47. Ndiba, P. K.; Axe, L. Risk to groundwater assessment of phosphate and thermal treated dredged sediments. Poster session, Third Passaic River Symposium, Montclair State University, Montclair, NJ, October 16, 2008.

48. Wang, B., Axe, L., Wei, L., Bagheri, S., and Michalopoulou, Z. H. Cadmium, Copper, Nickel, and Zinc Toxicity and Bioavailability to *Aureococcus Anophagefferens*. Third Passaic River Symposium, Montclair State University, Montclair, NJ, October 16, 2008.

49. Axe, L., Ndiba, P., Jahan, K. Heavy Metal Contamination in Highway Marking Beads, Mercer County College 10th Annual NJDOT Research Showcase, West Windsor, NJ, October 16, 2008.

50. Wang, B., Axe, L., Wei, L., Bagheri, S., and Michalopoulou, Z. H. Effect of Cadmium, Copper, Nickel, and Zinc on a Minute Golden Brown Alga *Aureococcous anophagefferens*. 4th Symposium on Harmful Algae in the U.S, Woods Hole, MA, October 28 - November 1, 2007.

51. Ndiba, P., and Axe, L. Assessment and Treatment of Contaminated Dredged Sediments New Jersey Meadowlands Symposium 2007, May 2007.

52. Xu, Y., and Axe, L. Heavy Metal Adsorption on Iron Oxide and Iron Oxide-Coated Silica: Macroscopic, Spectroscopic, and Modeling Studies, Environmental Chemistry Session, 51st Annual Pentasectional Meeting Oklahoma Sections of the American Chemical Society, ConocoPhillips Technology Center, Bartlesville, OK, April 1, 2006.

53. Boonfueng, T., Axe, L., Yee, N. Zn(II) Sorption Mechanisms on biogenic Mn oxide Sheathed Leptothrix discophora SP-6, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006.

54. Xu, Y., Axe, L., Yee, N., Dyer, J. A. Surface complexation modeling of heavy metal adsorption and competition on goethite, 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006.

55. Xu, Y., and Axe, L. Iron Oxide Coatings and Heavy Metal Adsorption on Iron Oxide-Coated Silica: Macroscopic, Spectroscopic, and Modeling Studies 2005 AEESP Research and Education Conference, Clarkson University, Potsdam, NY, July 24-26, 2005.

56. Boonfueng, T., Axe, L., and Yee, N. Sequestration of Pb by Hydrous Manganese Oxide-Coated Clay SS-67: Speciation of Metals and Metalloids in the Environment: Control by Mineral Structures and Surface Processes 15th Annual Goldschmidt, Moscow, Idaho, May 20-25, 2005.

57. Jiang, A., Tyson, T. A., and Axe, L. The structure, stability and origin of β-phase American Physical Society March Meeting, Los Angeles, CA, March, 2005.

58. Jiang, A., Tyson, T. A., and Axe, L. The Structure and Stability of β-Ta: An Experimental and Theoretical Study, Meeting of Materials Science Society, Boston, MA, December, 2004.

59. Fan, M., Axe, L., and Tyson, T.A., Incorporating intraparticle surface diffusion into a bulk transport code for groundwater modeling Advances in Environmental Reaction Kinetics and Thermodynamics: Long-term Fate of Anthropogenic Contaminants, Division of Environmental Chemistry, 228th American Chemical Society National Meeting, Philadelphia, PA, Aug. 22-26, 2004.

60. Boonfueng, T., Axe, L., Fan, M., and Xu, Y., Long-term studies on zinc sorption onto hydrous manganese oxide coated montmorillonite Advances in Environmental Reaction Kinetics and Thermodynamics: Long-term Fate of Anthropogenic Contaminants, Division of Environmental Chemistry, 228th American Chemical Society National Meeting, Philadelphia, PA, August 22-26, 2004.

61. Xu, Y., and Axe, L., Pb Adsorption to Nanometer Iron Oxide Coatings A Symposium Honoring Professor Charles O'Melia, Division of Environmental Chemistry, 228th American Chemical Society National Meeting, Philadelphia, PA, August 22-26, 2004.

62. Boonfueng, T., and Axe, L., Adsorption of heavy metals on manganese oxide coated clay 11th International Symposium on Water Rock Interactions, Environmental Geochemistry, Saratoga Springs, NY, June 27-July 2, 2004.

63. Xu, Y., and Axe, L., Characterization and Pb adsorption to iron oxide-coated silica 11th International Symposium on Water Rock Interactions, Environmental Geochemistry, Saratoga Springs, NY, June 27-July 2, 2004.

64. Boonfueng, T., and Axe, L., Macro and Microscopic Studies on Zn Sorbed onto Manganese Oxide-coated clay American Chemical Society 78th Colloid and Surface Science Symposium, Chemical Reactivity and Sorption Phenomena, Yale University, June, 2004.

65. Fan, M., Thongsri, T., Axe, L., and Tyson, T. A., A probabilistic risk assessment addressing metal mobility and bioavailability The 20th Society of Environmental Toxicology and Chemistry Hudson-Delaware Chapter Annual Meeting, Sandy Hook, NJ, Apr. 22-23, 2004.

66. Fan, M., Thongsri, T., Axe, L., and Tyson, T. A., A Novel Probabilistic Approach in Ecological Risk Assessment: Test Case Depleted Uranium, Society of Environmental Toxicology and Chemistry 24th North America Annual Meeting, Session on Methods in Risk Assessment, Austin, TX, Nov. 9-13, 2003.

67. Fan, M., Xu, Y., Boonfueng, T., Yuan, W., Axe, L., and Tyson, T. A., Intraparticle surface diffusion of Pb in amorphous Fe and Mn oxides, Physicochemical Processes in Environmental Systems: A Symposium in Honor of Professor Walter J. Weber, Jr., 226th American Chemical Society National Meeting, New York, NY, September 7-11, 2003.

68. Xu, Y., Axe, L., Maeng, S., Trivedi, P., Boonfueng, T., and Tyson, T. A., Pandya, K., Adsorption of heavy metals on iron oxide coated silica, Poster Session, Division of Geochemistry, 226th American Chemical Society National Meeting, New York, NY, September 7-11, 2003.

69. Boonfueng, T. and Axe, L., Surface properties of manganese oxide coated montmorillonite, Poster Session, Division of Geochemistry, 226th American Chemical Society National Meeting, New York, NY, September 7-11, 2003.

70. Boonfueng, T. and Axe, L., Lead adsorption studies on hydrous manganese oxide (HMO), montmorillonite, and HMO coated montmorillonite, Physicochemical Processes in Environmental Systems: A Symposium in Honor of Professor Walter J. Weber, J.r, Division of Environmental Chemistry program, 226th American Chemical Society National Meeting, New York, NY, September 7-11, 2003.

71. Xu, Y., and L. Axe, Heavy metal competition on iron oxide coated silica, 77th America Chemical Society Colloid and Surface Science Symposium, Session on Colloidal and Interfacial in the Environment, Atlanta, GA, June 15-18, 2003.

72. Fan, M., Axe, L., and T. A. Tyson, Modeling intraparticle diffusion of metal contaminants in amorphous oxide minerals, 77th America Chemical Society Colloid and Surface Science Symposium, Session on Colloidal and Interfacial in the Environment, Atlanta, GA, June 15-18, 2003.

73. Fan, M., Thongsri, T., Axe, L., and T. A. Tyson, Metal contaminant mobility, bioavailability, and ecological risk assessment, Society of Environmental Toxicology and Chemistry (SETAC) 23rd North America Annual Meeting, Session on Ecological Risk Assessment, Salt Lake City, UT, Nov. 16–20, 2002.

74. Trivedi, P., Axe, L., and T. A. Tyson, Spectroscopic evaluation of diffusion in microporous iron oxide, American Chemical Society 223rd National Meeting, Division of Geochemistry, Orlando, FL, April 2002.

75. Carrying capacity estimates for assessing environmental performance and sustainability *Yossapoll, C.; Caudill, R.; Axe, L.; Dickinson, D.; Watts, D.; Mosovsky, J.;* Electronics and the Environment, 2002 IEEE International Symposium 6-9 May 2002 Pages: 32 – 37.

76. Trivedi, P., and L. Axe, Nickel and Zinc Sorption to Hydrous Manganese Oxide: An Investigation with XAS, American Chemical Society, 75th Colloid and Surface Science Symposium, Colloidal & Interfacial Phenomena in Aquatic Environments, Carnegie Mellon University, Pittsburgh, PA, June 2001.

77. Trivedi, P., Axe, L., and J. Dyer, Adsorption of Metals onto Goethite: Single Adsorbate and Competitive Systems, American Chemical Society, 75th Colloid and Surface Science Symposium, Colloidal & Interfacial Phenomena in Aquatic Environments, Carnegie Mellon University, Pittsburgh, PA, June 2001.

78. Trivedi, P., and L. Axe, Macroscopic and Spectroscopic Studies of Transition Metal Sorption to Hydrous Metal Oxides in Aquatic Environments, Chemical Speciation and Reactivity in Water Chemistry and Water Technology: A Symposium in Honor of James J. Morgan, American Chemical Society Fall 2000 National Meeting, Washington, DC, August 20-24, 2000.

79. Upadhya, H., Trivedi, P., Axe, L., and J. Dyer, Competitive Adsorption Studies of Ni, Zn, and Ca to Goethite: Single, Binary, and Ternary Systems, 32nd Mid-Atlantic Industrial and Hazardous Waste Conference, RPI, Troy, NY, June 26-28, 2000.

80. Lu, H., Jing, X., Thongsri, T., Axe, L., and T. A. Tyson, Computer Simulation Tools in Ecological Risk Assessment, 32nd Mid-Atlantic Industrial and Hazardous Waste Conference, RPI, Troy, NY, June 26-28, 2000.

81. Trivedi, P., and L. Axe, Predicting Nickel Sorption to Hydrous Metal Oxides, 74th Colloid and Surface Science Symposium, Colloidal & Interfacial Phenomena in Aquatic Environments, Lehigh University, Bethlehem, PA, June 18-21, 2000.

82. Lu, H., Weiss, E. J., Axe, L., and T. A. Tyson, Application of Computer Simulation Tools for a Preliminary Ecological Risk Assessment of Replacing Electroplated Chromium with Alternative Coatings, Sustaining Global Environmental Integrity, 20th Annual Meeting of the Society of Environmental Toxicology and Chemistry, Philadelphia, PA, November 14-18, 1999.

83. Trivedi, P., and L. Axe, Modeling of Cd and Zn Sorption to Hydrous Metal Oxides in Environmental Systems, presented at the Colloidal and Interfacial Phenomena in Aquatic Environments symposium, 217th American Chemical Society National Meeting, Anaheim, CA, March 22-24, 1999.

84. Axe, L., Tyson, T., Trivedi, P., and T. Morrison, Local Structure Analysis of Strontium Sorption to Hydrous Manganese Oxide, 216th American Chemical Society National Meeting, Boston, MA, August 23-27, 1998.

85. Trivedi, P., and L. Axe, Characterization of Hydrous Aluminum Oxide and Sorption Studies with Sr and Cd, 72nd Colloid and Surface Science Symposium, American Chemical Society, Pennsylvania State University, University Park, PA, June 21-24, 1998.

86. Axe, L., Bunker, G., Anderson, P., and T. Tyson, An XAFS Analysis of Strontium at the Hydrous Ferric Oxide Surface, 71st Colloid and Surface Science Symposium, American Chemical Society, University of Delaware, Newark, June 29-July 2, 1997.

87. Axe, L., and P. R. Anderson, Experimental and Theoretical Diffusivities of Cd and Sr in HFO, presented at the Sorption of Metals by Earth Materials, Division of

Environmental Chemistry, 211th American Chemical Society National Meeting, New Orleans, LA, March 24-28, 1996.

88. Axe, L., and P. R. Anderson, Sr and Cd diffusion and reaction within Fe Oxides, presented at the Colloidal and Interfacial Phenomena in Aquatic Environments symposium, 209th American Chemical Society National Meeting, Anaheim, CA, April 4-6, 1995.

Invited

1. Axe, L., Biologically Active Filters: An Advanced Treatment Process for Removal of Pharmaceuticals and Personal Care Products, The City College of New York, Chemical Engineering Department, April 23, 2018.

2. Axe, L., Biologically Active Filters: An Advanced Treatment Process for Removal of Pharmaceuticals and Personal Care Products, Temple University, Civil and Environmental Engineering Department, March 22, 2017.

3. Axe, L., Zhang, S., Gitungo, S.W., Courtois, S., Raczko, R.F., Dyksen, J.E. Sustainable Treatment Processes for Emerging Contaminants, NJIT Technology & Society Symposium, January 25, 2017.

4. Axe, L., Zhang, S., Gitungo, S.W., Courtois, S., Raczko, R.F., Dyksen, J.E. Biologically Active Filters: An Advanced Treatment Process for Removal of Pharmaceuticals and Personal Care Products, Stevens Institute of Technology, Department of Civil, Environmental and Ocean Engineering, November 9, 2016.

5. Axe, L., Hua, H., Xin, Y. Characterizing Reactive Mineral Phases Using Core Samples Preserved for Redox Integrity, University Consortium, Colorado State University, October, 2016.

6. Axe, L., Shu, Z. Field Methods for Determining Lead Content in Bridge Paint Waste, New York Department of Transportation, Albany, NY, December 4, 2013.

7. Sandhu, N. K., Ndiba, P. K., Axe, L., Jahan, K., Ramanujachary, K. V., Magdaleno, T. F. Heavy metal contamination in highway marking glass beads. 91st Annual Meeting of Transportation Research Board. January 22-26, 2012, Washington DC. (Poster) Projects One of the sixteen High-Value Research Projects of State Department of Transportation showcased at the 2011 AASHTO Research Advisory Committee Summer Meeting held on July 25-28, 2011 at Salt Lake City.

8. Axe, L. B., Sandhu, N., Jahan, K., Ramanujachary, K. V., Magdaleno, T. F., American Traffic Safety Services Association, Heavy Metal Contamination in

Highway Marking Glass Beads, ATSSA Midyear Meeting, Chicago, IL, August 18-20, 2010.

9. Axe, L. B., Sandhu, N., Jahan, K., Ramanujachary, K. V., Magdaleno, T. F., 96th AASHTO Subcommittee Meeting on Materials, Heavy Metal Contamination in Highway Marking Glass Beads, AASHTO, Madison, WI, August 8, 2010.

10. Axe, L., Panelist at the NJ the American Council on Education (ACE) Network New Jersey ACE Network Spring 2008 Conference, Brookdale Community College, Lincroft, NJ, April 18th, Managing Your Life: Creating a Healthy Balance.

11. Axe, L., The impact of oxide coatings on contaminant mobility – Can we optimize their application in natural and engineered systems? Spring 2007 Seminar Series, Department of Environmental Science, Rutgers University, New Brunswick, April 27, 2007.

12. Axe, L., The impact of oxide coatings on contaminant mobility – Can we optimize their application in natural and engineered systems? Spring 2007 Seminar Series, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE, May 11, 2007.

13. Axe, L., The Role of X-ray Absorption Spectroscopy in Illuminating Contaminant Speciation, U.S. EPA Laboratory and Technical Information Group Annual Conference, Edison, NJ, May 2006.

14. Axe, L., XAS Studies on Metal Sorption and Attenuation in Amorphous Fe and Mn Oxides, The Environmental Sciences: Synchrotrons Providing Powerful Tools for a New Science, NSLS Annual Users' Meeting, Brookhaven National Laboratory, Upton, NY May 20-22, 2002.

15. Axe, L., Trivedi, P., Spataro, M., and T. Tyson, Laboratory and Spectroscopic Studies of Metal Interactions with Al, Fe, and Mn Oxides, University of Delaware, Soil Science Seminar Series, Department of Plant and Soil Sciences, May 1, 1998.

Current Advisees

1. Gitungo, Stephen, Pilot Plant Studies on Treating Emerging Contaminants, Ph.D. Environmental Engineering.
2. Hua, Han, Subsurface Geochemistry and Abiotic Processes at the Chambers Works Site, Ph.D. Environmental Engineering.
3. Yin, Xin, Iron Speciation in Redox Transition Zones at the Chambers Works Site, Ph.D. Environmental Engineering.
4. Ding, Wei, Abiotic Degradation of Chlorinated Solvents with Reactive Mineral Coatings from a Contaminated Subsurface Environment, MS Environmental Engineering.

Advisees Graduated

1. Hua, Han, 2021, Characterizing Reactive Iron Mineral Coatings and Their Roles in Natural Attenuation at a Contaminated Site, Ph.D. Environmental Engineering, Newark, NJ.
2. Zhang, Shuangyi, 2017, Biologically Active Filters: An Advanced Treatment Process for Pharmaceuticals and Personal Care Products, Ph.D. Environmental Engineering, Newark, NJ.
3. Zhan, Shu, 2014, Correlating Pb Concentrations in Paint to Leachable Concentrations, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
4. Sandhu, Nimrat, 2013, Environmental risk of glass beads contaminated with As, Pb, and Sb, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
5. Wang, Bin, 2011, A Study of the New York/New Jersey Coastal Water, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
6. Peter Ndiba, 2008, Phosphate and Thermal Stabilization of Heavy Metals in Dredged Sediments, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
7. Boonfueng, Thipnakarin, 2006, The Impact of Abiotic and Biogenic Mn Oxide Coatings on Contaminant Mobility, Bioavailability, and Attenuation, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
8. Xu, Ying, 2006, Adsorption of Heavy Metals on Iron Oxide Coated Silica, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
9. Maeng, Sungmin, 2004, Corrosion Studies on Alpha Tantalumn and Beta Tantalum Coated Steel, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
10. Fan, Ming, 2004, Modeling Contaminant Transport and Fate and Subsequent Impact on Ecosystems, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
11. Thongsri, Tepwitoon, 2004, Uncertainty Analysis in Ecological Risk Assessment Modeling, Ph.D. Environmental Science, NJIT, Newark, NJ.
12. Trivedi, Paras, 2001, Predicting Thermodynamic and Transport Parameters for Metal Sorption to Hydrated Metal Oxides in Aquatic Systems, Ph.D. Environmental Engineering, NJIT, Newark, NJ.
13. Lu, Haiyi, 2000, Development and Application of a Computer Simulation Tool for Ecological Risk Assessments, M.S. Thesis Environmental Engineering, NJIT, Newark, NJ.
14. Maeng, Sungmin, 1999, Characterization of Steel Corrosion in an Aggressive Environment, M.S. Thesis Environmental Engineering, NJIT, Newark, NJ.
15. Weiss, Erik, 1999, Preliminary Ecological Risk Assessment for Implications of Replacing Chromium Plating with Tantalum Coatings, M.S. Thesis Environmental Science, NJIT, Newark, NJ.
16. Christophi, Chris, 1998, Adsorption Competition of Cu, Cd, and Pb at the Goethite Surface, M.S Thesis Environmental Science, NJIT, Newark, NJ.

Committee Member to Ying Zhu (Ph.D. EVSC), Joshua Lefkowitz (Ph.D. EVSC), Ramana Susarla (Ph.D. CHE), Jincai Ma (Ph.D. EVSC Rutgers University), Robert Fellman (Ph.D. ENE), Anthony Elijius (Ph.D. MTSE), Harnoor Dhaliwal (M.S. EPS), Mojdeh Tabatabaie (Ph.D CHE), Kamilah S. Hylton (Ph.D. EVSC), Aiqin Jiang (Ph.D. MTSE), Ting Yu (Ph.D. CE), Dimitrios M. Zarkadas (Ph.D. CHE), Kallaya Suntornvongsagul (Ph.D. EVSC), Robert Lippencott (Ph.D. EVSC), James Dyer (Ph.D. Univ. Del), Neme Nnolim (Ph.D. Materials Science and Engineering), Netnapid Yossapol (Ph.D. ENE), Wiwat Kamolpornwijit (M.S. and Ph.D. ENE), Yun Kang (Ph.D. CHE), A. Sarma Kovvali (Ph.D. CHE), Anto Yohannan (M.S. MTSE)

Funding

Co-PI	NSF	INFEWS: US-CHINA: Biochar-Enabled Biologically Active Filtration System for Sustainable Water Management in Rice Agriculture	$500,000	09/01/19 to 08/31/23
PI	Chemours	Geochemistry Study at Chambers Works Site	$520,000	01/01/15 to 12/31/18
PI	United Water/ Suez NA	Advanced Pilot Testing of Treatment Processes for Removal of Endocrine Disruptive Compounds (EDCs) and Pharmaceuticals and Personal Care Products (PPCPs)	$239,557	09/03/13 to 11/31/16
PI	United Water	Investigation of the effectiveness of pilot-scale conventional and advanced water treatment processes for removal of unregulated organic compounds	$144,000	06/30/10 to 03/31/12
PI	NYSDOT	Field Methods for Determining Lead Content in Bridge Paint Removal Waste with Kauser Jahan, Rowan University	$404,254	11/01/09 to 12/31/13
Co-PI	NJ DOT	Heavy Metal Contamination in Highway Marking Beads with PI Kauser Jahan, Rowan University	$340,000	01/05/08 to 12/31/10
PI	NJWRRI	Dredged Sediments and the Impact of Their Reuse in Stabilized	$5,000	06/01/07 to 12/31/08

		Phosphate		
Co-PI	NSF – Advance	More than the Sum of Its Parts: Advancing Women at NJIT through Collaborative Research Networks with PI Nancy Steffen-Fluhr, Sima Bagheri, Z. H. Michalopoulou, and Priscilla Nelson, NJIT	$778,000	09/01/06 to 8/31/09
PI	Solvay	Dredged Sediments and the Impact of Their Reuse in Stabilized Phosphate: An Assessment of Process Optimization and Contaminant Speciation in the Resultant Product with Dan Watts, NJIT	$80,000	06/06/05 to 06/05/08
PI	Sustainable Green Manufacturing Program, U. S. Army	Modeling Contaminant Transport and Fate with Trevor Tyson, NJIT	$330,000	09/01/01 to 12/31/03
Co-PI	Sustainable Green Manufacturing Program, U. S. Army	Corrosion Prediction and Characterization Techniques with PI Trevor Tyson, NJIT	$213,289	09/01/02 to 12/31/03
Co-PI	Sustainable Green Manufacturing Program, U. S. Army	X-Ray Absorbing/Scattering Structural Characterization with PI Trevor Tyson, NJIT	$106,744	09/01/01 to 08/31/02
Co-PI	Sustainable Green Manufacturing Program, U. S. Army	Project Management and Technical Oversight with PI Dan Watts, NJIT	$210,000	09/01/01 to 12/31/03

PI	NSF Bioengineering and Environmental Systems	GOALI: Adsorption Competition in Soils with James Dyer, DuPont	$267,000	08/01/01 to 07/31/05
PI	DuPont Young Professor Grant	Adsorption Competition on Iron Oxides	$75,000	07/01/00 to 8/30/04
PI	DuPont Educational Aid Program 1999-2000 Grant	Competition of Calcium, Nickel, and Zinc Sorption to Goethite	$15,000	07/01/99 to 6/30/00
PI	NSF Bioengineering and Environmental Systems, POWRE	Using X-Ray Absorption Spectroscopy to Understand and Model Contaminant Distribution	$72,843	10/01/97 to 03/31/00
PI	Sustainable Green Manufacturing Program, U. S. Army	Life Cycle Environmental Impact with Trevor Tyson, NJIT	$173,000	09/01/97 to 08/31/01
Co-PI	Sustainable Green Manufacturing Program, U. S. Army	X-Ray Absorbing/Scattering Structural Characterization with PI Trevor Tyson	$243,000	09/01/97 to 08/31/01
Co-PI	NSF Infrastructure Program	Development of State-of -the-Art Geoenvironmental Engineering Research Facilities	$958,735	09/01/95 to 05/31/96

Courses Taught and Developed

Introduction to Chemical Engineering	CHE 101
Introduction to Environmental Engineering	ENE 262
Physical & Chemical Processes	ENE 664
Water Chemistry	ENE 663 (previously 560)

Fundamentals of Environmental Engineering	ENE 360
Environmental Chemodynamics	ENE 720/ ENE 620
Applied Environmental Soil Chemistry	ENE 760

Service Activities

NJDEP Science Advisory Board (Appointed) Member (SAB)
NJDEP SAB Water Quality and Quantity Standing Committee (Chair)
Science Advisory Board Member: DuPont/Chemours Chambers Works Site (2006-present)
Journal peer reviewing activity: *Environmental Science & Technology, J. of Colloid and Interface Sci., J. of Envir. Eng.* (ASCE), *Geochimica et Cosmochimica Acta*, *Water Research*
Panel member for proposal review: NSF Panels and Team member for a site visit of a NSF Science & Technology Center, U.S. EPA Panels
Editorial activity: Editorial Board – Advisory Board *Journal of Colloid and Interface Science* 2001-2003
Interuniversity Committee: New Jersey EcoComplex (NJEC) TMDL Review Panel
Advisor ACS SEED Program: Summers 2005-2013
Chaired workshop on Research and Education in Water Needs and Water Future: The Role of the Academic Community held on April 4th, 2008, NJIT, Newark, NJ.

University Service

Institute

Middle States Committee on Higher Education (MSCHE) Steering Committee and Co-Chair Working Group #6 Ethics and Integrity (2020-present)
Search Committee Member for VP of Human Resources (2019)
Academic Leadership Committee – Member (2015-present)
Committee on Undergraduate Student Appeals (2014-2015)
Search Committee – Director of Alumni Relations (Fall 2014)
Committee on Assessment of Student Learning (2011-2015)
UCRC (Spring 2012)
Committee on Data Standards (2014-present)
Committee on Undergraduate Student Appeals (2014-present)
Chair Salute to Engineering Excellence Awards Committee (2012)
NJIT Steering Committee for the NJIT ADVANCE grant (2011-2012)
Taskforce on Retention and Graduation (2011)
Enrollment Committee (2009-2012)
Middle States Working Group 2, Self Study Team (2009 -2011).
Institute Promotion & Tenure Committee (2008 – 2010)
NJIT Strategic Planning Committee -- Corporate Relations (2009)

Green Academic Council (2007 – 2008)
Library Committee (2003-2008)
Journals & Databases Subcommittee (2003-2005)
Environmental Council (2001-2005)
Search Committee for Dean of College of Science and Liberal Arts (2000 – 2001)
Center for Environmental Engineering and Science Committee (1999 – 2000)
Search Committee for Executive Director of CEES (1999 – 2000)
Women's Issues Committee (1998 – 2008)
Geoenvironmental Lab User Advisory Committee (appointed by Dean) (1998 – 1999)
Review Committee for Department and Program Assessment (1996 – 1999)
Research Committee (1996 – 1997)
Treatment and Remediation and Pollution Prevention Subcommittees to the CEES Planning Committee (1996 – 1997)

Newark College of Engineering

Search Committee – Academic Advisor for the Engineering Science Program (Spring 2015)
Teaching Assistantship Policy Subcommittee to the Committee on Graduate Education (Spring 2015)
Search Committee – Director Research Development (2014-2015)

School of Management

Chair Graduate Program Committee (2013-2014)
Chair Scheduling Committee (2012-2015)
Chaired Search Committee for the Manager of Undergraduate Programs (2012)
Committee Member on the Assessment of Learning (2012-2015)
Committee Member AACSB (2014-2015)

Department

CME P&T Committee Chair (2015-present)
CME Awards Committee Member (2017-present)
Chair Search Committee Professor of Practice (2018)
Chair Search Committee University Lecturer (2017)
Search Committee Member (2012)
Director of MS Environmental Engineering Program (2007-2009)
Advisor to the Undergraduate Environmental Engineering Program (2001-2005)
Albert Dorman Honors College Advisor for CEE (1998 – 2000)
Department Computing Needs Committee (1997 – 1998)
Search Committee for Chair of the Department of Civil and Environmental Engineering (1997—1999)
Department Teaching Excellence Committee (1996 – 1997)
Geoenvironmental Laboratory Committee (1996 – 1997)
Undergraduate Environmental Engineering Program Committee (1995 – 2000)

Honors

2019 Appointment as Board Member to NJDEP SAB

2014 ASCE 2014 Outstanding Reviewer

2014 Board Certified Environmental Engineering Member (BCEEM)

2012 Certificate of Merit for the paper presented (Stephen Gitungo presenter) at the 244th National Meeting of the ACS.

2011-2012 NJDOT Heavy Metal Study selected as one of the "Sweet 16" Projects from across the country as High Value Research, Research Advisory Committee of AASHTO (August 2011). Featured in the 91st Annual Meeting of Transportation Research Board, Washington DC. January 22-January 26, 2012; one of the 16 High-Value Research Projects, 2012.

2006-Present DuPont/Chemours Science Advisory Board for the Chambers Works Site.

2011 2nd prize in 96th New Jersey Water Environment Association Graduate Competition, New Jersey Water Environment Association.

2011 Louis Berger International Scholar Award, Louis Berger.

2011 New Jersey Water Environment Association Scholar Award, New Jersey Water Environment.

2004 Co-organizer and co-chair for Incorporating intraparticle surface diffusion into a bulk transport code for groundwater modeling Advances in Environmental Reaction Kinetics and Thermodynamics: Long-term Fate of Anthropogenic Contaminants, Division of Environmental Chemistry, 228th American Chemical Society National Meeting, Philadelphia, PA, Aug. 22-26, 2004.

2004 Organizing Committee for the 1st International Conference on Engineering for Waste Treatment WasteEng 2005, Albi, France, May 2005.

2003 Participant in the Ninth Annual Frontiers in Engineering Symposium, National Academy of Engineering, Irvine, CA.

2001-2003 Advisory Board Member for the *Journal of Colloid and Interface Science*.

2000 Awarded the DuPont Young Professor Grant 7/00 to 6/03.

2000 Invited to submit Feature Article for the *J. of Colloid and Interface Science*.

1999 Co-author to paper presented by P. Trivedi receiving the Certificate of Merit at the 217th National Meeting of the ACS.

1999 Participant in presenting poster presentation at the Coalition for National Science Funding, 4th Annual Exhibition and Reception, Rayburn House Office Building, Washington D.C., May 20.

1997 Participant in the National Science Foundation Civil and Mechanical Systems Division Workshop for the Advancement & Retention of Underrepresented & Minority Engineering Educators

1996 Co-chaired the session Factors: Time Dependency, Sorption of Metals by Earth Materials, Division of Environmental Chemistry, 211th ACS National Meeting, New Orleans, LA, March 24-28, 1996.

1995 Certificate of Merit for the paper presented at the 209th National Meeting of the ACS.

1990-95 Awarded fellowship in Argonne National Laboratory - Lab Graduate Program.

1994 Recipient of the American Chemical Society Graduate Student Award.

1993 Awarded teaching assistantship, Illinois Institute of Technology.

1991 Recipient of the Water Environment Federation Student Recognition Award.

Professional Societies

1999 American Society of Civil Engineers Member (ASCE)
1995 Association of Environmental Engineering and Science Professors (AEESP)
1992 American Institute of Chemical Engineers Senior Member (AIChE)
1990 American Water Works Association Member (AWWA)
1986 American Chemical Society Member (ACS)