Curriculum Vitae
Clemson University
Environmental Engineering and Earth Sciences
College of Engineering and Science

NAME

Kevin T. Finneran

PERSONAL INFORMATION

Associate Professor
Environmental Engineering and Earth Sciences
312 Biosystems Research Complex (BRC)
105 Collings Street
Clemson, SC 29634

Principal
Finneran Environmental, LLC: *specialty remediation services*
205 Knollwood Drive
Clemson, SC 29631

EDUCATION

Ph.D., University of Massachusetts at Amherst, 2001, Microbiology

B.S., Rutgers University, 1996, Environmental Sciences

PROFESSIONAL EXPERIENCE

Clemson University, 2010-Present, Associate Professor of Environmental Engineering and Earth Sciences

Clemson University, 2015-Present, Associate Professor of Microbiology (Joint Appointment)

University of Illinois at Urbana Champaign, 2004-2010, Assistant Professor of Civil and Environmental Engineering

University of Illinois at Urbana Champaign, 2008-2010, Affiliate Faculty for the Institute of Genomic Biology (IGB)

Middlesex Community College at Lowell, 2003-2004, Adjunct Professor of Biological Sciences

GeoSyntec Consultants, 2001-2004, Environmental Microbiologist and “Professional” Level Scientist

University of Massachusetts at Amherst, 1997-2001, Graduate Research Assistant (1998-2001) and Graduate Teaching Assistant (1997)

U.S. EPA Environmental Response Team Center Edison, NJ, 1994-1997, Cooperative Education Internship Environmental Scientist

HONORS AND AWARDS

Teaching

Incomplete list of teachers ranked excellent by their students, spring 2007, CEE 330

Incomplete list of teachers ranked excellent by their students, fall 2007, CEE 330

List of teachers ranked excellent by their students, spring 2008, CEE 444

List of teachers ranked excellent by their students, fall 2008, CEE 330

List of teachers ranked excellent by their students, spring 2009, CEE 330

List of teachers ranked excellent by their students, fall 2009, CEE 330

University of Illinois Engineering Council Award for Excellence in Advising, 2009

University of Illinois Engineering Council Award for Excellence in Advising, 2010

Research

Kavli Fellow of the National Academy of Sciences (NAS) (May 2012)

Best student paper award, Association for Environmental Health Sciences (AEHS) annual east coast conference on contaminated soil, sediment, and water, Amherst, MA, October 2007 (Student: Na Wei)

Best student paper award, Association for Environmental Health Sciences (AEHS) annual east coast conference on contaminated soil, sediment, and water, Amherst, MA, October 2009 (Student: Kay Dunnett)

Best student paper award, Association for Environmental Health Sciences (AEHS) annual east coast conference on contaminated soil, sediment, and water, Amherst, MA, October 2013 (Student: Jovan Popovic)

Best student paper award, Battelle Conference on In Situ and On Site, and Sustainable Remediation, Miami, FL, May 2015 (Student: Jolanta Niedzwiecka)

Clemson University Department of Environmental Engineering and Earth Sciences, Environmental Scholars Award, April 2015 (Student: Jolanta Niedzwiecka)

CONSULTING EXPERIENCE

Finneran Environmental, LLC, Principal (January 2008-present), specialty remediation consulting services to the environmental engineering community

Tersus Environmental, Scientific Advisory Board member (February 2015-present), provide specialty remediation technical services to Tersus clients via sub-contracting of my firm

Representative Clients:

1. EnviroSouth Consulting, Greenville, SC (January 2014-present), data analysis, sample planning, and bioremediation design for a TCE contaminated site in Spartanburg, SC
2. McCall Environmental Law Firm/Easley Site Trust, Greenville, SC (February 2013-Present), data analyses and field bioremediation design for a TCE-contaminated site in Easley, SC
3. Burns & McDonnell Consulting, Chesterfield, MO (2008-Present), developed laboratory and field remediation strategies for RDX and TCE contamination
4. Carus Corporation Remediation Products & Services, Peru, IL (2011-2012), expert services by retainer for bioremediation and biodegradation
5. EcoStar, LLC, Louisville, KY (2015-Present), petroleum hydrocarbon bioremediation in contaminated groundwater
6. Solutions, IES, Raleigh, NC (2015-Present), review ESTCP documents for eventual publication in a remediation "wiki"

MEMBERSHIPS (PROFESSIONAL SOCIETY MEMBERSHIPS)

Member, American Chemical Society, ACS (1998-Present)

Member, Association of Environment Engineering and Science Professors, AEESP, (2005-Present)

Member, American Society of Microbiology, ASM (1998-Present)

Member, International Society for Microbial Ecology, ISME (2010-Present)

Member, National Groundwater Association, NGWA, (2003-Present)

Member, Society for Industrial Microbiology, SIM (2011-Present)

PROFESSIONAL ACTIVITIES

1. Professional Society

Invited Session Chair, Battelle International Symposium on Bioremediation and Sustainable Environmental Technologies, 2013 Jacksonville, FL, Altering subsurface geochemistry for remediation session and Biofuels session

Kavli Fellow, National Academy of Sciences and Alexander von Humboldt Foundation, as part of the NAS/AVHF German American Frontiers of Science Conference (GAFOS) series, inaugural presentation given May 10-13, 2012

Invited Session Chair, Association for Environmental Health Sciences (AEHS) Annual Conference on Contaminated Soil, Sediment, and Water, Bioremediation Session (Sponsored Session) (2012, 2013)

Invited Steering Committee Member, Battelle Conference on Chlorinated and Recalcitrant Compounds 2010, *only academic invited to participate on the 6 person steering committee*

Invited Panelist, DuPont Remediation Group Panel on Biological-Abiotic Reactions for in situ and ex situ remediation, 2009-2010

Invited Session Chair, Battelle In Situ and On Site Bioremediation Conference, Fuel Oxygenates and Petroleum Contamination, May 2009

Invited Session Chair, Battelle In Situ and On Site Bioremediation Conference, Fuel Oxygenates and Petroleum Contamination, to be held May 2009, Baltimore, MD (2009)

Invited Session Chair, Association for Environmental Health Sciences (AEHS) Annual Conference on Contaminated Soil, Sediment, and Water, Environmental Biotechnology Session (Sponsored Session) (2006)

Invited Session Chair, Association for Environmental Health Sciences Annual Northeast Conference on Contaminated Soil, Sediment, and Water, Bioremediation Session (2006-2008, 2003-2004)

Editorial Board, Soil and Sediment Contamination: an International Journal (see above) (Taylor and Francis journal for AEHS) (2002-present)

Submitted "Willingness to Serve" statement to National Ground Water Association (NGWA) for conference committee coordination and organization (2004-present)

Scientific Advisory Board member, Association for Environmental Health Sciences Annual Northeast Conference on Contaminated Soil, Sediment, and Water (2001-present)

2. <u>Federal and State</u>

Invited by U.S. Department of Defense to Attend a "By Invitation Only" Expert Panel Summit on "*Biogeochemical Processes in the Degradation of Chlorinated Solvents*; current state of knowledge and RFP development for FY2008 DoD research statements of need" (co-sponsored by U.S. EPA) (2007)

Reviewed the U.S. EPA Document "Monitored Natural Attenuation of Methyl tert Butyl Ether (MTBE)", authored by John Wilson et al, at the request of the U.S. EPA (2006)

BOOKS AND MONOGRAPHS

1. Finneran, K.T. and D.R. Lovley, In Situ Bioremediation: Anaerobic Bioremediation of MTBE and TBA: *in MTBE Remediation Handbook*, P. Kostecki and E. Moyer, Editors. Amherst Scientific Publishers, Amherst, MA, 265-278 (2003)

REFEREED JOURNAL PUBLICATIONS (H-INDEX = 18)

1. Finneran, K.T. and D.R. Lovley, Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), Environ. Sci. Technol. **35**(9), 1785-1790 (2001)

2. Finneran, K.T., R.T. Anderson, and D.R. Lovley, Potential for Bioremediation of Uranium-Contaminated Aquifers with Microbial U(VI) Reduction, Soil and Sediment Contamination: an International Journal, **11**(3), 339-357 (2001)

3. Finneran, K.T., D.R. Lovley, and E. Moyer, Anaerobic Strategies for Enhanced MTBE and TBA Bioremediation, Journal of Contaminated Soil, Sediment, and Water, Special Fuel Oxygenates Issue, **Spring 2001**, 91-94 (2001)

4. Finneran, K.T., H.R. Forbush, C.V. Gaw-VanPragh, and D.R. Lovley, *Desulfitobacterium metallireducens* sp. Nov., an Anaerobic Bacterium that Couples Growth to the Reduction of Metals, Humic Substances, and Chlorinated Compounds, Int. J. Syst. Evol. Microbiol., **52**, 1929-1935 (2001)

5. Finneran, K.T., C.V. Johnsen, and D.R. Lovley, *Rhodoferax ferrireducens* sp. Nov., a Psychrotolerant, Facultatively Anaerobic Bacterium that Respires Fe(III) and Nitrate Coupled to the Oxidation of Acetate, Int. J. Syst. Evol. Microbiol., **53**(3), 669-673 (2002)

6. Holmes, D.H., K.T. Finneran, and D.R. Lovley, Enrichment of *Geobacteraceae* Associated with Stimulation of Dissimilatory Metal Reduction in Uranium-Contaminated Aquifer Sediments, Appl. Environ. Microbiol., **68**(5), 2300-2306 (2002)

7. Finneran, K.T., Housewright, M.E., and D.R. Lovley, Multiple Influences of Nitrate on Uranium Solubility during Bioremediation of Uranium-Contaminated Sediment, Environ. Microbiol., **4**(9), 510-516 (2002)

8. Shelobolina, E.S., K.R. O'Neill, K.T. Finneran, L.A. Hayes, D.R. Lovely, Potential for In Situ Bioremediation of a Low-pH, High-Nitrate Uranium-Contaminated Groundwater, Soil and Sediment Contamination: an International Journal, **12**(6), 865-884 (2003)

9. Nevin, K.P., K.T. Finneran, and D.R. Lovley, Microorganisms Associated with Uranium Bioremediation in a High Salinity Subsurface Sediment, Appl. Environ. Microbiol., **69**(6), 3672-3675 (2003)

10. Kwon, M.J., and K.T. Finneran, Microbially-Mediated Hexahydro-1,3,5-trinitro-1,3,5-triazine Biodegradation by Extracellular Electron Shuttling Compounds, Appl. Environ. Microbiol., **72**(9), 5933-5941 (2006)

11. Reinauer, K., Y. Zhang, X. Yang and K.T. Finneran, Tert-Butyl Alcohol Biodegradation by Psychro- and Thermo-tolerant Microbial Cultures Enriched from Granular Activated Carbon, Biodegradation, **19**(2), 259-268 (2007)

12. Hatch, J.L. and K.T. Finneran, Reduced extracellular Electron Shuttles as Electron Donors for Hydrogen Production in Fermentative Bacterial Metabolism, Current Microbiology, **56**(3), 268-273 (2007)

13. McKelvie, J.R., S.K. Hirschorn, G. Lacrampe-Couloume, J. Lindstrom, J. Braddock, K.T. Finneran, D. Trego, and B. Sherwood-Lollar, Evaluation of TCE and MTBE in situ Biodegradation: Integrating Stable Isotope, Metabolic Intermediate, and Microbial Lines of Evidence, GWMR, **27**(4), 63-73 (2007)

14. Kwon, M.J., and K.T. Finneran, Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) and Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) Biodegradation Kinetics amongst several Fe(III)-Reducing Genera, Soil and Sediment Contamination, **17**(1), 1-15 (2008)

15. Kwon, M.J. and K.T. Finneran, Distribution of Products and Mineralization Potential for Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) in Abiotic versus Biological Degradation Pathways with Anthraquinone-2,6-Disulfonate (AQDS) and *Geobacter metallireducens*, Biodegradation, **19**(5), 705-715 (2008)

16. Wei, Na, and K.T. Finneran, Microbial Community Analyses of Three Distinct, Liquid Cultures that Degrade Methyl tert Butyl Ether (MTBE) using Anaerobic Metabolism, Biodegradation, **20**(5), 695-707 (2009)

17. Kwon, M.J. and K.T. Finneran, Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) Reduction is concurrently Mediated by Direct Electron Transfer from Hydroquinones and the Resulting Biogenic Fe(II) formed during Electron Shuttle-Amended Biodegradation, Environmental Engineering Science, **26**(5), 961-971 (2009)

18. Kwon, M.J. and K.T. Finneran, Electron Shuttle-Stimulated RDX Mineralization and Biological Production of 4-nitro-2,4-diazabutanal (NDAB) in RDX-Contaminated Aquifer Material, Biodegradation, **21**(6), 923-937 (2010)

19. Wei, Na, and K.T. Finneran, 2011, The Influence of Ferric Iron on Complete Dechlorination of Trichloroethylene (TCE) to Ethene: Fe(III) Reduction does not Always Inhibit Complete Dechlorination, Environ. Sci. Technol., **45**(17), 7422-7430

20. Kwon, M.J., E. O'Loughlin, D. Antonopoulos, and K.T. Finneran, 2011, Geochemical and Microbiological Processes Contributing to the Transformation of Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) in Contaminated Aquifer Material, Chemosphere, **84**(9), 1223-1230

21. Wei, Na, and K.T. Finneran, 2011, Microbial Community Composition during Anaerobic TBA Mineralization in Fuel Contaminated Aquifer Material, Environ. Sci. Technol., **45**(7), 3012-3018

22. Mohatt, J.L., L. Hu, K.T. Finneran, and T.J. Strathmann, 2011, Biologically Mediated Abiotic Transformation of the Antimicrobial Agent Sulfamethoxazole under Iron-Reducing Soil Conditions, Environ. Sci. Technol., **45**(11), 4793-4801

23. Ye, X., X. Zhang, E. Morgenroth, and K.T. Finneran, 2011, Anthrahydroquinone-2,6-disulfonate (AH_2QDS) increases hydrogen molar yield and xylose utilization in growing cultures of *Clostridium beijerinckii*, Applied Microbiol Biotechnol., **92**(4), 855-864

24. Ye, X., X. Zhang, E. Morgenroth, and K.T. Finneran, 2012, Anthrahydroquinone-2,6-disulfonate increases the rate of hydrogen production during *Clostridium beijerinckii* fermentation with glucose, xylose, and cellobiose, International Journal of Hydrogen Energy, **37**, 11701-11709

25. Wei, N. and K.T. Finneran, 2013 Low and High Acetate Amendments are Equally as Effective at Promoting Complete Dechlorination of Trichloroethylene (TCE), Biodegradation, **24**, 413-425

26. Zhang, X., X. Ye, K.T. Finneran, J. Zilles, and E. Morgenroth, 2013, Interactions between *Clostridium beijerinckii* and *Geobacter metallireducens* in co-culture fermentation with anthrahydroquinone-2, 6-disulfonate (AH_2QDS) for enhanced biohydrogen production from xylose, Biotechnology and Bioengineering, **110**(1), 164-172

27. Azam, H.M. and K.T. Finneran, 2013, Ferric Iron Increases Fe(III)-Reducing Microbial Diversity and Carbon Oxidation in On-Site Wastewater Systems, Chemosphere **90**(4), 1435-1443

28. Michael F. Fanizza, Hongkyu Yoon, Changyong Zhang, Martinus Oostrom, Thomas W. Wietsma, Nancy J. Hess, Mark E. Bowden, Timothy J. Strathmann, Kevin T. Finneran, and Charles J. Werth, 2013, Pore Scale Evaluation of Uranyl Phosphate Precipitation in a Model Groundwater System, Water Resources Research, **49**(2), 874-890

29. Ye, X., X. Zhang, E. Morgenroth, and K.T. Finneran, 2013, Exogenous anthrahydroquinone-2,6-disulfonate specifically increases xylose utilization during mixed sugar fermentation by *Clostridium beijerinckii* NCIMB 8052, International Journal of Hydrogen Energy, **38**, 2719-2727

30. Millerick, K.A., S.R. Drew, and K.T. Finneran, 2013, Electron Shuttle Mediated Biodegradation of Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX) Adsorbed to Granular Activated Carbon, Environmental Science and Technology, 47:8743-8750

31. Zhang, X. X. Ye, B. Guo, K.T. Finneran, J. Zilles, and E. Morgenroth, 2013,

Lignocellulosic hydrolysates and extracellular electron shuttles for H_2 production using co-culture fermentation with Clostridium beijerinckii and *Geobacter metallireducens*, Bioresource Technology, 147:89-95

32. Kwon, M.J., N. Wei, K. Millerick, J. Popovic, and K.T. Finneran, 2014, *Clostridium geopurificans* strain MJ1 sp. nov., a Strictly Anaerobic Bacterium that Grows via Fermentation and Reduces the Cyclic Nitramine Explosive Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), Current Microbiology, 68:743-750

33. Reinauer, K. J. Popovic, C. Weber, K.A. Millericik, M.J. Kwon, N. Wei, Y. Zhang, and K.T. Finneran, 2014, *Hydrogenophaga carboriunda* sp. nov., a Tertiary Butyl Alcohol Oxidizing, Psychrotolerant Aerobe Derived from Granular Activated Carbon, Current Microbiology, 68:510-517

34. Azam, H.M. and K.T. Finneran, 2014, Fe(III) Reduction Mediated Phosphorus Removal as Vivianite in Septic System Wastewater, Chemosphere, 97:1-9

35. Niedzwiecka, J.B. and K.T. Finneran, 2015, Frontier Review: Combined biological and abiotic reactions for degradation of explosives and insensitive munitions (IM), Environ Sci: Water Res & Technol, 1:34-39

36. Millerick, K.A., J.T. Johnston, and K.T. Finneran, 2016, Photobiological transformation of hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) using *Rhodobacter sphaeroides*, Chemosphere, 159:138-144

37. Popovic, J., Ye. X., Haluska, A., and K.T. Finneran, 2016, Increasing xylose consumption and butanol production with ferric iron and extracellular electron shuttling molecules during fermentation with *Clostridium beijerinckii* NCIMB 8052 and a novel, solventogenic Bacterium, Energy and Environ Sci, Submitted

CONFERENCE PROCEEDINGS (PUBLICATIONS BASED ON REVIEW OF ENTIRE PAPER, NOT JUST AN ABSTRACT)

1. K.T. Finneran and D.R. Lovley, 2001, Anaerobic Degradation of MTBE and TBA, Proceedings from the EPA/API Workshop on MTBE Biodegradation, Cincinnati, OH (February 1-3, 2000)

2. Reinauer, Kimberly, Yang Zhang, Xiaomin Yang and K.T. Finneran, 2006, Biodegradation of tert-Butyl Alcohol by a Mixed, Aerobic Culture, Second International Meeting on Environmental Biotechnology and Engineering (2IMEBE), Mexico City, Mexico (September 26-29, 2006)

3. Hatch, Jennifer, and K.T. Finneran, 2006, Increasing Fermentative Hydrogen Production using a Microbial Physiology Approach, Second International Meeting on Environmental Biotechnology and Engineering (2IMEBE), Mexico City, Mexico (September 26-29, 2006)

4. Reinauer, Kimberly, Yang Zhang, Xiaomin Yang and K.T. Finneran, 2006, Biodegradation of tert-Butyl Alcohol by a Mixed, Aerobic Culture, National Ground Water Association (NGWA) 2006 Petroleum Hydrocarbons and Organic Chemicals in Groundwater, Houston, TX (November 6-7, 2006)

5. Niedwiecka, J.B. and K.T. Finneran, 2014, Joint Army, Navy, NASA, Air Force (JANNAF) workshop proceedings: fate, transport, and effects of insensitive munitions, issues and recent data, JANNAF 2014 IM meeting, Charleston, SC, sponsored by SERDP-DoD, May 18-22, 2014

RESEARCH REPORTS (FINAL REPORTS LISTED)

1. K.T. Finneran, and X. Zhang, "Phosphorus removal in on-site (septic) systems by adding Fe(III) to stimulate Fe(III) reduction", University of Illinois and University of Massachusetts, Final Report, CICEET (September 2010)

2. K.T. Finneran, and E. Morgenroth, "Hydrogen production in Clostridium beijerinckii using reduced extracellular electron shuttling compounds", Clemson University and ETH Zurich, Final Report, National Science Foundation project number 0756054 (September 2011)

3. K.T. Finneran, "Complete dechlorination of trichloroethylene (TCE) by non-Dehalococcoides microorganisms", Clemson University, Final Report, National Science Foundation project number 1102889 (October 2012)

OTHER SCHOLARLY PUBLICATIONS (ABSTRACTS, INVITED REVIEWS, DISCUSSIONS)

4. K.T. Finneran, H.M. Forbush, R.T. Anderson, P.E. Long, D.R. Lovley, Microbiological and Geochemical Analysis of Microbial Uranium Reduction in a Uranium-Contaminated Aquifer, ASM General Meeting, Los Angeles, CA, May 21-25, 2000

5. K.T. Finneran, R.T. Anderson, D.R. Lovley, Stimulated U(VI) Remediation in a Uranium-Contaminated Aquifer, SETAC Annual Meeting, Nashville, TN, November 12-16, 2000

6. C. Johnsen, D. Holmes, K.T. Finneran, R.T. Anderson, D.R. Lovley, Stimulated Uranium Immobilization within Uranium-Contaminated Aquifers, Departmental Annual Meeting, Amherst, MA, March 10, 2001

7. E. Shelobolina, J. Tor, K.T. Finneran, K. Kashefi, D.R. Lovley, Enrichment and Isolation of Novel Mesophilic and Thermophilic Microorganisms, Departmental Annual Meeting, Amherst, MA, March 10, 2001

8. K.T. Finneran, R.T. Anderson, D. Holmes, S. Ciufo, P.E. Long, D.R. Lovley, Geochemical and Microbiological Analysis of Bioremediation of Uranium-Contaminated Subsurface Environments, ASM General Meeting, Orlando, FL, May 20-24, 2001

9. D.E. Holmes, R.A. O'Neil, K.T. Finneran, D.R. Lovley, Enrichment of Geobacteraceae Associated with Stimulation of Dissimilatory Metal Reduction in Uranium-Contaminated Aquifer Sediments, ASM General Meeting, Salt Lake City, UT, May 19 – 23, 2002

10. C.V. Johnsen, K.T. Finneran, D.R. Lovley, *Geoferax ferrireducens* gen. nov., sp. Nov.: A Facultatively Anaerobic, Acetate- and Benzoate-Oxidizing Psychrotolerant Fe(III)-Reducing Bacterium, ASM General Meeting, Salt Lake City, UT, May 19 – 23, 2002

11. R.T. Anderson, K.T. Finneran, J. Jones, J.D. Istok, T.C. Wilson, P.E. Long, D.R. Lovley, Stimulated In Situ Removal of U(VI) from Uranium-Contaminated Groundwater, ASM General Meeting, Salt Lake City, UT, May 19 – 23, 2002

12. K.T. Finneran, E.S. Shelobolina, D.R. Lovley, Removal of Dissolved U(VI) Associated with Nitrate Reduction in a Low-pH, High Nitrate Aquifer, ASM General Meeting, Salt Lake City, UT, May 19 – 23, 2002

13. K.T. Finneran, R.T. Anderson, P.J. Zeeb, E.E. Cox, D.R. Lovley, Geochemical and Microbiological Analysis of Bioremediation of Uranium-Contaminated Subsurface Environments, SERDP/ESTCP Partners Meeting, Washington, DC, December 3-5, 2002

14. S. Dworatzek, and P.J. Zeeb, and K.T. Finneran, TCE Bioremediation in a Deep, Basalt Aquifer, Battelle In Situ and On Site Bioremediation Symposium, Orlando, FL, June 2 – 6, 2003

15. K.T. Finneran, S. Dworatzek, and P.J. Zeeb, TCE Bioremediation in a Deep, Basalt Aquifer, ASM General Meeting, Washington, DC, May 18 – 22, 2003

16. Chartrand, M., G.L. Couloume, K.T. Finneran, P.R. Chang, P.J. Zeeb, and B. Sherwood-Lollar, Evidence of Biodegradation at a DNAPL Contaminated, Fractured Bedrock Field Site using Stable Carbon Isotope Analyses, Battelle Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA May 24-27, 2004

17. Kwon, Man Jae and K.T. Finneran, Humic Substances Mediated Biodegradation of Hexhydro-1,3,5-trinitro-1,3,5-triazine (RDX), ISSM/IJSEB Joint International Conference on Subsurface Microbiology, Jackson, WY, August 20 – 26, 2005

18. Kwon, Man Jae and K.T. Finneran, Humic Substances Mediated Biodegradation of Hexhydro-1,3,5-trinitro-1,3,5-triazine (RDX), SERDP/ESTCP Partners Meeting, Washington, DC, November 30 – December 1, 2005

19. Kwon, Man Jae and K.T. Finneran, Humic Substances Mediated Biodegradation of Hexhydro-1,3,5-trinitro-1,3,5-triazine (RDX), AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 20 – 24, 2005

20. Finneran, K.T. Humic-substance and Iron Mediated Degradation of Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX): the Role of Electron Shuttles in Bioremediation. AEHS Annual West Coast Conference on Contaminated Soils, Sediment, and Water, San Diego, CA, March 13 – 16, 2006

21. Kwon, Man Jae, S. Drew, and K.T. Finneran, Humic Substances Mediated Biodegradation of Hexhydro-1,3,5-trinitro-1,3,5-triazine (RDX) and Other Explosives Residues in Sediment and Water, Battelle International Conference on Recalcitrant and Chlorinated Compounds, Monterey, CA, accepted for presentation May 22 – 25, 2006

22. Kwon, Man Jae, S. Drew, and K.T. Finneran, Extracellular Electron Shuttle Mediated Biodegradation of Hexahydro-1,3,5-trinitro-1,3,5-Triazine (RDX) in RDX-Contaminated Aquifer Material, ASM General Meeting, Orlando, FL, May 21-25, 2006

23. Zhang, Yang, and K.T. Finneran, Tert-Butyl Alcohol Biodegradation by a Mixed Bacterial Culture Enriched from Granular Activated Carbon, ASM General Meeting, Orlando, FL, May 21-25, 2006

24. Reinauer, Kimberly, Yang Zhang, Xiaomin Yang and K.T. Finneran, Biodegradation of tert-Butyl Alcohol by a Mixed, Aerobic Culture, Second International Meeting on Environmental Biotechnology and Engineering (2IMEBE), Mexico City, Mexico, September 26-29,2006

25. Hatch, Jennifer, and K.T. Finneran, Increasing Fermentative Hydrogen Production using a Microbial Physiology Approach, Second International Meeting on Environmental Biotechnology and Engineering (2IMEBE), Mexico City, Mexico, September 26-29,2006

26. Zhang, Yang, and K.T. Finneran, Tert-Butyl Alcohol (TBA) Biodegradation by a Mixed Bacterial Culture *YZ1* Enriched from Granular Activated Carbon (GAC), AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 16 – 19, 2006

27. Reinauer, Kimberly, and K.T. Finneran, Biodegradation of tert-Butyl Alcohol by a Mixed, Aerobic Culture, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 16 – 19, 2006

28. Kwon, Man Jae, and K.T. Finneran, Bioremediation of Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) and 1,3,5,7-tetranitroperhydro-1,3,5,7-tetrazocine (HMX)-Contaminated Sediments, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 16 – 19, 2006

29. Hatch, Jennifer, and K.T. Finneran, Increasing Fermentative Hydrogen Production using a Microbial Physiology Approach, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 16 – 19, 2006

30. Bell, Caitlin, and K.T. Finneran, Electron Shuttles in Bioremediation: PCB and Chlorinated Ethene Biodegradation, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, November 6 – 7, 2006

31. Reinauer, Kimberly, and K.T. Finneran, Biodegradation of tert-Butyl Alcohol by a Mixed, Aerobic Culture, National Groundwater Association (NGWA) Conference on Petroleum Hydrocarbon Remediation, October 16 – 19, 2006

32. Reinauer, Kimberly, Yang Zhang, Xiaomin Yang and K.T. Finneran, 2006, Biodegradation of tert-Butyl Alcohol by a Mixed, Aerobic Culture, National Ground Water Association (NGWA) 2006 Petroleum Hydrocarbons and Organic Chemicals in Groundwater, Houston, TX, November 6-7, 2006

33. Bell, Caitlin, and K.T. Finneran, Extracellular Electron Shuttling Compounds in Bioremediation of Chlorinated Organic Compounds, Battelle Conference on Remediation of Contaminated Sediment, Savannah, GA, January 22-25, 2007

34. Finneran, K.T. Extracellular Electron Shuttles in Bioremediation and Biotechnology, to be presented at the Battelle Conference on In Situ and On Site Bioremediation, Baltimore, MD, May 6-10, 2007

35. Reinauer, Kimberly, and K.T. Finneran, Aerobic Biodegradation of Tert-Butyl Alcohol (TBA) by Cultures Derived from Granular Activated Carbon, ASM General Meeting, Toronto, Ontario, Canada, May 20-24, 2007

36. Bell, Caitlin, and K.T. Finneran, Concurrent Fe(III) Reduction and Complete Dechlorination of Chlorinated Ethenes in Contaminated Marine Sediment, ASM General Meeting, Toronto, Ontario, Canada, May 20-24, 2007

37. Hatch, Jennifer, and K.T. Finneran, Physiological Approaches to Increase Molar H_2 Yield in Fermentative Cultures: Use of Extracellular electron Shuttles, ASM General Meeting, Toronto, Ontario, Canada, May 20-24, 2007

38. Kwon, Man Jae, and K.T. Finneran, Multiple Electron Transfer Pathways for RDX and HMX in the Presence and Absence of Bioavailable Fe(III), ASM General Meeting, Toronto, Ontario, Canada, May 20-24, 2007

39. Kwon, Man Jae, and K.T. Finneran, Multiple Electron Transfer Pathways for RDX and HMX in the Presence and Absence of Bioavailable Fe(III), AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 15-18, 2007

40. Wei, Na, and K.T. Finneran, Anaerobic MTBE and TBE Biodegradation during Shifting Biochemical Conditions, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 15-18, 2007

41. Finneran, K.T. Sustainable Bioremediation: Use of DDGS and Stabilized WWS as Electron Donors in Bioremediation, Battelle Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA, May 19-22, 2008

42. Kwon, Man Jae and K.T. Finneran, Biotic and Abiotic Reactions and the Microbial Community that Develops during Electron Shuttle Mediated RDX Biodegradation, ASM General Meeting, Boston, MA June 1-5, 2008

43. Wei, Na and K.T. Finneran, Three Novel, Anaerobic Microbial Cultures that Degrade MTBE as the Sole Carbon and Energy Source, ASM General Meeting, Boston, MA June 1-5, 2008

44. Ye, Xiaofeng and K.T. Finneran, Hydrogen Production Increases in *Clostridium* fermentation using Extracellular Electron Shuttles, ASM General Meeting, Boston, MA June 1-5, 2008

45. Finneran, K.T. Biotic and Abiotic Reactions and the Microbial Community that Develops during Electron Shuttle Mediated RDX Biodegradation, ACS National Meeting, Philadelphia, PA, August 17-21, 2008

46. Kwon, Man Jae, and K.T. Finneran, Biotic and Abiotic Reactions and the Microbial Community that Develops during Electron Shuttle Mediated RDX Biodegradation, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 20-23, 2008

47. Wei, Na, and K.T. Finneran, Anaerobic MTBE and TBE Biodegradation during Shifting Biochemical Conditions, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 20-23, 2008

48. Wei, Na, and K.T. Finneran, Complete Dechlorination of TCE to Ethene in Sediment and Enrichments not dominated by *Dehalococcoides*, REMTEC Conference, Atlanta, GA, March 3-5, 2009

49. Dunnett, Kayleigh, and K.T. Finneran, Tert Butyl Alcohol Biodegradation in Inoculated Bio-GAC Systems, REMTEC Conference, Atlanta, GA, March 3-5, 2009

50. Kwon, Man Jae, and K.T. Finneran, Biotic and Abiotic Reactions and the Microbial Community that Develops during Electron Shuttle Mediated RDX Biodegradation, American Chemical Society National Meeting, Salt Lake City, UT, March 22-26, 2009

51. Wei, Na, and K.T. Finneran, Anaerobic MTBE and TBE Biodegradation during Shifting Biochemical Conditions, National Tanks Conference and Expo, Sacramento, CA, March 30-April 1, 2009

52. Dunnett, Kayleigh, and K.T. Finneran, Tert Butyl Alcohol Biodegradation in Inoculated Bio-GAC Systems, National Tanks Conference and Expo, Sacramento, CA, March 30-April 1, 2009

53. Finneran, K.T., Complete Reduction of TCE to Ethene by Sediment and Subsequent Enrichments not Dominated by *Dehalococcoides*, Battelle In Situ and On Site Bioremediation Conference, Baltimore, MD, May 5-8, 2009

54. Finneran, K.T., Enhanced RDX Mineralization using Mixed Biotic-Abiotic Reactions mediated by Extracellular Electron Shuttles, Battelle In Situ and On Site Bioremediation Conference, Baltimore, MD, May 5-8, 2009

55. Finneran, K.T., Three Novel, Anaerobic Cultures that Degrade MTBE with AQDS/Fe(III), Sulfate, and Fumarate, Respectively, Battelle In Situ and On Site Bioremediation Conference, Baltimore, MD, May 5-8, 2009

56. Ye, Xiaofeng, and K.T. Finneran, Extracellular Quinone/Hydroquinones Increase Bio-hydrogen and Bio-butanol in Growing and Resting Cells of *Clostridium beijerinckii*, American Society for Microbiology General Meeting, May 18-22, 2009

57. Wei, Na, and K.T. Finneran, Complete Reduction of Trichloroethylene to Ethene with Concurrent Fe(III) Reduction and Development of a Unique Microbial Community using Acetate as the Sole Electron Donor, American Society for Microbiology General Meeting, May 18-22, 2009

58. Kwon, Man Jae, and K.T. Finneran, Hexahydro-1,3,5-Trinitro-1,3,5-Triazine (RDX) Mineralization in the presence of Extracellular Electron Shuttling Compounds and an Fe(III)-Reducing Microbial Community, American Society for Microbiology General Meeting, May 18-22, 2009

59. Popovics, Jovan, and K.T. Finneran, Distillers' Dry and Wet Grains (DDGS and DWS) as an Electron Donor Source for Bioremediation of Trichloroethylene and for Stimulating Fe(III) Reduction, American Society for Microbiology General Meeting, May 18-22, 2009

60. Azam, Hossain, and K.T. Finneran, Ferric Iron Amendment Increases Carbon Oxidation and Phosphorus Removal in On-Site Wastewater (Septic Systems), American Society for Microbiology General Meeting, May 18-22, 2009

61. Wei, N., and K.T. Finneran, Effect of Fe (III) Reduction in the Biodegradation of Chlorinated Ethenes, 26th AEHS International Conference on Contaminated Soil, Sediment, Groundwater and Energy, Amherst, MA, October 18-21, 2009

62. Azam, H and K.T. Finneran, Ferric Iron Amendment Increases Carbon Oxidation and Phosphorus Removal in On-Site Wastewater (Septic Systems), 26th AEHS International Conference on Contaminated Soil, Sediment, Groundwater and Energy, Amherst, MA, October 18-21, 2009

63. Ye, X., X. Zhang and K. T. Finneran, Increased hydrogen production rate and yield by reduced shuttling compounds in *Clostridium* fermentation, 26th AEHS International Conference on Contaminated Soil, Sediment, Groundwater and Energy, Amherst, MA, October 18-21, 2009

64. Haluska, A., X. Ye and K.T. Finneran, Oxidized Extracellular Electron Shuttles (Quinones) Increase Fermentative Biobutanol Yield, 26th AEHS International Conference on Contaminated Soil, Sediment, Groundwater and Energy, Amherst, MA, October 18-21, 2009

65. Ye, X., X. Zhang, E. Morgenroth and K. T. Finneran, Increased hydrogen production by reduced electron shuttling compounds, 16th Annual Petroleum & Biofuels Environmental Conference, Houston, TX, November 3-5, 2009

66. Haluska, A., X. Ye and K.T. Finneran, Oxidized Extracellular Electron Shuttles in Biobutanol Production, 16th Annual Petroleum & Biofuels Environmental Conference, Houston, TX, November 3-5, 2009

67. Shin, P.G. and K.T. Finneran, Anaerobic Biodegradation of MTBE and TBA with three novel Microbial Cultures, 16th Annual Petroleum & Biofuels Environmental Conference, Houston, TX, November 3-5, 2009

68. Wei, N., and K.T. Finneran, Effect of Fe (III) Reduction in the Biodegradation of Chlorinated Ethenes, American Society for Microbiology General Meeting, San Diego, CA, May 23-27, 2010

69. Azam, H and K.T. Finneran, Ferric Iron Amendment Increases Carbon Oxidation and Phosphorus Removal in On-Site Wastewater (Septic Systems), American Society for Microbiology General Meeting, San Diego, CA, May 23-27, 2010

70. Ye, X., X. Zhang and K. T. Finneran, Increased hydrogen production rate and yield by reduced shuttling compounds in *Clostridium* fermentation, American Society for Microbiology General Meeting, San Diego, CA, May 23-27, 2010

71. Haluska, A., X. Ye and K.T. Finneran, Oxidized Extracellular Electron Shuttles in Biobutanol Production, American Society for Microbiology General Meeting, San Diego, CA, May 23-27, 2010

72. Dunnett, K.A. and K.T. Finneran, Biodegradation of RDX Adsorbed to Granular Activated Carbon using Extracellular Electron Shuttling Compounds, American Society for Microbiology General Meeting, San Diego, CA, May 23-27, 2010

73. Ye, X. and K. T. Finneran, Increased hydrogen production rate and yield by reduced shuttling compounds in *Clostridium* fermentation, Association of Environmental Geologists (AEG) Annual Meeting, Charleston, SC, September 22-24, 2010

74. Millerick (Dunnett), K.A. and K.T. Finneran, Biodegradation of RDX Adsorbed to Granular Activated Carbon using Extracellular Electron Shuttling Compounds, Association of Environmental Geologists (AEG) Annual Meeting, Charleston, SC, September 22-24, 2010

75. Wei, N. and K.T. Finneran, Fe(III) Reduction does not Inhibit Complete Reductive Dechlorination of TCE, American Society for Microbiology General Meeting, New Orleans, LA, May 20-24, 2011

76. Ye, X. and K.T. Finneran, Increasing Fermentative Hydrogen Production and Xylose Uptake using Extracellular Hydroquinones, American Society for Microbiology General Meeting, New Orleans, LA, May 20-24, 2011

77. Popovic, J. and K.T. Finneran, Increasing fermentative butanol production in *Clostridium beijerinckii* using extracellular electron shuttling compounds, 28th AEHS International Conference on Contaminated Soil, Sediment, Groundwater and Energy, Amherst, MA, October 20-23, 2011

78. Millerick, K.A. and K.T. Finneran, Biodegradation of RDX Adsorbed to Granular Activated Carbon using Extracellular Electron Shuttling Compounds, American Chemical Society Spring Meeting, San Diego, CA, March 25-29, 2012

79. Ramasubramania, N. and K.T. Finneran, DOE Annual PI Meeting, Washington, DC, April 2012

80. Millerick, K.A. and K.T. Finneran, Photobiological degradation of RDX Adsorbed to Granular Activated Carbon and using Extracellular Electron Shuttling Compounds, Battelle Remediation of Chlorinated Solvent and Recalcitrant Compounds Annual Meeting, Monterey, CA, May 21-24, 2012

81. Popovic, J. and K.T. Finneran, Increasing fermentative butanol production in *Clostridium beijerinckii* using extracellular electron shuttling compounds, American Society for Microbiology General Meeting, San Francisco, CA, June 16-19, 2012

82. Millerick, K.A. and K.T. Finneran, Photobiological degradation of RDX Adsorbed to Granular Activated Carbon and using Extracellular Electron Shuttling Compounds, American Society for Microbiology General Meeting, San Francisco, CA, June 16-19, 2012

83. Niedzwiecka, J.B. and K.T. Finneran, Degradation of the insensitive munition DNAN using mixed biological and chemical reactions, REMTEC Meeting, Denver, CO, March 4-6, 2013

84. Millerick, K.A. and K.T. Finneran, Photobiological degradation of RDX Adsorbed to Granular Activated Carbon and using Extracellular Electron Shuttling Compounds, American Chemical Society, New Orleans, LA, April 7-11, 2013

85. Millerick, K.A. and K.T. Finneran, Photobiological degradation of RDX Adsorbed to Granular Activated Carbon and using Extracellular Electron Shuttling Compounds, Battelle Bioremediation and Sustainable Environmental Technologies, Jacksonville, FL, June 10-13, 2013

86. Niedzwiecka, J.A. and K.T. Finneran, Combined Biological and Chemical Reaction Mechanisms for 2,4-Dinitroanisole (DNAN) Biodegradation, Battelle

Bioremediation and Sustainable Environmental Technologies, Jacksonville, FL, June 10-13, 2013

87. Popovic, J. and K.T. Finneran, Butanol Hyper-Production and Increased Consumption of a Major Lignocellulosic Feedstock (Xylose) through Unbalanced Fermentations in Clostridia, Battelle Bioremediation and Sustainable Environmental Technologies, Jacksonville, FL, June 10-13, 2013

88. Weber, C.D. and K.T. Finneran, The Septic Snorkel: Enhanced COD Degradation in Septic Systems using Carbon-Fiber Electrodes, Battelle Bioremediation and Sustainable Environmental Technologies, Jacksonville, FL, June 10-13, 2013

89. Popovic, J. and K.T. Finneran, Butanol Hyper-Production and Increased Consumption of a Major Lignocellulosic Feedstock (Xylose) through Unbalanced Fermentations in Clostridia, AEHS Annual East Coast Conference on Contaminated Soil, Sediments, Water, and Energy, Amherst, MA, October 21-24, 2013, ** Best Student Paper Award

90. Weber, C.D. and K.T. Finneran, The Septic Snorkel: Enhanced COD Degradation in Septic Systems using Carbon-Fiber Electrodes, AEHS Annual East Coast Conference on Contaminated Soil, Sediments, Water, and Energy, Amherst, MA, October 21-24, 2013

91. Popovic, J. and K.T. Finneran, Butanol Hyper-Production and Increased Consumption of a Major Lignocellulosic Feedstock (Xylose) through Unbalanced Fermentations in Clostridia, American Society for Microbiology General Meeting, Boston, MA, May 17-20, 2014

92. Niedzwiecka, J.A. and K.T. Finneran, Combined Biological and Chemical Reaction Mechanisms for 2,4-Dinitroanisole (DNAN) Biodegradation, American Society for Microbiology General Meeting, Boston, MA, May 17-20, 2014

93. Millerick, K.A. and K.T. Finneran, Photobiological degradation of RDX Adsorbed to Granular Activated Carbon and using Extracellular Electron Shuttling Compounds, American Chemical Society 248th National Meeting, San Francisco, CA, August 10-14, 2014

94. Niedzwiecka, J.A. and K.T. Finneran, Combined Biological and Chemical Reaction Mechanisms for 2,4-Dinitroanisole (DNAN) Biodegradation, American Chemical Society 248th National Meeting, San Francisco, CA, August 10-14, 2014

95. Niedzwiecka, J.A. and K.T. Finneran, Combined Biological and Chemical Reaction Mechanisms for 2,4-Dinitroanisole (DNAN) Biodegradation, Battelle Bioremediation Conference, Miami, FL, May 19-22, 2015 **BEST STUDENT PAPER AWARDED

96. Niedzwiecka, J.A. and K.T. Finneran, Combined Biological and Chemical Reaction Mechanisms for 2,4-Dinitroanisole (DNAN) Biodegradation, American Society for Microbiology General Meeting, New Orleans, LA, May 30-June 2, 2015 ** SELECTED FOR PRESENTATION IN POPULAR MEDIA PRESS ROOM

PRESENTATIONS

1. Strain SO2: a novel iron-reducing microorganism, Department of Microbiology Fall 1998 Seminar Series, University of Massachusetts, Amherst, MA, November 1998

2. Anaerobic Degradation of MTBE and TBA, EPA/API Workshop on MTBE Biodegradation, Cincinnati, OH, February 1-3, 2000

3. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), Association for the Environmental Health of Soils (AEHS)/Navy: 10th Annual National West Coast Conference on Contaminated Soils and Groundwater, San Diego, CA, March 20 -25, 2000

4. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), Department of Microbiology, Fall 2000 Seminar Series, University of Massachusetts, Amherst, MA, September 2000

5. Stimulated U(VI) Remediation in a Uranium-Contaminated Aquifer, Society for Environmental Toxicology and Chemistry (SETAC) Annual Meeting, Nashville, TN, November 12 – 16, 2000

6. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), Battelle Symposium on In Situ and On Site Bioremediation, San Diego, CA, June 4 – 7, 2001

7. Anaerobic Bioremediation Strategies for MTBE and TBA, Groundwater Resources Association of California Symposium on Emergent and Recalcitrant Compounds, San Jose, CA, June 14 – 15, 2001

8. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), AEHS International Congress on Petroleum Contamination, London, UK, August 14 – 16, 2001

9. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 22 – 25, 2001

10. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), NGWA Conference on MTBE, Orange, CA, June 6 – 7, 2002

11. Geochemistry and Microbiology of U(VI) Reduction in the Low pH FRC Aquifer Material, NABIR Investigators Meeting, Oak Ridge, TN, September 23, 2002

12. Anaerobic Degradation of Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA), NGWA Northeast Focus, Burlington, VT, October 3 – 4, 2002

13. Geochemistry and Microbiology of in situ U(VI) Bioremediation, University of Massachusetts, Lowell, CCES Seminar Series, November 13, 2002

14. Bioremediation and Biodegradation, Invited Lecture for the Course *Environmental Microbiology*, University of Massachusetts, Lowell, April 14, 2003

15. The Role of Fe(III) and Humics in the Biodegradation of Metal and Organic Contaminants, Battelle In Situ and On Site Bioremediation Symposium, Orlando, FL, June 2 – 6, 2003

16. Extracellular Electron Shuttling in Bioremediation and Biotechnology, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 16 – 19, 2006

17. Extracellular Electron Shuttle Mediated biodegradation of the Explosives RDX and HMX in Pure Culture and Contaminated Aquifer Material, Northeastern University, Department of Civil and Environmental Engineering, October 20, 2006

18. Extracellular Electron Shuttle Mediated biodegradation of the Explosives RDX and HMX in Pure Culture and Contaminated Aquifer Material, University of Wisconsin Madison, Department of Civil and Environmental Engineering, November 14, 2006

19. Mixed Biological-Abiotic Degradation of the Cyclic Nitramine Explosives RDX and HMX, Presented at Johns Hopkins, Department of Geography and Environmental Engineering, May 11, 2007

20. Anaerobic MTBE and TBE Biodegradation during Shifting Biochemical Conditions, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 15-18, 2007

21. An Explosive Topic: Biodegradation of RDX with Extracellular Electron Shuttles, Keynote Presentation, University of Massachusetts Department of Microbiology Annual Retreat, February 2008

22. Complete TCE Dechlorination in the Absence of *Dehalococcoides*, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 20-23, 2008

23. Molecular Tools in MTBE and Petroleum Bioremediation, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 20-23, 200

24. Mixed Biological-Abiotic Degradation of the Cyclic Nitramine Explosives RDX and HMX, Presented at the University of Massachusetts Department of Environmental Engineering, October 2008

25. Three Novel, Anaerobic Cultures that Degrade MTBE with AQDS/Fe(III), Sulfate, and Fumarate, Respectively, Battelle In Situ and On Site Bioremediation Conference, Baltimore, MD, May 5-8, 2009

26. Enhanced RDX Mineralization using Mixed Biotic-Abiotic Reactions mediated by Extracellular Electron Shuttles, Battelle In Situ and On Site Bioremediation Conference, Baltimore, MD, May 5-8, 2009

27. Complete Reduction of TCE to Ethene by Sediment and Subsequent Enrichments not Dominated by *Dehalococcoides*, Battelle In Situ and On Site Bioremediation Conference, Baltimore, MD, May 5-8, 2009

28. Fe(III) Reduction does not Inhibit Complete Reductive Dechlorination, Association of Environmental Geologists (AEG) Annual Meeting, Charleston, SC, September 22-24, 2010

29. Increasing biological butanol production using extracellular electron shuttling compounds, Society for Industrial Microbiology Annual Meeting, New Orleans, LA, July 24-26, 2011

30. Microbial reactions with iron and extracellular electron shuttles that degrade RDX and insensitive munitions (IM), Society for Industrial Microbiology Annual Meeting, New Orleans, LA, July 24-26, 2011

31. Novel approaches for trichloroethylene (TCE) biodegradation and the role of Fe(III) reduction in complete reductive dechlorination, SC ASM chapter annual meeting, Columbia, SC, October 21, 2011

32. Novel approaches for trichloroethylene (TCE) biodegradation and the role of Fe(III) reduction in complete reductive dechlorination, Clemson University Department of Genetics and Biochemistry Spring 2012 seminar series, April 13, 2012

33. Bioremediation: past, present, and future, Kavli Fellows Frontiers of Science Symposium, Potsdam, Germany, May 8-13, 2012

34. Microbial reactions with iron and extracellular electron shuttles that degrade RDX and insensitive munitions (IM), Society for Industrial Microbiology Annual Meeting, Washington, DC, August 12-14, 2012

35. Novel strategies in groundwater bioremediation: new solutions to old problems, South Carolina Water Resources Conference, Columbia, SC, October 11-12, 2012

36. SERDP In Progress Review, Arlington, VA, February 25, 2013

37. Microbial reactions with iron and extracellular electron shuttles that degrade RDX and insensitive munitions (IM), Missouri Science and Technology (MST) Civil and Environmental Engineering Seminar Series, April 19, 2013

38. Microbial reactions with iron and extracellular electron shuttles that degrade RDX and insensitive munitions (IM), University of Massachusetts at Lowell Environmental Technologies Working Group via the Department of Chemistry, October 21, 2013

39. SERDP In Progress Review, Arlington, VA, May 7-8, 2014

40. Microbial reactions with iron and extracellular electron shuttles that degrade RDX and insensitive munitions (IM), Joint Army, Navy, NASA, Air Force (JANNAF) Conference, Environmental Health and Restoration Working Group, Charleston, SC, May 18-20, 2014

41. Microbial reactions with iron and extracellular electron shuttles that degrade RDX and insensitive munitions (IM), University Council on Water Research (UCOWR), Tufts University, Medford, MA, June 18-20, 2014

42. Fe(III) Reduction does not Inhibit Complete Dechlorination, Air and Waste Management Association, Invited Talk, AWMA National Symposium, Raleigh, NC, June 21-24, 2015

43. Novel strategies in groundwater bioremediation: new solutions to old problems, UMASS AEHS Annual East Coast Conference on Contaminated Soil, Water, Sediment, and Energy, Amherst, MA, October 18-22, 2015

44. Bioremediation Session Chair, American Chemical Society Fall 2016 Meeting, Philadelphia, PA, Invited Session Chair, Opening Remarks

45. New Approaches to Old Problems: Everything you think you knew about chlorinated solvent remediation may be incorrect, Groundwater Professionals of North Carolina (GWPNC) Meeting, Charlotte, NC, September 22, 2016

PATENTS

Title: Extracellular Electron Shuttles Increase Biological Butanol Production in Anaerobic, Fermentative Bacteria
United States Patent (Provisional) Filed 06/01/2009
Patent # US 61/177,525
Filed by Illinois Office of Technology Mgmt

SPONSORED RESEARCH

"Biodegradation of the cyclic nitramine explosive RDX mediated by Fe(III)- and humics-reducing microorganisms", Department of Defense Strategic Environmental Research and Development Program (SERDP), Principal Investigator, $320,000 ($202,844), (2004-2007)

"Tert-Butyl Alcohol (TBA) Biodegradation in Aerobic, Granular Activated Carbon Matrices: Environmental Influences on Growth and Degradation Kinetics", British Petroleum – The Atlantic Richfield Company, $36,000 ($36,000), (2005-2006)

"Anaerobic Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA) Biodegradation: Reaction Kinetics and Microbial Physiology", American Petroleum Institute (API), $46,000 ($46,000), (2006-2007)

"Tert-Butyl Alcohol (TBA) Biodegradation in Aerobic, Granular Activated Carbon Matrices: Environmental Influences on Growth and Degradation Kinetics (Phase 2 of a 3-phase investigation)", British Petroleum – The Atlantic Richfield Company, $36,000 ($36,000), (2006)

"Anaerobic Methyl tert-Butyl Ether (MTBE) and tert-Butyl Alcohol (TBA) Biodegradation during Shifting Biogeochemical Conditions", American Petroleum Institute (API), $63,000 ($63,000), (2007-2008)

"Phosphorus Removal in Retrofitted On-Site Wastewater (Septic) Systems by Stimulating Microbial Fe(III) Reduction", Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET), a division of NOAA, $322,381 ($214,826), (2007-2010)

"Distillers' Dry Grains with Solubles (DDGS) as a Novel Electron Donor Source for Enhanced Bioremediation", UIUC Research Board, $10,500 ($10,500), (2008)

"Reduced Extracellular Electron Shuttling Compounds as Electron Donors for Biological Hydrogen Production in Fermentative Pure Cultures", National Science Foundation, $275,893 ($218,452), (2008-2010)

"Characterizing the Combined Roles of Iron and Transverse Mixing on Uranium Bioremediation in Groundwater using Microfluidic Pore Networks", Department of Energy, $461,000 ($328,297), (2009-2012)

"Complete Reductive Dechlorination of Trichloroethylene (TCE) by Non-*Dehalococcoides* Microorganisms", National Science Foundation, $300,000 ($300,000), (2009-2012)

"Biodegradation of RDX and TCE in Contaminated Aquifer Material", Burns & McDonnell, $18,000 ($18,000), (2010)

"The Combined Role of Biological and Chemical Reactions in the Degradation of Insensitive Munitions (IM)" Department of Defense Strategic Environmental Research and Development Program (SERDP), Principal Investigator, $592,000 ($355,200), (2012-2015)

"Anaerobic Biodegradation of tert-butyl Alcohol and Methyl tert-butyl Ether" American Petroleum Institute (API), Principal Investigator, $78,000 ($78,000) (2012-

2013), Administered as a gift award via the Clemson University Foundation (CUF)

"Anaerobic Biodegradation of tert-butyl Alcohol and Methyl tert-butyl Ether" American Petroleum Institute (API), Principal Investigator, $78,000 ($78,000) (2013-2014), Administered as a gift award via the Clemson University Foundation (CUF)

"Radionuclide Waste Disposal: Development of multi-scale and modeling capabilities" DOE EPSCoR, Co-PI, $5,300,000 all increments (5.6% participant)

"NSF RAPID: Understanding the microbial ecology of MTBE degradation in the Port of Houston spill", Principal Investigator, National Science Foundation, $49,300 ($49,300), (2015-2016)

"Uranium remediation at the former Cimarron facility", Burns and McDonnell and EPM, Principal Investigator, $69,800 ($69,800), (2015-2017)

"The Combined Role of Biological and Chemical Reactions in the Degradation of Insensitive Munitions (IM)" Department of Defense Strategic Environmental Research and Development Program (SERDP), Principal Investigator, $592,000 ($31,600), (2015-2017)

"Does inhibiting methanogenesis increase the rate and extent of complete dechlorination", PeroxyChem, LLC, Principal Investigator, $67,300 (2016-2017)

OTHER SPONSORED ACTIVITY

Equipment Grant, Illinois Engineering Tuition Surcharge Funds, Laboratory Experiments in Molecular Biology: Teaching Lab Improvement for CEE courses, $27,100 (2006)

Equipment Grant, Molecular Biology Instrumentation Grant for Quantitative PCR, UIUC Research Board, $15,000, 2009

Equipment Grant, Life Technologies QPCR Platform, Clemson University Departmental Award, $10,000, 2013

GRADUATE STUDENT ADVISING

Doctoral Graduates

Kwon, Man Jae, "Biodegradation of the cyclic nitramine explosive (RDX) using extracellular electron shuttling compounds," (January 2009); **currently an Assistant Professor at the Korean Institute of Science and Technology (KIST)**; formerly a Director's Postdoctoral Fellow at Argonne National Laboratory

Wei, Na, "The role of Fe(III) reduction in complete reductive dechlorination of TCE," (May 2011); **currently an Assistant Professor at the University of Notre Dame Department of Civil and Environmental Engineering;** formerly an assistant professor at the University of Pittsburgh in CEE and a postdoctoral research fellow at the University of Illinois Institute for Genomic Biology (IGB)

Ye, Xiaofeng, "Increasing biological hydrogen production with extracellular hydroquinones," (May 2011); **currently a Program Leader/Technical Development Manager with Novozymes Biological Products in Beijing, China**, formerly a senior research engineering with Novozymes in Franklinton/Research Triangle Park, NC

Azam, Hossain, "Influence of Fe(III) reduction on phosphate removal and carbon mineralization in septic wastewater," (August 2011); **currently an Assistant Professor at Manhattan College Department of Civil and Environmental Engineering;** formerly a postdoctoral research associate in the Department of Mechanical Engineering at the University of Illinois, and formerly a Research Assistant Professor at George Washington University with a joint appointment (research) to the Metropolitan Washington DC Water Board

Millerick (Dunnett), Kayleigh, "Biodegradation of RDX Adsorbed to Granular Activated Carbon," (December 2013); formerly an EPA STAR fellow, formerly a graduate fellow under the Graduate Assistance in Areas of National Need (GAANN) program; **currently an Assistant Professor at the Texas Tech Department of Civil and Environmental Engineering;** formerly a postdoctoral associate at the University of Illinois Department of Civil and Environmental Engineering

Popovic, Jovan "Increasing Biological Butanol Production and Xylose Consumption in Clostridia spp. Using unbalanced Fermentations with Iron and Electron Shuttles"; **currently a postdoctoral associate at the University of Minnesota Center for Biotechnology (Dr. Sebastian Behrens, PI)**

Niedzwiecka, Jolanata, "Combined biological and chemical reactions for the degradation of explosives and insensitive muntions"; **currently an Assistant Professor at the Military University of Science and Technology, Warsaw, Poland**

Masters Graduates

Bell, Caitlin, "Biodegradation of chlorinated solvents and PCBs as influenced by Fe(III) reduction and electron shuttles," (May 2007)

Hatch, Jennifer, "Using extracellular electron shuttles to increase hydrogen yield in fermentative pure cultures," (May 2007)

Reinauer, Kimberly, "Biological degradation of tert-butyl alcohol in granular activated carbon," (May 2007)

Zhang, Yang, "Pure microbial cultures derived from GAC that is actively used to adsorb tert-butyl alcohol," (May 2007)

Wei, Na, "Anaerobic degradation of methyl tert butyl ether and tert butyl alcohol under shifting biogeochemical conditions," (May 2008)

Shin, Patricia, "Influence of tungstate on microbial sulfate and Fe(III) reduction," (December 2009)

Dunnett, Kay, "Degradation of tert butyl alcohol in flowing granular activated carbon bioreactors," (December 2009)

Haluska, Anne, "Increased fermentative butanol production using extracellular electron shuttling compounds," (May 2010)

Jurado, Luis Andres, M.S. Environmental Engineering, "Uranium reduction as influenced by ferric and ferrous iron in biological and strictly chemical systems," (May 2011)

Popovic, Jovan, M.S. Environmental Engineering, "Increasing biological butanol yield using extracellular electron shuttling compounds," (May 2012)

Ramasubramanian, Neeraja, M.S. Environmental Engineering, "Novel electron shuttling compounds for use in bioremediation," (August 2012)

Weber, Christopher, M.S. Environmental Engineering, "The Influence of Fe(III) Reduction on Carbon Mineralization in Septic Systems and Municipal Wastewater, with a Specific Influence on Pharmaceutically Active Compounds," (August 2013)

Haluska, Alexander, M.S. Environmental Engineering, "Biodegradation of Hydraulic Fracturing (Frac) Fluids under Shifting Ionic Strength Gradients" (August 2014)

Khanna, Ayush, M.S. Environmental Engineering, "TCE Biodegradation using Algal Biomass as an Electron Donor" (August 2014)

Galloway, Sarah, M.S. Environmental Engineering, "Photobiological Degradation of the Nitramine Explosive RDX" (May 2015)

Kunkle, Amanda, M.S. Environmental Engineering, "Biodegradation of the Crude Oil Dispersant Corexit", co-advised with David Freedman (May 2015)

Thompson, Courtney, M.S. Environmental Engineering, "Tert-butyl alcohol biodegradation by anaerobic microbial communitites," (May 2015)

Vecchiarelli, Paul, M.S. Environmental Engineering, "Phosphate recovery in engineered wastewater systems using microbially mediated Fe(III) reduction" (August 2016)

Hotzelt, Nicholas, M.S. Environmental Engineering, "NSF RAPID: Understanding the microbial ecology of MTBE degradation in the Port of Houston spill" (August 2016)

Current Graduate Advising

Hennessey, Sarah, M.S. Environmental Engineering, "DOE: Uranium remediation in soil and aquifer material" (August 2017)

Ivey, Morgan, M.S. Environmental Engineering,

McGee, Kameryn, M.S. Environmental Engineering,

Rogier, Alexander, M.S. Environmental Engineering,

Undergraduate Research Assistants Trained:

Oi Fei Ivy Choi (through 2005)
Anna Knussmann (through 2005)
Cynthia Pancake (through 2006)
Margaret Brown (through 2006)
Cheng Su Wang (through 2006)
Rachel Castillo (through 2007)
Jovan Popovics (2007-2010)
Rory Polera (2008)
Thomas Foley (2008-2009)
Erica Scheet (2008-2010)
Brendan Powers (2008-2009)
Marianela Hechavarria (2008; SROP)
Erin Grubbs (2010-2013)
Kathryn Fauerby (2011-2013)
Jessica Bush (2011-2013)
Cassandra DeVol (2012-2013)
Carina Vargas (2012-2014)
Alec Wasner (2013-2014)
Juliet Johnston (2013-2014)
Nicholas Hotzelt (2014-2015)
Gina Straga (2014-2015)
Alexandra McIntyre (2014-2015)
Cody Bergen (2015-2016)
Haley Durning (2015-2016)
Kesley Herring (2015-2016)
Garion Washcer (2015-2016)
Kameryn McGhee (2015-2016)

Olivia Felber (Current)

TEACHING

Courses Taught (Beginning Fall 2004)

At Clemson University

Semester	Courses Taught	Credit Hrs. (units)	Clock Hrs. Per Week	Number of Students	Type of Instruction
Fall 2010	EEES851	3	1.5	35	Lecture
Spring 2011	EEES202	3	1.5	15	Lecture
Spring 2011	EEES2020L	1	3	15	Laboratory
Fall 2011	EEES851	3	1.5	36	Lecture
Fall 2011	EEES837	3	1.5	14	Discussion
Fall 2011	EEES861/961	1	1	91	Seminar
Fall 2011	GEOL851	1	1	16	Seminar
Spring 2012	EEES202	4	1.5	27	Lecture
Spring 2012	EEES202L	0	6	27	Laboratory
Spring 2012	EEES861/961	1	1	79	Seminar
Spring 2012	GEOL851	1	1	13	Seminar
Fall 2012	EEES 851	3	1.5	24	Lecture
Fall 2012	EEES837	3	1.5	4	Discussion
Spring 2013	EEES202	4	1.5	34	Lecture
Spring 2013	EEES202L	0	6	34	Laboratory
Spring 2013	EEES861/961	1	1	85	Seminar
Fall 2013	EEES 8510	3	1.5	25	Lecture
Spring 2014	EEES2020	4	1.5	40	Lecture
Spring 2014	EEES2020L	0	6	40	Laboratory
Spring 2014	EEES4370/6370	3/4	1.5	11/11	Seminar
Fall 2014	EEES 8510	3	1.5	24	Lecture
Spring 2015	EEES2020	4	1.5	34	Lecture
Spring 2015	EEES2020L	0	6	34	Laboratory
Spring 2015	EEES4370/6370	3/4	1.5	8/8	Seminar
Fall 2015	EEES 8510	3	1.5	31	Lecture
Spring 2016	EEES2020	4	1.5	42	Lecture
Spring 2016	EEES2020L	0	6	42	Laboratory
Spring 2016	EEES4370/6370	3/4	1.5	16	Lecture

At University of Illinois

Semester	Courses Taught	Credit Hrs. (units)	Clock Hrs. Per Week	Number of Students	Type of Instruction
Fall 2004	CEE595AG	1	1	62	Seminar
Spring 2005	CEE595AG	1	1	53	Seminar
Spring 2005	CEE330	3	2.5	61	Lecture
Fall 2005	CEE498BP	3	4	9	Laboratory
Spring 2006	CEE330	3	2.5	58	Lecture
Fall 2006	CEE498BP	3	4	7	Laboratory

Fall 2006	CEE595G	0	1	14	Seminar
Spring 2007	CEE330	3	2.5	54	Lecture
Spring 2007	CEE595G	1	1	14	Seminar
Fall 2007	CEE330	3	2.5	64	Lecture
Spring 2008	CEE444	3	2.6	23	Lecture
Fall 2008	CEE330	3	2.5	64	Lecture
Spring 2009	CEE498BP	3	4	6	Laboratory

New Course Development (List Courses Developed)

At University of Illinois

CEE498BP: Biological Principles Laboratory Course

At Clemson University

EEES 4370/6370: Biodegradation and Bioremediation

EEES Honors Course Series (H3000, H3010, H4010, H4950)

OTHER INSTRUCTION ACTIVITIES (COMMITTEES/EXAMS FOR STUDENTS NOT AS PRIMARY ADVISOR)

At Clemson University

M.S. Committee:	Na Hao
	Hari Peethambaram
	Laura Simpkins
	Chen Jiang
	Neeraja Ramasubramanian
	Pooja Mistry
	Ademola Bakenne
	Priya Jacob
	Rui Xiao
	Benjamin Rhiner
	David Morris (B.E.)
	Valton King
	Christopher Moss
Doctoral Committee:	Franciso Barajas
	Na Hao
	Alex Ramos

At Illinois

Preliminary Exams:	Ying Wang
	Dongwook Kim
	Kwanrawee (Joy) Sirikanchana
	Martin Page
	Rachel Dimock
Final Dissertation Exams:	Kwanrawee (Joy) Sirikanchana
	Dongwook Kim
	Martin Page

UNIVERSITY AND PUBLIC SERVICE

Continuing Education (Lecturer, Developer, Conference Chair, etc.).

1. Invited Course: British Petroleum and the American Petroleum Institute, Molecular Tools in MTBE and Petroleum Bioremediation, AEHS International Conference on Contaminated Soil, Sediment, and Groundwater, Amherst, MA, October 20-23, 2008

Committees (Group according to department, college, university.)

Department:
- Chair, Graduate Program committee (2015-)
- Chair, Departmental Curriculum committee (2014-)
- Member, Faculty Chair search committee (2014-2015)
- Member, Biosystems Engineering Faculty Search Committee (2013)
- Chair, Environmental Engineering and Earth Sciences Honors College Program Curriculum Committee (2012-)
- Member, Environmental Engineering and Earth Sciences Awards Committee (2011-2015)
- Member, Environmental Engineering and Earth Sciences Undergraduate Environmental Engineering Degree Curriculum Committee (2010-)
- Faculty Member, (Illinois) General and Biological Qualifying Exam Committees, (2005-2009)

College:
- Member, College curriculum committee (2014-)
- Associate Dean for Research and Graduate Studies Advisory Board (2013-)
- Member, (Illinois) College of Engineering Subcommittee on Engineering Biology/Chemistry

University:
- Participant, University Wide Focus Group on Research Administration Systems (2012)
- Member, (Illinois) Langelier Scholarship Committee (2005-2010)

OTHER SERVICE

Presentation to the Clemson University ASM student chapter, spring 2012

Chi Epsilon Student/Professor Lunch (2008) (two times)

Invited to Present to local (UIUC) student chapter of ASCE; presented “Bioremediation in the Lab and Field: Lab Data to Real World Applications”; invited by students in CEE 330 (2005)

Ad Hoc Reviewer for: Applied and Environmental Microbiology, Applied Microbiology and Biotechnology, Biodegradation, Bioremediation Journal, Bioresource

Technology, Biotechnology and Bioengineering, Environmental Engineering Science, Environmental Science and Technology, International Journal of Hydrogen Energy, International Journal of Environmental Research and Public Health, Journal of Air and Waste Management, Journal of Environmental Engineering ASCE, Journal of Air and Waste Management, Journal of Membrane Science, Process Biochemistry, The International Society for Microbial Ecology (ISME) Journal (a Nature Publication)

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