

ALISON M. CUPPLES
Curriculum Vitae

ADDRESS AND CONTACT DETAILS

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APPOINTMENTS

2012-present	Associate Professor	Dept. of Civil and Environmental Engineering, MSU
2006-2012	Assistant Professor	Dept. of Civil and Environmental Engineering, MSU
2003-2005	Postdoctoral Fellow	USDA-ARS, University of Illinois at Urbana-Champaign

ACADEMIC BACKGROUND

Ph.D.	2003	Environmental Engineering and Science, Stanford University
M.S.	1999	Natural Resources and Environmental Sciences, University of Illinois (UIUC)
B.S.	1997	Environmental Sciences, University of East Anglia, England

RESEARCH INTERESTS

The application of microbiology to understand and treat soil and water contamination

- Identification of the microorganisms and functional genes involved in biodegradation
 - Traditional, problematic contaminants (chlorinated solvents, benzene, toluene, xylenes, MTBE, RDX, 1,4-dioxane, agricultural chemicals)
 - Emerging contaminants (antimicrobials, pharmaceuticals and personal care products)
- Application of molecular methods to environmental microbiology
 - Quantitative polymerase chain reaction (qPCR), terminal restriction fragment length polymorphism (TRFLP), stable isotope probing (SIP), loop mediated isothermal amplification (LAMP), high throughput sequencing, high throughput qPCR
- Occurrence and fate of emerging contaminants in engineered and natural systems
- Application of compound specific isotope analysis (CSIA) for anaerobic 1,4-dioxane degradation
- The application of high throughput sequencing and PICRUSt to identify microbial communities capable of rapid contaminant biodegradation
- The development of LAMP assays to detect functional genes associated with the reductive dechlorination of the chlorinated solvents
- Innovative teaching and learning techniques in large undergraduate classes

PUBLICATIONS

Peer-Reviewed Publications (43 Archival Journal Publications and 4 Peer Reviewed Reviews*)

Authors in italics and underlined are/were advised by A. M. Cupples. For each, the corresponding author (main advisor) is underlined.

- 47 *Collier, J. M., B. Chai, J. R. Cole, M. M. Michalsen and A. M. Cupples. 2019. High throughput quantification of the functional genes associated with RDX biodegradation using the SmartChip real-time PCR system. Applied Microbiology and Biotechnology. 103 (17): 7161-7175.*
- 46 *Thelusmond, J.R., Strathmann, T. J. and A. M. Cupples. 2019. Carbamazepine, triclocarban and triclosan biodegradation and the phylotypes and functional genes associated with xenobiotic degradation in four agricultural soils. Science of the Total Environment. 657: 1138-1149.*

- 45 Dang, H., Kanitkar, Y. H., Stedtfeld, R. D., Hatzinger, P. B., Hashsham, S. A. and **A. M. Cupples**. **2018**. Abundance of chlorinated solvent and 1,4-dioxane degrading microorganisms at five chlorinated solvent contaminated sites determined via shotgun sequencing. *Environmental Science and Technology*. 52 (23): 13914–13924.
- 44 Xikun, L., Y. Wu, F. Paes, K. Yu, C. Lintner, **A. M. Cupples** and T. Mattes. **2018**. Integrated methodological approach reveals microbial diversity and functions in aerobic groundwater microcosms adapted to vinyl chloride. *FEMS Microbiology Ecology*. 94: 1-14.
- 43 Thelusmond, J.R., Kawka, E., Strathmann, T. J. and **A. M. Cupples**. **2018**. Diclofenac, carbamazepine and triclocarban biodegradation in agricultural soils and the microorganisms and metabolic pathways affected. *Science of the Total Environment*. 640-641: 1393-1410.
- 42 Kanitkar, Y. H., Stedtfeld, R. D., Hatzinger, P. B., Hashsham, S. A. and **A. M. Cupples**. **2017**. Most probable number with visual based LAMP for the quantification of reductive dehalogenase genes in groundwater samples. *Journal of Microbiological Methods*. 143:44-49.
- 41 Kanitkar, Y. H., Stedtfeld, R. D., Hatzinger, P. B., Hashsham, S. A. and **A. M. Cupples**. **2017**. Development and application of a rapid, user-friendly and inexpensive method to detect *Dehalococcoides* sp. reductive dehalogenase genes from groundwater. *Applied Microbiology and Biotechnology*. 101: 4827–4835
- 40 Ahmad, F., R. D. Stedtfeld, H. Waseem, M. R. Williams, **A. M. Cupples**, J. M. Tiedje and S. A. Hashsham. **2017**. Most probable number - loop mediated isothermal amplification (MPN-LAMP) for quantifying waterborne pathogens in < 25 min. *Journal of Microbiological Methods*. 132: 27-33.
- 39 Stedtfeld, R. D., T. M. Stedtfeld, F. Samhan, Y. H. Kanitkar, P. B. Hatzinger, **A. M. Cupples**, and S. A. Hashsham. **2016**. Direct loop mediated isothermal amplification on filters for quantification of *Dehalobacter* in groundwater. *Journal of Microbiological Methods*. 131: 61-67.
- 38 Thelusmond, J.R., Strathmann, T. J. and **A. M. Cupples**. **2016**. The identification of carbamazepine biodegrading phylotypes and phylotypes sensitive to carbamazepine exposure in two soil microbial communities. *Science of the Total Environment*. 571:1241-1252.
- 37 Paes Wilson F., X. Liu, T. E. Mattes, and **A. M. Cupples**. **2016**. *Nocardioide*s, *Sediminibacterium*, *Aquabacterium*, *Variovorax* and *Pseudomonas* linked to carbon uptake during aerobic vinyl chloride biodegradation. *Environmental Science and Pollution Research*, 23: 19062-19070.
- 36* **Cupples, A. M.** **2016**. A review: contaminant degrading microorganisms identified using stable isotope probing. *Chemical Engineering and Technology*, 39: 1593-1603.
- 35 Paes Wilson, F. and **A. M. Cupples**. **2016**. Microbial community characterization and functional gene quantification in RDX degrading microcosms derived from sediment and groundwater at two Naval sites. *Applied Microbiology and Biotechnology*, 100:7297-7309.
- 34 Kanitkar, Y. H., Stedtfeld, R. D., Steffan, R. J., Hashsham, S. A. and **A. M. Cupples**. **2016**. Development of loop mediated isothermal amplification (LAMP) for rapid detection and quantification of *Dehalococcoides* spp. biomarker genes in commercial reductive dechlorinating cultures KB-1 and SDC-9. *Applied and Environmental Microbiology*, 82:1799-1806.
- 33 Seyrig, G., Stedtfeld, R. D., Turlousse, D. M., Farhan, A., Towery, K., **Cupples, A. M.**, Tiedje, J. M. and S. A. Hashsham. **2015**. Selection of fluorescent DNA dyes for real-time LAMP with portable and simple optics. *Journal of Microbiological Methods*, 119: 223-227.
- 32 Paes, F., Liu, X., Mattes, T. and **A. M. Cupples**. **2015**. Elucidating carbon uptake from vinyl chloride using stable isotope probing and Illumina sequencing. *Applied Microbiology and Biotechnology*, 99: 7735-7743.
- 31 Jayamani, I. and **A. M. Cupples**. **2015**. Stable isotope probing reveals the importance of *Comamonas* and *Pseudomonadaceae* in RDX degradation in samples from a Navy detonation site. *Environmental Science and Pollution Research*, 22: 10340-10350.
- 30 Jayamani, I. and **A. M. Cupples**. **2015**. A comparative study of microbial communities in four soil slurries capable of RDX degradation using Illumina sequencing. *Biodegradation*, 26:247-257.
- 29 Jayamani, I. and **A. M. Cupples**. **2015**. Stable isotope probing and high throughput sequencing

- implicates *Xanthomonadaceae* and *Rhodocyclaceae* in ethylbenzene degradation. Environmental Engineering Science, 32:240-249.
- 28 Ding, L. and A. M Cupples. 2015. The effect of the potential fuel additive isobutanol on benzene, toluene, ethylbenzene, *p*-xylene degradation in aerobic soil microcosms. Environmental Technology, 36: 237-244.
- 27 Song, Y., Xiao, L., Jayamani, I., He, Z. and A.M. Cupples. 2015. A novel method to characterize bacterial communities affected by carbon source and electricity generation in microbial fuel cells using stable isotope probing and Illumina sequencing. Journal of Microbiological Methods, 108: 4-11.
- 26 Stedtfeld, R., Stedtfeld, T., Kronlein, M., Seyrig, G., Steffan, R., Cupples, A.M. and S. A. Hashsham. 2014. DNA extraction-free quantification of *Dehalococcoides* spp. in groundwater using a hand-held device. Environmental Science and Technology, 48: 13855-13863.
- 25 Sun, W., Sun, X. and A. M. Cupples. 2014. Presence, diversity and enumeration of functional genes (*bssA* and *bamA*) relating to toluene degradation across a range of redox conditions and inoculum sources. *Biodegradation*, 25:189-203.
- 24 Sun, W., Sun, X. and A. M. Cupples. 2014. Identification of *Desulfosporosinus* as toluene-assimilating microorganisms from a methanogenic consortium. International Biodeterioration and Biodegradation, 88: 13-19.
- 23 Jayamani, I., Manzella, M. P. and A. M. Cupples. 2013. RDX degradation potential in soils previously unexposed to RDX and the identification of RDX degrading species in one agricultural soil using stable isotope probing. Water, Air and Soil Pollution, 224:1745.
- 22* A. M. Cupples. 2013. RDX degrading microbial communities and the prediction of microorganisms responsible for RDX bioremediation. International Biodeterioration and Biodegradation, 85: 260-270.
- 21 Jayamani, I. and A. M. Cupples. 2013. Effect of isobutanol on toluene biodegradation in nitrate amended, sulfate amended & methanogenic enrichment microcosms. *Biodegradation*, 24:657-663.
- 20 Sun, W., Sun, X. and A. M. Cupples. 2012. Anaerobic MTBE degrading microorganisms identified in wastewater treatment plant samples using stable isotope probing, Applied and Environmental Microbiology, 78: 2973-2980.
- 19 Sun, W. and A. M. Cupples. 2012. Diversity of five anaerobic toluene degrading microbial communities investigated using stable isotope probing (SIP), Applied and Environmental Microbiology, 78: 972-980.
- 18 Cha, J. and A. M. Cupples. 2012. Determination of triclocarban and triclosan in biosolid and soil samples by application of pressurized liquid extraction and liquid chromatography with tandem mass spectrometry, Geosystem Engineering, 15:280-291.
- 17* Cupples, A. M. 2011. The use of nucleic acid based stable isotope probing to identify the microorganisms responsible for anaerobic benzene and toluene biodegradation, Journal of Microbiological Methods, 85, 83-91.
- 16 Xie, S., W. Sun, C. Luo and A. M. Cupples. 2011. Novel aerobic benzene degrading microorganisms identified in three soils by SIP, *Biodegradation*, 22, 71-81.
- 15 Cha, J. and A. M. Cupples. 2010. Triclocarban and triclosan biodegradation at field concentrations and the resulting leaching potentials in three agricultural soils, *Chemosphere*, 81, 494-499.
- 14 Xie, S., W. Sun, C. Luo and A. M. Cupples. 2010. Stable isotope probing identifies novel *m*-xylene degraders in soil microcosms from contaminated and uncontaminated sites, *Water, Air and Soil Pollution*, 212, 113-122.
- 13 Sun, W., S. Xie, C. Luo and A. M. Cupples. 2010. Direct link between toluene degradation in contaminated-site microcosms and a *Polaromonas* strain, Applied and Environmental Microbiology, 76: 956-959.
- 12 Luo, C., S. Xie, W. Sun, X. Li and A. M. Cupples. 2009. Identification of a novel toluene-degrading bacterium from the candidate phylum TM7 as determined by DNA-stable isotope probing, Applied and Environmental Microbiology, 75: 4644-4647.
- 11 Cha, J. and A. M. Cupples. 2009. Detection of the antimicrobials triclocarban and triclosan in agricultural soils following land application of municipal biosolids, *Water Research*, 43: 2522-2530.
- 10* Cupples, A. M. 2008. Real-time PCR quantification of *Dehalococcoides* populations: methods and

- applications. *Journal of Microbiological Methods*, 72: 1-11.
- 9 **Cupples, A. M.**, E. A. Shaffer, J. C. Chee-Sanford, and **G. K. Sims**. **2007**. DNA buoyant density shifts during ¹⁵N DNA stable isotope probing. *Microbiological Research*, 162: 328-334.
- 8 **Cupples, A. M.** and **G. K. Sims**. **2007**. Identification of *in situ* 2,4-dichlorophenoxyacetic acid-degrading soil microorganisms using DNA-stable isotope probing. *Soil Biology and Biochemistry*, 39: 232-238.
- 7 **Cupples, A. M.**, R. A. Sanford, and **G. K. Sims**. **2005**. Dehalogenation of the herbicides bromoxynil (3,5-dibromo-4-hydroxybenzotrile) and ioxynil (3,5-diiodo-4-hydroxybenzotrile) by *Desulfitobacterium chlororespirans*. *Applied and Environmental Microbiology*. 71: 3741-3746.
- 6 **Cupples, A. M.**, A. M. Spormann and **P. L. McCarty**. **2004**. Comparative evaluation of chloroethene dechlorination to ethene by *Dehalococcoides*-like microorganisms. *Environmental Science and Technology*, 38: 4768-4774.
- 5 **Cupples, A. M.**, A. M. Spormann and **P. L. McCarty**. **2004**. Vinyl chloride and *cis*-dichloroethene dechlorination kinetics and microorganism growth under substrate limiting conditions. *Environmental Science and Technology*, 38: 1102-1107.
- 4 **Cupples, A. M.**, A. M. Spormann, and **P. L. McCarty**. **2003**. Growth of a *Dehalococcoides*-like microorganism on vinyl chloride and *cis*-dichloroethene as electron acceptors as determined by competitive PCR. *Applied and Environmental Microbiology*. 69: 953-959.
- 3 **Cupples, A. M.**, **G. K. Sims**, R. P. Hultgen and S. E. Hart. **2000**. Effect of soil conditions of the degradation of chloransulam-methyl. *Journal of Environmental Quality* 29: 786- 794.
- 2 **Sims, G. K.** and **A. M. Cupples**. **1999**. Factors controlling degradation of pesticides in soil. *Pesticide Science* 55: 598-601.
- 1 **David, M. B.**, **A. M. Cupples**, G. B. Lawrence, G. Shi, K. Vogt and P. M. Wargo. **1998**. Effect of chronic nitrogen additions on soil nitrogen fractions in Red Spruce stands. *Water, Air and Soil Pollution* 105: 183-192.

Publications – Under Review

- 2 Fang, Y. I, G. Vanzin I, **A. M. Cupples**, **Timothy J. Strathmann**. Influence of terminal electron-accepting conditions on the soil microbial community and degradation of organic contaminants of emerging concern.
- 1 **Ramalingam, V.** and **A. M Cupples**. Enrichment of novel *Actinomycetales* and detection of monooxygenases during aerobic 1,4-dioxane biodegradation with uncontaminated and contaminated inocula.

Book Chapters, Final Reports and Conference Proceedings

- 17 **Cupples, A.M.** **2019**. The development of anaerobic bioremediation approaches for chlorinated solvent and dioxane co-contaminated sites (**SERDP Final Report**)
- 16 **Dang, H.**, Kanitkar, Y. H., Stedtfeld, R. D., Hatzinger, P. B., Hashsham, S. A. and **A. M. Cupples**. **2019**. Abundance of chlorinated solvent and 1,4-dioxane degrading microorganisms at five chlorinated solvent contaminated sites determined via shotgun sequencing. The Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies, April, 15-18, 2019, in Baltimore, Maryland **Best Student Paper Award (conference proceeding)**.
- 15 **Ramalingam, V.** and **A. M. Cupples**. **2019**. 1,4-Dioxane biodegradation potential in aerobic and anaerobic microcosms inoculated with agricultural soil and contaminated sediments. The Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies, April, 15-18, 2019, in Baltimore, Maryland (**conference proceeding**).
- 14 **Cupples, A.M.**, S. A. Hashsham, R. Stedtfeld & P. B. Hatzinger. Development of LAMP to detect *Dehalococcoides* and *Dehalobacter* spp. genes without DNA extraction (**SERDP Final Report**, 2018)

- 13 Ramalingam, V. and **A. M. Cupples. 2018.** The development of microcosms to achieve anaerobic and aerobic 1,4-dioxane biodegradation. The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, April 8-12, 2018, Palm Springs, California (**conference proceeding**).
- 12 Collier, J. M., B. Chai, J. R. Cole and **A. M. Cupples. 2018.** High throughput quantification of the functional genes associated with RDX degradation using the WaferGen SmartChip Platform. The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, April 8-12, 2018, Palm Springs, California (**conference proceeding**).
- 111 Dang, H., Y. H. Kanitkar, R. D. Stedtfeld, S. A. Hashsham, P. B. Hatzinger and **A. M. Cupples. 2018.** Microbial community characterization at five chlorinated solvent sites following bioaugmentation with *Dehalococcoides* enriched culture, SDC-9. The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, April 8-12, 2018, Palm Springs, California (**conference proceeding**).
- 10 Strathmann, T. Y. and **Cupples, A. M.** Biological and biologically mediated abiotic transformation of contaminants of emerging concern in anaerobic soils (**USDA Final Report**, Sept 2017).
- 9 **Cupples, A. M.** 2016. Collaborative research: stable isotope-based differentiation of vinyl chloride assimilators from cometabolizers in contaminated groundwater. (**NSF Final Report**, Aug 2016).
- 8 **Cupples, A. M.** 2016. Development of biomarkers for assessing in situ RDX biodegradation potential. Project Number: ER 1606 (**SERDP final report**).
- 7 Liu X., Yu K., Paes F., Linter C.K., **Cupples A.M** and Mattes T.E. **2016.** Microbial adaptation to vinyl chloride in groundwater microcosms as revealed by metagenomics and other molecular tools. Proceedings of the Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. **Best Student Paper Award for X. Liu (conference proceeding)**.
- 6 Paes, F., Liu, X., Mattes, T. and **A. M. Cupples. 2015.** Elucidating carbon uptake from vinyl chloride using stable isotope probing and Illumina sequencing. The Third International Symposium on Bioremediation and Sustainable Environmental Technologies, May 18–21, 2015, in Miami, Florida. **Best Student Paper Award (conference proceeding)**.
- 5 **Cupples, A. M.,** W. Sun, and S. Masten. **2013.** The use of active learning to address ABET course learning objectives in a large undergraduate environmental engineering class (**ASEE conference paper**).
- 4 **Cupples, A. M. 2013.** Stable isotope probing to assess bioremediation of LUST contaminants: addressing existing MTBE/BTEX and probable future ethanol/BTEX contamination (**NSF, final report**).
- 3 **Cupples, A. M.,** W. Sun, and S. Masten. **2012.** The use of active learning to address ABET course learning objectives in a large undergraduate environmental engineering class (**Lilly Program report**).
- 2 **Cupples, A. M.** and I. Jayamani. Final Report SERDP. **2010.** Development of biomarkers for assessing in situ RDX biodegradation potential. Project Number: ER 1606 (**SEED project, SERDP final report**).
- 1 **Cupples, A. M.,** J. B. Rose, and I. Xagorarakis. **2010.** New molecular methods for detection of water-borne pathogens, Environmental Microbiology, Wiley Publications (**book chapter**).

Invited Presentations

- 22 **Cupples, A. M. 2019.** Innovative methods to quantify microorganisms associated with the biodegradation of the chlorinated solvents and 1,4-dioxane. SERDP/ESTCP Outreach Webinar Series, September 5th, 2019.
- 21 **Cupples, A. M. 2017.** The application of molecular methods to identify and quantify contaminant degrading microorganisms. School of Chemical, Biological and Environmental Engineering. Oregon

- State University, Corvallis, OR. May 31st 2017.
- 20 Strathmann, T. J., **A.M. Cupples. 2016.** Biological and biologically mediated abiotic transformation of contaminants of emerging concern in anaerobic soils. NIWQP and AFRI Project Director's Meeting, October 11-13, 2016, Washington D.C. (shared talk)
- 19 **Cupples, A. M., *I. Jayamani* and *F. Paes*. 2016.** Putative RDX degraders and functional genes in groundwater, soil and sediment samples from two Navy sites. Annual Meeting of the Society for Industrial Microbiology and Biotechnology. New Orleans, 27th July 2016.
- 18 **Cupples, A. M., *Y. Kanitkar*, R.D. Stedtfeld, S.A. Hashsham, P. Hatzinger. 2016.** Development of field methodology to rapidly detect *Dehalococcoides* and *Dehalobacter* Spp. genes on site. SERDP In Progress Review (IRP) Meeting. May 17th 2016. Arlington, VA.
- 17 **Cupples, A. M., *I. Jayamani*, *F. Paes*. 2015.** Development of biomarkers for assessing in situ RDX biodegradation potential. Strategic Workshop on Research and Demonstration Needs for Management of Munition Constituents. July 28-29th, SERDP & ESTCP, Washington Navy Yard, DC.
- 16 **Cupples, A. M., *Y. Kanitkar*, R.D. Stedtfeld, S.A. Hashsham, P. Hatzinger. 2015.** Development of field methodology to rapidly detect *Dehalococcoides* and *Dehalobacter* Spp. Genes on Site. SERDP IPR Meeting. May 6th 2015. Arlington, VA.
- 15 **Cupples, A. M., *Y. Kanitkar*, R.D. Stedtfeld, S.A. Hashsham, R.J. Steffan. 2014.** Development of field methodology to rapidly detect *Dehalococcoides* & *Dehalobacter* spp. genes. Chlorinated Solvents Technical Exchange Meeting, Arlington, VA, December 10th 2014.
- 14 Strathmann, T. J., **A.M. Cupples**, Mengwei Han, *J.R. Theilusmond*, Yida Fang. **2014.** Biological and biologically mediated abiotic transformation of contaminants of emerging concern in anaerobic soils. NIWQP and AFRI Project Director's Meeting, October 28-29, 2014, Washington D.C.
- 13 **Cupples, A. M. and *I. Jayamani*. 2014.** Development of biomarkers for assessing in situ RDX biodegradation potential. SERDP IPR Meeting, Arlington, VA, May 6th 2014.
- 12 **Cupples, A. M., *Y. Kanitkar*, R.D. Stedtfeld, T.M. Stedtfeld, S.A. Hashsham, R.J. Steffan. 2014.** Development of LAMP to detect *Dehalococcoides* & *Dehalobacter* spp. genes without DNA extraction. SERDP IPR Meeting, Arlington, VA, May 6th 2014.
- 11 **Cupples, A. M. 2013.** ER-1609: Development of biomarkers for assessing *In Situ* RDX biodegradation potential. SERDP/ESTCP Meeting, Washington D.C.
- 10 **Cupples, A. M., R. Stedtfeld, S. A. Hashsham and R. Steffan. 2012.** Development of LAMP to detect *Dehalococcoides* & *Dehalobacter* spp. genes without DNA extraction. Brief to SERDP Scientific Advisory Board. October 23rd, 2012. Arlington, VA.
- 9 **Cupples, A. M., *W. Sun*, *I. Jayamani*, & *X. Sun*. 2012.** Toluene and MTBE biodegradation Examined using stable isotope probing. NSF CBET Grantee Conference. June 6-8th, Baltimore, MD.
- 8 **Cupples, A. M. 2010.** ER-1609: Development of biomarkers for assessing *In Situ* RDX biodegradation potential. SERDP/ESTCP Meeting, Washington D.C.
- 7 **Cupples, A.M. 2005.** Dechlorination of trichloroethene to ethene by *Dehalococcoides*-like microorganisms: kinetics, growth characteristics and substrate limitations. Department of Civil and Environmental Engineering, University of Illinois.
- 6 **Cupples, A.M. 2004.** Dechlorination of trichloroethene to ethene by *Dehalococcoides*-like microorganisms: kinetics, growth characteristics and substrate limitations. Department of Civil and Environmental Engineering, University of Iowa.
- 5 **Cupples, A.M. 2011.** The application of environmental microbiology in environmental engineering: summary of research, CEE Advisory Board, MSU.
- 4 **Cupples, A.M. 2010.** The application of environmental microbiology in environmental engineering: summary of research, Spartan Open House, MSU.
- 3 **Cupples, A.M. 2010.** The application of environmental microbiology in environmental engineering: summary of research, CEE Advisory Board, MSU.
- 2 **Cupples, A.M. 2007.** Previous, current and future research interests. Engineering Noontime Research Seminar, MSU.

- 1 **Cupples, A.M. 2007.** Investigating the microorganisms responsible for the biological degradation of environmental contaminants, CEE Spring Seminar Series, MSU.

Peer Reviewed Abstract Presentations (*also listed under conference proceedings)

- *47 Dang, H., Kanitkar, Y. H., Stedtfeld, R. D., Hatzinger, P. B., Hashsham, S. A. and **A. M. Cupples. 2019.** Abundance of chlorinated solvent and 1,4-dioxane degrading microorganisms at five chlorinated solvent contaminated sites determined via shotgun sequencing. The Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies, April, 15-18, 2019, in Baltimore, Maryland.
- *46 Ramalingam, V. and **A. M. Cupples. 2019.** 1,4-Dioxane biodegradation potential in aerobic and anaerobic microcosms inoculated with agricultural soil and contaminated sediments. The Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies, April, 15-18, 2019, in Baltimore, Maryland.
- 45 Dang, H., Y. H. Kanitkar, R. D. Stedtfeld, S. A. Hashsham, P. B. Hatzinger and **A. M. Cupples. 2018.** Taxonomic and functional microbial community characterization at five chlorinated solvent sites following bioaugmentation. SERDP & ESTCP Symposium 2018: Enhancing DoD's Mission Effectiveness, November 27 - 29, 2018, Washington DC.
- 44 Collier, J. M., B. Chai, J. R. Cole and **A. M. Cupples. 2018.** Development and application of high throughput PCR to quantify the functional genes associated with RDX biodegradation. SERDP & ESTCP Symposium 2018: Enhancing DoD's Mission Effectiveness, November 27 - 29, 2018, Washington DC.
- 43 Ramalingam, V. and **A. M. Cupples. 2018.** An examination of 1,4-dioxane biodegradation potential across different inocula and redox conditions. SERDP & ESTCP Symposium 2018: Enhancing DoD's Mission Effectiveness, November 27 - 29, 2018, Washington DC.
- *42 Ramalingam, V. and **A. M. Cupples. 2018.** The development of microcosms to achieve anaerobic and aerobic 1,4-dioxane biodegradation. The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, April 8-12, 2018, Palm Springs, California.
- *41 Collier, J. M., B. Chai, J. R. Cole and **A. M. Cupples. 2018.** High throughput quantification of the functional genes associated with RDX degradation using the WaferGen SmartChip Platform. The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, April 8-12, 2018, Palm Springs, California.
- *40 Dang, H., Y. H. Kanitkar, R. D. Stedtfeld, S. A. Hashsham, P. B. Hatzinger and **A. M. Cupples. 2018.** Microbial community characterization at five chlorinated solvent sites following bioaugmentation with *Dehalococcoides* enriched culture, SDC-9. The Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, April 8-12, 2018, Palm Springs, California.
- 39 **Cupples, A. M.** and V. Ramalingam. 2017. The development of microcosms to achieve anaerobic 1,4-dioxane biodegradation. SERDP ESTCP Symposium Enhancing DoD's Mission Effectiveness. 28-30th November, 2017.
- 38 **Cupples, A. M.** Y. Kanitkar, H. Dang, R.D. Stedtfeld, S.A. Hashsham and P. Hatzinger. **2017.** Application of loop mediated isothermal amplification and shotgun sequencing to detect chlorinated solvent degrading microorganisms in contaminated groundwater. SERDP ESTCP Symposium Enhancing DoD's Mission Effectiveness. 28-30th November, 2017.
- 37 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples. 2017.** Development and application of a rapid, user-friendly and inexpensive method to detect *Dehalococcoides* reductive dehalogenase genes from groundwater. Association of Environmental Engineering and Science Professors (AEESP) Conference, Ann Arbor, MI, 21st June 2017.
- 36 Thelusmond, J. R., T. Strathmann and **A. M. Cupples. 2017.** The biodegradation of the pharmaceutical diclofenac over a range of redox conditions in agricultural soils and the identification

- of the microorganisms and pathways involved. The Fourth International Symposium on Bioremediation & Sustainable Environmental Technologies, Miami, FL. May 23rd 2017.
- 35 Kanitkar, Y., R.D. Stedtfeld, S.A. Hashsham, P. Hatzinger and **Cupples, A. M.** 2017. Development and application of a rapid, user-friendly and inexpensive method to detect *Dehalococcoides* spp. reductive dehalogenase genes from groundwater. The Fourth International Symposium on Bioremediation & Sustainable Environmental Technologies, Miami, FL. May 22nd 2017.
- 34 **A. M. Cupples**, Thelusmond, J. R. and T. Strathmann. 2017. Biodegradation of the pharmaceuticals diclofenac and carbamazepine in agricultural soils and the investigation of the microorganisms and pathways involved. Society of Environmental Toxicology and Chemistry (SETAC) Europe. Brussels, Belgium, May 8th 2017.
- 33 Liu X., Yu K., Paes F., Linter C.K., **Cupples A.M** and Mattes T.E. 2016. Microbial adaptation to vinyl chloride in groundwater microcosms as revealed by metagenomics and other molecular tools. International Society for Microbial Ecology (ISME), Montreal, 22-25th August, 2016.
- 32 Thelusmond, J. R., T. Strathmann and **A. M. Cupples.** 2016. Carbamazepine biodegradation, putative carbamazepine biodegrading phylotypes and xenobiotic degrading genes in agricultural soils. The Tenth International Conference on Remediation of the Chlorinated Solvents and Recalcitrant Compounds. Palm Springs, CA, 25th May 2016
- *31 Liu X., Yu K., Paes F., Linter C.K., **Cupples A.M** and Mattes T.E. 2016. Microbial adaptation to vinyl chloride in groundwater microcosms as revealed by metagenomics and other molecular tools. Proceedings of the Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Palm Springs, CA, 25th May 2016
- 30 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples.** 2016. The application of loop mediated isothermal amplification (LAMP) for the rapid detection of *vcrA*, *bvcA* and *tceA* in groundwater samples. The Tenth International Conference on Remediation of the Chlorinated Solvents and Recalcitrant Compounds. Palm Springs, CA, 25th May 2016
- 29 **Cupples, A. M.** and F. Paes. 2016. Linking phylogeny and function in RDX degrading communities from groundwater and sediment from two Naval sites. The Tenth International Conference on Remediation of the Chlorinated Solvents and Recalcitrant Compounds. Palm Springs, 25th May 2016
- 28 **Cupples, A. M.** and I. Jayamani. 2015. Novel microorganisms linked to RDX degradation across soil communities. Third International Symposium on Bioremediation & Sustainable Environmental Technologies, Miami, FL. May 20th 2015.
- 27 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples.** 2015. Development of loop mediated isothermal amplification (LAMP) for rapid detection and quantification of *Dehalococcoides* spp. in groundwater samples. Third International Symposium on Bioremediation & Sustainable Environmental Technologies, Miami, FL. May 20th 2015.
- *26 Paes, F., Liu, X., Mattes, T. and **A. M. Cupples.** 2015. Elucidating carbon uptake from vinyl chloride using stable isotope probing and Illumina sequencing. The Third International Symposium on Bioremediation and Sustainable Environmental Technologies, May 18–21, 2015, in Miami, Florida.
- 25 Paes, F., Liu, X., T. Mattes, **A. M. Cupples.** 2014. Combining stable isotope probing (SIP) and Illumina sequencing to identify vinyl chloride assimilating microorganisms. May 20th, 2014. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Monterey, CA, May 19-22, 2014
- 24 Kanitkar, Y., R. Stedtfeld, S. Hashsham, R. Steffan, and A. M. Cupples. 2014. DNA extraction free loop mediated isothermal amplification (LAMP) of *Dehalococcoides* and *Dehalobacter* spp. May 20th, 2014. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Monterey, CA, May 19-22, 2014
- 23 Jayamani, I. and **A. M. Cupples.** 2014. A comparison of RDX assimilating microorganisms across soil communities. May 21st, 2014. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Monterey, CA, May 19-22, 2014.
- 22 Liu, X., T. Mattes, F. Paes. **A. M. Cupples.** 2014. Incorporating stable isotope probing and

- functional gene qPCR to provide microbial activity evidence for vinyl chloride degradation. May 20th, 2014. Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Monterey, CA, May 19-22, 2014.
- *21 **Cupples, A. M., W. Sun,** and S. Masten. **2013.** The use of active learning to address ABET course learning objectives in a large undergraduate environmental engineering class. American Society of Engineering Education Conference, Atlanta, Georgia.
- 20 **Paes, F., A. M. Cupples** and T. E. Mattes. **2013.** Stable isotope probing (SIP) to identify microorganisms involved in the aerobic degradation of vinyl chloride. The Second International Symposium on Bioremediation and Sustainable Technologies, Jacksonville, FL, June 10-13, 2013.
- 19 Liu, X., T. E. Mattes , **F. Paes** and **A. M. Cupples.** **2013.** Assessment of functional genes involved in the aerobic degradation of vinyl chloride by combining stable isotope probing (SIP) and quantitative PCR. The Second International Symposium on Bioremediation and Sustainable Technologies, Jacksonville, FL, June 10-13, 2013.
- 18 **Jayamani, I.** and **A. M. Cupples.** **2013.** Investigation of aerobic 1,4-dioxane biodegraders in laboratory microcosms using stable isotope probing. The Second International Symposium on Bioremediation and Sustainable Technologies, Jacksonville, FL, June 10-13, 2013.
- 17 **Sun, W., Jayamani, I.** and **Cupples, A. M.** **2011.** Molecular analysis of contaminant degrading communities examined using stable isotope probing, Battelle Conference on Bioremediation and Sustainable Environmental Technologies, Reno NV.
- 16 Shaffer, E., G. K. Sims, **A. M. Cupples,** C. Smyth, J. Chee-Sanford and A. Skinner. **2010.** Atrazine biodegradation in a Cisne soil exposed to a major spill. International Journal of Soil, Sediment and Water.
- 15 **Sun, W., Xie, S.** and **Cupples, A. M.** **2010.** Anaerobic toluene biodegradation examined using stable isotope probing. American Society of Microbiology (ASM) 110th, San Diego, CA.
- 14 **Xie, S. Luo, C. Sun, W** and **Cupples, A. M.** **2009** Novel toluene, m-xylene and benzene degraders at LUST and agricultural sites identified by stable isotope probing. American Society of Microbiology 109th, Philadelphia, PA.
- 13 **Sun, W., Xie, S** and **Cupples, A. M.** **2008.** A comparative analysis of in situ BTEX degraders at different LUST sites using stable isotope probing. American Society of Microbiology 108th, Boston, MA
- 12 **Cupples, A.M.** and G. K. Sims. **2006.** Identification of in situ 2,4-D degrading soil microorganisms using DNA-stable isotope probing. 106thAmerican Society of Microbiology Conference, Orlando, FL.
- 11 **Cupples, A. M.,** E. A. Shaffer, J. C. Chee-Sanford, and G. K. Sims. **2005.** DNA buoyant density shifts during ¹⁵N DNA stable isotope probing. Society of Environmental Toxicology and Chemistry (SETAC), 26th Annual Meeting, Baltimore, MD.
- 10 **Cupples, A. M.,** R. A. Sanford, and G. K. Sims. **2005.** Dehalogenation of the herbicides bromoxynil (3,5-dibromo-4-hydroxybenzotrile) and ioxynil (3,5-diiodino-4-hydroxybenzotrile) by *Desulfitobacterium chlororespirans*. American Society of Microbiology 105th, Atlanta, GA.
- 9 **Cupples, A. M.,** A. M. Spormann and P. L. McCarty. **2003.** Growth of *Dehalococcoides*-like microorganisms on vinyl chloride. American Society of Microbiology 103rd General Meeting, Washington, D. C.
- 8 **Cupples, A. M.,** A. M. Spormann and P. L. McCarty. **2002.** *Cis*-dichloroethene and vinyl chloride dechlorination and growth kinetics. NSF- Pan American Advanced Study Institute, Assessment and Remediation of Contaminated Sites. Rio de Janeiro, Brazil.
- 7 **Cupples, A. M. ,** A. M. Spormann and P. L. McCarty. **2002.** Chlorinated ethene dechlorination and growth kinetics under dual-substrate limitation. 3rd International Conerence on Remediation of Chlorinated and Recalcitrant Compounds, Monterey CA.
- 6 Sims, G. K., R. P. Hultgren, **A. M. Cupples,** and R. J. Hudson. **2001.** Role of ionization in bacterial uptake and soil sorption of agrochemicals. pp. 268-270 Proc. 3rd Int. Conf. on Groundwater Qual., Univ. of Sheffield, UK.
- 5 **Cupples, A. M.,** A. M. Spormann and P. L. McCarty. **2001.** Chlorinated ethene dechlorination and

- growth kinetics under dual-substrate limitation. 6th International Symposium In Situ and On-Site Bioremediation, San Diego, CA.
- 4 Hultgren, R., E. Elverson, **Cupples, A. M.**, Sims, G. 2000. Bacterial uptake and soil sorption of ionizable agrochemicals. Specialty Chemicals.
- 3 **Cupples, A. M.**, G. K. Sims, and S. E. Hart. **1998**. Influence of temperature and moisture on chloransulam-methyl fate. p. 342. In Agronomy abstracts. ASA, Madison, WI.
- 2 **Cupples, A. M.**, G. K. Sims and D. R. Shelton. **1998**. Environmental factors as controls in biodegradation. p. 342. In Agronomy abstracts. ASA, Madison, WI.
- 1 G. K. Sims and **A. M. Cupples**. **1998**. Factors controlling degradation of pesticides in soil. p. 288. In The Royal Society of Chemistry.

Internal Presentations

- 31 Dang, H., Y. H. Kanitkar, R. D. Stedtfeld, S. A. Hashsham, P. B. Hatzinger and **A. M. Cupples**. **2019**. An investigation into the presence of genes associated with contaminant biodegradation across multiple sites. College of Engineering Graduate Symposium. Breslin Center, MSU. 21st March 2019.
- 30 Ramalingam, V. and **A. M. Cupples**. **2019**. A study of aerobic and anaerobic biodegradation of 1,4-dioxane using inocula from agricultural soils and contaminated sediments. College of Engineering Graduate Symposium. Breslin Center, MSU. 21st March 2019.
- 29 Thelusmond, J. R., T. Strathmann and **A. M. Cupples**. **2018**. Determining the potential of soil communities to metabolize Diclofenac, Carbamazepine, and Triclocarban using metagenomics. College of Engineering Graduate Symposium. Breslin Center, MSU. 29th March 2018.
- 28 Ramalingam, V. and **A. M. Cupples**. **2018**. The development of microcosms to achieve anaerobic and aerobic 1,4-dioxane biodegradation. College of Engineering Graduate Symposium. Breslin Center, MSU. 29th March 2018.
- 27 Collier, J. M., B. Chai, J. R. Cole and **A. M. Cupples**. **2018**. High throughput quantification of the functional genes associated with RDX degradation using the WaferGen SmartChip Platform. College of Engineering Graduate Symposium. Breslin Center, MSU. 29th March 2018.
- 26 Dang, H., Y. H. Kanitkar, R. D. Stedtfeld, S. A. Hashsham, P. B. Hatzinger and **A. M. Cupples**. **2018**. Microbial community characterization at five chlorinated solvent sites following bioaugmentation with *Dehalococcoides* enriched culture, SDC-9. College of Engineering Graduate Symposium. Breslin Center, MSU. 29th March 2018.
- 25 Collier, J. M., B. Chai, J. R. Cole and **A. M. Cupples**. **2018**. High throughput quantification of the functional genes associated with RDX degradation using the WaferGen SmartChip Platform. Council of Graduate Students 10th Annual Graduate Academic Conference. MSU Student Union. 17th February 2018.
- 24 Thelusmond, J. R., T. Strathmann and **A. M. Cupples**. **2017**. Determining the potential of soil communities to metabolize emerging environmental contaminants using metagenomics. MSU Kellogg Biological Station Long Term Ecological Research All Scientists Meeting, East Lansing, MI 6th October 2017
- 23 Kawka, E. M., Thelusmond, J. R., T. Strathmann and **A. M. Cupples**. **2017**. The biodegradation of antimicrobial triclocarban in agricultural soil. EnSURE, Undergraduate Research Symposium, MSU, 26th July 2017
- 22 Thelusmond, J. R., T. Strathmann and **A. M. Cupples**. **2017**. Biological transformation of two common pharmaceuticals in agricultural soils and identification of the microorganisms and functional pathways responsible. Environmental Science and Policy Program. Fate of the Earth 2017: Climate-Food-Energy-Water. April 12th 2017. Kellogg Conference Center, MSU.
- 21 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples**. **2017**. The application of loop mediated isothermal amplification (LAMP) for rapid detection of *vcrA* and *tceA* in groundwater samples. College of Engineering Graduate Symposium. Breslin Center, MSU. 30th March 2017.

- 20 Ramalingam, V. and **A. M. Cupples. 2017.** The development of enrichment cultures capable of anaerobic biodegradation of the groundwater contaminant 1,4-dioxane. College of Engineering Graduate Symposium. Breslin Center, MSU. 30th March 2017.
- 19 Thelusmond, J. R., T. Strathmann and **A. M. Cupples. 2017.** Biological transformation of two common pharmaceuticals in agricultural soils and identification of the microorganisms and functional pathways responsible. College of Engineering Graduate Symposium. Breslin Center, MSU. 30th March 2017.
- 18 Thelusmond, J. R., T. Strathmann and **A. M. Cupples. 2016.** Carbamazepine biodegradation, putative carbamazepine biodegrading phylotypes and xenobiotic degrading genes in agricultural soils. Fate of the Earth Symposium, Environmental Science and Policy Program, MSU April 6-7th 2016
- 17 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples. 2016.** The application of loop mediated isothermal amplification (LAMP) for rapid detection of *vcrA*, *bvcA* and *tceA* in groundwater samples. Fate of the Earth Symposium, Environmental Science and Policy Program, MSU April 6-7th 2016
- 16 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples. 2016.** The application of loop mediated isothermal amplification (LAMP) for the rapid detection of *vcrA*, *bvcA* and *tceA* in groundwater samples. College of Engineering Graduate Symposium. Breslin Center, MSU. 31st March 2016.
- 15 Thelusmond, J. R., T. Strathmann and **A. M. Cupples. 2016.** Carbamazepine biodegradation, putative carbamazepine biodegrading phylotypes and xenobiotic degrading genes in agricultural soils. College of Engineering Graduate Symposium. Breslin Center, MSU. 31st March 2016.
- 14 Thelusmond, J. R., T. Strathmann and **A. M. Cupples. 2015.** Biological degradation of carbamazepine in anaerobic soils. College of Engineering Graduate Symposium. Breslin Center, MSU. April 2015.
- 13 Paes, F., X. Liu, T. E. Mattes and **A. M. Cupples. 2015.** Vinyl chloride assimilator DNA biomarker design for future field applications. College of Engineering Graduate Symposium. Breslin Center, MSU. April 2015.
- 12 Kanitkar, Y., R. D. Stedtfeld, S.A. Hashsham, P. Hatzinger, **A.M. Cupples. 2015.** Development of loop mediated isothermal amplification (LAMP) for rapid detection and quantification of *Dehalococcoides* spp. in groundwater samples. College of Engineering Graduate Symposium. Breslin Center, MSU. April 2015.
- 11 Davis, J., F. Paes and **A. M. Cupples. 2014.** The identification of isolates capable of contaminant biodegradation. Undergraduate Research Symposium, Breslin Center, MSU.
- 10 Paes, F., Liu, X., T. Mattes and **A. M. Cupples. 2014.** Vinyl chloride assimilating microbes from a contaminated site-derived culture identified by stable isotope probing and Illumina sequencing. Engineering Graduate Research Symposium, March 24th, 2014, Breslin Center.
- 9 Jayamani, I. and **A. M. Cupples. 2014.** A comparison of RDX assimilating microorganisms across soil communities. Engineering Graduate Research Symposium, March 24th, 2014, Breslin Center.
- 8 Kanitkar, Y., R.D. Stedtfeld, T.M. Stedtfeld, S.A. Hashsham, R.J. Steffan, and **AM Cupples. 2014.** DNA-extraction free loop mediated isothermal amplification (LAMP) of *Dehalococcoides* spp. Engineering Graduate Research Symposium, March 24th, 2014, Breslin Center.
- 7 Way, A., F. Paes, I. Jayamani, T. Mattes and **A. M. Cupples. 2013.** Identification of the microorganisms present in an aerobic vinyl chloride oxidizing enrichment culture. Undergraduate Engineering Research Symposium, Breslin Center, MSU.
- 6 Jayamani, I., **A. M. Cupples. 2012.** Stable isotope probing to identify the microorganisms able to degrade ethylbenzene under nitrate reducing conditions. Engineering Graduate Research Symposium, November 9th, 2012, Breslin Center.
- 5 Paes, F., I. Jayamani, **A. M. Cupples. 2012.** Stable isotope probing to identify the microorganisms able to degrade the explosive RDX. Engineering Graduate Research Symposium, November 9th, 2012, Breslin Center.
- 4 **Cupples, A. M.,** W. Sun, S. Masten. **2012.** Use of active learning to address ABET CLOs in a large,

- undergraduate class, Lilly Teaching Fellows Reception, April 26th 2012.
- 3 Jayamani, I. and **Cupples, A.M. 2011.** The effect of the gasoline additive isobutanol on the biodegradation of toluene in laboratory microcosms. College of Engineering Graduate Research Symposium
- 2 Paes, F., Mattes, T. and **Cupples, A. M. 2011.** Stable isotope probing as a tool to identify microorganisms able to aerobically degrade vinyl chloride. College of Engineering Graduate Research Symposium
- 1 Sun, W. and **Cupples, A. M. 2011.** Identification of toluene biodegraders by stable isotope probing. College of Engineering Graduate Research Symposium

Funded Proposals

	Dates	Title	Agency
18	10/2019-10/2020	High throughput quantitative and shotgun sequencing of RDX degrading functional genes from Bangor Site A. Lead PI (no Co-PIs)	NAVFAC
17	8/15/2019-7/31/2022	Identifying biomarkers to optimize bioremediation approaches for contaminated groundwater. Lead PI (no-Co PIs).	NSF
16	4/2019-12/31/2022	A new perspective for plant diversity and carbon sequestration: interaction between physical micro-environments and microorganisms. Co-PI w/Alexandra Kravchenko (Lead PI), Daniel Chitwood & Andrey Guber.	USDA
15	12/1/2017-12/30/2019	Identifying the genes and pathways associated with the biodegradation of emerging contaminants in agricultural soils. Lead PI (no Co-PIs).	Discretionary Funding Initiative
14	5/1/2017-11/12/2019	The development of anaerobic bioremediation approaches for chlorinated solvent and 1,4-dioxane co-contaminated sites. Lead PI (no Co-PIs).	SERDP (DoD, EPA, DoE)
13	9/1/2016-8/31/2017	Collaborative research: developing high throughput quantitative PCR assays for the functional genes associated with the degradation of the water contaminant, RDX. Lead PI w/ James Cole.	ITBI, MSU
12	1/1/2014-9/1/2017	Biological and biologically mediated abiotic transformation of contaminants of emerging concern in anaerobic soils. Co-PI w/ Timothy J. Strathmann (Lead PI, Colorado School of Mines).	USDA
11	3/1/2013-9/1/2018	Development of LAMP to detect <i>Dehalococcoides</i> and <i>Dehalobacter</i> spp. genes without DNA extraction. Lead PI w/ Co-PIs S. Hashsham, R. Stedtfeld, & P. Hatzinger.	SERDP
10	9/1/2012-8/31/2016	Collaborative research: stable isotope-based differentiation of vinyl chloride assimilators from cometabolizers in contaminated groundwater. Co-PI w/ T. Mattes (Lead PI, U. of Iowa).	NSF
9	2/1/2012-8/2/2016	Development of biomarkers for assessing <i>in situ</i> RDX biodegradation potential. Lead PI (no Co-PIs).	SERDP
8	8/2011-3/2012	Use of X-ray absorption spectrometry to study the reduction of U(VI) by zero valent iron, Co-PI w/ M. Baumann, B. Teppen, H. Li, S. Davies, S. Masten (Lead PI)	CSW, ESPP

7	8/2011-5/2012	The use of active learning to address ABET CLO's, Lead PI (no Co-PIs)	Lilly MSU
6	1/2011-12/2013	Bioaccumulation of the antimicrobials triclocarban and triclosan by food crops, Co-PI , w/ Hui Li and D. Reinhold (Lead PI)	USDA
5	08/2009-08/2012	Stable isotope probing to assess bioremediation of LUST contaminants: addressing existing MTBE/BTEX and probable future ethanol/BTEX contamination, Lead PI (no Co-PIs)	NSF
4	7/1/2008-6/30/2009	Role of plants in migration of antimicrobials from land-applied biosolids, Co-PI w/ D. Reinhold (Lead PI)	CWS, MSU
3	5/20/2008-12/31/2009	Development of biomarkers for assessing <i>in situ</i> RDX biodegradation potential, Lead PI (no Co-PIs)	SERDP
2	8/27/2007-12/30/2008	Occurrence and fate of the emerging contaminant triclocarban in biosolids, Lead PI w/ Co-PI Hui Li	IRGP, MSU
1	6/30/2007-2/28/2010	Evaluating the environmental persistence of antimicrobials in land applied biosolids, Lead PI w/Co-PIs, Mantha, Voice, Li, Erickson	CWS, MSU

AWARDS

2015-2016	Withrow Teaching Excellence Award
2011-2012	Lilly Teaching Fellow, MSU
2011	Excellence in Review Award, <i>Environmental Science & Technology</i> , June 2011
2009	North American Endowment Environmental Engineering Travel Award
2005	Superior Research in Environmental Microbiology Award, USDA-ARS
2004	Superior Research Accomplishments in Microbiology Award, USDA-ARS
1999-2003	Research Assistantships (tuition & stipend) Stanford
1997-1999	Research Assistantships (tuition & stipend) UIUC
1998-1999	Graduate Fellowship, UIUC
1998	Alumni Award for Graduate Student Travel, UIUC

TEACHING

<u>Graduate Courses</u>	<u>Date</u>	<u>Students</u>	<u>SIRS (4.0)</u>
CE/ENE 900 Research Strategies and Methods	Spr. 2019	13	3.83
	Spr. 2018	19	3.81
	Spr. 2017	15	4.00
	Spr. 2016	14	3.77
ENE 805 Contaminated Site Remediation	Spr. 2019	8	4.00
	Spr. 2017	15	3.77
ENE 890 Traditional & Emerging in Situ Remediation Methods	Spr. 2015	6	4.00
	Spr. 2013	16	3.93
	Spr. 2011	18	3.93
<u>Undergraduate Courses</u>			
ENE 487 Microbiology for Environmental Eng. & Science	Spr. 2019	39	3.85
	Spr. 2018	39	3.69
	Spr. 2017	35	3.93
	Spr. 2016	38	3.71
	Spr. 2015	39	3.84
	Spr. 2014	36	3.76
	Spr. 2013	20	3.94
	Spr. 2012	21	3.95
	Spr. 2011	20	3.94
	Spr. 2010	20	3.81
	Spr. 2009	13	3.92
	Spr. 2008	18	3.79
	Spr. 2007	14	3.38
	Spr. 2006	11	3.50
ENE 280: Principles of Environmental Eng. & Science	Fa. 2018	166	3.71
	Fa. 2017	167	3.64
	Fa. 2016	169	3.83
	Fa. 2015	119	3.76
	Fa. 2014	123	3.63
	Fa. 2013	76	3.76
	Fa. 2012	82	3.88
	Fa. 2011	77	3.92
	Fa. 2010	78	3.78
	Fa. 2009	99	3.07
	Fa. 2008	75	3.15
Fa. 2007	63	3.26	
Fa. 2006	64	3.54	

CE 271 Introduction to Civil and Environmental Engineering – Faculty Consultant (every semester from Fall 2012 to Spring 2016)

Scholarship of Teaching and Learning (SoTL) Project: Active Learning in a Large Env. Eng.

Undergrad. Class to Enhance Achievement of ABET Course Learning Objectives (CLOs) (Fall 2011)

Guest lectures (substitute teaching), ENE 280 Spring

K-12 presentations in various summer programs (see below, 2008-2012)

Laboratory sessions for High School Engineering Institute (2008, 2012)

ADVISING

Visiting Scholars

Youfeng Zhu	2016-2017
Fan Ting	2015-2016
Shuguang Xie	2008-2009
Chunling Luo	2008

Postdoctoral

Jongmun Cha	2007-2010
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Ph.D. Students

Hongyu Dang	2017-present
Vidhya Ramalingam	2016-present
Jean-Rene Thelusmond	2014-2018
Yogendra Kanitkar	2013-2017
Indumathy Jayamani	2010-2014
Fernanda Paes	2012-2015
Weimin Sun	2006-2012

M.S. Students

Binita Shrestha	Deferred to 2020
Renu Hujare	Deferred to 2020
Jennifer Collier (thesis)	2017-2018
Corey Turner (coursework)	2016-2017
Yang Song (thesis)	2012-2014
Liang Ding (project)	2012-2013
Xiaoxiao Sun (coursework)	2009-2011
Fernanda Paes (coursework)	2009-2012
Indumathy Jayamani (thesis)	2007-2009
Melissa Knapp (project)	2007-2009

Undergraduates

Lilli Celovsky	2018
Emily Kawka	2017-2018
Patricia Gomeslima	2016
Jordyn Davis	2014
Alyse Way	2013
Kathleen Haynes	2013
Hanna Miller	2011
Daniel Williams	2007
Fred Simmons	2008
Emeka Ezekwemba	2006

Honor Students (ENE 280 or 487)

Pitchayapa Tananipan	Fa. 2017
Tyler Pozan	Fa. 2017
Maddy Hanton	Fa. 2017
Briana Wendland	Fa. 2016
Perpetual Koech	Fa. 2016
Cade Gunthur	Fa. 2016
Sydney Salit	Fa. 2016
Bailey Hannah	Fa. 2015
Audrey Mabiza	Fa. 2012
Sam Jablonowski	Fa. 2011
Julie Jensen	Fa. 2008
Nicholas Tecca	Fa. 2008

Micheal Krcmarik	Fa. 2008
Sarah Buddenborg	Spr. 2007
Carolyn Biesecker	Spr. 2007

Other

Jennifer Xu (High School Student)	2008
Mike Manzella (MMG Rotating Student)	2008

STUDENT AWARDS

2019 Winner, Student Paper Competition for the Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies (April 15-18, 2019, Baltimore, Maryland): Hongyu Dang

2018 Dissertation Completion Fellowship: Jean Rene Thelusmond

2018 Outstanding ENE MS Award (Department Award): Jenny Collier

2017 Second Place Poster Award (College of Engineering Research Symposium): Jean-Rene Thelusmond

2017 Third Place Poster Award (College of Engineering Research Symposium): Yogendra Kanitkar

2017 Kellogg Biological Station (MSU) Long-Term Ecological Research Summer Research Fellowship: Jean-Rene Thelusmond

2017 Outstanding ENE Doctoral Award (Department Award): Yogendra Kanitkar

2016 Second Place Poster Award (College of Engineering Research Symposium): Jean-Rene Thelusmond

2016 Outstanding ENE Doctoral Award (Department Award): Fernanda Paes

2015 Dissertation Completion Fellowship: Fernanda Paes

2015 Winner, Student Paper Competition for the Third International Symposium on Bioremediation and Sustainable Environmental (May 18-21, 2015): Fernanda Paes

2014 Travel Award from Environmental Science and Policy Program (ESPP): Fernanda Paes

2014 Outstanding ENE Doctoral Award (Department Award): Indumathy Jayamani

2012 First Place Poster Award (College of Engineering Research Symposium): Indumathy Jayamani

2010 Travel Grant from ESPP: Weimin Sun

2008 Graduate Student Travel Grant from American Society for Microbiology: Weimin Sun

OUTREACH AND SERVICE ACTIVITIES

Institutional Service

Department Committees

- Chair, CEE Graduate Studies Committee (2012-2014, 2015-2016, 2016-2017, 2017-2018, 2018-2019)
- Member, Faculty Excellence Advocate, CEE Search Committee: Introduction to Fluid Mechanics Teaching Specialist (2019)
- Member, Faculty Excellence Advocate, CEE Search Committee: Structural, Materials and Geotechnical Teaching Specialist (2019)
- Member, Faculty Excellence Advocate, CEE Search Committee: Air Pollution and Control Teaching Specialist (2018)
- Member, Faculty Excellence Advocate, CEE Search Committee: Risk, Safety and Reliability Faculty (2017-2018)
- Member, CEE Ad Hoc Reappointment, Promotion and Tenure Committee (2016-2017, 2017-2018)
- Member, CEE Search Committee: Transportation Faculty (2014-2015)
- Member, CEE Graduate Studies Committee (2010-present)

- Member, CEE Advisory Committee (2010)

College Committees

- Member, College of Engineering Undergraduate Awards & Financial Aid (2008-2016)
- Member, College of Engineering Graduate Studies Committee (Spring 2014, Fall 2014, Spring 2015)
- Member, College of Engineering Associate Dean for Research and Graduate Studies Search Committee (2008)

University Committees

- Member, ESPP Graduate Program Committee (2016-present)
- Member, Lyman Briggs College Dean's Reappointment, Promotion and Tenure Committee (2016-2017)
- Member, Ad Hoc ESPP Capstone Review Committee (October, 2016)
- Member, Evaluation Committee for Von Her Scholarships (June, 2016)
- Co-Chair, Basic and Applied Biology review panel for the Vice President for Research and Graduate Studies Strategic Partnership grant program (2013-2014)
- Member, Search Committee Assist./Assoc. Professor in MMG (2012-2013)
- Member, Search Committee Hannah Professor in Sustainable Water Engineering (2012)
- Member, University Awards Committee to select Excellence-in-Teaching Citations (2011-2012)

Other Institutional Service

Summer K-12 Activities

Efforts have involved:

- Formal presentations on environmental engineering,
- Question and answer sessions on environmental engineering,
- One week of hands-on laboratory experience with the help of graduate students
- Tours of the department's research facilities and
- Facilitating interactions and mentoring activities with graduate students

The summer K-12 programs have included:

- High School Engineering Institute (2008, 2012)
 - In 2008, this involved one week of hands-on laboratory experience
 - In 2012, this involved the extraction of DNA using everyday household items
 - In 2012, this laboratory was offered four times, for ~80 students
- International High School Engineering Institute (2012)
 - This involved the extraction of DNA using everyday household items
 - This laboratory was offered for ~20 students
- High School Engineering Exploration (2010)
- High School Immersion Programs (2010)
- Wireless Integrated MicroSystems (WIMS) for TEENS Program (2008, 2010)
- Woman in Engineering Summer Residential Program (WIE) (2008)
- Spartan Engineering for Teens (2011)

Other Activities

- Poster Judge for the College of Engineering Graduate Symposium (2012-2018)
- Brazil Scientific Mobility Program (hosted an undergraduate exchange student, June-Aug., 2016)
- Women in Engineering Alumni Distinguished Scholars Breakfast, 2015

- Mentor, Engineering Summer Undergraduate Research Experience (EnSURE) program (Summers of 2013, 2014, 2017)
- Mentor, Michigan Louis Stokes Alliance for Minority Participation (2013)
- Mentor, Professorial Assistant Program (2013, 2016)
- Alumni Distinguished Scholars Program (ADS) Receptions (2009, 2010, 2011, 2012, 2013)
- Spartan Future Engineers Preview Days (2009, 2010)
- Undergraduate and graduate commencements (2009, 2010, 2011, 2012, 2013, 2014, 2016)
- Woman Faculty Panel for Woman in Engineering Summer Program (2009)

Professional Service

- Associate Editor, Biodegradation (2015-present, 68 submissions to date, impact factor 2.53)
- Executive Board Member, Division of Environmental Engineering, American Society for Engineering Education (ASEE) (2016-present)
- Division Chair, Division of Environmental Engineering, ASEE (2015-2016)
- Program Chair, Division of Environmental Engineering, ASEE (2014-2015)
- Treasurer, Division of Environmental Engineering, ASEE (2013-2014)
- Secretary, Division of Environmental Engineering, ASEE (2012-2013)
- Editorial Advisory Board of Environmental Science & Technologies Letters (July 2013- present)
- Editorial Advisory Board of Applied & Environmental Microbiology (Jan 2014-present)
- Member, Association of Environmental Engineering and Science Professors (AEESP) Publications Committee (2013-2017)
- Member, Association of Environmental Engineering and Science Professors (AEESP) Awards Committee (2014-2016)

Proposal Reviews and Panels

- Graduate Women in Science, 2018, 2019
- India Israel Research Program, 2017
- Singapore Ministry of Education, under Academic Research Fund, 2016
- New Jersey Water Resources Research Institute, 2015
- Strategic Partnership Grant (Co-Chair), MSU, 2013-2014
- National Science Foundation (Environmental Engineering within CBET), 2013
- National Science Foundation (Graduate Research Fellowship Program) 2013-2014
- University of Wisconsin, RGI, 2011
- Environmental Protection Agency (SBIR: Drinking Water and Water Monitoring), 2009
- Army Research Office, 2009
- National Science Foundation (Environmental Engineering within CBET), 2009
- Center for Water Sciences, MSU, 2009
- Intramural Research Grant Program, MSU, 2007

Journal Reviews (multiple reviews for the following journals)

- Applied and Environmental Microbiology
- Applied Microbiology and Biotechnology
- Biodegradation
- Bioremediation Journal
- Biofilms
- Biotechnology and Bioengineering
- Bioresource Technology

- Chemosphere
- Environmental Engineering & Science
- Environmental Microbiology
- Environmental Pollution
- Environmental Science & Technology
- Environmental Science & Technology Letters
- Environmental Science & Pollution Research
- FEMS Microbiology Ecology
- FEMS Letters
- Groundwater Monitoring & Remediation
- Journal of Agricultural and Food Chemistry
- Journal of Applied Microbiology
- Journal of Chemical Technology & Biotechnology
- Journal of Environmental Engineering
- Journal of Environmental Quality
- Journal of Hazardous Materials
- Journal of Microbiological Methods
- Letters in Applied Microbiology
- Microbiology, FEMS Microbiology Letters
- Science of the Total Environment
- Water Science
- Water Science and Technology

Conference Service

- Abstract and paper review, Division of Environmental Engineering, American Society for Engineering Education (ASEE) Annual Conference, every year, 2012- present
- Co-Chair of session entitled “Other emerging contaminants”, Twelfth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, to be held June, 2020, Portland, Oregon
- Co-Chair of session entitled “Conventional molecular biological tools in site assessment and monitoring”, Fifth International Symposium on Bioremediation and Sustainable Environmental Technologies, Baltimore, Maryland, April, 2019
- Co-Chair of session entitled “1,4-Dioxane, brominated flame retardants, NDMA, and other emerging contaminants”, Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs, California, April, 2018
- Division Chair, Environmental Engineering Division, The Annual American Society of Engineering Education Conference, New Orleans, Louisiana, May 2016
- Co-Chair of session entitled “Emerging contaminants”, the Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Palm Springs, California, 2016
- Program Chair, Environmental Engineering Division, The Annual American Society of Engineering Education Conference, Seattle, Washington, May 2015
- Co-Chair of session entitled "Advances in biological oxidation of chloroethenes and other priority pollutants", the Third International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, Florida, May 2015
- Co-Chair of session entitled “Laboratory and field research on growth-coupled and cometabolic oxidation of chloroethenes”, the Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California, 2014

- Co-Chair of session entitled “Enhancements to aerobic biodegradation strategies” Battelle Conference on Bioremediation and Sustainable Environmental Technologies, Jacksonville, Florida, June 2013
- Co-Chair of session entitled “Applying molecular methods to understand the microbial communities involved in contaminant degradation” Battelle Conference on Bioremediation and Sustainable Environmental Technologies, Reno, Nevada, June 2011

Institutional and Professional Society Membership

- Center for Water Sciences (MSU)
- Environmental Science and Policy Program (ESPP) (MSU)
- American Society for Microbiology
- Association of Environmental Engineering and Science Professors
- Society of Environmental Toxicology and Chemistry
- American Society for Engineering Education
- Interstate Technology & Regulatory Council (ITRC) Memberships (Interested Party in 1,4-dioxane and PFAS groups)