

CURRICULUM VITAE

Dr. James A. Field, Professor and Chair Department of Environmental and Chemical Engineering

1. Educational Background

B.S., Agronomy (Soil Science), 1981, Virginia Tech, Blacksburg, Virginia

M.S., Agronomy (Soil Science), 1983, Virginia Tech, Blacksburg, Virginia

Ph.D., Environmental Technology, 1989, Wageningen University, The Netherlands

2. Academic/Professional Work Experience

Department Chair, November, 2009 - present Department of Chemical & Environmental Engineering, University of Arizona.

Visiting Professor, Jun. 2007 – Mar. 2008, Dept. Molecular Biology, *Universidad Autónoma de Madrid*, Spain

Full Professor, July 2004 - present, Department of Chemical & Environmental Engineering, University of Arizona.

Associate Professor, January 2001 - July, 2004, Department of Chemical & Environmental Engineering, University of Arizona.

Assistant Professor, April, 1991 - September, 2000, Division of Industrial Microbiology & Department Environmental Technology, Wageningen University, The Netherlands.

Post Doc., October, 1989 – March, 1991, Department of Chemical Engineering, *Universidad Autónoma de Barcelona*, Spain.

3. Awards & Service Appointments

2012 – present Steering committee HeadsUp

2011 2012 Chair of the Electrical and Computer Engineering Dept. Head Search Committee

Jun-Jul 2011 Fulbright Specialist, dispatched at *Universidad Santiago de Compostela*, Spain

2003 – present Co-Director of the US-Mexico Binational Center for Environmental Sciences and Toxicology, a higher education partnership for research collaboration, human capacity training and outreach between the University of Arizona and 11 universities/institutes in Mexico.

2003 – present Editorial Board Biodegradation (international peer reviewed journal)

2001 Co-Recipient of the 2001 Lettinga Award (In recognition of work on anaerobic biodegradation and dissemination of information on anaerobic technology). Prize presented on Sept 6th, 2001 at the 9th World Conference: Anaerobic Digestion 2001, Antwerp, Belgium

1991-1996 Fellow of The Dutch Royal Academy of Sciences (*KNAW, Koninklijke Nederlandse Akademie van Wetenschappen*)

4. Publications

Statistics about Refereed Journal Publications

Total Number of Refereed Scientific Journal Publications = **204**

H index = **46**¹

Total citations = **6074**

Highest number of citations for a single journal publication = **246** (see Field et al 1993 below)

Selection of 20 Refereed Journal Publications [current 1y Impact Factors (IF) journal]

- Olivares, C., J. Liang, L. Abrell, R. Sierra-Alvarez, and J. A. Field. 2013. Pathways of reductive 2,4-dinitroanisole (DNAN) biotransformation in sludge. *Biotechnol. Bioeng.: in press*. [IF = 3.946].
- Puyol, D., J. M. Carvajal, B. Garcia, R. Sierra-Alvarez, and J. A. Field. 2013. Kinetic characterization of *Brocadia* spp.-dominated anammox cultures. *Bioresource Technology in press*. [IF = 4.980]
- Sun, W., A. Luna-Velasco, R. Sierra-Alvarez, and J. A. Field. 2012. Assessing protein oxidation by inorganic nanoparticles with enzyme-linked immunosorbent assay (ELISA). *Biotechnol. Bioeng.* 110:694-701. [IF = 3.946]
- Gómez-Rivera, F., J. A. Field, D. Brown, and R. Sierra-Alvarez. 2012. Fate of cerium dioxide (CeO₂) nanoparticles in municipal wastewater during activated sludge treatment. *Bioresource Technology* 108:300-304. [IF = 4.980]
- Field, J. A., A. Luna-Velasco, S. A. Boitano, F. Shadman, B. D. Ratner, C. Barnes, and R. Sierra-Alvarez. 2011. Cytotoxicity and physicochemical properties of hafnium oxide nanoparticles. *Chemosphere* 84:1401-1407. [IF = 3.206]
- Luna-Velasco, A., J. A. Field, A. Cobo-Curiel, and R. Sierra-Alvarez. 2011. Inorganic nanoparticles enhance the production of reactive oxygen species (ROS) during the autoxidation of L-3,4-dihydroxyphenylalanine (L-Dopa). *Chemosphere* 85:19-25. [IF = 3.206]
- Sun, W., Q. Banihani, R. Sierra-Alvarez, and J. A. Field. 2011. Stoichiometric and molecular evidence for the enrichment of anaerobic ammonium oxidizing bacteria from wastewater treatment plant sludge samples. *Chemosphere* 84:1262-1269. [IF = 3.206]
- Luna-Velasco, A., R. Sierra-Alvarez, B. Castro, and J. A. Field. 2010. Removal of nitrate and hexavalent uranium from groundwater by sequential treatment in bioreactors packed with elemental sulfur and zero-valent iron. *Biotechnol. Bioeng.* 107:933-942. [IF = 3.946]
- Tapia-Rodriguez, A., A. Luna-Velasco, J. A. Field, and R. Sierra-Alvarez. 2010. Anaerobic bioremediation of hexavalent uranium in groundwater by reductive precipitation with methanogenic granular sludge. *Water Research* 44:2153-2162 [IF = 4.865]
- Sun, W., L. Milner, R. Sierra-Alvarez, and J. A. Field. 2010. Anaerobic oxidation of arsenite linked to chlorate reduction. *Appl. Environ. Microbiol.* 76:6804-6811. [IF = 3.829]
- Sun, W., R. Sierra-Alvarez, L. Milner, R. Oremland, and J. A. Field. 2009. Arsenite and ferrous iron oxidation linked to chemolithotrophic denitrification for the immobilization of arsenic in anoxic environments. *Environmental Science & Technology* 43:6585-6591. [IF = 5.228]
- Sun, W. J., R. Sierra-Alvarez, N. Fernandez, J. L. Sanz, R. Amils, A. Legatzki, R. M. Maier, and J. A. Field. 2009. Molecular characterization and in situ quantification of anoxic arsenite-oxidizing denitrifying enrichment cultures. *Fems Microbiology Ecology* 68:72-85. [IF = 3.408]
- Ochoa-Herrera, V., R. Sierra-Alvarez, A. Somogyi, N. E. Jacobsen, V. H. Wysocki, and J. A. Field. 2008. Reductive defluorination of perfluorooctane sulfonate. *Environmental Science & Technology* 42:3260-3264. [IF = 5.228]

¹ By listing publications from most cited to least cited 1st, 2nd .. etc, the H index is the nth publication where n = citation count of the publication. An H index of 46 means that there are 46 articles cited more than 46 times.

- Ju, X. M., J. A. Field, R. Sierra-Alvarez, M. Salazar, H. Bentley, and R. Bentley. 2007. Chemolithotrophic perchlorate reduction linked to the oxidation of elemental sulfur. *Biotechnology and Bioengineering* 96:1073-1082. [IF = 3.946]
- Cortinas, I., J. A. Field, M. Kopplin, J. R. Garbarino, A. J. Gandolfi, and R. Sierra-Alvarez. 2006. Anaerobic biotransformation of roxarsone and related N-substituted phenylarsonic acids. *Environmental Science & Technology* 40:2951-2957. [IF = 5.228]
- Sierra-Alvarez, R., I. Cortinas, U. Yenal, and J. A. Field. 2004. Methanogenic inhibition by arsenic compounds. *Applied and Environmental Microbiology* 70:5688-5691. [IF = 3.829]
- Cervantes, F. J., W. Dijkema, T. Duong-Dac, A. Ivanova, G. Lettinga, and J. A. Field. 2001. Anaerobic mineralization of toluene by enriched sediments with quinones and humus as terminal electron acceptors. *Applied and Environmental Microbiology* 67:4471-4478. [IF = 3.829]
- Mester, T., and J. A. Field. 1998. Characterization of a novel manganese peroxidase-lignin peroxidase hybrid isozyme produced by *Bjerkandera* species strain BOS55 in the absence of manganese. *Journal of Biological Chemistry* 273:15412-15417. [IF = 4.773]
- Dejong, E., J. A. Field, H. E. Spinnler, J. Wijnberg, and J. A. M. Debont. 1994. Significant Biogenesis of Chlorinated Aromatics by Fungi in Natural Environments. *Applied and Environmental Microbiology* 60:264-270. [IF = 3.829]
- Field, J. A., E. Dejong, G. Feijocosta, and J. A. M. Debont. 1993. Screening for Ligninolytic Fungi Applicable to the Biodegradation of Xenobiotics. *Trends in Biotechnology* 11:44-49. [IF = 9.148].

Statistics about Other Publications (Refereed Book Chapters, Reports and Conference Proceedings)

Total Number of Other Publications = **52**

Selection of 10 Other Publications

- González-Estrella, J., Sierra-Alvarez, R., Field, J. A. (2012). Toxicity of Nanoparticles to Anaerobic Methanogenic Biofilms. *SESHA Journal*. pp. 1-5
- Otero-González, L., Field, J. A., Sierra-Alvarez, R. (2012). Application of a Novel Real Time Impedance-Based System for High Throughput Nanotoxicity Assessment. *SESHA Journal*. pp. 1-5
- Banihani Q, Sun W. Sierra-Alvarez R, Field JA 2010. Enrichment of Anaerobic Ammonium Oxidizing (Anammox) Bacteria from Wastewater Sludge. In: Proceedings of the 12th IWA World Congress of Anaerobic Digestion, Oct. 31st – Nov. 4th, 2010, Guadalajara, Mexico. IWA 4907. pp. 1-6.
- Field, J. A. and R. Sierra-Alvarez. 2007. Biodegradability of chlorinated aromatic compounds. *Science Dossier 12*. Eurochlor, Brussels, Belgium, (www.eurochlor.org), pp. 1-126.
- Field, J. A. and F. J. Cervantes. 2005. Microbial redox reactions mediated by humus and structurally related quinones. In: Perminova, I. V., K. Hatfield and N. Hertkorn (Eds.), *Use of Humic Substances to Remediate Polluted Environments: from Theory to Practice*, NATO, Brussels, pp. 343-352.
- Field, J. A. and R. Sierra-Alvarez. 2004. Biodegradability of chlorinated solvents and related chlorinated aliphatic compounds. *Science Dossier 8*. Eurochlor, Brussels, Belgium, (www.eurochlor.org), pp. 1-100.
- Field, J. A. 2003. Biodegradation of chlorinated compounds by white rot fungi. In: M. M. Haggblom and I. D. Bossert (Eds.), *Dehalogenation: Microbial Processes and Environmental Applications*. Kluwer Academic Publisher, Boston, pp 159-204.
- Field, J. A. and J. B. P. A. Wijnberg. 2003. An update on organohalogen metabolites produced by basidiomycetes. In: G. W. Gribble (Ed.), *Natural Production of Organohalogen Compounds, The Handbook of Environmental Chemistry Vol.3, Part P*. Springer Verlag, Berlin, pp. 103-119.

- Tan, N. C. G. and J. A. Field. 2000. Biodegradation of sulfonated aromatic compounds. In: P. Lens and L.H. Pol (Eds.). Environmental Technologies to Treat Sulfur Pollution IWA publishing, London, pp. 373-392.
- Field, J. A. and G. Lettinga. 1992. Biodegradation of tannins. In: H. Sigel (ed.), Metal Ions in Biological Systems. Volume 28: Degradation of Environmental Pollutants by Microorganisms and their Metalloenzymes, Marcel Dekker, Inc., N.Y. pp. 61-97.

5. Conference Presentation

Examples of Conference Presentations

- Field, J. A. Anaerobic biotransformation of inorganic pollutants: Reducing environmental risk and recovering critical elements. 13th World Conference: Anaerobic Digestion 2013, Santiago de Compostela, Spain, June 25-28, 2013. [Keynote].
- Field, J. A. Toxicity and Environmental Fate of Inorganic Nanoparticles. VIII *Congreso del Centro de Investigación Avanzados de Materiales* Oct 25-26th, 2012, Chihuahua, Mexico [Invited talk]
- Field, J. A. Toxicity and Environmental Fate of Inorganic Nanoparticles. First International Symposium Research Network Semiconductors, Micro- and Nanotechnology, Feb 2nd-3rd, 2012, Hermosillo, Sonora, Mexico [Invited talk]
- Field J. A. The State of the Art in Nitrogen Removal and Recovery. X Latin American Workshop and Symposium on Anaerobic Digestion. Oct 23rd - 27th, 2011, Ouro Preto, Minas Gerais, Brazil [keynote]
- Field J. A., Luna-Velasco A, Garcia C, Otero L, Sierra-Alvarez R. 2010. Toxicity and Environmental Fate of Nanoparticles. 2010 Nano Monterrey Forum: Nanotechnology Industrial Applications. 2010. Nov. 18-19, Monterrey, Mexico [Invited talk]
- Field, J. A., Gomez, F., Barbero, I., Rottman, J., Rodríguez, M., Luna, A., Shadman, F., Sierra, R. Fate of Inorganic Oxide Nanoparticles in Semiconductor Manufacturing Effluents during Activated Sludge Treatment (217d) .AIChE annual Conference, November 7th-12th, 2010 Salt Lake City.[Oral presentation]
- Field, JA. Treatment of heavy metals and elimination of sulfur with a novel sulfate reducing permeable reactive barrier containing zero valent iron. EPA Region 9, San Francisco, Ca. June 25th, 2008. [Invited presentation]
- Field JA, Sierra-Alvarez R. 2006. Biodegradation of natural organochlorine compounds. Society for Environmental Toxicity and Chemistry (SETAC) Europe 16th Annual Meeting, May 7th-11th, The Hague, The Netherlands [Invited Talk]
- Field, J. A. 2005. Environmental biotechnology: Bioremediation and emerging applications. SINAFERM XV Simpósio Nacional de Bioprocessos 2 - 5 August, Recife, Brazil [Keynote]
- Sierra-Alvarez, R., W. Sun, P. Rowlette, I. Cortinas and JA Field. 2005. Anoxic Oxidation of Arsenite Linked to Denitrification. Eighth International In Situ and On-Site Bioremediation Symposium. June 6-9, 2005. Baltimore, MD. [oral presentation].
- Cortinas, I., R. Sierra-Alvarez, D. A. Comacho and J. A. Field. 2004. Biologically catalyzed mobilization of arsenic from granular ferric hydroxide in continuous anaerobic flow-through columns. In: Proceedings 10th World Congress on Anaerobic Digestion (AD10) August 29th to September 2nd, 2004, Montreal (Canada), pp. 500-506. [Oral presentation]
- Field, J. A. Anaerobic degradation of xenobiotic compounds. VII Latin America Workshop and Symposium on Anaerobic Digestion, Oct 22-25, 2002, Merida, Mexico [Keynote].
- Field, J. A. Limits to Anaerobic Biodegradation. 9th World Conference: Anaerobic Digestion 2001, Antwerp, Belgium, Sept. 1-6, 2001. [Keynote].

6. Research Funding

Statistics on Research Funding

Total research funding ascribed to Dr. J. A Field (total funding \times fraction responsible) = \$ 5,533,293

Total ascribed to Dr. J.A. Field from 1991 to 2000 (The Netherlands) = \$ 2,168,890

Total ascribed to Dr. J.A. Field from 2001 to 2012 (USA) = \$ 3,364,403

Example of Research Projects

Effort	Title (dates)	Funding Source	Budget
Role %			U.S. \$
PI 60	Improving the Reliability of Anaerobic Ammonium Oxidation (ANAMMOX) as an N-Removal Technology through a Mechanistic Understanding of Irreversible Nitrite Inhibition (4/1/2013 – 3/31/2016)	CBET-NSF	340,370
PI 40	Interaction of Microbial and Abiotic Processes in Soil Leading to the (Bio)Conversion and Ultimate Attenuation of New Insensitive Munitions Compounds (03/1/12-02/28/15)	SERDP-DoD	1,041,000
CoPI 20	Role of Mineral Genesis, Dissolution, and Sorption on Arsenic Fate in Contaminated Sites (4/1/2010 – 3/31/2015)	NIEHS-NIH	1,947,000
PI 50	Outreach Core to Underrepresented Groups in the US-Mexico Border Region (4/1/2010 – 3/31/2015)	NIEHS-NIH	514,988
PI 50	Landfill Leachate Treatment: Anammox combined with Advanced Oxidation (07/10-06/13)	US-Egypt Science Collaboration - USDA	90,000
PI 20	Environmental Safety and Health (ESH) Impacts of Emerging Nanoparticles and Byproducts from Semiconductor Manufacturing. (04/09-04/12)	SRC-GRC	1,020,000
PI 100	Anaerobic Sewage Treatment for Sustainable Water Reclamation in Jordan (07/01/06-06/31/08)	International Arid Lands Consortium USDA	87,993
CoPI 50	Chemolithotrophic Denitrification as the Missing Link in the Arsenic Biogeochemical Cycle (09/01/05 - 8/31/07)	USGS-NIWR 104G	121,163
CoPI 50	U.S.-Mexico Binational Center for Environmental Science and Toxicology: Collaborative Projects, Educational Materials and Outreach Program (02/015/06 - 02/15/09)	U.S. EPA STAG	962,200
CoPI 50	U.S.-Mexico Binational Center for Environmental Science and Toxicology: Collaborative Projects, Educational Materials and Outreach Program (02/015/06 - 02/15/09)	U.S. EPA EPM	496,000
PI 34	Agricultural Chemicals as a Major Non-Point Source of Arsenic: Microbial Transformation of Organic Arsenicals. (2002-2004)	USGS-NIWR 104G	153,164
PI 50	Sulfide as the Main Electron Donor for Denitrification of Petroleum Refinery Effluents-A Novel Approach for Simultaneous Removal of S, N, & C. (2001-2004).	NSF US-Mexico Collaborative Projects	112,284

7. Teaching

Courses Taught: Lectures

ENGR 102, Introduction to Engineering, 3 credits, taught in Fall of 2001, 2002, 2003 and 2004 at University of Arizona
CHEE 450, Introduction to Biotechnology, 3 credits, taught in Fall of 2002, 2003 and 2005 at University of Arizona
CHEE 473/573, Biodegradation of Organic Contaminants, 3 credits taught in Spring of 2001, 2002, 2003, 2004, 2005, 2007, 2011 at University of Arizona
CHEE 542, Biotransformation of Inorganic Contaminants, 2 credits taught in Spring of 2004, 2006, 2009 and 2012 at University of Arizona
CHEE577R or CHEE 477/577, Microbiology for Engineers, 3 credits taught in Fall of 2004, 2005, 2006, 2008, 2009, 2010, 2011 and 2012 at University of Arizona
CHEE510 Logistics of Writing a Manuscript for the Chemical and Environmental Engineering, 1 credit taught in Spring of 2012, 2013

Courses Taught: International Training

Getting ready to write a scientific article. Workshop at *Universidad de Santiago de Compostela* (Spain), on June 14th, 2011
Acid Mine Drainage: Characterization, Remediation and Health Effects. Feb 8-10, 2010, Taxco, Mexico
Priority of Health Effects and Management of Contaminants in Southern Sonora. October 27-28, 2008, Ciudad de Obregon, Mexico
Health Effects and Remediation of Mine Tailings. June 4-6, 2007, Faculty of Medicine of the *Universidad Autonoma de San Luis Potosi*, San Luis Potosi, Mexico
Environmental Sciences and Toxicology: The Lagunera Region. November 13-15, 2006, Gomez Palacio, Durango, Mexico and Torreon, Coahuila, Mexico
Fate, Toxicity and Remediation of Heavy Metals, Univ. Sonora, Hermosillo, Mexico, December 2005
Advances in Environmental Toxicology and Environmental Sciences, CICESE, Ensenada, Mexico March 2005
Recent Advances in Toxicology. Sept. 22-23, 2004, Mexico City, Mexico
Water Reuse Course for Visiting Jordanian Scientists, December 2003 at the University of Arizona
Bioremediation Course, *Universidad de Valladolid*, Valladolid Spain, December 2002
Anaerobic Treatment Coffee Wastewater, Matagalpa (5 weeks), Nicaragua, 1990
Anaerobic Workshop, *Universidad de Valle*, Cali Columbia 1987

8. Graduate Student Advising

PhD students graduated

1. De Jong, E. Physiological Roles and Metabolism of Fungal Aryl Alcohols. December 1st, 1993. Wageningen University.
2. Kato, M. T. The Anaerobic Treatment of Low Strength Soluble Wastewaters. June 10th, 1994. Wageningen University.
3. Florencio, L. Fate of Methanol in Anaerobic Bioreactors. June 10th, 1994. Wageningen University.

4. Razo-Flores, E. Biotransformation and Biodegradation of N-Substituted Aromatics in Methanogenic Granular Sludge. September 19th, 1997. Wageningen University.
5. Kotterman, M. Polycyclic Aromatic Hydrocarbon Degradation by the White Rot Fungus *Bjerkandera* sp. strain BOS55. October 4th, 1998. Wageningen Agricultural University.
6. Mester, T. Role of Manganese and Veratryl Alcohol in the Ligninolytic System of *Bjerkandera* sp. Strain BOS55. September 9th, 1998. Wageningen University.
7. Kortekaas, S. Sequenced Anaerobic-Aerobic Treatment of Hemp Pulping Wastewaters. November 4th, 1998. Wageningen University.
8. Teunissen, P. The role of natural chlorinated hydroquinone metabolites in ligninolytic fungi. June 16th, 1999. Wageningen University.
9. Van Eekert, M. Transformation of chlorinated compounds by methanogenic granular sludge. June 21st, 1999. Wageningen University.
10. ten Have, R. Lignin peroxidase mediated biotransformations useful in the biocatalytic production of vanillin. 2000, Wageningen University
11. Tan, N. Integrated and sequential anaerobic/aerobic biodegradation of azo dyes. 2001, Wageningen University
12. Hage, A. Biocatalytic conversions by white rot fungi: exploring the reductive system. 2001, University of Amsterdam
13. van der Zee, F. Anaerobic azo dye reduction. 2002, Wageningen University.
14. Cervantes-Carrillo, Quinones as electron acceptors and redox mediators for the anaerobic biotransformation of priority pollutants. 2002, Wageningen University
15. Guerrero, C. The role of redox mediators on the anaerobic degradation of chlorinated solvents. 2004, University of Arizona
16. Sun, W. Anoxic Oxidation of Arsenite. 2008, University of Arizona
17. Banihani, Q. Anaerobic - Aerobic Treatment of Domestic Sewage for the Removal of Carbonaceous and Nitrogenous Contaminants. 2009, University of Arizona
18. Gamez Grijalva, V.M. Biological and Physical-Chemical Methods for Treatment of Semiconductor Manufacturing Effluents. 2009. University of Arizona.
19. Gomez-Rivera, F. "Removal of Inorganic Oxide Nanoparticles during Activated Secondary Sludge Treatment and during the Bioremediation of Landfill Leachate". 2010. University of Arizona.
20. Tapia-Rodriguez, A. Anaerobic Bioremediation of Hexavalent Uranium in Groundwater. 2011. University of Arizona

PhD students current

21. Carvajal-Arroyo, J.M. Treatment of Nitrogen Nutrient Using Anaerobic Ammonium Oxidation (ANAMMOX) bioreactors. University of Arizona. (In progress).
22. Otero-Gonzalez, L. Mechanisms and screening of nanotoxicity. University of Arizona. . (In progress).
23. Gonzalez Estrella, J. Toxicity nanoparticles to biological wastewater treatment processes. University of Arizona. . (In progress)
24. Ramos-Ruiz, A. Fate of emerging semiconducting materials in landfills . University of Arizona. (In progress)
25. Ayala, P.A. Passive treatment of acid mine drainage. University of Arizona. . (In progress).
26. Cuevas-Robles, A. Assessment of the toxicity of CMP-derived nanoparticles. (In progress).
27. Guangbin, Li. Toxicity mechanisms of Anaerobic Ammonium Oxidation (ANAMMOX). In progress)
28. Olivares-Martinez, C. Biotransformation of insensitive munitions compounds. University of Arizona. (In progress)

MS students graduated (list is for USA only; approximately 30 Ir. Candidates in The Netherlands)

1. Brady, L. Stimulation of azo dye biotransformation with redox mediators. 2002. University of Arizona.
2. Cortinas-Lopez, I. Microbial Transformation and Mobilization of Arsenate under Landfill Conditions. 2004. University of Arizona.
3. Karri, S.L. Bioremediation of Heavy Metals Using Sulfate Reducing Bacteria. 2004. University of Arizona.
4. Francis, J. Anaerobic biotransformation of chloroform. 2005. University of Arizona
5. Howard, B.R. Zero-Valent Iron as an Electron Donor for the Biological Treatment of Acid Mine Drainage Using Sulfate-Reducing Bacteria. 2006. University of Arizona.
6. Ochoa Herrera, V.L. Removal of Perfluorooctane Sulfonate (PFOS) by Sorption onto Activated Carbon and onto Wastewater Treatment Sludge. 2006. University of Arizona.
7. Sun, W. Anoxic Oxidation of Arsenite to Arsenate Linked to Denitrification. 2006, University of Arizona.
8. Trujillo Silva, M.A. Chemolithotrophic reduction of perchlorate with reduced sulfur compounds as electron donors. 2006. University of Arizona.
9. Chairez Llamas, M.C. Application of Elemental Sulfur as Electron Donor for the Remediation of Water Contaminated with Nitrate and Bromate. 2006. University of Arizona.
10. Gamez Grijalva, V.M. Recovery of Heavy Metals from Wastewater by Means of a Sulfate Reducing Bioreactor and a Crystallization Reactor. 2006. University of Arizona.
11. Byrnes, D.J. Microbial Competition for Elemental Sulfur Used as Electron Donating Substrate for Perchlorate Reduction. 2007. University of Arizona.
12. Carvajal-Kottmann, D.I. Bioremediation of Manganese in Acid Mine Drainage. 2008. University of Arizona.
13. Leon-Garcia, G.L. Inhibitory impact of fluoride and copper ions on biological wastewater treatment systems. 2008. University of Arizona.
14. Tapia-Rodriguez, A. Bioremediation of hexavalent uranium plumes in groundwater. 2009. University of Arizona.
15. Gomez-Rivera, F. "Anaerobic Biodegradation of Benzene, Toluene, m-Xylene and cis-DCE." 2009. University of Arizona.
16. Swanson, C. Investigation of anaerobic biodegradability of municipal primary settled solids. 2009. University of Arizona.
17. Rodríguez-Freire, L. Metabolic Characterization of Chemolithotrophic Arsenite-Oxidizing Nitrate-Reducing Bacterial Strains. 2010. University of Arizona.
18. Rodriguez, M. Impact of Wastewater Components on the Aggregation Behavior of Nanoparticles in Chemomechanical Planarization (CMP) Slurries. 2011. University of Arizona.
19. Barbero-Ortega, I. Environmental, Safety and Health Impacts of Emerging Nanoparticles from Semiconductor Manufacturing. 2011. University of Arizona.
20. Carvajal-Arroyo, J.M. Assessment of inhibition of the ANAMMOX process. Improvement of biomass retention in ANAMMOX bioreactors. 2012. University of Arizona.
21. Otero-Gonzalez, L. Application and Validation of an Impedance-Based Real Time Cell Analyzer to Measure the Toxicity of Nanoparticles Impacting 16HBE14o- Lung Epithelial Cell. 2012. University of Arizona.

MS students current

22. Ramos-Ruiz, A. Fate of gallium arsenide in mixed municipal waste landfills. 2012. University of Arizona (expected in December)
23. Liu, Yuanzhe. Biodegradation of algae biomass. (in progress)
24. Zeng, Chao. Corrosion of discarded photovoltaic cells in landfills (in progress)