

ROSA KRAJMALNIK-BROWN

ph. 480-727-7574;

fax. 480-727-0889

E-mail. Dr.Rosy@asu.edu

School of Sustainable Engineering and the Built Environment

Center for Environmental Biotechnology

Biodesign Institute at Arizona State University

1001 South McAllister Avenue, P.O. Box 875701

Tempe, AZ 85287-5701 U.S.A

Education:

- Ph.D. Environmental Engineering, Georgia Institute of Technology (2005)
- M.S. Environmental Engineering, Georgia Institute of Technology (2000)
- B.S. Industrial Biochemical Engineering, Universidad Autonoma Metropolitana Iztapalapa (UAMI) Mexico City (1996)

Professional Appointments:

- Assistant Professor, Civil Environmental and Sustainable Engineering, Center for Environmental Biotechnology, Biodesign Institute at Arizona State University (9/2007-present).
- Senior Sustainability Scientist - Global Institute of Sustainability, Arizona State University (2011-present)
- Post-Doctoral Scholar, Center for Environmental Biotechnology, Biodesign Institute at Arizona State University (9/2005-9/2007)
- Teaching Assistant, Georgia Institute of technology (2004-2005)
- Graduate Research Assistant, Georgia Institute of technology (1997-2004)
- Process Engineer, IBtech, Inc., Mexico City, Mexico (1996-1997)

Awards:

- NSF CAREER award 2011-2015
- ASM/NCID Postdoctoral Fellowship Award 2005 (Declined by candidate)
- AEES Outstanding 2003 Ph.D. Candidate in Environmental Engineering
- Fulbright Scholar 1997-2000
- Best GPA of 1996 class “Medalla al Merito Universitario” UAM-I Mexico

Professional Organizations:

- American Society for Microbiology (ASM)
- International Society for Microbial Ecology (ISME)
- Association of Environmental Engineering and Science Professors (AEESP)
- American Chemical Society (ACS)
- American Society for Civil Engineers (ASCE)

Publications:

Refereed Journals

1. Tang, Youneng; Zhao, He-Ping*; Marcus, Andrew, **Krajmalnik-Brown, Rosa**; Rittmann, Bruce. 2012. A Steady-State Biofilm Model for Simultaneous Reduction of Nitrate and Perchlorate -- Part 1: Parameter Optimization and Results and Discussion Environmental Science and Technology, *In Press*
2. Tang, Youneng; Zhao, He-Ping*; Marcus, Andrew, **Krajmalnik-Brown, Rosa**; Rittmann, Bruce. 2012. A Steady-State Biofilm Model for Simultaneous Reduction of Nitrate and Perchlorate -- Part 2: Parameter Optimization and Results and Discussion Environmental Science and Technology, *In Press*
3. **Rosa Krajmalnik-Brown**, Zehra-Esra Ilhan, Dae-Wook Kang, and John K. DiBaise. 2012. Effects of Gut Microbes on Nutrient Absorption and Energy Regulation. Nutrition in Clinical Practice *In Press*.
4. Parameswaran P., Torres C.I., Kang D.W*, Rittmann B.E. and **Krajmalnik-Brown R.** 2012. The role of homoacetogenic bacteria as efficient hydrogen scavengers in microbial electrochemical cells (MXCs). Water Science and Technology, 65(1) 1-6
5. Raveender Vannela, Hyun Woo Kim, Jie Sheng, Jonathan Badalamenti, Swathi Sridharakrishnan, Chao Zhou, **Rosa Krajmalnik-Brown**, Bruce E Rittmann. 2011 Temperature effects on growth and fatty acid content of *Synechocystis* in a photobioreactor. Bioresource Technology, **102** (24) 11218-11225.
6. He-Ping Zhao , Steven W. Van Ginkel , Youneng Tang , Dae-Wook Kang* , Bruce E. Rittmann , and **Rosa Krajmalnik-Brown**. Interactions between perchlorate and nitrate reductions in the biofilm of a hydrogen-based membrane biofilm reactor Environmental Science and Technology, **45** 10155–10162.
7. Guozheng Li, Seongjun Park, Dae-Wook Kang, **Rosa Krajmalnik-Brown**, and Bruce E. Rittmann. 2011. 2, 4, 5-Trichlorophenol Degradation Using a Novel TiO₂-Coated Biofilm Carrier: Roles of Adsorption, Photocatalysis, and Biodegradation Environmental Science and Technology, **45**(19) 8359-8367.
8. Ziv-El M., Delgado A. G., Yao Y., Kang D.W*., Halden Rolf U., **Krajmalnik-Brown R.** 2011 Development and characterization of DehaloR², a novel anaerobic microbial consortium performing rapid dechlorination of TCE to ethene. Applied Microbiology and Biotechnology.**92**:1063–1071
9. E.I. Garcia-Peña, P. Parameswaran, J. Miceli, M. Canul Chan and **R. Krajmalnik-Brown** 2011 Anaerobic digestion and co-digestion process of vegetable and fruit residues: Process and microbial ecology. Bioresource Technology, **102**: 9447–9455.
10. Vermaas W, Cheney S, **Krajmalnik-Brown R**, Lamb H, Nielsen D, Rittmann B, Roberson R, Thompson D. 2012. Cyanobacteria as Solar-Powered Biocatalysts for Production of Biofuels. Journal of Phycology, 47 SI Supplement 2: S6-S6.
11. Torres C.I, Ramakrishna S., Chiu C.A., Muto K, Westerhoff P., **Krajmalnik-Brown R.** 2011 “Analysis of the Chemical and Biological Degradation of Sucralose in Synthetic Wastewater” Journal of Environmental Engineering and Science, 28 (5): 325-331
12. Parameswaran P., Torres C.I., Lee H. S, Rittmann B.E. and **Krajmalnik-Brown R.** 2011 “Hydrogen consumption in microbial electrochemical systems (MXCs): The role of homoacetogenic Bacteria” Bioresource Technology. **102**: 263–271

13. Zhang H*, Ziv-El M., Rittmann B.E., and **Krajmalnik-Brown R.** 2010 “Effect of Dechlorination and Sulfate Reduction on the Microbial Community Structure in Denitrifying Membrane-Biofilm Reactors. Environmental Science and Technology, **44**(13): p. 5159-5164.
14. Torres C.I.; Kato Marcus A.; Lee H. S.; Parameswaran P.; **Krajmalnik-Brown R.**; Rittmann B.E. “ 2010, A kinetic perspective on extracellular electron transfer by anode-respiring bacteria” FEMS Microbiology Reviews **34**(1): 3-17
15. Parameswaran P., Zhang H, Torres C.I., B. E. Rittmann and **Krajmalnik-Brown R**, 2010 “Microbial community structure in a biofilm anode fed with a fermentable substrate: The significance of hydrogen scavengers”. Biotechnology and Bioengineering, **105**(1): 69-78.
16. Torres CI, **Krajmalnik-Brown R**, Parameswaran P, Marcus AK, Wanger G, Gorby Y, Rittmann BE. 2009. Selecting anode-respiring bacteria based on anode potential: phylogenetic, electrochemical, and microscopic characterization Environmental Science & Technology, **43**(24): 9519-9524.
17. Zhang H., Banaszak J. E., Parameswaran P., Alder J. , **Krajmalnik-Brown R** and B. E. Rittmann. 2009 “Focused-Pulsed sludge pre-treatment increases the bacterial diversity and relative abundance of acetoclastic methanogens in a full-scale anaerobic digester”. Water Research, 43 pp 4517–4526
18. Lee H. S, **Krajmalnik-Brown R**, Zhang H*. and B. E. Rittmann. 2009 “An electron flow model can predict complex redox reactions in mixed-culture fermentative BioH₂: Microbial ecology evidence.” Biotechnology and Bioengineering, 104(4) pp 687-697.
19. Parameswaran P., Torres C.I., Lee H. S, **Krajmalnik-Brown R** and B. E. Rittmann. 2009 “Syntrophic interactions among anode respiring bacteria (ARB) and non-ARB in a biofilm anode: electron balances.” Biotechnology and Bioengineering, 103(3) pp 513-523
20. Zhang H., J. K. DiBaise, A. Zuccolo, D. Kudrna, M. Braidotti, Y. Yu, P. Parameswaran, M.D. Crowell, R. Wing, Rittmann B.E., and **R. Krajmalnik-Brown**. 2009 “Human Gut Microbiota in Obesity and after Gastric Bypass” PNAS, 106 (7) pp. 2365-2370
21. Rittmann B.E., **Krajmalnik-Brown R** and R. U. Halden. 2008 “Pregenicomic, genomic and post-genomic study of microbial communities involved in bioenergy”, Nature Microbial Reviews, 6(8): 604-612
22. John K. DiBaise, Husen Zhang*, Michael D. Crowell, **Rosa Krajmalnik-Brown**, G. Anton Decker, Bruce E. Rittmann. 2008 “The gut microbiota and its relationship to obesity. A systematic review”, Mayo Clinic Proceedings, 83(4):460-469
23. Chung J., **R. Krajmalnik-Brown** and B. E. Rittmann. 2008 “Bio-reduction of trichloroethylene using a hydrogen-based membrane biofilm reactor” Environmental Science and Technology, 42:477-483.
24. **Krajmalnik-Brown R.**, F. M. Saunders, K. M. Ritalahti, and F. E. Löffler. 2007 “Environmental distribution of the trichloroethene reductive dehalogenase gene (*tceA*) suggests lateral gene transfer among *Dehalococcoides*”. FEMS Microbiology Ecology, **59**(1): 206-214
25. Waller A. S., **R. Krajmalnik-Brown**, F. E. Löffler, and E. A. Edwards . 2005. “Multiple reductive-dehalogenase-homologous genes are simultaneously transcribed during dechlorination by *Dehalococcoides*-containing cultures”. Applied and Environmental Microbiology. **71**(12) 8257-8264
26. He J., Y. Sung, **R. Krajmalnik-Brown**, K. M. Ritalahti, and F. L. Löffler. 2004. “Isolation and characterization of *Dehalococcoides* sp. strain FL2, a trichloroethene

- (TCE)- and 1,2-dichloroethene-respiring anaerobe”. *Environmental Microbiology*. **7**(9): 1442-1450
27. **Krajmalnik-Brown R.**, T. Hölscher, I. N. Thomson, F. M. Saunders, K. M. Ritalahti, and F. E. Löffler. 2004 “Genetic Identification of a Putative Vinyl Chloride Reductase in *Dehalococcoides* sp. Strain BAV1”. *Applied and Environmental Microbiology*. **70**(10): 6347–6351.
 28. Hölscher, T., **R. Krajmalnik-Brown**, K. M. Ritalahti, F. V. Wintzingerode, H. Görisch, F. E. Löffler, and L. Adrian. 2004. “Multiple non-identical reductive dehalogenase homologous genes are common in *Dehalococcoides*”. *Applied and Environmental Microbiology*. **70**(9): 5290-5297.
 29. Lendvay, J. M., F. E. Löffler, M. Dollhopf, M. R. Aiello, G. Daniels, B. Z. Fathepure, M. Gebhard, R. Heine, J. Shi, **R. Krajmalnik-Brown**, C. L. M. Jr., M. J. Barcelona, E. Petrovskis, J. M. Tiedje, and P. Adriaens. 2003. “Bioreactive barriers: bioaugmentation and biostimulation for chlorinated solvent remediation”. *Environmental Science and Technology*, **37**:1422-1431.

Published books and book Chapters:

1. Zhang H*, Parameswaran P., Badalamenti J., Rittmann B.E. and **Krajmalnik-Brown R.** Integrating high-throughput pyrosequencing and quantitative real-time PCR to analyze microbial communities. Book chapter in High-throughput sequencing: applications to microbiology, *Methods in Molecular Biology*. 2011, Volume 733, Part 3, 107-128.

Conference proceedings

1. Kalinowski, T., K. McClellan, T. A. Bruton, I. B. Roll, **R. Krajmalnik-Brown** and R.U. Halden. Evaluating Bioremediation of TCE and Hexavalent Chromium: A Case Study of the *In Situ* Microcosm Array (ISMA). Annual Symposium of the NIEHS Superfund Program, October 23-26, 2011, Lexington, KY.
2. **Rosa Krajmalnik-Brown**, Dae-Wook Kang*, Zehra Ilhan, James B. Adams.” Relationship of Intestinal Microbial Ecology with Autistic Gastrointestinal Problems”. Faseb summer research conference: Probiotics, Intestinal Microbiota and the host: Physiological and Clinical Implications. July 2011. Carefree AZ.
3. **R. Krajmalnik-Brown***, P. Parameswaran, M. Ziv-El, A. Delgado, R.U. Halden, C.I. Torres, and B. E. Rittmann. Beneficial Role Of Homoacetogens In Microbial Electrochemical And Dechlorinating Systems. AEESP Education and Research Conference, July 10-12, 2011 Tampa, FL.
4. César I. Torres, **Rosa Krajmalnik-Brown**, Bruce E. Rittmann. Microbial Electrochemical Cells and their applications in bioenergy research and development. AEESP Education and Research Conference, July 10-12, 2011 Tampa, FL.
5. **Rosa Krajmalnik-Brown**, Joseph Miceli, Cesar Torres. “Enrichment of Novel Anode-Respiring Bacteria from Diverse Environments”. Battelle International Symposium on Bioremediation and Sustainable Environmental technologies. June 2011. Reno, NV.
6. Michal Ziv-El, Sudeep Popat, Katherine Cai, **Rosa Krajmalnik-Brown**, Bruce Rittmann. “Optimization of the Membrane Biofilm Reactor for Biological Reduction of Trichloroethylene” Battelle International Symposium on Bioremediation and Sustainable Environmental technologies. June 2011. Reno, NV.

7. Parameswaran P., C.I. Torres, B.E. Rittmann, and **R. Krajmalnik-Brown**. “Effect of high concentration of ammonium N on biofilm anode fed with fermentable substrate” 241st ACS National Meeting, March 2011, Anaheim CA.
8. Vermaas W, Cheney S, **Krajmalnik-Brown R**, Lamb H, Nielsen D, Rittmann B, Roberson R, Roberts W, Thompson D, Vannela R. “Cyanobacteria as biocatalysts for solar-driven biofuel production” 241st ACS National Meeting, March 2011, Anaheim CA.
9. Kang DW*, Lee HS, **Krajmalnik-Brown R**, Rittmann, BE. 2011. “Exploring microbial community in SMEC with two different wastewaters as electron donors”. 241st ACS National Meeting, March 2011, Anaheim CA.
10. Dae-Wook Kang*, Zehra Ilhan, Bruce E. Rittmann, James B. Adams, and **Rosa Krajmalnik-Brown** “ Exploring the intestinal microbial ecology in autistic children.” International Human Microbiome Congress. March 2011, Vancouver, Canada.
11. Ziv-El M, Delgado AG, Muto KG, Halden RU, **Krajmalnik-Brown R**. Molecular – biological characterization of a novel, sediment – free mixed culture showing exceptionally rapid dechlorination of trichloroethene to ethene. ISME13. August 2010, Seattle, WA..
12. Delgado AG, Ziv-El M, Torres CI, Parameswaran P, Halden RU, **Krajmalnik-Brown R**. “Role of pH buffer on TCE reduction and composition of dechlorinating consortia”. ISME13. August 2010, Seattle, WA.
13. Torres CI, Delgado AG, Parameswaran P, **Krajmalnik-Brown R**. “Enrichment and isolation of anode – respiring bacteria from environmental sources using a low – potential poised anode”. ISME13. August 2010 Seattle, WA.
14. Torres CI, García-Peña EI, **Krajmalnik-Brown R**, Rittmann BE. “Microbial Electrochemical Cells as a research tool to probe microbial and biofilm kinetics”, IWA/WEF. Biofilm Reactor Technology Conference, Winner of 2nd place poster competition, August 2010, Portland, OR.
15. Parameswaran P., C.I. Torres, D. Kang*, B.E. Rittmann, and **R. Krajmalnik-Brown**. “The role of homo-acetogenic bacteria as efficient hydrogen scavengers in microbial electrochemical systems” IWA/WEF. Biofilm Reactor Technology Conference, Winner of 2nd place poster competition, August 2010 Portland, OR.
16. Lee HS, Delgado AG, Torres CI, Halden RU, Rittmann BE, **Krajmalnik-Brown R**. “Anaerobic dechlorination of trichloroethene with hydrogen produced from a microbial electrolysis cell”. 7th IWA Leading-Edge Conference on Water and Wastewater Technologie, June 2010 Phoenix, AZ.
17. **Krajmalnik-Brown R.**, Parameswaran P., Torres CI., Rittmann BE. “The Role of Homo-Acetogens in Microbial Electrolytic and Fuel Cells” 7th IWA Leading-Edge Conference on Water and Wastewater Technologies, June 2010, Phoenix, AZ.
18. Badalamenti J., Rittmann B. E., and **R. Krajmalnik-Brown**. 2010 ”Development of molecular methods for identification and quantification of bacteria during growth of *Synechocystis* sp. PCC 6803 in photobioreactors” in Proceedings of the 110th ASM General Meeting, San Diego, CA.
19. **Rosa Krajmalnik-Brown** “Molecular Tools to Detect and Track Nature’s Anaerobic Detoxifiers” 20th Annual AEHS Meeting & International Conference on Soils, Sediments, Water, and Energy. March 2010, San Diego CA.
20. Bruce Rittmann, César I. Torres, Andrew Kato Marcus, Hyung-Sool Lee, Prathap Parameswaran, and **Rosa Krajmalnik-Brown**. 2009 “ How do the Anode-respiring bacteria get the electrons to the anode so fast?” 2nd International Microbial Fuel Cell Meeting, Korea

21. Prathap Parameswaran, César I. Torres, Husen Zhang, Bruce Rittmann and **Rosa Krajmalnik-Brown**. 2009. "Community structure in a biofilm anode fed with ethanol: Significance of hydrogen scavengers" 2nd International Microbial Fuel Cell Meeting, Korea
22. Zhang H., Ziv-el M., Yao Y., Chung J., Rittmann B.E., and **R. Krajmalnik-Brown.**, "Microbial ecology in nitrate-, chloroform-, and trichloroethene-reducing Membrane Biofilm Reactors (MBfR) revealed by pyrosequencing in Proceedings of the 109th ASM General Meeting, Philadelphia, PA.
23. Badalamenti J., Rittmann B. E., and **R. Krajmalnik-Brown**. 2009. "Development of molecular methods for identification and quantification of bacteria during growth of *Synechocystis* sp. PCC 6803 in industrial scale photobioreactors" in Proceedings of the 109th ASM General Meeting, Philadelphia, PA.
24. Prathap Parameswaran, César I. Torres, Husen Zhang, **Rosa Krajmalnik-Brown**, and Bruce E. Rittmann. 2008. "Syntrophic interactions determine electron flow from ethanol to electricity at the anode of a microbial fuel cell" in Microbial diversity-Sustaining the blue planet. Twelfth International Symposium on Microbial Ecology.
25. César I. Torres, Andrew Kato Marcus, Prathap Parameswaran, Bruce E. Rittmann and **Rosa Krajmalnik-Brown**. 2008. "Effect of anode potential on the microbial community of anode-respiring bacteria in a continuous flow reactor" in Microbial diversity-Sustaining the blue planet. Twelfth International Symposium on Microbial Ecology.
26. Parameswaran P., Rittmann B. E., and R. **Krajmalnik-Brown**. 2008. "16S rRNA fingerprinting of archaea reveals the significance of non-aceticlastic pathways during the anaerobic digestion of high ammonium wastes" in Proceedings of the 108th ASM General Meeting, Boston MA.
27. **Krajmalnik-Brown R.**, J. Chung, B. E. Rittmann, 2006. "The Membrane Biofilm Reactor (MBfR) Promotes *Dehalococcoides*-Containing Biofilm" in Proceedings of the 106th ASM General Meeting, Orlando FL.
28. **Krajmalnik-Brown R.**, F. M. Saunders, F. E. Loeffler, K. M. Ritalahti, 2005. "A Reductive Dehalogenase (RDase) Gene is Shared Among *Dehalococcoides* Species" in Proceedings of the 105th ASM General Meeting, Atlanta, GA.
29. Thomson I. N., S. Henry, **R. Krajmalnik-Brown**, K. M. Ritalahti, F. E. Loeffler, 2005. "Cloning and Expression Analysis of Anaeromyxobacter Reductive Dehalogenase Genes" in Proceedings of the 105th ASM General Meeting, Atlanta, GA.
30. **Krajmalnik-Brown R.**, I. N. Thomson, K.M. Ritalahti, F. M. Saunders and F. E. Loeffler, 2004. "Identification of Putative Reductive Dehalogenase genes from Chlororespiring isolate *Dehalococcoides* sp. strain BAV1", in Proceedings Tenth International Symposium on Microbial Ecology. Microbial Planet: Sub-Surface to Space. Cancun, Mexico.
31. Amos, B. K., **R. Krajmalnik-Brown**, J. He, Y. Sung, J. Waddell, K. Ritalahti, F. E. Loeffler, and S. Koenigsberg, 2004. "New Approaches for Initiating and Monitoring Reductive Dechlorination at Chloroethene-Contaminated Sites", in Proceedings Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Monterey, CA.
32. Ritalahti, K., **R. Krajmalnik-Brown** and F. E. Loeffler, 2004. "Beyond the rRNA Gene: Enhanced Tracking Tools for *Dehalococcoides* Species", in Proceedings of the 104th ASM General Meeting, New Orleans, LA.
33. Thomson, I. N., R. Krajmalnik-Brown, K. M. Ritalahti, F. E. Loeffler, 2004. "Cloning and Analysis of a Functional Gene Implicated in Vinyl Chloride Reductive Dechlorination in

- Dehalococcoides* sp. Strain BAV1”, in Proceedings of the 104th ASM General Meeting, New Orleans, LA.
34. Hölscher, T., J. Walter, B. Mennenga, R. Krajmalnik-Brown, H. Görisch, F. E. Löffler, and L. Adrian, 2004. „Reductive dehalogenases and putative anchoring proteins encoded in the genome of *Dehalococcoides* sp. strain CBDB1, a chlorobenzene-dechlorinating anaerobe”, in Proceedings of the VAAM Annual meeting, Braunschweig, Germany.
 35. **Krajmalnik-Brown, R.**, J. He, F. M. Saunders, and F. E. Löffler, 2003. “Identification of structural genes implicated in complete detoxification of chlorinated ethenes”, in Proceedings of the 7th International Symposium In situ and on-site Bioremediation, Orlando, FL.
 36. Ritalahti, K. M., J. He, **R. Krajmalnik-Brown**, Y. Sung, F. E. Löffler, and S.S. Koenigsberg, 2003. “Complete Reductive Dechlorination of Chlorinated Ethenes: Characterization of the Key Players and Implications for Their Specific Detection and Enumeration”, in Proceedings of the 7th International Symposium In Situ and On-site Bioremediation, Orlando, FL.
 37. Lendvay, J. M., F. E. Löffler, **R. Krajmalnik-Brown**, M. Dollhopf, M. R. Aiello, J. M. Tiedje, G. Daniels, M. Gebhard, E. Petrovskis, B. Z. Fathepure, R. Heine, J. Shi, R. Hickey, M. J. Barcelona, C. L. Major, and P. Adriaens, 2003. “Comparison of Bioaugmentation and Biostimulation for Chloroethene Plume Control”, in Proceedings of the 7th International Symposium In Situ and On-site Bioremediation, Orlando, FL.
 38. **Krajmalnik-Brown, R.**, J. He, F. M. Saunders and F. E. Löffler, 2003. “Identification and Cloning of a Gene Implicated in Complete Vinyl Chloride Detoxification”, in Proceedings of the 103rd ASM General Meeting, Washington, DC.
 39. Brigmon, R. L., M. M. Franck, P. C. McKinsey, C.J. Berry, D. J. Altman, E. W. Wilde, F. E. Löffler, **R. Krajmalnik-Brown**, S. Burdick, D. G. Jackson, F. M. Saunders, 2003 “Monitored natural attenuation of chlorinated ethenes in seep line sediments and groundwater at the Savannah River site”, in Proceedings of the 103rd ASM General Meeting, Washington, DC.
 40. Sung, Y., J. He, **R. Krajmalnik-Brown**, E. Padilla, K. M. Ritalahti and F. E. Löffler, 2002 “Distribution and Ecology of chloroethene-Dechlorinating Populations in Subsurface Environments” in Proceedings of the 102nd ASM General Meeting, Salt Lake City, UT.
 41. **Krajmalnik-Brown, R.**, K. M. Ritalahti, F. M. Saunders, F. E. Löffler, 2001. “Molecular Tools Detect *Dehalococcoides* Species in Vinyl Chloride and *cis*-1,2 Dichloroethene Dechlorinating Enrichment Cultures”, in Proceedings of the 101st ASM General Meeting, Orlando FL.
 42. Ritalahti, K. M., **R. Krajmalnik-Brown**, F. E. Löffler, 2001. “*Dehalococcoides*-Like Populations detected in 1,2-Dichloropropane (1,2-D)-Dechlorinating Enrichment Cultures”, in Proceedings of the 101st ASM General Meeting, Orlando FL.
 43. Ritalahti, K. M., **R. Krajmalnik-Brown**, J. M. Tiedje, and F. E. Löffler, 2001. “*Dehalococcoides* species are the dominant vinyl chloride dechlorinating bacteria in anaerobic environments”, in Proceedings of the 6th International Symposium In Situ and On-site Bioremediation, San Diego, CA.

Presentations:

1. Delgado AG, Ziv-El M, Halden RU, **Krajmalnik-Brown R**. “Microbial trichloroethene detoxification”. The 50th Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff, AZ. April 2011.
2. Torres CI, **Krajmalnik-Brown R**, Rittmann BE. “Using anode-respiring bacteria to generate direct electrical current from organic wastes”, mini-Simposio de Bioenergía, Universidad Nacional Autónoma de México, Morelos, Mexico, November 2008.
3. **Krajmalnik Brown R.**, K.M. Ritalahti, I. Thomson, R.E. Loeffler, “Enhanced tools for monitoring reductive dechlorination processes”. Industrial Microbiology and Biotechnology Annual Meeting, Anaheim, CA July 2004
4. Hölscher Tina, J. Walter, B. Mennenga, R. Krajmalnik-Brown, H. Görisch, F. E. Löffler, and L. Adrian., “Reductive dehalogenases and putative anchoring proteins encoded in the genome of *Dehalococcoides* sp. strain CBDB1, a chlorobenzene-dechlorinating anaerobe” Poster presentation, VAAM Annual meeting, Braunschweig, Germany, March 2004.
5. Lendvay J. M., F. E. Löffler, M. Dollhopf, M. R. Aiello, G. Daniels, B. Z. Fathepure, M. Gebhard, R. Heine, R. Helton, J. Shi, **R. Krajmalnik-Brown**, C. L. Major Jr., M. J. Barcelona, E. Petrovskis, R. Hickey, J. M. Tiedje and P. Adriaens. “Bioreactive barriers: A comparison of bioaugmentation and biostimulation for chlorinated solvent remediation” Poster presentation, FAME (frontiers in assessing methods for the environment) Symposium, Minneapolis, MN. August 2003
6. Lendvay, J. M., F. E. Löffler, M. Dollhopf, M. R. Aiello, G. Daniels, B. Z. Fathepure, M. Gebhard, R. Heine, J. Shi, **R. Krajmalnik-Brown**, C. L. Major Jr., M. J. Barcelona, E. Petrovskis, J. M. Tiedje, and P. Adriaens. “Bioreactive Barriers for Chloroethene Plume Control: a Comparison of Bioaugmentation and Biostimulation” Oral presentation, 2002 International Symposium on Subsurface Microbiology, Copenhagen, Denmark, September 2002.
7. **Krajmalnik-Brown, R.**, K. M. Ritalahti, Y. Sung, J. He, F. M. Saunders and F. E. Löffler. “Detection and Comparison of the *tceAB* Operon from *Dehalococcoides*–Containing Reductively Dechlorinating Cultures”. Poster presentation, VI International Symposium on Environmental Biotechnology, Veracruz, Mexico, June 2002.
8. Ritalahti, K. M., B. Griffin, **R. Krajmalnik-Brown**, and F. E. Löffler “Complete Microbial Detoxification of Cis-1,2-Dichloroethene (Cis-DCE) and Vinyl Chloride (VC) oral presentation, VI International Symposium on Environmental Biotechnology, Veracruz, Mexico, June 2002.
9. Ritalahti, K. M., **R. Krajmalnik-Brown**, Y. Sung, J. He, and F. E. Löffler “Microbial communities contributing to the degradation of *cis*-Dichloroethylene (*cis*-DCE), Vinyl Chloride (VC), and 1,2 Dichloropropane (1,2D)” Poster presentation, VI International Symposium on Environmental Biotechnology, Veracruz, Mexico, June 2002.

Invited Presentations

1. **Krajmalnik-Brown R.** “FAT or Fact” Arizona Science Center, April 2010
2. **Krajmalnik-Brown R. Molecular Tools to Detect and Track Nature’s Anaerobic Detoxifiers.** “Molecular Tools to Detect and Track Nature’s Anaerobic Detoxifiers” 20th Annual AEHS Meeting & International Conference on Soils, Sediments, Water, and Energy. March 2010, San Diego CA.

3. **Krajmalnik-Brown R.** “Improving Microbial Electrochemical Cells by Managing the Microbial Ecology”. Rice University. Invited seminar. February 2010.
4. **Krajmalnik-Brown R.** Unlocking Clean Energy Alliance of Technology & Women, Biodesign Institute, Arizona State University, Tempe Arizona, October 2009.
5. **Krajmalnik-Brown R.** “*Dehalococcoides*: Nature's Anaerobic Detoxifiers”. Molecular Cell biology colloquium, Arizona State University, Tempe Arizona, September 2008.
6. **Krajmalnik-Brown R.** “Pregenomic Study of microbial communities involved in bioenergy and bioremediation”, Invited speaker at Universidad Nacional Autonoma Metropolitana (UNAM), Mexico City, August 2008.
7. **Krajmalnik-Brown R.** ““Pregenomic Study of microbial communities involved in bioenergy” Invited speaker at Universidad Autonoma Metropolitana (UAM), Mexico City, July 2008
8. **Krajmalnik-Brown R.** “Genetic Identification of Reductive Dehalogenase Genes in *Dehalococcoides*” Invited speaker for the Civil and Environmental Engineering seminar at Arizona State University, Tempe Arizona, November 2005.
9. **Krajmalnik-Brown R.** “Genetic Identification of Reductive Dehalogenase Genes in *Dehalococcoides*” Invited speaker for brown bag seminar at the Biodesign Institute, Arizona State University, Tempe Arizona, November 2005.
10. **Krajmalnik-Brown R.** “Reductive Dehalogenase Genes in *Dehalococcoides* Species” Invited speaker for the Civil and Environmental Engineering seminar at Rice University, Houston Texas, March 2005.
11. **Krajmalnik-Brown R.** “Genetic Identification of Reductive Dehalogenase Genes in *Dehalococcoides*” Invited speaker for the Civil and Environmental Engineering seminar at Rice University, Houston Texas, November 2004.
12. **Krajmalnik-Brown, R.** “Tecnicas Moleculares Para la Deteccion de Microorganismos Responsables de la Clororespiracion y Detoxificacion de Compuestos Organochlorados” Oral presentation as a part of a seminar series at the Engineering Institute at UNAM (Mexico’s National University), November 2001, Mexico City, Mexico.
13. **Krajmalnik-Brown, R.** “Phytoremediation through rhizosphere technologies” Oral presentation, Mexico City, UAM-I University, March 1998.

Other Publications

1. Bruce E. Rittmann, Paul Westerhoff, Morteza Abbaszadegan, Absar Alum, Rosa Krajmalnik-Brown, and Michael Salerno “Summary Report on the Characterization of the First Pipe Clog Material from CISPI” June 2006.
2. Genetic Identification of reductive Dehalogenase Genes in *Dehalococcoides*. Ph.D. Dissertation, Georgia Institute of Technology, August (2005).

Patents:

Krajmalnik-Brown R., K. M. Ritalahti, and F. E. Löffler. “Isolated Reductive Dehalogenase Genes”. International Publication Number WO2006/031997 A2.

PTC

1. “*Microbial Cultures and Methods For Anaerobic Bioremediation*” **Krajmalnik-Brown R.** and Halden R.U. WO/2011/011683
2. M10-035L “*Reducing Acetate and Energy Uptake in Obese Humans by Managing Their Intestinal Microbial Communities*”. **Krajmalnik-Brown R.**, Rittmann B.E and Zhang H.

Provisional Patent Applications:

3. M10-050L Reduction of chlorinated compounds and toxic substances in groundwater and soils by H₂ supply generated from biological electrolysis cells (BECs). **Krajmalnik-Brown R.**, Rittmann B.E, Halden R.U., Lee H.S., Torres C.I., and Delgado A.

IP Disclosures:

1. Design of qPCR primers and probe for targeted detection and quantification of *Synechocystis* in photobioreactors Tech ID: M9-101L. **Krajmalnik-Brown R.**, and Badalamenti J.
2. Methods and Systems for Tracking Bioremediation Processes, Tech ID M11-047. **Krajmalnik-Brown R.** Halden R.U., and James Wilson.

Sponsored Research

Granted awards:

1. **NSF CAREER:** Microbial Ecology to Optimize Beneficial Syntrophies to Improve Microbial Electrochemical and Dechlorinating Systems. \$430,000.
2. Assessment of the Natural Attenuation of NAPL Source Zones and Post-Treatment NAPL Source Zone Residuals, P. C. Johnson, B.E. Rittmann, Krajmalnik-Brown FEDERAL: DOD-Other, total 448,476.00, recognized 147,997.08
3. SRG: Cyanobacteria for Generating Solar-Powered, Carbon-Neutral and Cost-Effective Biodiesel, PRIVATE: Foundation (Private/Industrial)
4. Cyanobacteria Designed for Solar-Powered Highly Efficient Production of Biofuels. ARPAE, FEDERAL: DOE, Total \$ 5,205,705.00, recognized \$ 520,570.50
5. The Intestinal Microecology in Chronic Constipation , Takeda-2009 \$165,000
6. Modeling and Analysis of a Bio-Sorption and Anaerobic Digestion Hybrid Process. B.E. Rittmann, Krajmalnik-Brown. Siemens Water Technologies Corp. \$209,105. Recognized \$52,250.
7. Human Intestinal Microbial Ecology and Its Relationship Autism. Krajmalnik-Brown. Autism Research Institute, \$28,960.00
8. Development of an acetate- or sugar-fed microbial power generator for military bases DoD Navy, Krajmalnik-Brown \$100,000.00 recognized \$ 25,000.00
9. Simultaneous Generation of Electricity and Hydrogen from Biomass and Sunlight via a Microbial Photoelectric Cell, Krajmalnik-Brown EPA, 17,000.00
10. ASU Research on MBfR Fundamentals Relevant to an ESTCP Project at WVWD. ESTCP, \$345,257. B.E. Rittmann, Krajmalnik-Brown recognized \$120,000
11. A phylogenetic approach to metagenomic analysis. NIH R21.\$419,375

12. Role of Human Intestinal Microbiota on Success of Surgical Weight-Loss Procedures. NIH R01. \$1,701,543.
13. Constructed Wetlands for Treatment of Organic and Nanomaterial Pollutants. EPA \$127,825. Recognized \$6391.25.

Not in Blackboard (Foundation)

1. "Comparison of the human microbial ecology after weight loss surgical procedures." TANITA Healthy Weight Community Trust 2009 \$11,000.

Advising of students:

High School

1. Smitha Ramakrishna, Corona del Sol
2. Alex Polansko, Notre Dame Preparatory High School
3. Mark Peng, Chandler High

Undergraduate Students

1. Brandon Yates (School of Life Sciences, ASU). Graduated May 2010.
2. Hansa Thompson (School of Life Sciences, ASU) Graduated May 2011.
3. Galen Johnson-Bates (College of Engineering, ASU),
4. Katherine Cai (College of Engineering, ASU),
5. Suyana Lozada (College of Engineering, ASU)
6. Devyn Fajardo-Williams (College of Engineering, ASU)

Masters Students

1. Ying Yao (Civil Environmental and Sustainable Engineering, ASU) Graduated Summer 2009
2. Katherine Muto (Civil Environmental and Sustainable Engineering, ASU), Graduated May 2010.
3. Kylie Kegerreis (Civil Environmental and Sustainable Engineering, ASU).

Ph.D. Students

1. Prathap Parameswaran (Civil Environmental and Sustainable Engineering, co advised with Bruce Rittmann Graduated May 2010.
2. Jon Badalamenti (Microbiology)
3. Anca Delgado (Microbiology)
4. Michal Ziv-El (Civil Environmental and Sustainable Engineering, co advised with Bruce Rittmann),
5. Ryan Ekre (Civil Environmental and Sustainable Engineering, co advised with Bruce Rittmann and Paul Johnson)
6. Aura Ontiveros (Sustainability) co advised with Bruce Rittmann
7. Joseph Micelli (Biological Design) co advised with Cesar Torres
8. Rebecca Allen (Biological Design) co advised with Roy Curtis
9. Zehra Esra Ilhan (Microbiology)

Post-docs

1. Husen Zhang
2. Daewook Kang
3. He-Ping Zhao

As thesis committee member:

1. Michelle Young, MS, 2011.
2. Guozheng Li, MS, 2011.
3. Amy Hansen, MS, 2010.
4. Cesar Ivan Torres PhD, 2009.
5. Andrew-Kato Marcus PhD, 2009.
6. Lisa Clifton, MS, 2008.
7. Liang Chen, MS, 2009.

Service:

ASU Service:

Graduate Student Organization (AGCE) Advisor and initiator
Biodesign personnel committee 2011-current
Scholarship committee 2008
Student Affairs committee (FSE) 2008-2011
Sustainability faculty search committee 2010
Steering Committee Microbiology Program 2007-2010
Microbial Ecologist search committee 2011

External Service:

Grants Reviewer

National Science Foundation: Review Panel member, program, 2009 and 2011

Reviewer for Archival Journals

1. Environmental Science and Technology
2. Water Research
3. Ground Water Monitoring & Remediation
4. Gut Journal
5. Fresenius Environmental Bulletin (FEB)
6. Biotechnology and Bioengineering
7. Applied and Environmental Microbiology
8. Bioresource Technology

Consulting Experience

IBtech, Inc., Mexico City, Mexico

Programs

Environmental and Sustainable Engineering
Microbiology

Biological Design
Environmental Life Sciences

Teaching Experience:

Introduction to Environmental Engineering CEE361, Fall 2008, Fall 2009, fall 2010, fall 2011.

Biotransformations CEE598Z. Spring 2008, Spring 2009, Spring 2010, Spring 2012

Data Synthesis CEE598 Spring 2011

Advanced Topics in Microbiology. MIC 591, Spring 2009, Fall 2010 Invited lecturer

Fundamentals of Biological Design I. BDE 701, Fall 2008, Fall 2009, Fall 2010 lectured for a week.