

**ROSA KRAJMALNIK-BROWN**

**Professor**

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**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**

- Professor, School of Sustainable Engineering and the Built Environment, Biodesign Swette Center for Environmental Biotechnology, Biodesign Institute at Arizona State University (2018-present).
- Associate Professor, School of Sustainable Engineering and the Built Environment, Biodesign Swette Center for Environmental Biotechnology, Biodesign Institute at Arizona State University (2013-2018).
- Engineering Research Director for the School of Sustainable Engineering and the Built Environment, Arizona State University (2012-2015).
- Assistant Professor, Civil Environmental and Sustainable Engineering, Swette Center for Environmental Biotechnology, Biodesign Institute at Arizona State University (2007-2013).
- 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 (2005-2007)
- Process Engineer, IBtech, Inc., Mexico City, Mexico (1996-1997)

**Research Interests**

My research focuses on the application of molecular microbial ecology tools to advance understanding of bioremediation systems, microbial systems for bioenergy production, and the human intestinal microbial ecology and its relationship to obesity, bariatric surgery, and autism

**Awards and Honors**

- Distinguished Alumni UAM-Mexico 2019
- Fulton Exemplar faculty, 2016-2017
- NSF CAREER Award 2011-2015
- Best student papers: Battelle 9th International Conference: Remediation of Chlorinated and Recalcitrant Compounds, Monterrey, 2014 (Devyn Fajardo-Williams and Aura Ontiveros-Valencia).
- Top Social Article by Microbial Cell Factories Journal for "Role of bicarbonate as a pH buffer and electron sink in microbial dechlorination of chloroethenes", 2014
- Forty under Forty, class of 2012, [Phoenix Business Journal](#)
- Best student papers: Battelle 8th International Conference: Remediation of Chlorinated and Recalcitrant Compounds, Monterrey, 2012 (Anca Delgado and Michal Ziv-EI).
- 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 Association for the advancement of Science (AAAS), 2019-current
- American Society for Microbiology (ASM), 2001-current
- International Society for Microbial Ecology (ISME), 2004-current
- Association of Environmental Engineering and Science Professors (AEESP), 2005-current
- American Chemical Society (ACS), 20005-current
- American Society for Civil Engineers (ASCE), 2008-2017

## PUBLICATIONS, INTELLECTUAL PROPERTY, AND PRESENTATIONS

My philosophy is to have **students as first authors** of research publications. I am the last author in all manuscripts where I have a major leading role. This does not apply to review articles.

Legend: (\*) Corresponding Author, Bold Font: ASU Ph.D. Student, Underline: ASU Master's Student (#) ASU Undergraduate Student, (∞) Other/Visiting Undergraduate Student (X) ASU Postdoctoral Researcher, ‡ High School Student, (+) Equal Contributions

### **Refereed Journals**

**(ISI Web of Science H index = 36: 6,410 citations, Google Scholar 9839 citations H index=43, i10-index 80). May 2019.**

103. **Zehra Esra Ilhan\***, John K. DiBaise, Sydney E. Dautel, Nancy G. Isern, Young-Mo Kim, David W. Hoyt, Athena A. Schepmoes, Heather M. Brewer, Karl K. Weitz, Thomas O. Metz, Michael D. Crowell, Dae-Wook Kang<sup>x</sup>, Bruce E. Rittmann & Rosa Krajmalnik-Brown\* 2020 "Temporospatial shifts in the human gut microbiome and metabolome after gastric bypass surgery" npj biofilms and microbiomes 6:12. <https://doi.org/10.1038/s41522-020-0122-5>
102. Jordan R Yaron, Sriram Ambadapadi, Liqiang Zhang, Ramani N Chavan, Scott A Tibbetts, Shahar Keinan, Arvind Varsani, Juan Maldonado<sup>x</sup>, Simona Kraberger, Amanda M Tafoya, Whitney L Bullard, Jacquelyn Kilbourne, Alison Stern-Harbutte, Rosa Krajmalnik-Brown, Barbara H Munk, Erling O Koppang, Efrem S Lim, Alexandra R Lucas. 2020. "Immune protection is dependent on the gut microbiome in a lethal mouse gammaherpesviral infection" Scientific Reports, 2371 (2020). <https://doi.org/10.1038/s41598-020-59269-9>
101. Yuqiang Bi, Andrew K Marcus, Hervé Robert, Rosa Krajmalnik-Brown, Bruce E Rittmann, Paul Westerhoff, Marie-Hélène Ropers, Muriel Mercier-Bonin. 2020. "The complex puzzle of dietary silver nanoparticles, mucus and microbiota in the gut" Journal of Toxicology and Environmental Health, Part B. (1)1-21. Jan 2020. <https://doi.org/10.1080/10937404.2019.1710914>
100. Daniel Gutierrez, Anthony Weinstock, Vijay C Antharam, Haiwei Gu, Paniz Jasbi, Xiaojian Shi, **Blake Dirks**, Rosa Krajmalnik-Brown, Juan Maldonado<sup>x</sup>, Jack Guinan, Shankar Thangamani. 2020. "Antibiotic-induced gut metabolome and microbiome alterations increase the susceptibility to *Candida albicans* colonization in the gastrointestinal tract". FEMS microbiology ecology. Jan 1;96(1)\_doi.org/10.1093/femsec/fiz187
99. Boya Wang, Rosa Krajmalnik-Brown, Chen Zhou, Yihao Luo, Bruce E. Rittmann, Youneng Tang. 2020. "Modeling Trichloroethene Reduction, Methanogenesis, and Homoacetogenesis in a H<sub>2</sub>-based Biofilm". Journal of Environmental Engineering. 146:2 doi.org/10.1061/(ASCE)EE.1943-7870.0001642
98. Jim Adams, Thomas Borody, Daewook Kang<sup>x</sup>, Alexander Khoruts, Rosa Krajmalnik-Brown, Michael Sadowsky. 2019. "Microbiota Transplant Therapy and Autism: Lessons for the Clinic".

Expert Review of Gastroenterology & Hepatology. 13:11, 1033-1037.  
doi.org/10.1080/17474124.2019.1687293

97. James B Adams, Troy Vargason, Dae-Wook Kang<sup>x</sup>, Rosa Krajmalnik-Brown, Juergen Hahn. 2019. "Multivariate Analysis of Plasma Metabolites in Children with Autism Spectrum Disorder and Gastrointestinal Symptoms Before and After Microbiota Transfer Therapy". Processes. 7:11, 806. <https://doi.org/10.3390/pr7110806>
96. Tengfei Chen, Burcu M. Yavuz, Anca G. Delgado<sup>x</sup>, Brielle Januszewski, Yi Zuo, Paul Westerhoff, Rosa Krajmalnik-Brown, and Bruce E. Rittmann. 2019. "Multi-cycle Ozonation + Bioremediation for Soils Containing Residual Petroleum". Environmental Engineering and Science, 36 (12), 1443-1451. doi.org/10.1089/ees.2019.0195
95. Voth-Gaeddert, L.E.\*; Torres, O.; Maldonado<sup>x</sup>, J.; Krajmalnik-Brown, R.; Rittmann, B.E.; Oerther, D.B. 2019. "Aflatoxin Exposure, Child Stunting, and Dysbiosis in the Intestinal Microbiome Among Children in Guatemala". Environmental Engineering Science. <https://doi.org/10.1089/ees.2019.0104>
94. Gil Sharon, Nikki Jamie Cruz, Dae-Wook Kang<sup>x</sup>, Michael J Gandal, Bo Wang, Young-Mo Kim, Erika M Zink, Cameron P Casey, Bryn C Taylor, Christianne J Lane, Lisa M Bramer, Nancy G Isern, David W Hoyt, Cecilia Noecker, Michael J Sweredoski, Annie Moradian, Elhanan Borenstein, Janet K Jansson, Rob Knight, Thomas O Metz, Carlos Lois, Daniel H Geschwind, Rosa Krajmalnik-Brown, Sarkis K Mazmanian. 2019 "Human Gut Microbiota from Autism Spectrum Disorder Promote Behavioral Symptoms in Mice". Cell, 177:6, 1600-1618. doi.org/10.1016/j.cell.2019.05.004.
93. Dae-Wook Kang<sup>x</sup>, James B. Adams, Devon Coleman, Elena L. Pollard, Juan Maldonado, Sharon McDonough-Means, J. Gregory Caporaso, and Rosa Krajmalnik-Brown. 2019 "Long-term benefit of Microbiota Transfer Therapy on autism symptoms and gut microbiota" Scientific Reports, 9,5821 (2019). <https://doi.org/10.1038/s41598-019-42183-0>.
92. Krajmalnik-Brown. 2019 "A Fruitful Discovery: Can Gut Bacteria Control Hyperactive Behavior?". Molecular Cell, 7-2-2019. DOI: 10.1016/j.molcel.2019.01.031
91. Tomasz Kalinowski, Kristin McClellan, Thomas A Bruton; Rosa Krajmalnik-Brown, Erin M Driver, Rolf U Halden, 2019 "Autonomous Screening of Groundwater Remediation Technologies in the Subsurface Using the In Situ Microcosm Array (ISMA). Hazardous Materials. 367, 668-675. doi.org/10.1016/j.jhazmat.2018.12.054
90. Levi Straka, Brendan Cahill, Juan Maldonado<sup>x</sup>, Bruce Rittmann, Rosa Krajmalnik-Brown. 2019 "Effects of Light Intensity on Soluble Microbial Products Produced by *Synechocystis* sp. PCC 6803 and Associated Heterotrophic Communities" Algal Research. 38: 101409 doi.org/10.1016/j.algal.2019.101409
89. Chen Zhou, **Aura Ontiveros-Valencia**, Robert Nerenberg, Youneng Tang, David Friese, Rosa Krajmalnik-Brown, Bruce E Rittmann. 2019. "Hydrogenotrophic Microbial Reduction of Oxyanions with the Membrane Biofilm Reactor". Frontiers in Microbiology, 9:3268 doi:10.3389/fmicb.2018.03268
88. Corrie M Whisner, Brandon Dente, Juan Maldonado<sup>x</sup>, Rosa Krajmalnik-Brown, Meg Bruening. 2018. "Diet, physical activity and screen time but not body mass index are associated to the gut

- microbiome of a diverse cohort of college students living in university housing: A cross-sectional study". BMC Microbiology 2018 18:210. <https://doi.org/10.1186/s12866-018-1362-x>.
87. Yue Deng, Nai-Yuan Liu, Francis Tsow, Xiaojun Xian, Rosa Krajmalnik-Brown, Nongjian Tao \*, Erica Forzani. 2018. "Tracking personal health-environment interaction with novel mobile sensing devices". Sensors. 18 (8), 2670.
86. **Ontiveros-Valencia A**, Zhou C, Zhao H-P<sup>X</sup>, Krajmalnik-Brown R, Tang Y, Rittmann BE. 2018. "Managing microbial communities in membrane biofilm reactors". Applied Microbiology and Biotechnology, 1-12. <https://doi.org/10.1007/s00253-018-9293-x>
85. **Sofia Esquivel-Elizondo**, Juan Maldonado<sup>X</sup>, and Rosa Krajmalnik-Brown\*. 2018. "Anaerobic carbon monoxide metabolism by *Pleomorphomonas carboxyditropha* sp. nov., a new mesophilic hydrogenogenic carboxydotroph". FEMS Microbiology Ecology, 94, 2018. doi: 10.1093/femsec/fiy056.
84. Tengfei Chen, Burcu M Yavuz, **Anca G Delgado<sup>X</sup>**, Garrett Montoya, Delaney Van Winkle, Yi Zuo, Roopa Kamath, Paul Westerhoff, Rosa Krajmalnik-Brown, Bruce E Rittmann. 2018. "Impacts of Moisture Content during Ozonation of Soils Containing Residual Petroleum". Journal of Hazardous Materials. 344: 1101–1108 <https://doi.org/10.1016/j.jhazmat.2017.11.060>
83. **Esquivel-Elizondo, Sofia**, Joseph Miceli III, Cesar I. Torres, and Krajmalnik-Brown, Rosa\*. 2018. "Impact of carbon monoxide partial pressures on methanogenesis and medium chain fatty acids production during ethanol fermentation". Biotechnology and Bioengineering. 115:341–350 DOI: 10.1002/bit.26471
82. Dae-Wook Kang<sup>X</sup>; **Zehra E Ilhan**, Nancy G Isern; David W Hoyt, Ph.D.; Daniel P Howsmon; Michael Shaffer; Catherine A Lozupone, Ph.D.; Juergen Hahn, Ph.D.; James B Adams, Ph.D.; Rosa Krajmalnik-Brown\*. 2018. "Differences in fecal microbial metabolites and microbiota of children with autism spectrum disorders". Anaerobe. 49:121-131. <https://doi.org/10.1016/j.anaerobe.2017.12.007>
81. **Esquivel-Elizondo, Sofia, Delgado Anca<sup>X</sup>**, Bruce E Rittmann, and Krajmalnik-Brown, Rosa\*. 2017. "The effects of CO<sub>2</sub> and H<sub>2</sub> on CO metabolism by pure and mixed microbial cultures". Biotechnology for Biofuels, 10:220, <https://doi.org/10.1186/s13068-017-0910-1>.
80. **Anca G. Delgado**, Devyn Fajardo-Williams, Emily Bondank#, **Sofia Esquivel-Elizondo**, and Rosa Krajmalnik-Brown\*. 2017. "Coupling bioflocculation of *Dehalococcoides mccartyi* to high-rate reductive dehalogenation of chlorinated ethenes". Environmental Science and Technology, 51 (19), 11297-11307.
79. **Aura Ontiveros-Valencia**; Chen Zhou, Ph.D.; **Zehra E Ilhan**; Louis C de Saint Cyr; Rosa Krajmalnik-Brown; Bruce E Rittmann. 2017, "Total electron acceptor loading and composition affect hexavalent uranium reduction and microbial community structure in a Membrane Biofilm Reactor." Water Research, 125, 341-349.
78. YenJung S. L., **Ontiveros-Valencia A.**, **Ilhan Z.E.**, Zhou Y, Miranda E., Maldonado J<sup>X</sup>., Krajmalnik-Brown R, and B. E Rittmann. 2017. "Enhancing biodegradation of C16-alkyl quaternary ammonium compounds using an oxygen-based Membrane Biofilm Reactor". Water Research, 123: 825-833.

77. **Esquivel-Elizondo, S. V.**, E. I., **Ilhan, Z. E.**, Garcia-Pena, and Krajmalnik-Brown, R\*. 2017. "Insights into butyrate production in a controlled fermentation system via gene predictions" *mSystems*, 2(4): e00051-17. DOI: 10.1128/mSystems.00051-17.
76. **Sofia Esquivel-Elizondo, Anca G. Delgado<sup>X</sup>**, and Rosa Krajmalnik-Brown\*. 2017 "Evolution of microbial communities growing with carbon monoxide, hydrogen and carbon dioxide". *FEMS Microbiology Ecology*, 93 (6). doi: 10.1093/femsec/fix076
75. **Ilhan ZE**, DiBaise J.K, Isern N.G, Hoyt D.W, Marcus AK, Kang D-W<sup>X</sup>, Crowell M.D, Rittmann B.E, and R Krajmalnik-Brown\*. 2017. "Distinctive microbiomes and metabolites linked with weight loss after gastric bypass, but not gastric banding". 2017 *ISME Journal* (Nature group), doi:10.1038/ismej.2017.71
74. **Ilhan ZE**, Marcus AK, Kang D-W<sup>X</sup>, Rittmann BE, Krajmalnik-Brown\* 2017 "pH-mediated microbial and metabolic interactions in fecal enrichment cultures" *msphere*, 2:3 e00047-17
73. Kang, D. W<sup>X</sup>, J. B. Adams, A. C. Gregory, T. Borody, L. Chittick, A. Fasano, A. Khoruts, E. Geis, J. Maldonado, S. McDonough-Means, E. L. Pollard, S. Roux, M. J. Sadowsky, K. S. Lipson, M. B. Sullivan\*, J. G. Caporaso\* and R. Krajmalnik-Brown\*. 2017. "Microbiota transfer alters gut ecosystem and improves gastrointestinal and autism symptoms: an open-label study". *Microbiome* 5:10. DOI: 10.1186/s40168-016-0225-7.
72. Chen, T., A. G. **Delgado<sup>X</sup>**, B. M. Yavuz, J. **Maldonado<sup>X</sup>**, Y. Zuo, R. Kamath, P. Westerhoff, R. Krajmalnik-Brown and B. E. Rittmann\*. 2017. "Interpreting the interaction between ozone and residual petroleum hydrocarbons in soil". *Environmental Science & Technology*, 51(1): 506-513
71. Sampson\*, T. R., J. W. Debelius, T. Thron, S. Janssen, G. G. Shastri, **Z. E. Ilhan**, C. Challis, C. E. Schretter, S. Rocha, V. Gradinaru, M. F. Chesselet, A. Keshavarzian, K. M. Shannon, R. Krajmalnik-Brown, P. Wittung-Stafshede, R. Knight and S. K. Mazmanian\*. 2016, "Gut Microbiota Regulate Motor Deficits and Neuroinflammation in a Model of Parkinson's Disease". *Cell* 167, 1469–1480
70. **Miceli J**, Torres C.I. and R. Krajmalnik-Brown\*. 2016 "Shifting the balance of fermentation products between hydrogen and volatile fatty acids: microbial community structure and function" *FEMS Microbiology Ecology*, 92(12): fiw195. DOI: 10.1093/femsec/fiw195.
69. **Esquivel-Elizondo S, Parameswaran P, Delgado AG**, Maldonado J<sup>X</sup>, Rittmann BE, Krajmalnik-Brown R\*. 2016. Archaea and Bacteria acclimate to high total ammonia in a methanogenic reactor treating swine waste. *Archaea Special Issues on "To Cooperate or Compete? Archaea in Symbiosis"*. <http://dx.doi.org/10.1155/2016/4089684>.
68. Chen T, **Delgado AG<sup>X</sup>**, Yavuz BM Proctor A, Maldonado Ortiz J<sup>X</sup>, Zuo Y, Westerhoff P, Krajmalnik-Brown R, Rittmann BE\*. 2016 "Ozone enhances the biodegradability of heavy hydrocarbons in soil" *Journal of Environmental Engineering and Science*. 11(1):7-17.
67. **Delgado AG<sup>X</sup>**, Fajardo-Williams D, Kegerreis KL, **Parameswaran P**, Krajmalnik-Brown R\*. 2016. Impact of ammonium on syntrophic organohalide-respiring and fermenting microbial communities. *mSphere* 1(2):e00053-16.doi:10.1128/mSphere.00053-1.
66. Zhou, C\*, A. **Ontiveros-Valencia**, Z. Wang, J. Maldonado<sup>X</sup>, H. P. Zhao, R. Krajmalnik-Brown and B. E. Rittmann. 2016 "Palladium recovery in a H<sub>2</sub>-based membrane biofilm reactor: formation of Pd(0) nanoparticles through enzymatic and autocatalytic reductions" *Environmental Science & Technology*, 50(5): 2546-2555.

65. **Ontiveros-Valencia**, A., C. R. Penton, R. Krajmalnik-Brown and B. E. Rittmann\*, 2016. "Hydrogen-fed biofilm reactors reducing selenate and sulfate: community structure and location of elemental selenium within the biofilm" *Biotechnology and Bioengineering*. 113(8): 1736-1744.
64. **Zevin, A.S.**, Nam, T.G., Rittmann, B.E., Krajmalnik-Brown, R\*. 2016 "The source of inoculum drives bacterial community structure in *Synechocystis* sp. PCC6803-based photobioreactors" *Algal Research-Biomass Biofuels and Bioproducts*, 13:109-115.
63. Frye, R. E., J. Slattery, D. F. MacFabe, E. Allen-Vercoe, W. Parker, J. Rodakis, J. B. Adams, R. Krajmalnik-Brown, E. Bolte, S. Kahler, J. Jennings, J. James, C. E. Cerniglia and T. Midtvedt. 2015 "Approaches to studying and manipulating the enteric microbiome to improve autism symptoms" *Microbial Ecology in Health and Disease*. 26
62. **Zevin, A.S.**, Nam, T.G., Rittmann, B.E., Krajmalnik-Brown, R\*. 2015. "Effects of phosphate limitation on soluble microbial products and microbial community structure in semi-continuous *Synechocystis*-based photobioreactors". *Biotechnology and Bioengineering* 112:9 1761-1769.
61. Krajmalnik-Brown\*, R., Louzopone C., Kang DW<sup>X</sup>, and J. Adams. 2015 "Gut bacteria in children with Autism Spectrum Disorders: Challenges and promise of studying how a complex community influences a complex disease" *Microbial Ecology in health and Disease*. 26
60. **Badalamenti, J. P.**, R. Krajmalnik-Brown, C. I. Torres and D. R. Bond\*. 2015 "Genomes of *Geoalkalibacter ferrihydriticus* Z-0531T and *Geoalkalibacter subterraneus* Red1T, two haloalkaliphilic metal-reducing Deltaproteobacteria" *Genome Announcements*, 3 (2).
59. Kang, D. W<sup>X</sup>, J. K. DiBaise, **Z. E. Ilhan**, M. D. Crowell, J. R. Rideout, J. G. Caporaso, B. E. Rittmann and R. Krajmalnik-Brown. 2015\* "Gut microbial and short-chain fatty acid profiles in adults with chronic constipation before and after treatment with lubiprostone" *Anaerobe*. 33:33-41.
58. Kim, S., Krajmalnik-Brown, R. and Chung, J\*. 2014 "Remediation of Petroleum Hydrocarbon-Contaminated Sites by DNA Diagnosis-Based Bioslurping Technology" *Science of the Total Environment*. 497: 250-259.
57. Zhou, C., A. **Ontiveros-Valencia**, L. Cornette de Saint Cyr, A. S. **Zevin, S. E.** Carey, R. Krajmalnik-Brown and B. E. Rittmann\*. 2014 "Uranium removal and microbial community in a H<sub>2</sub>-based membrane biofilm reactor." *Water Research*. 64: 255-264.
56. **Ontiveros-Valencia, Aura**; Tang, Youneng; Zhao, He-Ping<sup>X</sup>; Friese, David; Overstreet, Ryan; Smith, Jennifer; Evans, Patrick; Rittmann, Bruce; Krajmalnik-Brown, Rosa\*. 2014. "Pyrosequencing analysis yields comprehensive assessment of microbial communities in pilot two-stage Membrane Biofilm Reactors" *Environmental Science & Technology*, 48(13): 7511-7518. DOI: 10.1021/es5012466.
55. **Miceli**, J. Garcia-Pena, E. I, Torres C.I., and Rosa Krajmalnik-Brown.\* 2014 "Combining Microbial Cultures for Efficient Production of Electricity from Butyrate in a Microbial Electrochemical Cell" *Bioresource Technology*, Vol 169, page 169-174. DOI: 10.1016/j.biortech.2014.06.090.
54. **Delgado, Anca**; Kang, Dae-Wook<sup>X</sup>; Nelson, Katherine; **Fajardo-Williams, Devyn**; **Miceli, Joseph**; Done, Hansa#; Popat, Sudeep; Krajmalnik-Brown, Rosa\*. 2014 "Selective Enrichment Yields Robust Ethene-Producing Dechlorinating Cultures from Microcosms Stalled at cis-Dichloroethene". *PLoS ONE* 9(6): e100654. doi:10.1371/journal.pone.0100654.

53. Vianey Ruiz, **Zehra Esra Ilhan**, Dae-Wook Kang<sup>X</sup>, Rosa Krajmalnik-Brown, Germán Buitrón\*. The source of inoculum plays a defining role in the development of MEC microbial consortia fed with acetic and propionic acid mixtures. 2014. *Journal of Biotechnology*. Volume 182, page 11-18.
52. Ekre, R.\*, P.C. Johnson, B.E. Rittmann, and R. Krajmalnik-Brown. 2014. "Method for Assessing Source Zone Natural Attenuation at Chlorinated Aliphatic Spill Sites". *Ground Water Monitoring and Remediation*. 34(2):60-70.
51. **Ontiveros-Valencia A.**, Tang Y., Krajmalnik-Brown R., Rittmann BE\*. 2014. Managing the interactions between sulfate- and perchlorate-reducing bacteria when treating highly perchlorate-contaminated groundwater with hydrogen-fed biofilms. *Water Research*. Volume 55, pages 215-224.
50. He-Ping Zhao<sup>X</sup>, **Aura Ontiveros-Valencia**, Youneng Tang, Bi-O Kim, Steven VanGinkel, David Friese, Ryan Overstreet, Jennifer Smith, Patrick Evans, Rosa Krajmalnik-Brown, Bruce E Rittmann. 2014. Removal of multiple electron acceptors by pilot-scale, two-stage membrane biofilm reactors. *Water Research*. Volume 54, page 115–122.
49. **Anca G. Delgado**, **Devyn Fajardo-Williams**, Sudeep C. Papat, César I. Torres, Rosa Krajmalnik-Brown\*, 2014. "Successful operation of continuous reactors at short retention times results in high-density, fast-rate *Dehalococcoides* dechlorinating cultures". *Applied Microbiology and Biotechnology*, Volume 98, Issue 6 (2014), Page 2729-2737. DOI 10.1007/s00253-013-5263-5.
48. **Ziv-El, M.**, T. Kalinowski, R. Krajmalnik-Brown and R.U. Halden\*, 2014. Simultaneous determination of chlorinated ethenes and ethene in groundwater using automated headspace solid phase microextraction. *Journal of Chromatographic Science*. 52 (2): 137-142  
doi:10.1093/chromsci/bms258.
47. **Badalamenti JP**, Torres CI and Krajmalnik-Brown R\*, 2014. Coupling dark metabolism to electricity generation using photosynthetic cocultures. *Biotechnology and Bioengineering*, 111(2), 223-231.
46. Gilbert J.A., Krajmalnik-Brown R., Porazinska D.L., Weiss S.J., and R. Knight\*, 2013. Towards effective probiotics for autism and other neurodevelopmental disorders, *Cell*, 155 1446-1448.
45. **Ontiveros-Valencia, Aura**; Tang, Youneng; Krajmalnik-Brown, Rosa and Rittmann, Bruce E\*, 2013. Perchlorate reduction from a highly contaminated groundwater in the presence of sulfate-reducing bacteria in a hydrogen-fed biofilm. *Biotechnology and Bioengineering*, 110(12) 3139-3147.
44. Zhao H.P<sup>X</sup>, **Ilhan Z.E.**, **Ontiveros-Valencia A.**, Tang Y, Rittmann B., and R. Krajmalnik-Brown\*, 2013 "Effects of multiple electron acceptors on microbial interactions in a hydrogen-based biofilm". *Environmental Science and Technology*, 47 (13), 7396–7403 .  
**(Journal Impact Factor: 5.4)**
43. Tang Y., Krajmalnik-Brown R. and Rittmann B. E. 2013. Modeling Trichloroethene Reduction in a Hydrogen-Based Biofilm. *Water Science and Technology*, 68 (5), 1158-1163.  
**(Journal Impact Factor: 1)**
42. Dae-Wook Kang<sup>X</sup>, Jin G. Park, **Zehra Esra Ilhan**, Joshua LaBaer, James B. Adams, and Rosa Krajmalnik-Brown 2013 "Reduced incidence of *Prevotella* species in intestinal microflora of autistic children" *PLoSone*, 8(7): e68322. doi:10.1371/journal.pone.0068322.  
**(Journal Impact Factor: 3). Web of Science Highly Cited paper.**

As of January/February 2017, this highly cited paper received enough citations to place it in the top 1% of the academic field of Biology & Biochemistry based on a highly cited threshold for the field and publication year.

41. **Ontiveros-Valencia, A.; Ilhan, Z. E.**; Kang, D.-W<sup>X</sup>.; Rittmann, B. E.; Krajmalnik-Brown, R. 2013. Phylogenetic analysis of nitrate and sulfate reducing bacteria in a hydrogen-fed membrane biofilm reactor. FEMS Microbiology Ecology. 85(1): 158-167.  
**(Journal Impact Factor: 3.5)**
40. **Badalamenti JP**, Krajmalnik-Brown R\*, Torres CI\*. 2013. Generation of high current densities by pure cultures of anode-respiring *Geoalkalibacter* spp. under alkaline and saline conditions in microbial electrochemical cells. mBio. 4(3) 00144-13.  
**(Journal Impact Factor: 6.9)**
39. Zhao HP<sup>X\*</sup>, **Ontiveros-Valencia A**, Tang YN, Kim BO, **Ilhan Z.E.**, Krajmalnik-Brown R., Rittmann BE. 2013. Using a two-stage hydrogen-based membrane biofilm reactor (MBfR) to achieve complete perchlorate reduction in the presence of nitrate and sulfate". Environmental Science and Technology, 47(3):1565-72.  
**(Journal Impact Factor: 5.4)**
38. Michelle N. Young, Rosa Krajmalnik-Brown, Wenjun Liu, and Bruce E. Rittmann\*. 2013. The Role of Anaerobic Sludge Recycle in Improving Anaerobic Digester Performance. Bioresource Technology. 18: 731,737.  
**(Journal Impact Factor: 4.9)**
37. **Badalamenti JP.**, CI Torres, and R. Krajmalnik-Brown\*. 2013. "Light-responsive current generation by selectively enriched anoxygenic photosynthetic bacteria" Biotechnology and Bioengineering. 110(4): 1020-1027. **Featured Article**  
**(Journal Impact Factor: 4.2)**
36. Youneng Tang\*, **Aura Ontiveros-Valencia**, Liang Feng, Chen Zhou, Rosa Krajmalnik-Brown, and Bruce E. Rittmann. 2013. A Biofilm Model to Understand the Onset of Sulfate Reduction in Denitrifying Membrane Biofilm Reactors. Biotechnology and Bioengineering. 110 (3):763-772.  
**(Journal Impact Factor: 4.2)**
35. **Ontiveros-Valencia, Aura; Ziv-EI, Michal**; Zhao, He-Ping<sup>X</sup>; Feng, Liang; Rittmann, Bruce E.; Krajmalnik-Brown, Rosa\*. 2012. Interactions between nitrate-reducing and sulfate-reducing bacteria coexisting in a hydrogen-fed biofilm. Environmental Science and Technology, 46(20):11289-98.  
**(Journal Impact Factor: 5.4)**
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18. 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.

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17. Zhang H, M. Ziv-El, B.E. Rittmann, and R. Krajmalnik-Brown\*. 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.

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15. Parameswaran, P., H. S. Zhang<sup>x</sup>, C. I. Torres, B. E. Rittmann and R. Krajmalnik-Brown\*. 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.

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14. Torres, C. I., R. Krajmalnik-Brown, P. Parameswaran, A. K. Marcus, G. Wanger, Y. A. Gorby and B. E. Rittmann. 2009. Selecting anode-respiring bacteria based on anode potential: phylogenetic, electrochemical, and microscopic characterization Environmental Science & Technology, **43**(24): 9519-9524.

**(Journal Impact Factor: 5.4)**

13. Zhang, H<sup>X</sup>\*, J. E. Banaszak, **P. Parameswaran**, J. Alder, R. Krajmalnik-Brown 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.  
**(Journal Impact Factor: 5.9)**
12. Lee H. S, R. Krajmalnik-Brown R, **H. Zhang<sup>X</sup>** and B. E. Rittmann. 2009 "An electron flow model can predict complex redox reactions in mixed-culture fermentative BioH<sub>2</sub>: Microbial ecology evidence." Biotechnology and Bioengineering, **104**(4) pp 687-697.  
**(Journal Impact Factor: 4.2 )**
11. **Parameswaran P\***, C. I. Torres, H. S. Lee, R. Krajmalnik-Brown 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.  
**(Journal Impact Factor: 4.2)**
10. Zhang H<sup>X</sup>\*, 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" Proceedings of the National Academy of Sciences of the United States of America, 106 (7) pp. 2365-2370.  
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As of January/February 2017, this highly cited paper received enough citations to place it in the top 1% of the academic field of Biology & Biochemistry based on a highly cited threshold for the field and publication year.
9. Rittmann B.E\*, R. Krajmalnik-Brown and R. U. Halden. 2008 "Pregenicomic, genomic and post-genomic study of microbial communities involved in bioenergy", Nature Microbial Reviews, 6(8): 604-612.  
**(Journal Impact Factor: X)**
8. DiBaise, J. K., H. Zhang<sup>X</sup>, M. D. Crowell, R. Krajmalnik-Brown, G. A. Decker and B. E. Rittmann. 2008 "The gut microbiota and its relationship to obesity. A systematic review", Mayo Clinic Proceedings, **83**(4):460-469.  
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As of January/February 2017, this highly cited paper received enough citations to place it in the top 1% of the academic field of Clinical Medicine based on a highly cited threshold for the field and publication year.
7. 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.  
**(Journal Impact Factor: 5.4)**
6. Krajmalnik-Brown, R., Y. Sung, K. M. Ritalahti, F. M. Saunders 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.  
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5. 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.

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4. 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.

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3. 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.

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2. 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.

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1. 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.

**(Journal Impact Factor: 5.4)**

**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.

**INTELLECTUAL PROPERTY**

**Patents**

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

2. *Reducing short-chain fatty acids and Energy Uptake in Obese Humans by Managing Their Intestinal Microbial Communities*. Krajmalnik-Brown R., Rittmann B.E and Zhang H. PCT/US11/024985, WO/2011/103123.

3. *Microbiome markers and therapies for autism spectrum disorders*. Rosa Krajmalnik-Brown, Dae-Wook Kang, Jin Gyoon Park, Joshua Labaer, Zehra Ilhan. US Patent 9,719,144, 2017

4. *Membrane Biofilm Reactors, Systems, and Methods for Producing Organic Products*. Sudeep Popat, Bruce Rittmann, Cesar Torres, Prathap Parameswaran, Rosa Krajmalnik-Brown. U. S. Patent 10435659.

**Patent Applications and Disclosures**

Patent Applications

1. *Methods of recovering platinum group metals from waste streams*. Chen Zhou, Andrew Marcus, Bruce Rittmann, Zhaocheng Wang, **Aura ONTIVEROS-VALENCIA**, Rosa Krajmalnik-Brown. WO2017136528A1.

2. *Tool for optimizing chlorinated-solvent bioremediation through integration of chemical and molecular data with electron and alkalinity balances.* **Ziv-EI, M.**, S.C. Popat, P. B.E. Rittmann, and R. Krajmalnik-Brown. US Patent US 20,130,345,990.
3. *Prevotella and Coprococcus as human gut health enhancers. Specific case example: Autism.* M12-194L Rosa Krajmalnik-Brown Dae-Wook Kang, Jin G. Park, **Zehra Esra Ilhan**, Joshua LaBaer. PCT/US13/32668.
4. *Methods, Systems, and Culture Medium for Production of Dechlorinating Microorganisms* R Krajmalnik-Brown, C Torres, A Delgado, S Popat US Patent App. 14/204,058, 2014. US 20140273143 A1

#### Patent Disclosures

1. Microbiota Transfer Therapy for Pitt Hopkins. **M19-154L**. James Adams, Audrey Davidow, Rosa Krajmalnik-Brown. Filed 12/26/2018.
2. *Metabolites as Diagnostics for Autism Spectrum Disorder.* **M19-019L**. James Adams, Juergen Hahn, Dae-Wook Kang<sup>x</sup>, Rosa Krajmalnik-Brown. filed 7/24/2018
3. *Methods for Treating Autism Spectrum Disorder and Associated Symptoms.* **M17-014L** Adams, James; Kang, Dae-Wook and Krajmalnik-Brown, Rosa. Provisional application. US Patent Application No. 62/421,155, filed November 11, 2016. **Exclusive license option to Crestovo LLC**
4. *Methods for Treating Autism Spectrum Disorder and Associated Symptoms.* **M16-238L**. Adams, James; Kang, Dae-Wook and Krajmalnik-Brown, Rosa. US Patent Application No. 15/290,798, filed October 11, 2016. **Exclusive license option to Crestovo LLC. Published 2017/12/21**
5. *Methods for Treating Autism Spectrum Disorder and Associated Symptoms.* **M15-178L**. Adams, James; Krajmalnik-Brown, Rosa; Kang, Dae-Wook; Sadowsky, Michael; Khoruts, Alex and Borody, Thomas. US Patent Application No. 15/161,654, Publication no. 20160339065 (published Nov. 24, 2016). **Exclusive license option to Crestovo LLC**

## PRESENTATIONS

### Invited Presentations:

1. R. Krajmalnik-Brown and Jim Adams. Microbiota Transfer Therapy for Autism. Kennedy Krieger Institute grand rounds seminar. February 2020.
2. R. Krajmalnik-Brown. "Can Changing Gut Bacterial Communities Improve Gastrointestinal and Autism Symptoms?" Environmental Engineering seminar speaker Duke University. November 2019.
3. R. Krajmalnik-Brown. "Can Changing Gut Bacteria Help Autism and GI Symptoms?" 2019 Microbiome in Lupus Meeting. September 2019 New York.
4. R. Krajmalnik-Brown. "Can Changing Gut Bacterial Community Improve Gastrointestinal and Autism Symptoms? American Mensa's Annual Gathering. Phoenix Arizona, July 2019.
5. R. Krajmalnik-Brown. "Can Changing Gut Bacterial Communities Improve Gastrointestinal and Autism Symptoms?" Invited speaker at Gordon Research Conference in Applied and Environmental Microbiology. July 2019 Mount Holyoke College.
6. R. Krajmalnik-Brown. Nature's Helpers: Hydrogen-Based Microbial Interactions for Successful Bioremediation. Invited speaker Engineering Seminar, Princeton University, May 2019.
7. R. Krajmalnik-Brown. Microbial Metabolic Exploration Leading to Successful Bioremediation. Invited speaker, Environmental Engineering Seminar, Johns Hopkins March 2019
8. R. Krajmalnik-Brown. Are We More Human or Microbe? Implications for Biotherapeutics and Health Management. Chalk Talk 2018 Bidesign Institute. November 2018.
9. R. Krajmalnik-Brown. Microbes and Autism. Spirit of the Senses. Tempe, October 2018.

10. R. Krajmalnik-Brown. Successful Biomediated Contaminant Removal: The Ground is a Great Source for Bioremediating Microbial Cultures. Plenary talk B2G Atlanta. September 2018.
11. R. Krajmalnik-Brown. "Multi omics approaches to study gut microbiome and autism" Multi-omics for Microbiomes - EMSL Integration Conference 2017. Pasco-TriCities. August 2017.
12. Krajmalnik-Brown Effects of weight loss surgeries on the Microbiome 18th Annual Postgraduate Nutrition Symposium focus on the latest research on "Surgical Treatment of Obesity: Physiological Mechanisms and Clinical Effects. Harvard University, Boston July 2017.
13. R. Krajmalnik-Brown, "The Microbiome and Autism: Changing the Gut Bacterial Community and Fecal Metabolites Improves Gastrointestinal and Autism Symptoms. Special Seminar at The ARO Interdepartmental Center for Environmental, Plant & Animal Microbiology. Volcani Institute. Israel. May, 2017.
14. R. Krajmalnik-Brown, "From Lab to Field: Understating Microbial Interactions to Enhance Bioremediation Processes" Zuckerberg Institute for Water Research Weekly seminar. Ben Gurion University of the Negev, Israel. May, 2017.
15. R. Krajmalnik-Brown, "The Microbiome and Autism" North America Microbiome congress, San Diego, CA, January 2017.
16. R. Krajmalnik-Brown, "Roux-en-Y Gastric Bypass Surgery Shifts Gut Microbial Communities and Associated Metabolites" Changing Microbiomes for Health Symposium, San Diego, CA, December 2016.
17. R. Krajmalnik-Brown. "Case Studies in Microbiome Research", Flinn foundation meeting, June 2016.
18. Rosa Krajmalnik-Brown and Anca G. Delgado. "Coupling biogeochemistry and fermentation processes to enhance reductive dechlorination". Invited Oral Presentation, ISME, 16th International Symposium on Microbial Ecology. Montreal, Canada, August 2016.
19. R. Krajmalnik-Brown. Roux-en-Y Gastric Bypass Surgery Shifts Gut Microbial Communities and Associated Metabolites" 2016 SECIM Metabolomics Symposium, Orlando FL, May 2016.
20. R. Krajmalnik-Brown and Dae-Wook Kang. "Alterations in gut microbial composition and their metabolites have a potential role on autism spectrum disorders" Dept. Speech and Hearing Science, Arizona State University. April 2016.
21. R. Krajmalnik-Brown. "Microbiome in Health and Disease". Isagenix Scientific Advisory Board meeting, October 2015. **Honorarium.**
22. Esra Zehra Ilhan and R. Krajmalnik-Brown. "Obesity, bariatric surgery, and the gut microbiome". American Society for Biochemistry and Molecular Biology (ASBMB) annual meeting. March 2015. Boston MA.
23. R. Krajmalnik-Brown. "Gut Microbiome and Obesity" Obesity Management workshop, plenary talk opening workshop day. March 4 ENDO 2015 (Endocrine Society Annual Meeting). **Honorarium**
24. R. Krajmalnik-Brown "The Gut Microbiome: Lessons To and From the Environmental Engineering Field" Rice University, Environmental Engineering seminar, November 2014
25. R. Krajmalnik-Brown "The Gut Microbiome: Lessons to and From Our Field" Environmental Engineering Seminar, Arizona State University. Fall 2014.
26. R. Krajmalnik-Brown "Bariatric Surgery & the Gut Microbiome " ICE-ENDO June 2014. Chicago, IL.
27. R. Krajmalnik-Brown "The Gut Microbiome: Lessons to and From Our Field", 11<sup>th</sup> IWA Leading Edge Technologies Conference" Abu Dhabi, May 2014. Plenary Speaker.
28. R. Krajmalnik-Brown "What is an environmental engineer doing studying the gut microbiome?" USC weekly seminar, 11 February 2014. **Honorarium.**
29. R. Krajmalnik-Brown "Gut Bacteria in Children with Autism vs Controls" 8th Annual Back to School & More Autism Asperger's Conference. August, 2013 Pasadena, CA
30. Krajmalnik-Brown R "Nature's Helpers: Using Microorganisms to Remove Trichloroethene (TCE) from Water. University of Arizona, Tucson, AZ. January 2013.
31. Krajmalnik-Brown R "Human Intestinal Microbiome and Associated Health Impacts". Pennington Research Institute, Baton Rouge, LA. November 2012. **Honorarium.**

32. Krajmalnik-Brown R. "Human Intestinal Microbiome and Associated Health Impacts". Translational Research Institute for Metabolism and Diabetes. Orlando, FL. August 2012.
33. Krajmalnik-Brown R. and James B. Adams. "Intestinal Microbial Ecology and Autistic Gastrointestinal Problems". Autism one, Chicago June 2012. Real time video streaming.
34. Krajmalnik-Brown R. "Intestinal Biome" Obesity Working Group of the FNIH Biomarkers Consortium. March 2012 Bethesda MD.
35. Krajmalnik-Brown R. "FAT or Fact" Arizona Science Center, April 2010
36. Krajmalnik-Brown R. "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.
37. Krajmalnik-Brown R. "Improving Microbial Electrochemical Cells by Managing the Microbial Ecology". Rice University. Invited seminar. February 2010.
38. Krajmalnik-Brown R. Unlocking Clean Energy Alliance of Technology & Women, Biodesign Institute, Arizona State University, Tempe Arizona, October 2009.
39. Krajmalnik-Brown R. "Dehalococoides: Nature's Anaerobic Detoxifiers". Molecular Cell biology colloquium, Arizona State University, Tempe Arizona, September 2008.
40. 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.
41. Krajmalnik-Brown R. "Pregenomic study of microbial communities involved in bioenergy" Invited speaker at Universidad Autonoma Metropolitana (UAM), Mexico City, July 2008
42. Krajmalnik-Brown R. "Genetic Identification of Reductive Dehalogenase Genes in *Dehalococoides*" Invited speaker for the Civil and Environmental Engineering seminar at Arizona State University, Tempe Arizona, November 2005.
43. Krajmalnik-Brown R. "Genetic Identification of Reductive Dehalogenase Genes in *Dehalococoides*" Invited speaker for brown bag seminar at the Biodesign Institute, Arizona State University, Tempe Arizona, November 2005.
44. Krajmalnik-Brown R. "Reductive Dehalogenase Genes in *Dehalococoides* Species" Invited speaker for the Civil and Environmental Engineering seminar at Rice University, Houston Texas, March 2005.
45. Krajmalnik-Brown R. "Genetic Identification of Reductive Dehalogenase Genes in *Dehalococoides*" Invited speaker for the Civil and Environmental Engineering seminar at Rice University, Houston Texas, November 2004.
46. Krajmalnik-Brown, R. "Tecnicas Moleculares Para la Deteccion de Microorganismos Responsables de la Cloroinspiracion 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.
47. Krajmalnik-Brown, R. "Phytoremediation through rhizosphere technologies" Oral presentation, Mexico City, UAM-I University, March 1998.

#### **Conference proceedings, papers and presentations**

1. R. Krajmalnik-Brown. "Can Changing Gut Bacterial Communities Improve Gastrointestinal and Autism Symptoms?" Invited speaker at Gordon Research Conference in Applied and Environmental Microbiology. July 2019 Mount Holyoke College.
2. R. Krajmalnik-Brown. "Can Changing Gut Bacterial Community Improve Gastrointestinal and Autism Symptoms? American Mensa's Annual Gathering. Phoenix Arizona, July 2019.
3. Rosa Krajmalnik-Brown. 2-Year Follow-Up Study Reveals Consistent Benefits of Microbiota Transfer Therapy on Autism and Gut Symptoms. 7<sup>th</sup> Conference on Beneficial Microbes. Madison Wisconsin. July 2018.
4. Gabriela Leite, **Zehra Ilhan**, Walter Morales, Gillian Barlow, Kathleen Shari Chua, Stacy Weitsman, Mark Pimentel, Rosa Krajmalnik-Brown, Ruchi Mathur. Improvements in Metabolic Parameters in Pre-Diabetic Subjects with Obesity Following Methane Eradication is Associated

- with Reduction in Methanogens and Changes in Gut Microbial Populations. May 2018 Gastroenterology Meeting.
5. Gillian Barlow, **Zehra Ilhan**, Walter Morales, Kathleen Shari Chua, Stacy Weitsman, Mark Pimentel, Rosa Krajmalnik-Brown, Ruchi Mathur. Eradication of Breath Methane Using Antibiotics Results in Changes in Short Chain Fatty Acid Levels in Prediabetic Subjects with Obesity. May 2018 Gastroenterology Meeting.
  6. **M.L. Altizer**, A.G. Delgado, R. Krajmalnik-Brown, C. Torres, J. Wang, and E. Cox. The Influence of Electrokinetic Bioremediation on Subsurface Microbial Communities in Perchloroethylene Contaminated Soil. Megan Leigh Altizer (Enveo USA/USA). Battelle 2018. Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Palm Spring California. April 2018.
  7. Rosa Krajmalnik-Brown, Dae-Wook Kang, James B. Adams, Alexander Khoruts, Juan Maldonado, Sharon McDonough-Means, Elena L. Pollard, Michael J. Sadowsky, J. Gregory Caporaso. Microbiota Transfer Therapy Sustainably Improves Gastrointestinal and Autism Symptoms by Changing Gut Bacterial Community Structure and Function. Keystone Symposium. March 2018. Alberta Canada.
  8. **S. Mohana Rangan**, A. Mouti, A.G. Delgado, R. Krajmalnik-Brown, G.V. Lowry, L. LaPat-Polasko, and H. Brenton. Trade-Offs in Utilizing Zero-Valent Iron for Synergistic Biotic and Abiotic Reduction of Trichloroethene and Perchlorate. Srivatsan Mohana Rangan (Arizona State University/USA). Battelle 2018. Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds. Palm Spring California. April 2018.
  9. **Sofia Esquivel-Elizondo**, Alta Howells, Diana C. Calvo, Everett Shock, Rosa Krajmalnik-Brown. "Anaerobic carbon monoxide oxidizers in oceans, lake and volcanic sediments, and high pH environments" Multi-omics for Microbiomes, Pasco, WA, August 2017.
  10. Calvo, Diana; **Ontiveros-Valencia**, A, Maldonado-Ortiz, J, Krajmalnik-Brown, R, Torres, C, Rittmann, B. Acetate production by anaerobic, autotrophic bacteria in a H<sub>2</sub>-based membrane biofilm reactor. AMERICAN CHEMICAL SOCIETY meeting. August 2017.
  11. J Alcock, R Krajmalnik-Brown, J Maldonado, A Aktipis, C Han. 2017. The Microbial Organ is Unlike any Other-Evidence for Conflict in Human-Microbiome Co-Evolution. American Journal of Physical Anthropology 162, 96-97
  12. T. Chen, A.G. Delgado<sup>X</sup>, B.M. Yavuz, J. Maldonado<sup>X</sup>, Y. Zuo, R. Kamath, P. Westerhoff, R. Krajmalnik-Brown, and B.E. Rittmann. "Interpreting Interactions between Ozone and Residual Petroleum Hydrocarbons in Soil" Battelle Fourth International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 2017.
  13. S. Cecillon, T.M. Vogel, **M. Altizer**, A.G. Delgado<sup>X</sup>, and R. Krajmalnik-Brown. "Dehalococcoides Social Networks in Chlorinated Solvent Environments" Battelle Fourth International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 2017.
  14. **M. Altizer**, M. Luna-Aguero<sup>#</sup>, A.G. Delgado<sup>X</sup>, C. Torres, R. Krajmalnik-Brown. "Measuring Biotic Soil Hydrogen Demand as a Strategy for Bioremediation Potential Assessment" Battelle Fourth International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 2017.
  15. Rosa Krajmalnik-Brown and Anca G. Delgado<sup>X</sup>. "Coupling biogeochemistry and fermentation processes to enhance reductive dechlorination". Invited Oral Presentation, ISME, 16th International Symposium on Microbial Ecology. Montreal, Canada, August 2016.
  16. **Megan Altizer**, Anca G. Delgado<sup>X</sup>, Marisol Luna Aguero<sup>#</sup>, Samuel Aguiar<sup>#</sup> and Rosa Krajmalnik-Brown. "Tracking the electrons: hydrogen flux and associated anaerobic microbial processes in saturated soils". ISME, 16th International Symposium on Microbial Ecology. Montreal, Canada, August 2016.
  17. **Anca Delgado<sup>X</sup>**, Juan Maldonado<sup>X</sup>, Fabiha Alam<sup>#</sup>, Tengfei Chen, Burcu Yavuz, Bruce Rittmann, Rosa Krajmalnik-Brown. "Ozone induces divergent but metabolically redundant bacterial communities in petroleum-hydrocarbon contaminated soils". ISME, 16th International Symposium on Microbial Ecology. Montreal, Canada, August 2016.



18. **Sofia Esquivel-Elizondo**, Anca G. Delgado<sup>X</sup>, and Rosa Krajmalnik-Brown. "The effect of different syngas compositions on fermentation: pure culture vs enrichment culture". ISME, 16th International Symposium on Microbial Ecology. Montreal, Canada, August 2016.
19. **Sofia Esquivel-Elizondo**, Anca G. Delgado<sup>X</sup>, and Rosa Krajmalnik-Brown. "CO and syngas fermentation by mixed cultures is more robust than by pure cultures". Gordon Research Conference "Molecular basis of microbial one-carbon metabolism". Waterville Valley, New Hampshire, July 31<sup>st</sup>-August-5 2016.
20. Athena Aktipis, Joe Alcock, Rosa Krajmalnik-Brown, Juan Maldonado<sup>X</sup>, Naomi Mandel, Helen Wasielewski. "Two Minutes, Twice a Day: Evolutionary Dynamics of Oral Flora Manipulation in Humans. June International Society for Evolution, Medicine & Public Health meeting". June 2016
21. Kapila Patel<sup>#</sup>, Rosa Krajmalnik-Brown, Corrie Whisner, Juan Maldonado-Ortiz<sup>X</sup>, "Evaluating Changes in the Gut Microbial Composition, Diet, and Overall Health in Children in the Nutritional and Health Awareness Program" Poster presentation at AZ chapter of the American Academy of Pediatrics. Phoenix Arizona, June 2016
22. Emily Yee<sup>#</sup>, **Zehra Esra Ilhan**, Rosa Krajmalnik-Brown. Factors that modulate production of tryptophan and serotonin by gut bacteria. 55th Annual Meeting of the American Society for Microbiology Arizona / Southern Nevada Chapter. Tempe, Arizona, April 16th 2016
23. **Rey C. Allen, Alexander Zevin**, and Rosa Krajmalnik-Brown. Synthetic ecology for quantitative prediction of anti-contamination strategies in biofuel-producing cultures of *Synechocystis* PCC 6803. Poster presentation at the 116th American Society for Microbiology Annual Meeting, June 2016, Boston Massachusetts, U.S.A
24. R. Krajmalnik-Brown. Roux-en-Y Gastric Bypass Surgery Shifts Gut Microbial Communities and Associated Metabolites" 2016 SECIM Metabolomics Symposium, Orlando FL, May 2016.
25. Krajmalnik-Brown R, **Delgado AG**, Fajardo-Williams D<sup>#</sup>, Halloum I. Nature's helpers: Using microorganisms to remove trichloroethene (TCE) from groundwater. American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, December 2015. Invited presentation.
26. **Miceli**, JF; Krajmalnik-Brown, R; Torres, Cl. "The Effects of High Ammonia on Fermentation in MECs". Poster presentation. International Society for Microbial Electrochemistry and Technology. October 2015, Tempe, AZ.
27. **Ilhan ZE**, Isern NG, Marcus AK, Kang DW<sup>X</sup>, Hoyt DW, DiBaise JK, Rittmann BE, Krajmalnik-Brown R. "Altered Microbial Amino Acid Metabolism in the Gut after Roux-en-Y Gastric Bypass Surgery Might Contribute to Sustainable Post-Surgical Weight Loss." Poster presented at the Multi-omics for Microbiomes Conference, September 2015, Kennewick, Washington U.S.A.
28. **Aura Ontiveros-Valencia**, Bruce Rittmann, Rosa Krajmalnik-Brown, H-P Zhao, D Friese, P Evans. "Managing biofilm communities to reduce nitrate and perchlorate: from bench to pilot scale" poster presentation, IWA Specialized Conference Biofilms in drinking water systems - From treatment to tap, Arosa Switzerland, August 2015.
29. **Delgado AG**, Halloum I<sup>#</sup>, Chen T, Yavuz BM, Maldonado J<sup>X</sup>, Alam F<sup>#</sup>, Kong D, Edwards EA, Rittmann BE, Krajmalnik-Brown R. Bioremediation of petroleum hydrocarbon-contaminated soil following ozone pretreatment. Battelle Third International Symposium on Bioremediation and Sustainable Environmental Technologies, Miami, FL, May 2015.
30. **Ilhan ZE**, DiBaise JK, Marcus AK, Crowell M, Kang DW, Rittmann BE, Krajmalnik-Brown R. "Microbiome of Roux-en-Y Gastric Bypass and Laparoscopic Adjustable Gastric Banding Patients: Insights into Weight Loss Post-Bariatric Surgery." Oral presentation at the 115th American Society for Microbiology Annual Meeting, May 2015, New Orleans, Louisiana, U.S.A.
31. **Esquivel-Elizondo S.** and Krajmalnik-Brown R. "CO conversion to acetate: History and biotechnological promise" Poster presented at the American Society for Microbiology, 115<sup>th</sup> General Meeting May 2015, New Orleans, LA.
32. **Ilhan ZE**, DiBaise JK, Marcus AK, Crowell M, Kang DW<sup>X</sup>, Rittmann BE, Krajmalnik-Brown R. "Obesity, Bariatric Surgery, and the Gut Microbiome", Oral presentation at the American Society for Biochemistry and Molecular Biology, March 2015, Boston, Massachusetts, U.S.A..

33. Fajardo-Williams D, **Delgado AG**, Torres CI, Krajmalnik-Brown R. Bioreactor Design for High-Rate Dechlorination of Chlorinated Solvent-Contaminated Groundwater. Poster presentation Remtec, Westminster, CO, March 2015
34. **Allen RC, Zevin A**, Rittmann BE, Krajmalnik-Brown R. "Statistical Modeling of Economical Strategies for Mitigating Microbial Contamination of Biofuel-producing Synechocystis Cultures." Poster Presented at the 8th Annual Algae Biomass Summit, October 2014, San Diego, California U.S.A.
35. **Esquivel-Elizondo, S.V., Ilhan, Z. E.**, Garcia-Pena, E. I., and Krajmalnik-Brown, R. "Low hydrogen partial pressures enhance butyrate production and increase abundance of Prevotellaceae, Ruminococcaceae and Actinomycetaceae in a continuous reactor with environmental conditions similar to the human colon" Poster presentation, 5th ASM Conference on Beneficial Microbes, October 2014, Washington, DC.
36. **Ilhan ZE**, Andrew K. Marcus, Nancy G. Isern, Dae-Wook Kang<sup>x</sup>, David W. Hoyt, John K. DiBaise, Bruce E. Rittmann, Rosa Krajmalnik-Brown" The gut microbial community and its amino acid metabolism may be indicators of Roux-en-Y gastric bypass surgery success" Poster presentation, 5th ASM Conference on Beneficial Microbes, September 2014, Washington, DC.
37. Kang, D.W. <sup>x</sup> and Krajmalnik-Brown, R. (2014) "Gut bacteria in children with autism", Oral presentation at Autism Conferences of America, Sep 12-13, 2014, Phoenix, Arizona.
38. Dae-wook Kang<sup>x</sup>, **Zehra Esra Ilhan**, Nancy G. Isern, David W. Hoyt, Catherine Lozupone, James B. Adams, Rosa Krajmalnik-Brown. "Microbial metabolites in feces of children and their possible effect on autism spectrum disorders" Oral presentation, 15th International Symposium on Microbial Ecology, Seoul, Korea. August 2014.
39. **Ontiveros-Valencia A**, Kang DW<sup>x</sup>, Rittmann BE, Krajmalnik-Brown R. "Environmental engineering and Microbial ecology meet: simultaneous nitrate-, perchlorate-, and sulfate-reduction in hydrogen-fed biofilms" Poster presentation at XV International Symposium on Microbial Ecology. Seoul, South Korea. August, 2014.
40. Halloum I<sup>#</sup>, **Delgado AG**, Hagan MA<sup>#</sup>, Torres CI, Krajmalnik-Brown R. Large-scale continuous production of microbial cultures for bioremediation of chlorinated solvents. AZBio Expo 2014, Scottsdale, AZ. June 2014.
41. **JF Miceli III**, R Krajmalnik-Brown, CI Torres. "Improving the Efficiency of MXCs by Managing Mixed Microbial Communities Using High Substrate Loadings" Poster presented at the American Society for Microbiology, 114<sup>th</sup> General Meeting May 2014. **ASM Student Travel Award**.
42. Dae-wook Kang<sup>x</sup>, **Zehra Esra Ilhan**, Nancy G. Isern, David W. Hoyt, James B. Adams, Rosa Krajmalnik-Brown. "Microbial metabolites and their possible effect on autism spectrum disorders" Poster presentation 113th General Meeting of the American Society for Microbiology ASM. Boston, MA. May 2014. **Presentation featured by ASM Press**.
43. **Jonathan Badalamenti**, César Torres, Rosa Krajmalnik-Brown, and Daniel Bond " Genomes of Two Haloalkaliphilic Metal-reducing Bacteria in the Context of the Geobacteraceae Pangenome" Poster presentation 113th General Meeting of the American Society for Microbiology ASM. Boston, MA. May 2014
44. **Ontiveros-Valencia Aura**, Krajmalnik-Brown Rosa, Rittmann Bruce. "Microbial selenate reduction in hydrogen-fed biofilms: inhibition of sulfate reduction and location of elemental selenium within the biofilm". Poster presentation at the Ninth International Conference on Remediation of chlorinated and recalcitrant compounds. Monterey, CA. May 2014. **Student paper competition winner**.
45. D Fajardo-Williams, **AG Delgado**, CI Torres, R Krajmalnik-Brown. "Coupling bioflocculation of *Dehalococcoides* to high dechlorination rates". Poster presentation at Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds in Monterey, California. May 2014. **Student paper competition winner**.
46. **JF Miceli III**, CI Torres, R Krajmalnik-Brown. "Improving Coulombic Recovery in Fermentable Substrate Fed MECs By Shifting the Products of Fermentation." Podium presentation at the International Society for Microbial Electrochemistry and Technology, NA Meeting, May 2014

47. Charles MNC, **Delgado AG**, Fajardo-Williams D, Pycke BFG, Krajmalnik-Brown R, Elliot G, Wolf K, Halden RU. Investigating the use of the “In Situ Microcosm Array” (ISMA) technology for site-specific remediation of dissolved chlorinated solvents in groundwater. Fourth Annual SSEBE Graduate Research Symposium, ASU, Tempe, AZ, March 2014.
48. Charles MNC, **Delgado AG**, Fajardo-Williams D, Pycke BFG, Krajmalnik-Brown R, Elliot G, Wolf K, Halden RU. Investigating the use of the “In Situ Microcosm Array” (ISMA) technology for site-specific remediation of dissolved chlorinated solvents in groundwater. AZ Water Association Research Workshop. Transforming Research Into Practice: Finding Solutions to Arizona Water Challenges, Tempe, AZ. January 2014.
49. **Ilhan Z.E**, Kang DW<sup>x</sup>, Marcus AK, Krajmalnik-Brown R., “Roux-en-Y Gastric Bypass and Laparoscopic Gastric Banding Surgeries Affect the Dynamics of Gut Microbial Ecology and Metabolism”, poster presentation at the 31st Annual Scientific Meeting of the Obesity Society, November 2013, Atlanta, Georgia, U.S.A.
50. **Ilhan Z.E**, Kang DW, Krajmalnik-Brown R. “Aging Defines Gut Microbiome Composition and Function”. Poster presentation at the 4th ASM Conference on Beneficial Microbes, October 2013, San Antonio, Texas.
51. R. Krajmalnik-Brown “Gut Bacteria in Children with Autism vs Controls” 8th Annual Back to School & More Autism Asperger's Conference. August, 2013 Pasadena, CA
52. R. Krajmalnik-Brown, **J Miceli**, O. Ahulo, **J.P. Badalamenti**, CI Torres. Engineering and Microbial Ecology meet: Discovering Novel Anode Respiring Bacteria (ARB). AEESP 50th Anniversary Conference: Environmental Engineers and Scientists of 2050: Education, Research, and Practice. Golden Colorado. July 2013
53. **JF Miceli III**, **JP Badalamenti**, Y Ajulo, CI Torres, R Krajmalnik-Brown. “*Geoalkalibacter*: Finding Novel Anode-Respiring Bacteria in Microbial Electrochemical Cells Using Community Analysis”. Poster presentation at International Water Association’s Microbial Ecology and Water Engineering conference in Ann Arbor Michigan. July 2013. **Awarded best graduate student poster presentation.**
54. Rosa Krajmalnik-Brown, **Zehra E. Ilhan**, Dae-Wook Kang<sup>x</sup>, Andrew Marcus, John K. DiBaise, Bruce E. Rittmann. “Effects of Surgical Weight Loss Procedures on the Gut Microbiome” Gordon Research Conference in Applied and Environmental Microbiology
55. Wimmer, M., Kang, D.W<sup>x</sup>., Krajmalnik-Brown, R., and Herckes, P. (2013) “Microorganisms in fog and their impact on fog chemistry” Poster presentation at International Conference on Fog, Fog collection and Dew, May 19-24, Yokohama, Japan.
56. Bruce E. Rittmann, **Aura Ontiveros-Valencia**, He-Ping Zhao, Youneng Tang, Bi-O Kim, Rosa Krajmalnik-Brown, David Friese, Ryan Overstreet, Jennifer Smith and Patrick Evans. “Controlling the Reduction of Multiple Electron Acceptors in the H<sub>2</sub>-Based Membrane Biofilm Reactor”. 10th IWA Leading Edge Conference on Water and Waste Water Technologies. May, 2013. Bordeaux, France.
57. **Aura Ontiveros-Valencia**, Rosa Krajmalnik-Brown, Bruce E. Rittmann. “Sulfate reduction affects perchlorate reduction when treating highly-perchlorate contaminated groundwater using the hydrogen-based Membrane Biofilm Reactor”. 9th International Conference on Biofilm Reactors. May, 2013. Paris, France.
58. Youneng Tang, Rosa Krajmalnik-Brown, Bruce E. Rittmann. “Modeling Trichloroethene Reduction in a Hydrogen-Based Biofilm”. 9th International Conference on Biofilm Reactors. May 28-31, 2013. Paris, France
59. Chen Zhou, **Aura Ontiveros-Valencia**, Raveender Vannela, Rosa Krajmalnik-Brown, Bruce E. Rittmann. Bioreduction and removal of U(VI) by *Desulfovibrio vulgaris* in a H<sub>2</sub>-based membrane biofilm reactor (MBfR). 9th International Conference on Biofilm Reactors. May 28-31, 2013. Paris, France
60. **Delgado AG**, Nelson KG, Done HY<sup>#</sup>, Fajardo-Williams D<sup>#</sup>, **Miceli JF, III**, Kang D<sup>x</sup>, Krajmalnik-Brown R. Pristine and contaminated environments yield robust trichloroethene to ethene-respiring consortia: the impact of enrichment techniques. 113th General Meeting of the American Society for Microbiology. Denver, CO. May 2013

61. **Parameswaran P**, Popat SC, **Delgado AG**, Krajmalnik-Brown R, Torres CI. Efficient conversion of sucrose to electric current in a Microbial Electrolysis Cell (MEC) anode through homoacetogen-anode respiring bacteria (ARB) partnership. 113th General Meeting of the American Society for Microbiology. Denver, CO. May 2013.
62. **Badalamenti JP.**, CI Torres, and R. Krajmalnik-Brown. Controlled cocultures reveal mechanisms of Light-responsive Electricity Generation in Photosynthetic Microbial Electrochemical Cells Fed with Sulfide. 113th General Meeting of the American Society for Microbiology. Denver, CO. May 2013.
63. **Ilhan, Z.E.**, Kang, D. -W<sup>X</sup>, DiBaise, J. K., Rittmann, B. E., and Krajmalnik-Brown, R. (2013) "Changes in gut microbial ecology after Roux-En-Y gastric by-pass and laparoscopic banding surgeries" Oral presentation at 52nd American Society for Microbiology (ASM) Arizona/Southern Nevada Branch, Apr 13, Tucson, Arizona. **Awarded best graduate student oral presentation.**
64. **Badalamenti JP.**, CI Torres, and R. Krajmalnik-Brown. Controlled cocultures reveal mechanisms of Light-responsive Electricity Generation in Photosynthetic Microbial Electrochemical Cells Fed with Sulfide. Poster presentation at 52nd American Society for Microbiology (ASM) Arizona/Southern Nevada Branch, Apr 13, Tucson, Arizona. **Awarded best graduate student poster presentation.**
65. **Z. E. Ilhan**, D. Kang<sup>X</sup>, R. Krajmalnik-Brown; Age defines the beneficial gut microbiome composition and function, 4th ASM Conference on Beneficial Microbes, October 2012, San Antonio, TX.
66. **Badalamenti JP.**, CI Torres, and R. Krajmalnik-Brown; Electrochemical Characterization of Novel Anode-Respiring Bacteria Producing High Current Densities Under Saline and Alkaline Conditions. NA- ISMET, October 2012, Ithaca, NY.
67. **M. Ziv-El**, S.C. Popat, **P. Parameswaran**, D.-W. Kang<sup>X</sup>, **A. Polasko**<sup>‡</sup>, R.U. Halden, B.E. Using Electron Balances to Predict TCE-induced shifts to the Microbial Community Structure, 2012 112<sup>th</sup> ASM General Meeting, San Francisco, CA.
68. **A. G. Delgado**, **P. Parameswaran**, K. L. Kegerreis, R. U. Halden, R. Krajmalnik-Brown. Effect of Ammonia on Trichloroethene Dechlorinating Communities Containing *Dehalococcoides*. ASM 2012, 112<sup>th</sup> ASM General Meeting, San Francisco, CA.
69. Dae-Wook Kang<sup>X</sup>, Jin G. Park, **Zehra Ilhan**, James B. Adams, and Rosa Krajmalnik-Brown Autism-associated Systematic Changes In Gut Microflora Daewook 2012, 112<sup>th</sup> ASM General Meeting, San Francisco, CA.
70. **Jonathan Badalamenti**, César I Torres, Rosa Krajmalnik-Brown Microbial Electrochemical Cells as Novel Selective Enrichment Tools for Photosynthetic Anode-Respiring Bacteria, 2012 112<sup>th</sup> ASM General Meeting, San Francisco, CA.
71. **M. Ziv-El**, S.C. Popat, **P. Parameswaran**, D.-W. Kang<sup>X</sup>, **A. Polasko**<sup>‡</sup>, R.U. Halden, B.E. Rittmann, and R. Krajmalnik-Brow. "Using Electron Balances to Predict and Assess Trends in the Microbial Community Structure of Trichloroethene-Reducing Consortia". Battelle International Symposium on Remediation of Chlorinated and Recalcitrant Compounds, May 2012 Monterey, CA.
72. **A. Delgado P. Parameswaran**, **D. Fajardo-Williams**, R.U. Halden, and R. Krajmalnik-Brown. Role of Bicarbonate as a pH Buffer and Electron Sink in Microbial Dechlorination of Chloroethenes. Battelle International Symposium on Remediation of Chlorinated and Recalcitrant Compounds, May 2012 Monterey, CA.
73. **Joseph F Miceli**, Elvia I García-Peña, **Prathap Parameswaran**, Rosa Krajmalnik-Brown, Cesar Torres. "Combining microbial cultures for the production of electricity from butyrate in an MXC" 242nd ACS National Meeting, March 2012, San Diego CA.
74. **Jonathan Badalamenti**, César I Torres, Rosa Krajmalnik-Brown. "Using microbial electrochemical cells for selective enrichment of novel current-producing anoxygenic photosynthetic bacteria" 242nd ACS National Meeting, March 2012, San Diego CA.
75. 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.
76. Rosa Krajmalnik-Brown, Dae-Wook Kang<sup>X</sup>, **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.
  77. 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.
  78. 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.
  79. 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.
  80. **Michal Ziv-El**, Sudeep Popat, Katherine Cai<sup>#</sup>, 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.
  81. **Delgado AG**, **Ziv-El M**, Halden RU, Krajmalnik-Brown R. “Microbial trichloroethene detoxification”. The 50<sup>th</sup> Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff, AZ. April 2011.
  82. **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.
  83. 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.
  84. Kang DW<sup>X</sup>, 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.
  85. Dae-Wook Kang<sup>X</sup>, **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.
  86. **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.
  87. **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.
  88. 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.
  89. 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.
  90. **Parameswaran P.**, C.I. Torres, D. Kang<sup>X</sup>, 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.
  91. 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”. 7<sup>th</sup> IWA Leading-Edge Conference on Water and Wastewater Technologie, June 2010 Phoenix, AZ.

92. Krajmalnik-Brown R., **Parameswaran P.**, Torres CI., Rittmann BE. "The Role of Homo-Acetogens in Microbial Electrolytic and Fuel Cells" 7<sup>th</sup> IWA Leading-Edge Conference on Water and Wastewater Technologies, June 2010, Phoenix, AZ.
93. **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 110<sup>th</sup> ASM General Meeting, San Diego, CA.
94. 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?" 2<sup>nd</sup> International Microbial Fuel Cell Meeting, Korea
95. **Prathap Parameswaran**, César I. Torres, Husen Zhang<sup>X</sup>, Bruce Rittmann and Rosa Krajmalnik-Brown. 2009. "Community structure in a biofilm anode fed with ethanol: Significance of hydrogen scavengers" 2<sup>nd</sup> International Microbial Fuel Cell Meeting, Korea
96. *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 109<sup>th</sup> ASM General Meeting, Philadelphia, PA.
97. **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 109<sup>th</sup> ASM General Meeting, Philadelphia, PA.
98. 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.
99. **Prathap Parameswaran**, César I. Torres, Husen Zhang<sup>X</sup>, 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.
100. 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.
101. **Parameswaran P**, Rittmann B. E., and R. Krajmalnik-Brown. 2008. "16S rRNA fingerprinting of archaea reveals the significance of non-acetoclastic pathways during the anaerobic digestion of high ammonium wastes" in Proceedings of the 108<sup>th</sup> ASM General Meeting, Boston MA.
102. Krajmalnik-Brown R., J. Chung, B. E. Rittmann, 2006. "The Membrane Biofilm Reactor (MBfR) Promotes *Dehalococcoides*-Containing Biofilm" in Proceedings of the 106<sup>th</sup> ASM General Meeting, Orlando FL.
103. 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 105<sup>th</sup> ASM General Meeting, Atlanta, GA.
104. 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 105<sup>th</sup> ASM General Meeting, Atlanta, GA.
105. 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.
106. 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
107. 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.

108. Ritalahti, K., R. Krajmalnik-Brown and F. E. Löffler, 2004. "Beyond the rRNA Gene: Enhanced Tracking Tools for *Dehalococcoides* Species", in Proceedings of the 104<sup>th</sup> ASM General Meeting, New Orleans, LA.
109. 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 104<sup>th</sup> ASM General Meeting, New Orleans, LA.
110. 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.
111. 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.
112. 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.
113. 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.
114. 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.
115. 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 103<sup>rd</sup> ASM General Meeting, Washington, DC.
116. 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 seepage sediments and groundwater at the Savannah River site", in Proceedings of the 103<sup>rd</sup> ASM General Meeting, Washington, DC.
117. 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.
118. 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.
119. 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.
120. Ritalahti, K. M., R. Krajmalnik-Brown, Y. Sung, J. He, and F. E. Löffler "Microbial communities contributing to the degradation of *cis*-Dichloroethilene (*cis*-DCE), Vinyl Chloride (VC), and 1,2 Dichloropropane (1,2D)" Poster presentation, VI International Symposium on Environmental Biotechnology, Veracruz, Mexico, June 2002.

121. 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 102<sup>nd</sup> ASM General Meeting, Salt Lake City, UT.
122. 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 101<sup>st</sup> ASM General Meeting, Orlando FL.
123. 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 101<sup>st</sup> ASM General Meeting, Orlando FL.
124. 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.



## PROFESSIONAL ACTIVITIES AND SERVICE

### SERVICE:

#### External Service:

AEESP 2019 Organizing Committee. Tempe Arizona May 2019

#### National Academies of Science, engineering, medicine committees

Committee on Advancing Understanding of the Implications of Environmental-Chemical Interactions with the Human Microbiomes

#### International Conference Organization

Scientific Organizing Committee at The fifth international meeting on microbial electrochemistry and technologies (ISMET) October 1-4, 2015, Arizona state university

Organized a session on *Identification and Evaluation of Novel Microorganisms for Contaminant Degradation*, at Battelle International Symposium on Bioremediation and Sustainable Environmental technologies. June 2011/2011

Member of Scientific committee WEF/IWA Biofilm Reactor Technology Conference 2010

#### Editorial Work

PLOSone Academic Editor 2015-2016

mSphere Associate Editor 2015-Current.

Biodegradation Associate Editor 2012-2016

#### Reviewer for Archival Journals

1. Environmental Science and Technology
2. Science Translational Medicine.
3. Water Research
4. PLOSone
5. Ground Water Monitoring & Remediation
6. Fresenius Environmental Bulletin (FEB)
7. Gut Journal
8. Gastroenterology
9. Biotechnology and Bioengineering
10. Applied and Environmental Microbiology
11. Bioresource Technology
12. Energy and Environmental Science
13. Biodegradation
14. Journal of Toxicology
15. Chemosphere
16. Msphere
17. Msystems
18. Gut

#### Grants Reviewer

National Institutes of Health: Study section Reviewer 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020.

*National Science Foundation*: Review Panel member, Environmental Engineering program, 2009, 2011, 2012, 2013 and 2016.

Israel Ministry of Agriculture 2015  
Israel Ministry of Health 2014  
IWA young water professionals' competition 2013  
Netherlands Organization for Scientific Research, Physical Sciences and Health Research and Development. Grant Reviewer 2009/2010.

### **ASU Service:**

1. Center for Biomediated and Bioinspired Geotechnics: Thrust Leader
2. Fulton Schools of Engineering Executive Committee 2018-2020
3. ASU Biosciences Governance Board Member 2018-2020
4. School of Sustainable Engineering and the Built Environment tenure and promotion committee (2014-2017), 2018-2020
5. SSEBE Director Search committee (2018-2019)
6. Environmental Engineering search committee (2015-2016)
7. Biogeotechnics search committee (2015-2016)
8. Environmental Engineering search committee (2014-2015)
9. Microbiomics search committee (2014-2015)
10. Engineering Research Director for SSEBE (2012-2015)
11. Environmental Engineering search committee (2013-2014)
12. Geotechnical search committee (2013-2014)
13. Graduate Student Organization (AGCE) Advisor and initiator (2008-current)
14. Biodesign personnel committee 2011-current
15. Scholarship committee 2008
16. Student Affairs committee (FSE) 2008-2011
17. Sustainability faculty search committee 2010
18. Organized and ran the environmental engineering seminar in spring of 2009.
19. Steering Committee Microbiology Program 2007-2010
20. Microbial Ecologist search committee (Biodesign-SOLS) 2011

### **PERSONNEL: STUDENT SUPERVISION / MENTORING, TEACHING, DISSERTATION COMMITTEES, RESEARCHERS, AND OUTREACH**

#### **Mentored Personnel in US Academia (Tenure-track Positions): # 4**

Anca Delgado (Arizona State University)  
Prathap Parameswaran (Kansas State University)  
Onur G. Apul (UMass Amherst)  
Daewook Kang (U Toledo)

#### **Post-docs**

##### **Previous Post-docs**

1. Chao Zeng. Currently a post doc at Arizona State University.
2. Zehra Esra Ilhan. Currently a post doc at University of Arizona.
3. Onur G. Apul. Assistant Professor at University of Massachusetts Lowell. Fall 2017.
4. Anca Delgado. Assistant Professor at Arizona State University Fall 2017.
5. Juan Maldonado. Now research scientist and manager of Microbiome research Lab, Biodesign Swette Center for Environmental Biotechnology.
6. Daewook Kang. Now Assistant Professor at University of Toledo.
7. He-Ping Zhao. Now Associate professor at Zhejiang University, Hangzhou, China.
8. Husen Zhang. Now Senior Bioinformatics Analyst at Leidos.

## **ADVISING OF STUDENTS**

### **Degree awarded or Undergraduate and High School Alumni**

#### **Ph.D. Students Graduated**

1. Sofia Esquivel, (Civil, Environmental, and Sustainable Engineering) Graduated Fall 2017.

**Thesis:** Microbial Communities Involved in Carbon Monoxide and Syngas Conversion to Biofuels and Chemicals.

Post-doc at Max Planck institute in Germany

2. Rebecca Allen (Biological Design) co advised with Roy Curtis, Graduated Fall 2016.

**Thesis:** From Customized Cellular Adhesion to Synthetic Ecology: Characterizing the Cyanobacterium *Synechocystis* PCC 6803 for Biofuel Production.

Currently: Post-doctoral Fellow UC Davis

3. Zehra Esra Ilhan (Microbiology), Graduated Summer 2016.

**Thesis:** Microbiome After Bariatric Surgery and Microbial Insights into Surgical Weight Loss.

Currently: Post-doctoral Fellow at French National Institute for Agricultural Research.

4. Joseph Miceli (Biological Design) co advised with Cesar Torres. Graduated Summer 2015

**Thesis:** Building Microbial Communities and Managing Fermentation In Microbial Electrolysis Cells.

Currently: Research Program Coordinator, Personalized Diagnostics Center, Arizona State University.

5. Alex Zevin (Biological Design) co advised with Bruce Rittmann. Graduated Spring 2015

**Thesis:** Characterization of Structure and Function of Microbial Communities in *Synechocystis* sp. PCC6803 Photobioreactors

Currently: Senior Fellow at University of Washington

6. Aura Ontiveros (Sustainability, co advised with Bruce Rittmann). Graduated Spring 2014

**Thesis:** Ecological Interactions Among Nitrate-, Perchlorate-, and Sulfate-Reducing Bacteria in Hydrogen-Fed Biofilm Reactors.

Currently: Assistant Professor at Tech Monterrey, Mexico

7. Anca Delgado (Microbiology). Graduated Summer 2013

**Thesis:** Management of Microbial Communities to Improve Growth of Chloroethene-Respiring *Dehalococcoides*.

Currently: Assistant Professor at Arizona State University Fall 2017.

8. Jon Badalamenti (Microbiology), Graduated Spring 2013

**Thesis:** Microbial Electrochemical Cells for Selective Enrichment and Characterization of Photosynthetic and Haloalkaliphilic Anode-Respiring Bacteria.

Currently: Research Scientist at University of Minnesota.

9. Michal Ziv-El (Civil, Environmental, and Sustainable Engineering, co advised with Bruce Rittmann). Graduated May 2012.

**Thesis:** Linking structure and function to manage microbial communities carrying out chlorinated ethene reductive dechlorination.

Currently: AAAS Fellowship working at National Science Foundation.

10. Prathap Parameswaran (Civil, Environmental, and Sustainable Engineering, co advised with Bruce Rittmann) Graduated May 2010.

**Thesis:** Ecological Interactions in Microbial Electrochemical Systems (MXCs) that Enhance Electron Recovery

Currently: Assistant Professor at Kansas State University.

#### **Ph.D. Students Current**

1. Megan Altizer (Civil, Environmental, and Sustainable Engineering) expected graduation Spring 2019.
2. Mark Reynolds (Microbiology) expected graduation Spring 2020.
3. Ethan Howley (Civil, Environmental, and Sustainable Engineering) expected graduation Spring 2022.
4. Blake Dirks (Microbiology) expected graduation Spring 2022.
5. Taylor Davis (Chemical Engineering) expected graduation Spring 2022.
6. Srivatsan Mohana Rangan (Civil, Environmental, and Sustainable Engineering) expected graduation Spring 2021.

#### **Masters Students Graduated**

1. Shefalli Rao (Civil, Environmental, and Sustainable Engineering) graduated Spring 2019.
2. Srivatsan Mohana Rangan (Civil, Environmental, and Sustainable Engineering), graduated Spring 2017.
3. Deepthi Shivanna (Chemical Engineering), Graduated Dec 2015.
4. Devyn Fajardo-Williams, (Civil, Environmental, and Sustainable Engineering). Graduated summer 2015.
5. Kylie Kegerreis (Civil Environmental and Sustainable Engineering), Graduated Dec 2012.
6. Katherine G. Muto, now Katherine G. Nelson (Civil, Environmental, and Sustainable Engineering, ASU), Graduated May 2010.
7. Ying Yao (Civil, Environmental, and Sustainable Engineering, ASU) Graduated Summer 2009

#### **Masters Students Current**

1. Brenna Lobb. M.S in Biological Data Sciences.

#### **Undergraduate Students Research** (Time period in my lab is in parenthesis)

1. Xandrian McMacken. Environmental Engineering, ASU. (2019-Current)
2. Rachel Klein. School of Life Sciences, ASU. (2019-Current)
3. Randy Bravo. Molecular Sciences and Biotechnology, ASU. (2018-Current)
4. Debbie Chang. School of Life Sciences, ASU. (2017-2019) **Barret Honors, thesis.**
5. Ibrahim Ibrahim. Polytech Campus, ASU. (2018-2019)
6. Jigar Patel Fulton Schools of Engineering, ASU. (2017-2018) **Barret Honors, thesis.**
7. Chris Connot. School of Life Sciences, ASU. (2017-2018)
8. Samuel Aguiar Fulton Schools of Engineering, ASU. FURI Student and Swette Intern (2016-2017)
9. Marisol Luna Aguiar. Fulton Schools of Engineering, ASU, (2016-2017) **Barret Honors, thesis.**
10. Fabiha Alam. Biochemistry, ASU. (2015-2017) **Barret Honors, thesis.**
11. Patrick Hoffmann. Fulton Schools of Engineering (2016)
12. Connor Conrad. Fulton Schools of Engineering (2016)
13. Aatikah Mouti, Biochemistry, ASU. (2016-2017)
14. Kapila Patel (School of Life Sciences, ASU) (2014-2016) **Barret Honors, thesis.**
15. Connor Fegard. Fulton Schools of Engineering, ASU (2016)
16. Emily Yee. School of Life Sciences, ASU. (2015-2016) **Barret Honors, thesis**

17. Ibrahim Halloum Fulton Schools of Engineering, ASU. FURI Student and Swette Intern (2013-2015)
18. Mackenzie Hagan. Fulton Schools of Engineering, ASU. FURI Student (2013-2015)
19. Emily Bondank. Fulton Schools of Engineering, ASU. FURI Student (2012-2014) **Barret Honors, thesis**
20. Daniel Masters, (School of Life Sciences, ASU) (2012-2013)
21. Zachary Marin, (School of Life Sciences, ASU) (2012)
22. Suyana Lozada Fulton Schools of Engineering, ASU. FURI Student (2011-2013) **Barret Honors, thesis**
23. Joshua Steel Fulton Schools of Engineering, ASU. FURI Student (2012)
24. Mathew Watson Fulton Schools of Engineering, ASU. (2011)
25. Patrick Brown, (School of Life Sciences, ASU). (2011)
26. Devyn Fajardo-Williams, Fulton Schools of Engineering, ASU. FURI Student (2011-2012)
27. Hansa Thompson, School of Life Sciences, ASU. SOLUR student (2011)
28. Katherine Cai, Fulton Schools of Engineering, ASU. FURI Student (2009-2011)
29. Galen Johnson-Bates, Fulton Schools of Engineering, ASU. FURI Student (2009-2011)
30. Brandon Yates, School of Life Sciences, ASU. SOLUR student (2008- 2010)

#### **High School Students** (Time period in my lab is in parenthesis)

1. Smitha Ramakrishna, Corona del Sol. (2007-2009). Currently at Harvard University.
2. Alex Polasko, Notre Dame Preparatory High School. (2009-2011). Currently at the University of California Berkeley
3. Mark Peng, Chandler High. (2009-2011). Currently at Stanford University
4. Zuena Mushtaq, (2011-2012). Currently enrolled in Barrett Honors School at ASU.
5. Nyssa Burdick, (2012). Saguaro High School. Currently enrolled at the University of Arizona

#### **Research Scientists**

1. Daewook Kang
2. Anca Delgado
3. Juan Maldonado

#### **International Visiting Scholars**

1. Sofia Esquivel, Spring 2012 (IPN, Mexico)
2. Vianey Ruiz Lopes (UNAM), Spring 2012
3. Ines Garcia-Pena, (IPN, Mexico) summer 2010
4. Kadiya del Carmen Calderón Alvarado (UNAM, Mexico) 2008

#### **Participation as thesis committee member:**

1. Dongwon Ki, PhD, 2015.
2. Binh Nguyen, PhD, 2015.
3. Bradley Lusk, PhD, 2015.
4. Chen Zhou, PhD, 2014.
5. Ryan Ekre, PhD, 2013.
6. Tomasz Kalinowski, PhD, 2013.
7. Kristin McClellan, PhD, 2013.
8. Elsy Escovar, PhD, 2012.
9. Youneng Tang, PhD, 2012.
10. Yifei Wang, MS, 2012.
11. Guozheng Li, MS, 2011
12. Michelle Young, MS, 2011.
13. Guozheng Li, MS, 2011.
14. Amy Hansen, MS, 2010.
15. Cesar Ivan Torres PhD, 2009.

16. Andrew-Kato Marcus PhD, 2009.
17. Liang Chen, MS, 2009.
18. Lisa Clifton, MS, 2008.

### **Student Fellowships and Awards**

#### **Graduate Students**

1. **Megan Altizer**, ASU Fulton School of Engineering Dean's Fellow.
2. **Zehra Esra Ilhan**, Graduate Completion RAship award. Spring 2016
3. **Zehra Esra Ilhan**, **ASU MCB/Microbiology Retreat Best Poster award**. 2015
4. **Devyn Fajardo-Williams**, Winning paper at the student paper competition at the Battelle Remediation of Chlorinated and Recalcitrant Compounds in 2014.
5. **Aura Ontiveros-Valencia**, Winning paper at the student paper competition at the Battelle Remediation of Chlorinated and Recalcitrant Compounds in 2014.
6. **Joseph Miceli**, ASM Travel Student Award at American Society for Microbiology, 114th General Meeting.
7. **Joseph Miceli**, best poster presentation at the International Water Association's Microbial Ecology and Water Engineering conference. July 2013. Ann Arbor Michigan.
8. **Esra Zehra Ilhan**, best oral presentation at 52<sup>nd</sup> Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff, AZ. April 2013
9. **Jonathan Badalamenti**, best poster presentation at 52<sup>nd</sup> Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff, AZ. April 2013
10. **Michal Ziv-El**, Winning paper at the student paper competition at the Battelle Remediation of Chlorinated and Recalcitrant Compounds in 2012.
11. **Anca Delgado**, Winning paper at the student paper competition at the Battelle Remediation of Chlorinated and Recalcitrant Compounds in 2012.
12. **Anca Delgado**, best oral presentation at 50<sup>th</sup> Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff, AZ. April 2011
13. **Jonathan Badalamenti**, best oral presentation at 50<sup>th</sup> Annual Meeting of the Arizona-Nevada Branch of the American Society for Microbiology. Flagstaff, AZ. April 2011.

#### **Undergraduate Students**

1. **Kapila Patel**, Obesity Solutions Research Grant- funding received to test the overall health, gut microbiome, diet, and content understanding of kids in the Nutrition and Health Awareness Program 2015
2. **Kapila Patel**, Edson Student Entrepreneur Initiative- funding to develop Nutrition and Health Awareness into a nonprofit 2015-2016.

#### **High School Students**

1. **Jeba Sania** Innovation and Entrepreneurship Award at Arizona Science and Engineering Fair 2015.
2. **Drishti Sinha** Bronze medal Environmental Science Division and the Women in Science award at Arizona Science and Engineering Fair 2013, Stockholm Junior Water Prize, Az 2013.
3. **Zuena Mushtaq** Bronze medal Environmental Science Division and the Women in Science award at Arizona Science and Engineering Fair 2012.
4. **Alex Polasko**. Stockholm Junior Water Prize Regional Winner 2011; Stockholm Junior Water Prize, Arizona State Water Prize Award, 2011; Ricoh Sustainable Development Award, 2011; Certificate of Excellence for Biological Sciences, Association for Women in Science, Arizona Science and Engineering Fair, 2011; Silver Medal Microbiology Division, Arizona Science and Engineering Fair, 2011; Ricoh Sustainable Development Award, 2010; Silver Medal Environmental Science Division, Arizona Science and and Engineering Fair, 2010.

5. **Mark Peng**. Ricoh Sustainable Development Award, 2010; Silver Medal Environmental Science Division, Arizona Science and Engineering Fair, 2010; bronze medal at the Junior Science and Humanities Symposium 2010.
6. **Ramakrishna Smitha**. First Place in Environmental Management, Arizona Science Research and Engineering Fair (AZSEF) 2008; Governor's Celebration of Innovation: Future Innovation Award 2008, and Stockholm Junior Water Prize Regional Winner 2008.

**SUMMARY OF TEACHING**

Course	Course Title	Semesters	Number of students
CEE 598Z <sup>1</sup>	Biotransformations	Spring 2008, 2009, 2010,2012, 2014, 2016, 2018	9-13
CEE 361	Introduction to Environmental Engineering	Fall 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018	48-90
BDE 701	Fundamentals of Biological Design	Fall 2009, 2010, 2011	10-16
CEE 598	Data Synthesis	Spring 2011, 2013, 2015, 2017	7-11
MIC 591	Advanced Topics in Microbiology	Fall 2009, 2010	

<sup>1</sup>New course developed by Krajmalnik-Brown

**RESEARCH SUPPORT****SUMMARY OF RESEARCH SUPPORT****Total Approved/Anticipated External Funding (including supplements): \$ 42,000,000**

- This data reflects all of the funding promised to the faculty member on every proposal they are on – as PI and co-PI. This is total funds awarded including pending awards. This provides a baseline as to the faculty member's level of activity.

Total Approved/Anticipated External Funding as PI: \$ 28,000,000 (This number includes ERC funding)

- This data reflects all of the funding promised to the faculty member on every proposal they are on – as PI. This is total funds awarded including pending awards. This provides a baseline as to their leadership.

Prof. Krajmalnik-Brown Funding Recognition (funding recognition as PI and co-PI; including pending awards): \$9,700,000

- This data provides a baseline as to their impact as indicated by recognition.

**Award Amount Received at ASU (as of 02/26/2019; Prof. Krajmalnik-Brown recognition): \$8,998,000**

Total Research Expenditures (as of 02/26/2019; Prof. Krajmalnik-Brown recognition): \$7,440,000

**RESEARCH SUPPORT****FUNDED RESEARCH PROJECTS**

1. **National Institutes of Health -NIDDK (PI):** Integrating quantitative energetics determines the microbiome's contribution to energy balance. Total anticipated award ~\$3,500,000. 9/1/2016-6/30/2021.
2. **National Science Foundation -ENG-ERC (PI):** *Engineering Research Center for Bio-Mediated and Bio-Inspired Geotechnics (CBBG)*. Total anticipated award \$18,500,000. 8/1/2015-7/31/2020.
3. **National Science Foundation -ENG-ERC (PI):** Supplemental Core Project: Bench-Scale Study to Evaluate the Potential for Using In Situ Bioremediation Enhanced by Zero-Valent Iron (ZVI) Abiotic Reductions.
4. **Chevron Energy & Tech. Corp. (co-PI):** *RPS2: In-Situ Remediation of Heavy Hydrocarbons in Impacted Vadose Zone Soils: Strategy and Management Approach for Innovation*. 1/27/2014-6/30/2017, Total Award \$3,500,000
5. **DoD Army USAMRAA (co-PI):** *Treating Gastrointestinal and Autism Symptoms in Adults with Autism Using Microbiota Transfer Therapy (MTT)*. Total anticipated award \$1,293,000. 9/1/2016-8/31/2020.
6. **ASU Foundation (co-PI)** Long-term Follow-up on Beneficial Bacteria Treatment Study. \$28,000.
7. **Department of Energy (co-PI)** *A novel platform for algal biomass production using cellulosic mixotrophy*. \$913,000.00 (for one year)
8. **Department of Defense, Office of Naval Research (Co-PI):** *Combining Electrochemical, -omics, and Microscopic Approaches to Characterize Transport Limitations in Anode-Respiring Bacteria Biofilms*. 3/1/2015 – 2/28/2018, Total anticipated award \$448,955. 9/1/2015-10/31/2018.
9. **Chevron Energy & Tech. Corp. HHSRG** Percarbonote Application Testing Biodegrad and Enhanced TPH Availability wPercarbonate use. \$ 208,775
10. **National Institutes of Health -NIDDK (PI):** *Role of Human Intestinal Microbiota on Success of Surgical Weight Loss Procedures*. 4/1/2011-3/31/2017, Total Award \$1,922,185 (Supplement = \$225,961).
11. **Simons Foundation Autism Research Initiative/ CA Inst. of Technology/ (co-PI):** *Targeting Immune System Activation in ASD Models with Probiotic Therapies*. 8/1/2014-7/31/2017, Total Award \$184,466
12. **AZ Board of Regents/Northern Arizona University (PI):** *The Human Gut Microbiota and Its Viruses: Keys to Treating Autism*. 03/01/2013 – 12/31/2016, \$105,300. Completed



13. **National Science Foundation-ENG-CBET** (PI): *Microbial Ecology to Optimize Beneficial Syntrophies to Improve Microbial Electrochemical and Dechlorinating Systems*. 1/15/2011 – 12/31/2016, Total Award \$445,299. Completed
14. **ASU Foundation/Peter Emch** (PI, 30005952): *Gut Microbiota Structure and Function in Children with Autism*. 1/1/2014-7/31/2016, \$52,000. Completed
15. **Phoenix/Scottsdale Groundwater Contamination Endowment for Research on the Risks and Mitigation of Chemical Releases to the Environment** (PI): *Defining H<sub>2</sub>-based Microbial Processes as Assessment Tool for Successful Bioremediation of Chlorinated Solvents*. 3/1/2015-2/29/2016, \$44,959. Completed
16. **Mayo Clinic Scottsdale** (PI): *The Influence of Estrogen on the Rat Gut Microbiome*. 8/1/2015-12/31/2015, \$4,900. We hypothesize that the composition of the gut microbiome in rats is influenced by the presence or absence of estrogen.
17. **Chevron Energy & Tech. Corp.** (PI): *Testing Biodegradation and Enhanced TPH Bioavailability in Combination with Dry-Percarbonate*. 10/15/2015-8/31/2016, \$208,775.
18. **Strategic Initiatives Fund/Lightworks@ASU** (Co-PI): *Use of Microalgae to Treat Wastewaters and Recover Resources*. 7/1/2015-6/30/2016, \$120,000.
19. **NSF-EHR-DGE** (Co-PI): *IGERT - Solar Utilization Network (SUN)*. 7/1/2012-6/30/2017, Total Award \$3,006,642.
20. **Department of Energy** (Co-PI): *Managing the Microbial Ecology of a Cyanobacteria-Based Photosynthetic Factory Direct*, Total Award \$496,906.00. Completed
21. **Department of Energy** (Co-PI): *Cyanobacteria Designed for Solar-Powered Highly Efficient Production of Biofuels*, Total Award: \$5,205,705. Completed
22. **Department of Defense, ESTCP** (Co-PI): *Consulting Services for ESTCP Project CU-054. Research on MBfR Fundamentals Relevant to an ESTCP Project at WWWD*. \$345,257. Completed.
23. **Department of Defense, Office of Naval Research** (Co-PI): *Development of an acetate- or sugar-fed microbial power generator for military bases*. \$100,000. Completed.
24. **Autism Research Institute** (PI): *Human Intestinal Microbial Ecology and Its Relationship to Autism*. \$28,960, completed.
25. **Siemens** (Co-PI): *Modeling and Analysis of a Bio-Sorption and Anaerobic Digestion Hybrid Process*, \$209,105. Completed.
26. **Department of Defense** (Co-PI): *Assessment of the Natural Attenuation of NAPL Source Zones and Post-Treatment NAPL Source Zone Residuals*. Completed.

Consulting Experience

IBtech, Inc., Mexico City, Mexico 1996-1997