Stanford

Craig Criddle

Professor of Civil and Environmental Engineering and Senior Fellow at the Woods Institute for the Environment

NIH Biosketch available Online Curriculum Vitae available Online Resume available Online

CONTACT INFORMATION

- **Administrator**

  Jack Chiueh - Administrative Associate

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Bio

BIO

Craig Criddle is a Professor of Civil and Environmental Engineering at Stanford University and Senior Fellow in the Woods Institute for the Environment at Stanford. His specialty is microbial biotechnology for recovery of clean water, renewable energy, and renewable materials. He received his PhD from Stanford and began his academic career in 1989 at Michigan State University. After returning to Stanford in 1998, he has led research teams focused on groundwater bioremediation, biological wastewater treatment and reuse, and bioplastics from organic waste feedstocks. He has many refereed publications and patents and is co-author with award-winning San Francisco cartoonist Larry Gonick of the “Cartoon Guide to Chemistry”, a widely used supplement for high school and first year college chemistry classes. At present, he directs the Codiga Resource Recovery Center at Stanford. The Center’s goals are to accelerate development and adoption of promising resource recovery technologies and to train and inspire a new generation of students for continued innovation.

ACADEMIC APPOINTMENTS

- Professor, Civil and Environmental Engineering
- Senior Fellow, Stanford Woods Institute for the Environment
- Member, Bio-X
- Affiliate, Precourt Institute for Energy
- Senior Fellow, Stanford Woods Institute for the Environment

ADMINISTRATIVE APPOINTMENTS

- Director, William and Cloy Codiga Resource Recovery Center, (2014- present)

PROFESSIONAL EDUCATION

- PhD, Stanford University , Civil and Environmental Engineering (1990)
- MS, Utah State University , Civil and Environmental Engineering (1984)
- BS, Utah State University , Civil and Environmental Engineering (1982)
- BA, Utah State University , Spanish (1982)

LINKS

- https://web.stanford.edu/group/evpilot: https://web.stanford.edu/group/evpilot

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Criddle's interests include microbial biotechnology for the circular economy, including recovery of clean water from used water, renewable energy, valuable materials that can replace fossil-carbon derived materials. Current projects include energy-efficient anaerobic wastewater treatment technology, assessment of new treatment trains that yield high quality water; fossil carbon plastics biodegradation, and biotechnology for production of bioplastics that can replace fossil carbon plastics.

Teaching

COURSES

2021-22

- Aquatic Chemistry and Biology: CEE 177 (Aut)
- Environmental Biotechnology: CEE 271B (Win)
- Pathogens and Disinfection: CEE 274D (Spr)

2020-21

- Aquatic Chemistry and Biology: CEE 177 (Aut)
- Environmental Biotechnology: CEE 271B (Win)
- Pathogens and Disinfection: CEE 274D (Spr)

2019-20

- Aquatic Chemistry and Biology: CEE 177 (Aut)
- Environmental Biotechnology: CEE 271B (Win)
- Helminthic Disease Monitoring and Control.: CEE 371L (Win)

2018-19

- Aquatic Chemistry and Biology: CEE 177 (Aut)
- Environmental Biotechnology: CEE 271B (Win)
- Helminthic Disease Monitoring and Control.: CEE 371L (Win)
- Process Design for Environmental Biotechnology: CEE 275B (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Vince Pane, Anita Shao

Postdoctoral Faculty Sponsor

Himanshu Khuntia, Sunggeun Woo

Doctoral Dissertation Advisor (AC)

Latifah Hani Hamzah, Andrew Kim, Soo Yeol Kim, Jorge Meraz

Master's Program Advisor

Zikun Cui, Yixuan Huang, Abhishek Krishnan, Xiaofan Liu, Mollie Sabo, Weimin Wan, Zixuan Xu

Doctoral (Program)

Clara Rose

Publications

PUBLICATIONS

- **Phylogenetic diversity of NO reductases, new tools for nor monitoring, and insights into N2O production in natural and engineered environments** *FRONTIERS OF ENVIRONMENTAL SCIENCE & ENGINEERING*
  Woo, S., Sewell, H. L., Criddle, C. S.
  2022; 16 (10)
- **Recovery of Clean Water and Ammonia from Domestic Wastewater: Impacts on Embodied Energy and Greenhouse Gas Emissions.** *Environmental science & technology*
  Shin, C., Szczuka, A., Liu, M. J., Mendoza, L., Jiang, R., Tilmans, S. H., Tarpeh, W. A., Mitch, W. A., Criddle, C. S.
  2022
- **Microbes and Climate Change: a Research Prospectus for the Future.** *mBio*
  Tiedje, J. M., Bruns, M. A., Casadevall, A., Criddle, C. S., Eloe-Fadrosh, E., Karl, D. M., Nguyen, N. K., Zhou, J.
  2022: e0080022
- **CFD-accelerated bioreactor optimization: reducing the hydrodynamic parameter space** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Yao, Y., Fringer, O. B., Criddle, C. S.
  2022
- **Anaerobic membrane bioreactor model for design and prediction of domestic wastewater treatment process performance** *CHEMICAL ENGINEERING JOURNAL*
  Shin, C., Tilmans, S. H., Chen, F., Criddle, C. S.
  2021; 426
- **Displacing fishmeal with protein derived from stranded methane** *NATURE SUSTAINABILITY*
  El Abbadi, S. H., Sherwin, E. D., Brandt, A. R., Luby, S. P., Criddle, C. S.
  2021
- **Temperate climate energy-positive anaerobic secondary treatment of domestic wastewater at pilot-scale.** *Water research*
  Shin, C., Tilmans, S. H., Chen, F., McCarty, P. L., Criddle, C. S.
  2021; 204: 117598
- **Optimizing Nitrogen Fixation and Recycling for Food Production in Regenerative Life Support Systems** *FRONTIERS IN ASTRONOMY AND SPACE SCIENCES*
  Langenfeld, N. J., Kusuma, P., Wallentine, T., Criddle, C. S., Seefeldt, L. C., Bugbee, B.
  2021; 8
- **More than a fertilizer: wastewater-derived struvite as a high value, sustainable fire retardant** *GREEN CHEMISTRY*
  Kim, A. H., Yu, A. C., El Abbadi, S. H., Lu, K., Chan, D., Appel, E. A., Criddle, C. S.
  2021
- **Optimization of reverse osmosis operational conditions to maximize ammonia removal from the effluent of an anaerobic membrane bioreactor** *ENVIRONMENTAL SCIENCE-WATER RESEARCH & TECHNOLOGY*
  Shin, C., Szczuka, A., Jiang, R., Mitch, W. A., Criddle, C. S.
  2021; 7 (4): 739–47
- **Robust Nitritation of Anaerobic Digester Centrate Using Dual Stressors and Timed Alkali Additions.** *Environmental science & technology*
  Yao, Y., Wang, Z., Criddle, C. S.
  2021
- **Characterization of biodegradation of plastics in insect larvae.** *Methods in enzymology*
  Wu, W., Criddle, C. S.
  2021; 648: 95–120

- **Membrane and Fluid Contactors for Safe and Efficient Methane Delivery in Methanotrophic Bioreactors** *JOURNAL OF ENVIRONMENTAL ENGINEERING*
  Meraz, J., Dubrawski, K. L., El Abbadi, S. H., Choo, K., Criddle, C. S.
  2020; 146 (6)
- **Retrospective on microbial transformations of halogenated organics** *ENVIRONMENTAL SCIENCE-PROCESSES & IMPACTS*
  McCarty, P. L., Criddle, C. S., Vogel, T. M.
  2020; 22 (3): 512-517
- **Nitrogen removal as nitrous oxide for energy recovery: Increased process stability and high nitrous yields at short hydraulic residence times.** *Water research*
  Wang, Z. n., Woo, S. G., Yao, Y. n., Cheng, H. H., Wu, Y. J., Criddle, C. S.
  2020; 173: 115575
- **In Vivo Polymerization ("Hard-Wiring") of Bioanodes Enables Rapid Start-Up and Order-of-Magnitude Higher Power Density in a Microbial Battery.** *Environmental science & technology*
  Dubrawski, K. L., Woo, S. G., Chen, W. n., Xie, X. n., Cui, Y. n., Criddle, C. S.
  2020
- **Fate of Hexabromocyclododecane (HBCD), A Common Flame Retardant, In Polystyrene-Degrading Mealworms: Elevated HBCD Levels in Egested Polymer but No Bioaccumulation.** *Environmental science & technology*
  Brandon, A. M., El Abbadi, S. H., Ibekwe, U. A., Cho, Y., Wu, W., Criddle, C. S.
  2019
- **Microbial Battery Powered Enzymatic Electrosynthesis for Carbon Capture and Generation of Hydrogen and Formate from Dilute Organics** *ACS ENERGY LETTERS*
  Dubrawski, K. L., Shao, X., Milton, R. D., Deutzmann, J. S., Spormann, A. M., Criddle, C. S.
  2019; 4 (12): 2929–36
- **Can biotechnology turn the tide on plastics?** *CURRENT OPINION IN BIOTECHNOLOGY*
  Brandon, A., Criddle, C. S.
  2019; 57: 160–66
- **Biodegradation of Polystyrene by Dark (Tenebrio obscurus) and Yellow (Tenebrio molitor) Mealworms (Coleoptera: Tenebrionidae)** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Peng, B., Su, Y., Chen, Z., Chen, J., Zhou, X., Benbow, M., Griddle, C. S., Wu, W., Zhang, Y.
  2019; 53 (9): 5256–65
- **Engineering the Dark Food Chain** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  El Abbadi, S. H., Criddle, C. S.
  2019; 53 (5): 2273–87
- **Niche Differentiation among Three Closely Related Competibacteraceae Clades at a Full-Scale Activated Sludge Wastewater Treatment Plant and Putative Linkages to Process Performance** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Brand, V. R., Crosby, L. D., Criddle, C. S.
  2019; 85 (5)
- **Can biotechnology turn the tide on plastics?** *Current opinion in biotechnology*
  Brandon, A. M., Criddle, C. S.
  2019; 57: 160–66
- **Uranium sequestration in sediment at an iron-rich contaminated site at Oak Ridge, Tennessee via. bioreduction followed by reoxidation.** *Journal of environmental sciences (China)*
  Li, P. S., Wu, W. M., Phillips, D. H., Watson, D. B., Kelly, S. n., Li, B. n., Mehlhorn, T. n., Lowe, K. n., Earles, J. n., Tao, H. C., Zhang, T. n., Criddle, C. S.
  2019; 85: 156–67
- **Charge-Free Mixing Entropy Battery Enabled by Low-Cost Electrode Materials.** *ACS omega*
  Ye, M. n., Pasta, M. n., Xie, X. n., Dubrawski, K. L., Xu, J. n., Liu, C. n., Cui, Y. n., Criddle, C. S.
  2019; 4 (7): 11785–90

- **Niche differentiation among three closely related Competibacteraceae clades at a full-scale activated sludge wastewater treatment plant and putative linkages to process performance.** *Applied and environmental microbiology*
  Brand, V. R., Crosby, L. D., Criddle, C. S.
  2018
- **Ubiquity of polystyrene digestion and biodegradation within yellow mealworms, larvae of Tenebrio molitor Linnaeus (Coleoptera: Tenebrionidae).** *Chemosphere*
  Yang, S., Wu, W., Brandon, A. M., Fan, H., Receveur, J. P., Li, Y., Wang, Z., Fan, R., McClellan, R. L., Gao, S., Ning, D., Phillips, D. H., Peng, et al
  2018; 212: 262–71
- **Biodegradation of Polyethylene and Plastic Mixtures in Mealworms (Larvae of Tenebrio molitor) and Effects on the Gut Microbiome.** *Environmental science & technology*
  Brandon, A. M., Gao, S., Tian, R., Ning, D., Yang, S., Zhou, J., Wu, W., Criddle, C. S.
  2018; 52 (11): 6526–33
- **Decision support toolkit for integrated analysis and design of reclaimed water infrastructure** *WATER RESEARCH*
  Lee, E., Criddle, C. S., Geza, M., Cath, T. Y., Freyberg, D. L.
  2018; 134: 234–52
- **Biocomposite Fiber-Matrix Treatments that Enhance In-Service Performance Can Also Accelerate End-of-Life Fragmentation and Anaerobic Biodegradation to Methane** *JOURNAL OF POLYMERS AND THE ENVIRONMENT*
  Ryan, C. A., Billington, S. L., Criddle, C. S.
  2018; 26 (4): 1715–26
- **Biodegradation of polystyrene wastes in yellow mealworms (larvae of Tenebrio molitor Linnaeus): Factors affecting biodegradation rates and the ability of polystyrene-fed larvae to complete their life cycle** *CHEMOSPHERE*
  Yang, S., Brandon, A., Flanagan, J., Yang, J., Ning, D., Cai, S., Fan, H., Wang, Z., Ren, J., Benbow, E., Ren, N., Waymouth, R. M., Zhou, et al
  2018; 191: 979–89
- **Expanding the range of polyhydroxyalkanoates synthesized by methanotrophic bacteria through the utilization of omega-hydroxyalkanoate co-substrates.** *AMB Express*
  Myung, J., Flanagan, J. C., Waymouth, R. M., Criddle, C. S.
  2017; 7 (1): 118-?
- **Addressing the Issue of Microplastics in the Wake of the Microbead-Free Waters Act-A New Standard Can Facilitate Improved Policy** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  McDevitt, J. P., Criddle, C. S., Morse, M., Hale, R. C., Bott, C. B., Rochman, C. M.
  2017; 51 (12): 6611–17
- **Assessment of models for anaerobic biodegradation of a model bioplastic: Poly(hydroxybutyrate-co-hydroxyvalerate).** *Bioresource technology*
  Ryan, C. A., Billington, S. L., Criddle, C. S.
  2017; 227: 205-213
- **Microplastics pollution and reduction strategies** *FRONTIERS OF ENVIRONMENTAL SCIENCE & ENGINEERING*
  Wu, W., Yang, J., Criddle, C. S.
  2017; 11 (1)
- **An integrated planning tool for design of recycled water distribution networks** *ENVIRONMENTAL MODELLING & SOFTWARE*
  Lee, E. J., Freyberg, D. L., Criddle, C. S.
  2016; 84: 311-325
- **Poly(hydroxyalkanoate)s from Waste Biomass: A Combined Chemical-Biological Approach** *CHEMISTRYSELECT*
  Flanagan, J. C., Myung, J., Criddle, C. S., Waymouth, R. M.
  2016; 1 (10): 2327-2331
- **Low energy emulsion-based fermentation enabling accelerated methane mass transfer and growth of poly(3-hydroxybutyrate)-accumulating methanotrophs.** *Bioresource technology*
  Myung, J., Kim, M., Pan, M., Criddle, C. S., Tang, S. K.
  2016; 207: 302-307

- **Methane or methanol-oxidation dependent synthesis of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) by obligate type II methanotrophs** *PROCESS BIOCHEMISTRY*
  Myung, J., Flanagan, J. C., Waymouth, R. M., Criddle, C. S.
  2016; 51 (5): 561-567

- **Long-term cultivation of a stable Methylocystis-dominated methanotrophic enrichment enabling tailored production of poly(3-hydroxybutyrate-co-3-hydroxyvalerate)** *BIORESOURCE TECHNOLOGY*
  Myung, J., Galega, W. M., Van Nostrand, J. D., Yuan, T., Zhou, J., Criddle, C. S.
  2015; 198: 811-818

- **Long-term cultivation of a stable Methylocystis-dominated methanotrophic enrichment enabling tailored production of poly(3-hydroxybutyrate-co-3-hydroxyvalerate).** *Bioresource technology*
  Myung, J., Galega, W. M., Van Nostrand, J. D., Yuan, T., Zhou, J., Criddle, C. S.
  2015; 198: 811-8

- **Production of Nitrous Oxide from Nitrite in Stable Type II Methanotrophic Enrichments.** *Environmental science & technology*
  Myung, J., Wang, Z., Yuan, T., Zhang, P., Van Nostrand, J. D., Zhou, J., Criddle, C. S.
  2015; 49 (18): 10969-10975

- **Optimization of Methanotrophic Growth and Production of Poly(3-Hydroxybutyrate) in a High-Throughput Microbioreactor System** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Sundstrom, E. R., Criddle, C. S.
  2015; 81 (14): 4767-4773

- **Use of low cost and easily regenerated Prussian Blue cathodes for efficient electrical energy recovery in a microbial battery** *ENERGY & ENVIRONMENTAL SCIENCE*
  Xie, X., Ye, M., Liu, C., Hsu, P., Criddle, C. S., Cui, Y.
  2015; 8 (2): 546-551

- **Design and fabrication of bioelectrodes for microbial bioelectrochemical systems** *ENERGY & ENVIRONMENTAL SCIENCE*
  Xie, X., Criddle, C., Cui, Y.
  2015; 8 (12): 3418-3441

- **Enhancing the nanomaterial bio-interface by addition of mesoscale secondary features: crinkling of carbon nanotube films to create subcellular ridges.** *ACS nano*
  Xie, X., Zhao, W., Lee, H. R., Liu, C., Ye, M., Xie, W., Cui, B., Criddle, C. S., Cui, Y.
  2014; 8 (12): 11958-11965

- **Disassembly and reassembly of polyhydroxyalkanoates: recycling through abiotic depolymerization and biotic repolymerization.** *Bioresource technology*
  Myung, J., Strong, N. I., Galega, W. M., Sundstrom, E. R., Flanagan, J. C., Woo, S., Waymouth, R. M., Criddle, C. S.
  2014; 170: 167-174

- **Recovery of freshwater from wastewater: upgrading process configurations to maximize energy recovery and minimize residuals.** *Environmental science & technology*
  Scherson, Y. D., Criddle, C. S.
  2014; 48 (15): 8420-8432

- **Performance of a mixing entropy battery alternately flushed with wastewater effluent and seawater for recovery of salinity-gradient energy** *ENERGY & ENVIRONMENTAL SCIENCE*
  Ye, M., Pasta, M., Xie, X., Cui, Y., Criddle, C. S.
  2014; 7 (7): 2295-2300

- **Production of Nitrous Oxide From Anaerobic Digester Centrate and Its Use as a Co-oxidant of Biogas to Enhance Energy Recovery.** *Environmental science & technology*
  Scherson, Y. D., Woo, S., Criddle, C. S.
  2014; 48 (10): 5612-5619

- **Microbial biogeography across a full-scale wastewater treatment plant transect: evidence for immigration between coupled processes** *APPLIED MICROBIOLOGY AND BIOTECHNOLOGY*
  Wells, G. F., Wu, C. H., Piceno, Y. M., Eggleston, B., Brodie, E. L., DeSantis, T. Z., Andersen, G. L., Hazen, T. C., Francis, C. A., Criddle, C. S.
  2014; 98 (10): 4723-4736

- **Recovery of Freshwater from Wastewater: Upgrading Process Configurations to Maximize Energy Recovery and Minimize Residuals** *Environmental Science and Technology*
  Yaniv, S. D., Craig, C. S.
  2014

- **Surge block method for controlling well clogging and sampling sediment during bioremediation.** *Water research*
  Wu, W., Watson, D. B., Luo, J., Carley, J., Mehlhorn, T., Kitanidis, P. K., Jardine, P. M., Criddle, C. S.
  2013; 47 (17): 6566-6573

- **Microbial battery for efficient energy recovery** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Xie, X., Ye, M., Hsu, P., Liu, N., Criddle, C. S., Cui, Y.
  2013; 110 (40): 15925-15930

- **Assessing the scale of resource recovery for centralized and satellite wastewater treatment.** *Environmental science & technology*
  Lee, E. J., Criddle, C. S., Bobel, P., Freyberg, D. L.
  2013; 47 (19): 10762-10770

- **Use of on-site bioreactors to estimate the biotransformation rate of N-ethyl perfluorooctane sulfonamidoethanol (N-EtFOSE) during activated sludge treatment.** *Chemosphere*
  Rhoads, K. R., Rostkowski, K. H., Kitanidis, P. K., Criddle, C. S.
  2013; 92 (6): 702-707

- **In Situ Bioremediation of Uranium with Emulsified Vegetable Oil as the Electron Donor** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Watson, D. B., Wu, W., Mehlhorn, T., Tang, G., Earles, J., Lowe, K., Gihring, T. M., Zhang, G., Phillips, J., Boyanov, M. I., Spalding, B. P., Schadt, C., Kemner, et al
  2013; 47 (12): 6440-6448

- **Stoichiometry and kinetics of the PHB-producing Type II methanotrophs Methylosinus trichosporium OB3b and Methylocystis parvus OBBP** *BIORESOURCE TECHNOLOGY*
  Rostkowski, K. H., Pfluger, A. R., Criddle, C. S.
  2013; 132: 71-77

- **Nitrogen removal with energy recovery through N2O decomposition** *ENERGY & ENVIRONMENTAL SCIENCE*
  Scherson, Y. D., Wells, G. F., Woo, S., Lee, J., Park, J., Cantwell, B. J., Criddle, C. S.
  2013; 6 (1): 241-248

- **Bioaugmentation with Pseudomonas stutzeri KC for Remediation of Carbon Tetrachloride.** *Bioaugmentation for Remediation.*
  Criddle, C., S., Dybas, M., J., Tatara, G., M., Warnick, L., B., Vidal-Gavilan, G., Robertson, A., P.
  edited by Stroo, H., F., Leeson, A., Ward, C., H.
  Springer Science + Business Media, New York.2013: 257–285

- **Chemical and biological processes: the need for mixing.** *Delivery and Mixing in the Subsurface: Process and Design Principles for In Situ Remediation.*
  McCarty, P., L., Criddle, C., S.
  edited by Kitanidis, P., K., McCarty, P., L., Ward, C., Herb
  Springer Science + Business Media, New York.2013: 7–52

- **A microbial battery for efficient energy recovery** *Proc. National Acad. Science*
  Xie, X., Ye, M., Hsu, P. -., Liu, N., Criddle, C. S., Cui, Y.
  2013

- **Magnetically ultraresponsive nanoscavengers for next-generation water purification systems.** *Nature communications*
  Zhang, M., Xie, X., Tang, M., Criddle, C. S., Cui, Y., Wang, S. X.
  2013; 4: 1866-?

- **Adaptation of nitrifying microbial biomass to nickel in batch incubations** *APPLIED MICROBIOLOGY AND BIOTECHNOLOGY*
  Yeung, C., Francis, C. A., Criddle, C. S.
  2013; 97 (2): 847-857

- **Cradle-to-Gate Life Cycle Assessment for a Cradle-to-Cradle Cycle: Biogas-to-Bioplastic (and Back)** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Rostkowski, K. H., Criddle, C. S., Lepech, M. D.

2012; 46 (18): 9822-9829

- **Graphene-sponges as high-performance low-cost anodes for microbial fuel cells** *ENERGY & ENVIRONMENTAL SCIENCE*
  Xie, X., Yu, G., Liu, N., Bao, Z., Criddle, C. S., Cui, Y.
  2012; 5 (5): 6862-6866
- **Carbon nanotube-coated macroporous sponge for microbial fuel cell electrodes** *ENERGY & ENVIRONMENTAL SCIENCE*
  Xie, X., Ye, M., Hu, L., Liu, N., McDonough, J. R., Chen, W., Alshareef, H. N., Criddle, C. S., Cui, Y.
  2012; 5 (1): 5265-5270
- **Carbon nanotube-coated sponge electrodes for microbial fuel cell applications.** *Energy and Environment*
  Xing, X., Ye, M., Hu, L., McDonough, J., R., Criddle, C., S., Cui.
  2012; 5: 5265-5270
- **Carbon graphene-sponges as high-performance low-cost anodes for microbial fuel cells.** *Energy and Environment*
  Xing, X., Yu, G., Liu, N., Bao, Z., Criddle, C., S., Cui, Y.
  2012; 5: 6862-6866
- **Selection of Type I and Type II methanotrophic proteobacteria in a fluidized bed reactor under non-sterile conditions** *BIORESOURCE TECHNOLOGY*
  Pfluger, A. R., Wu, W., Pieja, A. J., Wan, J., Rostkowski, K. H., Criddle, C. S.
  2011; 102 (21): 9919-9926
- **Fine-scale bacterial community dynamics and the taxa-time relationship within a full-scale activated sludge bioreactor** *WATER RESEARCH*
  Wells, G. F., Park, H., Eggleston, B., Francis, C. A., Criddle, C. S.
  2011; 45 (17): 5476-5488
- **Distribution and Selection of Poly-3-Hydroxybutyrate Production Capacity in Methanotrophic Proteobacteria** *MICROBIAL ECOLOGY*
  Pieja, A. J., Rostkowski, K. H., Criddle, C. S.
  2011; 62 (3): 564-573
- **A Limited Microbial Consortium Is Responsible for Extended Bioreduction of Uranium in a Contaminated Aquifer** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Gihring, T. M., Zhang, G., Brandt, C. C., Brooks, S. C., Campbell, J. H., Carroll, S., Criddle, C. S., Green, S. J., Jardine, P., Kostka, J. E., Lowe, K., Mehlhorn, T. L., Overholt, et al
  2011; 77 (17): 5955-5965
- **Poly-3-Hydroxybutyrate Metabolism in the Type II Methanotroph Methylocystis parvus OBBP** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Pieja, A. J., Sundstrom, E. R., Criddle, C. S.
  2011; 77 (17): 6012-6019
- **Dynamics of Microbial Community Composition and Function during In Situ Bioremediation of a Uranium-Contaminated Aquifer (vol 77, pg 3860, 2011)** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Van Nostrand, J. D., Wu, L., Wu, W., Huang, Z., Gentry, T. J., Deng, Y., Carley, J., Carroll, S., He, Z., Gu, B., Luo, J., Criddle, C. S., Watson, et al
  2011; 77 (14): 5063-5063
- **Reduction of Uranium(VI) by Soluble Iron(II) Conforms with Thermodynamic Predictions** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Du, X., Boonchayaanant, B., Wu, W., Fendorf, S., Bargar, J., Criddle, C. S.
  2011; 45 (11): 4718-4725
- **Dynamics of Microbial Community Composition and Function during In Situ Bioremediation of a Uranium-Contaminated Aquifer** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Van Nostrand, J. D., Wu, L., Wu, W., Huang, Z., Gentry, T. J., Deng, Y., Carley, J., Carroll, S., He, Z., Gu, B., Luo, J., Criddle, C. S., Watson, et al
  2011; 77 (11): 3860-3869
- **Nano-structured textiles as high-performance aqueous cathodes for microbial fuel cells** *ENERGY & ENVIRONMENTAL SCIENCE*
  Xie, X., Pasta, M., Hu, L., Yang, Y., McDonough, J., Cha, J., Criddle, C. S., Cui, Y.
  2011; 4 (4): 1293-1297
- **Anaerobic biodegradation of the microbial copolymer poly(3-hydroxybutyrate-co-3-hydroxyhexanoate): Effects of comonomer content, processing history, and semi-crystalline morphology** *POLYMER*
  Morse, M., Liao, Q., Criddle, C. S., Frank, C. W.

2011; 52 (2): 547-556

- **Three-Dimensional Carbon Nanotube-Textile Anode for High-Performance Microbial Fuel Cells** *NANO LETTERS*
  Xie, X., Hu, L., Pasta, M., Wells, G. F., Kong, D., Criddle, C. S., Cui, Y.
  2011; 11 (1): 291-296

- **Taxa-time in a full-scale activated sludge bioreactor.** *Water Research*
  Wells, G., F., Park, H. -D., Eggleston, B., Francis, C., A.
  2011; 45: 5476-5488

- **Engineered biomaterials for construction: A cradle-to-cradle design methodology for green material development.** *The International J. of Environmental, Cultural, Economic and Social Sustainability*
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