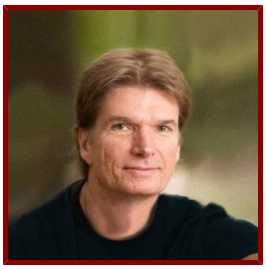
Stanford



Alfred M. Spormann

Professor of Civil and Environmental Engineering and of Chemical Engineering, Emeritus

CONTACT INFORMATION

- **Administrator**

  Timothy Tsung - Administrative Associate

  Email ttsung2@stanford.edu

  Tel 650-721-8703

Bio

BIO

In our research we investigate molecular microbial metabolism and its linkage to ecological and evolutionary processes. We explore the distinguishing features of novel microbial metabolism and how molecular and biochemical differences in metabolism shape microbial fitness. We study novel microbial metabolism with relevance to bioremediation, bioenergy, and intestinal microbiology.

1) Microbial Electrosynthesis and Electron Transport between Microbes and Surfaces

Some microbes have the the capacity to either derive metabolic electrons from redox-active mineral surfaces or transfer such electrons to these surfaces. These processes are of great relevance to geochemical, environmental, but also bioenergy processes. We are investigating the molecular bases of such novel electron transfer to uncover the enzymes and pathways for electron uptake. More recently, we began to explore microbial electrosynthesis as a novel means to produce CO2-neutral biofuels and commodity chemicals.

2) Microbial Reductive Dehalogenation

Chloroethenes, such as PCE and TCE, are the most prevalent groundwater contaminants in the U.S. and the developed countries. Large scale remediation of contaminated aquifers relies largely on the activity of a group of unusual microbes (Dehalococcoides) that derive energy from reductive dehalogenation. We study reductive dehalogenases and the strictly anaerobic bacteria, such as Dehalococcoides mccartyj and Shewanella, on a biochemical, physiological, genomic, and population level to better understand the unprecedented biochemistry of the coenzyme B 12-containing reductive dehalogenases. We also use this information to improve chlorethene bioremediation. Population-level studies in our lab have been revealing speciation and niche adaptation in Dehalococcoides mccartyj. in response to subtle changes in physical-chemical environments.

3) Biofilms and the emergence of antibiotic tolerance and antibiotic resistance

For the last decade, we have been investigating the mechanism of biofilm formation in medically important microorganisms, including Vibrio chloreae, Pseudomonas aeruginosa, Francisella tularensis, and Shewanella oneidensis. We discovered that the stability of biofilms requires cellular energy, and that extracellular matrix material may have a supportive role. In more recent studies, we developed the first system to examine the pharmacokinetics and pharmacodynamics of Pseudomonas aeruginosa biofilms. We investigate the effect of human simulated concentrations of meropenem and tobramycin, administered singly, and in combination, on biofilms of P. aeruginosa PAO1 and clinical isolates from patients with CF, as well as the effect of human simulated concentrations of meropenem and tobramycin, administered singly, and in combination, on biofilms of P. aeruginosa PAO1 and clinical CF isolates.

4) Microbial Metabolic Processes in the Large Intestine

Irritable Bowel Syndrome (IBS) is a chronic, episodic gastrointestinal disorder that is characterized by abdominal pain and altered bowel habits. IBS prevalence is estimated to be 10-15% in Western countries comprising 25 to 50 percent of all referrals to gastroenterologists. The gastrointestinal tract harbors a complex and diverse microbial community, which plays important roles in host nutrition, immune function, health and disease, and it is hypothesized the IBS disease phenotype is associated with a change in colonic microbiota and/or host factors such as mucosal function and immunity. With our physician collaborator, we study the metabolic processes in the intestinal microbial community, and how cellular metabolism is controlled by the host mucosa.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Civil and Environmental Engineering
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Affiliate, Precourt Institute for Energy

HONORS AND AWARDS

- Elected Fellow, American Academy of Microbiology (2013)
- Otto Moensted Visiting Professor, Danish Technical University, Lyngby, DK (2003)
- Research Award, Charles Lee Powell Foundation (2000)
- CAREER Award, National Science Foundation (1998)
- Visiting Professor, Department of Biochemistry and Biological Process Institute, University of Minnesota (1997)
- Terman Fellowship Award, Stanford University (1995)
- Postdoctoral Fellowship, Deutsche Forschungsgemeinschaft (1990)
- Planetary Biology Internship Fellowship, NASA Life Sciences (Marine Biological Laboratory) (1986)

PROFESSIONAL EDUCATION

- Dr. rer. nat., Philipps-University, Marburg (1989)

LINKS

- Alfred M. Spormann Lab: https://web.stanford.edu/group/spormanngroup/cgi-bin/wordpress/

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Metabolism of anaerobic microbes in diseases, bioenergy, and bioremediation

Teaching

COURSES

2024-25

- Environmental Microbiology I: BIO 273A, CEE 274A, CHEMENG 174, CHEMENG 274 (Win)

2023-24

- Microbial Bioenergy Systems: CEE 274B, CHEMENG 456 (Spr)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Jenna Ahn, Kent Kotaka, Irene Martinez, Sean Waterton, Vivian Zhong

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Biology (School of Humanities and Sciences) (PhD Program)

Publications

PUBLICATIONS

- **Non-canonical resource allocation in heterotrophically growing Thermoanaerobacter kivui.** *Nature communications*
  Mueller, F. M., Müller, A. L., Gu, W., Abdollah-Nia, F., Sun, J., Ahn, J. K., Huang, K. C., Williamson, J. R., Spormann, A. M.
  2025; 16 (1): 8489

- **Effects of CO2and H2limitations onMethanococcus maripaludis.** *Microbiology spectrum*
  Xue, J., Deutzmann, J. S., Matis, N., Kracke, F., Spormann, A., Gu, W.
  2025: e0035925

- **Dos and don'ts for scaling up gas fermentations.** *Current opinion in biotechnology*
  Puiman, L., Bokelmann, C., Simpson, S. D., Spormann, A. M., Takors, R.
  2025; 93: 103294

- **Improved reactor design enables productivity of microbial electrosynthesis on par with classical biotechnology.** *Bioresource technology*
  Deutzmann, J. S., Callander, G., Spormann, A. M.
  2024: 131733

- **Alkaline hydrogenotrophic methanogenesis in Methanococcus vannielii at low carbon dioxide concentrations** *JOURNAL OF CO2 UTILIZATION*
  Callander, G., Deutzmann, J. S., Spormann, A. M.
  2024; 83

- **High acetate titer obtained from CO₂ by thermophilic microbial electrosynthesis with Thermoanaerobacter kivui** *BIORESOURCE TECHNOLOGY REPORTS*
  Deutzmann, J., Spormann, A.
  2024; 25

- **Metabolic diversity in commensal protists regulates intestinal immunity and trans-kingdom competition.** *Cell*
  Gerrick, E. R., Zlitni, S., West, P. T., Carter, M. M., Mechler, C. M., Olm, M. R., Caffrey, E. B., Li, J. A., Higginbottom, S. K., Severyn, C. J., Kracke, F., Spormann, A. M., Sonnenburg, et al
  2023

- **Microbial electromethanogenesis powered by curtailed renewable electricity** *CELL REPORTS PHYSICAL SCIENCE*
  Deutzmann, J., Kracke, F., Spormann, A.
  2023; 4 (8)

- **Double emulsions as a high-throughput enrichment and isolation platform for slower-growing microbes.** *ISME communications*

McCully, A. L., Loop Yao, M., Brower, K. K., Fordyce, P. M., Spormann, A. M.
2023; 3 (1): 47

- **Electrochemistry-Based CO2 Removal Technologies.** *ChemSusChem*
  Biel-Nielsen, T. L., Hatton, T. A., Villadsen, S. N., Jakobsen, J. S., Bonde, J. L., Spormann, A. M., Fosbol, P. L.
  2023: e202202345
- **Microbial Electrosynthesis of Acetate Powered by Intermittent Electricity.** *Environmental science & technology*
  Deutzmann, J. S., Kracke, F., Gu, W., Spormann, A. M.
  2022
- **Bacterial exometabolites influence Chlamydomonas cell cycle and double algal productivity.** *FEMS microbiology ecology*
  Windler, M., Stuart, R., Deutzmann, J. S., Mayali, X., Navid, A., D'haeseleer, P., Marcu, O. E., Lipton, M., Nicora, C., Spormann, A. M.
  2022
- **Growth rate-dependent coordination of catabolism and anabolism in the archaeon Methanococcus maripaludis under phosphate limitation.** *The ISME journal*
  Gu, W., Muller, A. L., Deutzmann, J. S., Williamson, J. R., Spormann, A. M.
  2022
- **Developing reactors for electrifying bio-methanation: a perspective from bio-electrochemistry** *SUSTAINABLE ENERGY & FUELS*
  Jayathilake, B. S., Chandrasekaran, S., Freyman, M. C., Deutzmann, J. S., Kracke, F., Spormann, A. M., Huang, Z., Tao, L., Pang, S. H., Baker, S. E.
  2022
- **Designing a Zn-Ag Catalyst Matrix and Electrolyzer System for CO2 Conversion to CO and Beyond.** *Advanced materials (Deerfield Beach, Fla.)*
  Lamaison, S., Wakerley, D., Kracke, F., Moore, T., Zhou, L., Lee, D. U., Wang, L., Hubert, M. A., Aviles Acosta, J. E., Gregoire, J. M., Duoss, E. B., Baker, S., Beck, et al
  2021: e2103963
- **Enzymatic Hydrogen Electrosynthesis at Enhanced Current Density Using a Redox Polymer** *CATALYSTS*
  Ruth, J. C., Schwarz, F. M., Mueller, V., Spormann, A. M.
  2021; 11 (10)
- **In situ electrochemical H-2 production for efficient and stable power-to-gas electromethanogenesis (vol 22, pg 6194, 2020)** *GREEN CHEMISTRY*
  Kracke, F., Deutzmann, J. S., Gu, W., Spormann, A. M.
  2021
- **Enzyme Electrochemistry for Industrial Energy Applications-A Perspective on Future Areas of Focus** *ACS CATALYSIS*
  Ruth, J. C., Spormann, A. M.
  2021; 11 (10): 5951-5967
- **An alternative resource allocation strategy in the chemolithoautotrophic archaeon Methanococcus maripaludis.** *Proceedings of the National Academy of Sciences of the United States of America*
  Muller, A. L., Gu, W., Patsalo, V., Deutzmann, J. S., Williamson, J. R., Spormann, A. M.
  2021; 118 (16)
- **Efficient Hydrogen Delivery for Microbial Electrosynthesis via 3D-Printed Cathodes.** *Frontiers in microbiology*
  Kracke, F., Deutzmann, J. S., Jayathilake, B. S., Pang, S. H., Chandrasekaran, S., Baker, S. E., Spormann, A. M.
  2021; 12: 696473
- **High-throughput low-cost nl-qPCR for enteropathogen detection: A proof-of-concept among hospitalized patients in Bangladesh.** *PloS one*
  Flaherty, K. E., Grembi, J. A., Ramachandran, V. V., Haque, F., Khatun, S., Rahman, M., Maples, S., Becker, T. K., Spormann, A. M., Schoolnik, G. K., Hryckowian, A. J., Nelson, E. J.
  2021; 16 (10): e0257708
- **Low-Cost Clamp-On Photometers (ClampOD) and Tube Photometers (TubeOD) for Online Cell Density Determination.** *Frontiers in microbiology*
  Deutzmann, J. S., Callander, G., Gu, W., Muller, A. L., McCully, A. L., Ahn, J. K., Kracke, F., Spormann, A. M.
  1800; 12: 790576

- **In situelectrochemical H(2)production for efficient and stable power-to-gas electromethanogenesis** *GREEN CHEMISTRY*
  Kracke, F., Deutzmann, J. S., Gu, W., Spormann, A. M.
  2020; 22 (18): 6194–6203

- **Direct cathodic electron uptake coupled to sulfate reduction by Desulfovibrio ferrophilus IS5 biofilms.** *Environmental microbiology*
  McCully, A. L., Spormann, A. M.
  2020

- **Metabolic strategies of marine subseafloor Chloroflexi inferred from genome reconstructions.** *Environmental microbiology*
  Fincker, M., Huber, J. A., Orphan, V. J., Rappe, M. S., Teske, A., Spormann, A. M.
  2020

- **Cultivating electroactive microbes - from field to bench.** *Nanotechnology*
  Yee, M. O., Deutzmann, J. S., Spormann, A., Rotaru, A.
  2020

- **Enhanced Electrosynthetic Hydrogen Evolution by Hydrogenases Embedded in a Redox-Active Hydrogel.** *Chemistry (Weinheim an der Bergstrasse, Germany)*
  Ruth, J. C., Milton, R. D., Gu, W. n., Spormann, A. M.
  2020

- **High-Throughput Multiparallel Enteropathogen Detection via Nano-Liter qPCR.** *Frontiers in cellular and infection microbiology*
  Grembi, J. A., Mayer-Blackwell, K. n., Luby, S. P., Spormann, A. M.
  2020; 10: 351

- **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

- **Cultivation and functional characterization of 79 planctomycetes uncovers their unique biology.** *Nature microbiology*
  Wiegand, S., Jogler, M., Boedeker, C., Pinto, D., Vollmers, J., Rivas-Marin, E., Kohn, T., Peeters, S. H., Heuer, A., Rast, P., Oberbeckmann, S., Bunk, B., Jeske, et al
  2019

- **Robust and biocompatible catalysts for efficient hydrogen-driven microbial electrosynthesis** *COMMUNICATIONS CHEMISTRY*
  Kracke, F., Wong, A., Maegaard, K., Deutzmann, J. S., Hubert, M. A., Hahn, C., Jaramillo, T. F., Spormann, A. M.
  2019; 2

- **Identification of widespread antibiotic exposure in cholera patients correlates with clinically relevant microbiota changes.** *The Journal of infectious diseases*
  Alexandrova, L. n., Haque, F. n., Rodriguez, P. n., Marrazzo, A. C., Grembi, J. A., Ramachandran, V. n., Hryckowian, A. J., Adams, C. M., Siddique, M. S., Khan, A. I., Qadri, F. n., Andrews, J. R., Rahman, et al
  2019

- **Quasi-2D Pd/Pt nanoclams for CO2 reduction in tandem with microbial communities**
  Wong, A., Kracke, F., Antoniuk-Pablant, A., Hahn, C., Spormann, A., Jaramillo, T.
  AMER CHEMICAL SOC.2018

- **Methanococcus maripaludis Employs Three Functional Heterodisulfide Reductase Complexes for Flavin-Based Electron Bifurcation Using Hydrogen and Formate** *BIOCHEMISTRY*
  Milton, R. D., Ruth, J. C., Deutzmann, J. S., Spormann, A. M.
  2018; 57 (32): 4848-4857

- **Fine-Tuned Protein Production in Methanosarcina acetivorans C2A** *ACS SYNTHETIC BIOLOGY*
  Karim, A. A., Gestaut, D. R., Fincker, M., Ruth, J. C., Holmes, E. C., Sheu, W., Spormann, A. M.
  2018; 7 (8): 1874–85

- **Methanococcus maripaludis Employs Three Functional Heterodisulfide Reductase Complexes for Flavin-Based Electron Bifurcation Using Hydrogen and Formate.** *Biochemistry*
  Milton, R. D., Ruth, J. C., Deutzmann, J. S., Spormann, A. M.

2018

- **Homoacetogenesis in Deep-Sea Chloroflexi, as Inferred by Single-Cell Genomics, Provides a Link to Reductive Dehalogenation in Terrestrial Dehalococcoidetes (vol 8, e02022-17, 2017)** *MBIO*
  Sewell, H. L., Kaster, A., Spormann, A. M.
  2018; 9 (2)
- **Mediator-free enzymatic electrosynthesis of formate by the Methanococcus maripaludis heterodisulfide reductase supercomplex.** *Bioresource technology*
  Lienemann, M. n., Deutzmann, J. S., Milton, R. D., Sahin, M. n., Spormann, A. M.
  2018; 254: 278–83
- **HIGH-THROUGHPUT MULTI-PARALLEL NL-QPCR CHIP FOR THE DETECTION OF 17 ENTERIC PATHOGENS**
  Grembi, J., Mayer-Blackwell, K., Luby, S., Spormann, A.
  AMER SOC TROP MED & HYGIENE.2018: 199–200
- **Determination of Tobramycin in M-9 Medium by LC-MS/MS: Signal Enhancement by Trichloroacetic Acid** *JOURNAL OF ANALYTICAL METHODS IN CHEMISTRY*
  Huang, L., Haagensen, J., Verotta, D., Cheah, V., Spormann, A. M., Aweeka, F., Yang, K.
  2018: 7965124
- **Homoacetogenesis in Deep-Sea Chloroflexi, as Inferred by Single-Cell Genomics, Provides a Link to Reductive Dehalogenation in Terrestrial Dehalococcoidetes** *MBIO*
  Sewell, H. L., Kaster, A., Spormann, A. M.
  2017; 8 (6)
- **Trichloroacetic acid improves MS signal and separation in determination of tobramycin in M9 bacterial medium by LC-MS/MS**
  Huang, L., Haagensen, J., Verotta, D., Cheah, V., Spormann, A., Aweeka, F., Yang, K.
  AMER CHEMICAL SOC.2017
- **Integrated electrochemical-biological systems for the production of fuels and chemicals from CO2**
  Antoniuk-Pablant, A., Kracke, F., Deutzmann, J., Jaramillo, T., Spormann, A.
  AMER CHEMICAL SOC.2017
- **Enhanced microbial electrosynthesis by using defined co-cultures** *ISME JOURNAL*
  Deutzmann, J. S., Spormann, A. M.
  2017; 11 (3): 704-714
- **Survival of Vinyl Chloride Respiring Dehalococcoides mccartyi under Long-Term Electron Donor Limitation** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Mayer-Blackwell, K., Azizian, M. F., Green, J. K., Spormann, A. M., Semprini, L.
  2017; 51 (3): 1635-1642
- **Mathematical Modeling of Biofilm Structures Using COMSTAT Data.** *Computational and mathematical methods in medicine*
  Verotta, D. n., Haagensen, J. n., Spormann, A. M., Yang, K. n.
  2017; 2017: 7246286
- **Biochemistry of Catabolic Reductive Dehalogenation.** *Annual review of biochemistry*
  Fincker, M. n., Spormann, A. M.
  2017; 86: 357–86
- **Spatiotemporal pharmacodynamics of meropenem- and tobramycin-treated Pseudomonas aeruginosa biofilms.** *The Journal of antimicrobial chemotherapy*
  Haagensen, J. n., Verotta, D. n., Huang, L. n., Engel, J. n., Spormann, A. M., Yang, K. n.
  2017; 72 (12): 3357–65
- **Homoacetogenesis in Deep-SeaChloroflexi, as Inferred by Single-Cell Genomics, Provides a Link to Reductive Dehalogenation in TerrestrialDehalococcoidetes.** *mBio*
  Sewell, H. L., Kaster, A. K., Spormann, A. M.
  2017; 8 (6)

- **1,2-Dichloroethane Exposure Alters the Population Structure, Metabolism, and Kinetics of a Trichloroethene-Dechlorinating Dehalococcoides mccartyi Consortium.** *Environmental science & technology*
  Mayer-Blackwell, K., Fincker, M., Molenda, O., Callahan, B., Sewell, H., Holmes, S., Edwards, E. A., Spormann, A. M.
  2016: -?

- **Enhanced microbial electrosynthesis by using defined co-cultures.** *ISME journal*
  Deutzmann, J. S., Spormann, A. M.
  2016

- **Effect of biofilm coatings at metal-oxide/water interfaces II: Competitive sorption between Pb(II) and Zn(II) at Shewanella oneidensis/metal-oxide/water interfaces** *GEOCHIMICA ET COSMOCHIMICA ACTA*
  Wang, Y., Gelabert, A., Michel, F. M., Choi, Y., Eng, P. J., Spormann, A. M., Brown, G. E.
  2016; 188: 393-406

- **Pf4 bacteriophage produced by Pseudomonas aeruginosa inhibits Aspergillus fumigatus metabolism via iron sequestration** *MICROBIOLOGY-SGM*
  Penner, J. C., Ferreira, J. A., Secor, P. R., Sweere, J. M., Birukova, M. K., Joubert, L., Haagensen, J. A., Garcia, O., Malkovskiy, A. V., Kaber, G., Nazik, H., Manasherob, R., Spormann, et al
  2016; 162 (9): 1583-1594

- **Effect of biofilm coatings at metal-oxide/water interfaces I: Pb(II) and Zn(II) partitioning and speciation at Shewanella oneidensis/metal-oxide/water interfaces** *GEOCHIMICA ET COSMOCHIMICA ACTA*
  Wang, Y., Gelabert, A., Michel, F. M., Choi, Y., Gescher, J., Ona-Nguema, G., Eng, P. J., Bargar, J. R., Farges, F., Spormann, A. M., Brown, G. E.
  2016; 188: 368-392

- **Metal ion sorption at mineral/aqueous solution interfaces: Effects of complex coatings and particle/pore sizes**
  Brown, G., Wang, Y., Cismasu, C., Eng, P., Spormann, A., Wang, Y., Dublet, G., Jew, A., Jung, J., Wilcox, J., Bargar, J.
  AMER CHEMICAL SOC.2016

- **Effects of Iron Chelators on the Formation and Development of Aspergillus fumigatus Biofilm** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Nazik, H., Penner, J. C., Ferreira, J. A., Haagensen, J. A., Cohen, K., Spormann, A. M., Martinez, M., Chen, V., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (10): 6514-6520

- **Effects of Iron Chelators on the Formation and Development of Aspergillus fumigatus Biofilm (vol 59, pg 6514, 2015)** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Nazik, H., Penner, J. C., Ferreira, J. A., Haagensen, J. A. J., Cohen, K., Spormann, A. M., Martinez, M., Chen, V., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (10): 7160

- **Effects of Iron Chelators on the Formation and Development of Aspergillus fumigatus Biofilm.** *Antimicrobial agents and chemotherapy*
  Nazik, H., Penner, J. C., Ferreira, J. A., Haagensen, J. A., Cohen, K., Spormann, A. M., Martinez, M., Chen, V., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (10): 6514-20

- **Inhibition of Aspergillus fumigatus and Its Biofilm by Pseudomonas aeruginosa Is Dependent on the Source, Phenotype and Growth Conditions of the Bacterium** *PLOS ONE*
  Ferreira, J. A., Penner, J. C., Moss, R. B., Haagensen, J. A., Clemons, K. V., Spormann, A. M., Nazik, H., Cohen, K., Banaei, N., Carolino, E., Stevens, D. A.
  2015; 10 (8)

- **New In Vitro Model To Study the Effect of Human Simulated Antibiotic Concentrations on Bacterial Biofilms.** *Antimicrobial agents and chemotherapy*
  Haagensen, J. A., Verotta, D., Huang, L., Spormann, A., Yang, K.
  2015; 59 (7): 4074-4081

- **Methanobacterium Dominates Biocathodic Archaeal Communities in Methanogenic Microbial Electrolysis Cells** *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*
  Siegert, M., Yates, M. D., Spormann, A. M., Logan, B. E.
  2015; 3 (7): 1668-1676

- **Biochemical and EPR-Spectroscopic Investigation into Heterologously Expressed Vinyl Chloride Reductive Dehalogenase (VcrA) from Dehalococcoides mccartyi Strain VS** *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY*
  Parthasarathy, A., Stich, T. A., Lohner, S. T., Lesnefsky, A., Britt, R. D., Spormann, A. M.
  2015; 137 (10): 3525-3532

- **Extracellular Enzymes Facilitate Electron Uptake in Biocorrosion and Bioelectrosynthesis** *MBIO*
  Deutzmann, J. S., Sahin, M., Spormann, A. M.
  2015; 6 (2)

- **Revisiting N2 fixation in Guerrero Negro intertidal microbial mats with a functional single-cell approach.** *ISME journal*
  Woebken, D., Burow, L. C., Behnam, F., Mayali, X., Schintlmeister, A., Fleming, E. D., Prufert-Bebout, L., Singer, S. W., Cortés, A. L., Hoehler, T. M., Pett-Ridge, J., Spormann, A. M., Wagner, et al
  2015; 9 (2): 485-496

- **Erratum for Nazik et al., effects of iron chelators on the formation and development of Aspergillus fumigatus biofilm.** *Antimicrobial agents and chemotherapy*
  Nazik, H. n., Penner, J. C., Ferreira, J. A., Haagensen, J. A., Cohen, K. n., Spormann, A. M., Martinez, M. n., Chen, V. n., Hsu, J. L., Clemons, K. V., Stevens, D. A.
  2015; 59 (11): 7160

- **Bacteria from Diverse Habitats Colonize and Compete in the Mouse Gut** *CELL*
  Seedorf, H., Griffin, N. W., Ridaura, V. K., Reyes, A., Cheng, J., Rey, F. E., Smith, M. I., Simon, G. M., Scheffrahn, R. H., Woebken, D., Spormann, A. M., Van Treuren, W., Ursell, et al
  2014; 159 (2): 253-266

- **Bacteria from diverse habitats colonize and compete in the mouse gut.** *Cell*
  Seedorf, H., Griffin, N. W., Ridaura, V. K., Reyes, A., Cheng, J., Rey, F. E., Smith, M. I., Simon, G. M., Scheffrahn, R. H., Woebken, D., Spormann, A. M., Van Treuren, W., Ursell, et al
  2014; 159 (2): 253-66

- **Single cell genomic study of Dehalococcoidetes species from deep-sea sediments of the Peruvian Margin.** *ISME journal*
  Kaster, A., Mayer-Blackwell, K., Pasarelli, B., Spormann, A. M.
  2014; 8 (9): 1831-1842

- **Nanoliter qPCR Platform for Highly Parallel, Quantitative Assessment of Reductive Dehalogenase Genes and Populations of Dehalogenating Microorganisms in Complex Environments.** *Environmental science & technology*
  Mayer-Blackwell, K., Azizian, M. F., Machak, C., Vitale, E., Carpani, G., de Ferra, F., Semprini, L., Spormann, A. M.
  2014; 48 (16): 9659-9667

- **Hydrogenase-independent uptake and metabolism of electrons by the archaeon Methanococcus maripaludis.** *ISME journal*
  Lohner, S. T., Deutzmann, J. S., Logan, B. E., Leigh, J., Spormann, A. M.
  2014; 8 (8): 1673-1681

- **Influence of setup and carbon source on the bacterial community of biocathodes in microbial electrolysis cells** *ENZYME AND MICROBIAL TECHNOLOGY*
  Croese, E., Jeremiasse, A. W., Marshall, I. P., Spormann, A. M., Euveritik, G. W., Geelhoed, J. S., Stams, A. J., Plugge, C. M.
  2014; 61-62: 67-75

- **Influence of setup and carbon source on the bacterial community of biocathodes in microbial electrolysis cells.** *Enzyme and microbial technology*
  Croese, E., Jeremiasse, A. W., Marshall, I. P., Spormann, A. M., Euverink, G. W., Geelhoed, J. S., Stams, A. J., Plugge, C. M.
  2014; 61-62: 67-75

- **Identification of Desulfobacterales as primary hydrogenotrophs in a complex microbial mat community** *GEOBIOLOGY*
  Burow, L. C., Woebken, D., Marshall, I. P., Singer, S. W., Pett-Ridge, J., Prufert-Bebout, L., Spormann, A. M., Bebout, B. M., Weber, P. K., Hoehler, T. M.
  2014; 12 (3): 221-230

- **Comparison of Nonprecious Metal Cathode Materials for Methane Production by Electromethanogenesis.** *ACS sustainable chemistry & engineering*
  Siegert, M., Yates, M. D., Call, D. F., Zhu, X., Spormann, A., Logan, B. E.

2014; 2 (4): 910-917

- **Comparison of Nonprecious Metal Cathode Materials for Methane Production by Electromethanogenesis** *ACS SUSTAINABLE CHEMISTRY & ENGINEERING*
  Siegert, M., Yates, M. D., Call, D. F., Zhu, X., Spormann, A., Logan, B. E.
  2014; 2 (4): 910-917
- **Inferring community dynamics of organohalide-respiring bacteria in chemostats by covariance of rdhA gene abundance** *FEMS MICROBIOLOGY ECOLOGY*
  Marshall, I. P., Azizian, M. F., Semprini, L., Spormann, A. M.
  2014; 87 (2): 428-440
- **Inferring community dynamics of organohalide-respiring bacteria in chemostats by covariance of rdhA gene abundance.** *FEMS microbiology ecology*
  Marshall, I. P., Azizian, M. F., Semprini, L., Spormann, A. M.
  2014; 87 (2): 428-440
- **Single Cell Genomic study of Dehalococcoidetes species from Deep-sea Sediments of the Peruvian Margin** *ISME Journal*
  Kasters, A. K., Mayer-Blackwell, K., Pasarelli, B., Spormann, A. M.
  2014
- **Microbially enhanced dissolution of HgS in an acid mine drainage system in the California Coast Range** *GEOBIOLOGY*
  Jew, A. D., Behrens, S. F., Rytuba, J. J., Kappler, A., Spormann, A. M., Brown, G. E.
  2014; 12 (1): 20-33
- **Fermentation couples Chloroflexi and sulfate-reducing bacteria to Cyanobacteria in hypersaline microbial mats.** *Frontiers in microbiology*
  Lee, J. Z., Burow, L. C., Woebken, D., Everroad, R. C., Kubo, M. D., Spormann, A. M., Weber, P. K., Pett-Ridge, J., Bebout, B. M., Hoehler, T. M.
  2014; 5: 61-?
- **Microbially enhanced dissolution of HgS in an acid mine drainage system in the California Coast Range.** *Geobiology*
  Jew, A. D., Behrens, S. F., Rytuba, J. J., Kappler, A., Spormann, A. M., BROWN, G. E.
  2014; 12 (1): 20-33
- **A metabolomic view of how the human gut microbiota impacts the host metabolome using humanized and gnotobiotic mice.** *ISME journal*
  Marcobal, A., Kashyap, P. C., Nelson, T. A., Aronov, P. A., Donia, M. S., Spormann, A., Fischbach, M. A., Sonnenburg, J. L.
  2013; 7 (10): 1933-1943
- **PdeB, a Cyclic Di-GMP-Specific Phosphodiesterase That Regulates Shewanella oneidensis MR-1 Motility and Biofilm Formation** *JOURNAL OF BACTERIOLOGY*
  Chao, L., Rakshe, S., Leff, M., Spormann, A. M.
  2013; 195 (17): 3827-3833
- **The mxd operon in Shewanella oneidensis MR-1 is induced in response to starvation and regulated by ArcS/ArcA and BarA/UvrY** *BMC MICROBIOLOGY*
  Mueller, J., Shukla, S., Jost, K. A., Spormann, A. M.
  2013; 13
- **Identification of a reductive tetrachloroethene dehalogenase in Shewanella sediminis** *PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY B-BIOLOGICAL SCIENCES*
  Lohner, S. T., Spormann, A. M.
  2013; 368 (1616)
- **Anoxic carbon flux in photosynthetic microbial mats as revealed by metatranscriptomics** *ISME JOURNAL*
  Burow, L. C., Woebken, D., Marshall, I. P., Lindquist, E. A., Bebout, B. M., Prufert-Bebout, L., Hoehler, T. M., Tringe, S. G., Pett-Ridge, J., Weber, P. K., Spormann, A. M., Singer, S. W.
  2013; 7 (4): 817-829
- **Effects of Sulfate Reduction on the Bacterial Community and Kinetic Parameters of a Dechlorinating Culture under Chemostat Growth Conditions** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Berggren, D. R., Marshall, I. P., Azizian, M. F., Spormann, A. M., Semprini, L.
  2013; 47 (4): 1879-1886

- **Dehalococcoides mccartyi gen. nov., sp. nov., obligately organohalide-respiring anaerobic bacteria relevant to halogen cycling and bioremediation, belong to a novel bacterial class, Dehalococcoidia classis nov., order Dehalococcoidales ord. nov. and family Dehalococcoidaceae fam. nov., within the phylum Chloroflexi.** *International journal of systematic and evolutionary microbiology*
  Löffler, F. E., Yan, J., Ritalahti, K. M., Adrian, L., Edwards, E. A., Konstantinidis, K. T., Müller, J. A., Fullerton, H., Zinder, S. H., Spormann, A. M.
  2013; 63: 625-635

- **Dehalococcoides mccartyi gen. nov., sp nov., obligately organohalide-respiring anaerobic bacteria relevant to halogen cycling and bioremediation, belong to a novel bacterial class, Dehalococcoidia classis nov., order Dehalococcoidales ord. nov and family Dehalococcoidaceae fam. nov., within the phylum Chloroflexi** *INTERNATIONAL JOURNAL OF SYSTEMATIC AND EVOLUTIONARY MICROBIOLOGY*
  Loeffler, F. E., Yan, J., Ritalahti, K. M., Adrian, L., Edwards, E. A., Konstantinidis, K. T., Mueller, J. A., Fullerton, H., Zinder, S. H., Spormann, A. M.
  2013; 63: 625-635

- **Inferring community dynamics of organohalide-respiring bacteria in chemostats by covariance of rdhA gene abundance** *FEMS Microbiol Ecol.*
  Marshall , I. P., Azizian , M. F., Semprini , L., Spormann , A. M.
  2013

- **A Single-Cell Genome for Thiovulum sp.** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Marshall, I. P., Blainey, P. C., Spormann, A. M., Quake, S. R.
  2012; 78 (24): 8555-8563

- **Identification of a novel cyanobacterial group as active diazotrophs in a coastal microbial mat using NanoSIMS analysis** *ISME JOURNAL*
  Woebken, D., Burow, L. C., Prufert-Bebout, L., Bebout, B. M., Hoehler, T. M., Pett-Ridge, J., Spormann, A. M., Weber, P. K., Singer, S. W.
  2012; 6 (7): 1427-1439

- **Hydrogen production in photosynthetic microbial mats in the Elkhorn Slough estuary, Monterey Bay** *ISME JOURNAL*
  Burow, L. C., Woebken, D., Bebout, B. M., McMurdie, P. J., Singer, S. W., Pett-Ridge, J., Prufert-Bebout, L., Spormann, A. M., Weber, P. K., Hoehler, T. M.
  2012; 6 (4): 863-874

- **The Hydrogenase Chip: a tiling oligonucleotide DNA microarray technique for characterizing hydrogen-producing and -consuming microbes in microbial communities** *ISME JOURNAL*
  Marshall, I. P., Berggren, D. R., Azizian, M. F., Burow, L. C., Semprini, L., Spormann, A. M.
  2012; 6 (4): 814-826

- **Microbial community analysis of a soil microcosm capable of nonylphenol degradation: Are Sphingomonadales the only bacteria capable of ipso-hydroxylation?**
  Montgomery-Brown, J., Reinhard, M., Behrens, S., Spormann, A.
  AMER CHEMICAL SOC.2012

- **Reductive dehalogenation of chloroethenes: Lessons learnt from comparative genomics**
  Spormann, A. M.
  AMER CHEMICAL SOC.2012

- **Kinetics and molecular analysis of a dechlorinating culture grown under chemostat conditions in the presence and absence of sulfate**
  Berggren, D. R. V., Semprini, L., Azizian, M. F., Marshall, I. P. G., Spormann, A. M.
  AMER CHEMICAL SOC.2012

- **Energy-Dependent Stability of Shewanella oneidensis MR-1 Biofilms** *JOURNAL OF BACTERIOLOGY*
  Saville, R. M., Rakshe, S., Haagensen, J. A., Shukla, S., Spormann, A. M.
  2011; 193 (13): 3257-3264

- **Site-Specific Mobilization of Vinyl Chloride Respiration Islands by a Mechanism Common in Dehalococcoides** *BMC GENOMICS*
  McMurdie, P. J., Hug, L. A., Edwards, E. A., Holmes, S., Spormann, A. M.
  2011; 12

- **Antimicrobial Peptoids Are Effective against Pseudomonas aeruginosa Biofilms** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Kapoor, R., Wadman, M. W., Dohm, M. T., Czyzewski, A. M., Spormann, A. M., Barron, A. E.
  2011; 55 (6): 3054-3057

- **Partial Functional Replacement of CymA by SirCD in Shewanella oneidensis MR-1** *JOURNAL OF BACTERIOLOGY*
  Cordova, C. D., Schicklberger, M. F., Yu, Y., Spormann, A. M.
  2011; 193 (9): 2312-2321

- **Indirect Modulation of the Intracellular c-Di-GMP Level in Shewanella oneidensis MR-1 by MxdA** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Rakshe, S., Leff, M., Spormann, A. M.
  2011; 77 (6): 2196-2198

- **PhyloChip microarray analysis reveals altered gastrointestinal microbial communities in a rat model of colonic hypersensitivity** *NEUROGASTROENTEROLOGY AND MOTILITY*
  Nelson, T. A., Holmes, S., ALEKSEYENKO, A. V., Shenoy, M., DeSantis, T., Wu, C. H., Andersen, G. L., Winston, J., Sonnenburg, J., Pasricha, P. J., Spormann, A.
  2011; 23 (2)

- **Visualization and statistical comparisons of microbial communities using R packages on Phylochip data.** *Pacific Symposium on Biocomputing. Pacific Symposium on Biocomputing*
  Holmes, S., Alekseyenko, A., Timme, A., Nelson, T., Pasricha, P. J., Spormann, A.
  2011: 142-153

- **Evaluation in a continuous-flow column of different fermenting substrates for the reductive dehalogenation of trichloroethene** *7th International Groundwater Quality Conference*
  Azizian, M., Marshall, I., Behrens, S., Spormann, A., Semprini, L.
  INT ASSOC HYDROLOGICAL SCIENCES.2011: 209–212

- **Spatiotemporal activity of the mshA gene system in Shewanella oneidensis MR-1 biofilms** *FEMS MICROBIOLOGY LETTERS*
  Saville, R. M., Dieckmann, N., Spormann, A. M.
  2010; 308 (1): 76-83

- **NanoSIP: Combining stable isotope probing and high resolution secondary ion mass spectrometry to identify diazotrophs in stratified marine microbial communities** *Conference on Goldschmidt 2010 - Earth, Energy, and the Environment*
  Singer, S. W., Woebken, D., Burow, L. C., Prufert-Bebout, L., Bebout, B. M., Pett-Ridge, J., Spormann, A. M., Weber, P. K.
  PERGAMON-ELSEVIER SCIENCE LTD.2010: A966–A966

- **Comparison of lactate, formate, and propionate as hydrogen donors for the reductive dehalogenation of trichloroethene in a continuous-flow column** *JOURNAL OF CONTAMINANT HYDROLOGY*
  Azizian, M. F., Marshall, I. P., Behrens, S., Spormann, A. M., Semprini, L.
  2010; 113 (1-4): 77-92

- **Contributions of Francisella tularensis subsp novicida Chitinases and Sec Secretion System to Biofilm Formation on Chitin** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Margolis, J. J., El-Etr, S., Joubert, L., Moore, E., Robison, R., Rasley, A., Spormann, A. M., Monack, D. M.
  2010; 76 (2): 596-608

- **Role of extracellular polymeric substances in metal ion complexation on Shewanella oneidensis: Batch uptake, thermodynamic modeling, ATR-FTIR, and EXAFS study** *GEOCHIMICA ET COSMOCHIMICA ACTA*
  Ha, J., Gelabert, A., Spormann, A. M., Brown, G. E.
  2010; 74 (1): 1-15

- **Periplasmic Electron Transfer via the c-Type Cytochromes MtrA and FccA of Shewanella oneidensis MR-1** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Schuetz, B., Schicklberger, M., Kuermann, J., Spormann, A. M., Gescher, J.
  2009; 75 (24): 7789-7796

- **Localized Plasticity in the Streamlined Genomes of Vinyl Chloride Respiring Dehalococcoides** *PLOS GENETICS*
  McMurdie, P. J., Behrens, S. F., Mueller, J. A., Goeke, J., Ritalahti, K. M., Wagner, R., Goltsman, E., Lapidus, A., Holmes, S., Loeffler, F. E., Spormann, A. M.
  2009; 5 (11)

- **Interaction of Zn(II)aq with mineral nano-and microparticles, bacterial surfaces, and biofilm-coated metal oxides**
  Brown, G. E., Ha, J., Singer, D. M., Wang, Y., Gelabert, A., Farges, F., Trainor, T. P., Bargar, J. R., Eng, P., Spormann, A. M.

AMER CHEMICAL SOC.2009

- **Impact of Shewanella oneidensis MR-1 biofilm coatings on the reactivity of hematite**
  Wang, Y., Gelabert, A., Choi, Y., Ha, J., Gescher, J., Bargar, J. R., Rogers, J., Eng, P., Cordova, C. D., Spormann, A. M., Brown, G. E.
  AMER CHEMICAL SOC.2009

- **Monitoring abundance and expression of "Dehalococcoides" species chloroethene-reductive dehalogenases in a tetrachloroethene-dechlorinating flow column** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Behrens, S., Azizian, M. F., McMurdie, P. J., Sabalowsky, A., Dolan, M. E., Semprini, L., Spormann, A. M.
  2008; 74 (18): 5695-5703

- **Continuous-flow column study of reductive dehalogenation of PCE upon bioaugmentation with the Evanite enrichment culture** *JOURNAL OF CONTAMINANT HYDROLOGY*
  Azizian, M. F., Behrens, S., Sabalowsky, A., Dolan, M. E., Spormann, A. M., Semprini, L.
  2008; 100 (1-2): 11-21

- **Towards environmental systems biology of Shewanella** *NATURE REVIEWS MICROBIOLOGY*
  Fredrickson, J. K., Romine, M. F., Beliaev, A. S., Auchtung, J. M., Driscoll, M. E., Gardner, T. S., Nealson, K. H., Osterman, A. L., Pinchuk, G., Reed, J. L., Rodionov, D. A., Rodrigues, J. L., Saffarini, et al
  2008; 6 (8): 592-603

- **The NASA Astrobiology Roadmap** *ASTROBIOLOGY*
  Marais, D. J., Nuth, J. A., Allamandola, L. J., Boss, A. P., Farmer, J. D., Hoehler, T. M., Jakosky, B. M., Meadows, V. S., Pohorille, A., Runnegar, B., Spormann, A. M.
  2008; 8 (4): 715-730

- **Synchrotron X-ray studies of bacteria-mineral-metal ion interactions** *18th Annual V M Goldschmidt Conference*
  Brown, G. E., Gelabert, A., Wang, Y., Cismasu, C., Ha, J., Ona-Nguema, G., Benzerara, K., Morin, G., Yang, Y., Juillot, F., Guyot, F., CALAS, G., Yoon, et al
  PERGAMON-ELSEVIER SCIENCE LTD.2008: A116–A116

- **Study of Proton, Pb+2 and Zn+2 adsorption onto Shewanella oneidensis MR-1 strain and a mutant Strain (Delta EPS): Spectroscopic observation and modeling approach** *18th Annual V M Goldschmidt Conference*
  Ha, J., Gelabert, A., Wang, Y., Spormann, A. M., Brown, G. E.
  PERGAMON-ELSEVIER SCIENCE LTD.2008: A339–A339

- **Impact of S-oneidensis MR-1 biofilm coatings on trace element partitioning at metal-oxide/water interfaces: A long period XSW-FY study** *18th Annual V M Goldschmidt Conference*
  Wang, Y., Gelabert, A., Ha, J., Ona-Nguema, G., Gescher, J., Cordova-Ardy, C., Bargar, J. R., Rogers, J., Eng, P. J., Ghose, S. K., Spormann, A. M., Brown, G. E.
  PERGAMON-ELSEVIER SCIENCE LTD.2008: A1003–A1003

- **Parameters controlling metal adsorption at the biofilm/mineral interface: Evidence for a diffusion limited process and comparison with thermodynamic modeling** *18th Annual V M Goldschmidt Conference*
  Gelabert, A., Wang, Y., Ha, J., Ona-Nguema, G., Spormann, A. M., Bargar, J. R., Rogers, J., Eng, P., Ghose, S., Brown, G. E.
  PERGAMON-ELSEVIER SCIENCE LTD.2008: A301–A301

- **Dissimilatory iron reduction in Escherichia coli: identification of CymA of Shewanella oneidensis and NapC of E-coli as ferric reductases** *MOLECULAR MICROBIOLOGY*
  Gescher, J. S., Cordova, C. D., Spormann, A. M.
  2008; 68 (3): 706-719

- **Linking microbial phylogeny to metabolic activity at the single-cell level by using enhanced element labeling-catalyzed reporter deposition fluorescence in situ hybridization (EL-FISH) and NanoSIMS** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Behrens, S., Loesekann, T., Pett-Ridge, J., Weber, P. K., Ng, W., Stevenson, B. S., Hutcheon, I. D., Relman, D. A., Spormann, A. M.
  2008; 74 (10): 3143-3150

- **Synchrotron X-ray studies of heavy metal mineral-microbe interactions** *8th International Symposium on the Geochemistry of the Earths Surface (GES-8)*
  Brown, G. E., Wang, Y., Gelabert, A., Ha, J., Cismasu, C., Ona-Nguema, G., Benzerara, K., Miot, J., Menguy, N., Morin, G., Juillot, F., Guyot, F., CALAS, et al
  MINERALOGICAL SOC.2008: 169–73

- **Physiology of microbes in biofilms** *BACTERIAL BIOFILMS*
  Spormann, A. M.
  2008; 322: 17-36

- **vpsA- and luxO-independent biofilms of Vibrio cholerae** *FEMS MICROBIOLOGY LETTERS*
  Mueller, J., Miller, M. C., Nielsen, A. T., Schoolnik, G. K., Spormann, A. M.
  2007; 275 (2): 199-206

- **Designing a dissimilatory iron reducer. Reconstitution of the Fe(III)-reducing electron transport chain of Shewanella oneidensis MR-1 in Escherichia coli** *17th Annual V M Goldschmidt Conference*
  Gescher, J., Cordova-Ardy, C., Spormann, A.
  PERGAMON-ELSEVIER SCIENCE LTD.2007: A318–A318

- **Unusual codon bias in vinyl chloride reductase genes of Dehalococcoides species** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  McMurdie, P. J., Behrens, S. F., Holmes, S., Spormann, A. M.
  2007; 73 (8): 2744-2747

- **Hydrogen metabolism in Shewanella oneidensis MR-1** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Meshulam-Simon, G., Behrens, S., Choo, A. D., Spormann, A. M.
  2007; 73 (4): 1153-1165

- **COLL 82-Microbial reduction of hematite: Effects of particle size and exopolysaccharides**
  Ha, J., Cordova, C. D., Yoon, T. H., Spormann, A. M., Brown, G. E.
  AMER CHEMICAL SOC.2006

- **COLL 418-Soft X-ray spectromicroscopy studies of environmental interfaces**
  Brown, G. E., Benzerara, K., Yoon, T. H., Ha, J., Cordova, C. D., Spormann, A. M., Morin, G., Calas, G., Tyliszczak, T.
  AMER CHEMICAL SOC.2006

- **Applications of synchrotron radiation to processes at environmental interfaces** *16th Annual V M Goldschmidt Conference*
  Brown, G. E., Benzerara, K., Yoon, T. H., Ha, J., Cordova, C. D., Spormann, A. M., Tyliszcak, T., Tanwar, K. S., Trainor, T. P., Eng, P. J., Kendelewicz, T., Yamamoto, S., Bluhm, et al
  PERGAMON-ELSEVIER SCIENCE LTD.2006: A69–A69

- **Microbial reduction of hematite: Effects of particle size and exopolysaccharides** *16th Annual V M Goldschmidt Conference*
  Ha, J., Cordova, C., Yoon, T., Spormann, A. M., Brown, G. E.
  PERGAMON-ELSEVIER SCIENCE LTD.2006: A221–A221

- **Control of formation and cellular detachment from Shewanella oneidensis MR-1 biofilms by cyclic di-GMP** *JOURNAL OF BACTERIOLOGY*
  Thormann, K. M., Duttler, S., Saville, R. M., Hyodo, M., Shukla, S., Hayakawa, Y., Spormann, A. M.
  2006; 188 (7): 2681-2691

- **Genomic comparisons among gamma-proteobacteria** *ENVIRONMENTAL MICROBIOLOGY*
  Mrazek, J., Spormann, A. M., Karlin, S.
  2006; 8 (2): 273-288

- **Evidence supporting predicted metabolic pathways for Vibrio cholerae: gene expression data and clinical tests** *NUCLEIC ACIDS RESEARCH*
  Shi, J., Romero, P. R., Schoolnik, G. K., Spormann, A. M., Karp, P. D.
  2006; 34 (8): 2438-2444

- **Dynamics of Shewanella oneidensis MR-1 biofilms developing on Fe(III) mineral surfaces** *230th National Meeting of the American-Chemical-Society*
  Cordova, C. D., Brown, G. E., Spormann, A. M.
  AMER CHEMICAL SOC.2005: U1724–U1725

- **Electrical properties of bacterial outer membranes** *230th National Meeting of the American-Chemical-Society*
  Rosso, K. M., Yanina, S. V., Lower, B. H., Gorby, Y. A., Spormann, A. M., Brown, G. E.
  AMER CHEMICAL SOC.2005: U1727–U1727

- **Year-one activities at the Stanford Environmental Molecular Science Institute** *230th National Meeting of the American-Chemical-Society*
  Brown, G. E., Bluhm, H., Brown, B. A., Chaka, A. M., Constantz, B., Fendorf, S., Foster, A. L., Myneni, S. C., Nilsson, A., Rosso, K. M., Salmeron, M., Saltzman, J., Spormann, et al
  AMER CHEMICAL SOC.2005: U1714–U1715

- **Regulation of Shewanella oneidensis MR-1 biofilms by c-di-GMP** *230th National Meeting of the American-Chemical-Society*
  Thormann, K. N., Saville, R. M., Duttler, S., Shukla, S., Spormann, A. M.
  AMER CHEMICAL SOC.2005: U1728–U1728

- **Role of organic molecules and microbial organisms in metal ion sorption processes.** *229th National Meeting of the American-Chemical-Society (ACS)*
  Brown, G. E., Yoon, T. H., Johnson, S. B., Templeton, A. S., Trainor, T. P., Benzerara, K., Bostick, B. C., Kendelewicz, T., Doyle, C. S., Spormann, A. M.
  AMER CHEMICAL SOC.2005: U784–U785

- **Induction of rapid detachment in Shewanella oneidensis MR-1 biofilms** *JOURNAL OF BACTERIOLOGY*
  Thormann, K. M., Saville, R. M., Shukla, S., Spormann, A. M.
  2005; 187 (3): 1014-1021

- **Environmental interfaces, heavy metals, microbes, and plants: Applications of XAFS spectroscopy and related synchrotron radiation methods to environmental science** *PHYSICA SCRIPTA*
  Brown, G. E., Catalano, J. G., Templeton, A. S., Trainor, T. P., Farges, F., Bostick, B. C., Kendelewicz, T., Doyle, C. S., Spormann, A. M., Revill, K., Morin, G., Juillot, F., Calas, et al
  2005; T115: 80-87

- **Dynamics and control of biofilms of the oligotrophic bacterium Caulobacter crescentus** *JOURNAL OF BACTERIOLOGY*
  Entcheva-Dimitrov, P., Spormann, A. M.
  2004; 186 (24): 8254-8266

- **Initial phases of biofilm formation in Shewanella oneidensis MR-1** *JOURNAL OF BACTERIOLOGY*
  Thormann, K. M., Saville, R. M., Shukla, S., Pelletier, D. A., Spormann, A. M.
  2004; 186 (23): 8096-8104

- **Scanning transmission X-ray microscopy study of microbial calcification** *GEOBIOLOGY*
  Benzerara, K., Yoon, T. H., Tyliszczak, T., Constantz, B., Spormann, A. M., Brown, G. E.
  2004; 2 (4): 249-259

- **Comparative evaluation of chloroethene dechlorination to ethene by Dehalococcoides-like microorganisms** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Cupples, A. M., Spormann, A. M., McCarty, P. L.
  2004; 38 (18): 4768-4774

- **Molecular identification of the catabolic vinyl chloride reductase from Dehalococcoides sp strain VS and its environmental distribution** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Muller, J. A., Rosner, B. M., von Abendroth, G., Meshulam-Simon, G., McCarty, P. L., Spormann, A. M.
  2004; 70 (8): 4880-4888

- **The role of organic molecules and microbial organisms in metal ion sorption processes** *14th Annual V M Goldschmidt Conference*
  Brown, G. E., Yoon, T. H., Johnson, S. B., Templeton, A. S., Trainor, T. P., Bostick, B. C., Kendelewicz, T., Doyle, C. S., Spormann, A. M.
  PERGAMON-ELSEVIER SCIENCE LTD.2004: A160–A160

- **A derivative of the menaquinone precursor 1,4-dihydroxy-2-naphthoate is involved in the reductive transformation of carbon tetrachloride by aerobically grown Shewanella oneidensis MR-1** *APPLIED MICROBIOLOGY AND BIOTECHNOLOGY*
  Ward, M. J., Fu, Q. S., Rhoads, K. R., Yeung, C. H., Spormann, A. M., Criddle, C. S.
  2004; 63 (5): 571-577

- **In vitro system for simultaneous expression and maturation of iron-sulfur proteins.** *227th National Meeting of the American-Chemical Society*
  Boyer, M. E., Wang, C. W., Spormann, A. M., Swartz, J.
  AMER CHEMICAL SOC.2004: U225–U225

- **Vinyl chloride and cis-dichloroethene dechlorination kinetics and microorganism growth under substrate limiting conditions** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Cupples, A. M., Spormann, A. M., McCarty, P. L.
  2004; 38 (4): 1102-1107
- **Selenium speciation and partitioning within Burkholderia cepacia biofilms formed on alpha-Al2O3 surfaces** *GEOCHIMICA ET COSMOCHIMICA ACTA*
  Templeton, A. S., Trainor, T. P., Spormann, A. M., Brown, G. E.
  2003; 67 (19): 3547-3557
- **Rapid oxidation of pyrite surfaces by thiobacillus ferrooxidans and T. thiooxidans.** *226th National Meeting of the American-Chemical-Society*
  Bostick, B. C., Lester, K., Doyle, C., Kendelewicz, T., Brown, G. E., Fendorf, S., Spormann, A. M.
  AMER CHEMICAL SOC.2003: U591–U591
- **Growth of a Dehalococcoides-like microorganism on vinyl chloride and cis-dichloroethene as electron acceptors as determined by competetive PCR (vol 69, pg 958, 2003)** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Cupples, A. M., Spormann, A. M., McCarty, P. L.
  2003; 69 (7): 4342-4342
- **The NASA astrobiology roadmap** *ASTROBIOLOGY*
  Marais, D. J., Allamandola, L. J., Benner, S. A., Boss, A. P., Deamer, D., Falkowski, P. G., Farmer, J. D., Hedges, S. B., Jakosky, B. M., Knoll, A. H., Liskowsky, D. R., Meadows, V. S., Meyer, et al
  2003; 3 (2): 219-235
- **Speciation of Pb(II) sorbed by Burkholderia cepacia/goethite composites** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Templeton, A. S., Spormann, A. M., Brown, G. E.
  2003; 37 (10): 2166-2172
- **Growth of a Dehalococcoides-like microorganism on vinyl chloride and cis-dichloroethene as electron acceptors as determined by competitive PCR** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Cupples, A. M., Spormann, A. M., McCarty, P. L.
  2003; 69 (2): 953-959
- **Sorption versus biomineralization of Pb(II) within Burkholderia cepacia biofilms** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
  Templeton, A. S., Trainor, T. P., Spormann, A. M., Newville, M., Sutton, S. R., Dohnalkova, A., Gorby, Y., Brown, G. E.
  2003; 37 (2): 300-307
- **Benzylsuccinate synthase of Azoarcus sp strain T: Cloning, sequencing, transcriptional organization, and its role in anaerobic toluene and m-xylene mineralization** *JOURNAL OF BACTERIOLOGY*
  Achong, G. R., Rodriguez, A. M., Spormann, A. M.
  2001; 183 (23): 6763-6770
- **Pb(II) distributions at biofilm-metal oxide interfaces** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Templeton, A. S., Trainor, T. P., Traina, S. J., Spormann, A. M., Brown, G. E.
  2001; 98 (21): 11897-11902
- **Isolation and characterization of anaerobic ethylbenzene dehydrogenase, a novel Mo-Fe-S enzyme** *JOURNAL OF BACTERIOLOGY*
  Johnson, H. A., Pelletier, D. A., Spormann, A. M.
  2001; 183 (15): 4536-4542
- **A stable organic free radical in anaerobic benzylsuccinate synthase of Azoarcus sp strain T** *JOURNAL OF BIOLOGICAL CHEMISTRY*
  Krieger, C. J., Roseboom, W., Albracht, S. P., Spormann, A. M.
  2001; 276 (16): 12924-12927
- **Solution interactions of uranyl (UO22+) with Pseudomonas fluorescens: Bioavailability of complexed ligand, toxicity, and fate of uranyl.**
  Bencheikh-Latmani, R., Leckie, J. O., Spormann, A. M.
  AMER CHEMICAL SOC.2000: U370–U370
- **Metabolism of alkylbenzenes, alkanes, and other hydrocarbons in anaerobic bacteria** *BIODEGRADATION*
  Spormann, A. M., Widdel, F.

2000; 11 (2-3): 85-105

- **Initial reactions in anaerobic oxidation of m-xylene by the denitrifying bacterium Azoarcus sp strain T** *JOURNAL OF BACTERIOLOGY*
  Krieger, C. J., Beller, H. R., Reinhard, M., Spormann, A. M.
  1999; 181 (20): 6403-6410
- **Gliding motility in bacteria: Insights from studies of Myxococcus xanthus** *MICROBIOLOGY AND MOLECULAR BIOLOGY REVIEWS*
  Spormann, A. M.
  1999; 63 (3): 621-?
- **Substrate range of benzylsuccinate synthase from Azoarcus sp strain T** *FEMS MICROBIOLOGY LETTERS*
  Beller, H. R., Spormann, A. M.
  1999; 178 (1): 147-153
- **In vitro studies on the initial reactions of anaerobic ethylbenzene mineralization** *JOURNAL OF BACTERIOLOGY*
  Johnson, H. A., Spormann, A. M.
  1999; 181 (18): 5662-5668
- **A chimeric prokaryotic ancestry of mitochondria and primitive eukaryotes** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Karlin, S., Brocchieri, L., Mrazek, J., Campbell, A. M., Spormann, A. M.
  1999; 96 (16): 9190-9195
- **Genetic and molecular analysis of cglB, a gene essential for single-cell gliding in Myxococcus xanthus** *JOURNAL OF BACTERIOLOGY*
  Rodriguez, A. M., Spormann, A. M.
  1999; 181 (14): 4381-4390
- **XAFS and XSW study of the distribution of Pb(II) sorbed to biofilms on alpha-Al2O3 and alpha-FeOOH surfaces** *10th International Conference on XAFS (XAFS X)*
  Templeton, A. S., Ostergren, J. D., Trainor, T. P., Foster, A. L., Traina, S. J., Spormann, A., Brown, G. E.
  WILEY-BLACKWELL.1999: 642–644
- **Gliding mutants of Myxococcus xanthus with high reversal frequencies and small displacements** *JOURNAL OF BACTERIOLOGY*
  Spormann, A. M., Kaiser, D.
  1999; 181 (8): 2593-2601
- **Predicting microbial biodegradation pathways** *ASM NEWS*
  Wackett, L. P., Ellis, L. B., Speedie, S. M., Hershberger, C. D., Knackmuss, H. J., Spormann, A. M., Walsh, C. T., Forney, L. J., Punch, W. F., Kazic, T., Kanehisa, M., Berndt, D. J.
  1999; 65 (2): 87-93
- **Anaerobic bacterial metabolism of hydrocarbons** *FEMS MICROBIOLOGY REVIEWS*
  Heider, J., Spormann, A. M., Beller, H. R., Widdel, F.
  1998; 22 (5): 459-473
- **Analysis of the novel benzylsuccinate synthase reaction for anaerobic toluene activation based on structural studies of the product** *JOURNAL OF BACTERIOLOGY*
  Beller, H. R., Spormann, A. M.
  1998; 180 (20): 5454-5457
- **In vitro studies on reductive vinyl chloride dehalogenation by an anaerobic mixed culture** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Rosner, B. M., McCarty, P. L., Spormann, A. M.
  1997; 63 (11): 4139-4144
- **Benzylsuccinate formation as a means of anaerobic toluene activation by sulfate-reducing strain PRTOL1** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Beller, H. R., Spormann, A. M.
  1997; 63 (9): 3729-3731
- **Anaerobic activation of toluene and o-xylene by addition to fumarate in denitrifying strain T** *JOURNAL OF BACTERIOLOGY*

Beller, H. R., Spormann, A. M.
1997; 179 (3): 670-676

- **Initial reactions in anaerobic ethylbenzene oxidation by a denitrifying bacterium, strain EB1** *JOURNAL OF BACTERIOLOGY*
  Ball, H. A., Johnson, H. A., Reinhard, M., Spormann, A. M.
  1996; 178 (19): 5755-5761
- **Isolation and characterization of a novel toluene-degrading, sulfate-reducing bacterium** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Beller, H. R., Spormann, A. M., Sharma, P. K., Cole, J. R., Reinhard, M.
  1996; 62 (4): 1188-1196
- **GLIDING MOVEMENTS IN MYXOCOCCUS-XANTHUS** *JOURNAL OF BACTERIOLOGY*
  Spormann, A. M., Kaiser, A. D.
  1995; 177 (20): 5846-5852