



## Alfred M. Spormann

Professor of Civil and Environmental Engineering, of Chemical Engineering and, by courtesy, of Biology

### CONTACT INFORMATION

- **Administrator**

Regina Lowery - Administrative Associate

**Email** reginal@stanford.edu

**Tel** (650) 723-3505

### 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 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 CO<sub>2</sub>-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 mccartyi* and *Shewanella*, on a biochemical, physiological, genomic, and population level to better understand the unprecedented biochemistry of the coenzyme B<sub>12</sub>-containing reductive dehalogenases. We also use this information to improve chloroethene bioremediation. Population-level studies in our lab have been revealing speciation and niche adaptation in *Dehalococcoides mccartyi*. 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 cholerae*, *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

- Professor, Civil and Environmental Engineering
- Professor, Chemical Engineering
- Professor (By courtesy), Biology
- 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)

## Research & Scholarship

---

### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Metabolism of anaerobic microbes in diseases, bioenergy, and bioremediation

## Teaching

---

### COURSES

#### 2018-19

- Advanced Seminar on Prokaryotic Molecular Biology: BIO 346, CSB 346, GENE 346 (Win, Spr)
- Environmental Microbiology I: CEE 274A, CHEMENG 174, CHEMENG 274 (Win)
- Hopkins Microbiology Course: BIO 274S, BIOHOPK 274, CEE 274S, ESS 253S (Sum)
- Microbial Bioenergy Systems: CEE 274B, CHEMENG 456 (Win)
- Special Topics in Microbial Physiology and Metabolism: CHEMENG 517 (Aut, Win, Spr, Sum)

#### 2017-18

- Advanced Seminar on Prokaryotic Molecular Biology: BIO 346, CSB 346, GENE 346 (Win)
- Environmental Microbiology I: CEE 274A, CHEMENG 174, CHEMENG 274 (Aut)
- Hopkins Microbiology Course: BIO 274S, BIOHOPK 274, CEE 274S, ESS 253S (Sum)
- Metabolism and Metabolic Ecology: Microbes, Gut and Cancer: BIOS 235 (Spr)
- Microbial Bioenergy Systems: CEE 274B, CHEMENG 456 (Win)
- Special Topics in Microbial Physiology and Metabolism: CHEMENG 517 (Aut, Win, Spr, Sum)

#### 2016-17

- Advanced Seminar on Prokaryotic Molecular Biology: BIO 346 (Aut, Win)
- Environmental Microbiology I: CEE 274A, CHEMENG 174, CHEMENG 274 (Aut)
- Hopkins Microbiology Course: BIO 274S, BIOHOPK 274, CEE 274S, ESS 253S (Sum)
- Metabolism and Metabolic Ecology: Microbes, Gut and Cancer: BIOS 235 (Spr)
- Microbial Bioenergy Systems: CEE 274B, CHEMENG 456 (Win)
- Special Topics in Microbial Physiology and Metabolism: CHEMENG 517 (Aut, Win, Spr, Sum)

#### 2015-16

- Advanced Seminar on Prokaryotic Molecular Biology: BIO 346 (Aut, Win)
- Environmental Microbiology I: CEE 274A, CHEMENG 174, CHEMENG 274 (Aut)
- Metabolism and Metabolic Ecology: Microbes, Gut and Cancer: BIOS 235 (Spr)
- Microbial Bioenergy Systems: CEE 274B, CHEMENG 456 (Win)
- Special Topics in Microbial Physiology and Metabolism: CHEMENG 517 (Aut, Win, Spr, Sum)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Kyler Lugo

#### Postdoctoral Faculty Sponsor

Wenyu Gu, Frauke Kracke, Ali McCully, Albert Mueller

#### Postdoctoral Research Mentor

Frauke Kracke, Albert Mueller

## GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

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

## Publications

---

### PUBLICATIONS

- **Quasi-2D Pd/Pt nanoclams for CO<sub>2</sub> 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
- **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., Deutzmann, J. S., Milton, R. D., Sahin, M., Spormann, A. M.  
2018; 254: 278–83
- **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
- **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., Haagensen, J., Spormann, A. M., Yang, K.  
2017; 2017: 7246286
- **Biochemistry of Catabolic Reductive Dehalogenation.** *Annual review of biochemistry*  
Fincker, M., Spormann, A. M.  
2017; 86: 357–86
- **Spatiotemporal pharmacodynamics of meropenem- and tobramycin-treated Pseudomonas aeruginosa biofilms.** *The Journal of antimicrobial chemotherapy*  
Haagensen, J., Verotta, D., Huang, L., Engel, J., Spormann, A. M., Yang, K.  
2017; 72 (12): 3357–65
- **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. 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
- **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
- **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 N<sub>2</sub> 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
- **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
- **Single cell genomic study of *Dehalococcoides* 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., Euveritk, 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
- **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
- **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 Dehalococoides** *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., Neelson, 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-Ardu, 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-Ardu, 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., Tylliszczak, 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., Tylliszczak, 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., Reville, 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., Tyliczszak, 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-Al<sub>2</sub>O<sub>3</sub> 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 competitive 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 (UO<sub>2</sub><sup>2+</sup>) 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*  
Karlín, 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*  
Rodríguez, 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-Al<sub>2</sub>O<sub>3</sub> 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