

## Brian D. Wade

Michigan State University, Crop and Soil Sciences Department

Website: [www.freewebs.com/bdwade](http://www.freewebs.com/bdwade) • E-mail: [wadebd@hotmail.com](mailto:wadebd@hotmail.com)

---

### RESEARCH INTERESTS

Microbial Ecology and Evolution, Microbiogeology, Molecular Genetic Techniques, Astrobiology

### HIGHER EDUCATION

Bachelor of Arts, Major in Biology, Minor in Chemistry, University of Louisville, Louisville, Kentucky, 1999

### RESEARCH EXPERIENCE

Graduate Research Assistant, Michigan State University, Crop and Soil Sciences Department, 2003/4, 2006 – present  
Research: Evolutionary adaptations of the bacterium *Escherichia coli* to stressors (2006 – present)  
Research: Molecular genetics of the psychrophilic bacterium *Psychrobacter arcticus* (2003 and 2004)

Graduate Research Assistant, Arizona State University, Microbiology Program, 2000 – 2003  
Research: Cyanobacterial ecology and microbiogeology of modern microbialites

Research Associate, Michigan State University, Center for Microbial Ecology, 1999 and 2000  
Research: Bacterial ecology and microbiogeology of continental deep subsurface rocks

Laboratory Technician, University of Louisville, Biology Department, 1996 – 1999  
Responsibilities: Collected and processed aquatic algal samples for analyses and performed field experiments

### TEACHING EXPERIENCE

Graduate Teaching Assistant, Michigan State University, Biological Sciences Program, Spring 2008  
Course: Honors Cell and Molecular Biology Laboratory

Graduate Teaching Assistant, Marine Biological Laboratory, Woods Hole, Massachusetts, Summer 2003  
Course: Microbial Diversity

Graduate Teaching Assistant, Arizona State University, Microbiology Program, 2000 – 2003  
Course: Techniques in Molecular Biology Laboratory (x 2)  
Course: Science Service Learning, Microbiology Focus

### PUBLIC OUTREACH

Teaching Assistant: The Unseen Microbial World, Michigan State U., “Grandparents University”, June 25 and 27, 2008

Guide: Geomicrobiology Research at Arizona State University, Spring 2002

Representative: Astrobiology Program, Arizona State University, “See ASU”, March 29 and 30, 2002

Representative: Geomicrobiology Laboratory, Arizona State University, “Astrobiology Day”, September 26, 2000

### VOLUNTEER SERVICE

Volunteer Sample Collector, Kentucky Watershed Watch, 1998 and 1999  
Service: Obtained aquatic samples throughout the year for environmental monitoring of streams in Kentucky

## PUBLICATIONS

- Elser, J. J., J. H. Schampel, F. Garcia-Pichel, **B. D. Wade**, V. Souza, L. Eguiarte, A. Escalante, J. D. Farmer. 2005. Effects of phosphorus enrichment and grazing snails on modern stromatolitic microbial communities. *Freshwater Biology* 50: 1808 – 1825.
- Carson, E., T. Dowling, L. E. Eguiarte, J. Elser, A. Escalante, J. Farmer, F. Garcia-Pichel, P. Roopnarine, V. Souza, C. Tang, **B. Wade**. 2004. Cuatro Ciénegas: A living lab for the study of present and past biospheres. In *Under the Desert: The Mysterious Waters of Cuatro Ciénegas*, edited by G. Badino, T. Bernabei, A. De Vivo, I. Giulivo, G. Savino, published by Edizioni Tintoretto, Italy, 88 – 95.
- Garcia-Pichel, F., F. A. Al-Horani, J. D. Farmer, R. Ludwig, **B. D. Wade**. 2004. Balance between microbial calcification and metazoan bioerosion in modern stromatolitic oncolites. *Geobiology* 2: 49 – 57.
- Wade, B. D.**, F. Garcia-Pichel. 2003. Evaluation of DNA extraction methods for molecular analyses of microbial communities in modern calcareous microbialites. *Geomicrobiology Journal* 20: 549 – 561.
- Garcia-Pichel, F., **B. D. Wade**, J. D. Farmer. 2002. Jet-suspended, calcite-ballasted cyanobacterial waterwarts in a desert spring. *Journal of Phycology* 38: 420 – 428.
- Wade, B. D.**, F. H. Crocker, M. S. Roberts, F. J. de Bruijn, T. L. Marsh. Stratal interfaces as astrobiological targets: An example from shale and sandstone strata deep beneath the southeastern San Juan Basin in northwestern New Mexico, USA. Manuscript is in preparation for *Geochemical Transactions*.
- Wade, B. D.**, M. J. Rothrock Jr. *Halotheca* ribotypes dominate the cyanobacterial community of gypsiferous endoevaporites at multiple locales. Manuscript is in preparation for *Saline Systems*.

## CONFERENCE ABSTRACTS

- Wade, B. D.**, F. Garcia-Pichel. 2003. Evaluation of DNA extraction methods for molecular analyses of microbial communities in modern calcareous microbialites. *Aquatic Sciences Meeting of the American Society of Limnology and Oceanography*. Book of Abstracts, p. 134 (# 204).
- Wade, B. D.**, F. Garcia-Pichel. 2003. A molecular analysis of calcifying cyanobacteria that build dendroidal oncolites in the Mezquites River of the Cuatro Ciénegas Basin. *General Meeting of the NASA Astrobiology Institute, Tempe, Arizona, USA*. Book of Abstracts, p. 230 (# 12993).
- Wade, B. D.**, M. J. Rothrock Jr., F. Garcia-Pichel. 2003. A comparison of 16S rDNA sequences from cyanobacteria that build thalassic teepees and athalassic mats in evaporitic, gypsiferous environments. *General Meeting of the NASA Astrobiology Institute, Tempe, Arizona, USA*. Book of Abstracts, p. 356 (# 12994).
- Farmer, J. D., **B. D. Wade**, F. Garcia-Pichel, V. Routt. 2003. Morphogenesis, microbial fossilization processes and biomolecular community analysis of modern carbonate oncolites, Mezquites River, Cuatro Ciénegas, Mexico. *General Meeting of the NASA Astrobiology Institute, Tempe, Arizona, USA*. Book of Abstracts, p. 537 (# 13006).
- Elser, J. J., J. H. Schampel, J. Watts, F. Garcia-Pichel, **B. D. Wade**, J. D. Farmer, V. Souza, L. E. Eguiarte. 2003. Effects of grazers and PO<sub>4</sub> enrichment on biomass, C:N:P stoichiometry and microbial community structure of oncoid stromatolites at Cuatro Ciénegas, Coahuila, Mexico. *General Meeting of the NASA Astrobiology Institute, Tempe, Arizona, USA*. Book of Abstracts, p. 213 (# 12864).
- Garcia-Pichel, F., F. Al-Horani, R. Ludwig, **B. D. Wade**. 2003. Direct assessment of calcification rates in modern stromatolitic oncolites. *General Meeting of the NASA Astrobiology Institute, Tempe, Arizona, USA*. Book of Abstracts, p. 536 (# 13000).
- Rothrock Jr., M. J., **B. D. Wade**, F. Garcia-Pichel. 2002. Molecular analysis of cyanobacteria-dominated evaporitic gypsum teepees. *General Meeting of the American Society for Microbiology, Salt Lake City, Utah, USA*. Final Program, p. 108 (# N-109).