

Alison Buchan

Department of Microbiology
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As of Feb 2005

Also

Assistant Professor of Microbiology, The University of Tennessee
Faculty member, ORNL-UTK Graduate Program in Genome Science and
Technology (as of 2005)
Faculty member, Center for Environmental Biotechnology, The University of
Tennessee (as of 2008)

Academic Preparation

2003-2004 Postdoctoral Fellow-Yale University (Adviser: L. N. Ornston)
2002-2003 Postdoctoral Associate - University of Georgia (Adviser: M.A. Moran)
1997-2001 Ph.D. University of Georgia – Marine Sciences; Ecology and Genetics of Aromatic
Compound Degradation (Adviser: M.A. Moran)
1994-1997 Ms. University of Georgia – Microbiology; Strain-specific differentiation of
environmental *Escherichia coli* strains (Adviser: R. E. Hodson)
1990-1994 B.Sc. James Madison University - Biology

Awards and Commendations

2003 National Science Foundation Postdoctoral Research Fellowship in Microbial Biology
2003 American Society for Microbiology/The Institute for Genomic Research Travel Award
2003 EU-US Molecular Biology for the Environment Student-Participant Award (Feb 2-15, Madrid)
2002 ORNL 9th Annual Genomics Conference Travel Award
2000 American Society for Microbiology Travel Award
1997 University of Georgia Outstanding Teaching Assistant Award
1996 University of Georgia Excellence in Teaching Award
1992 American Society for Microbiology Undergraduate Research Fellowship

Mentoring and Teaching Service

| Masters Students | Thesis | Status |
|-------------------------|--|---------------|
| Rachael Slightom | <i>Characterization of motility, chemotaxis and biofilm formation in members of the marine Roseobacter clade</i> | Spr'08 |
| W. Nathan Cude | <i>Characterization of biofilm formation in <i>Phaeobacter</i> sp. Y4I</i> | current |

| PhD Students Thesis | Status |
|--|---------------|
| Charles Budinoff <i>Impacts of viruses on Roseobacter natural Roseobacter populations</i> | current |
| Christopher Gulvik <i>Identifying novel organisms and enzymes for the breakdown lignocellulose</i> | current |

Mentor, College of Arts & Sciences Pre-Collegiate Research Scholars Program (Fall 2007; Alexis Wong; Spring 2008; Cheri Fathy, Farragut High School)

Mentor, Upward Bound Program [UTK Math and Science Regional Center] (Summer 2007; Brittany Gabriel)

Visiting Scientists[†], Graduate^ψ and Undergraduate* Research Assistants* Mentored

Derrick Osborne* (UTK; Fall 2009), Paul Ruschitzka* (Austria, Marshal Plan Scholarship Mar-July 2009), Lisa Philips* [UT; 2008-), Amy Page (UT; Spring 2009), Eric Jones* (UT; 2008), Calvin Green^ψ (UT; Fall 2008), Darren Dunlap* (University of Tennessee [UT]; 2006-2008), Cynthia Ljewinski-Maines^ψ (UT; Fa 2006), Tingting Xu^ψ (UT; Fa 2006), Brian Erickson^ψ (UT; Su 2006), Nicole Edwards^ψ (UT; Su 2006), Nastassia Gurgangus* (UT; 2005-06), Emmanuel Fobi* (Knoxville College; 2006), Vidhya Silvanose^ψ (UT; Fa 2005), Rita Fischer[†] (University of Ulm, DEU; 2004), Susan Schlimpert[†] (University of Freiberg, DEU; 2003-2004), Kristina Fontanez* (Princeton University; 2003), Justine Lyons^ψ (University of Georgia; 2000-2002), Emily Hierling* (University of Georgia; 2002), Melissa Butler* (University of Georgia 2001-2002), Jutta Kleikemper[†] (Swiss Federal Institute of Technology Zurich; 2001), Maria Pickering* (University of California Santa Barbara; 2000, 2001), Christina DeStefano* (University of Georgia; 1997)

Laboratory Technicians Supervised

Mary Hadden [UT; 2006-present], Burnette Crombie [UT; 2007-2009], Jason Mooney [UT; 2007],

Teaching Experience - The University of Tennessee

Fall 2005 Advanced Topics in Microbial Genetics and Molecular Biology (Micro 650 - *Molecular tools and complex communities*)

Fall 2006, 2007, 2008, 2009 Microbial Ecology (Micro 470)

Spring 2007 Journal Club in Microbial Physiology (Micro 610)

Spring 2008, Advanced Microbiology (Micro 320)

Fall 2008, Journal Club in Microbial Ecology (Micro 606)

Spring 2009, Advanced Topics – Bioenergy [Micro 650]

Research Expeditions

Northern Atlantic Ocean, Apr 2002, *R/V Oceanus*

Chesapeake Bay, Aug 2005, *R/V Cape Henlopen*

Hawaii coastal transects, Nov 4-6, 2006, *R/V Kilo Moana*

Western Pacific Ocean, *R/V Kilo Moana* Jan 3-Jan 25, 2007

Chesapeake Bay, July 2007, *R/V Hugh R. Sharp* July 15-19

Chief Scientist: R. Kiene

Chief Scientist: C. Gilmour

Chief Scientist: E. Zinser

Chief Scientist: E. Zinser

Chief Scientist: A. Buchan

Research Grants and Support

Nationally Competitive Grants and Awards from Federal Sources

- 2003 - 2004 NSF (Division of Biology) DBI-0200164 \$100,000 "Postdoctoral Research Fellowship in Microbial Biology"
- 2005 - 2006 NSF (Molecular & Cellular Biology) MCB-0534203, R01-1015-114 \$50,000 "Characterization of catabolic pathways for the degradation of plant-related aromatics in the marine bacterium *Silicibacter pomeroyi*"
- 2006 - 2010 NSF (Biological Oceanography) OCE-0550485, R01-1015-119 \$318,112 total; plus 5 days shiptime (ca.\$ 35,000) "Determining growth rates of specific bacterioplankton"
- 2007 Southeastern SunGrant Initiative "Identifying novel lignin and lignocellulose degrading enzymes from natural decomposer communities" \$50,000 [PI w/John Sanseverino and Todd Reynolds]
- 2009-2014 Department of Energy (Emerging Frontiers Energy Centers) C3Bio "Chemical catalysis for the conversion of renewable feedstocks into chemicals and fuels" (\$1,663,149; \$369,731 to Buchan) *awarded 04/27/09 -5 years-* Co-PI with Maureen McCann (Purdue University) and Joe Bozell (UTIA)

University Awards

- 2006 Professional Development Award \$4,467 "A shifting paradigm in the isolation and cultivation of microbes" (Co-PI w/ Steven Wilhelm)
- 2007 Joint Directed Research and Development Award FY'07 \$44,960 "Assessing the role of sensory mechanisms in defining microbial activities" [PI w/ Gladys Alexandre]
- 2007 UT SARIF Equipment Application "Proposal to purchase a Mill-Q Water Purification System" \$7,000 from SARIF, \$2000 from Microbiology, \$2000 College of Arts & Sciences [PI w/ Steven Wilhelm and Erik Zinser]
- 2008 UTK Science Alliance: Joint Directed Research and Development Award FY'08 \$56,210 "Assessing the role of sensory mechanisms in defining microbial activities" [PI w/ Gladys Alexandre]

Publications and Presentations

Book Chapters

- González, J. M., A. W. B. Johnston, M. Vila-Costa, and **A. Buchan**. 2010. Genetics and molecular features of bacterial dimethylsulfoniopropionate (DMSP) and dimethylsulphide (DMS) transformations, In K. M. Timmis (ed.), *Microbiology of hydrocarbons, oils, lipids, and derived compounds*. Springer-Verlag, Germany.
- Buchan, A.** and J. M. Gonzalez. *Roseobacter* 2010. In *Microbiology of Hydrocarbons, Oils, Lipids and Derived Compounds*. In K. M. Timmis (ed.), *Microbiology of hydrocarbons, oils, lipids, and derived compounds*. Springer-Verlag, Germany.

- Ornston, L. Nicholas, S. Schlimpert, **A. Buchan**, and D. Parke. 2008. *Acinetobacter baylyi* genetics. In: *Acinetobacter: Molecular Biology*. U. Gerischer (ed). Norfolk, UK: Caister Academic Press. pp 141-162.
- Poretzky, R. S., N. Bano, **A. Buchan**, J. T. Hollibaugh, and M. A. Moran. 2008. Environmental Transcriptomics: a method to access expressed genes in complex microbial communities. In *Molecular Microbial Ecology Manual*, 2nd edition. G. A. Kowalchuk, F. J. de Bruijn, I. M. Head, A. D. L. Akkermans, J. D. van Elsas (eds). Kluwer Academic Publishers. pages 1892-1904.

Peer-Reviewed Journal Publications

- MacLeod, D. M., Y. Fu, R. B. Rivkin, F. Chen, **A. Buchan**, and A. S. Lang. *in review*. Gene Transfer Agent Diversity and Production Potential in Coastal North Atlantic Ocean Microbial Communities *Aquatic Microbial Ecology*
- Buchan, A.**, M. K. Hadden, M. T. Suzuki. 2009. Development and application of quantitative PCR tools for subgroups of the *Roseobacter* clade. *Applied and Environmental Microbiology* published ahead of print on 2 October 2009, doi:10.1128/AEM.00814-09
- Slightom, R. N., and **A. Buchan**. 2009. Surface Colonization by Marine Roseobacters: Integrating Genotype and Phenotype. *Applied and Environmental Microbiology* 75:6027-6037
- Zhao, Y., K. Wang, C. Budinoff, **A. Buchan**, A. Lang, N. Jiao, and F. Chen. 2009. Gene transfer agent (GTA) genes reveal diverse and dynamic Roseobacter and Rhodobacter populations in Chesapeake Bay. *The International Society for Microbial Ecology Journal*. 3: 364-373.
- Moran, M. A., R. Belas, M. A. Schell, J. M. González, F. Sun, B. J. Binder, J. Edmonds, W. Ye, B. Orcutt, E. C. Howard, C. Meile, W. Palefsky, A. Goesmann, Q. Ren, I. Paulsen, L. E. Ulrich, L. S. Thompson, E. Saunders and **A. Buchan**. 2007. Ecological Genomics of Marine Roseobacters. *Applied and Environmental Microbiology* 73:4559-4569.
- LeClerc, G. R., **A. Buchan**, J. Maurer, M.A. Moran, and J. T. Hollibaugh. 2007. Comparison of chitinolytic enzymes from an alkaline, hypersaline lake and an estuary. *Environmental Microbiology* 9:197-205.
- E. C. Howard, J. R. Henrikson, **A. Buchan**, C. R. Reisch, H. Bürgmann, R. Welsh, W. Ye, J. M. Gonzalez, K. Mace, S. B. Joye, R. P. Kiene, W. B. Whitman, and M. A. Moran. 2006. Bacterial Taxa Limiting Sulfur Flux from the Ocean. *Science* 314:649-652.
- Buchan, A.** and L. N. Ornston. 2005 . When coupled to natural transformation, PCR-mutagenesis is made less random by mismatch repair. *Applied and Environmental Microbiology* 71:7610-7612.
- Buchan, A.**, J. M. González, and M. A. Moran. 2005. An Overview of the Marine Roseobacter Lineage (MiniReview). *Applied and Environmental Microbiology* 71:5665-5677.
- Poretzky, R. S., N. Bano, **A. Buchan**, G. LeClerc, J. Kleikemper, M. Pickering, M.A. Moran, and J. T. Hollibaugh. 2005. Analysis of microbial gene transcripts in environmental samples. *Applied and Environmental Microbiology* 71:4121-4126.
- Moran, M A., **A. Buchan**, J. M. González, J. F. Heidelberg, J. Henriksen, W. B. Whitman, R. P. Kiene, J. A. Eisen, G. King, M. R. Belas, C. Fuqua, E. Rahe, W. Sheldon, W. Ye, J. Carlton, L. Brinkac, M. Lewis, S. Johri, B. Weaver, D. Rasko, I. Paulsen, Q. Ren, and N. Ward. 2004. Genome Sequence from an Ecologically Significant Marine Bacterial Taxon. *Nature* 432:910-913.

- LeClerc, G. R., **A. Buchan**, and J. T. Hollibaugh. 2004. Chitinase gene sequences retrieved from diverse aquatic habitats reveal environment-specific distributions. *Applied and Environmental Microbiology* 70:6977-6983.
- Buchan, A.**, E. L. Neidle, and M. A. Moran. 2004. Organization of the b-ketoadipate pathway in members of the marine *Roseobacter* lineage. *Applied and Environmental Microbiology* 70: 1658-1668.
- Buchan, A.**, S. Y. Newell, M. Butler, E. J. Biers, J. T. Hollibaugh and M. A. Moran. 2003. Dynamics of bacterial and fungal communities on decaying salt marsh grass. *Applied and Environmental Microbiology* 69:6676-6687.
- J. M. Gonzalez, J. S. Covert, W. B. Whitman, J. R. Henriksen, F. Mayer, B. Scharf, R. Schmitt, **A. Buchan**, J. A. Fuhrman, R. P. Kiene and M. A. Moran. 2003. *Silicibacter pomeroyi* sp. nov. and *Roseovarius nubinhibens* sp. nov., dimethylsulfoniopropionate-demethylating bacteria from marine environments. *International Journal of Systematic Bacteriology* 53:1261-1269.
- Moreta, J. I. L., S. Y. Newell, **A. Buchan**, and M. A. Moran. 2003. Diversity of ascomycete laccase gene sequences in a southeastern U.S. saltmarsh. *Microbial Ecology* 45:270-281.
- Buchan, A.**, S. Y. Newell, J. I. Moreta, and M. A. Moran. 2002. Molecular characterization of bacterial and fungal decomposer communities in a southeastern U.S. salt marsh. *Microbial Ecology* 43: 329-340.
- Buchan, A.**, E. L. Neidle and M. A. Moran. 2001. Diversity of the ring-cleaving dioxygenase gene *pcaH* in a salt marsh bacterial community. *Applied and Environmental Microbiology* 67:5801-5809.
- Buchan, A.**, M. Alber, and R. E. Hodson. 2001. Strain specific differentiation of environmental *Escherichia coli* isolates via denaturing gradient gel electrophoresis (DGGE) analysis of the 16S-23S intergenic spacer region. *FEMS Microbial Ecology* 35: 313-321.
- Buchan, A.**, L. Collier, E. Neidle, and M. A. Moran. 2000. Key aromatic-ring-cleaving enzyme, protocatechuate 3,4-dioxygenase, in the ecologically important marine *Roseobacter* lineage. *Applied and Environmental Microbiology* 66:4662-4672.

Invited Talks

- Buchan, A. 2009. Roseobacter biogeography. Department of Microbiology, University of Georgia, Nov 5.
- Buchan, A. 2009. Genetic diversity and ecology of the marine Roseobacter lineage. Biosymposium Keynote Address, James Madison University, April 17.
- Buchan, A. 2008. Ecology of the Marine Roseobacter Lineage. Department of Ecology and Evolutionary Biology, University of Tennessee, April 11.
- Buchan, A. 2007. Ecology of the Marine Roseobacter Lineage. Department of Microbiology, Southern Illinois University, September 20.
- Buchan A. 2007. Marine microbial communities: untapped resources for novel lignin and lignocellulose degrading enzymes? UT SunGrant Center, September 26.
- Buchan, A. 2004. Microbial Community Dynamics and Functional Gene Diversity in a Southeastern Salt Marsh. The Ecosystems Center, Marine Biological Laboratories, Woods Hole, MA.
- Buchan, A. 2002. Diversity of Genes Mediating Aromatic Ring Cleavage in Marine Bacterial Communities. 102nd General Meeting of the American Society for Microbiology. Salt Lake City, UT.

Buchan, A., M. Alber, M. A. Moran, R. E. Hodson. 1997. An Evaluation of Subtyping Methods for the Identification of Fecal Pollution Sources. Georgia Water Resources Conference, Athens, GA.

Presentations at Scientific Meetings (Poster Presentations)

Morris, J. J., E. P. Coultas, J. R. Dunlap, **A. Buchan**, and E. R. Zinser. 2009. Algae of the oxycline: cultivation using strategies to alleviate oxidative stress. Phycological Society of America Annual Meeting, 18-22 July, Honolulu, HI.

Buchan, A., B.Crombie, and G.M. Alexandre. 2009. Using *cheA* diversity to monitor the establishment of microbial communities adapted to the rhizosphere. General Meeting of the American Society for Microbiology, May 17-21, Philadelphia, PA.

C. A. Gulvik, M. L. DiClaudio, J. Sanseverino, D. B. Finkelstein, and **A. Buchan**. 2009. Identifying Salt Marsh Microbial Decomposer Communities Capable of Degrading Switchgrass. General Meeting of the American Society for Microbiology, May 17-21, Philadelphia, PA

C. R. Budinoff, M. E. Jones, S. W. Wilhelm, and **A. Buchan**. 2009. Isolation and characterization of roseobacters and roseophage from two distinct coastal environments. SCOR (Scientific Committee on Ocean Research Viral Ecology) Viral Ecology Meeting, May 14-16, Newark, DE.

Morris, J. J., R. Kirkegaard, M. J. Szul, Z. I. Johnson, **A. Buchan**, M. Keller, E. R. Zinser. 2008. Use of Heterotrophic "helpers" improves cultivability of phytoplankton. Phycological Society of America Annual Meeting, July 28-30, New Orleans, LA.

DiFurio, S., Pfiffner, S.M., Kuntzman, J., Webster, C.E., Tapp, Bryan, J., **Buchan, A.** 2008. Examining microbial community profiles from natural acid rock drainage at Peekaboo Gulch Colorado. General Meeting of the American Society for Microbiology, June 1-5. Boston, MA.

Alexandre, G., B. Crombie, and **A. Buchan**. 2008. Development and implementation of a set of molecular tools for assessing the diversity of *cheA* sensor kinases. General Meeting of the American Society for Microbiology, June 1-5. Boston, MA.

Yao, D., **A. Buchan**, M. T. Suzuki. In situ activity of NAC11-7 Roseobacters in Coastal Waters off the Chesapeake Bay, based on *ftsZ* Gene Expression. 2008. American Society for Limnology and Oceanography, June 9-13, St. John's New Foundland.

R. Slightom and **A. Buchan**. 2007. Motility and attachment in phylogenetically distinct strains of the Roseobacter Clade. American Society for Microbiology General Meeting. Toronto, Canada.

Webster, C. E., J. B. Tapp, E. M. Jennings, S.M. Pfiffner, **A. Buchan**. 2007. Biogeochemical Analysis of Microbial Community Structure in Alpine Peekaboo Gulch, Colorado. The Geological Society of America Annual Meeting. Denver, Colorado.

Kuntzman, J., S.M., Pfiffner, S. DiFurio, **A. Buchan**, C.E. Webster, and B.J.Tapp. 2007. Examining Molecular Diversity in Peekaboo Gulch Colorado. KY-TN Regional Meeting of the ASM. October 5-6.

Buchan, A., Susan Schlimpert and L. Nicholas Ornston. A genetic approach to structure/function analysis of the protocatechuate transporter PcaK in *Acinetobacter baylyi* strain ADP1 identifies critical residues but is also biased. American Society for Microbiology General Meeting. Atlanta, GA. June 5-9, 2005.

Buchan, A. and L. N. Ornston. 2004. Identification of Critical Amino Acid Residues in PcaK, a Protocatechuate Transporter and Member of the Major Facilitator Superfamily. 104th General Meeting of the American Society of Microbiology. New Orleans, LA.

- Fontanez, K. M., S. Schlimpert, **A. Buchan**, and L. N. Ornston. 2004. An Efficient Technique for Mapping Mutations in *Aciantobacter* sp. strain ADP1. 104th General Meeting of the American Society of Microbiology. New Orleans, LA.
- Buchan, A.**, E. C. Hierling, and M. A. Moran. 2003. Genetic tools for Ecological Studies: Development of a Genetic System for Utilizing the Genomic Sequence of Marine Heterotroph *Silicibacter pomeroyi* DSS-3. 103rd General Meeting of the American Society of Microbiology. Washington, D.C.
- Buchan, A.**, J. Henriksen, W. B. Whitman, R.P. Kiene, D. Slezak, L. Brinkac, J. F. Heidelberg, N. Ward, and M. A. Moran. 2003. Genome Sequence of a Successful Marine Heterotroph: *Silicibacter pomeroyi* DSS-3. 3rd American Society for Microbiology/The Institute for Genome Research Small Genomes Conference. New Orleans, LA.
- Buchan, A.**, E. L. Neidle, and M. A. Moran. 2002. Diversity of Genes Mediating Aromatic Ring Cleavage in Salt Marsh Bacterial Communities. NSF Microbial Observatories Workshop. Arlington, VA.
- Buchan, A.**, J.I.L. Moreta, S. Y. Newell, and M.A. Moran. 2002. Mycology within the Georgia Coastal Ecosystems LTER, Subproject Decomposers Consortia Experiments. 7th International Mycological Congress-Population Dynamics & Ecology. International Mycological Association, University of Oslo, Oslo, Norway. IMC7 Book of Abstracts, Poster 939, p. 283.
- Buchan, A.**, E. L. Neidle, and M. A. Moran. 2001. The Dynamic Nature of Gene Organization Associated with a Key Biogeochemical Function in Closely Related Marine Alpha Proteobacteria. 9th International Conference on Microbial Genomes. Gatlinburg, TN.
- Buchan, A.**, E. L. Neidle, and M. A. Moran. 2001. Prevalence and Diversity of an Aromatic Ring-Cleaving Dioxygenase Gene in a Salt Marsh Community. 101st General Meeting of the American Society for Microbiology. Orlando, FL.
- Buchan, A.**, J. I. Lyons, S. Y. Newell, M. A. Moran. 2001. Molecular Characterization of Bacterial and Fungal Decomposer Communities in a Southeastern U.S. Salt Marsh. 101st General Meeting of the American Society for Microbiology. Orlando, FL.
- Buchan, A.**, E. L. Neidle, and M. A. Moran. 2000. Ring-Cleaving Dioxygenases in an Ecologically Important Marine Lineage of the alpha Subdivision of Proteobacteria. 100th General Meeting of the American Society for Microbiology. Los Angeles, CA.
- Buchan, A.**, E. L. Neidle, and M. A. Moran. 1999. Ring Cleavage Dioxygenases in an Important Lineage of Marine Alpha Bacteria. 99th General Meeting of the American Society of Microbiology. Chicago, IL.
- Buchan, A.**, M. Alber, M. A. Moran, and R. E. Hodson. 1997. An Evaluation of Subtyping Methods for the Identification of Fecal Pollution Sources in Lake Sidney Lanier, Georgia. 97th General Meeting of the American Society for Microbiology. Miami, FL.
- Buchan, A.** and B. A. Wiggins. 1994. Factors Affecting the Formation of Enriched Bacterial Communities in the Surface Microlayer of Freshwaters. 94th General Meeting of the American Society for Microbiology. Las Vegas, NV.

Select Affiliations, Activities and Service

Working Groups: Invited participant -*Microbial Observatories/Life In Extreme Environments*

workshop. NSF, Arlington, Virginia, USA. (Sept 2002)

Invited participant - *Microbial Observatories* workshop. NSF, Arlington, Virginia, USA (Sept 2003)

Invited participant - *Horizontal Gene Transfer in the Environment* working group. Warrenton, Virginia, USA (June 2004)

Invited participant - *Faculty Horizons: a workshop for aspiring STEM (Science, Technology, Engineering & Mathematics) faculty*. Baltimore, Maryland, USA (July 2004)

Invited participant - *EC-US Task for Biotechnology Research* working group. Brussels, Belgium (Oct 2005)

Discussion leader - *Ecological Insights through Genomic Approaches*. Gordon Conference on Marine Microbes, University of New England, Biddeford, Maine USA (July 2006)

University, College & Departmental Service (UT)

Departmental Service:

Chair, Graduate Curriculum Committee (2006-present)

Chair, Microbiology 310/320 Course Revision Committee (2008)

Coordinator, Departmental Course Timetable (2006-present)

Sitting Member, Microbiology Undergraduate Curriculum Committee (2005-present)

Sitting Member, PhD Committee Janet Rowe, Adviser: Wilhelm (2005-2008)

Sitting Member, PhD Committee Matthew Scholtz, Adviser: Sayler (2006-present)

Sitting Member, PhD Committee Audrey Cupp, Adviser, Wilhelm (Fall 2007-present)

Sitting Member, PhD Committee Christopher Allender, Adviser: Wilhelm [Fall 2007-Spring 2009]

Sitting Member, PhD Committee Matthew Saxton, Adviser: Wilhelm [Fall 2007-present]

Sitting Member, PhD Committee Jeffrey Morris, Adviser: Zinser [Fall 2007-present]

Sitting Member, PhD Committee Ke Jiang, Adviser: Sayler [Spring 2008-present]

Sitting Member, PhD Committee TingTing Xu, Adviser: Sayler (Spring 2009-present)

Sitting Member, PhD Committee Jeremy Chandler, Adviser: Zinser (Spring 2009-present)

Sitting Member, PhD Committee Marty Szul, Adviser: Zinser (Fall 2009-present)

Chair, PhD Qualifying Exam Committee, Janet Rowe, Adviser: Wilhelm (Fall 2007)

Chair, PhD Qualifying Exam Committee, Matthew Saxton, Adviser: Wilhelm [Fall 2008-present]

Sitting Member, PhD Qualifying Exam Committee, Heather Williams, Adviser: Small (Summer 2006)

Sitting Member, PhD Qualifying Exam Committee, Matthew Scholtz, Adviser: Sayler (Fall 2008)

Sitting Member, PhD Qualifying Exam Committee, Ke Jiang, Adviser: Sayler [Spring 2008]

Sitting Member, PhD Qualifying Exam Committee, Jeffrey Morris, Adviser: Sayler [Fall 2008]

Sitting Member, PhD Qualifying Exam Committee, Ke Jiang, Adviser: Sayler [Fall 2008]

Sitting Member, PhD Qualifying Exam Committee, Audrey Matteson, Adviser: Wilhelm [Sum 2009]

College Service

Sitting Member, A&S Curricular Requirements Committee (March 2009- present)

Participant, College of Arts & Sciences Freshman Welcome Week Open House (August 19, 2007)

Sitting Member, Faculty Advisory Committee, UT Division of Biological Sciences (2005)
Sitting Member, College of Arts & Sciences Natural Sciences Divisional Committee (2006-present)
Sitting Member, Division of Biology Molecular Biology Resource Facility (2008-present)
Sitting Member, *Ad hoc* Committee for Selection of Science Alliance and Hollaender Awards Recipients, UT Division of Biological Sciences (April 2006)

Sitting Member, Qualifying Exam Committee for Amber Bible [BCMB], Adviser: Alexandre (Fall 2007)
Sitting Member, PhD Committee Amber Bible, Adviser: Alexandre (2006-present)
Sitting Member, MS Committee Veronica Brown [EEB] (Adviser: McCracken) (Fall 2008-present)
Sitting Member, PhD Committee Emmi Felker-Quinn [EBB] (Adviser: Schweitzer) (Fall 2008-present)

University Service

Discussion Leader, Life of the Mind Program (August 20, 2007)
Discussion Leader, Life of the Mind Program (August 18, 2008)
Discussion Leader, Life of the Mind Program (August 17, 2009)

Other Service

Sitting Member, Genome Science and Technology Comprehensive Exam Committee (2008; participated in 4 exams Fall 2008)
Organizer, Meet and Greet for Governor's Chair Candidates (Michael Wagner, Frank Loffler; 2008, Donald Zak [2009])
Co-Chair, Joint Institute of Biological Sciences Distinguished Scientists Vetting Committee (2005- 2007)
Sitting Member, Joint Institute of Biological Sciences Distinguished Scientists Vetting Committee [2008-present]
Sitting Member, Genome Science & Technology Program Recruiting Committee (2005-present)
Sitting Member, PhD Committee Brian Erickson [GST] (Adviser: van Berkmoes) (Fall 2008)
Sitting Member, PhD Committee Jonathan Hulvey [GST] (Adviser: Lamour) (Fall 2008)
Sitting Member, PhD Committee Nicole Edwards [GST] (Adviser: JennMol) (Spring 2009)
External Reviewer, BCMB Graduate Student Departmental Awards (Apr 2009)

Outreach Service

Judge, 43th annual Tennessee JSHS February 28-29, 2008
Judge, 44th annual Tennessee JSHS March 5-6, 2009

Scientific Community Service

Member Editorial Board Applied and Environmental Microbiology (2009-2011)

External Reviewer, PhD examining committee for Jesper Bruhn, Royal Veterinary and Agricultural University, Copenhagen, Denmark, (May 2007)

Professional Society Memberships: American Society for Microbiology, American Society for Limnology and Oceanography

Ad hoc manuscript reviewer for several journals including *Nature*, *Limnology and Oceanography*, *Methods*, *Research in Microbiology*, *International Journal of Systematic and Evolutionary Microbiology*, *Aquatic Microbial Ecology*, *Microbial Ecology*, *International Society for Microbial Ecology*, *Environment, Science and Technology*, *FEMS Microbiology Ecology*, *Microbiology*, *Deep Sea Research*, *Archives of Microbiology*, *BMC Microbiology*

Ad hoc proposal reviewer for *National Science Foundation (Biological Oceanography, Ecosystems Studies Program, Antarctic Organisms and Ecosystems)*, *Department of Energy, SeaGrant, Caribbean Coral Reef Institute, UMBI/BARD (University of Maryland Biotechnology Institute/US-Israel Binational Agricultural Research & Development Fund, Netherlands Organisation for Scientific Research*

Panel Service

NSF Panelist RIDGE 2000 May 8-10, 2009

NSF Panelist Biological Oceanography May 14-18, 2007

DOE Panelist Genomes to Life (New Genomic Strategies and Technologies for Studying Microbial Communities) June 5-6, 2007