

# MARK A. SCHNEEGURT

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## EDUCATION

PhD, Biology Brown University	1989
MS, Biology Rensselaer Polytechnic Institute	1985
BS, Biology Rensselaer Polytechnic Institute	1984

## PROFESSIONAL EXPERIENCE

Professor Curriculum and Instruction, Wichita State University	2014-present
Coleman Foundation Faculty Fellow in Entrepreneurship Barton School of Business, Wichita State University	2014-present
Affiliated Faculty Biomedical Engineering, Wichita State University	2013-present
Professor Biological Sciences, Wichita State University	2012-present
Associate Professor Biological Sciences, Wichita State University	2006-2012
Visiting Professor Biological Sciences, University of Notre Dame	2005-2008

Assistant Professor Biological Sciences, Wichita State University	2000-2006
Visiting Professor Center for Environmental Science and Technology, University of Notre Dame	2000-2004
Research Assistant Professor Biological Sciences, University of Notre Dame	1997-2000
Postdoctoral Research Associate Biological Sciences, University of Notre Dame	1996-1997
Faculty Center for Environmental Science and Technology, University of Notre Dame	1996-2000
Research Assistant Professor Biological Sciences, Purdue University	1995-1996
Postdoctoral Research Associate Biological Sciences, Purdue University	1992-1995
Associate NASA Specialized Center of Research and Training, Purdue University	1992-1996
Postdoctoral Research Scientist Eli Lilly and Company	1989-1991

## **TEACHING EXPERIENCE**

Instructor General Biology I, BIO 210G, Wichita State University
Instructor General Microbiology, BIO 330, Wichita State University
Instructor Applied and Environmental Microbiology, BIO 530, Wichita State University
Instructor Microbes and You, BIO 103, Wichita State University

Instructor

Computer Methods in Biology, BIO 572, Wichita State University

Instructor

Readings in Microbial Ecology, BIO 798J, Wichita State University

Instructor (Classroom and Online)

Teacher Workshop in Microbial Ecology, BIO 750K, Wichita State University

Instructor (Online)

The Human Organism, BIO 106G, Wichita State University

Instructor

Introduction to Microbiology, BIO 220, Wichita State University

Instructor

Biology Colloquium, BIO 497 and 797, Wichita State University

Instructor

Microbes and Man, BIOS 115, University of Notre Dame

Instructor

Principles of Microbiology, BIOS 401, University of Notre Dame

Instructor

Microbiology Laboratory, BIOS 401L, University of Notre Dame

Co-Instructor

Applied and Environmental Microbiology, BIOS 528, University of Notre Dame

Co-Instructor

Topics in Microbial Ecology, BIOS 590, University of Notre Dame

Co-Instructor

Mars: A 21st Century Frontier, ENG 101, University of Notre Dame

Teaching Assistant at Brown University in General Biology Laboratory, Biochemistry,  
Molecular Biology Laboratory, Biology for Non-Majors

Teaching Assistant at Rensselaer Polytechnic Institute in Molecular Biology Laboratory

## **SELECTED PROFESSIONAL ACTIVITIES**

### **MEMBER**

American Society for Microbiology  
Sigma Xi: The Scientific Research Honor Society  
Kansas Academy of Science  
Planetary Society

### **HONORS AND AWARDS**

Faculty of Excellence, WSU, 2014-present  
Sigma Xi Chapter Activity Award, 2013  
Finalist, Academy of Effective Teaching Award, WSU, 2012  
Excellence in Research Award, WSU, 2012  
150 Greatest Scientists in the History of Kansas, Ad Astra, 2011  
Leadership in the Advancement of Teaching Award, WSU, 2010  
Faculty Scholar Award, KINBRE, 2007  
Outstanding nominee, Academy of Effective Teaching Award, WSU, 2007  
Paper nominated for Provasoli Award, 2001  
Sigma Xi Grant-in-Aid of Research, 1987  
National Researcher Service Award (NIH), 1987-88  
New York State Regents Scholarship, 1980  
National Merit Scholarship, 1980  
Cyanosite selected for 16 website awards

### **RESEARCH GRANTS (>75 proposals with >20 funded)**

#### **Current**

Extended studies on life at low water activities, NASA, JPL/CalTech subcontract, \$70,000, 10/01/17 to 09/30/18.

Life at Low Water Activity with Salts Relevant to Mars and Icy Satellites, NASA ROSES, JPL subcontract, \$187,143, 12/15/15 - 11/14/18.

## Completed

Survival and Reproduction of Microorganisms under Extreme Martian Chemical Conditions, NASA ROSES, \$107,500, 09/10/10 - 12/31/15.

Bioenergy Through Ecological Uses of Algae, Kansas NSF EPSCoR, \$108,000, 09/01/09 - 09/30/15.

Extending the Research Training Tower to Pre-College Students by Screening Prairie Plants for Anti-Cancer Activities, Flossie West Memorial Foundation, \$19,272, 05/01/11 - 04/30/12.

Pass Me the Salt: Extending the Research Training Tower to Pre-College Students, NSF Education GK-12, \$786,779, 01/01/06 - 08/31/11.

Life at High Magnesium Sulfate Concentrations, Kansas NASA EPSCoR, \$28,380, 06/01/09 - 07/01/10.

Development of the Ninnescah Field Station and Experimental Tract, NSF Field Stations and Marine Laboratories, \$240,000, 11/01/06 - 10/31/10.

Collaborative Research: Salt Plains Microbial Observatory, NSF MCB Microbial Observatories, \$198,480, 04/15/02 - 09/30/08.

Measuring the Abundance of Methanogens and Sulfate-reducers with Real-time PCR of Wastewaters Treated with BioKat, NRP Inc., \$17,788, 01/01/07 - 03/31/09.

Molecular Approaches to Study Organismal Response to Global Environmental Change, Subcontract from KSU, NSF EPSCoR MI, \$127,883, 05/01/03 - 04/30/06.

Molecular Biology and Microbiology Trunk Program, Kansas NSF EPSCoR Education Initiative, \$95,306, 07/01/05 - 03/31/06.

Safe, Low-Cost, Salty Microbiology for the Classroom, KanEd, \$33,930, 06/15/04 - 06/15/05.

Remediation of Swine Wastes Using Bio-Stimulants. Kansas Department of Health and the Environment, \$150,000, 05/01/03 - 06/30/05.

Avian Ecology and West Nile Virus Spread. Kansas Biomedical Research Infrastructure Network, NIH, \$24,962, 01/15/04 - 06/30/05.

Acquisition of Fluorescence and Phospho Imaging Instruments, NSF EPSCoR MRI, \$192,576, 01/01/03 - 12/31/04.

Evaluation of Chemical and Biological Assays as Indicators of Toxic Metal Bioavailability in Soils, Subcontract from KSU, EPA EPSCoR, \$163,699, 03/01/02 - 09/30/04.

Investigation of the Spatial Distributions and Transformations of Cr, Pb, and U Co-contaminant Species at the Bacteria-Geosurface Interface. Subcontract through Argonne National Laboratory, Natural Accelerated Bioremediation (NABIR) Program, DOE, \$30,000, 01/01/02 - 12/31/04.

Disturbance and the Biodiversity of the Microbial Guild Fixing Nitrogen in Tallgrass Prairie. NSF EPSCoR award, \$4,000, 04/01/01 - 01/31/02.

Quantifying Bacteria-Metal-Mineral Adsorption: Wet Chemistry and Advanced Photon Source Approaches. Co-PI with Drs. Jeremy Fein, Charles Kulpa, and Bruce Bunker. NSF EAR-9905704, \$315,906, 12/01/99 - 11/30/02.

Cyanosite: A General Webserver for Cyanobacterial Research. PI. Foundation for Microbiology, \$2,286, 09/01/99 - 08/31/02.

Investigation of the Spatial Distributions and Transformations of Cr, Pb, and U Co-contaminant Species at the Bacteria-Geosurface Interface. Subcontractor with Dr. Charles Kulpa. Co-PIs: Drs. Ken Kemner, Ken Neilson, and Steve Pratt. Natural Accelerated Bioremediation (NABIR) Program, DOE, under Argonne National Laboratory FWP # 66244, \$1,142,703, 10/01/98 - 10/31/01.

## REFEREED PUBLICATIONS

85. Schneegurt, M. A., T. E. Beaven, and C. F. Kulpa, Jr. Microbial degradation of pyrene by consortia and an isolate enriched from citrus grove and forest soils. *in preparation*.
84. Rashid, P. R., J. A. Buchheim, M. A. Buchheim, and M. A. Schneegurt. Molecular analysis of the microbial guild fixing nitrogen in ricefields under different fertilization regimes. *in preparation*.
83. Dutta, P. and M. A. Schneegurt. Soil microbial diversity along salinity gradients at the Great Salt Plains of Oklahoma. *in preparation*.
82. Rudrappa, D., M. A. Schneegurt, and R.V. Miller. Population structure and diversity of *Halomonas* spp. from the Great Salt Plains revealed by multilocus sequence typing. *Applied and Environmental Microbiology*, *in revision*.
81. Weber, D. L., H. B. Schur, and M. A. Schneegurt. Chemical and molecular analyses of swine farm wastewater remediation with an *Ascophyllum nodosum* formulation. *Water Environment Research*, *in revision*.
80. Schneegurt, M. A. (2017) Copyediting and proofreading scientific publications after acceptance. *Transactions of the Kansas Academy of Science*, *submitted*.
79. Caton, I. R., T. M. Caton, and M. A. Schneegurt. (2017) Abundance and taxonomy of *nifH* genes and nitrogen-fixation activity in agricultural, pristine, and urban prairie stream sediments chronically exposed to different levels of nitrogen loading. *Archives for Microbiology*, *submitted*.
78. Al Soudi, A. F., O. Farhat, F. Chen, B. C. Clark, and M. A. Schneegurt. (2017) Bacterial growth tolerance to concentrations of chlorate and perchlorate salts relevant to Mars. *International Journal of Astrobiology* **16**:229-235.

77. Fredsgaard, C., D. B. Moore, F. Chen, B. C. Clark, and M. A. Schneegurt. (2017) Prevalence of sucretolerant bacteria in common soils and their isolation and characterization. *Antonie van Leeuwenhoek* **110**:995-1005.
76. Parker, N., M. A. Schneegurt, A.-H. T. Tu, B. M. Forster, and P. Lister (2017) *OpenStax Microbiology*. OpenStax College, Rice University, 1308 pp.
75. Fredsgaard, C., D. B. Moore, A. F. Al Soudi, J. D. Crisler, F. Chen, B. C. Clark, and M. A. Schneegurt (2017) Relationships between sucretolerance and salinotolerance in bacteria from hypersaline environments and their implications for the exploration of Mars and the icy worlds. *International Journal of Astrobiology* **16**:156-162.
74. Schneegurt, M. A. (2016) Peer review in scientific publication. *Transactions of the Kansas Academy of Science* **119**:360-362.
73. Harris, D. and M. A. Schneegurt (2016) The other open-access debate. *American Scientist* **104**:334-336; **105**:3.
72. Dille, J. W., C. M. Rogers, and M. A. Schneegurt (2016) Isolation and characterization of bacteria isolated from the feathers of wild Dark-eyed Juncos (*Junco hyemalis*). *The Auk* **133**:155-167.
71. Schneegurt, M. A. (2015) Choosing a scientific journal for your manuscript. *Transactions of the Kansas Academy of Science* **118**:248-250.
70. Schneegurt, M. A. (2014) Awarding the distinction of authorship on a scientific paper. *Transactions of the Kansas Academy of Science* **117**:270-272.
69. Kilmer, B. R., T. C. Eberl, B. Cunderla, F. Chen, B. C. Clark, and M. A. Schneegurt (2014) Molecular and phenetic characterization of the bacterial assemblage of Hot Lake, WA, an environment with high concentrations of magnesium sulphate, and its relevance to Mars. *International Journal of Astrobiology* **13**:69-80.



68. Schneegurt, M. A. (2013) What is publishable data and how will I recognize it? *Transactions of the Kansas Academy of Science* **116**:136-138.
67. Evans, S., R. W. Hansen, H. M. Stone, and M. A. Schneegurt (2013) Isolation and characterization of halotolerant soil fungi from the Great Salt Plains of Oklahoma (USA). *Cryptogamie Mycologie* **34**:329-341.
66. Xiao, W., Z.-G. Wang, Y.-X. Wang, M. A. Schneegurt, Z.-Y. Li, Y.-H. Lai, S.-Y. Zhang, M.-L. Wen, and X.-L. Cui (2013) Comparative molecular analysis of the prokaryotic diversity of two salt mine soils in southwest China. *Journal of Basic Microbiology* **53**:1-11.
65. Schneegurt, M. A. (2013) Colorimetric microbial diversity analysis and halotolerance along a soil salinity gradient at the Great Salt Plains of Oklahoma. *Research in Microbiology* **164**:83-89.
64. Schneegurt, M. A. (2012) The practice and ethics of scientific publication: Laying out the issues. *Transactions of the Kansas Academy of Science* **115**:179-180.
63. Schneegurt, M. A. (2012) Media and conditions for the growth of halophilic and halotolerant bacteria and archaea. In: R. H. Vreeland, ed. *Advances in Understanding the Biology of Halophilic Microorganisms*. Springer, Dordrecht, pp. 35-58.
62. Ens, S., A. B. Olson, C. Dudley, N. D. Ross III, A. A. Siddiqi, K. M. Umoh, and M. A. Schneegurt (2012) Inexpensive and safe gel electrophoresis using household materials. *Biochemistry and Molecular Biology Education* **40**:198-203.
61. Caton, I. R. and M. A. Schneegurt (2012) Culture-independent analysis of the soil bacterial assemblage at the Great Salt Plains of Oklahoma. *Journal of Basic Microbiology* **52**:16-26.

60. Crisler, J. D., T. M. Newville, F. Chen, B. C. Clark, and M. A. Schneegurt (2012) Bacterial growth at the high concentrations of magnesium sulfate found in Martian soils. *Astrobiology* **12**:98-106.
59. Welch, W. G., C. H. Cope, C. R. Wernert, D. A. Distler, and M. A. Schneegurt (2011) A thirty-year longitudinal survey of unionid mussels from the urban reach of the Little Arkansas River. *Transactions of the Kansas Academy of Science* **114**: 249-257.
58. Welch, W., S. Ross, A. C. Steinle, and M. A. Schneegurt (2010) Effects of sublethal concentrations of isoxaben on the development of the African Clawed Frog, *Xenopus laevis*. *Toxicological and Environmental Chemistry* **92**:1895-1899.
57. Schneegurt, M. A. and J. Herzog (2010) Connect Package to Accompany Prescott, Harley, and Klein's Microbiology. McGraw-Hill, online.
56. Sherwood, L. and M. Schneegurt (2010) Study Guide to Accompany Prescott, Harley, and Klein's Microbiology. McGraw-Hill, online.
55. Caton, T. M., I. R. Caton, L. R. Witte, and M. A. Schneegurt (2009) Archaeal diversity at the Great Salt Plains of Oklahoma described by cultivation and molecular analyses. *Microbial Ecology* **58**:519-528.
54. Shelite, T. R., C. M. Rogers, B. R. Litzner, R. R. Johnson, and M. A. Schneegurt (2008) West Nile virus antibodies in permanent resident and overwintering migrant birds in south-central Kansas. *Vector-Borne and Zoonotic Diseases* **8**:321-329.
53. Johnson, K. J., D. A. Ams, A. N. Wedel, J.E.S. Szymanowski, D. L. Weber, M. A. Schneegurt, and J. B. Fein (2007) The impact of metabolic state on Cd adsorption onto bacterial cells. *Geobiology* **5**:211-218.

52. Sherwood, L. and M. Schneegurt (2007) Instructor's Guide to Accompany Prescott, Harley, and Klein's Microbiology. McGraw-Hill, online.
51. Sherwood, L. and M. Schneegurt (2007) Study Guide to Accompany Prescott, Harley, and Klein's Microbiology. McGraw-Hill, 428 pgs.
50. Litzner, B. R., T. M. Caton, and M. A. Schneegurt (2006) Carbon substrate utilization, antibiotic sensitivity, and numerical taxonomy of bacterial isolates from the Great Salt Plains of Oklahoma. *Archives of Microbiology* **185**:286-296.
49. Schur, H. B., M. A. Schneegurt, and R. S. Reimers (2005) Bio-stimulant control of odors for agricultural manure using innovative technology. Proceedings of the 5th WEF Innovative Uses of Animal Manure Municipal and Industrial Solids Symposium.
48. Schneegurt, M. A., Weber, D. L., S. Ewing, and H. B. Schur (2005) Evaluating biostimulant effects in swine production facility wastewater. Proceedings of the Animal Manure Waste Management Symposium, pp. 6-12.
47. Schneegurt, M. A. (2005)  $\delta$ -Aminolevulinic acid biosynthesis in *Ustilago maydis*. *Journal of Basic Microbiology* **45**:155-159.
46. Schneegurt M. A. and S. Mader (2005) Chapter 28: Microbiology. In: *Inquiry into Life*, 11th Ed., S. Mader (ed), McGraw-Hill, pp. 571-598.
45. Wilson, C., T. M. Caton, J. A. Buchheim, M. A. Buchheim, M. A. Schneegurt, and R. V. Miller (2004) DNA-Repair potential of *Halomonas* spp. from the Salt Plains Microbial Observatory of Oklahoma. *Microbial Ecology* **48**:541-549.
44. Caton, T. M., L. R. Witte, H. D. Ngyuen, J. A. Buchheim, M. A. Buchheim, and M. A. Schneegurt (2004) Halotolerant aerobic heterotrophic bacteria from the Great Salt Plains of Oklahoma. *Microbial Ecology* **48**:449-462
43. Kemner, K. M., S. D. Kelly, B. Lai, J. Maser, E. J. O'Loughlin, D. Sholto-Douglas, Z. Cai, M. A. Schneegurt, C. F. Kulpa, Jr., K. H. Nealson (2004) X-ray

- microbeam analysis of bacteria: Elemental and redox analysis of single cells. *Science* **306**:686-687.
42. Schneegurt, M. A., A. N. Wedel, and E. W. Pokorski (2004) Safe, low-cost, salty microbiology for the classroom. *The Science Teacher* **71**:40-43.
  41. Ams, D. A., J. B. Fein, J. Schaefer, A. N. Wedel, and M. A. Schneegurt (2004) Effect of bacterial metabolism on Cd adsorption to bacterial surfaces. In: *Water-Rock Interaction*, Vol. 11, Wanty and Seal (eds), Taylor and Francis Group, London, pp. 1087-1090.
  40. Schneegurt M. A. and S. Mader (2004) The Viruses. In: *Biology*, 8th Ed., S. Mader (ed), McGraw-Hill.
  39. Schneegurt M. A. and S. Mader (2004) The Prokaryotes. In: *Biology*, 8th Ed., S. Mader (ed), McGraw-Hill.
  38. Schneegurt M. A. and S. Mader (2004) The Protists. In: *Biology*, 8th Ed., S. Mader (ed), McGraw-Hill.
  37. Schneegurt M. A. and S. Mader (2004) The Fungi. In: *Biology*, 8th Ed., S. Mader (ed), McGraw-Hill.
  36. Schneegurt, M. A., S. Y. Dore, and C. F. Kulpa Jr. (2003) Review: Direct extraction of DNA from soils for studies in microbial ecology. *Current Issues Molecular Biology* **5**:1-8.
  35. Schneegurt, M. A. and S. Mader (2003) Infectious Disease and Immunology. In: *Human Biology Laboratory Manual*, 8th Ed., S. Mader (ed), McGraw-Hill, pp. 261-274.
  34. Schneegurt M. A. and S. Mader (2003) Human Disease: Parasites and Pathogens. In: *Human Biology*, 8th Ed., S. Mader (ed), McGraw-Hill, pp. 417-440.

33. Schneegurt, M. A. (2002) Food. In: *Space Sciences, Volume 3: Humans in Space*, Macmillan Reference.
32. Silliman, S. E., R. Dunlap, M. Fletcher, and M. A. Schneegurt (2001) Bacterial transport in heterogeneous porous media: Observations from laboratory experiments. *Water Resources Research* **37**:2699-2707.
31. Ely, J. C., C. R. Neal, C. F. Kulpa, M. A. Schneegurt, J. A. Seidler, and J. C. Jain (2001) Implications of platinum-group element accumulation along US roads from catalytic-converter attrition. *Environmental Science & Technology* **35**:3816-3822.
30. Schneegurt, M. A., J. C. Jain, J. A. Menicucci, Jr., S. A. Brown, K. M. Kemner, D. F. Garofalo, M. R. Quallick, C. R. Neal, and C. F. Kulpa, Jr. (2001) Biomass byproducts for the remediation of wastewaters contaminated with toxic metals. *Environmental Science & Technology* **35**:3786-3791.
29. Kemner, K., L. Barry, J. Maser, Z. Cai, S. Kelly, D. Legnini, P. Ilinski, W. Rodrigues, K. Nealson, M. Schneegurt, C. Kulpa Jr., J. Fredrickson, Y. Gorby, and J. Zachara (2001) High energy x-ray microprobe investigation of metal-microbe and mineral-microbe interactions. *Proceedings of the Sixth International Conference on the Biogeochemistry of Trace Elements (ICOBTE) held at University of Guelph, July 29 - August 2, 2001*, pp. SO104-5.
28. Schneegurt, M. A. (2000) Cyanobacteria. In Robinson, R. (ed), *Plant Sciences for Students*, Macmillan, NY.
27. Lai, B., K. M. Kemner, J. Maser, M. A. Schneegurt, Z. Cai, P. P. Ilinski, C. F. Kulpa, D. G. Legnini, K. H. Nealson, S. T. Pratt, W. Rodrigues, M. Lee Tischler, and W. Yun (2000) High-resolution x-ray imaging for microbiology at the Advanced Photon Source. In: *18th International Conference on X-Ray and Inner Shell Processes*, American Institute of Physics, edited by R. W. Dunford, et al., pp. 585-589.

26. Kemner, K. M., B. Lai, J. Maser, M. A. Schneegurt, Z. Cai, P. P. Ilinski, C. F. Kulpa, D. G. Legnini, K. H. Nealson, S. T. Pratt, W. Rodrigues, M. Lee Tischler, and W. Yun (2000) Use of the high-energy X-ray microprobe at the Advanced Photon Source to investigate the interactions between metals and bacteria. In: W. Meyer-Ilse, T. Warwick, and D. Attwood (eds.), *X-Ray Microscopy: Proceedings of the Sixth International Conference*, pp. 319-322.
25. Schneegurt, M. A., D. L. Tucker, J. K. Ondr, D. M. Sherman, and L. A. Sherman (2000) Metabolic rhythms of a diazotrophic cyanobacterium, *Cyanothece* sp. strain ATCC 51142, heterotrophically grown in continuous dark. *Journal of Phycology* **36**:107-117.
24. Kemner, K. M., W. Yun, Z. Cai, B. Lai, H.-R. Lee, J. Maser, D. G. Legnini, W. Rodrigues, J. D. Jastrow, R. M. Miller, S. T. Pratt, M. A. Schneegurt, and C. F. Kulpa, Jr. (1999) Using zone plates for X-ray microimaging and microspectroscopy in environmental science. *Journal of Synchrotron Radiation* **6**:639-641.
23. Kemner, K. M., W. Yun, Z. Cai, B. Lai, H.-R. Lee, D. G. Legnini, W. Rodrigues, J. Jastrow, R. M. Miller, S. T. Pratt, M. A. Schneegurt, C. F. Kulpa, Jr., and A.J.M. Smucker (1998) Using X-ray microprobes for environmental research. *SPIE Proceedings Series* **3449**:45-53.
22. Schneegurt, M. A. and C. F. Kulpa, Jr. (1998) Review: The application of molecular techniques in environmental biotechnology for monitoring microbial systems. *Biotechnology Applied Biochemistry* **27**:73-79.
21. Schneegurt, M. A. and L. A. Sherman (1997) CELSS-3D: A broad computer model simulating a controlled ecological life-support system. *Life Support and Biosphere Science* **4**:3-20.
20. Schneegurt, M. A., D. M. Sherman, and L. A. Sherman (1997) Growth, physiology, and ultrastructure of a diazotrophic cyanobacterium, *Cyanothece* sp.

- strain ATCC 51142, in mixotrophic and chemoheterotrophic cultures. *Journal of Phycology* **33**:632-642.
19. Schneegurt, M. A., D. M. Sherman, and L. A. Sherman (1997) Composition of the carbohydrate granules of *Cyanothece* sp. strain ATCC 51142. *Archives of Microbiology* **167**:89-98.
  18. Schneegurt, M. A. and L. A. Sherman (1996) A role for the diazotrophic cyanobacterium, *Cyanothece* sp. strain ATCC 51142, in nitrogen cycling for CELSS applications. (invited submission) *Life Support and Biosphere Science* **3**:47-52.
  17. Arieli, B., M. A. Schneegurt, and L. A. Sherman (1996) Potential contribution of the diazotrophic cyanobacterium, *Cyanothece* sp. strain ATCC 51142, to a bioregenerative life-support system. *Life Support and Biosphere Science* **2**:145-160.
  16. Schneegurt, M. A., B. Arieli, S. S. Nielsen, P. R. Trumbo, and L. A. Sherman (1996) Evaluation of *Cyanothece* sp. ATCC 51142 as a candidate for inclusion in a CELSS. *Advances in Space Research* **18**(4/5):(4/5)177-(4/5)180.
  15. Schneegurt, M. A. and V. R. Koser (1995) Creating webservers on the Internet to advance CELSS research. (invited submission) *Life Support and Biosphere Science* **2**:71-79.
  14. Schneegurt, M. A., B. Arieli, J. McKeehen, S. Stephens, S. S. Nielsen, P. R. Saha, P. R. Trumbo, and L. A. Sherman (1995) Compositional and toxicological evaluation of the diazotrophic cyanobacterium, *Cyanothece* sp. strain ATCC 51142. *Aquaculture* **134**:339-349.
  13. Sherman, D. M., M. A. Schneegurt, and L. A. Sherman (1994) Freeze-substitution and immunocytochemical localization of metabolic proteins in a unicellular, diazotrophic cyanobacterium. *ICEM 13-Paris*, pp. 279-280.

12. Schneegurt, M. A., D. M. Sherman, S. Nayar, and L. A. Sherman (1994) Oscillating behavior of carbohydrate granule formation and dinitrogen fixation in the cyanobacterium *Cyanothece* sp. strain ATCC 51142. *Journal of Bacteriology* **176**:1586-1597.
11. Schneegurt, M. A., J. L. Roberts, L. A. Bjelk, and B. C. Gerwick (1994) Postemergence activity of isoxaben. *Weed Technology* **8**:183-189.
10. Schneegurt, M. A., D. R. Heim, and I. M. Larrinua (1994) Investigation into the mechanism of isoxaben tolerance in dicot weeds. *Weed Science* **42**:163-167.
9. Heim, D. R., L. Bjelk, J. James, M. A. Schneegurt, and I. M. Larrinua (1993) Resistance of *Agrostis palustris* to isoxaben is due to decreased uptake and to diminished binding site sensitivity. *Journal of Experimental Botany* **44**:1185-1189.
8. Schneegurt, M. A. and S. I. Beale (1992) Origin of the chlorophyll *b* formyl oxygen in *Chlorella vulgaris*. *Biochemistry (ACS)* **31**:11677-11683.
7. Schneegurt, M. A. and M. J. Henry (1992) Effects of piperalin and fenpropidin on sterol biosynthesis in *Ustilago maydis*. *Pesticide Biochemistry and Physiology* **43**:45-52.
6. Schneegurt, M. A. and C. Waldron (1991) Different in-planta and ex-planta activities of 7-Chloro-4-(2-[trifluoromethyl]phenoxy)quinoline against *Pyricularia grisea* due to volatilization. *Pesticide Science* **33**:177-188.
5. Schneegurt, M. A., S. Rieble, and S. I. Beale (1988) The tRNA required for in vitro  $\delta$ -aminolevulinic acid formation from glutamate in *Synechocystis* extracts: determination of activity in a *Synechocystis* in vitro protein synthesizing system. *Plant Physiology* **88**:1358-1366.
4. Schneegurt, M. A. and S. I. Beale (1988) Characterization of the RNA required for biosynthesis of  $\delta$ -aminolevulinic acid from glutamate. Purification by



- anticodon-based affinity chromatography and determination that the UUC glutamate anticodon is a general requirement for function in ALA biosynthesis. *Plant Physiology* **86**:497-504.
3. Weinstein, J. D., M. A. Schneegurt, and S. I. Beale (1987) Biosynthetic precursors of  $\delta$ -aminolevulinic acid in plants and algae. In: Biggins, J., ed., *Progress in Photosynthesis Research, Proceedings of the VII International Congress on Photosynthesis, Vol. IV*, Martinus Nijhoff, Boston, pp. 431-434.
  2. Schneegurt, M. A. and S. I. Beale (1986) Biosynthesis of protoheme and heme *a* from glutamate in maize epicotyls. *Plant Physiology* **81**:965-971.
  1. Schneegurt, M. A. and C. N. McDaniel (1986) Amino acid transport in suspension-cultured plant cells. VI. Influence of pH buffers, calcium and preincubation medium on L-leucine uptake. *Plant Physiology* **81**:36-40.

#### **CONFERENCE PRESENTATIONS INCLUDING ABSTRACTS**

163. Wilks, J., F. Chen, B. C. Clark, and M. A. Schneegurt (2017) Bacterial growth at eutectic temperatures and in saturated salt solutions relevant to Mars. Abstracts and Program, 117th Annual Meeting of the American Society for Microbiology, New Orleans, June 2017.
162. Bower, B. D., M. Alsuri, J. Wilks, M. Harsch, D. Burns, D. English, K. Mitchell-Koch, and M. A. Schneegurt (2017) Antibacterial activity of a picket-porphyrin liptin targeted against phosphatidylglycerol. Abstracts and Program, 1167h Annual Meeting of the American Society for Microbiology, New Orleans, June 2017.
161. Burns, D. H., D. English, K. Mitchell-Koch, M. A. Schneegurt, P. Savage, C. Thacker, A. Alliband, B. Seelam, J. Ellis, Z. Wang, T. Dinh, B. Bower, and J. Wilks (2017) Designing a targeting system for bacterial plasma membranes: Liptins, a new class of antimicrobial small molecules that bind

- phosphatidylglycerol (PG). Solutions for Drug-Resistant Infections Conference, Brisbane, April 2017.
160. Al Soudi, A. F., O. Farhat, F. Chen, B. C. Clark, and M. A. Schneegurt (2016) Bacterial growth tolerance to the high concentrations of chlorate and perchlorate salts found on Mars. Abstracts and Program, 117th Annual Meeting of Sigma Xi, Atlanta, November 2016.
  159. Shrestha, N. and M. A. Schneegurt (2016) Phosphorus limitation enhances biodiesel production in dark-grown algae fed grain or lignocellulosic hydrolysates. Abstracts and Program, 116th Annual Meeting of the American Society for Microbiology, Boston, June 2016.
  158. Al Soudi, A., O. Farhat, F. Chen, B. C. Clark, and M. A. Schneegurt (2016) Bacterial growth tolerance to chlorate and perchlorate salts relevant to Mars. Abstracts and Program, 116th Annual Meeting of the American Society for Microbiology, Boston, June 2016.
  157. Chen, F., P. Vaishampayan, M. La Duc, A. Probst, M. A. Schneegurt, and B. Clark (2016) Comparative phylogenetic analysis of the microbial communities in a spacecraft assembly facility and in epsomite lakes. Abstracts and Program, 116th Annual Meeting of the American Society for Microbiology, Boston, June 2016.
  156. Khan, S. and M. A. Schneegurt (2016) Characterizing bacterial tolerance to iron sulfate. Abstracts and Program, WSU URCAF, April 2016.
  155. Al Soudi, A. and M. A. Schneegurt (2016) Bacterial growth tolerance to (per)chlorate salts relevant to Mars. Abstracts and Program, WSU URCAF, April 2016.
  154. Al Soudi, A., O. Farhat, F. Chen, B. C. Clark, and M. A. Schneegurt (2016) Bacterial growth tolerance to (per)chlorate salts relevant to Mars. Abstracts and

- Program, Annual Meeting of the Missouri Valley Regional Branch of the American Society for Microbiology, Kansas City, March 2016.
153. Al Soudi, A. and M. A. Schneegurt (2016) Bacterial growth tolerance to (per)chlorate salts relevant to Mars. Abstracts and Program, Annual KINBRE Research Symposium, Kansas City, January 2016.
  152. Khan, S. and M. A. Schneegurt (2016) Characterizing bacterial tolerance to iron sulfate. Abstracts and Program, Annual KINBRE Research Symposium, Kansas City, January 2016.
  151. Dille, J. W., C. M. Rogers, and M. A. Schneegurt (2016) Dark-eyed junco (*Junco hyemalis*) feathers carry recognized plant pathogens and beneficial bacteria. Abstracts and Program, 10th Annual Kansas Natural Resources Conference, Wichita, January 2016.
  150. Dille, J. W., C. M. Rogers, and M. A. Schneegurt (2015) Wild Dark-eyed Juncos (*Junco hyemalis*) carry recognized plant pathogens and beneficial bacteria on their feathers. Abstracts and Program, 116th Annual Meeting of Sigma Xi, Kansas City, October 2015.
  149. Dille, J. W., C. M. Rogers, and M. A. Schneegurt (2015) Wild Dark-eyed Juncos (*Junco hyemalis*) carry recognized plant pathogens and beneficial bacteria on their feathers. Abstracts and Program, 115th General Meeting of the American Society for Microbiology, New Orleans, May 2015.
  148. Fredsgaard, C., D. B. Moore, A. F. Al Soudi, and M. A. Schneegurt (2015) Isolation and characterization of sucretolerant bacterial isolates from common soils. Abstracts and Program, 115th General Meeting of the American Society for Microbiology, New Orleans, May 2015.
  147. Chen, F., M. La Duc, P. Vaishampayan, A. Probst, B. Clark, and M. Schneegurt. Survival and reproduction of microorganisms in high epsomite salt conditions.

- Abstracts and Program, 40th COSPAR Scientific Assembly, Moscow, August 2014.
146. Fredsgaard, C., D. B. Moore, and M. A. Schneegurt. Relationships between sucretolerance and salinotolerance in bacterial isolates from oligosaline and hypersaline soils. Abstracts and Program, 114th General Meeting of the American Society for Microbiology, Boston, May 2014.
  145. Dandinpet, K. K. and M. A. Schneegurt. Dark-grown algae fed grain and lignocellulosic hydrosylates for biodiesel production. Abstracts and Program, 114th General Meeting of the American Society for Microbiology, Boston, May 2014.
  144. Fredsgaard, C., D. B. Moore, and M. A. Schneegurt. Comparison of sucretolerance and salinotolerance in bacterial isolates from oligosaline and hypersaline soils. 146th Annual Meeting of the Kansas Academy of Science, Emporia, April 2014. Transactions of the Kansas Academy of Science 117:116-117.
  143. Chen, F., M. T. La Duc, P. Vaishampayan, A. Probst, B. Clark, and M. Schneegurt. A comparative analysis of microbial diversity in spacecraft assembly facilities and epsomite lakes. Abstracts and Program, Workshop on the Habitability of Icy Worlds, Pasadena, February 2014.
  142. Eberl, T. C. and M. A. Schneegurt. Molecular and phenetic characterization of the bacterial assemblage of Hot Lake, WA, an environment with high concentrations of magnesium sulfate, and its relevance to Mars. Annual NISBRE Research Symposium, Washington, DC, March 2014.
  141. Eberl, T. C. and M. A. Schneegurt. Molecular and phenetic characterization of the bacterial assemblage of Hot Lake, WA, an environment with high concentrations of magnesium sulfate, and its relevance to Mars. Annual KINBRE Research Symposium, Kansas City, January 2014.

140. Moore, D. B., C. Fredsgaard, T. L. Kurz, and M. A. Schneegurt. Sucretolerance in oligohaline soils and halotolerant bacteria. Abstracts and Program, 113th General Meeting of the American Society for Microbiology, Denver, May 2013.
139. Crisler, J. D., T. T. Mai, Z. Ahmad, F. Chen, B. C. Clark, and M. A. Schneegurt. Bacterial growth in deliquescent lithium and perchlorate salts potentially relevant to Mars. Abstracts and Program, 113th General Meeting of the American Society for Microbiology, Denver, May 2013.
138. Dandinpet, K. K. and M. A. Schneegurt. Dark-grown algae from corn and sorghum hydrosylates for biodiesel production. Abstracts and Program, 113th General Meeting of the American Society for Microbiology, Denver, May 2013.
137. Vaishampayan, P., M. Schneegurt, B. Clark, and F. Chen. Comparative phylogenetic analysis of the microbial community in a spacecraft assembly facility and in epsomite lakes. Abstracts and Program, 113th General Meeting of the American Society for Microbiology, Denver, May 2013.
136. Dandinpet, K. K. and M. A. Schneegurt. Potential for biodiesel production in the dark by *Chlorella kessleri* with different feedstocks. 9th Annual Symposium of Graduate Research and Scholarly Projects, Wichita, April 2013.
135. Schlittenhardt, N. K., B. R. Houck, T. Baird, and M. A. Schneegurt. Isolation and characterization of halotolerant bacteria from oligohaline soils. WSU Undergraduate Research and Creative Activity Forum, Wichita, April 2013.
134. Schneegurt, M. A. Sigma Xi Lecture: Recognizing publishable data. 145th Annual Meeting of the Kansas Academy of Science, Overland Park, March 2013.
133. Fredsgaard, C., D. B. Moore, T. L. Kurz, and M. A. Schneegurt. Sucretolerant microbes from oligoosmotic turf and prairie soils. 145th Annual Meeting of the Kansas Academy of Science, Overland Park, March 2013. *Trans. KS Acad. Sci.* **116**:74-75.

132. Crisler, J. D., T. T. Mai, Z. Ahmad, F. Chen, B. C. Clark, and M. A. Schneegurt. Bacterial growth at high concentrations of deliquescent salts potentially relevant to Mars. 145th Annual Meeting of the Kansas Academy of Science, Overland Park, March 2013. *Trans. KS Acad. Sci.* **116**:71.
131. Dandinpet, K. K. and M. A. Schneegurt. Dark-grown algae few cord, sorghum, and lignocellulosic hydrosylates for biodiesel production. 145th Annual Meeting of the Kansas Academy of Science, Overland Park, March 2013. *Trans. KS Acad. Sci.* **116**:71-72.
130. Dille, J. W., C. M. Rogers, and M. A. Schneegurt. Characterization of the bacterial community on the feathers of wild dark-eyed juncos (*Junco hyemalis*). Kansas Natural Resources Conference, Wichita, January 2013.
129. Moore, D. B., C. Fredsgaard, T. L. Kurz, and M. A. Schneegurt. A hunt for sucretolerant bacteria. Annual KINBRE Research Symposium, Kansas City, January 2013.
128. Kurz, T. L., D. B. Moore, and M. A. Schneegurt. Isolation and characterization of osmotolerant microbes from floral nectars. Abstracts and Program, 112th General Meeting of the American Society for Microbiology, San Francisco, June 2012.
127. Kilmer, B. R., T. C. Eberl, J. D. Crisler, B. Cunderla, B. E. Madu, and M. A. Schneegurt. Cultivation and molecular analysis of the microbial community in epsomite lakes of the Pacific Northwest. Abstracts and Program, 112th General Meeting of the American Society for Microbiology, San Francisco, June 2012.
126. Wagley, P. K. and M. A. Schneegurt. Molecular analysis of microbial community structure in open ponds for algal biodiesel production. Abstracts and Program, 112th General Meeting of the American Society for Microbiology, San Francisco, June 2012.

125. Dandinpet, K. K. and M. A. Schneegurt. The potential of *Chlorella kessleri* in production of biodiesel in dark. NSF EPSCoR Kansas Solar Energy Center PI Meeting, Wichita, June 2012.
124. Wagley, P. K. and M. A. Schneegurt. Molecular analysis of microbial community structure in open ponds for algal biodiesel production. NSF EPSCoR Kansas Solar Energy Center PI Meeting, Wichita, June 2012.
123. Eberl, T., B. R. Kilmer, B. Cunderla, and M. A. Schneegurt. Isolation and characterization of epsotolerant aerobic heterotrophic microbes from the saturating magnesium sulfate environment of Hot Lake, WA. WSU Undergraduate Research and Creative Activity Forum, Wichita, April 2012.
122. Bista, B., K. S. Woltersdorf, N. B. Shrestha, and M. A. Schneegurt. Isolation and characterization of anaerobes from Hot Lake, WA. WSU Undergraduate Research and Creative Activity Forum, Wichita, April 2012.
121. Wagley, P. K. and M. A. Schneegurt. Microbial community analysis of open ponds for algal biodiesel production. 8th Annual Symposium of Graduate Research and Scholarly Projects, Wichita, April 2012.
120. Schneegurt, M. A. Sigma Xi Lecture: The ethics of academic authorship. 144th Annual Meeting of the Kansas Academy of Science, Wichita, March 2012.
119. Wagley, P. K. and M. A. Schneegurt. Molecular analysis of microbial community structure in open ponds for algal biodiesel production. 144th Annual Meeting of the Kansas Academy of Science, Wichita, March 2012. *Trans KS Acad Sci* **115**:78.
118. Kilmer, B. R., Wichita Northeast Magnet High School Team, T. L. Kurz, J. W. Dille, and M. A. Schneegurt. Antimicrobial activity in extracts from native prairie plants. 144th Annual Meeting of the Kansas Academy of Science, Wichita, March 2012. *Trans KS Acad Sci* **115**:61.

117. Schneegurt, M. A., T. E. Beaven, and C. F. Kulpa, Jr. Characterization of a soil *Ochrobactrum* isolate active in the degradation of pyrene. 144th Annual Meeting of the Kansas Academy of Science, Wichita, March 2012. *Trans KS Acad Sci* **115**:73.
116. Mai, T. T., A. O. Nosova, and M. A. Schneegurt. Bacterial growth in perchlorate salts at concentrations found in soils on Mars. 144th Annual Meeting of the Kansas Academy of Science, Wichita, March 2012. *Trans KS Acad Sci* **115**:64.
115. Dille, J. W., C. M. Rogers, and M. A. Schneegurt. Characterization of the bacterial community on the feathers of wild dark-eyed juncos (*Junco hyemalis*). 144th Annual Meeting of the Kansas Academy of Science, Wichita, March 2012. *Trans KS Acad Sci* **115**:56.
114. Caton, I. R. and M. A. Schneegurt. Nitrogen fixation and nitrogenase genes in agricultural, pristine, and urban prairie streams exposed to different levels of nitrogen loading. Kansas Natural Resources Conference, Wichita, January 2012.
113. Dille, J. W., S. C. Kelzenberg, S. E. Jack, C. M. Rogers, M. A. Schneegurt. Microbial communities on the feathers of wild juncos in Kansas. Kansas Natural Resources Conference, Wichita, January 2012.
112. Wagley, P. K. and M. A. Schneegurt. Molecular analysis of microbial community structure in open ponds for algal biodiesel production. Annual Kansas NSF EPSCoR Statewide Meeting, Wichita, January 2012.
111. Bista, B., K. S. Woltersdorf, N. B. Shrestha, and M. A. Schneegurt. Isolation and characterization of anaerobes from Hot Lake, WA. Annual KINBRE Research Symposium, Kansas City, January 2012.
110. Eberl, T., K. Rowe, B. R. Kilmer, B. Cunderla, and M. A. Schneegurt. Isolation and characterization of epsotolerant aerobic heterotrophic microbes from the saturating magnesium sulfate environment of Hot Lake, WA. Annual NISBRE Research Symposium, Washington, DC, March 2012.



109. Eberl, T., K. Rowe, B. R. Kilmer, B. Cunderla, and M. A. Schneegurt. Isolation and characterization of epsotolerant aerobic heterotrophic microbes from the saturating magnesium sulfate environment of Hot Lake, WA. Annual KINBRE Research Symposium, Kansas City, January 2012.
108. Sigma Xi Lecture: The ethics of academic authorship. Wichita State University, Wichita, December 2011.
107. Eberl, T., K. Rowe, B. R. Kilmer, B. Cunderla, and M. A. Schneegurt. Isolation and characterization of epsotolerant aerobic heterotrophic microbes from the saturating magnesium sulfate environment of Hot Lake, WA, Abstracts and Program, 111th General Meeting of the American Society for Microbiology, New Orleans, May 2011.
106. Dille, J. W., S. C. Kelzenberg, S. E. Jack, C. M. Rogers, and M. A. Schneegurt. Wild bird feathers as extreme microbial habitats. Abstracts and Program, 111th General Meeting of the American Society for Microbiology, New Orleans, May 2011.
105. Kilmer, B. R., T. Porazka, Wichita HS NW Team, Wichita NE Magnet HS Team, and M. A. Schneegurt. Inland oligohaline soils as a habitat for culturable halotolerant bacteria. Abstracts and Program, 111th General Meeting of the American Society for Microbiology, New Orleans, May 2011.
104. Kilmer, B. R., T. Eberl, K. Rowe, B. Cunderla, and M. A. Schneegurt. Characterization of the microbial assemblage from the saturating magnesium sulfate environment of Hot Lake, WA. 143rd Annual Meeting of the Kansas Academy of Science, Baldwin City, KS, April 2011. *Trans KS Acad Sci* **115**:163.
103. Dille, J. W., S. E. Jack, S. C. Kelzenberg, C. M. Rogers, and M. A. Schneegurt. Wild bird feathers as extreme microbial habitats. 143rd Annual Meeting of the Kansas Academy of Science, Baldwin City, KS, April 2011. *Trans KS Acad Sci* **114**:155.

102. Porazka, T., B. R. Kilmer, Wichita High School Northwest Team, Wichita Northeast Magnet High School Team, and M. A. Schneegurt. Inland oligohaline soils as a habitat for culturable halotolerant bacteria. 143rd Annual Meeting of the Kansas Academy of Science, Baldwin City, KS, April 2011. *Trans KS Acad Sci* **115**:170.
101. Eberl, T., B. R. Kilmer, K. Rowe, and M. A. Schneegurt. Characterization of the microbial assemblage from the saturating magnesium sulfate environment of Hot Lake, WA. Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, Lincoln, NE, April 2011.
100. Kilmer, B. R., T. Porazka, Wichita High School Northwest Team, Wichita Northeast Magnet High School Team, and M. A. Schneegurt. Inland oligohaline soils as a habitat for culturable halotolerant bacteria. Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, Lincoln, NE, April 2011.
99. Wagley, P. and M. A. Schneegurt. Molecular analysis of open ponds for algal biodiesel production. Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, Lincoln, NE, April 2011.
98. Schneegurt, M. A., B. R. Kilmer, and J. W. Dille. Extending the research training tower to precollege students. NSF GK-12 PI Meeting, Washington, DC, April 2011.
97. Eberl, T., K. Rowe, J. D. Crisler, B. Kilmer, and M. A. Schneegurt. Isolation and characterization of microbes from Hot Lake, WA, an environment with high magnesium sulfate concentrations. Annual Undergraduate Research and Creative Activities Forum, Wichita, KS, April 2011.
96. Kilmer, B. R., J. D. Crisler, and M. A. Schneegurt. Assessment of microbial communities in lakes of northwestern North America rich in magnesium sulfate using cultivation and molecular analyses. Annual KINBRE Research Symposium, Kansas City, January 2011.

95. Dille, J., S. Kelzenberg, C. Rogers, and M. Schneegurt. Microbial communities on wild bird feathers. Annual KINBRE Research Symposium, Kansas City, January 2011.
94. Kilmer, B. R., C. A. Chambers, R. Akbar, S. Bhakta, A. Beck, J. Brimmerman, H. Lundin, C. DeVries, L. Kasten, B. Pringle-Johnson, J. S. Ruder, and M. A. Schneegurt. Isolation and characterization of halotolerant bacteria from inland oligohaline soils. 110th General Meeting of the American Society for Microbiology, San Diego, May 2010.
93. Crisler, J. D., B. R. Kilmer, B. Cunderla, B. E. Madu, and M. A. Schneegurt. Isolation and characterization of microbes from Basque Lake, BC, and Hot Lake, WA, environments with high magnesium sulfate concentrations. 110th General Meeting of the American Society for Microbiology, San Diego, May 2010.
92. Dille, J. W., S. C. Kelzenberg, C. M. Rogers, and M. A. Schneegurt. Isolation and characterization of bacteria and fungi from wild bird feathers. 110th General Meeting of the American Society for Microbiology, San Diego, May 2010.
91. Crisler, J. D., B. R. Kilmer, K. Rowe, B. Cunderla, B. E. Madu, and M. A. Schneegurt. Isolation and characterization of microbes from Basque Lake, BC, and Hot Lake, WA, environments with high magnesium sulfate concentrations. WSU Undergraduate Research and Creative Activity Forum, Wichita, April 2010.
90. Crisler, J. D., B. R. Kilmer, K. Rowe, B. Cunderla, B. E. Madu, and M. A. Schneegurt. Isolation and characterization of microbes from Basque Lake, BC, and Hot Lake, WA, environments with high magnesium sulfate concentrations. Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, April 2010.
89. Welch, W. G., C. R. Wernert, M. Hutchison, A. Schroeder, and M. A. Schneegurt. Freshwater mussel survey of the Little Arkansas River. 142nd Annual Meeting of the Kansas Academy of Science, Hays, April 2010. *Trans KS Acad Sci* **113**:140.
88. Crisler, J. D., B. R. Kilmer, K. Rowe, B. Cunderla, B. E. Madu, and M. A. Schneegurt. Isolation and characterization of microbes from Basque Lake, BC,

- and Hot Lake, WA, environments with high magnesium sulfate concentrations. 142nd Annual Meeting of the Kansas Academy of Science, Hays, April 2010. *Trans KS Acad Sci* **113**:122.
87. Chambers, C. A., B. R. Kilmer, C. R. Wernert, and M. A. Schneegurt. A primary research program in the high school classroom. Annual GK-12 Principal Investigators Meeting, Washington, March 2010.
  86. Kilmer, B. R., J. D. Crisler, and M. A. Schneegurt. Assessment of microbial communities in lakes of northwestern North America rich in magnesium sulfate using cultivation and molecular analyses. Annual KINBRE Research Symposium, Kansas City, January 2010.
  85. Mettman, D., D. Mettman, R. Asmatulu, and M. Schneegurt. Microbiological testing of composite materials impregnated with antibiotics for control of deep wound infections. Annual KINBRE Research Symposium, Kansas City, January 2010.
  84. Dille, J., S. Kelzenberg, C. Rogers, and M. Schneegurt. Microbial communities on wild bird feathers. Annual KINBRE Research Symposium, Kansas City, January 2010.
  83. Lakouagna, H., M. Ceyan, R. Asmatulu, M. A. Schneegurt. Bacterial surface contact and adhesion on polymeric biomaterials. 5th Annual Mountain West Biomedical Engineering Conference, Park City, UT, September 2009.
  82. Evans, S. A., J. A. Booth, H. M. Stone, and M. A. Schneegurt. Diversity and characterization of halotolerant fungi at the Great Salt Plains of Oklahoma. 109th General Meeting of the American Society for Microbiology, Philadelphia, May 2009.
  81. Bean, M. L., C. A. Chambers, C. R. Wernert, and M. A. Schneegurt. Assessment of a primary research program for the high school classroom. 109th General Meeting of the American Society for Microbiology, Philadelphia, May 2009.
  80. Schneegurt, M. A. A simple colony color method for estimating microbial diversity in soils from the Great Salt Plains of Oklahoma. 109th General Meeting

- of the American Society for Microbiology, Philadelphia, May 2009.
79. Crisler, J. D., T. M. Newville, and M. A. Schneegurt. Bacterial growth at concentrations of magnesium sulfate found in Martian soils. 141st Annual Meeting of the Kansas Academy of Science, Topeka, March 2009. *Trans KS Acad Sci* **112**:136.
  78. Welch, W., C. Wernert, and M. A. Schneegurt. Thirty years later: Fresh water mussel survey of the Little Arkansas River. 141st Annual Meeting of the Kansas Academy of Science, Topeka, March 2009. *Trans KS Acad Sci* **112**:157.
  77. Bergman, D. and M. A. Schneegurt. You scratch my back . . . Teachers' and researchers' perceived benefits and challenges in a university/high school science partnership. International Conference of the Association for Science Teacher Education, Hartford, CT, January 2009.
  76. Crisler, J. D., T. M. Newville, and M. A. Schneegurt. Microbial growth at concentrations of magnesium sulfate found in Martian soils. Sixth Annual KINBRE Research Symposium, Kansas City, January 2009.
  75. Caton, I. R. and M. A. Schneegurt. Culture-Independent analysis of microbial diversity at the Great Salt Plains of Oklahoma. 108th General Meeting of the American Society for Microbiology, Boston, MA, June 2008.
  74. Crisler, J. D., T. M. Newville, and M. A. Schneegurt. Bacterial growth at concentrations of magnesium sulfate found in Martian soils. 108th General Meeting of the American Society for Microbiology, Boston, MA, June 2008.
  73. Landon, B. A., I. R. Caton, D. L. Weber, K. E. Brane, M. L. Bean, and M. A. Schneegurt. Bringing molecular biology, microbiology, and primary research into the high school classroom. 108th General Meeting of the American Society for Microbiology, Boston, MA, June 2008.
  72. Parati, R., A. Moretti, S. McCue, and M. A. Schneegurt. Valsalva maneuver's effect on heart rate. Kansas Junior Academy of Sciences, Wichita, KS, April 2008.

71. Towne, E., S. McCue, and M. A. Schneegurt. Antimicrobials in plants against strains of bacteria. Kansas Junior Academy of Sciences, Wichita, KS, April 2008.
70. Caton, T. M., I. R. Caton, L. R. Witte, and M. A. Schneegurt. Archaea of the Great Salt Plains of Oklahoma. Annual Meeting of the Kansas Academy of Sciences, Emporia, KS, March 2008. *Trans KS Acad Sci* **111**:167.
69. Ens, S., C. Dudley, N. Ross, B. Landon, and M. Schneegurt. Safe low-cost gel electrophoresis using household materials. Annual Meeting of the Kansas Academy of Sciences, Emporia, KS, March 2008. *Trans KS Acad Sci* **111**:170.
68. Caton, T. M., I. R. Caton, L. R. Witte, and M. A. Schneegurt. Archaea of the Great Salt Plains of Oklahoma. Annual Meeting of the Missouri Valley Region of the American Society for Microbiology, Liberty, MO, March 2008.
67. Crisler, J. D., T. M. Newville, A. R. Peppers, and M. A. Schneegurt. Bacterial growth at high concentrations of magnesium sulfate. Sixth Annual K-INBRE Symposium, Kansas City, KS, January 2008
66. Schneegurt, M. A., I. R. Caton, B. A. Landon, S. L. Castro, and S. A. Perkins. Microbial diversity at the Great Salt Plains of Oklahoma. 107th General Meeting of the American Society for Microbiology, Toronto, ON, May 2007.
65. Caton, I. R. and M. A. Schneegurt. Nitrogenase genes in urban, agricultural, and pristine prairie streams exposed to different levels of nitrogen loading. 107th General Meeting of the American Society for Microbiology, Toronto, ON, May 2007.
64. Schneegurt, M. A., I. R. Caton, and S. A. Perkins. Microbial diversity at the Great Salt Plains of Oklahoma. Annual Meeting of the Missouri Valley Region of the American Society for Microbiology, Stillwater, OK, April 2007.
63. Caton, I. R. and M. A. Schneegurt. Abundance of *nifH* genes in urban, agricultural, and pristine prairie streams exposed to different levels of nitrogen

- loading. Annual Meeting of the Missouri Valley Region of the American Society for Microbiology, Stillwater, OK, April 2007.
62. Perkins, S. A. and M. A. Schneegurt. *AmoA* (ammonia monooxygenase) gene counting in hypersaline soils. Fifth Annual K-INBRE Symposium, Kansas City, KS, January 2007.
61. Santos, I. R. and M. A. Schneegurt. Abundance of *nifH* genes in urban, agricultural, and pristine prairie streams exposed to different levels of nitrogen loading. 106th General Meeting of the American Society for Microbiology, Orlando, FL, May 2006.
60. Dutta, P., S. A. Perkins, S. L. Castro, D. K. Gutzmer, M. D. Howell, D. L. Weber, J. A. Buchheim, M. A. Buchheim, and M. A. Schneegurt. Revealing further diversity at the Great Salt Plains of Oklahoma. 106th General Meeting of the American Society for Microbiology, Orlando, FL, May 2006.
59. Perkins, S. A., S. L. Castro, D. K. Gutzmer, M. D. Howell, D. L. Weber, J. A. Buchheim, M. A. Buchheim, and M. A. Schneegurt. Microbial diversity at the Great Salt Plains of Oklahoma. Annual Meeting of the Kansas Academy of Sciences, Wichita, KS, April 2006. *Trans KS Acad Sci* **109**:259.
58. Santos-Caton, I. R. and M. A. Schneegurt. Abundance of *nifH* genes in urban, agricultural, and pristine prairie streams exposed to different levels of nitrogen loading. Annual Meeting of the Kansas Academy of Sciences, Wichita, KS, April 2006. *Trans KS Acad Sci* **109**:262.
57. Moody, E. P. and M. A. Schneegurt. Analysis of microbial salinity tolerance along a salt gradient in soil samples from the Salt Plains Microbial Observatory. Fourth Annual K-INBRE Symposium, Manhattan, KS, January 2006.
56. Perkins, S. A. and M. A. Schneegurt. Ammonia oxidation and the detection of *amoA* (ammonia monooxygenase) genes in hypersaline soils. Fourth Annual K-INBRE Symposium, Manhattan, KS, January 2006.

55. Evans, S. A., R. H. Hansen, M. A. Buchheim, J. A. Buchheim, and M. A. Schneegurt. Isolation and characterization of halotolerant fungi from the Great Salt Plains of Oklahoma. 105th General Meeting of the American Society for Microbiology, Atlanta, GA, June 2005.
54. Schneegurt, M., J. Bath, G. Boddy, R. McMinn, M. Chambers, and T. Witherspoon. Low-cost salty microbiology interactives and classroom activities. 105th General Meeting of the American Society for Microbiology, Atlanta, GA, June 2005.
53. Shelite, T. R., M. A. Schneegurt, and C. Rogers. West Nile Virus and natural bird populations: two hypotheses. 1st Annual Symposium of Graduate Research and Scholarly Projects, WSU, Wichita, KS, April 2005.
52. Litzner, B. and M. Schneegurt. Numerical taxonomy and phylogenetics of moderately halophilic bacteria isolated from the Great Salt Plains of Oklahoma. Annual Kansas Biomedical Research Infrastructure Network Symposium, Lawrence, KS, January 2005.
51. Schneegurt, M. A., Weber, D. L., S. Ewing, and H. B. Schur. Evaluating biostimulant effects in swine production facility wastewater. Animal Manure and Waste Management Symposium, San Antonio, TX, January 2005.
50. Miller, R. V., A. E. Kirkwood, M. A. Buchheim, J. A. Buchheim, M. A. Schneegurt, and W. J. Henley. Microbiology at the Salt Plains Microbial Observatory. Microbial Observatories PI Meeting, Big Sky, MT, September 2004.
49. Schneegurt, M. A., T. M. Caton, A. L. Grey, J. A. Buchheim, M. A. Buchheim. Characterization of microbial isolates from the Salt Plains Microbial Observatory. 10th International Symposium on Microbial Ecology, Cancun, Mexico, August 2004.



48. Ams, D. A., J. Schaefer, A. N. Wedel, M. A. Schneegurt, and J. B. Fein. Effect of bacterial metabolism on Cd adsorption to bacterial surfaces. *Water-Rock Interactions* 11, Saratoga Springs, NY, July 2004.
47. Litzner, B. R., J. A. Buchheim, M. A. Buchheim, M. A. Schneegurt. Numerical taxonomy and phylogenetics of bacterial isolates from the Salt Plains Microbial Observatory. 104th General Meeting of the American Society of Microbiology. New Orleans, LA, May 2004.
46. Caton, T. M., C. W. Knapp, C. H. Linacre, R. K. Yang, M. S. Smith, D. W. Graham, I. M. Head, M. A. Schneegurt, and W. K. Dodds. Effect of chronic nitrogen loading on the microbial guilds driving nitrogen cycling in small streams. 104th General Meeting of the American Society of Microbiology. New Orleans, LA, May 2004.
45. Bhattarai, L., T. M. Caton, C. Wilson, R. V. Miller, and M. A. Schneegurt. Environmental tolerance of bacterial isolates from the Salt Plains Microbial Observatory. 104th General Meeting of the American Society of Microbiology. New Orleans, LA, May 2004.
44. Ferreira, K. L., D. R. Ownby, G. M. Pierzynski, M. J. Lydy, and M. A. Schneegurt. Evaluation of chemical and biological assays as indicators of toxic metal bioavailability. 104th General Meeting of the American Society of Microbiology. New Orleans, LA, May 2004.
43. Rogers, J and M. A. Schneegurt. The effect of *Echinacea* on bacteria. 67th Annual Meeting of the Kansas Junior Academy of Science, May 2004.
42. Litzner, B. and M. A. Schneegurt. Carbon substrate utilization in moderately halophilic bacteria isolated from the Great Salt Plains of Oklahoma. WSU Undergraduate Research and Creative Activity Forum, April 2004.
41. Hatcher, P. and M. A. Schneegurt. Denaturing gradient gel electrophoresis of the soil microbial community of the Great Salt Plains. WSU Undergraduate Research and Creative Activity Forum, April 2004.

40. Litzner, B. and M. A. Schneegurt. Carbon substrate utilization in moderately halophilic bacteria isolated from the Great Salt Plains of Oklahoma. KBRIN Student Symposium, January 2004.
39. Hatcher, P. and M. A. Schneegurt. Denaturing gradient gel electrophoresis of the soil microbial community of the Great Salt Plains. KBRIN Student Symposium, January 2004.
38. Henley W., A. Kirkwood, R. Miller, M. Schneegurt, and M. Buchheim. Algae, Bacteria and Archaea of the Salt Plains Microbial Observatory. Microbial Observatories PI Meeting, NSF Headquarters, Arlington, VA, September, 2003
37. Henley W., M. Schneegurt, M. Buchheim, R. Miller, and A. Kirkwood. Salt Plains Microbial Observatory: Isolation and characterization of halotolerant pro- and eukaryotes. ASLO General Meeting, NASA Ames, CA, July 2003
36. Caton, T. M., L. R. Witte, J. A. Buchheim, M. A. Buchheim, and M. A. Schneegurt. Phenetic and phylogenetic characterization of the prokaryotic assemblage at the Great Salt Plains of Oklahoma. 103rd General Meeting of the American Society of Microbiology, Washington, DC, May 2003.
35. Wilson C. M., M. A. Schneegurt, M. A. Buchheim, and R. V. Miller. DNA-Damage Repair Capacity of *Halomonas* spp. at the Salt Plains Microbial Observatory. 103rd General Meeting of the American Society of Microbiology, Washington, DC, May 2003.
34. Kirkwood, A. E., M. A. Buchheim, J. A. Buchheim, M. A. Schneegurt, and W. J. Henley. Characterization of photosynthetic algae from the Salt Plains Microbial Observatory, Oklahoma. 103rd General Meeting of the American Society of Microbiology, Washington, DC, May 2003.
33. Litzner, B. and M. Schneegurt. Carbon substrate utilization in moderately halophilic bacteria isolated from the Great Salt Plains of Oklahoma. WSU Undergraduate Research and Creativity Forum, Wichita, KS, April 2003.

32. Hanna, J. and M. Schneegurt. Selective ecology of the Great Salt Plains. WSU Undergraduate Research and Creativity Forum, Wichita, KS, April 2003.
31. Caton, T., M. Buchheim, and M. Schneegurt. Abundance of culturable bacteria species from the Great Salt Plains of Oklahoma. Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, Edmond, OK, April 2003.
30. Rashid, P., M. Buchheim, and M. Schneegurt. Molecular analysis of the microbial guild fixing nitrogen in ricefields. Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, Edmond, OK, April 2003.
29. Hanna, J. and M. Schneegurt. Functional diversity of the Great Salt Plains microbial assemblage. Annual Kansas Biomedical Research Infrastructure Network Symposium, Kansas City, MO, January 2003.
28. Schneegurt, M., W. Henley, M. Buchheim, and R. Miller. The Great Salt Plains Microbial Observatory. Microbial Observatories PI Meeting, NSF Arlington, September 2002.
27. Schneegurt, M. A., T. M. Caton, H. D. Nguyen, A. T. Potter, and W. J. Henley. Initial Characterization of the Microbial Community of the Great Salt Plains of Oklahoma. 102nd General Meeting of the American Society of Microbiology, Salt Lake City, May 2002.
26. DiRusso, E. G., T. M. Caton, K. E. Brown, M. A. Schneegurt, and R. V. Miller. DNA Repair Capacity of Bacteria Isolated from the Great Salt Plains of Oklahoma. 102nd General Meeting of the American Society of Microbiology, Salt Lake City, May 2002.
25. Kemner, K. M., B. Lai, M. Schneegurt, J. Zachara, and K. H. Nealson. High-Energy X-ray Microprobe Investigations of Metal-Mineral-Microbe Interactions. Synchrotron Environmental Science II, Argonne National Laboratory, May 2002.

24. Henley, W., K. Major, M. Schneegurt, M. Buchheim, R. Miller, and A. Potter. Salt Plains Microbial Observatory and LExEn Research: Characterization of Halotolerant Microbes. Second Astrobiology Science Conference, NASA Ames Research Center, April 2002.
23. Schneegurt, M. A., K. M. Kemner, B. Lai, J. Maser, Z. Cai, S. Kelly, D. G. Legnini, P. P. Ilinski, W. Rodrigues, K. H. Nealson, and C. F. Kulpa, Jr. Examination of metal-microbe interactions using X-ray microimaging. 101st General Meeting of the American Society of Microbiology, Orlando, May 2001.
22. Kemner, K. M., B. Lai, M. Schneegurt, J. Zachara, and K. H. Nealson. Microscopic and spectroscopic x-ray investigations of the biogeochemical interactions between Cr and microbes. International XAFS Conference, Japan, July 2000.
21. Schneegurt, M. A., T. E. Beaven, and C. F. Kulpa. Polycyclic aromatic hydrocarbon degradation by a novel soil bacterium. General Meeting of the American Society for Microbiology, Chicago, IL, May 1999.
20. Schneegurt, M. A., T. E. Beaven, and C. F. Kulpa. Characterization of a pyrene-degrading bacterium. General Meeting of the American Society for Microbiology, Chicago, IL, May 1999.
19. Dore, S. Y., M. A. Kovach, T. Bechert, M. A. Schneegurt, and C. F. Kulpa, Jr. A comparison of several protocols for DNA extraction from soils of different organic contents. General Meeting of the American Society for Microbiology, Chicago, IL, May 1999.
18. Schneegurt, M. A., T. E. Beaven, and C. F. Kulpa, Jr. Enrichment and characterization of microbial consortia active in the degradation of pyrene and coronene. General Meeting of the International Society for Microbial Ecology, Halifax, NS, August 1998.

17. Schneegurt, M. A., D. L. Tucker, and L. A. Sherman. Metabolic oscillations during heterotrophic growth of a unicellular, diazotrophic cyanobacterium, *Cyanothece* sp. str. ATCC 51142. General Meeting of the American Society for Microbiology, Miami Beach, FL, May 1997.
16. Sherman, L. A., M. Colon-Lopez, P. Meunier, and M. A. Schneegurt. Regulation of the circadian metabolic rhythms in the unicellular diazotrophic cyanobacterium *Cyanothece* sp. First European Phycological Congress, Cologne, DE, August 1996.
15. Schneegurt, M. A. and L. A. Sherman. Diurnal carbohydrate cycling in *Cyanothece* sp. ATCC 51142. Workshop on Cyanobacterial Molecular Biology, Asilomar, CA, June 1995.
14. Schneegurt, M. A., B. Arieli, S. S. Nielsen, P. R. Trumbo, and L. A. Sherman. Evaluation of *Cyanothece* sp. ATCC 51142 as a candidate for inclusion in a CELSS. 30th Committee on Space Research (COSPAR) Scientific Assembly. Hamburg, Germany, July 1994.
13. Trumbo, P., P. Saha, M. Schneegurt, B. Arielli, L. Sherman, and S. Nielsen. The role of cyanobacteria as an alternative food source in a bioregenerative life support system. Experimental Biology 94, Anaheim, CA, April 1994. FASEB J. **8**:A931.
12. Sherman, L. A., B. Arielli, M. Colon-Lopez, M. Schneegurt, and T. Troyan. Cyanobacterial biotechnology - Photosynthesis and response to stress. Progress in Biotechnology of Photoautotrophic Microorganisms: 6th International Conference on Applied Algology: Book of Abstracts, J. Masojídek and I. Šetlík (eds.), Czech Academy of Science. Třeboň, Czech Republic, September 1993.
11. Schneegurt, M. A. and L. A. Sherman. The inclusion granules of the aerobic, unicellular, diazotrophic cyanobacterium, *Cyanothece* BH68. General Meeting of the American Society of Plant Physiologists, Minneapolis, MN, July 1993. Plant Physiol. **102S**:127.

10. Roberts, J. L., L. A. Bjelk, M. A. Schneegurt, and B. C. Gerwick. Foliar symptoms of isoxaben. Weed Science Society of America Annual Meeting, Denver, CO, February 1993. Abstr. Weed Sci. Soc. Am. **33**:109.
9. Schneegurt, M. A. and S. I. Beale. Origin of the formyl oxygen atom of chlorophyll *b*. General Meeting of the American Society of Plant Physiologists, Pittsburgh, PA, August 1992. Plant Physiol. **99S**:59.
8. Schneegurt, M. A. and I. M. Larrinua. Mechanism of isoxaben tolerance in dicot plants. Midwest Plant Biotechnology Consortium, West Lafayette, IN April 1992.
7. Schneegurt, M. A. and I. M. Larrinua. The nature of isoxaben tolerance in dicots. General Meeting of the American Society of Plant Physiologists, Albuquerque, NM, July 1991. Plant Physiol. **96S**:93.
6. Schneegurt, M. A., S. Rieble, and S. I. Beale. tRNA<sup>Glu(UUC)</sup> of plants and algae: HPLC separation into two subfractions, and determination of their relative effectiveness in homologous in vitro translation and ALA-forming systems. General Meeting of the American Society of Plant Physiologists, Reno, NV, July 1988. Plant Physiol. **86S**:61.
5. Schneegurt, M. A. and S. I. Beale. Purification of the RNA required for  $\delta$ -aminolevulinic acid biosynthesis by affinity chromatography directed against the glutamate anticodon. General Meeting of the American Society of Plant Physiologists, St. Louis, MO, July 1987. Plant Physiol. **83S**:50.
4. Schneegurt, M. A. and S. I. Beale. Purification of the RNA required for  $\delta$ -aminolevulinic acid biosynthesis by affinity chromatography directed against the glutamate anticodon. Regional Meeting of the American Society of Plant Physiologists, Troy, NY, May 1987.
3. Schneegurt, M. A. and S. I. Beale. Biosynthesis of protoheme and heme *a* solely from glutamate in etiolated maize epicotyls. General Meeting of the American

- Society of Plant Physiologists, Baton Rouge, LA, July 1986. *Plant Physiol.* **80S**:52.
2. Schneegurt, M. A. and S. I. Beale. Biosynthesis of heme *a* from glutamate in Maize epicotyls. Regional Meeting of the American Society of Plant Physiologists, Woods Hole, MA, June 1986.
  1. Schneegurt, M. A. and C. N. McDaniel. Amino acid uptake in washed tobacco cells. Regional Meeting of the American Chemical Society, Troy, NY, May 1985.

### **INVITED LECTURES**

37. "Hypersaline Microbiology", NASA Mars 2020 Meeting of Experts, National Academy of Sciences, Washington, DC, August 2017.
36. "*OpenStax Microbiology* Author's Corner", ASMCUE Annual Meeting, Denver, July 2017.
35. "Bacterial Growth at Eutectic Temperatures and in Saturated Salt Solutions Relevant to Mars", iPoster talk at American Society for Microbiology General Meeting, New Orleans, June 2017.
34. "*OpenStax Microbiology* Author's Corner", ASM General Meeting, New Orleans, June 2017.
33. "Life on Pluto, Life on Mars, Better Pass the Salt", Johnson Space Center, Houston, May 2017.
32. "Life on Pluto, Life on Mars, Don't Drink the Water", Oasis Atheist Club, Wichita, March 2017.
31. "Life on Pluto, Life on Mars, Don't Drink the Water", Science Cafe, Donut Whole, Wichita, February 2017.
30. "*OpenStax Microbiology* Author's Corner", ASMCUE Annual Meeting, Bethesda, October 2016.

29. "Life on Pluto?", Department of Biology, University of Central Oklahoma, Edmond, April 2016.
28. "Life on Pluto?", invited science cafe speaker at 116th Sigma Xi National Meeting, Kansas City, October 2015.
27. "Algal Biodiesel Technology", KS NSF EPSCoR Research Symposium, June 2013.
26. "Extremely Salty Microbes on Mars and in the Classroom", invited ASM Lecturer at National Association of Biology Teacher's Annual Meeting, Dallas, TX, November 2012.
25. "Algal Biodiesel Technology", KS NSF EPSCoR Research Symposium, June 2013.
24. "Extreme Living: Finding Salty Martians", Ad Astra Teacher Workshop, Kansas Cosmosphere, Hutchinson, August 2011.
23. "Ecology and Physiology of Algal Biodiesel Production", KS NSF EPSCoR Research Symposium, June 2011.
22. "Microbial Life at the High Concentrations of Magnesium Sulfate Found in Martian Soils", Ecology and Environmental Biology, Kansas State University, April 2011.
21. "Ecology and Physiology of Algal Biodiesel Production", KS NSF EPSCoR Seminar Series, September, 2010.
20. "Isolation and Characterization of Microbes from Basque Lake, BC, and Hot Lake, WA, Environments with High Magnesium Sulfate Concentrations", Jet Propulsion Laboratory, NASA, Pasadena, CA, June 2010.
19. "The Potential for Forward Contamination of Mars by Terrestrial Halotolerant Microbes Capable of Growth at High Magnesium Sulfate Concentrations", KS NASA EPSCoR Annual Research Symposium, November 2009
18. "GK-12 Outreach in Wichita Public Schools", Department of Curriculum and Instruction, WSU, April 2008.



17. "The Salt Plains Microbial Observatory: Extreme Living", Annual Meeting of the Missouri Valley Region of the American Society for Microbiology, April 2007.
16. "Pass Me the Salt: Extending the Research Training Tower through Safe Microbiology", Joint Annual Meeting of the ASM Missouri and Missouri Valley Branches and Midwest Microbiology Educators Conference, Kansas City, MO, April 2006.
15. "Interactive Microbiology Curriculum", Kansas Internet2 Symposium, November, 2004.
14. "Water Quality and Nitrogen Loading in Streams: A Molecular Approach", First Semi-Annual Ecological Genomics Workshop, March 2003.
13. "Initial Characterization of the Bacterial Assemblage of the Great Salt Plains of Oklahoma", Department of Microbiology and Molecular Biology, Oklahoma State University, February 2003.
12. "Initial Characterization of the Halotolerant Microbial Community of the Great Salt Plains of Oklahoma", Annual Meeting of the Missouri Valley Branch of the American Society for Microbiology, Edmond, OK, Keynote Speaker, April 2002.
11. "Dead Cats and Corn Cobs: Undergraduate Research Opportunities", Undergraduate Research and Creativity Forum, WSU, Keynote speaker, April 2002.
10. "Making the Trip to Mars", Upward Bound Program, Wichita State University, June 2002.
9. "Circadian Rhythms in the Unicellular Cyanobacterium *Cyanothece* sp. ATCC 51142", Biology Department, Friends University, March 2002.
8. "Circadian Rhythms in the Unicellular Cyanobacterium *Cyanothece* sp. ATCC 51142", Botany Department, Oklahoma State University, February 2002.
7. "Circadian Rhythms in the Unicellular Diazotrophic Cyanobacterium *Cyanothece* sp. ATCC 51142", University of Tulsa, October 2001.

6. "Monitoring Microbial Systems with Molecular Tools: Studies with Activated Sludge, Soil, and Organism Selection", Environmental Protection Agency, Cincinnati, OH, October 1997.
5. "Application of Traditional and Molecular Techniques in Microbial Ecology", Environmental Science and Engineering Symposium, Indiana University-Purdue University at Indianapolis, September 1997.
4. "Circadian Rhythms in the Cyanobacterium *Cyanothece* sp. ATCC 51142", Department of Biological Sciences, Rensselaer Polytechnic Institute, Troy, NY, October 1995.
3. "Applications of Mathematics to CELSS Research", College of Science, Ball State University, Muncie, IN, September 1995.
2. "An Aerobic, Unicellular, Diazotrophic Cyanobacterium for CELSS Applications", Symposium on Nitrogen Dynamics in Closed Systems, Lawrence Berkeley Laboratories, Berkeley, CA, September 1995.
1. "CELSS-3D: A Broad Computer Model Simulating an Advanced Life Support System", Kennedy Space Center, FL, August 1995.

## **WEB PUBLICATIONS**

Cyanosite, a webserver for cyanobacterial research (1994-present)

<http://www-cyanosite.bio.purdue.edu/index.html>

Reviews: Science **280**:491 (1998); Genet. Engin. News **18**:35 (1998); Protist **152**:113-4 (2001)

WSU Chapter of Sigma Xi (2011-present)

<http://webs.wichita.edu/sigmaxi>

Kan-ed curricular package in microbiology (2004-present)

<http://blackboard.wichita.edu>

Purdue University NSCORT on Bioregenerative Life Support (1993-present)

<http://www.bio.purdue.edu/nscort/homepage.html>

Pass Me the Salt Wikis (2006-2012)

<http://passmethesalt.wikispaces.com>

<http://xsci.wikispaces.com>

## **SERVICE ACTIVITIES**

### **EDITORIAL**

Provided Technical Reviews (more than 70 at WSU) of manuscripts from *Bioremediation Journal*, *Microbial Ecology*, *Pesticide Biochemistry and Physiology*, *Environmental Science & Technology*, *World Journal of Microbiology and Biotechnology*, *American Midland Naturalist*, *Biotechniques*, *Industrial Engineering and Chemistry Research*, *International Journal on Ecological Modelling and Systems Ecology*, *Journal of Basic Microbiology*, *Archives for Microbiology*, *Prairie Naturalist*, *Transactions of the Kansas Academy of Science*, *International Society for Microbial Ecology Journal*, *Journal of Environmental Engineering and Science*, *Australian Soil Science Journal*, *Biomicroworld*, *International Journal of Biodeterioration and Biodegradation*, *Life*, *International Journal of Astrobiology*, *Astrobiology*, *Environmental Technology*, *Current Microbiology*, *FEMS Microbiology Ecology*.

Sigma Xi, The Scientific Research Society, WSU Chapter President, 2010-present

Technical Review of NSF MCB Microbial Observatories 2003 Conference Report

Topic coordinator for *Life Support and Biosphere Science* (1998-2001)

Associate editor for *Frontiers in Microbiology - Extreme Environments* (2010-2013)

Provided Technical Reviews for these books: *Traces of Time*, Murphy et al.; *Marine Biotechnology: Assessing and Managing Risks*, Zalinskas; *Genomics of Plants and Fungi*, Prada and Bohnert; *Microbiology: A Human Perspective*, Nester et al.; *Introduction to Microbiology*, Ingraham & Ingraham; *Human Biology*, Mader; *Human Biology*, Goodenough et al.; *Inquiry into Life*, Mader; ASM Press prospectus; Monterey Institute online course; Bartlett and Jones microbiology textbook; Garland Publishing biology textbook; McGraw-Hill textbook prospecti; *Biology*, Raven.

## **SESSION CHAIR AND PANELS**

Synchrotron Environmental Science I, Argonne National Laboratory, July 1999  
Co-author of Workshop Report

NSF Grant Review Panel for Microbial Observatories and Microbial Interactions  
and Processes Program, 2002-2004

Co-convener of WSU Undergraduate Research and Creativity Forum, 2004

Kansas Biosciences Initiative Strategic Planning, 2005

Co-Chair of Biofuels, Biomaterials, and Environmental Hot Team

NSF Grant Review Panel for Dimensions of Biodiversity Program, 2010

NASA PPR Grant Review Panel, 2017

Provided ad hoc technical reviews (>25) for grant proposals from NSF, USDA  
CSREES, NASA, Kentucky Science and Engineering Foundation, EISG, New Jersey  
Sea Grant College Program, IECR, NC Biotechnology Consortium, VT NSF  
EPSCoR, KU Leaven

## **WSU COMMITTEE SERVICE**

Bioengineering Steering Committee, 2005-2008

Departmental Academic Affairs Committee, 2002, 2007-2008 (chair), 2016-2017

Departmental PhD Program Committee, 2007-2008

University Academic Affairs Committee, 2017

Departmental Research Council, 2002-2012

Departmental Safety Officer, 2005-2010

Departmental Tenure and Promotion Committees, 2005-present (several as chair)

Faculty/Chair Search Committees in Biology, Curriculum and Instruction, and  
Bioengineering

Faculty Senate ad hoc Academic Freedom Committee, 2007

Faculty Senate, LAS Natural Sciences representative, 2005-2009

Field Station Steering Committee, 2002-2011

LAS College Tenure and Promotion Committee, 2008

LAS College Curriculum Committee, 2011-2012

Master of Environmental Science Revision Committee, 2003-04

WSU Sustainability Group, 2012-present  
Tilford Diversity Commission, 2008-present  
University Grievance Committee Pool, 2004-2007  
University Planning and Budget Committee, 2007-2009  
University Rules Committee, 2008-2009  
WSU-LINK Environmental Sciences Group, 2007-2008

## **OUTREACH**

"Pass Me the Salt" GK-12 program with Wichita Public Schools placed WSU graduate and undergraduate students in high school classrooms working with teachers, impacting more than 1000 students each year with molecular biology activities district-wide and sponsoring primary research clubs in target schools

On-line Resource, National Science Teachers Association

On-line & On-campus Advisor, Several High School Science Fair Projects

In-service Instructor for USD259 Middle and High School Teachers

Provided campus tours and in-class programs for USD259 high schools