

W. Matthew Sattley

Professor of Biology
Indiana Wesleyan University
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Professional Experience

Professor of Biology (July 2015 – present)

Division of Natural Sciences
Indiana Wesleyan University
4201 South Washington St.
Marion, IN 46953

Associate Professor of Biology (July 2010 – July 2015)

Division of Natural Sciences
Indiana Wesleyan University
4201 South Washington St.
Marion, IN 46953

Assistant Professor of Biology (July 2008 – July 2010)

Department of Science and Mathematics
MidAmerica Nazarene University
2030 East College Way
Olathe, KS 66062

Postdoctoral Research Associate (August 2006 – July 2008)

Department of Biology
Washington University in Saint Louis
St. Louis, MO 63130
Research focus: Genomic analyses, light-harvesting strategies, and energy production in extremophilic, anoxygenic, phototrophic bacteria.
Advisor: Dr. Robert Blankenship, Distinguished Professor of Biology and Chemistry

Education

July 2006, Ph.D., Molecular Biology, Microbiology, and Biochemistry (MBMB)

Department of Microbiology
Southern Illinois University, Carbondale, IL
Dissertation: *Microbiology of Sulfur Cycling and Other Biogeochemical Processes in Dry Valleys Lakes of Antarctica*
Advisor: Dr. Michael T. Madigan, Distinguished Professor of Microbiology (Emeritus)

May 1998, B.A., Biology – Magna cum Laude

Blackburn College, Carlinville, IL

December 1995, A.A.

Kaskaskia College, Centralia, IL

Relevant Experience and Skills

- Studies emphasize microbial ecology and diversity with a specialization in the culture and characterization of extremophilic, nutrient-cycling bacteria
- Experienced with many general microbiological techniques, including enrichment culture techniques, aseptic manipulation of both aerobic and anaerobic bacterial cultures, environmental sampling, biogeochemical assays, isolation and characterization of species, and phase contrast microscopy
- Experienced with molecular biology techniques, including polymerase chain reaction, DNA and SDS-PAGE gel electrophoresis, and gene purification and sequencing
- Experienced in phylogenetic analyses, including building multiple sequence alignments and phylogenetic trees
- Experienced in genome sequence analysis and gene annotation
- Experienced in the use and safe handling of radioisotopes
- Have Antarctic fieldwork experience, including three seasons researching permanently frozen lakes in the McMurdo Dry Valleys

Research Interests

- Microbial ecology and diversity of extreme environments
- Novel culturing strategies for the isolation of ecologically and biogeochemically important microorganisms, including species that contribute to primary production or perform key roles in nutrient cycling
- Mechanisms of cold adaptation among psychrophilic microorganisms
- Mechanisms of anoxygenic photosynthesis in extreme environments
- Nutrient dynamics and species interactions in microbial ecosystems
- Phylogenetic and taxonomic characterization of prokaryotes
- Genomic analyses of extremophilic bacteria

Professional Memberships and Awards

- American Society for Microbiology (ASM), member, March 2002 – present
- Indiana Branch of the ASM, member, January 2011 – present
- Indiana Academy of Science, member, February 2011 – present
- ResearchGate (www.researchgate.net), member, 2010 – present
- 2018–2019 and 2019–2020 University Scholar Award (IWU)
- 2017 Ott Faculty Award in Math and Science (IWU)
- 2017 IWU Outstanding Scholarship Award
- 2011–2012 and 2016–2017 Lilly Faculty Scholarship Awards (IWU)
- 2015–2016 Lilly Faculty Research Load Award (IWU)
- 2015 Scholarship and Development Travel Award (IWU)
- Received Hodson Research Institute (IWU) Awards for 2011–2013, 2016, and 2018
- Selected to participate in the 2011 ASM/JGI Functional Genomics Institute
- 2008 Internal Research Grant (MNU)
- Antarctic Service Medal of the United States of America, presented by the National Science Foundation for Service in Antarctica, 2006
- 2004–2005 Dissertation Research Assistantship Award (SIUC)
- Who's Who in America
- Who's Who in North American Education

Teaching and Leadership Experience/Contributions

- Courses taught at **Indiana Wesleyan University** and **MidAmerica Nazarene University** include Introductory and General Microbiology (with laboratories), Principles of Biology (with laboratory), Heredity and Disease, Environment and Society (with laboratory), Cell Biology, Environmental Science, and Biology Research
- Contributing instructor for annual MCAT/GRE preparatory course for Pre-Medical Science students (IWU)
- Supervisor of undergraduate teaching assistants for microbiology laboratory courses at **Indiana Wesleyan University** and **MidAmerica Nazarene University**
- Advise students in course enrollment and career paths
- Prepare and submit multiple letters of recommendation for students every year
- Edit and revise student résumés upon request
- Instructed graduate students in the use of a variety of bacteriological techniques in an intensive research environment as a postdoctoral research associate at **Washington University in St. Louis**
- Graduate Teaching Assistant, **Southern Illinois University Carbondale**,
200-Level: Elementary Microbiology Laboratory – 1 semester
300-Level: Principles of Microbiology Laboratory – 1 semester
400-Level: Diagnostic and Applied Microbiology Laboratory – 2 semesters

Faculty Development Participation

- *Indiana CCCU Faith-Learning Integration Faculty Group*, a workshop for faculty in the natural, mathematical, and health sciences. Indiana Wesleyan University, Marion, IN. August 7, 2018.
 - *Led breakout sessions focused on how ideas regarding evolution and the origin of life can be integrated into lecture topics in the classroom
- *Indiana CCCU Faith-Learning Integration Faculty Group*, a workshop for faculty in the natural, mathematical, and health sciences. Huntington University, Huntington, IN. August 14, 2017.
- *BioLogos—The Harmony Between Science and Biblical Faith*. Presentation by Wheaton College professor Dr. John Walton. Taylor University, Upland, IN. October 31, 2015.
- Participated in a *Late Nite Labs* online tutorial to explore the potential of virtual microbiology laboratory activities for classroom use. Indiana Wesleyan University, Marion, IN. June 25, 2015.
- Participated in a *Via Response* online tutorial to explore the potential of a cloud-based student response platform for classroom use. Indiana Wesleyan University, Marion, IN. May 29, 2013.
- *Integrated Microbial Genomes—Annotation Collaboration Toolkit (IMG—ACT) Regional Training Workshop*. A bioinformatics workshop to introduce faculty to a collaborative, online genome annotation platform designed for use in the undergraduate classroom. Hosted by the American Society for Microbiology and the Joint Genome Institute. The University of Saint Francis, Joliet, IL. November 12–13, 2011.
- *ASM/JGI Functional Genomics Institute*. An intensive workshop designed to provide research-oriented faculty with a working knowledge of strategies to incorporate functional genomics and bioinformatics protocols into undergraduate research programs. Hiram College, Hiram, OH. July 17–21, 2011.

- *The Pedagogy of Faith in the Science Classroom*. A best-practices workshop focusing on relationships between the Christian faith and science. Indiana Wesleyan University, Marion, IN. June 27–29, 2011.
- *Effective Strategies for Course Design and Development*. Indiana Wesleyan University, Marion, IN. May 9, 2011.
- *Introduction to Life Calling*. Workshop exploring the role of life calling in instructional design and student advising. Indiana Wesleyan University, Marion, IN. May 4–5, 2011.
- *Clickers in the Classroom*. Indiana Wesleyan University, Marion, IN. March 23, 2011.
- New Faculty Seminar Course, Indiana Wesleyan University, Marion, IN. Spring 2011, Steve Lennox, facilitator.
- Pearson Education workshop for effective use of the online teaching tool *Mastering Biology*. Indiana Wesleyan University, Marion, IN. December 17, 2010.
- *Grantsmanship Training Program*. MidAmerica Nazarene University, Olathe, KS. January 4–8, 2010.
- *Writing Across the Curriculum*. Metropolitan Community College, Kansas City, MO. April 18, 2009.
- *Online Instructional Strategies*. Ottawa University, Overland Park, KS. February 7, 2009.
- *Diversity in the Classroom*. Ottawa University, Overland Park, KS. February 6, 2009.
- *Characteristics of Adult Learners*. Baker University, Overland Park, KS. November 15, 2008.
- *Managing the Learning Environment*. Baker University, Overland Park, KS. November 14, 2008.
- *Evaluating Student Learning*. Kansas City Kansas Community College, Kansas City, KS. October 11, 2008.
- *Instructional Strategies*. Kansas City Kansas Community College, Kansas City, KS. October 10, 2008.
- *Time Management and Organizational Skills*. Workshop for postdoctoral associates and new faculty. Washington University in Saint Louis, St. Louis, MO. May 13, 2008.
- *Lab Set-Up and Management*. Workshop for postdoctoral associates and new faculty. Washington University in Saint Louis, St. Louis, MO. April 15, 2008.
- *Lab Finances*. Workshop for postdoctoral associates and new faculty. Washington University in Saint Louis, St. Louis, MO. March 18, 2008.
- *Entering Mentoring*. A course for postdoctoral and new faculty development. Washington University in Saint Louis, St. Louis, MO. Spring, 2008.

University Service

- University Scholarship Council, IWU, 2017–present
- Greenhouse Advisory Committee, IWU, 2014–present
- Hodson Research Institute Director, IWU, 2015–2017
- General Education Committee, School of Physical and Applied Sciences representative, IWU, 2014–2016
- Division of Natural Sciences Safety Committee, IWU, 2011–2017
- University Instructional Technology Council, IWU, 2012–2013
- Microbiology Laboratory Support Adjunct Search Committee, IWU, 2013
- Microbiology Laboratory Teaching Adjunct Search Committee, IWU, 2012
- Biology Faculty Search Committees, IWU, 2012 and 2018
- Biology Faculty Search Committee, MNU, 2010

- Faculty Development Committee, MNU, 2009–2010
- Zoology laboratory live animal curator, MNU, 2008–2010
- Chair, search committee for annual graduate student-invited seminar series speaker, SIUC, 2005–2006

Service to the Profession

- Consulted as a peer reviewer for research manuscripts submitted to numerous scholarly journals, including *Photosynthesis Research*, *FEMS Microbial Ecology*, *Antonie van Leeuwenhoek*, *Applied Microbiology and Biotechnology*, *Environmental Microbiology Reports*, *International Society for Microbial Ecology (ISME) Journal*, *Fine Focus*, *British Microbiology Research Journal*, *Microbial Ecology*, the *Journal of Advances in Biology and Biotechnology*, *Forests*, the *Asian Journal of Environment and Ecology*, and the *Journal of Proteome Research*.
- Currently serving as an expert reviewer for the undergraduate microbiology research journal *Fine Focus*.
- External grant proposal reviewer for the Astrobiology: Exobiology and Evolutionary Biology (EXO) program for NASA. February 2011.
- External grant proposal reviewer for the Chilean Antarctic Institute (INACH) National Fund for Scientific and Technological Research in Antarctica. July and August 2009.
- Served as a faculty instructor for the first annual Indiana Wesleyan University Science Exploration Camp for 4–6th grade students in Grant County, IN. June 15–16, 2017.
- Frequent judge of student research presentations for branch meetings of the American Society for Microbiology.
- Judged junior high and high school student science projects for the Berean Christian School Science Fair, Olathe, KS. March 5, 2010.
- Judged junior high and high school student science projects for the Illinois Junior Academy of Science Region 8 Science Fair: 2001, 2002, 2004, 2005, and 2006.
- Developed and coordinated an introductory microbiology workshop designed to introduce children to microscopic forms of life. New Prairie Community of Faith Free Methodist Church, Carbondale, IL. June 19, 2005.

Publications

Baker JM, Vander Schaaf NA, Cunningham AMG, Hang AC, Reeves CL, Huffman ER, Riester CJ, Madigan MT, and Sattley WM (2019) Chemoorganotrophic bacteria from Lake Fryxell, Antarctica, including *Pseudomonas* strain LFY10, a cold-adapted, halotolerant bacterium useful in teaching labs. *Frontiers in Microbiology* 10: 156. doi:10.3389/fmicb.2019.00156

Miller GJ, Cunningham AMG, Iwase Y, Lautensack NL, and Sattley WM (2017) A laboratory activity demonstrating the antibacterial effects of extracts from two plant species, *Moringa oleifera* and *Allium sativum* (garlic). *Journal of Microbiology and Biology Education* 18(3). doi:10.1128/jmbe.v18i3.1306

Sattley WM, Burchell BM, Conrad SD, and Madigan MT (2017) Design, construction, and application of an inexpensive, high-resolution water sampler. *Water* 9(8): 578. doi:10.3390/w9080578

- Madigan MT, Kempfer ML, Bender KS, Sullivan P, Sattley WM, Dohnalkova AC, and Joye SB (2017) Characterization of a cold-active bacterium isolated from the South Pole "Ice Tunnel". *Extremophiles* 21: 891–901. doi:10.1007/s00792-017-0950-2
- Sattley WM and Paterson A (2017) Instructor's Manual and Test Bank for *Brock Biology of Microorganisms*, 15/e. (Madigan, Bender, Buckley, Sattley and Stahl, Pearson Education, Inc., San Francisco, CA). ISBN: 10:0-134-60266-8
- Madigan MT, Vander Schaaf NA, and Sattley WM (2017) The *Chlorobiaceae*, *Chloroflexaceae*, and *Heliobacteriaceae*. In: Hallenbeck PC (ed), *Modern Topics in the Phototrophic Prokaryotes: Environmental and Applied Aspects*. Springer, Dordrecht. doi:10.1007/978-3-319-46261-5_4
- Renbarger TL, Baker JM, and Sattley WM (2017) Slow and steady wins the race: an examination of bacterial persistence. *AIMS Microbiology* 3(2): 171–185. doi:10.3934/microbiol.2017.2.171
- Baker JM, Riester CJ, Skinner BM, Newell AW, Swingley WD, Madigan MT, Jung DO, Asao M, Chen M, Loughlin PC, Pan H, Lin Y, Li Y, Shaw J, Prado M, Sherman C, Tang JK-H, Blankenship RE, Zhao T, Touchman JW, and Sattley WM (2017) Genome sequence of *Rhodoferrax antarcticus* ANT.BR^T, a psychrophilic purple nonsulfur bacterium from an Antarctic microbial mat. *Microorganisms* 5(1): 8. doi:10.3390/microorganisms5010008
- Madigan MT, Bender KS, Buckley DH, Sattley WM, and Stahl DA (2017) *Brock Biology of Microorganisms*, 15/e. Pearson Education, Inc., San Francisco, CA. ISBN: 10:0-13-426192-5
- Sattley WM and Madigan MT (2015) Microbiology. In: *Encyclopedia of Life Sciences (eLS)*. John Wiley and Sons, Ltd. Chichester, UK. doi:10.1002/9780470015902.a0000459.pub2
- Vander Schaaf NA, Cunningham AMG, Cluff BP, Kraemer CK, Reeves CL, Riester CJ, Slater LK, Madigan MT, and Sattley WM (2015) Cold-active, heterotrophic bacteria from the highly oligotrophic waters of Lake Vanda, Antarctica. *Microorganisms* 3(3): 391–406. doi:10.3390/microorganisms3030391
- Sattley WM and Madigan MT (2014) The Family *Heliobacteriaceae*. In: Rosenberg E, DeLong EF, Lory S, Stackebrandt E and Thompson F (eds), *The Prokaryotes*, 4th edn, vol 7, pp. 185–196. Springer, New York. doi:10.1007/978-3-642-30120-9_362
- Sattley WM, Gulvik CA, Seston SL, and Jordan HW (2014) Instructor's Manual and Test Bank for *Brock Biology of Microorganisms*, 14/e. (Madigan, Martinko, Bender, Buckley, and Stahl, Pearson Education, Inc., San Francisco, CA). ISBN: 978-0-321-92832-0
- Sattley WM, Asao M, Tang KH, and Collins AM (2014) Energy conservation in heliobacteria: Photosynthesis and central carbon metabolism. In: Hohmann-Marriott MF (ed), *The Structural Basis of Biological Energy Generation. Advances in Photosynthesis and Respiration*, vol. 39, pp. 231–247. Springer, Dordrecht. doi:10.1007/978-94-017-8742-0
- Sattley WM and Swingley WD (2013) Properties and evolutionary implications of the heliobacterial genome. In: Beatty JT (ed), *Genome Evolution of Photosynthetic Bacteria. Advances in Botanical Research*, vol. 66, pp. 67–97. Academic Press, Elsevier, Ltd. Oxford, UK. (Includes contribution to book cover design) doi:10.1016/B978-0-12-397923-0.00003-5

- Sattley WM and Gulvik CA (2011) Instructor's Manual and Test Bank for *Brock Biology of Microorganisms*, 13/e. (Madigan, Martinko, Stahl, and Clark, Pearson Benjamin Cummings, San Francisco, CA). ISBN: 978-0-321-72021-4
- Sattley WM and Madigan MT (2010) Temperature and nutrient induced responses of Lake Fryxell sulfate-reducing prokaryotes and description of *Desulfovibrio lacusfryxellense* sp. nov., a pervasive, cold-active, sulfate-reducing bacterium from Lake Fryxell, Antarctica. *Extremophiles* 14: 357–366. doi:10.1007/s00792-010-0315-6
- Sattley WM and Blankenship RE (2010) Insights into heliobacterial photosynthesis and physiology from the genome of *Heliobacterium modesticaldum*. *Photosynthesis Research* 104: 113–122. doi:10.1007/s11120-010-9529-9
- Sattley WM, Jung DO, and Madigan MT (2008) *Psychrosinus fermentans* gen. nov., sp. nov., a lactate-fermenting bacterium from near-freezing oxycline waters of a meromictic Antarctic lake. *FEMS Microbiology Letters* 287: 121–127. doi:10.1111/j.1574-6968.2008.01300.x
- Sattley WM, Madigan MT, Swingley WD, Cheung PC, Clocksin KM, Conrad AL, Dejesa LC, Honchak BM, Jung DO, Karbach LE, Kurdoglu A, Lahiri S, Mastrian SD, Page LE, Taylor HL, Wang ZT, Raymond J, Chen M, Blankenship RE, and Touchman JW (2008) The genome of *Heliobacterium modesticaldum*, a phototrophic representative of the *Firmicutes* containing the simplest photosynthetic apparatus. *Journal of Bacteriology* 190: 4697–4696. doi:10.1128/JB.00299-08
- Swingley WD, Chen M, Cheung PC, Conrad AL, Dejesa LC, Hao J, Honchak BM, Karbach LE, Kurdoglu A, Lahiri S, Mastrian SD, Miyashita H, Page L, Ramakrishna P, Satoh S, Sattley WM, Shimada Y, Taylor HL, Tomo T, Tsuchiya T, Wang ZT, Raymond J, Mimuro M, Blankenship RE, and Touchman JW (2008) Niche adaptation and genome expansion in the chlorophyll *a*-producing cyanobacterium *Acaryochloris marina*. *Proceedings of the National Academy of Sciences of the USA* 105: 2005–2010. doi:10.1073/pnas.0709772105
- Sattley WM and Madigan MT (2007) Cold-active acetogenic bacteria from surficial sediments of perennially ice-covered Lake Fryxell, Antarctica. *FEMS Microbiology Letters* 272: 48–54. doi:10.1111/j.1574-6968.2007.00737.x
- Sattley WM and Madigan MT (2006) Isolation, characterization, and ecology of cold-active, chemolithotrophic, sulfur-oxidizing bacteria from perennially ice-covered Lake Fryxell, Antarctica. *Applied and Environmental Microbiology* 72: 5562–5568. doi:10.1128/AEM.00702-06
- Karr EA, Ng JM, Belchik SM, Sattley WM, Madigan MT, and Achenbach LA (2006) Biodiversity of methanogenic and other *Archaea* in the permanently frozen Lake Fryxell, Antarctica. *Applied and Environmental Microbiology* 72: 1663–1666. doi:10.1128/AEM.72.2.1663-1666.2006
- Karr EA, Sattley WM, Rice MR, Jung DO, Madigan MT, and Achenbach LA (2005) Diversity and distribution of sulfate-reducing bacteria in permanently frozen Lake Fryxell, McMurdo Dry Valleys, Antarctica. *Applied and Environmental Microbiology* 71: 6353–6359. doi:10.1128/AEM.71.10.6353-6359.2005

Madigan MT, Jung DO, Karr EA, Sattley WM, Achenbach LA, and van der Meer MTJ (2003) Diversity of anoxygenic phototrophs in contrasting extreme environments. *In: Inskeep W and McDermott T (eds), Geothermal Biology and Geochemistry in Yellowstone National Park. Proceedings of the Thermal Biology Workshop, Yellowstone National Park, WY, October 2003, pp 203–219. Thermal Biology Institute, Montana State University Publications, Bozeman, MT. ISBN: 0-9635114-1-6*

Karr EA, Sattley WM, Jung DO, Madigan MT, and Achenbach LA (2003) Remarkable diversity of phototrophic purple bacteria in a permanently frozen Antarctic lake. *Applied and Environmental Microbiology* 69: 4910–4914. doi:10.1128/AEM.69.8.4910-4914.2003

Other Scholarly Contributions

Renbarger TL and Sattley WM (2012) *Introductory Microbiology Laboratory Manual*. An in-house laboratory manual used in the Introductory Microbiology course at Indiana Wesleyan University.

Sattley WM and Howard M (2008) *Principles of the Microbiology Laboratory*. An in-house laboratory manual used in the general microbiology course at MidAmerica Nazarene University.

Sattley WM and Madigan MT (2008) Antarctic sulfur-chemolithotroph *Thiobacillus thioparus* strain FTL9 properly streaked for isolation on a petri plate using the four-quadrant streak method. Atlas. American Society for Microbiology, Washington D.C.
www.microbelibrary.org, a peer-reviewed, online resource for microbiology students and instructors.

- Scientific contributor and consultant for *The American Heritage Dictionary of the English Language*, 5/ed, 2011, Houghton-Mifflin Company, Boston, MA.
- Author of a microbiology podcast called *Microblast* that offers audio study guides that may be downloaded directly from iTunes; to date, about 20,000 downloads have been logged from countries all around the world.
- Manuscript reviewer for *Brock Biology of Microorganisms*, editions 12 and 13 (2009 and 2012, respectively; Pearson Benjamin Cummings, San Francisco, CA).
- Manuscript reviewer for the first edition of *Microbiology: Basic and Clinical Principles* by Lourdes Norman-McKay (2019, Pearson Education, Inc.).
- Four original research articles I authored (or coauthored) are featured in Chapter 7 (Extreme Environments) of the textbook *Environmental Microbiology*, 2/e (Maier, Pepper, and Gerba, 2009, Academic Press, Elsevier, Ltd); a key figure from one of my research articles (Sattley and Madigan, 2006) is reproduced in the book. A key figure from another of my articles (Sattley et al., 2008) is featured in the textbook *Prescott's Microbiology*, 10/e (Willey, Sherwood, and Woolverton, 2016, McGraw-Hill Education).

Manuscripts in Preparation

Dewey ED, Stokes LM, Burchell BM, Shaffer KN, Huntington AM, Baker JM, Nadendla S, Giglio MG, Blankenship RE, Touchman JW, Madigan MT, and Sattley WM. The complete genome of the alkaliphilic and minimalistic phototrophic bacterium *Heliorestis convoluta* strain HH^T.

Sattley WM, Swingley WD, Burchell BM, Shaffer KN, Stokes LM, Renbarger TL, Blankenship RE, and Madigan MT. Complete genome sequence of the thermophilic purple sulfur bacterium *Thermochromatium tepidum* strain MC^T.

Saxton MA, Samarkin VA, Madigan MT, Sattley WM, Chanton JP, Schutte CA, and Joye SB. Sulfate reduction and methanogenesis in the hypersaline deep waters and sediments of perennially ice-covered Lake Vanda, McMurdo Dry Valleys, Antarctica.

Book in Preparation

Madigan MT, Bender KS, Buckley DH, Sattley WM, and Stahl DA. *Brock Biology of Microorganisms*, 16/e. Pearson Education, Inc., San Francisco, CA.

Invited Oral Presentations

“Livin’ on the edge: Isolating and characterizing microbes that inhabit Earth’s extremes.” American Society for Microbiology student chapter seminar, Purdue University Fort Wayne, Fort Wayne, IN. February 22, 2019.

“Research highlights and future directions of a microbiologist at IWU.” Plenary speaker, 1st Annual Faculty Scholarship Symposium, Indiana Wesleyan University, Marion, IN. November 8, 2017.

“When opportunity knocks, answer the door.” Chapel address. Indiana Wesleyan University, Marion, IN. November 8, 2017.

“Microbial carbon and sulfur cycling in permanently ice-covered Antarctic lakes.” Science Lecture Series, Taylor University, Upland, IN. September 9, 2013.

“Environmental stewardship and sustainability: A Christian perspective.” Justice Week Seminar Series, Indiana Wesleyan University, Marion, IN. April 10, 2013.

“The microbiology of sulfur and carbon cycling in permanently ice-covered Antarctic lakes.”, Department of Biological Sciences Seminar Series, Northern Illinois University, DeKalb, IL. March 7, 2013.

“Microbiology of cold-active Antarctic bacteria.” 2nd Hodson Summer Research Institute Seminar Series, Indiana Wesleyan University, Marion, IN. June 6, 2012.

“From ice to steam: characterizing bacteria from contrasting extreme environments.” Division of Natural Sciences Science Forum, Indiana Wesleyan University, Marion, IN. September 23, 2010.

“The genome of *Heliobacterium modesticaldum*, a thermophilic representative of the simplest phototrophs.” Symposium on heliobacteria in honor of Howard Gest, esteemed researcher of anoxygenic phototrophic bacteria, Department of Biology at Washington University in St. Louis, MO. May 19, 2008.

“The simplest phototroph: A look at the genome of *Heliobacterium modesticaldum*.” Department of Biology Prokaryotic Supergroup Seminar Series, Washington University in St. Louis, MO. February 6, 2008.

“Nutrient-cycling microorganisms from extreme environments: From culturing to genomics.”
School of Science Seminar Series, Penn State Erie, The Behrend College, Erie, PA.
December 3, 2007.

“The complete genome sequence of *Heliobacterium modesticaldum*, an endospore-forming, thermophilic, anoxygenic phototroph.” Session I speaker: Genomes and Evolutionary Aspects, 33rd Annual Midwest/Southeastern Photosynthesis Meeting. Turkey Run State Park, Marshall, IN. November 9, 2007.

“Microbiology of sulfur cycling and other biogeochemical processes in Lake Fryxell, Antarctica.” Department of Biology BioForum, Washington University in St. Louis, MO. September 22, 2006.

“Culture, isolation, and characterization of sulfur-cycling bacteria from Lake Fryxell, Antarctica.” Guest speaker for senior chemistry students at Centralia High School, Centralia, IL. January 14, 2005.

Abstracts and Poster Presentations

Burchell BM, Shaffer KN, Stokes LM, Renbarger TL, Gurbani S, Kujawa C, Nuccio D, Schladweiler J, Zaporowski A, Swingley WD, Blankenship RE, Madigan MT, and Sattley WM (2019) Complete genome sequence of the thermophilic purple sulfur bacterium *Thermochromatium tepidum* strain MC^T. Annual Indiana Branch of the American Society for Microbiology (IBASM) Meeting, Nashville, IN.

Dewey ED, Burchell BM, Shaffer KN, Stokes LM, Huntington AM, Baker JM, and Sattley WM (2018) Preliminary genome analysis of the alkaliphilic and minimalistic phototrophic bacterium *Heliorestis convoluta*. 12th Annual West Michigan Regional Undergraduate Science Research Conference, Van Andel Research Institute, Grand Rapids, MI.

Stokes LM, Huntington AM, Dewey ED, Shaffer KN, Burchell BM, Madigan MT, and Sattley WM (2018) Cultivation and characterization of icebound microorganisms from the South Pole. 12th Annual West Michigan Regional Undergraduate Science Research Conference, Van Andel Research Institute, Grand Rapids, MI.

Sattley WM, Burchell BM, Conrad SD, and Madigan MT (2017) Design, construction, and application of an inexpensive, high-resolution water sampler. 6th Annual Midwest Geobiology Symposium. Indiana University-Purdue University Indianapolis (IUPUI), Indianapolis, IN.

Baker JM, Newell A, Riestler CJ, Skinner B, Swingley WD, Madigan MT, Jung DO, Asao M, Chen M, Loughlin P, Pan H, Lin S, Li N, Shaw J, Prado M, Sherman C, Li X, Tang KH, Blankenship RE, Touchman JW, and Sattley WM (2016) Genomic analysis of the cold-adapted phototrophic bacterium *Rhodoferox antarcticus*. 131st Annual Indiana Academy of Science Meeting, Indianapolis, IN.

Baker JM, Newell A, Riestler CJ, Skinner B, Swingley WD, Madigan MT, Jung DO, Asao M, Chen M, Loughlin P, Pan H, Lin S, Li N, Shaw J, Prado M, Sherman C, Li X, Tang KH, Blankenship RE, Touchman JW, and Sattley WM (2015) Genomic analysis of *Rhodoferox antarcticus*, a cold-adapted photosynthetic bacterium from an Antarctic microbial mat. 4th Annual Midwest Geobiology Symposium. Indiana University, Bloomington, IN.

- Miller GJ, Burchell R, Russell B, Davidson A, Holder E, and Sattley WM (2015) Minimum inhibitory concentration of *Moringa oleifera* on different species of bacteria. The Annual Meeting of the Society of Plant Biologists, Minneapolis, MN.
- Seaborn JM, Taylor KM, and Sattley WM (2015) Culture-based investigation of sulfate- and nitrate-reducing bacteria from Dry Valleys lakes of Antarctica. Celebration of Scholarship, Indiana Wesleyan University, Marion, IN.
- Taylor KM, Seaborn JM, Wood BM, and Sattley WM (2015) Nutrient-cycling aerobic bacteria from permanently ice-covered Antarctic lakes. Celebration of Scholarship, Indiana Wesleyan University, Marion, IN.
- Wood BM and Sattley WM (2014) Sulfur-chemolithotrophic bacteria from waters of Lake Hoare, Taylor Valley, Antarctica. Celebration of Scholarship, Indiana Wesleyan University, Marion, IN.
- Conover P, Fuller M*, and Sattley WM (2014) Cultivation and characterization of chemoorganotrophic bacteria from hypersaline Don Juan Pond, Wright Valley, Antarctica. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN. **Gave an oral presentation in support of this research poster.*
- Vander Schaaf NA and Sattley WM (2014) Cold-active chemoorganotrophic bacteria from oligotrophic waters of Lake Vanda, Antarctica. 129th Annual Indiana Academy of Science Meeting, Indianapolis, IN.
- Vander Schaaf NA and Sattley WM (2013) Characterization of six strains of heterotrophic bacteria from Lake Vanda, Antarctica. 3rd Hodson Research Colloquium. Indiana Wesleyan University, Marion, IN.
- Miller KEH and Sattley WM (2013) Microbiological analysis of tap water at Indiana Wesleyan University. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN.
- Sattley WM and Vander Schaaf NA* (2013) Characterization of six strains of heterotrophic bacteria from Lake Vanda, Antarctica. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN.
**Received "Best Celebration of Scholarship poster presentation" award granted by the IWU Honors College Student Association Academic Committee.*
- Sattley WM and Cunningham AMG (2013) Isolation and characterization of eight strains of heterotrophic bacteria from Lake Fryxell, Antarctica. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN.
- Iwase Y, Lautensack NL, Sattley WM, and Miller GJ (2013) Antibacterial effects of *Moringa* leaf extracts. The Annual Meeting of the Society of Plant Biologists, Providence, RI.
- Cunningham AMG, Vander Schaaf NA, and Sattley WM (2013) Cold-active, aerobic, heterotrophic bacteria from perennially ice-covered lakes of the McMurdo Dry Valleys, Antarctica. 128th Annual Indiana Academy of Science Meeting, Indianapolis, IN.
- Reeves C and Sattley WM (2012) New cold-active strains of aerobic, chemoorganotrophic bacteria from two permanently ice-covered Antarctic lakes. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN.

- Riester C and Sattley WM (2012) A cold-active, halotolerant, chemoorganotrophic bacterium from Lake Vanda, Wright Valley, Antarctica. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN.
- Slater L and Sattley WM (2012) Physiological and phylogenetic characterization of a cold-adapted heterotrophic bacterium from an Antarctic lake. Celebration of Scholarship. Indiana Wesleyan University, Marion, IN.
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