

## CURRICULUM VITAE

**William B. Whitman**

**Address:** Department of Microbiology  
University of Georgia  
Athens, Georgia 30602-2605

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### **Education:**

Bachelor of Science, 1973, from the Department of Biological Sciences, State University of New York at Stony Brook.

Doctor of Philosophy, 1978, from the Department of Microbiology, University of Texas at Austin. Advisor: F. Robert Tabita.

Postdoctoral work, Department of Microbiology, University of Illinois, 1978 - 1982. Advisor: Ralph S. Wolfe.

### **Academic Positions:**

Emeritus Professor of Microbiology, University of Georgia, 2019-present

Distinguished Research Professor of Microbiology, University of Georgia, 2011-2019

Head, Department of Microbiology, University of Georgia, 2006-2012

Professor of Microbiology, University of Georgia, 1993-present

Associate Professor of Microbiology, University of Georgia, 1988-1993

Assistant Professor of Microbiology, University of Georgia, 1982-1988

Graduate Faculty, University of Georgia, 1984-present

Joint appointed Department of Biochemistry, University of Georgia, 1986-present

Joint appointed Department of Marine Science, University of Georgia, 1993-present

Adjunct Professor of Key Laboratory of Development and Application of Rural Renewable Energy, Chengdu China, 2018-2021

### **Membership in Professional Societies:**

American Association for the Advancement of Science, 1975-present

American Society for Microbiology, 1975-present

Southeastern branch, American Society for Microbiology, 1982-present

American Society of Biological Chemistry, 1982-1995

American Academy of Microbiology, 1994- present

Bergey's International Society for Microbial Systematics, 2010-present

### **Other Professional Service:**

Secretary, ICSB Subcommittee on the taxonomy of methanogenic bacteria, 1986-2001  
Advisory Board, N.I.H. Stable Isotope Resource at Los Alamos, 1988-1995  
Editorial Board, Journal of Bacteriology, 1989-1994  
Panel Member, NSF program in Cellular Biochemistry, 1992-1994  
Associate Editor, International Journal of Systematic Bacteriology, 1995-2001  
Co-chair (with A. Klein) of Gordon Research Conference on Archaea: Ecology, Metabolism and Molecular Biology; Plymouth State, Colorado, 1996  
Panel Member, DOE Energy Biosciences, 1998  
Co-organizer (with D. Soll) of Keystone Symposium entitled Archaea: Bridging the Gap Between Bacteria and Eukarya, Taos, New Mexico, 1999  
Franklin College Outreach Program, 1995-2003  
Panel Member, NSF program in Systematics, 2002  
Chair, Division I (General Microbiology), American Society for Microbiology 2003  
Co-organizer (with D.C. Coleman and C.Y. Chiu) International symposium on impacts of soil biodiversity on biogeochemical processes in ecosystems. Taipei, Taiwan, 2004.  
Panel Member, DOE program in Microbial Genomics, 2004  
Advisory Committee, ATCC Bacteriology Program, 2004  
Advisor, NRC meetings on Microbial Forensics, 2004  
Co-organizer (with J. Leigh) ASM Symposium entitled Genes to proteins in Archaea, Boston, 2008  
Panel Member, AAM Workshop, Large Scale Sequencing, Washington, DC, 2008.  
Program review, Department of Microbiology, North Carolina State, May 2011  
Panel Member, JGI Community Sequencing Program, August 2011  
Panel Member, JGI Quarterly Call Community Sequencing Program, September 2012  
Panel Member, JGI Quarterly Call Community Sequencing Program, January 2014  
Panel Member, JGI Community Sequencing Program, June 2014  
Panel Member, National Science Foundation, February 2015  
Panel Member, JGI Community Sequencing Program, July 2015  
Panel Member, JGI Community Sequencing Program, December 2015  
Board, Bergey's Manual Trust, 2006-present  
Supervising Editor, Bergey's Manual Trust, 2006-2019  
Treasurer, Bergey's International Society for Microbial Systematics, 2010-2020  
Member, Scientific Advisory Board, Biodiversity Research Center at Academia Sinica, Taiwan, 2013-present.  
Editor, Archaea, 2013-present  
Treasurer, International Committee for Systematics of Prokaryotes, 2014-present

### **Outreach:**

Judge, Georgia State High School Science Fair, 1995, 1998, 2000-2010, 2012-2013  
Judge, Clarke County School Science Fair, 2002, 2004-2010, 2016  
Judge, Barrow Elementary School Science Fair, 2007-2008

Franklin College Outreach Program, 1995-2002 (lectures on Microbiology in elementary schools)

Microbiology demonstrations at local schools:

Chase Elementary School, 2003

Clarke County Middle School, 2003

UGA Day for Clarke County Schools, 2005

Whit Davis Elementary School, Spring and Fall, 2008, Fall 2009, 2015, 2017

Fowler Drive Elementary School, Fall 2009-2014

PAL programs at Fowler Drive and Chase Elementary School, 2016, 2017

Stroud Elementary School, Spring 2019

### **Honors:**

National Research Service Award, NIH-PHS Postdoctoral Fellowship, February 1979

Presidential Young Investigator Award, June 1984

Achievement Award for New Scholars, 1985, Southern Conference of Graduate Schools

Fellow, 1995, American Academy of Microbiology

Bergey's Award, Bergey's Manual Trust, 2000

P.R. Edwards Award, Southeastern Branch of the American Society for Microbiology, 2000

Robert G. Eagon Award, Southeastern Branch of the American Society for Microbiology, 2004

Fellow, American Association for the Advancement of Science, 2006

USFCC/J.Roger Porter Award, American Society for Microbiology, 2010

Distinguished Research Professor, University of Georgia, 2011

Chinese Academy of Sciences Visiting Professorship for Senior International Scientists, Institute of Microbiology, Laboratory of Xiuzhu Dong, 2013

### **Dissertations Directed:** Ph.D., University of Georgia

Jer Song Shieh (1988) Carbon metabolism in methanococci.

Jonathan Ladapo (1990) Investigation of wild type and acetate auxotrophic mutants of *Methanococcus maripaludis*.

RuYe Xing (1992) Branched-chain amino acid biosynthetic pathway of archaeobacterium *Methanococcus* spp.

Peter Godfrey Simpson (1993) Investigation of amino acid metabolism in *Methanococcus voltae*.

Timothy Bowen (1993) The development of a genetics system for *Methanococcus*.

Yu-Ling Yang (1994) Investigation of pyruvate oxidation regulation of *Methanococcus*.

Jyoti Keswani (1994) Use of molecular approaches for identification and classification of the methane producing archaea, *Methanococcus*.

Debra Lynn Tumbula (1997) Development of genetic methods for *Methanococcus maripaludis*.

Jae-Pil Yu (1997) Investigation of autotrophy in *Methanococcus maripaludis*.

Warren Gardner (2000) Expression vectors for the methane-producing archaeon *Methanococcus maripaludis*.

Michelle Furlong (2000) Bacterial communities in natural ecosystems: groundwater, soil, and earthworm casts and burrows.

- David Singleton (2002) Prokaryotic communities associated with the earthworm *Lumbricus rubellus* and the agricultural soil it inhabits.
- Winston Lin (2002) Investigation of the anabolic pyruvate oxidoreductase and the function of PorEF in *Methanococcus maripaludis*.
- Kamyar Farahi (2002) Investigation of the evolution of the aminoacyl-tRNA synthetases by the ratios of evolutionary distance method.
- Wonduck Kim (2003) Genetic studies of carbon dioxide fixation in the methane-producing archaeon *Methanococcus maripaludis*.
- Tiffany Major (2006) The role of the energy conserving hydrogenase B in autotrophy and the characterization of sulfur metabolism in *Methanococcus maripaludis*
- James Henriksen (2008) Physiology of DMSP metabolism in a model marine roseobacter, *Silicibacter pomeroyi*.
- Yuchen Liu (2010) Adaptations of *Methanococcus maripaludis* to its unique lifestyle.
- Chris Reisch (2011) Metabolism of DMSP by *Ruegeria pomeroyi*.
- Felipe Andres Sarmiento Boban (2013) Genome-wide survey of gene functionality for the methanogenic archaeon *Methanococcus maripaludis*
- Hannah Bullock (2016) Methylmercaptopropionate-CoA ligase and methythioacryloyl-CoA hydratase from the dimethylsulfoniopropionate demethylation pathway
- Feng Long (2017) Aspects of sulfur metabolism in methane-producing archaeon *Methanococcus maripaludis*
- Joseph Wirth (2019) Phylogenomics and the metabolism of sulfur compounds in the roseobacter group

### **Current Doctoral Students:**

Taiwo Akinyemi  
 Nana Shao  
 Tao Wang

### **Thesis Directed:** M.S. University of Georgia

- See Hyang Sohn (1985) The regulation of the incorporation of isoleucine, leucine and acetate in *Methanococcus voltae*.
- RuYe Xing (1988) Sulfometuron methyl sensitive and resistant acetolactate synthase of the archaeobacterium *Methanococcus*.
- Yu-Ling Yang (1989) Pyruvate oxidation in *Methanococcus* species.
- Brian Waters (2002) Investigation of 2-oxoacid oxidoreductases in *Methanococcus maripaludis* and large scale growth of *M. maripaludis*.
- Rima Upchurch (2006) Analyses and comparison of bacterial communities with different land managements.
- Shiyao Wang (2009) The diverse microbial community in Sapelo Island and study on the pathway of DMSP degradation in marine bacteria.
- Warren Crabb (2013) Metabolism of organosulfur compounds in *Ruegeria pomeroyi* DSS-3

### **Postdoctoral Research Associates:**

Usha Premachandran (1985-1986) Indian Agricultural Institute, New Delhi  
Neil Schauer (1985-1986) Virginia Polytechnical Institute  
Mostafa Mesbah (1986-1988) University of Bradford, England  
Sang Ho Park (1992-1994) Montana State University  
Iain Anderson (1998-2000) University of Wisconsin, Madison  
Iris Porat (2002-2009) Ben-Gurion University, Israel  
Boguslaw Lupa (2005-2010) Jagiellonian University, Krakow, Poland  
Kamlesh Jangid (2006-2011) University of Pune  
Laura Beer (2011-2012) University of Arizona  
Yixuan Zhu (2012-2013) University of Georgia  
Xun Li (2012-2013) Nanjing Forestry University, China  
Zhe Lv (2012- 2018) China Agricultural University  
Qiuyuan Huang (2014-2017) Miami University (Ohio)  
Hao Shi (2014-2016) Nanjing Forestry University, China

### **Visiting Colleagues:**

Mostafa Mesbah (1989-1990) University of Assiut, Egypt  
Vigdis Torsvik (1990-1991) University of Bergen, Norway  
Terje Torsvik (1990-1991) University of Bergen, Norway  
Karin Everett (2002)  
Chih-Yu Chiu (2002) Academia Sinica, Taiwan  
Suresh Korpole (2007-2008) Institute of Microbial Technology, Chandigarh, India  
Siti Chaerun (2008-2009) Institute Teknologi Bandung, Indonesia  
Soon Dong Lee (2009-2010) Cheju National University, Jeju, Republic of Korea.  
Murali Gopal (2010) Central Plantation Crops Research Institute, Kasaragod , India  
Alka Gupta (2010) Central Plantation Crops Research Institute, Kasaragod , India  
Sanjib Manna (2011) Central Inland Fisheries Research Institute (ICAR), Barrackpore, India  
Mingguo Jiang (2011-2012) Guangxi University for Nationalities, China  
Masood Siddiqui (2012) University of Balochistan, Quetta, Pakistan  
Xun Li (2013) Nanjing Forestry University, China  
Wang Liang Liang (2013) Nanjing Forestry University (doctoral student)  
JinHua Wang (2014) Southwest Forestry University, Kunming  
Yuehong Wu (2018) Second Institute of Oceanography, SOA, Hangzhou, China

### **Grants or Contracts:**

National Science Foundation; Metabolic Biology Program; PCM-8214068; \$120,000; 2/1/83-2/1/87.  
University of Georgia Research Grant Program; \$8,105, 3/1/83-2/28/84.  
National Science Foundation Presidential Young Investigator Award; Metabolic Biology Program; PCM-8351355; \$500,000 (with industrial matching funds); 7/1/84-6/31/89.

University of Georgia Program in Biological Resources and Biotechnology (with Dr. Joseph Frank, Department of Food Sciences); \$47,000; 1/1/85-4/15/87.

National Science Foundation; Biosynthesis of branched-chain amino acids by methanogenic bacteria. DCB-8904511; \$120,000; 9/1/89-2/29/92.

Environmental Protection Agency; RITG Workshop; CR-816378-01-0; \$20,000; 9/11/89-9/10/90.

Environmental Protection Agency; Greenhouse Gases from the Taiga; AERL 9003; \$149,792; 9/24/90-4/15/94; W. J. Payne, Co-PI.

National Science Foundation; Biosynthesis of branched-chain amino acids by methanogenic bacteria; DCB-9103349; \$210,000; 8/91-8/94.

Department of Energy; Biochemistry and genetics of autotrophy in *Methanococcus*; DEFG09-91ER20045; \$216,000; 8/91-8/94.

Eisenhower Higher Education Grant: Teaching science in the middle grades with physical and conceptual models: course and video development; E3-SA1; \$5,872; 3/92-9/93. co-P.I. with Shawn Glynn, Department of Education Psychology.

Eisenhower Higher Education Grant; Teaching science in the middle grades with physical and conceptual models: E3-SB5; \$12,602; 8/92-9/94. co-P.I. with Shawn Glynn, Department of Education Psychology.

National Science Foundation; Research and training group in prokaryotic diversity, P.I. with 22 co-PI's; BIR-9413235; \$2,030,780; 10/1/94-9/30/01.

Department of Energy; Biochemistry and genetics of autotrophy in *Methanococcus*; DEFG09-94ER20158; \$248,000, 8/94-8/97.

Naval Medical Research Institute (Geo-Centers, Inc.); Growth of *Methanobrevibacter smithii*; \$10,464; 11/96-2/98.

Department of Energy; Biochemistry and genetics of autotrophy in *Methanococcus*; DEFG09-91ER20269; \$264,000, 8/97-8/00.

Naval Medical Research Institute (H.M. Jackson Foundation); Growth of *Methanobrevibacter smithii*; \$36,000; 4/98-9/99.

Department of Energy; Biochemistry and genetics of autotrophy in *Methanococcus*; DEFG09-91ER20269; Renewed for \$308,000, 8/00-8/03.

National Science Foundation; Microbial Observatories: prokaryotic diversity of a salt marsh/estuarine complex at the University of Georgia Marine Institute, Sapelo Island (M.A. Moran, P.I. with 3 co-P.I.s); \$1,002,182; 11/00-10/05.

University of Nebraska (subcontract from N.I.H.); Enzymology of the reductive acetyl-CoA pathway; \$72,484; 4/00-3/02.

Department of Energy; Global regulation in the methane-producing archaeon *Methanococcus maripaludis*; DEFG02 01ER15262 (J. Leigh, P.I. with 5 Co-P.I.s.) Univ. of Georgia portion \$591,325, 9/01-9/04.

Department of Energy; Biochemistry and genetics of autotrophy in *Methanococcus*; DEFG09-91ER20269; Renewed for \$380,000, 8/03-8/07.

National Institutes of Health; Proteomic analysis using FTICR/MS; (J. Amster, P.I., R.S. Phillips and W.B. Whitman, co-P.I.s); Whitman portion, \$25,000 per year (dir. cost); 12/03-11/06.

National Science Foundation; Bacterial regulation of organic sulfur cycling in the ocean: a genomic approach; (M. Moran, PI, with 3 co-P.I.s); \$481,109; 6/04-5/08

Department of Energy; Hydrogenases of *Methanococcus maripaludis*; (J. Leigh, P.I with M. Hackett and W.B. Whitman, Co-P.I.s.) Univ. of Georgia portion \$433,464, 9/05-9/08.

United States Department of Agriculture; Impact of agricultural land management practices on the composition of the soil prokaryotic community; (Whitman, PI, with M.A. Williams and D.C. Coleman, co-P.I.s); \$350,000; 9/05-8/08.

GRA Energy Research Seed Grant; Removal of inhibitory acetate and furfural from dilute acid hydrolysates of lignocellulose by anaerobic microorganisms; \$40,080; 11/06-6/07.  
Renewed for \$60,440; 11/07-6/08.

National Institutes of Health; *Methanococcus maripaludis* as an emerging model organism; 1 R24 GM074783-01A1 (J.A. Leigh, P.I., M. Hackett and W.B. Whitman, Co-P.I.s);  
Whitman portion, \$244,360 (total costs, 2/07-1/11).

National Science Foundation; Microbial Observatories: functional genomic investigations of dissolved organic carbon cycling at the Sapelo Island Microbial Observatory MCB-0702125 (M.A. Moran, P.I.with M.G. Booth and W.B. Whitman, coP.I.s); \$1,250,137; 09/15/07-09/14/12.

National Science Foundation; En-Gen: a functional genomics approach to organic sulfur cycling in the ocean. OCE-0724017 (M.A. Moran, P.I., with R.P. Kiene and W.B. Whitman, coP.I.s); \$864,783; 10/01/07-09/30/10.

National Science Foundation; Characterizing microorganisms during ecosystem development: do soil microbial communities show patterns of succession? DEB-0743516 (M.A. Williams, P.I., with Kamlesh Jangid and W.B. Whitman); \$111,820 (UGA portion); 08/01/08-07/31/11.

Department of Energy; Hydrogenases of *Methanococcus maripaludis*; DE-FG02-05ER15709 A002 (J. Leigh, P.I with M. Hackett and W.B. Whitman, Co-P.I.s.) Univ. of Georgia portion \$486,714, 09/01/08-08/31/2011.

Department of Energy; Hydrogen regulation and global responses to electron, carbon, and nitrogen sources in *Methanococcus maripaludis*; DE-FG02-08ER64685 (J. Leigh, P.I with N. Baliga, M. Hackett and W.B. Whitman, Co-P.I.s.) Univ. of Georgia portion \$205,159; 09/15/08-09/14/2011.

National Science Foundation; Dimethylsulfoniopropionate metabolism by marine bacteria. MCB-1158037 (W.B. Whitman, P.I., with M.A. Moran); \$672,413; 09/01/12-08/31/16.

Korean Ocean Research Development Institute; Synthetic biology of methanogens for biogas production; 65,000,000 KRW (~ \$ 120,000); 05/01/2012-12/31/2013.

Joint Genomes Institute- Department of Energy, Community sequencing proposal: Genomic encyclopedia of bacterial and archaeal type strains, phase III: the genomes of soil and plant-associated and newly described type strains. (W.B. Whitman, P.I. with T. Woyke, N. Krypides, H.P. Klenk, T.G. Lilburn, B.J. Beck, P. De Vos, P. Vandamme, J.A. Eisen, G. Garrity, and P. Hugenholtz) Approval to sequence the genomes of 1000 prokaryotes. 10/01/2013-09/30/2015.

National Science Foundation; Dimensions: Collaborative Research: Bacteria taxa that control sulfur flux from the ocean to the atmosphere. OCE-1342694 (M.A. Moran, P.I., with W.B Whitman, R.P. Kiene, J. Birch, and C.A. Scholin); \$1,356,779 (\$562,867 to WBW); 01/01/2014-12/31/2019.

National Science Foundation; High resolution linkages between DOC and bacterioplankton.

OCE-1356010 (M.A. Moran, P.I., with W.B Whitman, P. Medeiros, F. Ballantyne, and I.J. Amster); \$998,701 (\$250,000 to WBW); 01/02/2014-12/31/2017.

National Science Foundation; Collaborative Research: Unraveling sulfur networks in methanogenic archaea. MCB-1410102 (PI with Yuchen Liu [Yale Univ.]; \$348,457 to UGA; 07/01/2014-06/30/2017.

AgResearch, Palmerston North, New Zealand. Subcontract on Fast tracking of methanogen specific inhibitors. {Ron Rominus, PI} 82,000 [NZ dollars; ~\$70,000] 06/05/2013-06/15/2016.

University of Illinois and NIH, Subcontract on Structure and function of the elongator complex (Raven Huang, PI). \$64,250 (total costs); 9/30/2014-7/31/2016.

DOE-STTR program, Carbon and energy capture from biogas for the production of biochemical (with Goutham Vemuri, PI); \$75,000 to UGA; 03/11/2016-10/22/2016.

Department of Energy; Expression of recombinant methyl-coenzyme M reductase in the methanogenic archaeon *Methanococcus maripaludis* for the examination of activation and the role of post-translational modifications; DOE-BES 056756-01 (PI with Eduardus Duin, Auburn Univ.); \$298,654 to UGA; 09/01/2017-08/31/2020.

Joint Genomes Institute- Department of Energy, Community sequencing proposal: Genomic encyclopedia of bacterial and archaea VI: functional genomics of type strains. (W.B. Whitman, P.I. with H.P. Klenk, D.R. Arahal, R. Aznar, G. Garrity, M. Göker, P. Hugenholtz, and M. Pester. Approval to sequence the genomes of 10,000 prokaryotes along with 1000 transcriptomes and 600 exometabolite surveys. 10/01/2018-09/30/2023.

ExxonMobil Research and Engineering Company; Methane production and oxidation by recombinant methyl-coenzyme M reductase; (CoPI with Eduardus Duin and Steven Mansoorabadi, Auburn Univ.); \$65,000 to UGA; 09/15/2019-09/14/2020.

Department of Energy; Activation of recombinant methyl-coenzyme M reductase in the methanogenic archaeon *Methanococcus maripaludis* and the role of post-translational modifications; (PI with Eduardus Duin, Auburn Univ.); \$239,166 to UGA; 10/01/2020-09/30/2023 [pending].

### **Research Interests:**

Prokaryotes are the dominant form of life on earth, representing an enormous biomass and number of individual cells. They are so diverse that it is misleading to give them a common name, and they are really just what are left after the familiar plants, animals, fungi and protists are named. They are the engines that make the biosphere and the ancestors to all modern life. Their evolution established the central plan for the living cell. Research in our laboratory uses an integrated approach to understand the nature of free-living prokaryotes. We believe that studying the ecology, systematics, physiology, biochemistry, and molecular biology together provide the best understanding for these microorganisms. Likewise, the history or evolution of an organism provides insight into the modern organism. We have used these approaches to study the carbon metabolism of the methane-producing archaeon *Methanococcus*, the sulfur metabolism of the marine alphaproteobacterium *Ruegeria*, and the impact of agriculture on soil bacterial communities.



## **Research Articles:**

- Whitman, W. and F. R. Tabita (1976) Inhibition of D-ribulose 1,5-bisphosphate carboxylase by pyridoxal 5'-phosphate. *Biochem. Biophys. Res. Commun.* *71*:1034-1039.
- Whitman, W. B. and F. R. Tabita (1978) Modification of *Rhodospirillum rubrum* ribulose bisphosphate carboxylase with pyridoxal phosphate. 1. Identification of a lysyl residue at the active site. *Biochem.* *17*:1282-1287.
- Whitman, W. B. and F. R. Tabita (1978) Modification of *Rhodospirillum rubrum* ribulose bisphosphate carboxylase with pyridoxal phosphate. 2. Stoichiometry and kinetics of inactivation. *Biochem.* *17*:1288-1293.
- Tabita, F. R., P. Caruso and W. Whitman (1978) Facile assay of enzymes unique to the Calvin cycle in intact cells, with special reference to ribulose 1,5-bisphosphate carboxylase. *Anal. Biochem.* *84*:462-472.
- Whitman, W. B., C. Colletti, and F. R. Tabita (1979) Activation of spinach ribulose bisphosphate carboxylase by pyridoxal phosphate. *FEBS Lett.* *101*:249-252.
- Whitman, W. B., M. N. Martin and F. R. Tabita (1979) Activation and regulation of ribulose bisphosphate carboxylase-oxygenase in the absence of small subunits. *J. Biol. Chem.* *254*:10184-10189.
- Robison, P. D., W. B. Whitman, F. Waddill, A. F. Riggs and F. R. Tabita (1980) Isolation and sequence of the pyridoxal 5'-phosphate active-site peptide from *Rhodospirillum rubrum* ribulose-1,5-bisphosphate carboxylase/oxygenase. *Biochem.* *21*:4848-4853.
- Whitman, W. B. and R. S. Wolfe (1980) Presence of nickel in factor F<sub>430</sub> from *Methanobacterium bryantii*. *Biochem. Biophys. Res. Commun.* *92*:1196-1201.
- Whitman, W. B., E. Ankwarda and R. S. Wolfe (1982) Nutrition and carbon metabolism of *Methanococcus voltae*. *J. Bacteriol.* *149*:852-863.
- Ellefson, W. L., W. B. Whitman and R. S. Wolfe (1982) Nickel-containing factor F<sub>430</sub>:Chromophore of the methylreductase of *Methanobacterium*. *Proc. Natl. Acad. Sci. USA* *79*:3707-3710.
- Keltjens, J. T., W. B. Whitman, C. G. Caerteling, A. M. van Kooten, R. S. Wolfe and G. D. Vogels (1982) Presence of coenzyme M derivatives in the prosthetic group (coenzyme MF<sub>430</sub>) of methylcoenzyme M reductase from *Methanobacterium thermoautotrophicum*. *Biochem. Biophys. Res. Commun.* *108*:495-503.
- Whitman, W. B. and R. S. Wolfe (1983) Activation of the methylreductase system from *Methanobacterium bryantii* by ATP. *J. Bacteriol.* *154*:640-649.
- Jones, W. J., W. B. Whitman, R. D. Fields and R. S. Wolfe (1983) Growth and plating efficiency of methanococci on agar media. *Appl. Environ. Microbiol.* *46*:220-226.
- Wood, A. G., A. H. Redborg, D. R. Cue, W. B. Whitman and J. Konisky (1983) Complementation of the *argG* and *hisA* mutations of *Escherichia coli* by DNA cloned from the archaeobacterium *Methanococcus voltae*. *J. Bacteriol.* *156*:19-29.
- Whitman, W. B. and R. S. Wolfe (1984) Purification and analysis of cobamides of *Methanobacterium bryantii* by high-performance liquid chromatography. *Anal. Biochem.* *137*:261-265.
- Wood, A. G., W. B. Whitman and J. Konisky (1985) A newly-isolated marine methanogen

- harbors a small cryptic plasmid. *Arch. Microbiol.* 142:259-261.
- Whitman, W. B. and R. S. Wolfe (1985) Activation of the methylreductase system from *Methanobacterium bryantii* by corrins. *J. Bacteriology* 164:165-172.
- Whitman, W. B., J.-S. Shieh, S.-H. Sohn, D. S. Caras and U. Premachandran (1986) Isolation and characterization of 22 mesophilic methanococci. *System. Appl. Microbiol.* 7:235-240.
- Whitman, W. B. and R. S. Wolfe (1987) Inhibition by corrins of the ATP-dependent activation and CO<sub>2</sub> reduction by the methylreductase system in *Methanobacterium bryantii*. *J. Bacteriol.* 169:87-92.
- Bowen, T. L. and W. B. Whitman (1987) Incorporation of exogenous purines and pyrimidines by *Methanococcus voltae* and isolation of analog resistant mutants. *Appl. Environ. Microbiol.* 53:1822-1826.
- Xing, R. Y. and W. B. Whitman (1987) Sulfometuron methyl sensitive and resistant acetolactate synthases of the archaeobacteria *Methanococcus* spp. *J. Bacteriol.* 169:4486-4492.
- Whitman, W. B., S. H. Sohn, S. U. Kuk and R. Y. Xing (1987) Role of amino acids and vitamins in nutrition of mesophilic *Methanococcus* spp. *Appl. Environ. Microbiol.* 53:2373-2378.
- Shieh, J. S. and W. B. Whitman (1987) Pathway of acetate assimilation in autotrophic and heterotrophic methanococci. *J. Bacteriol.* 169:5327-5329.
- Franklin, M. J., W. J. Wiebe and W. B. Whitman (1988) Populations of methanogenic bacteria in a Georgia salt marsh. *Appl. Environ. Microbiol.* 54:1151-1157.
- Shieh, J. S. and W. B. Whitman (1988) Acetyl Coenzyme A Biosynthesis in *Methanococcus maripaludis*. *J. Bacteriol.* 170:3072-3079.
- Shieh, J. S., M. Mesbah and W. B. Whitman (1988) Pseudoauxotrophy of *Methanococcus voltae* for acetate, leucine, and isoleucine. *J. Bacteriol.* 170:4091-4096.
- Wood, A. G., W. B. Whitman and J. Konisky. (1989). Isolation and characterization of an archaeobacterial virus-like particle from *Methanococcus voltae* A3. *J. Bacteriol.* 171:93-98.
- Mesbah, M., U. Premachandran and W. B. Whitman (1989). Precise measurement of the G+C content of deoxyribonucleic acid by high-performance liquid chromatography. *Inter. J. System. Bacteriol.* 39:159-167.
- Schauer, N. L. and W. B. Whitman (1989) Formate growth and pH control by volatile formic and acetic acids in batch cultures of methanococci. *J. Microbiol. Meth.* 10:1-7.
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- Kim, W. and W.B. Whitman (1999) Isolation of acetate auxotrophs by random insertional mutagenesis of *Methanococcus maripaludis*. Keystone Symposium: Archaea: bridging the gap between bacteria and eukarya. Taos, N.M.
- Gardner, W.L. and W.B. Whitman (1999) Development of integrative and self-replicating expression vectors for *Methanococcus maripaludis*. Keystone Symposium: Archaea: bridging the gap between bacteria and eukarya. Taos, N.M.
- Lin, W.C., Y.L. Yang and W.B. Whitman (1999) Sequence analysis of pyruvate oxidoreductase from methanogens. Gordon Research Conference on Archaea, Andover, N.H.
- Furlong, M.A., D.C. Coleman, and W.B. Whitman (2000) Bacterial communities observed in fresh earthworm casts, earthworm burrows and bulk soil. Ann. Meet. Am. Soc. Microbiol., Los Angeles, p. 486.
- Singleton, D.R., D.C. Coleman, and W.B. Whitman (2000) Prokaryotic communities from a no-till agricultural soil and *Lumbricus rubellus* casts. Ann. Meet. Am. Soc. Microbiol., Los Angeles, p. 487.
- Singleton, D.R., S. Story, A.J. Tien, D.J. Altman, W.B. Whitman, and R.L. Brigmon (2001) Microbial diversity in an acidic refinery sludge. Ann. Meet. Am. Soc. Microbiol., Orlando.
- Farahi, K., G.D. Pusch, R. Overbeek, and W.B. Whitman (2001) Computational test for lateral gene transfer within gene trees. Ann. Meet. Am. Soc. Microbiol., Orlando.
- Kim, W., and W.B. Whitman (2002) Mutagenesis of *cbiJ* of *Methanococcus maripaludis*. Ann. Meet. Am. Soc. Microbiol., Salt Lake City.
- Brigmon, R.L., M.A.Furlong, A. Glucksman, H. Skipper, and W.B. Whitman (2002) Characterization of microbial communities from pristine and chlorinated-ethene-contaminated landfill groundwater. Ann. Meet. Am. Soc. Microbiol., Salt Lake City.
- Porat, I., and W.B. Whitman (2003) Characterization of a leucine auxotroph, an aromatic amino acid auxotroph, and four null mutations for putative transcriptional regulators in the archaeon *Methanococcus maripaludis*. Ann. Meet. Am. Soc. Microbiol., Washington D.C.
- Moran, M.A., A. Buchan, W.B. Whitman, J.R. Henriksen, R.P. Kiene, D. Slezak, L. Brinkac, J.F. Heidelberg, and N. Ward (2003) Genomic sequence of a successful marine heterotroph, *Silicibacter pomeroyi* DSS-3. Ann. Meet. Am. Soc. Microbiol., Washington D.C.
- Porat, I., B.W. Waters, and W.B. Whitman (2003) Biosynthesis of aromatic amino acids in the archaeon *Methanococcus maripaludis*. Gordon Research Conference on Archaea, Proctor Academy

- Whitman, W.B., W. Lin, W. Kim, Y.L. Yang, T. Major, I. Porat, B.A. Parks, S.A. Boltz, and J. Amster (2003) Why methanococci don't grow on glucose. Gordon Research Conference on Archaea, Proctor Academy.
- Moran, M.A., W.B. Whitman, W. Ye, W.M. Sheldon, G. Dyszynski, X. Mou, J.R. Henriksen, R. Poretsky, R. Upchurch, R.E. Hodson, and F. Chen (2003) Prokaryotic diversity of a salt marsh/estuarine complex at the University of Georgia Marine Institute, Sapelo Island. NSF Microbial Observatories Principal Investigators= Workshop. Arlington, VA.
- Porat, I., B.W. Waters, Q. Teng and W.B. Whitman (2003) Biosynthesis of aromatic amino acids in the archaeon *Methanococcus maripaludis*. Southeastern branch of the American Society for Microbiology, Athens, GA.
- Major, T.A., and W.B. Whitman (2003) Abundance of 4Fe-4S motifs in prokaryotic genomes. Southeastern branch of the American Society for Microbiology, Athens, GA.
- Haydock, A., I. Porat, W. Whitman, and J. Leigh (2004) Growth of *Methanococcus maripaludis* in continuous culture under defined nutrient-limiting conditions. National Meeting of the American Society for Microbiology, New Orleans.
- Major, T.A., and W.B. Whitman (2004) The iron sulfur motif CX<sub>2</sub>CX<sub>2</sub>CX<sub>3</sub>C is abundant in methanogens. National Meeting of the American Society for Microbiology, New Orleans.
- Porat, I., B.W. Waters, Q. Teng and W.B. Whitman (2004) The *de novo* pathway of aromatic amino acid biosynthesis is regulated by phenylacetate and p-hydroxyphenylacetate in the archaeon *Methanococcus maripaludis*. National Meeting of the American Society for Microbiology, New Orleans, and Southeastern branch of the American Society for Microbiology, Jacksonville, AL.
- Porat, I., W. Kim, Q. Xia, E.L. Hendrickson, Y. Zhang, T. Wang, F. Taub, B.C. Moore, I.J. Anderson, M. Hackett, J.A. Leigh, and W.B. Whitman (2005) Differential display proteomics and transcriptome analyses of a hydrogen metabolism mutant of the archaeon *Methanococcus maripaludis*. National Meeting of the American Society for Microbiology, Atlanta.
- Hendrickson, E.L., A.K. Haydock, I. Porat, W.B. Whitman, J.A. Leigh (2005) Transcriptional regulation in *Methanococcus maripaludis* under hydrogen-limited growth. National Meeting of the American Society for Microbiology, Atlanta.
- Porat, I., M. Sieprawska-Lupa, Q. Teng, R.H. White, and W.B. Whitman .2006. Phosphate: L-aspartate semialdehyde transaldolase catalyzes an early step in the biosynthesis of aromatic amino acids and p-aminobenzoic acid in the archaeon *Methanococcus maripaludis*. National Meeting of the American Society for Microbiology, Orlando.
- Major, T.A., and W.B. Whitman. 2006. Deletion of Ehb hydrogenase genes affects anabolism in *Methanococcus maripaludis*. National Meeting of the American Society for Microbiology, Orlando.
- Talera, S., M.A. Williams, A. Ivester, and W.B. Whitman. 2006. Molecular analysis of the bacterial community diversity during 90,000 years of habitat development in soil chronosequences. National Meeting of the American Society for Microbiology, Orlando.
- Jangid, K., M.A. Williams, A. Franzluebbers, M. Jenkins, D. Endale, D.C. Coleman, and W.B. Whitman. 2006. Soil bacterial community composition and diversity as affected by animal manure application in pasture and cropping systems of the southern piedmont, USA. Soil Sci. Soc Am., Indianapolis.



- Henriksen, J.R., M.A. Moran, and W.B. Whitman (2007) Dimethylsulfoniopropionate (DMSP) metabolism in *Silicibacter pomeroyi*. Symposium on Incredible Anaerobes: from physiology to genomics to fuels. Univ. of Georgia, Athens.
- Henriksen, J.R., M.A. Moran, and W.B. Whitman (2007) Dimethylsulfoniopropionate (DMSP) metabolism in *Silicibacter pomeroyi*. National Meeting of the American Society for Microbiology, Toronto.
- Reisch, C.R., M.A. Moran, and W.B. Whitman (2008) Purification and kinetic characterization of DMSP dependent demethylase (DmdA) from marine bacteria. National Meeting of the American Society for Microbiology, Boston.
- Jangid, K., M.A. Williams, A.J. Franzluebbbers, J.S. Sanderlin, J.H. Reeves, M.B. Jenkins, D. Endale, D.C. Coleman, and W.B. Whitman (2008) Inorganic fertilizer and poultry-litter manure amendments alter the soil microbial communities in agricultural systems. National Meeting of the American Society for Microbiology, Boston.
- Sieprawska-Lupa, M., B. Lupa, K. Suresh, and W.B. Whitman (2009) A novel obligately anaerobic, coccoid spirochete isolated from river sediments. National Meeting of the American Society for Microbiology, Philadelphia
- Liu, Y., R.H. White, and W.B. Whitman (2009) Methanococci use diaminopimelate aminotransferase (DapL) for lysine biosynthesis. Gordon Research Conference on Archaea, Waterville Valley
- Liu, Y., L. Guo, R. Guo, R.L. Wong, H. Hernandez, J. Hu, Y. Chu, I.J. Amster, L. Huang, and W.B. Whitman (2009) The Sac10b homolog in *Methanococcus maripaludis* binds DNA at specific sites. Thermophiles, August 16-21, Beijing.
- Liu, Y., and W.B. Whitman (2010) Sulfur source for cysteine biosynthesis in *Methanococcus maripaludis*. National Meeting of the American Society for Microbiology, May 23-27. San Diego, CA.
- Reisch, C.R., Q. Teng, M.A. Moran, and W.B. Whitman (2010) Assimilation of DMSP by *Silicibacter pomeroyi* DSS-3. National Meeting of the American Society for Microbiology, May 23-27. San Diego, CA.
- Sarmiento, F., J. Mrazek, and W.B. Whitman (2012) High through put mapping of transposon insertions for the identification of essential genes of the methanogenic archaeon *Methanococcus maripaludis*. Extremophiles, Spain
- Sarmiento, F., J. Mrazek, and W.B. Whitman (2013) Genome scale analysis of gene function in the hydrogenotrophic archaeon *Methanococcus maripaludis*. Gordon Research Conference on Archaea, Lucca, Italy
- Bullock, H.A., A.S. Burns, M.A. Moran, and W.B. Whitman (2014) The role of tetrahydrofolate in the regulation of dimethylsulfoniopropionate metabolism in *Ruegeria pomeroyi* DSS-3. International Union of Microbiological Societies. Montreal, Canada. July 27-Aug. 1.
- Bullock, H.A., A.S. Burns, M.A. Moran, and W.B. Whitman (2015) The regulation of dimethylsulfoniopropionate metabolism in *Ruegeria pomeroyi* DSS-3. FEMS Congress. Maastricht, The Netherlands. June 7-11.
- Lyu, Z., R. Jain, P. Smith, T. Fetchko, Y. Yan, and W.B. Whitman (2015) Engineering the autotrophic *Methanococcus maripaludis* for geraniol production. Gordon Research Conference on Archaea, Newry, ME
- Jangid, K., M-H Kao, A. Lahamge, M.A. Williams, S.L. Rathbun, and W.B. Whitman (2017) K-

- shuff: A novel algorithm for characterizing structural and compositional diversity in gene libraries. JGI Investigators Workshop, March 20-21. Walnut Creek, CA.
- Whitman, W.B., T. Woyke, Y.-G. Zhou, H.-P. Klenk, N. Shapiro and N.C. Kyrpides (2017) Genomic encyclopedia of bacterial and archaeal type strains, phases III and IV: the genomes and pangenomes of soil and plant-associated prokaryotes. JGI Investigators Workshop, March 20-21. Walnut Creek, CA.
- Bullock, H.A., Y. Zhu, C.R. Reisch and W.B. Whitman (2017) AcuH from *Ruegeria lacuscaerulensis* is a crotonase superfamily enzyme with activity towards methyl thioacryloyl-CoA and acryloyl-CoA. (2017) FEMS, July 9-17, Valencia Spain.
- Lyu, Z., C-W Chou, H. Shi, R. Patel, R. Ghebreab, E.C. Duin, W.B. Whitman (2017) Methanogenesis marker 10 protein required for methylation of the arginine at the active site of methyl-coenzyme M reductase. Gordon Research Conference on Archaea, Waterville Valley, NH
- Jangid, K., M-H Kao, A. Lahamge, M.A. Williams, S.L. Rathbun, and W.B. Whitman (2017) K-shuff: A novel algorithm for characterizing structural and compositional diversity in gene libraries. 11<sup>th</sup> International Conference on Bioinformatics: Microbiomes and Metagenomes. Georgia Tech, Nov. 3-4.
- Whitman, W.B., T. Woyke, H.-P. Klenk, N. Shapiro and N.C. Kyrpides (2018) Genomic encyclopedia of bacterial and archaeal type strains, the genomes and pangenomes of soil and plant-associated prokaryotes. ISME, Leipzig, Germany, August 12-17.
- Wirth, J.S., and W.B. Whitman (2018) Phylogenomic analyses within the roseobacter group suggest taxonomic reassignments of species in several genera and the proposal of six novel genera. ISME, Leipzig, Germany, August 12-17.
- Ghebreab, R., B. Cronin, D. Prakash, Z. Lyu, W.B. Whitman, E.C. Duin (2018) Expression of recombinant methyl-coenzyme M reductase in the methanogenic archaeon *Methanococcus maripaludis* for the examination of activation and the role of post-translational modifications. DOE BES Physical Biosciences Research PI Meeting, Gaithersburg, Md, October 29-31.
- Ghebreab, R.Z., Z. Lyu, W.B. Whitman, and E.C. Duin (2018) Making active recombinant methyl-coenzyme M reductase. GRC Molecular Basis of Microbial One-Carbon Metabolism, Newry, ME, July 29-August 3.
- Clohan, K., Z. Lyu, C-W. Chou, H. Shi, R. Patel, R. Ghebreab, E.C. Duin, W.B. Whitman (2018) Methanogenesis marker protein 10 required for methylation of the arginine at the active site of methyl coenzyme-M reductase of *Methanococcus maripaludis*. GRC Molecular Basis of Microbial One-Carbon Metabolism, Newry, ME, July 29-August 3, 2018.

### **Invited Research Talks and Symposia:**

- Whitman, W. B. and W. L. Ellefson (1981) Nickel and methanogenesis. Genetic Engineering of Microorganisms for Chemicals at University of Illinois at Champaign-Urbana.
- Whitman, W. B. (1982) Physiology of *Methanococcus voltae*. Anaerobic Genetics Meeting at Branbury Center, Cold Spring Harbor, N.Y.

- Whitman, W. B. (1985) Isolation and characterization of 22 mesophilic methanococci. International Workshop on Biology and Biochemistry of Archaeobacteria, Munich, June, 1985.
- Whitman, W. B. (1987) Systematics of *Methanococcus*, a methane-producing archaeobacterium. Symposium lecture at the Combined Regional Microbiology Meetings, Am. Soc. Microbiol., Orlando, Florida.
- Whitman, W. B. (1988) Mesophilic methanococci. Sixth International Congress of Culture Collections. Washington, D.C., November, 1988.
- Whitman, W. B. and W. Wiebe (1990) Natural populations of methanogenic bacteria in Georgia salt marshes. National Meeting of the American Society for Microbiology, Anaheim, California.
- Whitman, W. B. (1990) Pathway of autotrophic CO<sub>2</sub> fixation in methane-producing archaeobacteria. National Meeting of the American Society for Microbiology, Anaheim, California.
- Whitman, W. B. (1990) Autotrophic CO<sub>2</sub> assimilation in *Methanococcus maripaludis*. Gordon Conference on Molecular Aspects of Methanogenesis, New Hampshire.
- Whitman, W. B. (1992) Carbon metabolism of *Methanococcus*. Ohio State University.
- Whitman, W. B. (1993) Developments in the physiology and genetics of *Methanococcus*, a methanogenic archaeobacterium. Gordon Conference on Applied and Environmental Microbiology.
- Whitman, W. B. (1993) Comparative studies on the pathway of branched-chain amino acid biosynthesis in *Methanococcus*. Gordon Conference on Methanogenesis.
- Whitman, W. B. (1993) Enzymes of branched-chain amino acid biosynthesis in *Methanococcus*. International Workshop on Molecular Biology and Biotechnology of Extremophiles and Archaeobacteria, Tokyo, Japan.
- Whitman, W. B. (1994) Enzymes of branched-chain amino acid biosynthesis in the methanococci. Annual Meeting of the American Society for Microbiology, Las Vegas.
- Whitman, W. B., and Y. L. Yang (1995) Autotrophic CO<sub>2</sub> assimilation in methane-producing bacteria. Third International Conference on Carbon Dioxide Utilization, Norman, OK.
- Whitman, W. B., and J. Keswani (1995) Correlations between DNA relatedness and 16S rRNA sequence similarity in eubacteria and archaeobacteria. Japanese Culture Collection, RIKEN, Wako-shi and Occupational and Environmental Health University, Kitakyushu, Japan.
- Whitman, W. B. (1995) Enzymes of branched-chain amino acid biosynthesis in the archaeobacterium *Methanococcus*. Osaka City University and Occupational and Environmental Health University, Kitakyushu, Japan.
- Tumbula, D. L., and W. B. Whitman (1996) A potential shuttle vector in *Methanococcus*. Gordon Conference on Archaea.
- Whitman, W.B. (1997) Research seminar. University of Minnesota.
- Whitman, W.B. (1998) Random mutagenesis of *Methanococcus maripaludis* by insertion libraries - isolation of mutants defective in CO<sub>2</sub> assimilation. Gordon Research Conference on the Molecular Basis of Microbial One-carbon Metabolism. Henniker, N.H.
- Whitman, W.B. (1998) Research seminar, Department of Microbiology, University of Tennessee, Knoxville.

- Whitman, W.B. (1999) Examination of biosynthetic pathways predicted by genomic sequencing in methanococci. Keystone Symposium: Archaea: bridging the gap between bacteria and eukarya. Taos, N.M.
- Whitman, W.B. (1999) Bacteria: the unseen majority. International Conference on The Ocean and its Environment, Tokyo, Japan.
- Whitman, W.B. (1999) Research seminar, Department of Microbiology, University of Wisconsin, Madison.
- Whitman, W.B. (1999) Bacteria: the unseen majority. Woods Hole Marine Sciences Laboratory, Summer Course on Microbial Diversity.
- Whitman, W.B. (1999) Isolation of *Methanococcus maripaludis* auxotrophs by random and directed insertional mutagenesis. Gordon Research Conference on Archaea.
- Whitman, W.B. (2000) Genetics of autotrophic growth of *Methanococcus maripaludis*. Gordon Research Conference on the Molecular Basis of Microbial One-carbon Metabolism. New London, CT.
- Whitman, W.B. (2001) Opportunities for genetic engineering in the methane-producing archaea. NSF/CABBIO Workshop on Microbial Diversity, Biocomplexity, Buenos Aires.
- Whitman, W.B. (2001) Examination of prokaryotic diversity in natural samples. Interfacing Microbiology and Biotechnology, University of Florida, Gainesville.
- Gardner, W., M. Dsouza, B.W. Waters, W.B. Whitman, R. Overbeek, and R. Feldman (2002) Hot to cold methane: genomes of the mesophile *Methanococcus voltae* and the extreme thermophile *Methanothermococcus thermolithotrophicus*. Southeastern Branch Am. Soc. Microbiol., Gainesville, Fl.
- Moran, M.A., A. Buchan, J. Henriksen, R. Kiene, N. Ward, J. Heidelberg, and W.B. Whitman (2002) Genome of the marine roseobacter *Silicibacter pomeroyi* DSS-3, a model organism for studying sulfur biotransformations. Southeastern Branch Am. Soc. Microbiol., Gainesville, Fl.
- Whitman, W.B. (2002) Why methanogens don't grow on glucose. Savannah River Ecology Laboratory.
- Whitman, W.B. (2002) Windows into the archaea: developing genetics in the methanococci. West Georgia College, Carrollton.
- Whitman, W.B. (2003) Why methanogens don't grow on glucose. Southern Yangtze University (Wuxi, P.R. China), Jiao Tong University (Shanghai), and Chinese Academy of Sciences (Beijing) and Hong Kong University of Science and Technology.
- Whitman, W.B. (2003) Diversity of soil bacteria in agricultural soil. Southern Yangtze University, Jiao Tong University (Shanghai), and Chinese Academy of Sciences (Beijing).
- Whitman, W.B. (2003) The silent majority, the number of prokaryotes on earth. Southern Yangtze University, Jiao Tong University (Shanghai), and Chinese Academy of Sciences (Beijing).
- Whitman, W.B. (2003) Prokaryotes, the unseen majority. I. Roth lecture at the Southeastern branch of the American Society for Microbiology, Athens, GA.
- Whitman, W.B., C.-Y. Chih, K. Everett, G. Dyszynski, R.A. Upchurch, and D.C. Coleman (2004) Bacterial diversity in agricultural and forest soils in the southeastern United States. International symposium on impacts of soil biodiversity on biogeochemical processes in ecosystems. Taipei, Taiwan.

- Whitman, W.B. (2004) Prokaryotes, the silent majority. Symposium to honor David R. Boone, Oregon Graduate Institute, Beaverton, 2004.
- Whitman, W.B., C.-Y. Chih, K. Everett, G. Dyszynski, R.A. Upchurch, and D.C. Coleman (2004) Bacterial diversity in agricultural and forest soils in the southeastern United States. International symposium on impacts of soil biodiversity on biogeochemical processes in ecosystems. Southeastern branch of the American Society for Microbiology, Jacksonville, AL.
- Whitman, W.B. (2004) The natural history of *Methanococcus*: a methanogenic archaeon from salt marshes. Department of Microbiology, University of Illinois, Urbana.
- Whitman, W.B. (2005) *Methanococcus* and other creatures of the salt marsh. Department of Marine Science, University of North Carolina, Chapel Hill.
- Whitman, W.B., I. Porat, and R.H. White (2005) Initial steps in the pathway of aromatic amino acid biosynthesis in *Methanococcus*. Gordon Research Conference on Archaea.
- Whitman, W.B., and M. Kendall (2005) Cuturomics- the discovery of life –omic. A lecture in honor of D.R. Boone. ASM National Meeting.
- Whitman, W.B. (2005) *Methanococcus* and an archaeal paradigm for autotrophic CO<sub>2</sub> fixation. Ohio State University.
- Whitman, W.B. (2005) The number of prokaryotes on earth. Columbia University.
- Whitman, W.B. (2006) Role of the *Methanococcus* energy-conserving hydrogenase in autotrophic CO<sub>2</sub> assimilation. Microbial Energy Production. National Meeting of the American Society for Microbiology, Orlando.
- Whitman, W.B. (2006) Role of the *Methanococcus* energy-conserving hydrogenase in autotrophic CO<sub>2</sub> assimilation. Molecular Basis of Microbial One-Carbon Metabolism, Gordon Research Conference, Oxford UK.
- Whitman, W.B. (2006) Role of the *Methanococcus* energy-conserving hydrogenase in autotrophic CO<sub>2</sub> assimilation. International Workshop on Extremophiles, Beijing, China.
- Whitman, W.B. (2006) The number of prokaryotes on earth (and why we care). Annual Meeting of the Southeastern Branch of the American Society for Microbiology, Kennesaw State University.
- Whitman, W.B. (2007) The number of prokaryotes on earth (and why we care). Seminar at Virginia Bioinformatics Institute, Virginia Tech.
- Whitman, W.B. (2007) New ways to make amino acids-lessons in prokaryotic diversity from the methanoarchaeon *Methanococcus*. Department of Biochemistry, University of Texas at Austin.
- Whitman, W.B. (2007) What is a prokaryotic species? PEET VI. Univ. of Georgia, Athens.
- Whitman, W.B., K. Jangid, M. Williams, S. Tarlera, and D.C. Coleman (2007) Bacterial diversity in agricultural and forest soils in the southeastern United States. International Symposium on Soil Biodiversity and Ecology. Taipei, Taiwan.
- Whitman, W.B. (2007) Natural history of the methane-producing archaeon *Methanococcus*. Department of Biology, NCHU, Taichung, Taiwan
- Whitman, W.B. (2007) Role of the *Methanococcus* hydrogenases in autotrophic CO<sub>2</sub> fixation and H<sub>2</sub> evolution. Department of Biology, NCHU, Taichung, Taiwan
- Whitman, W.B. (2007) The natural history of *Methanococcus*: a methanogenic archaeon from salt marshes. Department of Microbiology, Cornell Univ.

- Whitman, W.B. (2007) The number of prokaryotes on earth (and why we care). Symposium: Hidden before our eyes: a symposium to celebrate the 30<sup>th</sup> anniversary of the discovery of the Archaea at the University of Illinois. University of Illinois, Urbana.
- Whitman, W.B. (2007) The number of prokaryotes on earth (and why we care). 3<sup>rd</sup> Annual Computational and Systems Biology Symposium, University of Georgia.
- Whitman, W.B. (2008) The number of prokaryotes on earth (and why we care). Lyle E. Nelson Lecture, Department of Soil Science, Mississippi State Univ.
- Whitman, W.B. (2008) The number of prokaryotes on earth (and why we care). 26<sup>th</sup> Semana Academica-Cientifica, Universidad Autónoma de Coahuila Escuela de Ciencias Biológicas, Torreon, Mexico
- Whitman, W.B. (2009) David Bergey's legacy in bacterial classification. National Meeting of the American Society for Microbiology, Philadelphia
- Whitman, W.B. (2009) The number of prokaryotes on earth (and why we care). Halifax Univ., Nova Scotia
- Whitman, W.B. (2009) Hydrogenases of hydrogenotrophic methanogens. Thermophiles, August 16-21, Beijing.
- Whitman, W.B. (2009) Bergey's taxonomic outline of the Actinobacteria. 15<sup>th</sup> International Symposium on the Biology of Actinomycetes, August 20-25, Shanghai.
- Whitman, W.B. (2010) Bergey's manual during the development of prokaryotic systematics in the 20<sup>th</sup> century. XIII Meeting on Microbial Taxonomy, Phylogeny, and Diversity of the Spanish Society of Microbiology (SEM), May 13-14, Sevilla, Spain.
- Whitman, W.B. (2010) My prokaryotes from the salt marshes of Georgia. Feb. 26. Department of Biology, Georgia State Univ., Atlanta, GA.
- Whitman, W.B. (2010) USFCC/J. Roger Porter Award Lecture: My prokaryotes from the salt marshes of Georgia. National Meeting of the American Society for Microbiology. May 23-27. San Diego, CA.
- Whitman, W.B. (2010) The number of prokaryotes on earth (and why we care). May 28. Department of Microbiology, University of Washington, Seattle.
- Whitman, W.B. (2010) Role of energy coupling hydrogenases in *Methanococcus*. First Archaea Workshop in Korea: Physiology, Molecular Biology and Application, Oct. 27, Gyeongju, Korea
- Whitman, W.B. (2010) The number of prokaryotes on earth (and why we care). Oct. 29. Department of Bacteriology, Seoul National University, Seoul, Korea.
- Whitman, W.B. (2010) The number of prokaryotes on earth (and why we care). Nov. 1. Department of Science Education, Cheju National University, Jeju, Korea.
- Whitman, W.B. (2010) The number of prokaryotes on earth (and why we care). Nov. 8, Institute of Marine and Environmental Technology, Baltimore, MD
- Whitman, W.B. (2010) The number of prokaryotes on earth (and why we care). Nov. 24, Institut Teknologi Bandung, Bandung, Indonesia
- Whitman, W.B. (2010) The number of prokaryotes on earth (and why we care). Nov. 27, Udayana University, Bali, Indonesia
- Whitman, W.B. (2011) Bergey's Manual Trust in the development of prokaryotic systematics. Inaugural Meeting of Bergey's International Society for Microbial Systematics, May 19-23, Beijing, China.

- Whitman, W.B. (2011) The long view on prokaryotic diversity. Genomics Driven Modelling of Microbes and Communities, Institute of Computing in Science Summer Program, Park City, Utah, July 23-30.
- Liu, Y., and W.B. Whitman (2011) Unusual sulfur metabolism in *Methanococcus maripaludis*. Gordon Research Conference on Archaea, Waterville Valley Resort, July 31-August 5.
- Whitman, W.B. (2011) Hydrogen metabolism in the methane-producing archaeon *Methanococcus maripaludis*. New Zealand Microbiological Society Conference, Palmerston North, November 23-25.
- Whitman, W.B. (2012) Identification of essential genes of the methane-producing archaeon *Methanococcus maripaludis*. Department of Microbiology seminar, University of Oklahoma, April 6, 2012.
- Whitman, W.B. (2012) Dimethylsulfoniopropionate metabolism by marine bacteria: what happens when microbial physiologists and ecologists talk. Woods Hole MBL Microbial Diversity Course, July 14.
- Whitman, W.B. (2012) Pathway of methanethiol formation from dimethylsulfoniopropionate. Gordon Research Conference on One-Carbon Metabolism, Bates College, August 5-10.
- Whitman, W.B. (2012) High through put mapping of transposon insertions for identification of essential genes of the methane-producing archaeon *Methanococcus maripaludis*. 15<sup>th</sup> International Biotechnology Symposium and Exhibition, Daegu, Republic of Korea, September 16-21.
- Whitman, W.B. (2012) Dimethylsulfoniopropionate metabolism by marine bacteria: what happens when microbial physiologists and ecologists talk. University of Nebraska Biotechnology/Life Sciences Series, November 14.
- Whitman, W.B. (2013) Bergey's taxonomic outline of the Actinobacteria. Society for Applied Microbiology Summer Conference. Cardiff, UK.
- Whitman, W.B. (2013) Genome scale analysis of gene function in the hydrogenotrophic archaeon *Methanococcus maripaludis*. Jiao Tong University (Shanghai)
- Whitman, W.B. (2013) Hydrogen metabolism in the methane-producing archaeon *Methanococcus maripaludis*. Nanjing Forestry University and Chinese Academy of Sciences (Beijing).
- Whitman, W.B. (2013) A natural history of *Methanococcus*: a methanogenic archaeon from salt marshes. Chinese Academy of Sciences (Beijing).
- Whitman, W.B. (2013) *Methanococcus*: a model system for hydrogenotrophic methanogens. International Conference on Biomass Energy and Chemicals, Nanjing
- Whitman, W.B. (2013) A natural history of *Methanococcus*: a methanogenic archaeon from salt marshes. Guangxi University for Nationalities, Nanning.
- Whitman, W.B. (2014) The state of microbial taxonomy today (Keynote). Bergeys International Society for Microbial Systematics. Edinburgh, UK. April 7-10.
- Whitman, W.B. (2014) Impact of genomics on systematics. International Society of Microbial Ecology 15, Seoul, Korean. August 24-29.
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- Whitman, W.B. (2015) Bacterial transformations of dimethylsulfoniopropionate (DMSP), a major source of marine sulfur emissions to the atmosphere. International Symposium on Biodiversity, Academia Sinica, May 8-9.
- Whitman, W.B. (2015) Genome sequences as nomenclatural type material for novel taxa. FEMS Congress. Maastricht, The Netherlands. June 7-11.
- Whitman, W.B. (2015) Genome scale analysis of gene function in the hydrogenotrophic methanogenic archaeon *Methanococcus maripaludis*. Biochemistry group, Department of Chemistry, Auburn University. September 18.
- Whitman, W.B. (2016) The soil microbiome. Translational Plant Sciences Minisymposium. Virginia Tech. Blacksburg. February 5.
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