

# 1. General Biographical Information

## 1.1. Basic Data

Name: Todd R. Sandrin  
Institution: Arizona State University  
Affiliations: Vice Provost, Arizona State University - West campus  
Dean, New College of Interdisciplinary Arts & Sciences  
Professor, School of Mathematical and Natural Sciences  
Senior Sustainability Scientist - Julie Ann Wrigley Global Institute of Sustainability  
Telephone Number: (602) 543-4506  
E-mail address: Todd.Sandrin@asu.edu  
Lab webpage: <http://sandrin-lab.asu.edu>

## 1.2 Educational History

Institution	Degree	Year
The University of Arizona	Ph.D. (Environmental Science)	2000
University of Arkansas	M.S. (Plant Pathology)	1997
Missouri Southern State University	B.S. (Biology; Chemistry minor)	1995

## 1.3 Employment History

### a. Arizona State University

#### Academic Appointments

Vice Provost, Arizona State University – West campus	Jun. 2017 - present
Dean, New College of Interdisciplinary Arts & Sciences	Jun. 2017 - present
Senior Associate Dean, New College of Interdisciplinary Arts & Sciences	Jul. 2016 – May 2017
Professor, School of Mathematical & Natural Sciences	Jul. 2015 - present
Associate Dean, New College of Interdisciplinary Arts & Sciences	Jan. 2014 – Jun. 2016
Associate Vice Provost, Arizona State University – West campus	Feb. 2012 – Jun. 2014
Associate Director, School of Mathematical & Natural Sciences	Sept. 2008 – Dec. 2013
Associate Professor, School of Mathematical & Natural Sciences	Sept. 2008 – May 2017
Director, New College Undergraduate Inquiry and Research Experiences (NCUIRE) program ( <a href="http://ncuire.asu.edu">http://ncuire.asu.edu</a> )	Jul. 2010 – May 2017

### b. University of Wisconsin Oshkosh

#### Academic Appointments

Associate Professor, Dept. of Biology and Microbiology	Jul. 2007 – Aug. 2008
Assistant Professor, Dept. of Biology and Microbiology	Aug. 2001 – Jun. 2007
Director, NSF / Robert E. Moore Proteomics and Functional Genomics Core Facility at UW Oshkosh	Aug. 2003 – Aug. 2008
Project Director, NSF Research Experiences for Undergraduates (REU) Site at UW Oshkosh	Feb. 2005 – Aug. 2008

### c. The University of Arizona

#### Academic Appointments

Post-doctoral Research Associate, Dept. Soil, Water & Env. Science	Dec. 2001 – Jun. 2001
US Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Fellow	Aug. 1998 – Dec. 2000

Graduate Research Associate  
Graduate Teaching Assistant

Aug. 1997 – Jul. 1998  
Jan. 1998 – May 1998

#### d. University of Arkansas

Academic Appointments

Graduate Research Assistant  
C. Roy Adair Undergraduate Research Fellow

Aug. 1995 – Jul. 1997  
May 1994 – Aug. 1994

#### e. Consulting

University of Wisconsin Oshkosh, NSF S-STEM Program, External Assessment.

Jun. 2009 – Jun. 2013

### 1.4 Awards and Honors

Nominee – 2015 Carnegie Foundation US Professor of the Year

Nominee, 2013 ASU Faculty Achievement Award – Excellence in Curricular Innovation

Recipient, UW Oshkosh Distinguished Teaching Award, 2008

Arizona-Nevada Branch American Society for Microbiology (ASM) Outstanding Graduate Student Oral Presentation Award, Feb. 2000

Wallace H. Fuller Scholarship Recipient, The University of Arizona, 1999-2000

Air and Waste Management Association (AWMA) Scholarship Recipient - 1999

US Environmental Protection Agency STAR Fellowship, Aug. 1998 – Dec. 2000

American Phytopathological Society (APS) - Graduate Student Research Presentation Award –Mar. 1997

University of Arizona - 1997-2000 - 4.0 GPA

University of Arkansas - 1995-1997- University Fellowship - 4.0 GPA

Missouri Southern State University - 1995- Summa Cum Laude Graduate - 4.0 GPA

Chemical Rubber Company (CRC) - Outstanding Freshman Chemistry Student – 1992

### 1.5 Affiliations and Other

Member, Graduate Faculty, Biological Design (Biodesign) Graduate Program at Arizona State University, January 2009 – present.

Member, Graduate Faculty, Biology, Microbiology, Molecular and Cellular Biology. School of Life Sciences (SoLS). Arizona State University. 2010 – present.

**2. Publications** (\*designates undergraduate co-author; \*\* designates graduate student co-author, §designates post-doctoral co-author)

#### 2.1 Refereed Journal Publications

Journal articles

1. Al-Tahhan R, Sandrin TR, Bodour AA, Maier RM. 2000. Rhamnolipid-induced removal of lipopolysaccharide from *Pseudomonas aeruginosa*: Effect on cell surface properties and interaction with hydrophobic substrates. *Applied and Environmental Microbiology* 66: 3262-3268.
2. Sandrin TR, Chech AM, Maier RM. 2000. A rhamnolipid biosurfactant reduces cadmium toxicity during naphthalene biodegradation. *Applied and Environmental Microbiology* 66: 4585-4588.
3. Sandrin TR and Maier RM. 2002. Effect of pH on cadmium toxicity, speciation and accumulation during naphthalene biodegradation. *Environmental Toxicology and Chemistry*. 21(10): 2075-2079.

4. Sandrin TR, TeBeest DO, and Weidemann GJ. 2003. Soybean and sunflower oils increase the infectivity of *Colletotrichum gloeosporioides* f. sp. *aeschynomene* to northern jointvetch. *Journal of Biological Control* 26:244-252.
5. Sandrin TR and Maier RM. 2003. Impact of Metals on Biodegradation of Organic Pollutants: A Review. *Environmental Health Perspectives*. 111(8): 1093-1101.
6. Hoffman DR\*\*, Okon JL\*, and Sandrin TR. 2005. Medium composition affects degrees and patterns of cadmium inhibition of naphthalene biodegradation. *Chemosphere* 59(7): 919-927.
7. Sandrin TR, Kight WB, Maier WJ, and Maier RM. 2006. Influence of a nonaqueous phase liquid (NAPL) on biodegradation of phenanthrene. *Biodegradation* 17(5): 423-435.
8. Grandlic CJ\*\*, Geib I\*, Pilon R\*, Sandrin TR. 2006. Lead pollution in a large, prairie-pothole lake (Rush Lake, WI, USA): Effects on abundance and community structure of indigenous sediment bacteria. *Environmental Pollution*. 144(1): 119-126.
9. Siegrist TJ\*\*, Anderson PD\*, Huen WH, Kleinheinz GT, McDermott CM, Sandrin TR. 2007. Discrimination and characterization of environmental strains of *Escherichia coli* by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS). *Journal of Microbiological Methods* 68: 554-562.
10. Giebel R\*\*, Fredenberg W\*, Sandrin TR. Characterization of environmental isolates of *Enterococcus* spp. by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS). 2008. *Water Research* 42: 931-940.
11. Worden C\*\*, Kovac W\*, Dorn L, Sandrin TR. Environmental pH affects transcriptional responses to cadmium toxicity in *Escherichia coli* K-12 (MG1655). 2009. *FEMS Microbiology Letters* 293(1):58-64.
12. Vanden Heuvel A, McDermott C, Pillsbury R, Sandrin TR, Kinzelman J, Ferguson J, Sadowsky M, Byappanahalli M, Whitman R., Kleinheinz GT, 2010. The green alga, *Cladophora*, promotes *E. coli* growth and contamination of recreational waters in Lake Michigan. *Journal of Environmental Quality* 39: 333-344.
13. Hoffman DR\*\*, Anderson PD\*, Schubert CM\*, Gault MB\*, Blanford WJ, Sandrin TR. 2010. Carboxymethyl- $\beta$ -cyclodextrin mitigates toxicity of cadmium, cobalt, and copper during naphthalene biodegradation. *Bioresource Technology* 101: 2672-2677.
14. Giebel R, Worden C, Rust S\*, Kleinheinz GT, Robbins M\*, Sandrin TR. 2010. Microbial fingerprinting using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS): Applications and challenges. Invited contribution. *Advances in Applied Microbiology* 71:149-84.
15. Badgley BD, Ferguson J, Vanden Heuvel A, Kleinheinz GT, McDermott CM, Sandrin TR, Kinzleman J, Junion EA, Byappanahalli MN, Whitman RL, and Sadowsky MJ. 2011. Multi-scale Temporal and spatial variation in genotypic composition of *Cladophora*-borne *E. coli* populations in Lake Michigan. 2011. *Water Research*. 45(2): 721-31.
16. Schumaker S\*, Borrer C, Sandrin TR. 2012. Automating data acquisition affects mass spectrum quality and reproducibility during bacterial profiling using an intact cell sample preparation method with matrix-assisted laser desorption/ionization time-of-flight mass spectrometry. *Rapid Communications in Mass Spectrometry*. 26(3): 243-253.
17. Sandrin TR, Goldstein JE\*, Schumaker S\*. 2013. MALDI TOF MS profiling of bacteria at the strain level: A review. *Mass Spectrometry Reviews* 32: 188-217.
18. Goldstein JE\*, Zhang L<sup>§</sup>, Borrer CM, Rago JV, Sandrin TR. 2013. Culture conditions and sample preparation methods affect spectrum quality and reproducibility during profiling of *Staphylococcus aureus* with matrix-

assisted laser desorption/ionization time-of-flight mass spectrometry. *Letters in Applied Microbiology* 57(2): 144-50.

19. Zhang L<sup>§</sup>, Borrer CM, Sandrin TR. 2014. A designed experiments approach to optimization of automated data acquisition during characterization of bacteria with MALDI-TOF mass spectrometry. *PLoS ONE* 9(3): e92720.
20. Zhang L<sup>§</sup>, Borrer CM, Sandrin TR. 2015. Use of MALDI-TOF mass spectrometry and custom databases to characterize bacteria indigenous to a unique cave environment (Kartchner Caverns, AZ, USA). Invited Contribution. *Journal of Visualized Experiments* 95: e52064.
21. Barbano D\*\*, Diaz R\*, Zhang L<sup>§</sup>, Sandrin TR, Gerken H, Dempster T. 2015. Rapid characterization of microalgae and microalgae mixtures using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). *PLoS ONE* 10(8): e0.135337.
22. Zhang L<sup>§</sup>, Smart S\*, Sandrin TR. 2015. Biomarker-and similarity coefficient-based approaches to bacterial mixture characterization using matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF MS). *Scientific Reports* 5: 15834.
23. Penny C, Grothendick B\*, Zhang L<sup>§</sup>, Borrer CM, Barbano D\*\*, Cornelius, AJ, Gilpin BJ, Fagerquist CK, Zaragoza WJ, Jay-Russell MT, Lastovica AJ, Ragimbeau C, Cauchie HM, Sandrin TR. 2016. A designed experiments approach to optimizing MALDI-TOF MS spectrum processing parameters enhances detection of antibiotic resistance in *Campylobacter jejuni*. *Front. Microbiol.* 7: 818.
24. Dussik CM\*, Grozić A\*, Hockley M\*, Zhang L<sup>§</sup>, Park J, Wang J, Nickerson C, Yale SH, Foxx-Orenstein A, Sandrin T, Jurutka P. 2016. Characterization of Vitamin D and Serotonin Pathway Variations in Patients with Irritable Bowel Syndrome. *The FASEB Journal.* 1;30(1 Supplement):828-2.
25. Sandrin TR, Demirev PA. Characterization of microbial mixtures by mass spectrometry. *Mass Spectrometry Reviews.* 2017 May 16.
26. Dussik CM\*, Hockley M\*, Grozić A\*, Kaneko I, Zhang L<sup>§</sup>, Sabir MS\*, Park J, Wang J, Nickerson CA, Yale SH, Rall CJ, Foxx-Orenstein AE, Borrer CM, Sandrin TR, Jurutka PW. 2018. Gene expression profiling and assessment of vitamin D and serotonin pathway variations in patients with irritable bowel syndrome. *Journal of Neurogastroenterology and Motility* 24(1): 96-106.
27. Tuohy JM, Mueller-Spitz SR, Albert CM, Scholz-Ng SE, Wall ME, Noutsios GT, Gutierrez AJ, Sandrin TR. 2018. MALDI-TOF MS affords discrimination of *Deinococcus aquaticus* isolates obtained from diverse biofilm habitats. *Frontiers in Microbiology* (9): 2442.

## 2.3 Patents

1. Sandrin TR, Jurutka P. US Provisional Application No. 61/943,739. Gene expression based biomarker system for Irritable Bowel Syndrome (IBS) diagnosis. Filed 2/25/2015.

## 2.2 Peer-reviewed Scholarship of Teaching and Learning Items

1. Sandrin TR and Ledwell B. 2003. Regulation of enzyme activity: Allosterism. American Society for Microbiology - Microbe library.
2. Sandrin TR and Ledwell B. 2003. Rho-dependent termination of transcription. American Society for Microbiology - Microbe Library.

3. Sandrin TR. 2003. An animation of transcriptional regulation in bacteria: Negative regulation. American Society for Microbiology - Microbe Library.
4. Sandrin TR. 2003. An animation of transcriptional regulation in bacteria: Positive regulation. American Society for Microbiology - Microbe Library.
5. Sandrin TR and Ledwell B. 2004. Regulation of biosynthesis: Attenuation of the trp operon. American Society for Microbiology - Microbe library.

### 2.3 Scholarship of Teaching and Learning Items (Not Peer-Reviewed)

1. Sandrin TR. 2012. An introduction to comparative microbial genomics. Published via GenomeSolver.org (an NSF/JCVI-funded initiative).

### 2.4 Non-Journal Articles

1. Kleinheinz GT, McDermott CM, Sandrin TR. 2007. Microbial contamination of recreational waters and the microbial source-tracking toolbox. **Invited Contribution.** Society for Industrial Microbiology (SIM) News 56 (1): 6-18
2. Sandrin TR, Demirev PA. 2014. Using mass spectrometry to identify and characterize bacteria. **Invited Contribution.** Using mass spectrometry to identify and characterize bacteria. Microbe 9(1): 23-29.

### 2.5 Conference Proceedings and Other Non-Journal Articles

1. Nguyen N, Henderson A\*, Sandrin TR. 2010. Are difficult-to-culture microorganisms more hungry or lonely? Application of a tissue culture insert (TCI)-based approach to cultivating microorganisms indigenous to Kartchner Caverns, Arizona. Proceedings of the Arizona-Nevada Academy of Science 45: 33.
2. Rust S\*, Sandrin TR. 2010. Quantifying reproducibility of microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition. Proceedings of the Arizona-Nevada Academy of Science 45: 33.
3. Schumaker S\*, Rust S\*, Nguyen N, Sandrin TR. 2011. Man(ual) versus machine in microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition on fingerprint reproducibility and quality. Proceedings of the Arizona-Nevada Academy of Science. 46:30.
4. Goldstein J\*, Murray D\*, Chidester A\*, Richholt R\*, Sandrin TR. 2011. Differential analysis and bacterial fingerprinting of wild type and transformed *E. coli* using MALDI-TOF MS. Proceedings of the Arizona-Nevada Academy of Science. 46:35-36.
5. Goldstein J\*, Sandrin TR. 2012. Culture conditions and sample preparation affect quality and reproducibility of spectra obtained from methicillin-resistant *Staphylococcus aureus* (MRSA) using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS). Proceedings of the Arizona-Nevada Academy of Science. 47:6.
6. Hockley MM\*, Galligan MA, Zhang L<sup>§</sup>, Sandrin TR, Jurutka PW. 2013. Identification of differentially expressed genes as biomarkers for diagnosis of Irritable Bowel Syndrome (IBS): A pilot gene discovery hypothesis generating study. Joint Annual Meeting of the Pacific Division of the American Association for the Advancement of Science (AAAS) and the Arizona-Nevada Academy of Science (ANAS) 48: 4-5.

7. Grothendick B\*, Zhang L<sup>§</sup>, Borrer C, Sandrin TR. 2014. Mass spectrum processing parameters affect strain-level MALDI-TOF MS-based characterization of *Paenibacillus larvae* isolates. Proceedings of the Arizona-Nevada Academy of Science.
8. Serin JM, Sandrin TR. 2013. Collaborative research: A two-year college/four-year university partnership to transform chemistry curricula using instrumentation and implementation of new instructional strategies. Abstracts of Papers of the American Chemical Society (ACS): 246.
9. Dussik CM\*, Hockley MM\*, Sabir MS\*, Kaneko I, Zhang L<sup>§</sup>, Galligan MA, Sandrin TR, Jurutka PW. 2014. Identification of differentially expressed genes as biomarkers for diagnosis of irritable bowel syndrome (IBS). Proceedings of the Arizona-Nevada Academy of Science.
10. Grothendick B\*, Zhang L<sup>§</sup>, Borrer C, Sandrin TR. 2014. Mass spectrum processing parameters affect strain-level MALDI-TOF MS-based characterization of *Paenibacillus larvae* isolates. Proceedings of the Annual Meeting of the Arizona-Nevada Academy of Science.
11. Dussik C\*, Zhang L<sup>§</sup>, Hockley M\*, Sabir M\*, Kaneko I, Galligan M, Borrer C, Sandrin T, Jurutka PW. 2015. Identification of biochemical and genetic mechanisms for the diagnosis and potential treatment of Irritable Bowel Syndrome (IBS). Proceedings of the Arizona-Nevada Academy of Science.
12. Grozik A\*, Dussik C\*, Sabir M\*, Kaneko I, Borrer C, Sandrin T, Whitfield GK, Haussler MR, Jurutka PW. 2015. Modulation of monoamine oxidase (MAO) and the serotonin transporter (SERT) in human intestinal epithelium by vitamin D. Proceedings of the Annual Meeting of the Arizona-Nevada Academy of Science.
13. Dussik CM\*, Grozik A\*, Hockley M\*, Zhang L<sup>§</sup>, Park J, Wang J, Nickerson CA, Yale S, Foxx-Orenstein A, Sandrin TR, Jurutka PW. 2016. Characterization of vitamin D and serotonin pathway variations in patients with irritable bowel syndrome. FASEB J 30(1): Supplement 828.2.
14. Grozik A\*, Dussik CM\*, Bradley A, Hockley M\*, Zhang L<sup>§</sup>, Borrer C, Park J, Wang J, Yale S, Foxx-Orenstein A, Sandrin T, Jurutka PW. 2016. Identification of transcriptomic biomarkers for use in the diagnosis of irritable bowel syndrome (IBS). Proceedings of the Arizona-Nevada Academy of Science 51(1):33.  
<http://arizona.openrepository.com/arizona/handle/10150/607398>

## 2.6 Presentations

1. Sandrin TR, Chech AM, Maier RM. Effect of a monorhamnolipid biosurfactant on naphthalene biodegradation in the presence of cadmium. U. S. EPA/Superfund United States- Mexico Conference on Hazardous Waste. Poster Presentation. Tucson, AZ. Aug. 1998.
2. Sandrin TR, Maier RM. Divalent cations reduce cadmium toxicity during biodegradation of naphthalene. Annual Meeting of the American Society for Microbiology (ASM). Poster Presentation. Chicago, IL. May, 1999.
3. Sandrin TR, Maier RM, Pepper IL, Roane TM. Role of metal bioavailability in *In Situ* bioremediation of metal and organic co-contaminated sites. U. S. EPA/Department of Energy (DOE) Innovative Approaches to Bioremediation. Grants Progress Meeting. Oral Presentation. November, 1999.
4. Sandrin TR, Maier RM. A rhamnolipid biosurfactant reduces cadmium toxicity during naphthalene biodegradation. Arizona-Nevada Branch American Society for Microbiology (ASM). Oral Presentation. Tucson, AZ. February 2000.
5. Sandrin TR, Maier RM.. Effect of bioavailable metal concentration on mechanisms of metal resistance. U. S. Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Annual Conference. Poster Presentation. Washington, DC. July 2000.

6. Sandrin TR, Maier RM. Effect of pH on cadmium toxicity, speciation and accumulation during biodegradation of naphthalene. American Society for Microbiology (ASM). Poster Presentation. Orlando, FL. May 2001.
7. Sandrin TR. 2002. Exploring approaches to enhance biodegradation in organic and metal co-contaminated systems. Oral Presentation. Annual Meeting of the Society for Industrial Microbiology (SIM). Philadelphia, PA. August 12.
8. Geib I\*, Hoffman DR\*\*, Grandlic C\*\*, Sandrin TR. 2002. Impact of lead pollution on bacterial abundance and diversity in Rush Lake sediments. Oral Presentation. Annual Meeting of the North Central Branch (NCB) of the American Society for Microbiology (ASM). Minneapolis, MN. October 12. Students Geib, Hoffman, and Grandlic received 2<sup>nd</sup> place in the student oral presentation competition.
9. Grandlic CJ\*\*, Hoffman DR\*\*, Sandrin TR. 2003. Isolation, identification, and metal sensitivity of naphthalene-degrading bacteria indigenous to Fox River sediments. Poster Presentation given at Annual Meeting of the Michigan Upper Peninsula/Twig Branch of the North Central Branch of the American Society for Microbiology (ASM). Marquette, MI. March 23-24, 2003. Grandlic received 2<sup>nd</sup> place in the student poster competition.
10. Geib I\*, Sandrin TR. 2003. Effect of lead pollution on abundance and diversity of culturable bacteria in Rush Lake sediments. Poster Presentation given at Annual Meeting of the Michigan Upper Peninsula/Twig Branch of the North Central Branch of the American Society for Microbiology (ASM). Marquette, MI. March 23-24, 2003. Geib received 3<sup>rd</sup> place in the student poster competition.
11. Hoffman DR\*\*, Sandrin TR. 2003. Physiological response of a naphthalene-degrading bacterium (*Comamonas testosteroni*) to cadmium stress. Poster Presentation given at Annual Meeting of the Society for Industrial Microbiology. Minneapolis, MN. Aug. 10-14.
12. Grandlic CJ\*\*, Geib IA\*, Sandrin TR. 2003. Abundance and diversity of sediment bacteria in a lead-polluted prairie-pothole lake. Poster abstract. Poster Presentation given at Annual Meeting of the Society for Industrial Microbiology. Minneapolis, MN. Aug. 10-14.
13. Hoffman DR\*\*, Sandrin TR. 2003. Medium composition impacts cadmium bioavailability and toxicity during naphthalene biodegradation. Poster Presentation given at Annual Meeting of the North Central Branch of the American Society for Microbiology. Reeve Union. Oshkosh, WI. October 17-18, 2003. Hoffman was 1<sup>st</sup> place winner in graduate student poster competition.
14. Hoffman DR\*\*, Sandrin TR. 2004. Medium composition impacts cadmium toxicity, speciation, and bioavailability during naphthalene biodegradation by *Comamonas testosteroni*. Poster Presentation given at Annual Meeting of the American Society for Microbiology (ASM). New Orleans, LA. May 24-27.
15. Hughes S\*, Hartrich S, Sandrin TR, Gorman W, McDermott C, Kleinheinz G. *E. coli* and Lake Superior recreational beaches. 2004. Poster Presentation given at Annual Meeting of the North Central Branch of the American Society for Microbiology. Madison, WI. November 12-13.
16. Otte C\*, Horn D\*\*, Okon J\*, Kleinheinz G, McDermott C, Sandrin TR. 2004. Monitoring and molecular source-tracking of *Escherichia coli* on Door County, WI beaches. Poster Presentation given at Annual Meeting of the North Central Branch of the American Society for Microbiology. Madison, WI. November 12-13.
17. Kracht E\*, Qader A\*, Sandrin TR. 2004. Use of protein differential display to investigate mechanisms by which a bacterium indigenous to Fox River sediments (*Comamonas testosteroni*) responds to cadmium toxicity. Poster Presentation given at Annual Meeting of the North Central Branch of the American Society for Microbiology. Madison, WI. Nov. 12-13.

18. Otte C\*, Horn D\*\*, Okon J\*, Kleinheinz G, McDermott C, Sandrin TR. 2005. Monitoring and molecular source-tracking of *Escherichia coli* on Door County, WI beaches. Poster Presentation given at Madison Capitol Rotunda. April 7.
19. Otte C\*, Anderson P\*, and Sandrin TR. 2005. Investigating a microbiological mystery: What is the source of *E. coli* in the Menominee Park Swimming Beach? UW Oshkosh Celebration of Scholarship. April 28.
20. Otte C\*, Sandrin TR. 2005. Effects of pH on cadmium Toxicity, speciation, and gene expression in *Escherichia coli* K-12. UW Oshkosh Celebration of Scholarship. April 28.
21. Kleinheinz G, Sandrin T, McDermott C. 2005. A multi-tiered approach to beach monitoring and microbial source-tracking (MST). Great Lakes Beach Association. Green Bay, WI. Abstract for oral presentation delivered by G. Kleinheinz.
22. Zehms T\*\*, Van Ert A, Winarski T, Vollmer K\*, Jeter S\*\*, Sandrin T, McDermott C, Kleinheinz G. Evaluation of the microbial concentrations in sand and their effect on beach water in Door and Vilas counties, WI. 2005. Great Lakes Beach Association. Green Bay, WI. Poster Presentation.
23. Hughes S\*, Voecks K, Chernyaukaya Y, McDermott C, Sandrin T, Gorman W, Kleinheinz G. *E. coli* and Lake Superior recreational beaches. 2005. Great Lakes Beach Association. Green Bay, WI. Poster Presentation.
24. G. Kleinheinz, T. Sandrin, T. Zehms\*\*, and C. McDermott. *E. coli* survival and persistence at Lake Superior beaches. International Conference on Alpine and Polar Microbiology. Innsbruck, Austria. Abstract for oral Presentation delivered by T Zehms. March 27-30, 2006.
25. Anderson P\*, Schubert C\*, Gault M\*, Hoffman D\*\*, and TR Sandrin. Beta-carboxymethylcyclodextrin enhances naphthalene biodegradation in the presence of cadmium, cobalt, and copper. 2006. UW Oshkosh Celebration of Scholarship. April 27.
26. Siegrist T\*\*, Sandrin TR, and T Kostman. 2006. Electron microscopic analysis of the effects of matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS) on *Escherichia coli* whole cells. UW Oshkosh Celebration of Scholarship. April 27.
27. Kharbush JJ\*, Holton B, Schettle S\*, Sandrin T. 2006. Regulation of tension in the chorioamniotic membrane of developing chick embryos. Argonne Symposium for Undergraduates in Science, Engineering and Mathematics. Nov. 3-4. Argonne, IL.
28. Sandrin T, Dorn L. 2007. Challenges and opportunities in providing research experiences for undergraduates at the interface of chemistry and biology: An REU Site in proteomics and functional Genomics at UW Oshkosh. March 8-9. National Science Foundation REU Site Directors' Meeting. Arlington, VA.
29. Giebel R\*\*, Fredenberg W.\*, Sandrin TR. 2007. A comparison of MALDI-TOF-MS and REP-PCR methods to fingerprint *Enterococcus*. Posters in the Rotunda. April 18.
30. Giebel R\*\*, Fredenberg W.\*, Sandrin TR. 2007. Discrimination of environmental strains of *Enterococcus* species by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS). UW Oshkosh Celebration of Scholarship. April 26.
31. Brandenstein J\*, Sandrin TR. 2007. Determining the detection limits of a rapid mass spectrometry-based approach to bacterial source-tracking. UW Oshkosh Celebration of Scholarship. April 26.
32. Siegrist TJ\*\*, Anderson PD\*, Huen WH, Kleinheinz GT, McDermott CM, Sandrin TR. 2007. Discrimination and characterization of environmental strains of *Escherichia coli* by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS). UW Oshkosh Celebration of Scholarship. April 26.



33. Vanden Heuvel A\*, Daily R\*, McDermott C, Sandrin TR, and Kleinheinz GT. 2007. Spatial distribution of *E. coli* at beaches containing stable mats of *Cladophora* and reuse options for *Cladophora* solids. Great Lakes Beach Assoc. Meeting, Oct 2-5 in Traverse City, MI.
34. Giebel R\*\*, Fredenberg W\*, Sandrin TR. 2007. Characterization of environmental isolates of *Enterococcus* species by mass spectrometry. Annual Meeting of the North Central Branch of the American Society for Microbiology. October 5. Marshfield, WI.
35. Worden C\*\*, Kovak W\*, Sandrin TR. 2007. Effect of pH-induced cadmium speciation on global gene expression in *Escherichia coli*. Annual Meeting of the North Central Branch of the American Society for Microbiology. October 5. Marshfield, WI.
36. Fredenberg W\*, Giebel R\*\*, Sandrin TR. 2007. A comparison of MALDI-TOF-MS and REP-PCR methods to fingerprint *Enterococcus* sp. Wisconsin Alliance for Minority Participation (WiscAMP) Annual Liaison and Governing Board Meeting. Madison, Wisconsin. November 6.
37. Nguyen N, Henderson A\*, Sandrin TR. 2010. Are difficult-to-culture microorganisms more hungry or lonely? Application of a tissue culture insert (TCI)-based approach to cultivating microorganisms indigenous to Kartchner Caverns, Arizona. Annual Meeting of the Arizona-Nevada Academy of Science. Apr. 10. Nguyen was awarded 1<sup>st</sup> place award.
38. Rust S\*, Sandrin TR. 2010. Quantifying reproducibility of microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition. Annual Meeting of the Arizona-Nevada Academy of Science. Apr. 10.
39. Rust S\*, Sandrin TR. 2010. Quantifying reproducibility of microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition. New College of Interdisciplinary Arts and Sciences Spring Expo. Rust was awarded 3<sup>rd</sup> place award.
40. Schumaker S\*, Rust S\*, Nguyen N, Sandrin TR. 2011. Man(ual) versus machine in microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition on fingerprint reproducibility and quality. Proceedings of the Arizona-Nevada Academy of Science. Apr. 9.
41. Goldstein J\*, Murray D\*, Chidester A\*, Richholt R\*, Sandrin TR. 2011. Differential analysis and bacterial fingerprinting of wild type and transformed *E. coli* using MALDI-TOF MS. Proceedings of the Arizona-Nevada Academy of Science. Apr. 9.
42. Moreno F\*, Davidov E\*, Nguyen N\*, Sandrin TR. 2011. Effect of medium type on the diversity and abundance of heterotrophic microorganisms recovered from Kartchner Caverns (Benson, AZ). New College Undergraduate Student Research and Creative Projects Expo. April 21.
43. Schumaker S\*, Rust S\*, Sandrin TR. 2011. Man(ual) versus machine in microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition on fingerprint reproducibility and quality. New College Undergraduate Student Research and Creative Projects Expo. April 21.
44. Sandrin TR. 2011. NCUIRE-ing Minds Want to Know: Does providing tiered research opportunities broaden and increase participation in undergraduate research? Gateways to Best Practices for Undergraduate Research Program Directors Conference. Council on Undergraduate Research. Washington University. St. Louis, Missouri. June 14-16.
45. Goldstein J\*, Sandrin TR. 2012. Culture conditions and sample preparation affect quality and reproducibility of spectra obtained from methicillin-resistant *Staphylococcus aureus* (MRSA) using matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS). Proceedings of the Arizona-Nevada Academy of Science. Apr. 14. Goldstein awarded **1<sup>st</sup> place/Best Oral Presentation Award**.

46. Hockley MM\*, Galligan MA, Zhang L<sup>§</sup>, Sandrin TR, Jurutka PW. 2013. Identification of differentially expressed genes as biomarkers for diagnosis of Irritable Bowel Syndrome (IBS): A Pilot Gene Discovery Hypothesis Generating Study. Open Door @ ASU West. March 2.
47. Schumaker S\*, Borrer C, Zhang L<sup>§</sup>, Sandrin T. 2013. A designed experiments-based approach to optimization of automated data acquisition during characterization of *Pseudomonas aeruginosa* with matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). 52nd Annual Meeting of the Arizona/Southern Nevada Branch of the American Society for Microbiology. Tucson, AZ. April 13.
48. Zhang L<sup>§</sup>, Schumaker S\*, Sandrin T. 2013. MALDI-TOF mass spectrometry as a rapid tool for characterization of bacteria indigenous to Kartchner Caverns, AZ. 52nd Annual Meeting of the Arizona/Southern Nevada Branch of the American Society for Microbiology. Tucson, AZ. April 13.
49. Smith P\*, Spence J\*, Zhang L<sup>§</sup>, Sandrin T. 2013. Effect of target surface type and sample preparation protocol on spectrum quality and reproducibility during bacterial characterization using MALDI-TOF MS. 52nd Annual Meeting of the Arizona/Southern Nevada Branch of the American Society for Microbiology. Tucson, AZ. April 13.
50. Smith P\*, Spence J\*, Zhang L<sup>§</sup>, Sandrin T. 2013. Effect of target surface type and sample preparation protocol on spectrum quality and reproducibility during bacterial characterization using MALDI-TOF MS. New College Undergraduate Student Research and Creative Projects Expo. April 17-18.
51. Schumaker S\*, Borrer C, Zhang L<sup>§</sup>, Sandrin T. 2013. A designed experiments-based approach to optimization of automated data acquisition during characterization of *Pseudomonas aeruginosa* with matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS). New College Undergraduate Student Research and Creative Projects Expo. April 17-18.
52. Hockley MM\*, Galligan MA, Zhang L<sup>§</sup>, Sandrin TR, Jurutka PW. 2013. Identification of differentially expressed genes as biomarkers for diagnosis of Irritable Bowel Syndrome (IBS): A pilot gene discovery hypothesis generating study. Joint Annual Meeting of the Pacific Division of the American Association for the Advancement of Science (AAAS) and the Arizona-Nevada Academy of Science (ANAS). June 16-19.
53. Grothendick B\*, Zhang L<sup>§</sup>, Borrer C, Sandrin TR. 2014. Mass spectrum processing parameters affect strain-level MALDI-TOF MS-based characterization of *Paenibacillus* larvae isolates. Annual Meeting of the Arizona-Nevada Academy of Science. Apr. 12.
54. Dussik CM\*, Hockley MM\*, Sabir MS\*, Kaneko I, Zhang L<sup>§</sup>, Galligan MA, Sandrin TR, Jurutka PW. 2014. Identification of differentially expressed genes as biomarkers for diagnosis of irritable bowel syndrome (IBS). Annual Meeting of the Arizona-Nevada Academy of Science. Apr. 12.
55. Schwake DO\*\*, Sandrin TR, Zhang L<sup>§</sup>, Abbaszadegan M. 2014. Strain-level characterization of environmental isolates of *Legionella* via MALDI-TOF MS. International Union of Microbiological Societies Congress. Montreal. July 27 – August 1.
56. Schwake DO\*\*, Sandrin TR, Zhang L<sup>§</sup>, Abbaszadegan M. 2014. Strain-level characterization of environmental isolates of *Legionella* via MALDI-TOF MS. American Water Works Association Water Quality Technology Conference. November 19.
57. Dussik C\*, Zhang L<sup>§</sup>, Hockley M\*, Sabir M\*, Kaneko I, Galligan M, Borrer C, Sandrin T, Jurutka PW. 2015. Identification of biochemical and genetic mechanisms for the diagnosis and potential treatment of irritable bowel syndrome (IBS). Annual Meeting of the Arizona-Nevada Academy of Science. April 18.
58. Grozik A\*, Dussik C\*, Sabir M\*, Kaneko I, Borrer C, Sandrin T, Whitfield GK, Haussler MR, Jurutka PW. 2015. Modulation of Monoamine Oxidase (MAO) and the Serotonin Transporter (SERT) in human intestinal epithelium by vitamin D. Annual Meeting of the Arizona-Nevada Academy of Science. April 18.

59. Dempster TA, Gerken H, Barbano D\*\*, Diaz R\*, Zhang L<sup>§</sup>, Sandrin TR. 2015. MALDI-TOF MS as a tool for taxonomic discrimination and identification of economically significant microalgae strains. 5th International Conference on Algal Biomass, Biofuels, and Bioproducts. San Diego. June 7-10.
60. Penny C, Zhang L<sup>§</sup>, Grothendick B\*, Fagerquist CK, Zaragoza WJ, Miller WG, Ragimbeau C, Mossong J, Cornelius AJ, Gilpin BJ, On SLW, Cauchie HM, Sandrin TR. 2015. Subspecies typing of environmental and human health-related *Campylobacter jejuni* strains using MALDI-TOF mass spectrometry. 18th International workshop on *Campylobacter*, *Helicobacter* and Related Organisms. Rotorua, New Zealand. Nov. 1-5.
61. Dussik CM\*, Grozic A\*, Hockley M\*, Zhang L<sup>§</sup>, Park J, Wang J, Nickerson CA, Yale S, Foxx-Orenstein A, Sandrin TR, Jurutka PW. 2016. Characterization of vitamin D and serotonin pathway variations in patients with irritable bowel syndrome. American Society for Biochemistry and Molecular Biology. San Diego, CA. April 2 – 6.
62. Grozic A\*, Dussik CM\*, Hockley M\*, Zhang L<sup>§</sup>, Park J, Wang J, Yale S, Foxx-Orenstein A, Sandrin TR, and Jurutka PW. 2016. Identification of transcriptomic biomarkers for use in the diagnosis of irritable bowel syndrome. Digestive Disease Week. May 21-24. San Diego, CA.
63. Chaves A\*, Barbano D\*\*, Tuohy J, Sandrin T. 2016. The use of protein extraction mass spectrometry for rapidly establishing phylogenetic relationships within the Genus *Deinococcus*. Community College Undergraduate Research Initiative (CCURI) Spring 2016 Colloquium. Volunteer State Community College. Gallitan, TN. April 11.
64. Barbano D\*\*, Gutierrez\*, Sandrin T. 2016. Growth phase affects MALDI-TOF Mass Spectra of *Chlorella vulgaris* cultures. American Society for Microbiology (ASM) Arizona-Southern Nevada Branch Annual Meeting. April 16. ASU Tempe.
65. Imig K\*, Enow JA\*, Born K\*, Scholz-Ng S\*, Reissig M\*, Tidgwell A\*, Truscott A\*, De Young A\*, Barrett R\*, Gutierrez A\*, Tuohy J\*, Mueller-Spitz S\*, Sandrin T. 2016. Use of protein extraction mass spectrometry for rapid determination of phylogenetic relationships of *Deinococcus aquaticus* isolates obtained from biofilm samples. Community College Undergraduate Research Initiative (CCURI) Colloquium. Glendale Community College. Glendale, AZ. Nov. 29.
66. Hesse M, Corey F, Roen D, Sandrin T, LePore P. 2017. Transfer Matters: Collaborative efforts to enhance transfer processes at ASU. AZTransfer Summit. April 14.
67. 16S rRNA gene sequencing affords insights into possible roles of the gut microbiome in Irritable Bowel Syndrome (IBS). 2018. Noutsios GT<sup>§</sup>, Raban SS\*, Grozić A\*, Yale SH, Rall CJ, Foxx-Orenstein AE, Jurutka PW, Sandrin TR. 57th Meeting of the Arizona/Nevada American Society for Microbiology (ASM). April 21.

## 2.7 Books and Editing

### Books

1. Demirev P, Sandrin T, eds. 2016. Applications of Mass Spectrometry in Microbiology: From Strain Characterization to Rapid Screening for Antibiotic Resistance. Springer.

### Book chapters

1. Sandrin TR, Hoffman DR\*\*. 2007. Bioremediation of Organic and Metal Co-contaminated Environments: Effects of Metal Toxicity, Speciation, and Bioavailability on Biodegradation. **Invited Contribution**.

Environmental Bioremediation Technologies. Singh SN and Tripathi RD, eds. pp. 1-34. Springer-Verlag: Berlin.

2. Dowd S, Herman D, Sandrin TR, Maier R. 2009. Chapter 6: Aquatic and Extreme Environments. *In* Environmental Microbiology. 2<sup>nd</sup> ed. Academic Press: San Diego, CA.
3. Sandrin TR, Herman D, Maier R. 2009. Chapter 11: Physiological Methods. *In* Environmental Microbiology. 2<sup>nd</sup> ed. Academic Press: San Diego, CA.
4. Worden CR, Kleinheinz GT, Sandrin TR. 2010. Effects of Heavy Metals on Microorganisms in the Environment. **Invited** contribution. Handbook of Advanced Industrial and Hazardous Wastes Treatment. Wang LK, Hung YT, Shamma NK, Eds. CRC Press. pp. 409-428.
5. Giebel R, Worden C, Rust S\*, Kleinheinz GT, Robbins M\*, Sandrin TR. 2010. Microbial Fingerprinting using Matrix-Assisted Laser Desorption Ionization Time-Of-Flight Mass Spectrometry (MALDI-TOF MS): Applications and Challenges. **Invited Contribution**. *In* Advances in Applied Microbiology. 71:149-84.

#### Book contributions

1. Sandrin TR. 2016. MALDI TOF MS as a method to classify and identify microbes (text and figures). Invited Contribution to: Pommerville J. Alcama's Fundamentals of Microbiology: Body Systems. Jones & Bartlett Publishers. 4th ed.
2. Sandrin TR. 2004. Bioremediation of Exxon Valdez: A Case Study. *In* Microbiology. Cowan and Talaro. 1<sup>st</sup> edition.

## 2.8 Miscellaneous

#### Website reviews

1. Sandrin TR. 2003. Center for Biofilm Engineering Website Review. Society for Industrial Microbiology (SIM) News 53(6): 266.

## 3. Other Scholarly Activity

### 3.1 Invited Lectures and Seminars

1. Sandrin TR. 2005. Metals and Microbes: A love-hate relationship under the influence of metal bioavailability and speciation. Portland State University. January 3.
2. Sandrin TR. 2005. UW System Women and Science Program Spring Retreat: Celebrating diversity. Increasing participation of minorities in state-of-the-art research in the life sciences: An NSF / Research Experiences for Undergraduates (REU) Site at UW Oshkosh. May 20.
3. Sandrin TR. 2006. Role reversals in environmental microbiology: Pollutants acting on microbes and microbes acting as pollutants. University of South Alabama. January 26.
4. Sandrin TR. 2006. Multidisciplinary approaches to assessing microbial exposure to metals and human exposure to microbes. National Institute of Environmental Health Sciences (NIEHS), Research Triangle, NC. May 19.
5. Sandrin TR. 2006. Does more frequent assessment enhance student performance in an undergraduate microbiology course? Scholarship of Teaching and Learning SOTL Annual Lunch and Showcase. Feb 23.

6. Sandrin TR. 2006. Dean's Symposium. "Does more frequent assessment enhance student performance in an undergraduate microbiology course?" Oct 18.
7. Sandrin TR. 2007. Engaging Students in a Large Lecture Course: Tips from the lecture hall trenches. UW System Women and Science Program Opening Workshop. Madison, WI. November 3.
8. Sandrin TR. 2007. (Nearly Everything) I Wish I Had Known When I Was Where You Are. UW Oshkosh Honors Program Convocation. September 19. Keynote Address.
9. Sandrin TR. 2007. Increasing participation of minorities in state-of-the-art research in the life sciences: A WiscAMP-NSF REU Site at UW Oshkosh alliance. UW System Women and Science Program Spring Retreat. May 18. The Dells, Wisconsin.
10. Sandrin TR. 2009. Applications of functional genomics and proteomics to microbiology: From determining environmental effects on microorganisms to fingerprinting environmental microorganisms. Invited Oral Presentation in BDE 598: Fundamentals of Biological Design. March 19.
11. Sandrin TR. 2009. Functional genomics and proteomics-based approaches to assessing effects of pollutants on microorganisms and characterizing closely-related environmental microorganisms. Biological Design Graduate Program – 1<sup>st</sup> Annual Symposium. Tempe Mission Palms. May 6.
12. Sandrin TR. 2009. Role reversals in microbiology. Pollutants acting on microorganisms and microorganisms acting as pollutants. Invited Seminar. Glendale Community College Research Seminar Series. October 16.
13. Sandrin TR. 2010. Microorganisms in exotic locations: From beaches to Kartchner Caverns. Invited Seminar. Glendale Community College Research Seminar Series. Sept. 24.
14. Sandrin TR. 2011. Strategies to facilitate cultivation of bacteria indigenous to a unique oligotrophic cave environment. The University of Arizona. R. Maier Lab/Environmental Microbiology Group. The University of Arizona. Tucson, AZ. August 16.
15. Sandrin TR. 2012. Fingerprinting fingerless microbes. "What's Your Passion" speaker series. Herberger Young Scholars Academy. January 27.
16. Sandrin TR, Schumaker S\*. 2012. Man(ual) versus machine in microbial fingerprinting using MALDI-TOF-MS: Effect of automating data acquisition on fingerprint reproducibility and quality. Invited Seminar. Glendale Community College Research Seminar Series. March 2.
17. Sandrin TR. 2012. Advances in the application of MALDI-TOF-MS-based fingerprinting to the characterization of waterborne microorganisms: Successes, challenges, and strategies for the future. **Keynote Address**. 1<sup>st</sup> Annual Workshop on MALDI-TOF MS Applications for Microbial Identification and Characterization. Centre de Recherche Public – Gabriel Lippmann. Belavux, Luxembourg. May 16.
18. Sandrin TR, Borrer CB. 2012. Assessment of automated data acquisition and its effects on bacterial profiling. 29th Annual Quality and Productivity Research Conference. **Invited Program**. Long Beach, CA. June 6.
19. Sandrin TR, Goldstein JE\*. 2012. Fingerprinting MRSA using MALDI-TOF-MS: Effects of culture conditions and sample preparation. Glendale Community College Research Seminar Series. October 5.
20. Sandrin TR. 2013. Rapid, mass spectrometry-enabled characterization of environmentally-relevant bacteria: From microbial water quality indicators to MRSA. 52nd Annual Meeting of the Arizona/Southern Nevada Branch of the American Society for Microbiology. Tucson, AZ. April 13.
21. Sandrin TR. 2013. Culture conditions and sample preparation affect spectrum quality, reproducibility, and characterization of methicillin resistance during MALDI-TOF-MS-based profiling of methicillin resistant and

- methicillin sensitive *Staphylococcus aureus* (MRSA and MSSA). Annual Meeting of the American Society for Microbiology. Denver, CO. May 21.
22. Sandrin TR, Grothendick B\*. 2013. Rapid characterization of *Paenibacillus* species & subspecies using MALDI-TOF MS. Glendale Community College Research Seminar Series. September 27.
  23. Sandrin TR†, Jurutka P. 2013. Identification of differentially expressed genes as biomarkers for diagnosis of irritable bowel syndrome (IBS): A pilot gene discovery hypothesis generating study. Mayo Clinic Scottsdale. Dec. 13.
  24. Sandrin TR. 2014. From the beach to bees: Using mass spectrometry to rapidly characterize bacteria at the species level and beyond. University of Nevada Las Vegas. School of Life Sciences Seminar Series. Feb. 6.
  25. Sandrin TR, Zhang L, Borrer CM, Grothendick B\*. 2015. Maximizing the taxonomic resolution of MALDI-TOF-MS-based approaches to bacterial characterization: Implications for rapid detection of antibiotic resistance. 1<sup>st</sup> International Caparica Conference in Antibiotic Resistance. Caparica, Portugal. January 26-28.
  26. Sandrin TR, Zhang L, Grothendick B\*, Barbano D\*\*, Diaz R\*, Borrer CM, Gerken H, Dempster T. 2015. Maximizing the performance of MALDI-TOF-MS-based microbial characterization: From culture conditions through data analysis. 29<sup>th</sup> Indian Society for Mass Spectrometry (ISMAS) International Symposium on Mass Spectrometry. Jodhpur, India. February 2-6.
  27. Sandrin TR. 2015. Microbial biosignatures: From mass spectrometry and microarrays to the microbiome. Glendale Community College Biotechnology Research Seminar Series. March 6.
  28. Sandrin TR, Ferry LA. 2015. From mass spectrometry to morphology: Opportunities for cross-campus, interdisciplinary collaboration at ASU. ASU School of Life Sciences Seminar Series. November 16.
  29. Sandrin TR, Zhang L§, Smart S\*, Grothendick B\*, Barbano D\*\*, Diaz R\*, Borrer C, Gerken H, Dempster T. 2016. Mixing it up: Rapid characterization of bacterial mixtures and microalgae using matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI-TOF MS). New Mexico State University. Department of Plant and Environmental Sciences. January 22.
  30. Sandrin TR, Gutierrez A\*. 2016. Applications of mass spectrometry in microbiology: From strain characterization to rapid screening for antibiotic resistance. Glendale Community College Biotechnology Research Seminar Series. September 30.
  31. Sandrin TR. 2016. Mass spectrometry in microbiology: Beyond Gram stains and biochemical tests. Invited/Guest Lecturer. MIC 206 (Microbiology lab course). Arizona State University. October 17.
  32. Sandrin TR. 2016. Laboratory safety practices. Knowledge Enterprise Development (KED) Responsible Conduct in Research Workshop Series. Arizona State University. November 16.
  33. Sandrin TR. 2019. Maximizing the performance of MALDI-TOF MS-based microbial characterization: Challenges, strategies, and successes beyond species-level and pure culture applications. Mass Spectrometry Applications to the Clinical Laboratory (MSACL) annual meeting. **Keynote Address**. Palm Springs, CA. April 3.

### 3.2 Professional Society Memberships

Member, Council on Undergraduate Research

Member, ASM (American Society for Microbiology)  
Member, ASM (Arizona/Nevada Branch)  
Member, ACS (American Chemical Society)  
Member, Gamma Sigma Delta Honor Society for Agriculture  
Member, Alpha Chi Honor Society  
Member, Phi Eta Sigma Honor Society

### **3.3 Professional Society and Other Service**

Vice President, ASM North Central Branch (July 2003-June 2004)  
President, Sigma Xi, UW Oshkosh Chapter, (July 2004-June 2005)  
Webmaster, ASM North Central Branch (2003-2006)  
Presenter and Breakout session moderator, Wind River Tribal College Delegation visit to UW Oshkosh. June 16, 2005.  
Session Moderator, 6<sup>th</sup> Annual UW System Symposium for Undergraduate Research and Creative Activity. April 29, 2005.  
Councilor, At-Large Division, Council on Undergraduate Research (CUR) (July 2010-June 2014)  
Member, CUR At-Large Division, Undergraduate Research and Rewards/Recognition/Promotion and Tenure Task Force. 2010 – 2014.  
Reviewer, Council on Undergraduate Research, Posters on the Hill. 2011.  
Member, CUR Fellows Selection Committee. August 2013 – June 2014.

### **3.4 Other**

Member, Editorial Board. Scientific Reports (published by Nature). January 2017 – December 2018.

Ad hoc reviewer for:

Analytical Chemistry  
Analytica Chimica Acta  
Analytical & Bioanalytical Chemistry  
Applied Soil Ecology  
Biodegradation  
Bioremediation Journal  
Bioresource Technology  
Biosensors  
BMC Microbiology  
Canadian Journal of Microbiology  
Chemical Papers  
Chemosphere  
Environmental Science and Technology  
European Journal of Clinical Microbiology & Infectious Diseases  
Expert Review of Proteomics  
Food Technology and Biotechnology  
FEMS Microbial Ecology  
FEMS Microbiology Letters  
FEMS Microbiology Reviews  
International Journal of Systematic and Evolutionary Microbiology (IJSEM)  
International Journal of Mass Spectrometry  
International Journal of Molecular Sciences  
Journal of the American Society for Mass Spectrometry (JASMS)  
Journal of Applied Microbiology  
Journal of Environmental Engineering  
Journal of Environmental Quality

Journal of Infection  
Journal of Medical Microbiology  
Journal of Microbiological Methods  
Journal of Visualized Experiments (JoVE)  
Journal of Wine Research  
Letters in Applied Microbiology  
Mass Spectrometry Reviews  
Medical Mycology  
MethodsX  
Microbiology Education  
mSystems  
Proteomics  
Rapid Communications in Mass Spectrometry  
Soil and Sediment Contamination  
Systematic and Applied Microbiology  
The Environmentalist  
Toxicon

## Book Reviews

Nester, Gene. *Microbiology: A Human Perspective*, 4th Edition.  
Cowan M, Talaro K. *Microbiology: A Systems Approach*. 1<sup>st</sup> Edition.

## Grant reviews

Oklahoma State University, Environmental Institute's Water Research Grants Program, March 2002.  
Sultan Qaboos University, Sultanate of Oman, Muscat. June 2003.  
National Science Foundation, Centers for Research Excellence in Science and Technology (CREST). May 2004.  
National Science Foundation. Collaborative Research at Undergraduate Institutions (C-RUI). August 2004.  
National Science Foundation, Major Research Instrumentation (MRI) program. Panelist. April 2005.  
National Science Foundation, Research Experiences for Undergraduates (REU) Sites program. October 2005.  
National Science Foundation, Major Research Instrumentation (MRI) program. Panelist. April 2006.  
National Science Foundation. Microbial Observatories program. January 2007.  
US Department of State / Nuclear Threat Initiative (via ISTC (International Science and Technology Center and STCU (Science and Technology Center in Ukraine, Kyiv). March 2007.  
National Science Foundation, Analytical and Surface Chemistry (ASC), Division of Chemistry (CHE). September 2007.  
National Science Foundation, Major Research Instrumentation (MRI) program. March 2008.  
National Science Foundation, REU Sites Program, September 2008.  
National Science Foundation, Analytical and Surface Chemistry (ASC), Division of Chemistry (CHE). October 2008.  
Willy Gepts Research Foundation, June 2010.  
National Science Foundation, Transforming Undergraduate Education in STEM (TUES) program. Panelist. July 2011.  
Wyoming Agricultural Experiment Station - AES Competitive Grants Program. October 2013.  
Fondazione Cariplo. Integrated Research on Industrial Biotechnologies. 2014-16.  
Fonds Wetenschappelijk Onderzoek (Fund For Scientific Research – Flanders). July 2015.

## 4. Undergraduate and Graduate Students

### 4.1 Chaired Masters Degrees



<b>Student Name</b>	<b>Thesis Title</b>	<b>Date</b>
Chris Grandlic	Effect of Lead Pollution on Sediment Bacterial Communities in a Prairie-Pothole Lake	2002-04
Douglas Hoffman	Medium Composition Affects Extents and Patterns of Cadmium Inhibition of Naphthalene Biodegradation	2002-04
Tom Siegrist	Discrimination and Characterization of Environmental Strains of <i>Escherichia coli</i> by Mass Spectrometry	2004-06
Rebecca Giebel	Characterization of Environmental Isolates of <i>Enterococcus</i> spp. by Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF-MS)	2006-08
Craig Worden	Effect of pH on Cadmium Toxicity and Associated Gene Expression in <i>Escherichia coli</i>	2006-08
Duane Barbano	MALDI-TOF MS as a Rapid Characterization Tool for Economically-Relevant Microalgae	2014-2016

## 4.2 Undergraduate Research Mentees and Projects

- >50 undergraduates mentored from 2001- present

## 4.3 Other Significant Student Supervision

### Ph.D. committees

<b>Student Name</b>	<b>Dissertation Title</b>	<b>Date</b>
Bo Wang (Biological Design)	Engineering Cyanobacteria to Convert Carbon Dioxide to Building Blocks for Renewable Plastics	April 2014
Caitlin Otto (Biological Design)	In vitro and in vivo assessment of the mechanism of action and efficacy of antibacterial clays for the treatment of cutaneous infections	April 2014

### M.S. committees

<b>Student Name</b>	<b>Thesis Title</b>	<b>Date</b>
Cori Leonetti (SoLS)	Proteomic, Genetic, and Biochemical Analyses of Two-Component Regulatory Systems in <i>Porphyromonas gingivalis</i> and <i>Escherichia coli</i>	December 2013

### Masters committees

- Service on 15 M.S. thesis committees from 2001-present

## Honors Contracts

Course	Semester/Year
BIO 181	Fall 2010
BIO 181	Fall 2010
MIC 443	Fall 2012
MIC 443	Fall 2012
MIC 443	Fall 2012

## Honors Thesis Committees

Thesis Title	Semester/Year
Battling Cancer: The Design, Synthesis, and Characterization of Novel Bexarotene Analogs	Spring 2011
Capsaicin Content within Various Chili Peppers in Regards to the Scovile Scale	Spring 2011
How Jurors Judge the Reliability of Eyewitness Versus DNA Evidence in a Criminal Trial	Spring 2012
Cadmium toxicity microarray studies	Fall 2012- Spring 2013
Identification of Differentially Expressed Genes as Biomarkers for Diagnosis of Irritable Bowel Syndrome (IBS): A Pilot Gene Discovery Hypothesis Generating Study	Spring 2013
Detection of Antibiotic Resistant Mycobacteria Using Bacteriophage Amplification and MALDI-TOF MS	Fall 2014

## 5. Research Activities

### 5.1 Sponsored Research

#### Current sponsored research

Marshall PM (current PI), **Sandrin TR** (PI until TRS appointment as Dean/VP at ASU), Ferry L, Mooney S, Sandrin S. Collaborative Research: TRAIN (TRANSfer to Interdisciplinary Natural sciences): A Community College-University Consortium to Increase Community College Student Transfer and Success. National Science Foundation. \$5,000,000 total award (ASU share: ~\$2M; Maricopa Community College District share: ~\$3M).

**Sandrin TR**, Jurutka P, Broatch J. 2017-2018. Obesity and Irritable Bowel Syndrome (IBS): Assessment of Co-morbidity and Interactions with Gut Microbiota, Vitamin D and Serotonin Levels. Mayo Clinic / Ken and Linda Morris Weight and Wellness Solutions Program. \$40,000. (ASU share - \$29,997; Mayo share - \$10,000).

Rall CJ, **Sandrin TR**, Jurutka P. 2011-2017. Identification of Differentially Expressed Genes as Biomarkers for Diagnosis of Irritable Bowel Syndrome (IBS): A Pilot Gene Discovery Hypothesis Generating Study. Wisconsin Network for Health Research (WiNHR) funded through the Wisconsin Partnership Fund for a Healthy Future's Medical Education and Research Committee. Marshfield Clinic Research Foundation. \$44,527.

### Completed sponsored research

Nickerson CA, **Sandrin TR**, Jurutka PW, Barrila J, and Foxx-Orenstein A. 2015-2016. A New Dimension in Modeling Irritable Bowel Syndrome (IBS) to Elucidate Novel Diagnostic Biomarkers and Microbiome Signatures. ASU-Mayo Clinic Collaborative Grant. \$40,000 (ASU share - \$28,440; Mayo share - \$11,560).

**Sandrin TR**, Wagner CE. 2011-14. Collaborative Research: A Two-Year College/Four-year University Partnership to Transform Chemistry and Biotechnology Curricula using FT-NMR. NSF Transforming Undergraduate Education in STEM (TUES) Program. Collaborative grant with J Serin, J. Springer, and J. Mattoon (Glendale Community College). \$244,993 (ASU Share: \$47,364).

**Sandrin TR**. 2014. Research and Engineering Apprenticeship Program (REAP). Army Educational Outreach Program (AEOP). Partnership between ASU, City of Surprise, and Arizona Charter Academy high school. \$8,000.

Holton B, Naps TL, Paulson JR, **Sandrin TR**. NSF S-STEM: Proteomics and Functional Genomics Scholarship Program. 2008-2013. \$596,134.

**Sandrin TR**, NSF Microbial Observatories and Microbial Interactions and Processes Research Opportunity Award (ROA) w/ R. Maier (U. of Arizona). Cultivation, Identification, and Characterization of Bacteria Indigenous to a Unique Oligotrophic Cave Environment (Kartchner Caverns). 2008 - 2012. \$30,548.

**Sandrin TR**. Mass Spectrometry-based Fingerprinting of Environmental Isolates of *Escherichia coli* Indigenous to Recreational Waters Near Racine, WI. City of Racine. 2009. \$1,500.

**Sandrin TR**, Dorn L. NSF Research Experiences for Undergraduates: Sites. "REU Site: Research Experiences for Undergraduates in Proteomics and Functional Genomics." 2008-2011. \$382,326.

**Sandrin TR**. Increasing Minority Participation, Recruitment, and Retention in State-of-the-Art Life Science Research (Proteomics and Functional Genomics) through an Inter-Institutional Alliance in Northeastern Wisconsin. 2007-2009. \$25,000.

Kedrowski B, **Sandrin TR**, Paulson J, Shors T, Xie LF, Kallas T. AAAS/Merck Undergraduate Research Program. Summer 2007-August 2008. \$60,000.

**Sandrin TR**, Dorn L. NSF Research Experiences for Undergraduates: Sites. "REU Site: Research Experiences for Undergraduates in Proteomics and Functional Genomics." 2005-2007. \$260,829.

Kleinheinz GT, McDermott C, Sadowsky M, Whitman R, **Sandrin TR**, Pillsbury R, Schuster W, Kinzelman J, Byappanahalli M. Influence of *Cladophora* Levels on Fecal Indicator Bacteria and Beach Closures in Lake Michigan. 2008 - 2010. UW Sea Grant Institute. \$409,133.

**Sandrin TR**. National Science Foundation Research Experiences for Undergraduates Supplements Program. "Proteomic and Functional Genomic Investigations into Effects of Medium- and pH-Dependent Cadmium Speciation on Protein and Gene Expression in *Escherichia coli*." 2004. \$18,675.

**Sandrin TR**, Shors T, Kallas T. NSF Major Research Instrumentation Program. "Acquisition of Instrumentation for a Proteomics and Functional Genomics Core Facility." 2003-2006. \$389,043.

Kleinheinz GT, McDermott CM, **Sandrin TR**. Door County Soil and Water Conservation Department. "Comprehensive Microbial Water Quality and Source-tracking Study." 2004. \$46,500.

## 6. Teaching

### 6.1 Undergraduate and Graduate Courses Taught

Year	Semester	Course	Brief Title (Credits)	Student Evaluation	
UW Oshkosh					
2001	Fall	BIO 105L	Intro. To Biology: Unity Lab (1)	4.48/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.70/5.00	
		BIO 450/650	Microbial Physiology (3)	4.65/5.00	
		BIO 450/650L	Microbial Physiology Lab (2)	4.51/5.00	
2002	Spring	BIO 105L	Intro. To Biology: Unity Lab (1)	4.67/5.00	
		BIO 111	Biology Orientation (2)	4.89/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.88/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.42/5.00	
		BIO 233	Microbial Survey (3)	4.79/5.00	
	Fall	BIO 105L	Intro. To Biology: Unity Lab (1)	4.93/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.86/5.00	
		BIO 450/650	Microbial Physiology (3)	4.62/5.00	
2003	Spring	BIO 111	Biology Orientation (2)	4.76/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.85/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.84/5.00	
		BIO 233L	Microbial Survey Lab (1)	4.80/5.00	
		BIO 233	Microbial Survey (3)	4.82/5.00	
	Fall	BIO 233	Microbial Survey (3)	4.87/5.00	
		BIO 450/650	Microbial Physiology (3)	4.75/5.00	
		BIO 450/650L	Microbial Physiology Lab (2)	4.72/5.00	
	2004	Spring	BIO 111	Biology Orientation (2)	4.71/5.00
			BIO 233L	Microbial Survey Lab (1)	4.82/5.00
BIO 233			Microbial Survey (3)	4.86/5.00	
Fall		BIO 233L	Microbial Survey Lab (1)	4.81/5.00	
		BIO 450/650	Microbial Physiology (3)	4.86/5.00	
		BIO 450/650L	Microbial Physiology Lab (2)	4.79/5.00	
		BIO 765	Adv. Topics: Int. to Proteomics (2)	4.87/5.00	
2005		Spring	BIO 111	Biology Orientation (2)	4.80/5.00
	BIO 233L		Microbial Survey Lab (1)	4.75/5.00	
	BIO 233		Microbial Survey (3)	4.85/5.00	
	Fall	BIO 450/650	Microbial Physiology (3)	4.83/5.00	
		BIO 450/650L	Microbial Physiology Lab (2)	4.84/5.00	
		BIO 768	Seminar	4.99/5.00	
2006	Spring	BIO 111	Biology Orientation (2)	4.73/5.00	
		BIO 233	Microbial Survey (3)	4.76/5.00	

	Fall	IDS 175	Ethics (3)	4.52/5.00
		BIO 450/650	Microbial Physiology (3)	4.85/5.00
		BIO 450/650L	Microbial Physiology Lab (2)	4.78/5.00
2007	Spring	BIO 111	Biology Orientation (2)	4.71/5.00
		BIO 233L	Microbial Survey Lab (1)	4.97/5.00
		BIO 233	Microbial Survey (3)	4.73/5.00
	Fall	IDS 175	Ethics (3)	4.63/5.00
		BIO 450/650	Microbial Physiology (3)	4.86/5.00
		BIO 450/650L	Microbial Physiology Lab (2)	4.88/5.00
2008	Spring	IDS 271	Culture Connection I (1)	NA
		BIO 111	Biology Orientation (2)	4.77/5.00
		BIO 233L	Microbial Survey Lab (1)	4.79/5.00
ASU				
	Fall	LSC 355	Cell Biology Lab (1)	4.80/5.00
			Cell Biology lab (1)	4.90/5.00
2009	Spring	LSC 444	Fundamentals of Microbiology	4.90/5.00
	Fall	LSC 355	Cell Biology Lab (1)	4.91/5.00
		ASU 101	The ASU Experience (1)	5.00/5.00
2010	Spring	MIC 443	The Microbial Universe (3)	5.00/5.00
	Fall	BIO 181	General Biology I (3)	4.89/5.00
		ASU 101	The ASU Experience (1)	NR
2011	Spring	MIC 443	The Microbial Universe (3)	5.00/5.00
	Fall	MIC 443	The Microbial Universe (3)	5.00/5.00
2012	Spring	BIO 181	General Biology I (3)	4.90/5.00
	Fall	MIC 443	The Microbial Universe (3)	4.80/5.00
2013	Fall	MIC 443	The Microbial Universe (3)	4.90/5.00
2014	Fall	MIC 443	The Microbial Universe (3)	5.00/5.00
2015	Fall	MIC 443	The Microbial Universe (3)	5.00/5.00
2016	Fall	MIC 443	The Microbial Universe (3)	5.00/5.00

## 6.2 Other Teaching Experience and Development

UW Oshkosh Faculty College 2001. First Year Teaching Experiences.

Opening Workshop for New Science, Mathematics, and Engineering Faculty in the UW System, October 2001.

Teaching Scholar (2004-05). UW Oshkosh Scholarship of Teaching and Learning (SoTL). Investigated whether frequent more assessments of student learning facilitate greater student comprehension, retention, and performance in an undergraduate course in microbiology serving predominantly pre-nursing majors.

Member, On-line Learning and Education Group (OLEG). ASU at the West campus. New College of Interdisciplinary Arts and Sciences. 2008-present.

Participant, “Quality Matters (QM) in Online Courses” Workshop. ASU West campus. December 5, 2008.

Participant, NSF GenomeSolver Workshop on Comparative Prokaryotic Genomics. J. Craig Venter Institute. Rockville, MD. July 10-11, 2012.

### **6.3 Additional Evidence of Excellence in Teaching**

**Invited/Keynote** Speaker. Does more frequent assessment enhance student performance in an undergraduate microbiology course?” UW Oshkosh COLS Dean’s Symposium. “Oct 18, 2006.

**Invited** Speaker. Engaging Students in a Large Lecture Course: Tips from the Lecture Hall Trenches. UW System Women and Science Program Opening Workshop. Madison, WI. November 3, 2007.

Recipient, UW Oshkosh 2008 Distinguished Teaching Award.

Nominee, ASU Faculty Achievement Award - Best Curricular Innovation. Spring 2013.

## **7. Service**

### **7.1 Departmental/Divisional/School Service**

Graduate Student Committee Chairman, University of Arkansas, Department of Plant Pathology, July 1996 - June 1997.

Graduate Student Representative, The University of Arizona, Department of Soil, Water, and Environmental Science, June 1998-July 1999.

Merit Evaluation Committee. Department of Biology and Microbiology. University of Wisconsin - Oshkosh. Fall 2001.

Member, Search and Screen Committee. Parasitologist. Department of Biology and Microbiology. University of Wisconsin - Oshkosh. Fall 2001 – Spring 2002.

Faculty Advisor. UW Oshkosh Student Microbiology Club. Fall 2002-August 2008.

Member, Search and Screen Committee. Vertebrate Morphologist. Department of Biology and Microbiology. University of Wisconsin - Oshkosh. Fall 2002 – Spring 2003.

Member, Budget and Finance Committee. Department of Biology and Microbiology. University of Wisconsin - Oshkosh. Fall 2002 – Spring 2003.

Chair. Scheduling and Curriculum Committee. Department of Biology and Microbiology. University of Wisconsin - Oshkosh. Fall 2003 – Spring 2005.

Member, Curriculum and Scheduling Committee. UW Oshkosh. Department of Biology and Microbiology. Spring 2006- August 2008.

Member, Personnel (Renewal, Promotion, and Tenure) Committee. UW Oshkosh. Department of Biology and Microbiology. July 2007- August 2008

Member, Executive Committee. UW Oshkosh. Department of Biology and Microbiology. July 2007- August 2008.

Member, Search and Screen Committee. Cell Physiologist. Department of Biology and Microbiology. University of Wisconsin - Oshkosh. Spring 2008.

Coordination and Oversight of online non-majors courses in Biology, Chemistry, and Geology. ASU. Fall 2008-present.

Member, Peer Review Committee. Fall 2008.

Chair, Peer Review Committee. Fall 2008.

Member, ASU at the West campus, Division of Mathematical and Natural Sciences, Personnel Committee, Fall 2009-Fall 2013.

Chair, Peer Review Committee (2). Fall 2009.

Member, Peer Review Committee (2). Fall 2009.

Member, School of MNS Salt River Program Scholarship Application Review Committee, December 2009 – present.

Chair, Chemist Search Committee, Spring 2010.

Chair, Ecologist Search Committee, Spring 2010.

Chair, Chemist Search Committee, Fall 2010.

Chair, Cell Biologist Search Committee, Fall 2010.

Member, Peer Review Committee. Fall 2010.

Chair, Chemist Search Committee, Fall 2011 - Spring 2012

Member, Cell Biologist Search Committee, Fall 2011 – Spring 2012

Member, Math Lecturer Search Committee, Summer 2012.

Chair, Peer Review Committee. Fall 2012.

## **7.2 College Service**

Math/Science Division Representative, UW Oshkosh Salary/Equity committee. 2005-2006.

Math/Science Representative, UW Oshkosh Student Academic Committee, Fall 2007-August 2008.

Member, New College Technology Advisory Group, May 2009 – present.

Member, Learning Objectives for General Education Development committee. Fall 2009

Member, Self-Study Committee for the review of programs within New College. Fall 2009 – Spring 2011

Member, New College Committee to Redevelop and Enhance ASU 101. Spring 2010

New College, SRCA grant reviewer, April 2010

Member, NCIAS Associate Dean Search Committee, Fall 2010.

Member, New College Summer Reading Project Committee. Fall 2010 – present

Representative, New College, Planning team for the Gary K. Herberger Young Scholars Academy. January 14, 2011.

Member, New College Research Advancement Manager Search Committee. Summer 2012.

Mentor, New College First Year Composition (FYC) program. Fall 2012 – present.

### **7.3 University Service**

Presenter/Facilitator, Odyssey “Conversations with Faculty. September 2003, 2004.

Presenter and Breakout session moderator, Wind River Tribal College Delegation visit to UW Oshkosh. June 16, 2005.

Core Member, Chancellor’s Committee on Building Grants and Research Capabilities at UW Oshkosh. Spring 2005-July 2007.

Chair, UW Oshkosh External Grants Expansion Plan (EGEP) Team. July 2007 – August 2008.

UW Oshkosh Math/Science Representative, Academic Computing Users Group (ACUG). Fall 2007 – August 2008.

Vice Chair, Search and Screen Committee, Assistant Vice Chancellor for Curricular Affairs. UW Oshkosh. Fall 2007-Spring 2008.

ASU Representative, “Future Freshman Reception”. Presented faculty perspective to prospective ASU freshmen. Irvine, CA. March 3, 2009

Faculty Senator, ASU at the West campus, NCIAS, May 2009 – May 2012.

Member, Committee on Committees, University Senate. September 2009 – 2011.

Member, University Services and Facilities, University Senate, September 2011 – 2013.

ASU Representative, “Future Freshman Reception/Sneak Preview”. Presented faculty perspective to prospective ASU freshmen. Walnut Creek, CA. November 10, 2009

Mentor, ASU Obama Scholars Program. 2009.

Presenter, West Valley Junior Excellence Awards. ASU at the West campus. April 25, 2011.

Keynote speaker, West Valley Junior Excellence Awards. ASU at the West campus. April 23, 2012

**Invited** Lecturer, ASU Student Enrichment Program. ASU at the West campus. “CSI meets microbiology: Microbial Fingerprinting”. June 19, 2012.

Member, Provost’s Committee on Excellence in Digital Learning and Teaching. Member, Communications subcommittee. November 2012 – present.



**Invited Speaker.** What's New at ASU West and ASU's New College? Rotary International – Glendale Club. December 13, 2012. Glendale, AZ

**Judge.** 2013 US Department of Energy/Arizona Science Bowl. March 9.

**ASU Representative,** Higher Learning Commission (HLC) Site Visit Team breakout groups. Graduate Education: Quality, Resources, and Support; ASU Online/Library and Technological Support Services to Enhance Student Learning. March 26, 2013

**Invited** presenter/panelist. Innovating in STEM workforce development to catalyze high skill, high wage jobs in Peoria. Focus on Education Luncheon. Peoria Chamber of Commerce. November, 13, 2013.

**Judge,** ASU Edson Student Entrepreneur Initiative. April 2014.

**Editor-in-Chief.** *Inquire: A Journal of Undergraduate Research.* January 2016-present.

Invited Lecturer, ASU/APS ExSciTE Summer Camp. "Why microbiologists worry about the small stuff". June 21, 2016.

**ASU Representative,** 2017 AAC&U General Education and Assessment Conference Planning Meeting. March 3, 2016. Phoenix, AZ.

## 7.4 Community Service

Advisory Network Member. Waters of Wisconsin (WOW). January 2002 - August 2008.

Member, Industry Advisory Board, Glendale Community College, Biotechnology Program. August 2010 - present.

Member, External Advisory Board, Estrella Mountain Community College NSF STEP Program. 2010-2012.

## 8. References

### **Dr. Roger Berger**

Professor and Director (2004-2015)  
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Associate Dean (2013-2014), New College of Interdisciplinary Arts & Sciences  
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