

# MICHELLE M. VALKANAS

PENNSYLVANIA WESTERN UNIVERSITY • VALKANAS@PENNWEST.EDU • [WWW.MICHELLEVALKANAS.COM](http://WWW.MICHELLEVALKANAS.COM)

## EDUCATION

- 2020 Ph.D. in Biological Sciences, Duquesne University, Pittsburgh, PA  
Advisor: Dr. Nancy Trun  
Thesis: *Identifying the effects naturally forming bacterial communities have on the efficiency of passive remediation systems built to treat abandoned mine drainage*
- 2019 Advanced Certificate in University Teaching, Duquesne University, Pittsburgh, PA
- 2018 Certificate in University Teaching, Duquesne University, Pittsburgh, PA
- 2014 Bachelor of Science in Biology, Minor in Mathematics, Duquesne University, Pittsburgh, PA

## PUBLICATIONS

1. Howell, A., Reisenauer, K.N., **Valkanas, M.M.**, and Carter, K.E.. Beyond the Base-ics: Approaches to Driving Connection Through Genetics in Museums. *Journal of Science Communication*. (2022).
2. **Valkanas, M. M.**, Rosso, T., Packard, J. E., & Trun, N. J. (2021). Limited carbon sources prevent sulfate remediation in circumneutral abandoned mine drainage. *FEMS Microbiology Ecology*.
3. Ly, T.T., Wright, J.R., Weit, N., Mclimans, C.J., Ulrich, N., Tokarev, V., **Valkanas, M.M.**, Trun, N., Rummel, S., Grant, C.J. and Lamendella, R., (2019). Microbial Communities Associated with Passive Acidic Abandoned Coal Mine Remediation. *Frontiers in Microbiology*, 10, p.1955.
4. **Valkanas, M.M.** and Trun, N.J. (2018). A seasonal study of a passive abandoned coalmine drainage remediation system reveals three distinct zones of contaminant levels and microbial communities. *MicrobiologyOpen*. 2018:e585.

## *In Preparation*

S. Hejnosz, A. Vietmeier, L. Wiles, D. Franklin, Y. Boukaabar, K. Carter, **M. Valkanas**. COVID-19 Vaccination rates in Pennsylvania: More than just numbers and statistics. **(In Preparation)**.

**M.M Valkanas**, A. Howell, K. Reisenauer, and K. Carter. Using Meta-analysis as a tool for effective exhibit design. **(In Preparation)**.

**M.M. Valkanas** and N.J. Trun. Spatiotemporal changes in bacterial communities in passive remediation systems treating abandoned coal mine drainage. **(In Preparation)**.

**M.M. Valkanas**, T. Rosso, and N.J. Trun. Symbiotic nitrate-driven iron oxidation in acidic coalmine drainage by *Serratia marcescens* and *Sphingomonas* LK11. **(In Preparation)**.

**M.M. Valkanas** and N.J. Trun. Iron and Sulfur Cycling Bacteria in Abandoned Mine Drainage: A Review. **(In Preparation)**.

**M.M. Valkanas**, A. Michalski, and N.J. Trun. The reproducibility of bacterial community composition in environmental samples collected over geographical distances. (**In Preparation**).

### ***Honors Theses Under My Advisement***

2022 Augustine, Shaylie. The Deep-Rooted Damage of the Donora Smog Disaster. California University of Pennsylvania.

### ***Honors Theses as Committee Member***

2022 Wiles, Larry. Genetic Influences on Opioid Addiction through Dopamine Receptor Pathway Polymorphisms. California University of Pennsylvania.

## **SCHOLARLY PRESENTATIONS AT NATIONAL AND REGIONAL MEETINGS**

### **Oral Presentations**

1. **Valkanas, M. M.**, Rosso, T., and Trun, N.J.. 2020. Nitrate-dependent iron oxidation driven by bacterial symbionts found in acid mine drainage. Accepted for presentation at the 2020 National Meeting of the American Society of Mining and Reclamation. Duluth, MN. **\*Meeting Canceled due to COVID-19**
2. **Valkanas, M. M.** and Trun, N.J.. 2019. Does cryptic sulfur cycling in an AMD passive remediation system prevent the removal of high sulfate concentrations? Presented at the 2019 National Geological Society of America Conference. Phoenix, AZ.
3. **Valkanas, M. M.** and Trun, N.J.. 2019. Spatiotemporal Changes in Contaminants Occurring in Three Passive Coal Mine Remediation Systems in Pennsylvania. Presented at the 2019 Joint Conference of the National Association of Abandoned Mine Land Programs/Pennsylvania Abandoned Mine Reclamation /National Association of State Land Reclamationists'. Pittsburgh, PA.
4. **\*\*\*Valkanas, M. M.** and Trun, N.J.. 2019. The influence of Bacteria on Passive Remediation Systems. Presented at the 2019 National Meeting of the American Society of Mining and Reclamation. Big Sky, MT. **Awarded first place for oral presentation.**
5. **Valkanas, M. M.** and Trun, N.J.. 2019. Identifying the effects bacteria have on the efficiency of passive remediation systems designed to treat abandoned mine drainage. Presented at the 2019 Annual Meeting of the Pennsylvania Academy of Science. Cedar Crest College, Allentown, PA.
6. **Valkanas, M. M.** and Trun, N.J.. 2019. Do Bacteria Effect the Efficiency of Abandoned Mine Drainage Passive Remediation Systems? Presented at the 2019 Duquesne University Graduate Research Symposium. Duquesne University, Pittsburgh, PA.
7. **Valkanas, M. M.** and Trun, N.J.. 2019. Identifying the Impact Bacteria have on Passive Remediation Systems Designed to Treat Abandoned Mine Drainage. Presented at the 2019 Pittsburgh Bacterial Meeting. Duquesne University, Pittsburgh, PA.
8. **Valkanas, M. M.**. 2019. Iron oxidation in an acid mine drainage system. Presented at the Department of Biological Sciences Graduate Open Houses. Duquesne University, Pittsburgh, PA.
9. **Valkanas, M. M.**. 2019. Nitrate-dependent iron oxidation in an acid mine drainage system. Presented at the Department of Biological Sciences Seminar Series. Duquesne University, Pittsburgh, PA.
10. **Valkanas, M. M.**. 2019. Small but mighty: can bacteria be the answer to clean water? Data blitz presentation for the Department of Biological Sciences 2019 Retreat. Pymatuning, PA.
11. **Valkanas, M. M.** and Trun, N.J.. 2018. The Impacts of Naturally Forming Microbial Communities Found in Passive Remediation Systems. Presented at the 2018 Student Symposium on the Environment. Westminster College, Pittsburgh, PA.
12. **\*\*\*Valkanas, M. M.** and Trun, N.J.. 2018. Characterization of Microbial Communities in Passive Remediation Systems Designed to Treat Abandoned Mine Drainage. Presented at the 2018 Allegheny Branch of the American Society for Microbiology Meeting. Gettysburg College, Gettysburg, PA. **Awarded first place for oral presentation.**
13. **Valkanas, M. M.**. 2018. Identifying the Role Bacteria Play in Passive Remediation Systems. Presented as a Work in Progress (WIP). Duquesne University, Pittsburgh, PA.

14. **Valkanas, M. M.** 2018. The Impacts Microbial Communities have on Passive Remediation Systems. Data blitz presentation for the Department of Biological Sciences 2018 Retreat. Pymatuning, PA.
15. **Valkanas, M. M.** 2018. Microbial Communities in Passive Remediation Systems. Presented a data blitz at the Department of Biological Sciences Seminar Series. Duquesne University, Pittsburgh, PA.
16. **Valkanas, M. M.** and Trun, N.J.. 2017. An in vitro system to study the microbial impacts on a passive remediation system. Presented at the 2017 Allegheny Branch of the American Society for Microbiology Meeting. Juniata College, Huntingdon, PA.
17. **Valkanas, M. M.** 2017. Microbes at Wingfield Pines. Data blitz presentation for the Department of Biological Sciences 2017 Retreat. Pymatuning, PA.
18. **Valkanas, M. M.** and Trun, N.J.. 2016. A seasonal comparison of a passive abandoned coal mine remediation system. Presented at the 2016 Allegheny Branch of the American Society for Microbiology Meeting. Penn State Behrend, Erie, PA.

## Poster Presentations

1. Carter, K. and **Valkanas, M.** 2021. Graduate Training in Science Communication: Promises and Pitfalls. SciPEP Conference. *Communicating the Future: Engaging the Public in Basic Science*.
2. Carter, K., Howell, A., Reisenauer, K., and **Valkanas, M.** 2021. Creating Inclusive Narratives in Genetics Exhibits. Held an hour workshop at the Annual Visitor Studies Association Conference.
3. **Valkanas, M.M.**, Doctors, E., and Carter, K. 2020. It Takes a Village: Finding Common Ground Among Stakeholders. Presented at the 2020 National Meeting of the Association of Science and Technology Centers. Virtual Conference.
4. **Valkanas, M. M.** 2019. A Lab-Based System to Study the Microbial Impacts on Passive Remediation Systems Built to Treat AMD. Poster presented at the Department of Biological Sciences 2019 Retreat. Pymatuning, PA.
5. **\*\*\*Valkanas, M. M.** and Trun, N.J.. 2018. Lab-Based System to Study the Microbial Impacts on Passive Remediation Systems Built to Treat AMD. Presented at the 2018 National Meeting of the American Society of Mining and Reclamation. St. Louis, MO. **\*\*\*Awarded first place for poster presentation.**
6. **Valkanas, M. M.** and Trun, N.J.. 2018. A Lab-Based System to Study the Microbial Impacts on Passive Remediation Systems Built to Treat AMD. Presented at the 2018 Duquesne University Graduate Research Symposium. Duquesne University, Pittsburgh, PA.
7. **Valkanas, M. M.** and Trun, N.J.. 2018. A Lab-Based System to Study the Microbial Impacts on Passive Remediation Systems Built to Treat AMD. Presented at the 2018 Pittsburgh Bacterial Meeting. Duquesne University, Pittsburgh, PA.
8. **Valkanas, M. M.** 2018. A Lab-Based System to Study the Microbial Impacts on Passive Remediation Systems Built to Treat AMD. Poster presented at the Department of Biological Sciences 2018 Retreat. Pymatuning, PA.
9. **\*\*\*Valkanas, M. M.** and Trun, N.J.. 2017. A seasonal comparison of the passive abandoned coal mine remediation at Wingfield Pines. The 2017 Joint Conference of the West Virginia Mine Drainage Task Force, American Society of Mining and Reclamation, and Appalachian Regional, Reforestation Initiative. Morgantown, WV. **\*\*\*Awarded third place for poster presentation.**
10. **Valkanas, M. M.** and Trun, N.J.. 2017. A seasonal comparison of the passive abandoned coal mine remediation at Wingfield Pines. The 2017 Regional Conference of the Northeast/Northcentral Geological Society of America. Pittsburgh, PA.
11. **Valkanas, M. M.** and Trun, N.J.. 2017. A seasonal comparison of the passive abandoned coal mine remediation at Wingfield Pines. Presented at the 2017 Duquesne University Graduate Research Symposium. Duquesne University, Pittsburgh, PA.
12. **Valkanas, M. M.** 2017. A seasonal comparison of the passive abandoned coal mine remediation at Wingfield Pines. Poster presented at the Department of Biological Sciences 2017 Retreat. Pymatuning, PA.
13. **Valkanas, M. M.** and Trun, N.J.. 2016. A seasonal comparison of the passive abandoned coal mine remediation at Wingfield Pines. Presented at the 2016 Metals Symposium. Duquesne University, Pittsburgh, PA.

14. \*\*\*Valkanas, M. M. and Trun, N.J.. 2015. A seasonal comparison of the passive abandoned coal mine remediation at Wingfield Pines. Presented at the 2015 Allegheny Branch of the American Society for Microbiology Meeting. University of Pittsburgh, Greensburg, PA. \*\*\***Awarded first place for poster presentation.**

### Student Presentations Under My Advisement

1. Scarpaci, Maya. 2022. Screening of Local Bacterial Isolates for Antibiotic Properties in Southwestern Pennsylvania. Presented poster presentation at the National Tiny Earth Summer Symposium (virtual symposium).
2. Augustine, Shaylie. 2022. The Deep-Rooted Damage of the Donora Smog Disaster. California University of Pennsylvania. Presented oral presentation of thesis defense at the Strike a Spark Conference. California University of Pennsylvania, California, PA.
3. Grabill, Raelynne M. 2022. The Impact Metal Contamination has on Microbial Communities' and the Prevalence of Antibiotic Resistance and Biofilm Formation within a Passive Remediation System to Treat Abandoned Mine Drainage. Presented oral presentation of thesis defense at the Strike a Spark Conference. California University of Pennsylvania, California, PA.
4. Hlatky-Walters, Payton. 2022. Resistance of Specific Antibiotics in Non-contaminated Environments and in Acidic Environments. Presented virtual oral presentation of independent research at the Strike a Spark Conference. California University of Pennsylvania, California, PA. **Awarded first place for asynchronous poster presentation.**
5. Sciulli, Luca. 2022. Examining Soil Bacteria for Potential Antibiotic Production. Presented virtual oral presentation of class project at the Strike a Spark Conference. California University of Pennsylvania, California, PA.
6. Buray, Christine C.. 2022. Identifying soil fungi's secondary metabolites antimicrobial resistance against bacteria. Presented poster presentation of independent research at the Strike a Spark Conference. California University of Pennsylvania, California, PA. **Awarded second place for poster presentation.**
7. Panek, Caitlin. 2022. Comparison of Antibiotic Resistant Bacteria in Acid Mine Drainage and Restored Waters. Presented poster presentation of independent research at the Strike a Spark Conference. California University of Pennsylvania, California, PA.
8. Cunningham, Abigail. 2022. Identifying Mechanisms of Biofilm Formation and Biofilm Specific Antibiotic Resistance. Presented poster presentation of independent research at the Strike a Spark Conference. California University of Pennsylvania, California, PA.
9. Barnes, John. 2022. Examination of Pennsylvania Soil Microbes in the Search for Novel Antibiotic Producers. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA.
10. Davis, Savannah, Scarpaci, Maya, Reichelderfer, Abbie, and Moehring, Sarah. 2022. PET Plastic Degradation by *E. coli* with *I. sakaiensis* 201\_F6 PETase and MHETase Plastic Degradation Genes for more Efficient Bioremediation Efforts. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson. **Awarded third place for poster presentation.**
11. Mock, David M.. 2022. Bioengineering the Vanillin Biosynthesis Pathway. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
12. Kovach, Cammi. 2022. Can the iPLA2-VIA gene rescue Neuroaxonal Dystrophy in *Drosophila*? Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
13. Carlos Ramirez and Johnathan Culhane. 2022. Gene Edit *Homo sapiens* Vascular Endothelial Growth Factor A (VEGFA) using sgRNA CRISPR-Cas9. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
14. Yauger, Alivia and Carney, Lydia. 2022. DNA Fingerprints: Sex Determination and Longevity on Different Surfaces. Presented poster presentation at the Strike a Spark Conference. California University of

- Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson. **Awarded third place for poster presentation.**
15. Tatyana Young and Erin Wood. 2022. Polycythemia Vera and the Jak 2 Gene: Testing Anticoagulant Effectiveness on Yeast Cell Survival. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
  16. Boukkabar, Yamna, Grabill, Raelynne, and Wiles, Larry. 2022. Oil Degradative Properties of Transgenic *Escherichia coli* Transformed with the AlkB Gene. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
  17. Baldinger, Kayla, Winters, Brock, and Anderson, Ian. 2022. Can Different Conditions Have an Impact on DNA Extractions? Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
  18. Callaway, Benjamin, Crescenzi, Theodore, and Reidenbaugh, Michael. 2022. Insertion of Betalain Pigmentation Genes into *Brassica rapa* to Determine Effects on Growth and Development. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
  19. Cunningham, Abigail and Jackson, Rylee. 2022. Identification of Gender and Ethnicity through DNA Analysis of Human Teeth. Presented poster presentation at the Strike a Spark Conference. California University of Pennsylvania, California, PA. \*\* Co-advised with Louise Nicholson.
  20. Boukkabar, Yamna, Franklin, Divonne, and Wiles, Larry. 2021. *Vaccine Hesitancy*. Ask an Expert: Students Consider Vaccine Hesitancy. **Invited talk sponsored by American Democracy Project and Cal U Center for Undergraduate Research.**
  21. \*\*\*Hlatky-Walters, Payton. 2021. Screening for Antibiotic Resistance in Environmental Samples. Presented recorded poster of independent research at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **Awarded second place for poster presentation.**
  22. Barnes, John. 2021. Examination of Pennsylvania Soil Microbes in the Search for Novel Antibiotic Producers. Presented poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  23. \*\*\*Davis, Savannah. 2021. Artificial Wombs: Assessing the Need for Molecular Homeostasis. Presented poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **Awarded third place for poster presentation.**
  24. Callaway, Benjamin and Cresenzi, Theodore. 2021. Screening to Potentially Find Antibiotics Derived from Soil Samples. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  25. Cruz, Juliana. 2021. Isolating Soil Bacteria in Order to Screen for New Antibiotic Producers. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  26. Cunningham, Abigail. 2021. Isolation of Local Soil Cultures to Screen for Antibiotic Producers. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  27. Cunningham, Abigail and Burey, Christine. 2021. Prokaryotic Genome Assembly and Annotation of Abandoned Mine Drainage. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  28. Hillhouse, Kira. 2021. Isolation and Screening of Soil Bacteria as a Source of Antibiotics. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  29. Moehring, Sarah and Cree, Makenzie. 2021. The Utilization of Organism Classification in the Advancement of Abandoned Mine Drainage Treatment. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
  30. \*\*\*Ramirez, Carlos. 2021. Antibiotic Screening of Local Soil Bacteria Communities for Antibiotic Production. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **Awarded third place for poster presentation.**

31. \*\*\*Reidenbaugh, Michael. 2021. Discovering New Antibiotic Compounds by the Isolation of Bacterial Species in Soil Samples. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **Awarded second place for poster presentation.**
32. Reidenbaugh, Michael. 2021. Isolation and Characterization of *Cuprivaidus pauculus* from Acid Mine Drainage. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
33. \*\*\*Scarpaci, Maya. 2021. Screening of Local Bacterial Isolates for Antibiotic Properties. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **Awarded first place for poster presentation.**
34. Sciulli, Luca. 2021. Testing for Antibiotic Producing Bacteria Extracted from Soil. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
35. Yauger, Miranda E.. 2021. Isolation and Screening of Soil Bacteria as a Source of Novel Antibiotics. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA.
36. \*\*\*Yauger, Alivia. 2021. An illustration of the Various Microbial Techniques Applied for the Search of Antibiotic Producers. Presented recorded poster at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **Awarded third place for poster presentation.**
37. \*\*\*Faris, Chloe. 2021. Investigating the Role Bacteria Play in AMD Passive. Presented live oral presentation at the Strike a Spark Conference (Virtual Event). California University of Pennsylvania, California, PA. **\*\*\*Awarded first place oral presentation.**
38. \*\*\*Wolfe, Ian. 2021. Conformational Studies on a Novel *Paraburkholderia* Isolate. Presented poster at the Strike a Spark Conference (Virtual Event). California University of Pennsylvania, California, PA. **\*\*\*Awarded third place poster presentation.**
39. \*\*\*Richard, Samantha. 2021. Characterization and Antibiotic Screening of Soil Fungi. Presented poster at the Strike a Spark Conference (Virtual Event). California University of Pennsylvania, California, PA. **\*\*\*Awarded first place poster presentation.**
40. King, Abigale and Kling, McKayla. Uncovering Antibiotic Producing Bacteria in Soil Samples in Southwestern Pennsylvania. General Microbiology Course. Presented at the Strike a Spark Conference (Virtual Event). California University of Pennsylvania, California, PA.
41. \*\*\*Faris, Chloe. 2021. Determining the Bacterial Role in AMD Passive Remediation Systems. Poster Presented at the Annual Tri-Beta Research Symposium (Virtual Event). Duquesne University, Pittsburgh, PA. **\*\*\*Awarded best poster presentation.**
42. Faris, Chloe. 2021. Investigating the Role Bacteria Play in Remediation of AMD Passive Systems. The Commonwealth of Pennsylvania University Biologists Annual Meeting (Virtual Event). Shippensburg University, Shippensburg, PA.
43. Wolfe, Ian. 2021. Heavy Metal Resistance of a Novel *Paraburkholderia* Isolate. The Commonwealth of Pennsylvania University Biologists Annual Meeting (Virtual Event). Shippensburg University, Shippensburg, PA.
44. \*\*\*Richard, Samantha. 2021. Characterization and Antibiotic Screening of Soil Fungi. The Commonwealth of Pennsylvania University Biologists Annual Meeting (Virtual Event). Shippensburg University, Shippensburg, PA. **\*\*\*Awarded first place presentation.**
45. McIntosh, Ashley. 2020. Isolating Bacterial Antibiotic Producers from Soil. General Microbiology Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA.
46. \*\*\*King, Abigale and Kling, McKayla. Antibiotic Discovery in Soil Bacteria in South-Western Pennsylvania. General Microbiology Course. Presented at the Fall Creative Works and Research Event. California University of Pennsylvania, California, PA. **\*\*\*McKayla Kling awarded first place for class poster.**
47. Boukaabar, Yamna. 2020. Identification of Soil-Borne Bacteria Capable of Antibiotic Production. General Microbiology Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA.
48. Lere, Alex and Leake, Kendall. 2020. Undergraduate Research of the Antibiotic Crisis. General Microbiology Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA.

49. Faris, Chloe. 2020. Bacterial Role in Bioremediation of Acid Mine Drainage Systems, Molecular Biology Lab Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA.
50. Sutton, Haley. 2020. Characterization of Bacteria Isolated from Acid Mine Drainage. Molecular Biology Lab Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA.
51. \*\*\*Wolfe, Ian. 2020. Metal Resistant Bacteria in Acid Mine Drainage. Molecular Biology Lab Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA. \*\*\***Awarded second place for class presentation.**
52. Carroll, Chantel. Antibiotic Resistance Discovered in Toxic Environments. Molecular Biology Lab Course. Presented at the Fall Creative Works and Research Event (Virtual Event). California University of Pennsylvania, California, PA.
53. Leake, Kendall\*, Lere, Alex\*, and Valkanas, M.M.. 2020. Undergraduate Research of the Antibiotic Crisis. Presented at the Regional Science Consortium Symposium, Erie, PA.
54. Kling, McKayla\*, King, Abigale, and Valkanas, M.M.. 2020. Antibiotic Resistance in Environmental Bacteria. Presented at the Regional Science Consortium Symposium, Erie, PA.
55. Avery, Lauryn\*, Jackson, Rylee, and Valkanas, M.M.. 2020.. Potential Discovery of New Antibiotics in Soil. Presented at the Regional Science Consortium Symposium, Erie, PA.
56. Cole, Heaven\*, Patterson, Hunter, and Valkanas, M.M.. 2020.. Uncovering Innovative Antibiotic-Producing Bacteria from Soil. Presented at the Regional Science Consortium Symposium, Erie, PA.
57. Reichelderfer, Abbie and Grabill, Raelynne, and Valkanas, M.M.. 2020.. The Contribution towards Antibiotic Discovery through Bacteria in Soil Collected in Western Pennsylvania. Presented at the Regional Science Consortium Symposium, Erie, PA.

## COMMUNITY PRESENTATIONS

### Invited Talks

1. **Valkanas, M. M.**. 2022. *Pollution in Perpetuity Using Bacteria to Restore our Watersheds*. Earth Day Talk for Roadrunner Waste Management.
2. **Valkanas, M. M.**. 2020. *Water and Pollution How Abandoned Mine Drainage is Destroying our Watersheds*. Phipps Conservatory 2020 Virtual BioBlitz. Pittsburgh, PA,
3. **Valkanas, M.M.** 2019. *Science Communication*. Presented to the Department of Biological Sciences at Duquesne University during the 2019 Departmental Retreat. Pymatuning, PA.
4. **Valkanas, M. M.**. 2019. *Water Contamination*. Presented to the Conservatory Crew Summer Camp during Conservation Week at Phipps Conservatory. Pittsburgh, PA.
5. **Valkanas, M. M.**. 2019. *Using bacteria to remove abandoned mine drainage contamination*. Presented to the International P.E.O. Sisterhood Local Chapter F. Pittsburgh, PA.
6. **Valkanas, M. M.**. 2018. *Bioremediation: Using Bacteria to Clean Our Streams*. Presented to the Conservatory Crew Summer Camp during Conservation Week at Phipps Conservatory. Pittsburgh, PA.

## AWARDS

2020	Duquesne University Department of Biological Sciences Graduate Student of the Year (\$300)
2020	American Society of Mining and Reclamation Memorial Scholarship (\$2500)
2019	Kenneth N. Weaver Student Travel Award from the Northeastern Section of the GSA (\$150)
2019	Nominated for P.E.O. Scholar Award
2018	Allegheny Branch of American Society for Microbiology Travel Award (\$100)
2018	American Society of Mining and Reclamation Travel Award (\$250)
2018, 2020	Duquesne University Graduate Student Award for Excellence in Teaching Finalist

## GRANTS AWARDED

2022	FPDC Annual Grant (\$7992)
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2022 European Society for Evolutionary Biology (\$3995)  
 2021 FPDC Research Small Grant (\$962)  
 2021 FPDC Service Small Grant (\$1000)  
 2019 Western Pennsylvania Coalition for Abandoned Mine Reclamation (\$100)  
 2019 Geological Society of America *On To the Future Program* (\$745)  
 2019 Sigma Xi Grants in Aid of Research (GIAR) (\$150)  
 2019 Duquesne University Bayer Fellowship (\$13,375)  
 2019 Geological Society of America, Graduate Student Research Grant (\$2450)  
     • **Specialized Gould Research Grant Awarded**  
 2019 National Center for Science Education Graduate Fellowship (\$9000)  
 2017 Geological Society of America, Graduate Student Research Grant (\$1325)

## GRANTS AWARDED TO STUDENTS UNDER MY ADVISEMENT

2021 Shaylie Augustine – California University of Pennsylvania Honors Program Research Grant (\$640)  
 2021 Science Outreach Summer Fellowship Program (\$3750)  
 2021 Chloe Faris – California University of Pennsylvania Student Research Grant (\$1000)  
 2021 Ian Wolfe – California University of Pennsylvania Student Research Grant (\$1010)

## GRANTS APPLIED FOR (Not Received)

2022 Center for Rural Pennsylvania’s Research Grant Program LOI  
 2022 Department of Energy (DE-FOA-0002602) Pre-Application  
 2020 ARIS Fellowship Program  
 2020 Dreyfus Foundation Grant  
 2019 American Society of Mining and Reclamation Scholarship  
 2018 DOE Joint Genome Institute, CSP New Investigator  
 2018 American Society of Mining and Reclamation Scholarship  
 2018 Geological Society of America, Graduate Student Research Grant  
 2018 The Garden Club of America Fellowship in Ecological Restoration  
 2018 DoD National Defense Science and Engineering Graduate Fellowship (NDSEG)  
 2018 Ford Foundation Predoctoral Fellowship  
 2018 NSF Graduate Research Fellowships Program (GRFP)  
 2017 Ford Foundation Predoctoral Fellowship  
 2017 American Society of Mining and Reclamation Scholarship  
 2017 DOE Joint Genome Institute, CSP Small-scale Microbial/Metagenome

## TEACHING AND MENTORING EXPERIENCE

### Teaching

#### Pennsylvania Western University (Previously Cal U)

2022 Assistant Professor, BIO 320 Molecular Biology Lab  
 2022 Assistant Professor, BIO 326 General Microbiology Lecture and Lab

#### California University of Pennsylvania (Cal U)

2022 Assistant Professor, BIO 322 Methods in DNA Analysis\*  
 2022 Assistant Professor, BIO 226 Basic Microbiology Lecture and Lab  
 2021 Assistant Professor, BIO 320 Molecular Biology Lab  
 2021 Assistant Professor, BIO 326 General Microbiology Lecture and Lab  
 2021 Adjunct Instructor, BIO 226 Basic Microbiology Lecture and Lab  
 2020 Adjunct Instructor, BIO 326 General Microbiology Lecture and Lab  
 2020 Adjunct Instructor, BIO 320 Molecular Biology Lab\*

**\*Involved in Course Design and Execution**



## Duquesne University

- 2017 – 2019 Teaching Assistant, Super Lab I: Experimental Biology  
2017 – 2019 Teaching Assistant, Super Lab IV: Microbiology  
2016 Teaching Assistant, Life Processes lab

## Other Teaching Experience

- 2020 Teaching Assistant, National Center for Science Education Graduate Fellowship Program  
2016 Teaching Assistant, GCAT-SEEK: Metagenomics Workshop

## Mentoring

### California University of Pennsylvania

#### Honors Research Thesis

2021-2022

1. Advisor, Shaylie Augustine, *Investigation of Zinc Resistance in Environmental Samples*
2. Advisor, Raelynne Grabill, *Antibiotic Resistance in Extreme Environments*
3. Second Reader, Larry Wiles, *Genetic Influences on Opioid Addiction through Dopamine Receptor Pathway Polymorphisms*

#### Valkanas Lab Research Students

2022

1. Caitlin Panek, *Comparison of Antibiotic Resistant Bacteria in Acid Mine Drainage and Restored Waters*
2. Abby Cunningham, *Identifying Mechanisms of Biofilm Formation and Biofilm-Specific Antibiotic Resistance*
3. Christine Buray, *Identifying soil fungi secondary metabolites antimicrobial resistance against bacteria*

2021

1. Payton Hlatky-Walters, *Screening for Antibiotic Resistance in Environmental Samples*
2. Abbie Reichelderfer, *Determining the Long-Term Impacts of Silver Diamine Fluoride on the Oral Microbiota*
3. Chloe Faris, *Investigating the Role Bacteria Play in Remediation of AMD Passive Systems*
4. Ian Wolfe, *Conformational Studies on a Novel Paraburkholderia Isolate*
5. Samantha Richard, *Characterization and Antibiotic Screening of Soil Fungi*
6. Lanieta Waqanivalu, *Extraction of secondary metabolites from antibiotic producing bacteria isolated from soil*

#### Honor Student Addendums for BIO 326 General Microbiology

2021

1. Theodore Cresenzi, *Investigating the Growth Requirements for *Chaos carolinensis**

2020

2. Savannah Davis, *Artificial Wombs: An incentive to fill a gap in knowledge*
3. Raelynne Grabill, *Antibiotic Resistance in Extreme Environments*
4. Yamna Boukaabar, *Roseola Infantum: The History, Signs/Symptoms, Characteristics, Virology, Transmittance, Latency, Mechanism & Complications*

## Duquesne University

2016 – 2020

### Undergraduate Members of the Trun Lab

1. Bethany Parsons (2018 – 2019)
2. Brandon Olszewski (2018 – 2019)
3. Collen Yanerella (2016-2018)
  - “Comparison of Gene Neighborhoods for Sulfate Metabolism Genes in an Abandoned Coalmine Passive Remediation System” (2018) presented at Duquesne University the Undergraduate Research Symposium.
  - “Seasonal Alpha and Beta Diversity Comparisons of Bacterial Communities in the AMD Effluent at Wingfield Pines” (2017) presented at Duquesne University the Undergraduate Research Symposium.

- Ph.D. Candidate in Bioinformatics at Iowa State.
- 4. Alanna Michalski (2016-2017)
  - “Identification of Sulfur Oxidizing Bacteria in Wingfield Pines” (2017) presented at Duquesne University the Undergraduate Research Symposium.

2017 – Present *Graduate Members of the Trun Lab*

1. Anna Vietmeier, Ph.D. Student (2020)
2. Garrett Struble, Master Student (2019 – 2020)
3. Jessica Packard, Ph.D. Student (2019)
  - Packard, J., **Valkanas, M.M.**, and Trun, N.J. Driving Sulfate Reduction in Abandoned Coalmine Drainage (2019) presented oral presentation at Student Symposium on the Environment.
4. Elizabeth Cochran, Master Student (2017-2019)
  - Elizabeth defended her Master’s Thesis through The Center for Environmental Research and Education (2019).
  - “The effects of constructed wetlands on abandoned mine drainage remediation” (2018) presented oral presentation at Student Symposium on the Environment. *Received Honorable Mention.*

2018 – 2019 *Peer Mentor Program*

1. Marisa Guido

**La Roche University**

2018 – 2019 *Undergraduate Honors Thesis Dissertation under Dr. Dafna Ben-Yosef*

1. Jaynil Patel
2. Taylor Rosso
  - Mentoring provided as a Post-baccalaureate in Dr. Nancy Truns Lab (2019-2020)
    - Rosso, T., **Valkanas, M.M.**, and Trun, N.J. Sulfate Reduction using an Encapsulated Growth Environment. Student Symposium on the Environment 2019. (**First Place Oral Presentation**).
    - Rosso, T., **Valkanas, M.M.**, and Trun, N.J. Sulfur Cycling in AMD Remediation Systems: Driving Sulfate Reduction using Bacteria Encapsulated in Agar Beads. ABASM 2019. (**First Place Oral Presentation**).
    - Ph.D. Student at the University of Nebraska.

**The National Center for Science Education (NCSE)**

2020 – Present *NCSE Graduate Student Outreach Fellows*

1. Zachary Compton, Arizona State University
2. Abigail Howell, Arizona State University
3. Joe Jalinsky, University of Iowa
4. Briante Najev, University of Iowa
  - Received Outreach 2020 Grant from the British Ecological Society (\$975)
5. Keighley Reisenauer, Baylor University

**Advising**

**Pennsylvania West University**

2022-2023 Advised 23 pre-med undergraduate students

**California University of Pennsylvania**

2021-2022 Advised 20 pre-med undergraduate students

**GUEST TEACHING LECTURES**

1. **Valkanas, M.M.** Giving a Scientific Presentation. Honors Thesis Prep Course. Fall 2019. Duquesne University.
2. **Valkanas, M.M.** Next Generation Sequencing. Experimental Biology Recitation. Fall 2018. Duquesne University.

## PROFESSIONAL DEVELOPMENT: TEACHING

### Pennsylvania Western University

2022 Faculty awareness training for supplemental instruction

### California University of Pennsylvania

2021 Teaching Online Certification Course (PASSHE)  
2020 Zoom Overview TLC Workshop  
2020 D2L/Brightspace Overview TLC Workshop  
2020 Mediasite Overview TLC Workshop  
2020 LockDown Browser and Respondus Monitor Training

### 2020 PASSHE West Virtual Training on Teaching and Learning

Tips for Enriching the Online Group Work Experience – Sandra Leh, Slippery Rock University  
Digital Checklist: A Small Teaching Tool to Enhance Learning – Meigan Robb, Indiana University  
Supporting the Honors Capstone: Courses, Assignments, and Assessments – M.G. Aune et al., Cal U

### Tiny Earth – UW-Madison

2020 Certified Tiny Earth Partner Instructor Certification

### Duquesne University

2019 Creating Inclusive Classrooms in STEM Lecture  
2019 Teaching Philosophy Workshop  
2019 Hitting Pause: 65 Lecture Breaks to Refresh and Reinforce Learning Workshop  
2019 Article Study: Motivation and Learning-Centered  
2019 How Humans Learn Workshop  
2019 Letters to a Pre-Scientist Training Workshop  
2019 Documenting Rigor in Teaching Workshop  
2019 Reframing the 3 R's of Learning - Reflection Workshop  
2019 Reframing the 3 R's of Learning – Risk and Resilience Workshop  
2018 Approaches to Peer Writing Workshop  
2018 Fueling the Fire Workshop  
2018 Book Study: Contemplative Practices in Higher Education  
2018 Science Communication Fellowship at Phipps Conservatory  
2018 Career Connectedness Workshop  
2018 Holistic Teaching Workshop  
2018 First Generation Students Workshop  
2018 Using Active Learning Techniques to Enhance the Pre-Lab Lecture Workshop

## RESEARCH AND WORK EXPERIENCE

2022 – Present Assistant Professor, Pennsylvania Western University (Formerly Cal U)  
**Research Interests:** *Microbial genetics and adaptations in extreme environments; Antibiotic resistance genes in drinking water; Identification of Bioindicators in Abandoned Mine Drainage*

2021 – 2022 Assistant Professor, California University of Pennsylvania (Cal U)  
**Research Interests:** *Microbial genetics and adaptations in extreme environments; Antibiotic resistance genes in drinking water; Identification of Bioindicators in Abandoned Mine Drainage*

2016 – 2020 Graduate Research Assistant, Duquesne University  
**Thesis:** *Identifying the effects naturally forming bacterial communities have on the efficiency of passive remediation systems built to treat abandoned mine drainage*  
**Committee:** Drs. Nancy Trun (PI), John Stolz, Brady Porter, and Chris Marshall

2019 – 2020 Women in STEM Graduate Assistant

2019 – 2020	D.U. Quark Internship, Duquesne University <ul style="list-style-type: none"> <li>• Creator and author of the column “Science in my Backyard”</li> <li>• Staff writer for the Bayer School Newsletter, <i>The Spectrum</i></li> </ul>
2019	National Center for Science Education Graduate Fellowship
2014 – 2016	Researcher, Duquesne University, Biological Science, Dr. Nancy Trun
2015 – 2016	Lab Technician, RJ Lee Group
2013 – 2014	Chemical Analyst Intern, CWM Environmental

## PROFESSIONAL DEVELOPMENT: RESEARCH

2020	Microbiome Fractionation in KBase
2020	Intro to KBase
2019	Introduction to Communication Science
2019	PATRIC Bioinformatics Resource Center Workshop
2018	Illumina MiSeq Training
2018	Introduction to ‘tidy’ data and statistics in R
2018	Getting Started in SPSS
2018	Thriving amidst chaos: Time management strategies for work and life
2018	Tools for Creating Strong Conference Posters
2017	R for Biologists
2017	An Introduction to QGS and Geoscience Application
2015	Introduction to Genomic Technologies
2015	The Data Scientist’s Toolbox

## COMMUNITY SERVICE AND OUTREACH

2020 – Present	DNA Decisions: A Travelling Genetics Exhibit
2022	The Pennsylvania Southwestern Regional Science Olympiad Tournament, Event Supervisor for Disease Detective
2021	Empowering Women in STEM Event, Cal U of PA (51 Participants plus parents and teachers)
2021	Southwest PA STEM Fest (100 Participants)
2021	Science Outreach Advance Training Fellowship Program (lead 10 week program)
2021	Science Outreach Undergraduate Fellowship Program: Addressing COVID-19 Vaccine Hesitancy (lead 10 week program)
2021	STEM Workshop at Duquesne University
2019 – 2021	Pittsburgh BioBlitz, Hosted by Phipps Conservatory and Botanical Gardens
2019 – 2020	Super STEM presented by Duquesne University and NCSE. Carnegie Library of Pittsburgh-Hill District
2019 – 2020	<i>Science in my Backyard</i> column in the D.U. Quark
2017 – 2020	Women in STEM at Duquesne University K-12 Outreach <ul style="list-style-type: none"> <li>• 2020 – Ringgold South Elementary School <b>**Canceled due to COVID-19</b></li> <li>• 2020 – STEM Night at Ramsey Elementary (~ 50 families)</li> <li>• 2019 – Ringgold North Elementary School (94 fourth graders)</li> <li>• 2019 – Ringgold South Elementary School (75 fourth graders)</li> <li>• 2018 – Ringgold North Elementary School (86 fourth graders)</li> <li>• 2018 – West Greene High School Field Trip to Maiden Mine (30 high school students)</li> <li>• 2018 – Pittsburgh Science and Technology Academy (32 middle school students)</li> <li>• 2017 – SPEAK UP in collaboration with Carnegie Mellon University (125 girls age 7 – 13)</li> </ul>
2018 – 2019	Museum on the Move program provided by Carnegie Museum of Natural History and Children’s Hospital of Pittsburgh
2019	Letters to a Pre-Scientist
2019, 2020	I’m A Scientist UK
2017 – 2018	SIGMA Mentor, Citizen Science Lab (Pittsburgh, PA)
2018, 2020	Meet a Scientist, Phipps Conservatory and Botanical Gardens

## PROFESSIONAL SERVICE

2021	Judge, California University of Pennsylvania Fall Creative and Research Event
2021	Judge, Tri-Beta Research Symposium
2020 – 2021	Associate Editor, Journal of The American Society of Mining and Reclamation
2019	Judge, Duquesne University Undergraduate Research Symposium
2018 – 2019	Moderator, Graduate Student Research Symposium
2018	Teaching Assistant Trainer, Duquesne University TA Orientation
2018	Guest Speaker, Duquesne University Center for Teaching Excellence Information Session
2018	Panelist, Women in STEM Graduate Discussions during Undergraduate Research Program
2018	Mentor, Undergraduate Research Program-Ethics Forum

## COMMITTEES AND ORGANIZATIONS

2022	Advisor, Pennsylvania Western University – California Campus Women in Science Club
2021	Cal U Representative, Department Chair of the Integrated Biology Department Election Committee
2021	Co-Advisor, California University of Pennsylvania Women in Science Club
2020	Chair of the Ecology Technical Division for the American Society of Mining and Reclamation
2017 – 2020	Women in STEM Biological Sciences Graduate Student Representative
2017 – 2019	Graduate Students of Biological Sciences (GSoBS) Committee Executive Board
2018	Graduate Student Research Symposium Peer Selection Committee
2017	GSoBS Mentor Award Committee

## PEER REVIEWED BLOG

**Valkanas, M. M.** 2017. *From Flicker to Fire: novel research program leads to increase retention in STEM and exciting discoveries in prophage-mediated defense strategies* on Dr. Graham Hatfull from the University of Pittsburgh. Duquesne University, Pittsburgh, PA. [www.duq.edu/bioblog](http://www.duq.edu/bioblog)

## ADDITIONAL PUBLICATIONS AND MEDIA COVERAGE

1. Story on Science Communication and Outreach Summer 2021 Fellows entitled *Students to present vaccine-hesitancy research*. Cal Times (2021). <https://www.caltimes.org/8483/news/students-to-present-vaccine-hesitancy-research/>
2. Article on vaccine hesitancy entitled *Vaccine Hesitancy among young adults continues as delta variant spreads*. Observer-Reporter (2021). [https://observer-reporter.com/series/coronavirus/vaccine-hesitancy-among-young-adults-continues-as-delta-variant-spreads/article\\_5c823cc4-e4a3-11eb-81f7-877acf059143.html](https://observer-reporter.com/series/coronavirus/vaccine-hesitancy-among-young-adults-continues-as-delta-variant-spreads/article_5c823cc4-e4a3-11eb-81f7-877acf059143.html)
3. Story covering the Summer 2021 Undergraduate Science Outreach Fellowship Program entitled *Build Trust in Science* (2021). <https://www.calu.edu/news/2021/communication-covid-fellowship.aspx>
4. Interview of Chloe Faris (Cal U undergraduate student) on the research she did under my advisement and in which she was presenting at the 2020 Fall Creative Works and Research Event. <https://www.calu.edu/news/2020/fall-creative-works.aspx>
5. **Valkanas, M.M.** 2020. *Conservation geneticist uses scat to gain insight on the elusive snow leopard*. *Science in my Backyard*, D.U. Quark. <https://duquark.com/2020/01/09/conservation-geneticist-uses-scat-to-gain-insight-on-the-elusive-snow-leopard/>
6. **Valkanas, M.M.** 2019. *Message Received: Looking for the cells in the brain that receive pain signals from the bladder*. *Science in my Backyard*, D.U. Quark. <https://duquark.com/2019/10/25/message-received-looking-for-the-cells-in-the-brain-that-receive-pain-signals-from-the-bladder/>
7. Jackson, Tracy (2019). *Sparking an Interest in STEM*. Duquesne University Magazine. [https://www.duq.edu/assets/Documents/public-affairs/magazine/pdf/Fall\\_2019\\_DU\\_Magazine.pdf](https://www.duq.edu/assets/Documents/public-affairs/magazine/pdf/Fall_2019_DU_Magazine.pdf)
8. Reports of the National Center for Science Education. Science Outreach that Isn't Just Kids' Stuff (Featured as a Fellow on Back Cover). Summer 2019, Volume 39: 3. <https://ncse.ngo/files/REPORTS39.3LINKS.pdf>
9. Reports of the National Center for Science Education. What Does the Evidence Say? Meet NCSE's New Graduate Student Fellows. Spring 2019, Volume 39: 2. <https://ncse.ngo/files/REPORTS39.2Links.pdf>

10. #bioPGH Blog: *BioBlitz 2019 Results!* Phipps Conservatory. June 2019.  
<https://www.phipps.conservatory.org/blog/detail/biopgh-blog-bioblitz-2019-results>
11. National Center for Science Education Video blog. *Day in the life of a graduate student*. April 2019.  
<https://www.youtube.com/watch?v=b2zivB8SUXl&feature=youtu.be>
12. *Women in STEM Featured on WPXI*. Pittsburgh, PA. December 2018.  
<https://www.wpxi.com/video?videoid=897075089&videoVersion=2.0>
13. \*\*\***Valkanas, M. M.** (2018) *Beauty and the Beast*. D.U. Quark Journal. Duquesne University, Pittsburgh, PA.  
<https://duquark.com/2018/12/05/3rd-place-beauty-and-the-beast/> **Won 3<sup>rd</sup> place in the D.U. Quark Writing and Art Contest**
14. *Meet a Scientist Interview and Blog* (2018). Phipps Conservatory, Pittsburgh, PA.  
<https://www.phipps.conservatory.org/blog/detail/meet-a-scientist-michelle-valkanas-and-sara-mcclelland>
15. **Valkanas, M. M.** (2018) *The Study of Microbial Communities in Passive Remediation Systems*. Wild Women of Reclamation Newsletter (WWR Spring 2018, vol. 3). American Society of Mining and Reclamation. (PDF available upon request)

## CERTIFICATIONS

TOCC (Teaching Online Certification Course), California University of PA (November 2021)  
IRB (Institutional Review Board) Training, Duquesne University, Citi Program (April 2019)

## CLEARANCES

Act 31: Recognizing and Reporting Child Abuse (September 2018, September 2020)  
Act 33: Pennsylvania Child Abuse History Clearances (July 2018)  
Act 34: Pennsylvania State Police Criminal Record Check (June 2018)

## ORGANIZATION MEMBERSHIPS

American Society for Microbiology (2016-Present)  
American Society of Reclamation Sciences (2016-Present)  
Wild Women of Reclamation (2017-Present)  
Commonwealth of Pennsylvania University Biologists (2021 – Present)  
American Society for Cell Biology (2021)  
The Geological Society of America (2016-2020)  
Sigma Xi, The Scientific Research Honor Society (2018-2020)  
Pennsylvania Academy of Science (2019-2020)  
American Association for the Advancement of Science (2019-2020)  
Graduate Students of Biological Sciences (GSoBS) (2016-2020)  
Graduate and Professional Student Council (GPSC) (2016-2020)  
Women in STEM Duquesne University (2017-2020)