

**Andrew D. Putt**  
**University of Tennessee, Knoxville**  
**aputt@vols.utk.edu**

## Education

---

**University of Tennessee** | Knoxville  
Doctoral Student, Microbial Hydrogeology

**Mansfield University** | Mansfield, PA. December 2016  
Bachelor of Science, Environmental Biology  
Bachelor of Science, Watershed Management Geoscience

## Research Interests

---

Microbial bioremediation utilizing natural processes and DNA modification for remediation of terrestrial and aquatic pollution.

## Research and Work Experience

---

**Graduate Research Assistant** | Mentors: Terry Hazen Ph.D., Larry McKay Ph.D., August 2017 – Present  
University of Tennessee | Knoxville, TN

**Associate Biopharmaceuticals Microbiologist** | March 2017 – July 2017  
Eurofins Lancaster Labs Inc. | Lancaster, PA

- Conducted Antimicrobial Effectiveness Testing, on a variety of pharmaceutical samples, with strict adherence to GMPs, compendia, FDA, and USP standards.
- Executed Water Activity Testing, utilizing Aqualab 4TEV and TDL devices.

**Undergraduate Research Fellow** | Mentor: Jeanne Kagle, Ph.D., May – December 2017  
American Society for Microbiology | Mansfield, PA

Detection and monitoring of triclosan degradation gene expression *in situ*

- Analyzed global metagenomes for a target antibiotic degrading gene, and developed a field study to replicate the results of the analysis, to determine environmental prevalence and development and antibiotic degradation.
- Pursued research into the development of a luminescent antibiotic reporter strain of *Sphingomonas RD-1*.

**Student Assistant** | May – December 2017

Institute for Science and the Environment | Mansfield, PA

- Organized speakers and community events, while operating organizational communication for the Institute.
- Actively raised awareness for research grant and presentations opportunities available through the institute.

**Undergraduate Researcher** | Mentors: Jennifer Demchak Ph.D., Jeanne Kagle Ph.D., April 2015 – April 2016  
Mansfield University | Mansfield, PA

Identification of bacterial iron oxidizers for mine drainage treatment

- Pursued research in the biological oxidation of iron within passive mine drainage treatment.
- Using sanger sequencing, and BLAST identified species of pseudomonas responsible for oxidation.

**Undergraduate Researcher** | Mentors: Jennifer Demchak Ph.D., Jeanne Kagle Ph.D., January 2016 – May 2016  
Mansfield University, Mansfield, PA

Media-facilitated iron oxidizing bioreactor for acid mine treatment

- Investigated and developed a novel treatment for acid mine drainage utilizing previously isolated cultures and media supplemented into a bioreactor design.

**Microbiology Laboratory Assistant** | January 2013 – December 2016

Mansfield University | Mansfield, PA

- Standardized lab procedures, and inventory in addition to preparing labs, media, culture maintenance, and autoclaving waste in accordance with BSL2 and hazardous waste protocols.
- Assisted with research for students and Dr. Jeanne Kagle.

**Scientific and Engineering Intern** | May 2014 – January 2016

PA Department of Environmental Protection: State Central Office | Harrisburg PA

- Deployed passive sediment samplers, established new stream and river transects, executed in-field data sonde maintenance and calibration, collected water chemistry samples, and operated a variety of motorized and non-motorized water craft.
- Conducted macro invertebrate enumerations, educated interns on recreational use bacteria coliform sampling, and completed semi-quantitative electroshock surveys on a variety of habitats across the commonwealth of PA.

**Undergraduate Researcher** | Mentor: Timothy Wertz, June 2014 – August 2014

PA DEP Collaborative Small Mouth Bass Population Investigation | Harrisburg, PA

- Conducted Small Mouth Bass stomach content analysis as part of a disease and population decline investigation.

**Intern** | May – August 2013

Berks County Conservation District: | Leesport, PA

- Educated farmers within the Chesapeake Bay Watershed on water quality laws, and nutrient management practices.
- Monitored mosquito populations and genus-level identification.

**Greenhouse Supervisor** | January – December 2013

Mansfield University | Mansfield, PA

- Evaluated plant health, and maintained consistent growing conditions, to assist undergraduate research projects

---

## Awards, Honors & Presentations

---

**ASM Undergraduate Research Fellowship** | Mentor: Jeanne Kagle, Ph.D., May – December 2016

American Society for Microbiology

- Presented at ASM National Microbe meeting, New Orleans, LA, 2017
- Attended Microbe Academy for Professional Development

**Faculty Development Grant** | Advisor: Jennifer Demchak, Ph.D., October 2015 – October 2016

Mansfield University | Mansfield, PA

- Travel and research award.

**Alumni Association Academic Achievement Scholarship** | 2016

Mansfield University | Mansfield, PA

**COPLAC North East Regional Conference** | Presenter

October 2016 | Massachusetts College of Liberal Arts | North Adams, MA

- Undergraduate Representative for Pennsylvania Liberal Arts STEM Research
- Media-facilitated iron oxidizing bioreactor for acid mine treatment. (Poster)
- Detection and monitoring of triclosan degradation gene expression *in situ*. (Oral)
- Featured in “*Liberal Learning*” [coplacblog.org](http://coplacblog.org)

**11<sup>th</sup> Annual Susquehanna River Symposium** | 1<sup>st</sup> Place: Undergraduate Oral Presentations

November 2016 | Bucknell University | Lycoming, PA

- Media-facilitated iron oxidizing bioreactor for acid mine treatment (Poster)
- Detection and monitoring of triclosan degradation gene expression *in situ* (Oral Presentation)

**Broadtop Township Supervisor's Treatment Tour** | Guest Oral Presenter

Summer 2016 | Broadtop, PA

- Identification of bacterial iron oxidizers for mine drainage treatment

**E. PA Coalition of Abandon Mine Reclamation Annual Mine Drainage Conference** | Guest Poster Presenter

June 2016 | Indiana University | Indiana, PA

- Identification of bacterial iron oxidizers for mine drainage treatment
- Travel Award

**Commonwealth of Pennsylvania University Biologists Conference** | 1st Place: Cell and Molecular Oral Presentations

April 2016 | Millersville University | Lancaster, PA

- Identification of bacterial iron oxidizers for mine drainage treatment
- Abstract Published in *Proceedings of the Commonwealth of Pennsylvania Biologists (CPUB). Vol. 18, 2016*

**8<sup>th</sup> West Branch Susquehanna Restoration Coalition Symposium** | Top Undergraduate Poster Presentation

April 2016 | Toftrees Resort | State College, PA

- Media-facilitated iron oxidizing bioreactor for acid mine treatment

**6<sup>th</sup> Annual Mansfield University Showcase of Student Scholarship** | Presenter

Spring 2016 | Mansfield University | Mansfield, PA

- Media-facilitated iron oxidizing bioreactor for acid mine treatment (Poster)
- Identification of bacterial iron oxidizers for acid mine drainage treatment (Oral Presentation)

**U.S. Provisional Patent** | 2009

Heat Reflective Cement

---

## Skills

---

**Lab:** Cell Culture, Media Preparation, Culture Isolation, PCR, Centrifugation, DNA Electrophoresis, Electroporation, plasmid Conjugation, Environmental DNA Extraction and Cleaning, Optical Microscopy, Titration, and Spectrophotometry.

**Field:** Electroshock Surveys, Shallow Core Sampling, Coliform Sampling, Macroinvertebrate sampling/enumeration & Identification, Fish Health Assessments, Parasite Identification, drafting of EIA's, Permits, and Watershed Restoration Plans.

**Computational:** Proficient in Microsoft suite, Arc Map 10.2.2, Photoshop CS6, Adobe InDesign, BLAST, Docolab, MG RAST, Standalone BLAST, and experienced in SPSS, R/R Commander, Maple, logger pro, and AMD treat.

**Certifications:**

Valid driver's license & US passport

Aquatic vehicle operator's license

ATF Employee Possessor for Explosives

First Aid and CPR certifications

---

## Professional Organization Membership

---

ASM | American Society for Microbiology | Student Member | Spring 2016 – Present

SfAM | Society for Applied Microbiology | Student Member | June 2017 – Present

ACS | American Chemical Society | Student Member | Fall 2015 – Spring 2016

CPUB | Commonwealth of Pennsylvania Biologists | Member | Fall 2012 – Present

---

## Undergraduate Leadership Experiences

---

### **President** | August 2014 - December 2016

LEO: International Community Service Organization, Mansfield University Chapter

- Increased volunteer service hours by 25% including; Adopt-a-highway, animal shelter volunteer, Relay for Life, and trick-or-treat for UNICEF among others.
- Served as Vice President from August 2013 – May 2014.

### **Editor-in-chief** | January 2013 – December 2016

Carontawan Yearbook: Mansfield University's Premier Yearly Record

- Revived the publication from a 25-year hiatus, published a full color book, managed social media accounts, lead meetings, advertisement, and added a digital photo and video archive.
- Served as Advertising Chair and Photography Editor. August 2015 – December 2016

### **President** | August 2013 – May 2014

CAC: Colleges Against Cancer, Mansfield Chapter

- Restructured the organization to become self-sufficient without University-based financial support. Implemented more community outreach events to raise cancer awareness.
- Served as Luminary Co-chair and Relay for life – food chair. August 2013 – May 2016

### **Production Manager** | August – December 2016

The Flashlight: Mansfield University Campus Newspaper

- Managed advertisements and editor of the publication.

### **Parliamentarian** | May – December 2016

Kappa Kappa Psi: National Music Honors Fraternity

- Edited and revised the constitution, assisted in the running of meetings.
- Served as Fundraising Chair, and Class President.

### **Committee Chair** | Spring – Fall 2015

MU Sustainability Committee

- Incorporated an ORCA food digester into the campus dining services to reduce waste.

**Updated:** 4 August 2017