

LUCINDA SHAFFER

CURRICULUM VITAE

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PUBLICATIONS

YEAR		DOI
2023	Loy AT, Shaffer LN, Gavalas, ST, et al. <i>Mycobacterium tuberculosis</i> Protein PE17 Induces Organelle Disruptions Upon Heterologous Expression in A549 Human Airway Epithelial Cells. <i>Authorea</i> .	10.22541/au.167659571.17510233/v1
2020	Loy AT, Shaffer LN, Quinn FD, Wolstenholme AJ, and Reaves BJ. <i>Mycobacterium tuberculosis</i> Protein PE17 Induces Organelle Disruptions Upon Heterologous Expression in A549 Cells. In Loy AT, <i>Investigation of the Phenotypic Effects of Mycobacterium Tuberculosis Proteins on Host Organelles</i> . Dissertation. University of Georgia. https://esploro.libs.uga.edu/esploro/outputs/9949366045802959	

RESEARCH CAPSTONE

2020	Lucinda N. Shaffer & Vincent Starai. <i>Mycobacterium tuberculosis</i> PE17 Organelle Disruption in <i>Saccharomyces cerevisiae</i> . GENE 4970R. University of Georgia, Departments of Genetics and Microbiology.
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UNDERGRADUATE RESEARCH CONTRIBUTION

2021	Berke DS, Leone RM, Hyatt CS, Zeichner A, & Parrott D. Correlates of Men's Bystander Intervention to Prevent Sexual and Relationship Violence: The Role of Masculine Discrepancy Stress. <i>Journal of interpersonal violence</i> . 36(21-22), 9877–9903.	10.1177/0886260519880999
2019	Lynam, DR, Hyatt, CS, Hopwood, CJ, Wright, AGC, & Miller, JD. Should psychologists sign their reviews? Some thoughts and some data. <i>Journal of abnormal psychology</i> , 128(6), 541–546.	10.1037/abn0000426
2018	Hyatt CS, Weiss BM, Carter NT, Zeichner A, Miller JD. The relation between narcissism and laboratory aggression is not contingent on environmental cues of competition. <i>Personal Disord</i> . 9(6), 543-552.	10.1037/per0000284
2017	Miller JD, Crowe M, Weiss B, Maples-Keller JL, Lynam DR. Using online, crowdsourcing platforms for data collection in personality disorder research: The example of Amazon's Mechanical Turk. <i>Personal Disord</i> . 8(1), 26-34.	10.1037/per0000191

EDUCATION

YEAR

Fall 2015 - Fall 2020 **B.S. in Microbiology | Genetics | Psychology, Neuroscience emphasis**
University of Georgia | 3.6 GPA | Dean's List, 6 semesters

Fall 2018 - Summer 2019 **UGA GO Abroad South Korea Exchange**
Yonsei University | Seoul, South Korea | 3.7 GPA

LAB EXPERIENCE

Fall 2019 - Spring 2021 **MICROBIOLOGY RESEARCH ASSISTANT** | *Starai Lab* | *University of Georgia*

- ▶ Successfully cloned inducible and truncated expression vectors in *S. cerevisia* for expansion of yeast artificial chromosome (YAC) library
- ▶ Performed wide array of assays including PCR, Gel Electrophoresis, Western Blot, Spectrophotometry, Bacterial & Yeast transformation
- ▶ Demonstrated N-terminal PE17 protein truncation from *M. tuberculosis* produced comparable phenotypic toxicity between mammalian and yeast specimen
- ▶ Teated, analyzed, and compiled endocytic membrane alteration imaging via fluouescence microscopy
- ▶ Team coordinated engagement for contributing author figure and paper preparation, revision and journal submission

Fall 2019 - Spring 2020 **CLINICAL PERSONALITY PSYCHOLOGY RESEARCH ASSISTANT** | *Miller Lab* | *University of Georgia*

Fall 2017 - Spring 2018

- ▶ Supervised social networking study and personality analysis testing administration
- ▶ Compiled data analytics for personality persuasion, Narcissistic and Antisocial tattoo influence, Five Factor model framework and dimensions of Narcissism
- ▶ Addressed issues with attrition, ethical research conduction, and maintenance of confidential participant information
- ▶ Collaborative meetings facilitated familiarity with IRB application, guidelines, and approval processes

LAB COURSEWORK

Spring 2020 **EXPERIMENTAL MICROBIOME** | *Bennetzen Lab* | *University of Georgia*

- ▶ Isolated *Bacillus* bacteriophage *Siphoviridae* utilizing plaque assays, transmission flood/web plating, and electron microscopy
- ▶ Analyzed metagenomic data via BLAST for phylogenetic tree development within Linux terminal
- ▶ Analyzed nanopore reads for *De novo* assembly (Canu), annotation (Prokka), genome comparison (Roary), and microsynteny (Sibelia/Circos)

Fall 2019 **EXPERIMENTAL GENETICS** | *Kushner Lab* | *University of Georgia*

- ▶ Explored classic genetic techniques revealed through foundational *Escherichia coli* research
- ▶ Produced high-frequency recombination (Hfr) through conjugal mating for gene order determination
- ▶ Characterized growth, viability, survival, and recombination proficiency in UV Sensitive RecBC mutants
- ▶ Manipulated genome utilizing bacteriophage transduction for fine structure mapping reflecting EcoCyc database

LAB COURSEWORK (*cont.*)

Fall 2017 **MICROBIOLOGY FUNDAMENTALS** | *Department of Microbiology* | University of Georgia

- Developed fundamental SOPs, emphasizing aseptic technique, colony isolates, antibiotic resistance, and nutritional profiling across varied bacterial nutritional media
- Created Winogradsky columns for environmental exploration of growth factors displaying visible oxygen and sulfur gradients
- Capstone case study: *Salmonella* serotype identification

CERTIFICATIONS

Fall 2019 **Collaborative IRB Training** | CITI | *Department of Clinical Psychology* | University of Georgia

Spring 2020 **Foundations of Probability in R** | DataCamp | *Departments of Life Science and Statistics* | University of Georgia

TEACHING EXPERIENCE

Fall 2023 **ASSOCIATE SCIENCE TEACHER** | *SA Schools* | *East Harlem Middle, NY*

- Created targeted presentations and lesson plans integrated with digital earth and life science curriculum
- Developed lesson plans to guide students through scientific method for experiments and symposium presentations
- Quickly adapted to rapid changes in software utilized for grade-books, behavior management, and internal communications
- Performed record keeping for monthly financial budget and expenditure

Fall 2018 -
Spring 2019 **ENGLISH TUTOR** | *Seoul, South Korea*

- Collaborated with individual clients to custom tailor educational curriculum for wide age range
- Established benchmark requirements to test English comprehension
- Encouraged critical thinking towards problem solving, time management, and development of effective test taking habits

RESEARCH FOUNDATIONS

PROGRAM FAMILIARITY

Bioinformatics: BLAST, Canu, Circos, LaTeX, MEGA5, Prokka, Roary, Sibelia

Biostatistics: R, SPSS

Communication: Slack, Teams

Design: Adobe Creative Cloud, Canva

General: Microsoft Suite, Google Suite, Adept with iOS and Windows

Microscopy: Fiji Image J

ASSAYS & TECHNIQUES

Western Blot, PCR, ELISA, Fluorescence Microscopy,, Yeast Transformations, Bacterial Cloning Vectors
BAC/YAC Libraries, Spectrophotometry, Restriction Mapping, Genome Editing, Plaque, DNA Barcoding,
Agar & Broth Stock