

Gillian D. Brown

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EDUCATION:

Doctor of Philosophy (<i>in progress</i>)	Texas A&M University Graduate & Professional School Program: Microbiology Location: College Station, TX Research Advisor: Dr. Jolene Ramsey
Bachelor of Science, 2022	Western Kentucky University Mahurin Honors College & Ogden College of Science and Engineering Majors: Biology, Chemistry Location: Bowling Green, KY Research Advisor: Dr. Rodney A. King Honors Thesis: " The Isolation and Characterization of Microbacteriophage Hasitha "
High School Diploma, 2019	Carol Martin Gatton Academy of Mathematics and Science in Kentucky Location: Bowling Green, KY
High School Diploma, 2019	Todd County Central High School Location: Elkton, KY

PROFESSIONAL EXPERIENCE:

2023 – Present	Texas A&M University. Teaching assistant for BIOL 111: Introductory Biology I and BIOL 112: Introductory Biology II.
2022 – 2023	Breathitt Veterinary Center. Temporary laboratory technician in the Virology Department. Conducted diagnostic testing primarily with Chronic Wasting Disease.
Summer 2021	Western Kentucky University. Paid internship (via Research and Experiential Learning Award) in the lab of Dr. Rodney A. King, WKU Biology Department. Contributed research findings to WKU honors thesis.
2020 – 2021	Gatton Academy of Mathematics and Science. Student desk attendant and interim residential counselor.

RESEARCH EXPERIENCE:

2023 – Present	Texas A&M University. PhD student in the lab of Dr. Jolene Ramsey, TAMU Biology Department. Studied lysis mechanisms of phi6, N4, and crAss-like phages.
2023	Texas A&M University. Rotation student in the lab of Dr. Angela Mitchell, TAMU Biology Department. Studied the effect of MMR deletion on outer membrane permeability in <i>E. coli</i> .
2023	Texas A&M University. Rotation student in the lab of Dr. Benjamin Neuman, TAMU Biology Department. Studied bioinformatic analysis of subgenomic mRNA in coronaviruses.
2022	Breathitt Veterinary Center. Part-time researcher in the Molecular Diagnostics Department under the guidance of Assistant Director Tracie Jenkins. Studied prevalence of ticks and tick-borne diseases present in Kentucky using PCR detection.
2019 – 2022	Western Kentucky University. Undergraduate researcher in the lab of Dr. Rodney A. King, WKU Biology Department. Studied alternative long-read DNA sequencing methods using the MinION device by Oxford Nanopore Technologies Inc. for potential use in WKU's SEA-PHAGES Program; studied a specific occurrence of promiscuous bacteriophage host specificity between <i>Gordonia</i> sp. and <i>Microbacterium foliorum</i> ; isolated and characterized bacteriophage Hasitha for honors thesis.
2018	Western Kentucky University. Student in a course led by Dr. Claire Rinehart, WKU Biology Department. Analyzed genomic information of bacteriophages “Adnama” and “Cici” by determining the quality of DNA sequence from the genome, defining the locations of each gene, annotating the function of those genes, and preparing the annotated genome for submission to GenBank.
2017	Western Kentucky University. Student in a course led by Mrs. Naomi Rowland, WKU Biology Department. Isolated and characterized a novel bacteriophage (“Esna”) using <i>Mycobacterium smegmatis</i> as a host. This course was the first semester of a two-part series of the HHMI SEA-PHAGES Program that guided students from bacteriophage isolation to genome annotation.

AWARDS AND HONORS:

2022	<i>Magna Cum Laude</i> Graduate of Western Kentucky University
2022	Dr. Dan Skean Award for Outstanding Microbiology Student
2021	Gatton Academy Research and Experiential Learning Award
2019	Cherry Presidential Scholarship/Targeted Gatton Academy Graduates Scholarship
2019	Honors with Distinction Graduate of the Gatton Academy of Mathematics and Science
2019	Senator Jeff Green Scholar
2019 – 2022	President's Scholar
2017 – 2020	Dean's Scholar

MEMBERSHIP IN PROFESSIONAL SOCIETIES:

2021 – 2022	President , WKU Microbiology Club: ASM Student Chapter
2021 – 2022	Undergraduate Student Member , Kentucky Academy of Science

PRESENTATIONS:

2022	*WKU 52nd Annual Student Research Conference : Brown, Gillian D., King, Rodney A. "The Isolation and Characterization of Bacteriophage Hasitha" * <i>Session Winner</i>
2021	107th Kentucky Academy of Science Annual Meeting (Virtual) : Brown, Gillian D., King, Rodney A. "The Isolation and Characterization of Bacteriophage Hasitha"
2019	Small Genome Discovery Symposium : Brown, Gillian D., King, Rodney A. "Nanopore DNA Sequencing, a Novel Technology Applied to the Analysis of Newly Discovered Bacteriophages"
2019	WKU 49th Annual Student Research Conference : Brown, Gillian D., King, Rodney A. "Nanopore DNA Sequencing, a Novel Technology Applied to the Analysis of Newly Discovered Bacteriophages"
2018	WKU 38th Annual Math Symposium : Brown, Gillian D., Hoffman, Georgia A. "Traffic Simulation Coding in Mathematica"
2018	10th Annual SEA-PHAGES Symposium : Brown, Gillian D. et al. "Features for Six Mycobacteriophage: BeeZoo (K1), Childish (B1), Kahve (B1), Priya (A9), Sandalphon (F1), and Adnama (E).

CONTRIBUTIONS:

2023	Brown, G.D. (2023, September 18). <i>Todd County Graduate Helps Advance New Scientific Research</i> [Interview]. WEKT Radio. https://www.wektradio.com/2023/09/18/todd-county-graduate-helps-to-advance-new-scientific-research/
2022	Brown, Gillian D. , King, Rodney A. (2022). " <u>The Isolation and Characterization of Microbacteriophage Hasitha</u> : A Capstone Experience/Thesis Project Presented in Partial Fulfillment of the Requirements for the Degree Bachelor of Science with Mahurin Honors College Graduate Distinction at Western Kentucky University" (Unpublished undergraduate honors thesis).
2021	NCBI (accession <u>MZ622182</u>), July 2021: Brown, G.D. et al. " <i>Microbacterium</i> phage Hasitha, complete genome"
2018	NCBI (accession <u>MK279898</u>), December 2018: Thompson, B.A. et al. " <i>Mycobacterium</i> phage Cici, complete genome"
2018	NCBI (accession <u>MH371112</u>), May 2018: White, A.J. et al. " <i>Mycobacterium</i> phage Adnama, complete genome"

SKILLS:

- ◆ Conducting biological research in BSL1 and BSL2 settings
- ◆ Utilizing proper aseptic technique at open benchtop and in biosafety cabinets
- ◆ Isolating bacteriophages from environmental samples
- ◆ Annotating sequenced bacteriophage genomes using PECAAN
- ◆ Operating transmission and scanning electron microscopes
- ◆ Operating light and dissecting microscopes
- ◆ Maintaining a detailed lab notebook
- ◆ Creating visually appealing research presentations and presenting research outcomes effectively
- ◆ Problem-solving and organizing
- ◆ Maintaining bacterial and eukaryotic cell cultures
- ◆ Performing diagnostic tests via enzyme-linked immunosorbent assays (ELISA), direct and indirect immunofluorescent tests, and viral isolation/neutralization
- ◆ Utilizing Microsoft Excel and Word
- ◆ Utilizing USALIMS (Laboratory Information Management System)
- ◆ Programming in R, Mathematica, and Java (elementary level)
- ◆ Signing in American Sign Language (intermediate level)

VOLUNTEER WORK:

2023 – Present	Texas A&M University. Member of the Biology Outreach Committee.
2022	Lions Youth Camp for Deaf and Hard-of-Hearing Children. Camp counselor.
2021 – 2022	Gatton Academy of Mathematics and Science. Alumna interviewer.
2021	Medical Center at Bowling Green. COVID-19 vaccine distribution scribe/receptionist.
2018	Norton’s Children’s Hospital Dance Big Red. Lock-in charity participant.
2017	BARKforLife. Dog-walker for cancer research fundraising.

REFERENCES:

Available upon request.