# **Grayce Mores**

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I'm currently a Ph. D. student studying Microbiology at Northwestern University. My work is focused on *Pseudomonas aeruginosa*, a Gram-negative bacteria associated with hospital-acquired pneumonia. My research is on a rare *Pseudomonas aeruginosa* infection known as Shanghai Fever, which infects the gastrointestinal tract of previously healthy children. My research is mentored by Dr. Alan Hauser in the Microbiology and Immunology Department. I'm also passionate about scientific communication and want to innovate how we get information from the research bench to the public.

#### **EDUCATION**

Louisiana State University
Roger Hadfield Ogden Honors College

Bachelor of Science, Microbiology Minor in Mass Communication, Political Communication focus

Member of the Tiger 12 Senior Recognition Class · LSU Dean's List · Sophomore Honors Distinction · Hans and Donna Sternberg Endowed Honors Scholarship · Emmy Noether Gold Medal Scholarship Award for Graduate Study

#### RESEARCH EXPERIENCE

# First Year Rotations at Northwestern University Feinberg School of Medicine

Dr. Judd Hultquist, Infectious Disease - Human Immunodeficiency Virus

Dr. Lisa Akhtar, Pediatric Infectious Disease – Herpes Simplex Virus

Dr. Alan Hauser, Microbiology and Immunology – Pseudomonas aeruginosa

## **Undergraduate Researcher – Microbiology**

August 2018 – May 2022

May 2022

**GPA: 3.57** 

Dr. Mark Batzer – Louisiana State University, Genetics and Genomics Funded by President's Future Leaders in Research Award

Optimizing the bioinformatic program PolyDetect, which is used to detect the mobile genetic element *Alu* in primate species. PolyDetect uses unassembled short-read data to resolve primate evolutionary phylogenies. Current work focused on using PolyDetect to find evolutionarily significant *Alu* insertions in the *Cebidae* monkey species.

## Undergraduate Researcher – Mass Communication January 2019 – September 2022

Mr. Leonard Apcar – Louisiana State University, Political Communication

Creation and maintenance of a website focused on combating fake news. Detectfakenews.com is a resource for public education on mis/disinformation, how to spot fake news, and how people are taking action to stop the spread of misinformation.

# Summer Undergraduate Research Opportunity Program June 2021 – July 2021

Dr. Hank Seifert – Northwestern University Feinberg School of Medicine, Microbiology

Insertion of a novel antibiotic resistance gene into a genetically engineered CRISPR loci in *Neisseria gonorrhoeae*. Creation of a CRISPR library of interchangeable spacer regions targeting essential genes in *N. gonorrhoeae*.

# **Undergraduate Researcher – Virology**

June 2018 – August 2018

Dr. Gus Kousoulas – Louisiana State University, Virology

Studying Herpes Simplex Virus 1; responsibilities included daily cell culture maintenance, PCR, and gel electrophoresis.

# **Distinction in Biology Thesis Research**

June 2017 - May 2018

Dr. Micah Luftig - Duke University, Molecular Genetics and Microbiology

Senior thesis paper, poster presentation, and lecture on "Phylogenetic Analysis of Strain Diversity of the Epstein-Barr Virus" - studying the evolutionary, geographic, and transcriptional differences between known strains using MEME Suite and CLC Sequence Viewer. Work to sequence new strains of EBV's LMP-1 regions using plasmid cloning techniques.

#### **PUBLICATIONS**

Recently integrated *Alu* elements in capuchin monkeys: a resource for *Cebus* and *Sapajus* genomics. Jessica M. Storer, Jerilyn A. Walker, Catherine E. Rockwell, Grayce Mores, Thomas O. Beckstrom, Joseph D. Orkin, Amanda D. Melin, Kimberley A. Phillips, Christian Roos, Mark A. Batzer. 2022. *Genes*, 13:572. <a href="https://doi.org/10.3390/genes13040572">https://doi.org/10.3390/genes13040572</a>.

### SKILLS

- Molecular Biology Lab: Molecular cloning, PCR, gel electrophoresis, primer design
- Microbiology Lab: Bacterial growth and culture, staining, quantitative techniques
- Research: Experimental design, proposal and thesis writing
- Bioinformatics: Python, C++, Linux terminal, Excel
- Writing: Political Communication, Mass Communication/Media Writing
- Web Design: HTML, CSS, Java, Wix, OU Campus
- Adobe Creative Suite: Photoshop, InDesign, Illustrator

## RELEVANT COURSEWORK

- Virology (Graduate School)
- Computational and Mathematical Modeling
- Modern Genetics & Lab
- Advanced Microbiology Lab
- Forensic Anthropology
- Visual Communication
- Parasitology and Lab

- Microbiology (Graduate School)
- Microbial Physiology and Genetics
- Medical Bioethics
- Inquiry Approaches to Teaching
- Human Anatomy and Physiology and Human A&P Lab
- Study Abroad (London, UK): Darwin, DNA, and Dolly the Sheep

#### OUTREACH

## **STEMrichment Teaching Assistant**

May - June 2022

Leading small group sessions on math and science study skills along with residential support for the living-learning community.

# **Science Peer Mentor**

August – December 2019

Lesson planning and student academic advising for first years in the College of Science.

## **ACTIVITIES**

# **LSU Honors College Advocates**

October 2018 - May 2021

Recruiting and supporting high-achieving students within LSU's Honors College.

#### LSU Discover Research Ambassadors

May 2019 – May 2022

President from May 2020 – May 2021 Advise and assist students to encourage participation in undergraduate research.

## **Distinguished Communicator Program**

August 2018 - May 2022

Curriculum requiring creation of a written portfolio and demonstration of communication skills.

# Distinguished Undergraduate Researcher Program

**August 2018 – May 2022** 

Undergraduate research curriculum culminating in a final presentation and reflection.

## PRESENTATION OF RESEARCH

Presentation of "Discovery and Analysis of Unique *Alu* Insertions in the Capuchin Monkey Species *Sapajus apella*" by Grayce Mores, Jerilyn A. Walker, Dr. Jessica M. Storer, and Dr. Mark A. Batzer

• LSU Discover Day (2022, Baton Rouge, LA) – poster presentation

Presentation of "Optimizing the Alu Detection Program PolyDetect" by Grayce Mores, Dr. Jessica M. Storer, and Dr. Mark A. Batzer

- National Council on Undergraduate Research Conference (2021, virtual) oral presentation
- Federation of American Societies for Experimental Biology Mobile DNA Conference (2019, Palm Springs, CA) – oral and poster presentation
- Louisiana Biomedical Research Network Conference on Computational Biology and Bioinformatics (2019, Baton Rouge, LA) – poster presentation
- LSU Discover Day (2019, Baton Rouge, LA) oral presentation and biomedical sciences panelist

Presentation of "Modification of a genetically engineered CRISPRi locus in Neisseria gonorrhoeae" by Grayce Mores, Wendy Geselwitz, and Dr. Hank Seifert

• Summer Research Opportunity Program Research Symposium (2021, virtual) – oral presentation

# **REFERENCES**

**Dr. Mark Batzer** – Research Supervisor, Louisiana State University <a href="mbatzer@lsu.edu">mbatzer@lsu.edu</a> (225)-578-7102

**Mr. Leonard Apcar** – Research Supervisor, Louisiana State University lenapcar@lsu.edu (225)-578-2216

**Dr. David Donze** – CxC Mentor, Louisiana State University <a href="mailto:ddonze@lsu.edu">ddonze@lsu.edu</a> (225)-578-7391

**Dr. Allison Landry** – Distinction in Biology Supervisor, STEMrichment Supervisor, LSMSA <a href="mailto:alandry@lsmsa.edu">alandry@lsmsa.edu</a> (318)-357-2557