Kesley Ellis

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(540) 336-4135

EDUCATION

George Mason University — **Aug 2023 - Present**
Mathematics Doctoral Program

Shenandoah University — **May 2023**
Bachelor of Science in Mathematics

EXPERIENCE

Graduate Research Assistant — **Jan 2025 - Present**
In-Host Long COVID Dynamics and Modeling , Dr. Rayanne Luke -George Mason University
Researched existing literature about Long COVID, and used current models of acute within host models of COVID to create a system of Ordinary Differential Equations illustrating Long COVID infection. Created multi-dimensional models of acute population level of COVID antibodies.

Lead Graduate Teaching Assistant — **Aug 2024 - Decemeber 2024**
College of Science, George Mason University
Meeting monthly with all the Calculus III graduate teaching assistants and the undergraduate learning assistants, as well as teaching Calculus III recitation to undergraduate students, holding office hours, and grading.

Graduate Research Mentor — **Aug-Dec 2024**
Mason Experimental Geometry Lab, George Mason University
Helped undergraduate researchers with multi-dimensional models of SARS-CoV 19

Graduate Research Assistant — **July 2024 - Aug 2024**
Multi-Event COVID models, Dr. Rayanne Luke -George Mason University
Using probabilistic methods to create multi-event models to predict and illustrate antibody behavior of SARS-CoV 19, in collaboration with a Long COVID clinic at the University of Virginia. Mentored and aided undergraduates throughout the process.

Graduate Teaching Assistant — **Aug 2023 - May 2024**
College of Science, George Mason University
Teaching calculus II recitation to undergraduate students, holding office hours, and grading

RESEARCH EXPERIENCE

In-Host Long COVID Dynamics and Modeling — **Jan -Present**
Dr. Rayanne Luke, George Mason University
Long COVID is an emerging disease that effects those who were infected with SARS-CoV 19 and have experienced persistent symptoms for at least three months after the acute infection has passed. In order to understand the effects and mechanics of the disease, an exhaustive literature search was conducted. The sparse current research was combined with understood acute in-host models to develop a model for the within host dynamics of Long Covid.

Relevant Courses

Oridanry Differential Equations

Partial Differential Equations

Numerical Analysis

Measure Theory