

Alexander Berliner  
Tucson, AZ

**CONTACT**

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**EDUCATION**

**University of Arizona**, Tucson, AZ  
PhD in Statistics and Data Science

August 2022 -

**College of William and Mary**, Williamsburg, VA  
Bachelor of Science in Mathematics, Applied Mathematics Concentration  
Minor in Computer Science

August 2018 - May 2022

**Northern Virginia Community College**, Annandale, VA

August 2017 - May 2018

**PUBLICATIONS**

1. Berliner, Alexander, "Period Doubling Cascades from Data" (2022). *Undergraduate Honors Theses*. William & Mary. Paper 1847

**HONORS AND AWARDS**

- Dean's list Fall 2018, Spring 2019, Spring 2020, Fall 2020, Fall 2021, Spring 2022
- Charles Center Honors fellowship to undertake research on a topic in applied mathematics in preparation for senior thesis. Summer 2023.
- Member of Phi Mu Epsilon (National Mathematics Honors Society)
- 2022 Virginia Commonwealth University RAMS Conference – Best presentation award for talk "Period Doubling Cascades from Models and from Data"

**RESEARCH EXPERIENCE**

**College of William and Mary, Department of Mathematics**

*Honors Senior thesis research*, June 2021 – May 2022

Advisor: Sarah Day (College of William and Mary). Co-advisor: William Kalies (Florida Atlantic University)

Studying period doubling cascades from models and from data. We investigate whether a Gaussian process can be used to reconstruct a system, like the logistic map, from data through asymptotic dynamics in the orbit diagrams for period doubling cascades.

**College of William and Mary, Department of Physics**

*Undergraduate research assistant*, January 2020 – May 2020

Aided Professor Seth Aubin with research in laboratory. Dedicated 5 hours per week to developing an improved user interface for a webpage in control of data input/output communication between the lab's main computer and the lab's electronics.

**TEACHING EXPERIENCE****University of Arizona**

*Graduate Teaching Assistant*, August 2022 – present

Assisted undergraduate students in a college algebra class, provided office hours, graded homework, and proctored exams.

**Northern Virginia Community College**

*Undergraduate Teaching Assistant*, January 2018 – June 2018

Assisted nine individual physics lab groups, three people per group, with interpretation of labs. Introduced labs to the class. Created video demonstrations on how to use lab equipment. Provided support in math and physics through office hours for students.

**Private Math Tutor**

October 2017 – March 2018

Provided guidance to a middle school student in high-school geometry and algebra. Improved the student's math grades. Prepared the student for high-school math competitions.

**PRESENTATIONS**

1. Richmond Area Mathematical Sciences Conference, Virginia Commonwealth University, April 2022. "Period Doubling Cascades from Data" (presentation)
2. Undergraduate Research Month, College of William and Mary, April 2022. "Period Doubling Cascades from Data" (poster)
3. AMS-PME Undergraduate Poster Session, Virtual Joint Mathematics Meetings (JMM), April 2022. "Period Doubling Cascades from Models and from Data" (poster)
4. Biomath Journal Club, College of William and Mary, April 2022. "A Model Free Approach to Population Dynamics" (lecture)
5. SUMS Conference, Brown University, March 2022. "Period Doubling Cascades from Models and from Data" (lecture)
6. SUMS Conference, James Madison University, December 2021. "Period Doubling Cascades from Models and from Data" (poster)
7. Summer Honors Fellowship, College of William and Mary, August 2021. "Analysis of the Orbit Diagram from a Finite Time Series" (lecture)
8. Research Symposium, Northern Virginia Community College, May 2018. "The electrical, thermal, and mechanical properties of graphene with analysis on possible technological applications" (poster)

**RELEVANT MEMBERSHIP**

College of William and Mary Math club (2018-2022)

**TECHNICAL SKILLS**

**Computational:** Python, html/css/javascript, MATLAB, Mathematica, Excel, LaTeX, R

**LANGUAGES**

Croatian (fluent)

Russian (conversational)