

CONTACT INFORMATION	Grace E. Harris Hall, Fourth Floor 1015 Floyd Ave. Box 842014 Richmond, Virginia 23284-2014	
EDUCATION	Ph.D. Systems Modeling and Analysis Concentration in Discrete Mathematics - Advisors: Craig E. Larson & Allison H. Moore - Virginia Commonwealth University, Richmond, VA May 2024 (Expected)	
	M.S. Mathematics - Virginia Commonwealth University, Richmond, VA May 2021	
	B.S. Mathematics - The City University of New York, The College of Staten Island, Staten Island, NY - The Verrazzano School - Undergraduate Honors Program Jan. 2019	
RESEARCH EXPERIENCE	Graduate Research Assistant , Virginia Commonwealth University - Funded by: National Science Foundation DMS-2204148, & The Thomas F. and Kate Miller Jeffress Memorial Trust, Bank of America, Trustee, - Topology, Knot Theory, Graph Theory, Combinatorics - Supervisor: Allison H. Moore, PhD Aug. 2021 – Present	
	Undergraduate Research Assistant , The College of Staten Island - Funded by: Grants from The Gulf of Mexico Research Initiative to the Consortium for Advanced Research on Transport of Hydrocarbon in the Environment (CARTHE) - Oceanography, Data Processing - Supervisor: Andrew C. Poje, PhD Feb. 2017 – Jun. 2019	
	REU in Mathematics , Hobart and William Smith Colleges - Funded by: National Science Foundation DMS-1757616 - Graph Theory - Supervisor: Erika L.C. King, PhD May 2018 – Aug. 2018	
TEACHING EXPERIENCE	Instructor of Record , Virginia Commonwealth University - Introduction to Contemporary Mathematics - Algebra with Applications - Precalculus - Calculus I Sm20 F20 Sm21, Sm22, Sm23 F23	
	Graduate Teaching Assistant , Virginia Commonwealth University - Grader: Basic Practice of Statistics, Mathematical Modeling, Precalculus - Classroom Assistant: Precalculus F19, Sp20, Sp21	
	Mathematics Tutor - The College of Staten Island - Courses: Remedial Mathematics, Calculus I, II, & III (Multivariate), Probability, Calculus Lab (MATLAB) Sep. 2016 – Dec. 2018	
	Mathematics Tutor, Website Designer Jul. 2017 – Aug. 2017	

- The College of Staten Island,
The Verrazzano Honors School and
Macaulay Honors College
- Funding provided by NYC DYCD Summer Youth Employment Program

PUBLICATIONS

1. E. King, **R. Ibrahim**, R. Jackson. (2022) Introducing 3-Path Domination. *Journal of Combinatorial Mathematics and Combinatorial Computing*.
2. M. Berta, A. Griffa, A. C. Haza, J. Horstmann, H. S. Huntley, **R. Ibrahim**, B. Lund, T. M. Özgökmen, A. C. Poje. (2020) Submesoscale Kinematic Properties in Summer and Winter Surface Flows in the Northern Gulf of Mexico. *Journal of Geophysical Research: Oceans*, 125
3. M. Elpers, **R. Ibrahim**, A. H. Moore. Determinants of Simple Theta Curves. *Under Review*.
4. **R. Ibrahim**, H. Lafayette, K. McCall. Bootstrap Percolation, Connectivity, and Graph Distance. *Submitted*.
5. V. Bednar, Y. Bidav, N. Bushaw, C. Flippen, M. D. Gibellato, **R. Ibrahim**, C. E. Larson, R. Wieman. Notes on Hadamard Matrix Graphs. *In Preparation*.
6. **R. Ibrahim**, A. H. Moore, P. Liu. Clique Complexity of RNA Pseudoknots. *In Preparation*.

PRESENTATIONS

1. M. Elpers, **R. Ibrahim**, A. H. Moore. Determinants of Simple Theta Curves. Joint Mathematics Meetings, AMS Contributed Paper Session on Topology. (Jan. 2023)
2. **R. Ibrahim**. The Structure of Graphs With Independence Number 2. Virginia Commonwealth University Discrete Mathematics Seminar. (Feb. 2022)
3. **R. Ibrahim**. The Reconstruction Problem. Virginia Commonwealth University SYSM Research Seminar. (Feb. 2021)
4. E. King, **R. Ibrahim**, R. Jackson. Introducing 3-Path Domination. Presented at
 - National Technical Institute for the Deaf, Rochester Institute of Technology. (Jul. 2018)
 - MAA MathFest 2018 Undergraduate Sessions. (Aug. 2018)
 - The Ohio State University Young Mathematicians Conference 2018. (Aug. 2018)

OUTREACH

Geometry Summer Camp Jun. 12 – 16, 2023
 - Volunteer position.
 - Guided middle school students through interactive mathematics activities and demonstrations.

OTHER ACTIVITIES

Student Geometry Workshop Aug. 2022 – May 2023
 - Virginia Commonwealth University

AMS Math Research Community Jun. 5 – 11, 2022
Trees in Many Contexts (*Selected*)
 - Week-long workshop with funding from the AMS and National Science Foundation DMS-1641020.
 - Advised by Stephan Wagner on inverse problems on trees.

Graph Theory Computational Discovery Lab May 2022, May 2023
 - Virginia Commonwealth University
 - Annual research workshop with a focus on discrete mathematics and generating conjectures via automated conjecturing (The Graph Brain Project).
 - Topics Explored: Graphs, Knots, and Independence (2022), Hadamard Matrices (2023).

The Discrete MathemaTea Aug. 2022 – Present
 - Virginia Commonwealth University
 - An informal, student led discussion group on current research.

- Co-organizer with Neal Bushaw and presenter.

Math and Magic with Manjul Minicourse

Sep. 2018 – Dec. 2018

- National Museum of Mathematics, New York, NY
- Participant in a minicourse involving magic tricks and the math behind them.

Math Club

Aug. 2017 – May 2018

- The College of Staten Island
- President and Event Organizer

Computer Science Club

Sep. 2016 – May 2018

- The College of Staten Island
- Member

AWARDS AND SCHOLARSHIPS

Albert V. Maniscalco Memorial Scholarship
 Albert & Jean Roland Memorial Scholarship
 New York State Academic Excellence Scholarship
 New York City Council Merit Scholarship

Jan. 2018 – May 2018

Aug. 2017 – May 2018

Aug. 2015 – Jan. 2019

Aug. 2015 – Jan. 2019

TECHNICAL SKILLS

Programming:
 Markup:
 Operating Systems:

MATLAB, Python, SageMath
 \LaTeX , HTML, CSS, Word, Excel
 Windows, Linux