MICHELLE BARTOLO

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EDUCATION

North Carolina State University
Doctor of Philosophy – Biomathematics | May 2024 (expected)
Master of Science – Applied Mathematics | May 2021
Advisor: Mette Olufsen

Marist College
Bachelor of Science – Applied Mathematics | May 2019
Computer Science and Biology Concentrations

PUBLICATIONS

1. **Bartolo, MA**, Qureshi, MU, Colebank, MJ, Chesler, NC, Olufsen, MS. Numerical predictions of shear stress and cyclic stretch in pulmonary hypertension due to left heart failure. *J Biomech Model Mechanobiol.* January 2022. https://doi.org/10.1007/s10237-021-01538-1
2. **Bartolo, MA**, Hill, NA, Chesler, NC, Olufsen, MS. Multiscale computational model predictions of shear stress and cyclic stretch in the pulmonary circulation. Proceedings of Summer Biomechanics, Bioengineering, and Biotransport Conference. June 2021.

PRESENTATIONS

1. University of California, Irvine: Chesler Group Meeting — Aug 2021
   Multiscale computational model predictions in the pulmonary vasculature during pulmonary hypertension
2. SIAM Annual Meeting: AWM Poster Session — Jul 2021
   Numerical predictions of shear stress and cyclic stress in the pulmonary vasculature
3. Summer Biomechanics, Bioengineering, and Biotransport Conference — Jun 2021
   Multiscale computational model predictions of shear stress and cyclic stretch in the pulmonary circulation
4. 5th St. Andrews SofTMech Soft Tissue Modelling Workshop — Jun 2021
   Multiscale hemodynamic predictions in the pulmonary vasculature
5. 46th Annual New York State Regional Graduate Mathematics Conference — Apr 2021
   Multiscale model predictions of mechanical forces in the pulmonary vasculature
6. SIAM Conference on Computational Science and Engineering — Mar 2021
   Numerical predictions of shear stress and cyclic stretch in the healthy pulmonary vasculature
7. 178th Meeting of the Acoustical Society of America — Dec 2019
   Analysis and automatic detection of potential Omura's whale signals in the Indian Ocean
8. Marist College Mathematics Seminar — May 2019
   Passive acoustic monitoring of marine mammals in the Indian Ocean
9. Marist College Celebration of Undergraduate Research, Scholarship, and Creative Activity — Apr 2019
   Passive acoustic monitoring of marine mammals in the Indian Ocean
10. Marist College Honors Program Thesis Exhibit: Poster Session — Dec 2018
   Passive acoustic monitoring of marine mammals in the Indian Ocean

PROFESSIONAL DEVELOPMENT

Teaching and Communication Certificate | In Progress (76/100 Hours)

Leadership Development Program | In Progress

Inclusive Teaching Certificate | June 2021

TECHNICAL SKILLS

MATLAB • FORTRAN • C • HTML/CSS • JavaScript • Java • Maple • R • Tableau • LaTeX • Python • Moodle

TEACHING

North Carolina State University Mathematics Department
Graduate Teaching Assistant
- Responsible for preparing and delivering class lectures, maintaining course website, writing exams, holding office hours, supervising lecture assistants/graders, and assigning final grades
- Served as Instructor of Record for MA 141 Calculus I (Fall 2020, 80 students), MA 121 Elements of Calculus (Fall 2021, 150 students)

Graduate Research Assistant
- Supported through NIH-HLBI 5R01HL147590-02 grant during Summer 2020, Spring 2021, Summer 2021, and Spring 2022 to conduct research on one-dimensional mathematical models to study pulmonary hypertension

Marist College Academic Learning Center
Jan 2017 – May 2019
Mathematics Tutor
- Addressed students' weak areas and develop strategies to improve understanding and self-sufficiency in Calculus I-III, Introduction to Statistics, Linear Algebra, Introduction to Mathematical Reasoning, Research Methods, and Introduction to Data Analysis

Marist College Math Lab
Aug 2018 – May 2019
Mathematics Instructor
- One of seven hand-selected tutors chosen to be a mathematics instructor based on top academic performance in upper-level mathematics courses
- Reinforced mathematical skills taught in the classroom by working both one-on-one and in small groups with students to teach mathematical proof construction, calculus, statistics, linear algebra, and data analysis

Mathnasium of Sayville
May 2017 – May 2019
Mathematics Instructor
- Provided guidance and instruction to elementary, middle, and high school students to build a strong mathematical foundation, master computation and problem-solving skills, and prepare for national assessments

OTHER WORK EXPERIENCE

Boehringer Ingelheim Pharmaceuticals
Jun – Aug 2018
Analytics Intern
- Analyzed digital health initiatives using R and Tableau and built statistical models to identify technological trends within the pharmaceutical industry to enable solutions that improve health outcomes and quality of life for patients

Applied Biomathematics
May – Jun 2018
Research Intern
- Created agent-based models with random walk simulations to replicate dispersal of Western Corn Rootworm beetles to predict the daily distance traveled and estimate how long it will take for resistance evolution to occur

SERVICE

Society of Industrial and Applied Mathematics NC State Student Chapter, *Vice President*	Aug 2021 – Present
Cardiovascular Dynamics Group, *Webmaster*	Aug 2021 – Present
Biomathematics Graduate Student Association, *Treasurer*	Aug 2020 – Aug 2021
Undergrads Union Grads, *Mentor*	Aug 2020 – Present

HONORS

9th WCB 2022 Student Travel Bursary, *World Congress of Biomechanics*	Apr 2022
Best Oral Presentation, *5th Soft Tissue Modelling Workshop*	Jun 2021
SB^{3}C Diversity Participation Award, *SB^{3}C Conference*	Jun 2021
AgBioFEWS National Research Traineeship, *NC State University*	Jul 2019 – Jul 2020
Excellence in Mathematics Award, *Marist College*	May 2019
Honors in Mathematics, *Marist College*	May 2019
Honors in Liberal Arts, *Marist College*	May 2019
Pi Mu Epsilon National Mathematics Honor Society, *Marist College*	Mar 2019
Marist College Presidential Scholarship, *Marist College*	Aug 2016 – May 2019
Marist College Merit Scholarship, *Marist College*	Aug 2016 – May 2019