

# QUINN A. MORRIS

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ACADEMIC APPOINTMENTS	<b>Assistant Professor</b> Department of Mathematical Sciences Appalachian State University, Boone, NC	AUG. 2018 – PRESENT
	<b>Visiting Assistant Professor</b> Department of Mathematics & Statistics Swarthmore College, Swarthmore, PA	AUG. 2017–JULY 2018
EDUCATION	<b>Ph.D., Computational Mathematics</b> Department of Mathematics & Statistics University of North Carolina at Greensboro, Greensboro, NC Advisor: Professor R. Shivaji	AUG. 2017
	<b>M.A., Mathematics</b> Department of Mathematics & Statistics Wake Forest University, Winston-Salem, NC Advisor: Professor Stephen Robinson	MAY 2012
	<b>B.S., Mathematics</b> Wake Forest University, Winston-Salem, NC	MAY 2010
RESEARCH INTERESTS	<b>Partial Differential Equations, Nonlinear Analysis, Mathematical Ecology.</b>	
REFEREED JOURNAL PUBLICATIONS	<p>[1] T. Lewis, <b>Q. Morris</b>, Y. Zhang. (2019). Convergence and stability analysis for approximating sublinear positive boundary value problems with multiple solutions using finite difference methods. <i>Submitted to J. Comput. Appl. Math.</i></p> <p>[2] N. Mavinga, <b>Q. Morris</b>, &amp; S. Robinson. (2019). Solvability of resonance and non-resonance problems with weights with respect to the Fucik spectrum. <i>Submitted to Variational and Topological Methods: Theory, Applications, Numerical Simulations and Open Problems. Electron. J. Differential Equations Conf.</i></p> <p>[3] <b>Q. Morris</b>, J. Nash, &amp; C. Payne. (2020). Analysis of steady states for classes of reaction-diffusion equations with hump-shaped density dependent dispersal on the boundary. <i>Involve</i>. 13(1):9–19</p> <p>[4] N. Fonseka, J. Goddard II, <b>Q. Morris</b>, R. Shivaji, &amp; B. Son. (2019). On the effects of the exterior matrix hostility and a U-shaped density dependent dispersal on a diffusive logistic growth model. <i>To appear in Discrete Contin. Dyn. Syst. Ser. S</i></p> <p>[5] J. Goddard II, <b>Q. Morris</b>, C. Payne, &amp; R. Shivaji. (2019). A diffusive logistic equation with U-shaped density dependent dispersal on the boundary. <i>Topol. Methods Nonlinear Anal.</i> 53(1): 335–349</p>	

- [6] J. Goddard II, **Q. Morris**, S. Robinson, & R. Shivaji. (2018). An exact bifurcation diagram for a steady state reaction diffusion equation arising in population dynamics. *Bound. Value Probl.* 2018(1): 1–17.
- [7] **Q. Morris**, R. Shivaji, & I. Sim. (2018). Existence of positive radial solutions for a superlinear semipositone p-Laplacian problem on the exterior of a ball. *Proc. Roy. Soc. Edinburgh Sec. A.* 148(2):409–428.
- [8] J. Goddard II, **Q. Morris**, R. Shivaji, & B. Son. (2018). Bifurcation curves for some singular and nonsingular problems with nonlinear boundary conditions. *Electron. J. Differential Equations.* 2018(26):1–12.
- [9] R. Dhanya, **Q. Morris**, & R. Shivaji (2016). Existence of positive radial solutions for superlinear, semipositone problems on the exterior of a ball. *J. Math. Anal. Appl.* 434(2):1533–1548.
- [10] **Q. Morris** & S. Robinson. (2013). A Landesman-Lazer condition for the boundary-value problem  $-u'' = au^+ + bu^- + g(u)$  with periodic boundary conditions. *Ninth MSU-UAB Conference on Differential Equations and Computational Simulations. Electro. J. Differential Equations Conf.*, Conference 20:103–117

FELLOWSHIPS  
& OTHER  
PROGRAMS

- PREPARE**, Appalachian State University Office of Research 2018–2019  
Preparation for Appalachian Research Experiences
- Project NExT Fellowship**, MAA 2017–2018  
Blue '17 Cohort

INVITED  
CONFERENCE  
TALKS

- AMS Spring Southeastern Sectional Meeting** MAR 2019  
Special Session on Nonlinear Reaction-Diffusion Equations & Their Applications
- Variational & Topological Methods** JUNE 2018  
Theory, Applications, Numerical Simulations & Open Problems
- Joint Mathematics Meetings** JAN. 2018  
Special Session on Mathematical Modeling, Analysis and Applications in Population Biology
- AMS Fall Eastern Sectional Meeting** SEPT. 2017  
Special Session on Nonlinear Dispersive Partial Differential Equations
- AMS Fall Southeastern Sectional Meeting** NOV. 2016  
Special Session on Nonlinear Boundary Value Problems
- AIMS Conference on Dynam. Syst., Differential Equations, and Appl.** JULY 2016  
Special Session on Advances in Theory & Application of Reaction Diffusion Models
- Joint Mathematics Meetings** JAN. 2016  
Special Session on Advances in the Theory & Application of Reaction Diffusion Models

	<b>AMS Western Sectional Meeting</b> Special Session on Nonlinear PDE and Variational Methods	APRIL 2015
CONTRIBUTED CONFERENCE TALKS	<b>SEMathSummit</b>	JULY 2019
	<b>AMS Spring Eastern Sectional Meeting</b>	MAY 2017
	<b>Joint Mathematics Meetings</b>	JAN. 2017
	<b>Southeastern Atlantic Regional Conference on Differential Equations</b>	NOV. 2016
	<b>Intl. Symposium on Biomathematics and Ecology Education Research</b>	OCT. 2016
	<b>Southeastern Atlantic Regional Conference on Differential Equations</b>	OCT. 2015
	<b>Triangle Area Graduate Mathematics Conference</b>	MAR. 2015
	<b>MSU Conference on Differential Equations &amp; Comp. Simulations</b>	OCT. 2014
	<b>MAA Southeastern Sectional Meeting</b>	MAR. 2013
COLLOQUIUM & SEMINAR TALKS	<b>University of Wisconsin at Whitewater, Departmental Colloquium</b>	NOV. 2019
	<b>Roanoke College, MCSP Conversation Series</b>	OCT. 2019
	<b>Appalachian State University, Departmental Colloquium</b>	FEB. 2018
	<b>Virginia Military Institute, Department Colloquium</b>	FEB. 2018
	<b>Drexel University, PDE &amp; Applied Math Seminar</b>	NOV. 2017
	<b>Ohio University, Departmental Colloquium</b>	MAR. 2016
	<b>Stephen F. Austin State University, Departmental Colloquium</b>	FEB. 2016
	<b>Swarthmore College, Departmental Colloquium</b>	FEB. 2016
	<b>Kutztown University, Departmental Colloquium</b>	FEB. 2016
	<b>Spelman College, Departmental Colloquium</b>	OCT. 2016
	<b>UNC-Greensboro, REU in Mathematical Biology</b>	JUL. 2016
	<b>UNC-Greensboro, Applied Math Seminar</b>	MAR. 2015
	<b>Wake Forest University, Departmental Colloquium</b>	OCT. 2014
CONFERENCE ORGANIZATION	<b>Organizer</b> of the MAA panel session “Leveraging Social Media for the Greater Good of Mathematics” at the 2020 Joint Mathematics Meetings.	
	<b>Co-organizer</b> (with J. Goddard II and N. Mavinga) of the AMS special session “Future Directions in Theory & Applications of Nonlinear Reaction-Diffusion Equations” at the 2020 Joint Mathematics Meetings.	
	<b>Co-organizer</b> (with J. Goddard II, N. Mavinga, and R. Shivaji) of the special session “Nonlinear Reaction-Diffusion Equations and Their Applications” at the Spring 2019 AMS Southeastern Sectional Meeting.	

**Co-organizer** (with N. Mavinga) of the special session “Nonlinear Reaction-Diffusion Equations and Their Applications” at the Spring 2018 AMS Eastern Sectional Meeting.

**Co-organizer** (with A. Akers, K. Kosai, and M. Toledo-Gonzalez) of the special session “Technological Perspectives: Re-evaluating Teaching and Learning in the Digital Age” at the 2018 Joint Mathematics Meetings.

GRANTS	<b>Center for Undergraduate Research in Mathematics</b>	2019–2020
	Minigrant (\$15,700) <b>Swarthmore College</b>	2017–2018
TEACHING EXPERIENCE	<b>Appalachian State University</b> , Boone, NC	2018–PRESENT
	Courses Taught: <i>Linear Algebra (5)</i> , <i>Real Analysis (2)</i> , <i>Junior Honors Seminar (1)</i> , <i>Calculus II (3)</i>	
	<b>Swarthmore College</b> , Swarthmore, PA	2017–2018
	Courses Taught: <i>Calculus II (3)</i> , <i>Multivariable Calculus (1)</i> , <i>Differential Equations (1)</i>	
DEPARTMENTAL SERVICE	<b>University of North Carolina at Greensboro</b> , Greensboro, NC	2012–2017
	Courses Taught: <i>Contemporary Topics in Mathematics</i> , <i>College Algebra</i> , <i>Precalculus I</i> , <i>Business Calculus</i> , <i>Calculus I</i> , <i>Ordinary Differential Equations</i>	
	<b>Departmental Personnel Committee</b> , Pre-tenure member	2019–PRESENT
	<b>Colloquium Committee</b> , Co-chair	2018–PRESENT
SOFTWARE PROFICIENCIES	<b>Tenure-Track Search Committee</b> , Member	2019–2020
	<b>Curriculum Committee</b> , Member	2018–2019
PROFESSIONAL AFFILIATIONS	<b>MATLAB</b> , <b>Mathematica</b> , <b>TEX</b> , <b>HTML/CSS</b> .	
	<b>American Mathematical Society</b>	2010–PRESENT
	<b>Mathematical Association of America</b>	2017–PRESENT