BRIAN PIGOTT, PH.D.

CONTACT INFORMATION

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	Wofford College,
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EXPERIENCE

Current JUNE 2021	Associate Professor *Department of Mathematics, Wofford College*
Current SEPTEMBER 2021	Advisory Board Member *Rosalyn.ai*
FEBRUARY 2022 –JUNE AUGUST 2022	QuForce Innovation Fellow
SEPTEMBER 2014 – JUNE 2021	Assistant Professor *Department of Mathematics, Wofford College*
JULY 2011 – JULY 2014	Teacher-Scholar Postdoctoral Fellow *Department of Mathematics, Wake Forest University*

EDUCATION

2011 **University of Toronto**, PH.D. IN MATHEMATICS
Dissertation: *Low Regularity Stability for Subcritical Generalized Korteweg-de Vries Equations*
Advisor: James Colliander

2002 **University of Toronto**, M.Sc. IN MATHEMATICS
Research Project: Nuts and Bolts of Cyclic Homology
Advisor: George Elliott

2001 **University of Calgary**, B.Sc. (HONOURS) IN MATHEMATICS

RESEARCH INTERESTS

PARTIAL DIFFERENTIAL EQUATIONS, ANALYSIS, QUANTUM COMPUTING, QUANTUM INFORMATION

PUBLICATIONS

PUBLISHED

2023 N. KOSOVALIC AND B. PIGOTT, *Hopf-like bifurcation in a wave equation at a removable singularity*, Journal of Differential Equations, **369** (383-404)

2020 N. KOSOVALIC AND B. PIGOTT, *Uniqueness for sums of nonvanishing squares*, Integers, **30**

2019 N. KOSOVALIC AND B. PIGOTT, *Self-excited vibrations for damped and delayed 1-dimensional wave equations*, Journal of Dynamics and Differential Equations, **31**, no. 1 (129-152)

2018	N. Kosovalic and B. Pigott, *Self-excited vibrations for damped and delayed higher dimensional wave equations*, Discrete and Continuous Dynamical Systems A, **39**, no. 5 (2413-2435).
2017	L.G. Farah and B. Pigott, *Nonlinear profile decomposition and the concentration phenomenon for supercritical generalized KdV equations*, Indiana Univ. Math. Journal, **67**, no. 5 (1857–1892)
2017	B. Pigott and S. Raynor, *Long-term stability for KdV solitons in weighted H^s spaces*, Commun. Pure Appl. Anal., **16**, no.2 (393-416).
2016	B. Pigott, *On mass concentration for the critical generalized KdV equation*, Proc. Edinburgh Math. Soc., **59**, no. 2 (519-532).
2014	B. Pigott and S. Raynor, *Asymptotic stability for KdV solitons in weighted spaces via iteration*, Illinois J. Math., **58**, no. 2 (443-470).
2014	B. Pigott, *Polynomial-in-time upper bounds for the orbital instability of subcritical generalized Kortewev-de Vries equations*, Commun. Pure Appl. Anal., **13**, no. 1, (389-418).
2003	J. Bryden, T. Lawson, B. Pigott, and P. Zvengrowski, *The integral homology of orientable Seifert manifolds*, Topology Appl., **127**, no. 1-2 (259-275).

In Preparation

2024	B. Pigott, E. Campolongo, and H. Routray, *Eavesdropping on the BB84 Protocol using Phase-Covariant Cloning: Experimental Result*

Undergraduate Research Projects Supervised

2018-2019	H. Wages, *Random Walks and the Relavitistic Heat Equation*.
2016-2017	D. Couch, *Quantum Graphs and a Model of the Nervous System*.
Interim 2016, Spring 2016	J. Cohen, *A Statistical Analysis of* Big Brother
Summer 2013	R. Dougherty, *The Multilinear Correction Algorithm and Conservation Laws for the Korteweg-de Vries Equation*, jointly supervised with F. Moore.
Summer 2013	J. Byrum, *The Inverse Scattering Transform and Scale Invariant Lax Pairs*.

Teaching Experience

Course Coordinator

2010-2011	MAT 137 Calculus!, University of Toronto, Faculty of Arts and Science. Coordinated all aspects of a course with over 500 students in 6 lecture sections and 20 tutorials, including weekly problem sets, three term tests, four quizzes, and a final exam.

Instructor

2014-	**Wofford College** Introduction to Statistics, Calculus I, Calculus II, Multivariable Calculus, Vector Calculus, Discrete Mathematical Models, Ordinary Differential Equations, Partial Differential Equations, Research: Inverse Scattering for the Korteweg-de Vries Equation, Introduction to Calculus Pedagogy, Functions of a Complex Variable, Topology
2011-2014	**Wake Forest University** Calculus with Analytic Geometry I, Multivariable Calculus, Advanced Calculus, Ordinary Differential Equations, Partial Differential Equations, Reading in Mathematics: Harmonic Analysis, Real Analysis: Measure Theory, Topics in Analysis: C^*-Algebras
2007-2011	**University of Toronto** Calculus A, Calculus B, Calculus I, Calculus II, Advanced Engineering Mathematics
2009	**Georgian College** Mathematics for Technology, Introduction to Technical Mathematics

Selected Seminars and Talks

NOVEMBER 2019	DEPARTMENT OF MATHEMATICS AND STATISTICS COLLOQUIUM, University of South Alabama, Mobile AL, USA
NOVEMBER 2019	AMERICAN MATHEMATICAL SOCIETY FALL SOUTHEASTERN SECTIONAL MEETING, University of Florida, Gainesville FL, USA, *Special Sessionon Analysis of Geometric and Evolutionary PDEs*
APRIL 2015	STUDENT PHYSICS SEMINAR, Wofford College, Spartanburg SC, USA
MARCH 2015	AMERICAN MATHEMATICAL SOCIETY SPRING SOUTHEASTERN SECTIONAL MEETING, University of Alabama at Huntsville, Huntsville AL, USA. *Special Session on Recent Progress in Differential Equations*
NOVEMBER 2013	APPLIED MATH SEMINAR, University of North Carolina at Greensboro, Greensboro NC, USA.
NOVEMBER 2013	DIFFERENTIAL EQUATIONS SEMINAR, North Carolina State University, Raleigh NC, USA
NOVEMBER 2013	APPLIED MATH CLUB SEMINAR, North Carolina State University, Raleigh NC, USA
OCTOBER 2013	AMERICAN MATHEMATICAL SOCIETY FALL EASTERN SECTIONAL MEETING, Temple University, Philadelphia PA, USA. *Special Session on Nonlinear Elliptic and Wave Equations and Applications*
OCTOBER 2012	SOUTHEASTERN-ATLANTIC REGIONAL CONFERENCE ON DIFFERENTIAL EQUATIONS (SEARCDE), Wake Forest University, Winston-Salem NC, USA
OCTOBER 2012	WAKE FOREST MATH CLUB TALK, Wake Forest University, Winston-Salem NC, USA
SEPTEMBER 2011	AMERICAN MATHEMATICAL SOCIETY FALL SOUTHEASTERN SECTIONAL MEETING, Wake Forest University, Winston-Salem NC, USA. *Special Session on Nonlinear Dispersive Equations*
FEBRUARY 2011	WAKE FOREST UNIVERSITY COLLOQUIUM, Wake Forest University, Winston-Salem NC, USA

Conferences and Workshops

Conferences Organized

MARCH 2017	AMERICAN MATHEMATICAL SOCIETY SPRING SOUTHEASTERN SECTIONAL MEETING, College of Charleston, Charleston SC, USA. *Special Session on Advances in Long-Term Behavior of Nonlinear Dispersive Equations* (joint with S. Raynor)
OCTOBER 2012	SOUTHEASTERN-ATLANTIC REGIONAL CONFERENCE ON DIFFERENTIAL EQUATIONS (SEARCDE), Wake Forest University, Winston-Salem NC, USA. (joint with S. Raynor and S. Robinson)

Conferences Attended

FEBRUARY 2023	QHACK, sponsored by Xanadu (remote)
JANUARY 2023	qBRAID CONFERENCE, sponsored by qBraid (remote)
FEBRUARY 2022	QHACK, sponsored by Xanadu (remote)
FEBRUARY 2019	INTERNATIONAL ASSOCIATION FOR MATHEMATICS AND COMPUTERS IN SIMULATION, *Conference on Nonlinear Evolution equations and Wave Phenomena: Computation and Theory*, Athens GA, USA
JUNE 2017	FRENCH-AMERICAN CONFERENCE ON NONLINEAR DISPERSIVE PDEs, Centre International de Recontres Mathématiques, Marseilles, FR.
MAY 2016	JOHN H. BARRETT MEMORIAL LECTURES, University of Tennessee, Knoxville, Knoxville TN, USA
JANUARY 2014	JOINT MATHEMATICS MEETINGS, Baltimore MD, USA

June 2013	NSF-CBMA Regional Research Conference in the Mathematical Sciences, *The Global Behavior of Solutions to Critical Nonlinear Wave Equations*, Kansas State University, Manhattan KS, USA
March 2013	International Association for Mathematics and Computers in Simulation, *Conference on Nonlinear Evolution equations and Wave Phenomena: Computation and Theory*, Athens GA, USA
January 2013	Joint Mathematics Meetings, San Diego CA, USA
March 2012	American Mathematical Society Spring Eastern Sectional Meeting, George Washington University, Washington DC, USA
April 2006	Schrödinger Evolution Equations, Banff International Research Station, Banff AB, Canada
June 2004	Canadian Operator Symposium, University of Waterloo, Waterloo ON, Canada
December 2002	Canadian Mathematical Society Winter Meeting, Ottawa ON, Canada
May 2001	Cascade Topology Seminar, Boise State University, Boise ID, USA
July 1999	Invariants of 3-Manifolds, Morley AB, Canada.

Service

Spring 2024 - present	Department Chair (Sabbatical Replacement), Department of Mathematics, Wofford College
Spring 2024	Faculty Marshal, Commencement Weekend
Spring 2024	Piedmont Region III Science Fair Judge, Spartanburg SC, USA
Spring 2024	Search Committee, Department of Mathematics, Wofford College
Fall 2023 - Spring 2024	Search Committee, Department of Philosophy, Wofford College
Fall 2022 - Spring 2023	Search Committee, Department of Computer Science, Wofford College
Spring 2023	Faculty Marshal, Commencement Weekend
Fall 2019 - present	Benefits Committee, Wofford College
Fall 2019	Search Committee, Department of Mathematics, Wofford College.
Fall 2017 - present	Department of Mathematics Colloquium Organizer, Wofford College
Spring 2018 - Spring 2019	Calculus Task Force, Department of Mathematics, Wofford College (Chair)
Fall 2015 - Spring 2018	Member of the Library Committee, Wofford College (Chair from Fall 2017-Spring 2018)
Fall 2014 - Spring 2017	Department of Mathematics Colloquium Organizer, Wofford College (joint with J. Spivey)
February 2017	Piedmont Region III Science Fair Judge, Spartanburg SC, USA
February 2016	Piedmont Region III Science Fair Judge, Spartanburg SC, USA
February 2015	Piedmont Region III Science Fair Judge, Spartanburg SC, USA
Spring 2015	Faculty Mentor for the Collaborative Research Program in Mathematics, Wofford College
Fall 2012 - Spring 2014	Member of the Analysis Committee, Department of Mathematics, Wake Forest University
Fall 2012 - Spring 2014	Member of the Graduate Committee, Department of Mathematics, Wake Forest University
Fall 2011 - Spring 2014	Member of the Math Club Committee, Department of Mathematics, Wake Forest University
Fall 2012 - Spring 2013	Member of the Wake Forest University Postdoctoral Association Board, Wake Forest University
Spring 2002 - Spring 2005	Mentor for the University of Toronto Mentorship Program, Department of Mathematics, University of Toronto
Ongoing	Referee for various professional mathematics journals
Ongoing	Reviewer for Math Reviews