

ROBERT W. BENIM

Curriculum Vitae

Department of Mathematics
Boyd Graduate Studies Research Center
University of Georgia
Athens, GA 30602
e-mail: robert.benim@uga.edu

Education History

- Ph.D. Mathematics, North Carolina State University, 2014.
- M.S. Mathematics, Portland State University, 2010.
- B.S. Mathematics, University of Portland, 2007.

Employment History

- Lecturer, University of Georgia, 2016-Present.
- Visiting Assistant Professor, Pacific University, 2014-2016.
- Teaching Assistant, North Carolina State University, 2010-2014.
- Teaching Assistant, Portland State University, 2008-2010.

Research Interests

I am interested in algebraic groups and symmetric varieties, specifically symmetric varieties which arise from orthogonal and symplectic groups. Recently, I have become more interested in generalizations of these ideas. I have also studied finite group actions of topological surfaces.

Teaching

University of Georgia

- *MATH 2250 Calculus I for Science and Engineering (9 times)*

Pacific University

- *MATH 311 Ordinary Differential Equations (2 times)*
- *MATH 227 Calculus II*
- *MATH 226 Calculus I (2 times)*
- *MATH 165 Modern Topics in Mathematics (2 times)*
- *MATH 125 Precalculus (5 times)*

North Carolina State University

- MA 405 Introduction to Linear Algebra
- MA 341 Applied Differential Equations I (3 Times)
- MA 242 Calculus III
- MA 231 Calculus for Life and Management Sciences B
- MA 121 Elements of Calculus
- MA 241 Calculus II Recitations (2 times)

Portland State University

- MTH 261 Introduction to Linear Algebra (3 times)
- MTH 112 Introduction to College Mathematics II (2 times)
- MTH 111 Introduction to College Mathematics I (2 times)

Journal Articles

- The integrals in Gradshteyn and Ryzhik. (Part 32), (with V. Moll), in preparation.
- Generalized and Extended Symmetric Spaces for $SP(n, k)$, in preparation.
- Generalized and Extended Symmetric Spaces for $O(n, k, \beta)$, in preparation.
- Isomorphism Classes of Finite Order Automorphisms of $SL(2, k)$, (with M. Hunnel and A. K. Sutherland), 2017, *Communications in Algebra*, DOI: 10.1080/00927872.2017.1298770.
- Isomorphism Classes of k -Involutions of $SO(n, k, \beta)$, $n > 2$, (with C. Dometrius, A. G. Helminck, and L. Wu), 2016, *Journal of Lie Theory*, Volume 26, 383-438.
- Isomorphism Classes of Involutions of $SP(2n, k)$, $n > 2$, (with A. G. Helminck, and F. Jackson Ward), 2015, *Journal of Lie Theory*, Volume 25, 903-947.
- Enumerating Quasiplatonic Cyclic Group Actions, (with A. Wootton), 2013, *Rocky Mountain Journal of Mathematics*, Volume 43, Number 5.
- Classification of Quasiplatonic Abelian Groups and Signatures, 2008, *The Rose-Hulman Undergraduate Mathematics Journal*, Volume 9, Issue 1.

Presentations

- Isomorphism Classes of Finite Order Automorphisms of $SL(2, k)$, Joint Mathematics Meetings, AMS Session on Group Theory and Generalizations, 2016.
- Bilinear Forms, Orthogonal Groups, and Lorentz Transformations, Colloquium at the University of Portland, December 4, 2015.
- Symmetric Spaces, Orthogonal Groups, and Their Generalizations, Second Oregon Liberal Arts Mathematics Colloquium, September 26, 2015.
- Isomorphism Classes of Finite Order Automorphisms of $SL(2, k)$, MAA Pacific Northwest Regional Conference, 2015.
- Isomorphism Classes of Involutions of $SP(2n, k)$, MathFest 2014, Portland, Oregon, 2014.

- Involutions of $SO(n, k, \beta)$ and $SP(2n, k)$, Conference in Honor of 60th Birthday of Loek Helminck, NC State, 2014.
- Inner-Involutions of $SO(n, k, \beta)$, ($n > 2$), Joint Mathematics Meetings, AMS Section on Group Theory, 2014.
- Isomorphy Classes of Inner-Involutions of $SO(n, k, \beta)$, ($n > 2$), NC State Graduate Student Algebra Seminar, 2013.
- Enumerating Quasiplatonic Cyclic Group Actions, Portland State Master's Thesis Presentation, 2010.
- Classification of Quasiplatonic Abelian Groups and Signatures, MAA Pacific Northwest Regional Conference, 2007.
- An Introduction to the Tribonacci Sequence, MAA Pacific Northwest Regional Conference, 2005.

Awards

- *Mathematics Department Outstanding Teaching Assistant (North Carolina State University), 2012.*
This is an annual award given to a select few of the teaching assistants in the NCSU math department.
- *F. S. Cater Prize in Mathematical Sciences (Portland State University), 2009.*
This is awarded annually for outstanding academic achievements to masters students in the Portland State math department.
- *Ron Smit Award in Mathematics (University of Portland), 2007.*
This is awarded annually to one outstanding graduating senior in the math department at the University of Portland.

Other Activities and Skills

- *AP Calculus Exam Reader, Summer 2017*
I spent a week with other mathematicians from around the country, we carefully graded AP Calculus exams. The grading process was very systematic and precise, so that thousands of people can all grade the same problem in the exact same way.
- *Participant at the Park City Mathematics Institute, Summer 2017*
I spent three weeks in a program designed for undergraduate faculty. There were about 20 faculty from various institutions around the country, and we were led by Victor Moll of Tulane University. During the three weeks, we studied some topics related to number theory, hypergeometric functions, and some very complicated integrals. It is the hope that in the next few years, we will publish a textbook based on these topics.
- *Mentor of Peer Learning Assistants, Spring 2017*
In the Spring 2017 semester, I involved undergraduate students known as Peer Learning Assistants with my sections of Calculus 1. One day a week, they met with the class for an extra class period and they would lead the class through the activity. The activities were designed by myself or one of my colleagues. Each week I met with my Peer Learning Assistants to go over in detail their duties for the week. This program was a pilot program during this semester.
- *Attendee of workshop on Active Learning in Calculus (Joint Mathematics Meetings), 2017*
At the 2017 Joint Mathematics Meetings, I attended this workshop to learn more about active learning.

- *Textbook Reviewer, 2016*

I am a reviewer of the forthcoming second edition of *Calculus: Early Transcendentals* by Sullivan and Miranda.

- *Funded Attendee of 8th Southeastern Lie Theory Workshop on Algebraic and Combinatorial Representation Theory at North Carolina State University on October 9-11, 2015*

I received travel funding through the conference organizers to attend.

- *Co-organizer of First Annual Oregon Liberal Arts Mathematics Colloquium, Spring 2015*

I assisted in the organizing of this event that brought faculty mathematicians together from the seven liberal arts colleges in Oregon.

- *Paper Reviewer, 2015-Present*

On request, I review scholarly papers that have been submitted for publication in various journals.

- *Mathematics Reviews (AMS), 2014-Present*

On request, I write reviews for peer-reviewed mathematics articles for the AMS that can be seen at <http://www.ams.org/mathscinet/>.

- *Graduate School Panel (University of Portland), 16 September 2014*

This was a panel session aimed at giving undergraduate STEM students information regarding graduate school. Specifically, the topics of applications, school choice, and graduate school student life were discussed.

- *Preparing for the Professoriate Program (North Carolina State University), 2012-2013.*

This program gives a select few distinguished teaching assistants throughout the university the chance to shadow a faculty mentor as they teach an upper division course, and then to teach it themselves the following semester.

- *Programming Experience*

I have programming experience with Maple, C++, and Java. I have used Maple and C++ for various computational portions of my research, and I have also used Maple with Calculus classes to give them experience with a Computer Algebra System.

- *Tutoring Experience*

Throughout the vast majority of my undergraduate and graduate careers, I worked in department run tutoring centers. I also spent several years doing private tutoring on the side.