

# MATTHEW SEAN MILLER

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Department of Mathematics  
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## ACADEMIC POSITIONS

**Visiting Assistant Professor**, *Bucknell University*, Fall 2007-present  
**Graduate Teaching Fellow**, *University of Oregon*, Fall 2001-Summer 2007

## EDUCATION

**Ph.D. in Mathematics**, *University of Oregon*, September 2007  
Advisor: Dev Sinha  
Dissertation: *The Rational Homotopy Types of Configuration Spaces of Three-dimensional Lens Spaces*  
**M.S. in Mathematics**, *University of Oregon*, December 2002  
**B.A. in Mathematics**, with departmental honors, *Vassar College*, May 2001

## RESEARCH INTERESTS

*Algebraic and geometric topology, combinatorics*: configuration spaces, subspace arrangements, rational homotopy theory.

## PAPERS & PREPRINTS

- “Rational homotopy models for two-point configurations spaces of lens spaces,” *Homology, Homotopy and Applications*, to appear
- “Edge colored hypergraphic arrangements,” with Max Wakefield, *Pure and Applied Mathematics Quarterly*, to appear
- “Pascal arrangements,” with Max Wakefield, submitted
- “Massey products and  $k$ -equal manifolds,” in preparation

## TEACHING EXPERIENCE

*I was the primary instructor for all of the classes I taught both at Bucknell University and at the University of Oregon.*

*At Bucknell University:*  
**Topology**, Fall 2008  
**Probability**, Fall 2009, Spring 2008  
**Elementary Linear Algebra**, Spring 2010  
**Differential Equations**, Spring 2009  
**Calculus III**, Spring 2009  
**Calculus II**, Fall 2007  
**Calculus I**, Fall 2007, Fall 2008, Fall 2009  
**Topics in Calculus**, Spring 2008, Spring 2010

*At the University of Oregon:*

**Calculus III**, Fall 2005, Winter 2006, Winter 2007

**Calculus II**, Fall 2006, Winter 2005, Spring 2003

**Calculus I**, Winter 2003

**Business Calculus I**, Summer 2007

**Discrete Math I**, Summer 2005

**Math for Elementary Education I, II, III**, Summer 2003, Fall 2003-Spring 2004

**Elementary Functions**, Winter 2002

**College Algebra**, Fall 2001, Fall 2002, Spring 2002, Summer 2002

**University Math**, Summer 2006

## INVITED TALKS

*Colloquium*

**United States Naval Academy** Mathematics Department, February 2009

*Geometry/Topology Seminar*

**University of Oregon**, May 2004, February 2005, October 2006, October 2008

*Tetrahedral Geometry and Topology Seminar*

organized at **Millersville University**, September 2008

*Geometry Colloquium*

**University of Hokkaido**, June 2008

*Arrangements Seminar*

**University of Hokkaido**, June 2008

*Deformation Theory Seminar*

**University of Pennsylvania**, April 2008

*Topology Seminar*

**University of Rochester**, April 2008

*Colloquium*

**Vassar College** Mathematics Department, September 2007

*Cascade Topology Seminar*

**University of British Columbia**, April 2007

## SELECTED TALKS

*Student Colloquium*

**Bucknell University**, Mathematics Department, September 2008, November 2009

*Young Topologists Meeting*

organized at **École Polytechnique Fédérale de Lausanne**, May 2008

*Algebra Seminar*

**Bucknell University**, February 2008, March 2009

*Lehigh Geometry/Topology Conference*

**Lehigh University**, October 2007

*Special Session on the Algebraic Topology of Moduli Spaces*

**AMS Western Section Meeting at the University of Oregon**, November 2005

*Graduate Student Topology Conference*

**University of Minnesota**, April 2004

*Homotopy Seminar*

**University of Oregon**, many times between Spring 2003 and Winter 2007

*Brown Bag Seminar*

a teaching seminar at the **University of Oregon**, April 2006

## PROFESSIONAL DEVELOPMENT & SERVICE

**Facilitator**, Math and Science Study Strategies

*Bucknell University*, Fall 2009, Spring 2008

This seminar is part of the Student Success Series organized by the Office of Multicultural Student Services. The goal of the series is to provide insight, skills, and other opportunities that will enhance students' capacity for a successful experience at Bucknell.

**Participant**, Posse Plus Retreat

*Posse Program*, Spring 2008

The Posse Program organizes a weekend retreat based around the question, "Who cares? The weight of social responsibility."

**Participant**, Center for the Study of Race, Ethnicity, and Gender reading group

*Bucknell University*, Fall 2007-Spring 2008

**Participant**, Arts & Sciences Faculty Learning Series

*Bucknell University*, Fall 2007, Fall 2008, Fall 2009

A weekly seminar and discussion group on a wide range of topics relevant to academia.

**Participant**, Writing Center Workshop

*Bucknell University*, Summer 2007

The workshop concentrates on course design, helping faculty members to incorporate writing-to-learn strategies into their courses.

**Organizer**, Homotopy Seminar

*University of Oregon*, Fall 2004-Spring 2006

**Workshop Leader**, Connections

*University of Oregon*, Spring 2006

Connections is a half day program that encourages underprivileged high school students throughout the state of Oregon to continue their education by providing interaction with members of the University of Oregon community and information about admission, financial aid, and student life.

**Proctor & Grader**, Oregon Invitational Mathematics Tournament

hosted by the *University of Oregon*, Spring 2005

**Representative**, Graduate Affairs Committee

*University of Oregon*, Winter 2003-Winter 2005

**Course Coordinator**, College Algebra

*University of Oregon*, Fall 2004

## COMPUTING & LANGUAGE SKILLS

- Sage, Mathematica, LaTeX, HTML, The Geometer's Sketchpad, WeBWorK
- English (native language), Swedish (basic competence), Spanish (basic competence)

## REFERENCES

**Dev Sinha** (Ph.D. Advisor)  
Associate Professor  
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