

CURRICULUM VITÆ
Valerie J. Peterson

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EDUCATION

- Ph.D., Mathematics** *Anticipated May 2009*
University of Illinois at Urbana-Champaign, Urbana, IL
Dissertation Title: “*On State Complexes and Special Cube Complexes*”
Dissertation Committee: Robert W. Ghrist (advisor), Stephanie Alexander,
Ilya Kapovich, Christopher Leininger
- M.S., Mathematics** Dec 2002
University of Illinois at Urbana-Champaign; Urbana, IL
- B.S., Mathematics**, *magna cum laude*, *Phi Beta Kappa*, *Pi Mu Epsilon* June 2001
Santa Clara University; Santa Clara, CA

PROFESSIONAL EXPERIENCE

- Graduate Teaching Assistant**, Mathematics Department Aug 2001-present
University of Illinois at Urbana-Champaign; Urbana, IL
- Graduate Research Assistant**, Mathematics Department Jan 2007-Aug 2008
University of Illinois at Urbana-Champaign
- Teaching Mentor**, Merit Program, Mathematics Department Fall 2008
University of Illinois at Urbana-Champaign Fall 2007
The Merit mentoring program pairs a new teaching assistant with an experienced Merit TA to help ease the transition into a new teaching format. Mentoring involves regular classroom observations, collaborative sessions and meetings with teaching assistants and the Merit director.
- Instructor/Presenter**, Math Merit Summer Institute Summer 2007
Regional Office of Education, Rantoul, IL Summer 2006
The Math Merit Summer Institute was a two-week professional development program for middle school math teachers designed to familiarize them with techniques for conducting small-group work in their classrooms.
- Lead Math Tutor**, Bridge Summer Program Summer 2006
University of Illinois at Urbana-Champaign, Urbana, IL
The Bridge Program is a summer program for entering freshmen intended to prepare them for the rigors of college life and college-level coursework.
- Instructor**, Bridge Summer Program Summer 2004
University of Illinois at Urbana-Champaign, Urbana, IL
- Peer Mentor**, Mathematics Department Sep 2000-Jun 2001
Santa Clara University, Santa Clara, CA

TEACHING & INSTRUCTION

Precalculus †	Fall 2008
Precalculus †	Fall 2007
Theory of Arithmetic (<i>for pre-service elementary teachers</i>)	Fall 2006
Calculus I †	Spring 2006
Calculus II *†	Fall 2005
College Algebra *	Summer 2004
Calculus III	Fall 2004
Calculus II *†	Spring 2004
Calculus II *†	Fall 2003
Calculus II *†	Spring 2003
Calculus I †	Fall 2002
Calculus for Business	Spring 2002
A Mathematical World *	Fall 2001

* indicates primary instructor with full course responsibilities

† indicates courses taught in the Merit Workshop Program, which focuses on small-group learning. During a two-hour Merit recitation section, the instructor poses problems and facilitates group work and rarely provides direct instruction. While most Merit recitations are affiliated with a separate lecture component, in the case of Calculus II the Merit students do not attend any outside lecture; the Merit section serves as their entire course.

PAPERS & PREPRINTS

“The geometry and topology of reconfiguration,” with R. Ghrist (2007). *Adv. Appl. Math.*, **38**(3), pp. 302-323.

“An introduction to cube complexes,” in preparation.

INVITED TALKS

San Jose State University, Mathematics Colloquium <i>“Topology, geometry, group theory, and killer robots”</i>	Oct 2008
Santa Clara University, Mathematics Colloquium <i>“Robot coordination and special cube complexes”</i>	Oct 2008
Emory University, Topology Seminar <i>“The topology and geometry of some ‘special’ cube complexes”</i>	Oct 2007

UIUC SEMINAR TALKS

Group Theory Seminar <i>Special cube complexes</i>	Mar 2008
Seminar for Women in Mathematics <i>Geometry, topology, group theory, & killer robots</i>	Sep 2008
<i>Plaiting polyhedra</i>	Feb 2007
<i>Not-so-smooth geometry</i>	Mar 2006
<i>Mathematical origami</i>	Apr 2004

Graduate Student Topology and Geometry Seminar	
<i>Special cube complexes</i>	Feb 2007
<i>Reconfigurable systems</i>	Feb 2006
Differential Geometry Seminar	
<i>The geometry of reconfiguration</i>	Nov 2005
Computational Topology Seminar	
<i>Combinatorial Novikov-Morse theory</i>	Nov 2005
<i>On the power of the compass: searching mazes and graphs</i>	May 2004
Robotics Seminar	
<i>A class of metamorphic robots</i>	Oct 2003

HONORS & AWARDS

Recipient , Brahana TA Instructional Award	May 2008
<i>University of Illinois at Urbana-Champaign, Urbana, IL</i>	
This honor is awarded by the Mathematics Department to two graduate students each year for exemplary teaching.	
Funded participant , Career Mentoring Workshop	August 2007
<i>MAA/Tensor Foundation & U.S. Military Academy, West Point, NY</i>	
Named to the List of Teachers Ranked Excellent By Their Students	2001-2006
<i>University of Illinois at Urbana-Champaign, Urbana, IL</i>	
Funded participant , New Directions Short Course in Computational Topology	July 2004
<i>Institute for Mathematics and its Applications, Minneapolis, MN</i>	

PROFESSIONAL DEVELOPMENT & SERVICE

Presenter , “Merit Immersion for Students and Teachers” Summer Workshop	July 2008
<i>University of Illinois at Urbana-Champaign, Urbana, IL</i>	
The MIST workshop was a three-day professional development program for high school and community college math teachers designed to familiarize them with techniques for conducting small-group work in their classrooms, as well as provide them with facilitator training and experience.	
Graduate Coursework (M.S. equivalent) , Dept. of Curriculum & Instruction	
<i>University of Illinois at Urbana-Champaign, Urbana, IL</i>	
“Professional Development in Math Education”	Spring 2008
“Issues and Trends in Math Education”	Fall 2007
Co-organizer , Math Merit Summer Institute 2007	Summer 2007
<i>Regional Office of Education, Rantoul, IL</i>	
Student host , Mathematics Graduate Preview Days	Mar 2007
<i>University of Illinois at Urbana-Champaign, Urbana, IL</i>	
Math tutor , Bridge/Transition Program	Fall 2006
<i>University of Illinois at Urbana-Champaign, Urbana, IL</i>	
Co-organizer , Math Merit Summer Institute 2006	Summer 2006
<i>Regional Office of Education, Rantoul, IL</i>	

Member, Staff Awards Committee
University of Illinois at Urbana-Champaign, Urbana, IL

Spring 2004

Co-organizer, Seminar for Women in Mathematics
University of Illinois at Urbana-Champaign, Urbana, IL

Fall 2003-Spring 2004

PROFESSIONAL MEMBERSHIPS

American Mathematical Society
 Association for Women in Mathematics

REFERENCES

Robert W. Ghrist (Advisor)
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 University of Pennsylvania
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 Philadelphia, PA 19104
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Jennifer McNeilly
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