

Heather Michelle Mollé

Education

- 2003-present** **University of Iowa**, Iowa City, Iowa
PhD in Mathematics expected May 2009
Thesis Advisor: Professor Charles Frohman
Thesis Topic: Quantum Hyperbolic Invariants of the Figure Eight Knot
MS in Mathematics conferred in December 2006
- 1999-2003** **Truman State University**, Kirksville, Missouri
BS in Mathematics, BS in Physics, BA in Mathematics, Magna Cum Laude
Departmental Honors in Mathematics and Physics, General Honors

Teaching Experience

Graduate Teaching Assistant, University of Iowa, August 2003 – present

- Instructor
 - Basic Algebra II (Fall 2003, Spring 2004)
 - Geometry for Elementary Teachers (Spring 2009)
- Lecturer
 - Calculus II (November 12 – December 14, 2007)
- Discussion Leader
 - Logic of Arithmetic (Spring 2007)
 - Calculus I (Fall 2004, Fall 2005)
 - Calculus II (Spring 2005, Spring 2006, Fall 2007)
 - Introduction to Linear Algebra (Summer 2004)
 - Introduction to Abstract Algebra I (Spring 2008)
 - General Topology (Fall 2006)
- Math Lab Tutor
- Grader
 - Theory of Arithmetic (Spring 2008)
 - Matrix Theory (Spring 2005)

Adjunct Faculty, Metropolitan Community College, June 2003 – August 2003

- Instructor
 - Beginning Algebra

Publications

- *Multiscale Quantum Propagation Using Compact-Support Wavelets in Space and Time*, Haixiang Wang, Ramiro Acevedo, Heather Mollé, Jeffrey L. Mackey, James L. Kinsey, and Bruce R. Johnson
Journal of Chemical Physics, 2004, V 121, N 16, October 22 pages 7647-7657

Presentations

- *The Quantum Hyperbolic Invariants of the Figure Eight Knot*, Knots in Washington XXVII Conference, George Washington University, January 2009
- *The Growth of the Quantum Hyperbolic Invariants of the Figure Eight Knot*, AMS Session on Manifolds and Cell Complexes, Joint Mathematics Meetings, January 2009
- *Exploring the Quantum Hyperbolic Invariants of the Figure Eight Knot*, Topology Seminar, University of Iowa, October 2008
- *The Polyhedral Decomposition of the 5_2 Knot*, Topology Seminar, University of Iowa, October 2007
- *Fundamental Group of Seifert Fibered Spaces*, Topology Seminar, University of Iowa, April 2006

Conferences and Programs Attended

- Knots in Washington XXVII Conference, George Washington University, January 2009
- Joint Mathematics Meetings, Washington DC, January 2009
- Low Dimensional Topology Workshop, Mathematical Sciences Research Institute, August 2008
- Mathematics Research Communities, American Mathematical Society, June 2008
- Program for Women and Mathematics, Institute for Advanced Study, May 2008
- Knots in Washington XXVI Conference, George Washington University, April 2008
- Graduate Student Topology Conference, University of Illinois Urbana-Champaign, March 2008

Honors and Awards

- VIGRE Traineeship Fall 2008
- University of Iowa Outstanding Teaching Assistant Award 2008
- Graduate College Summer Fellowship 2008
- Catherine Wegner Outstanding Mathematics Teaching Assistant Award 2007

Service

- Professional Development Seminar, Co-Organizer Fall 2008 – Spring 2009
- Sonia Kovalevsky Day, Prize Committee Co-Chair 2008
- Sonia Kovalevsky Day, She Does Math Committee Member 2007
- The University of Iowa High School Mathematics Competition, Volunteer 2007
- The University of Iowa High School Mathematics Competition, Volunteer 2004