

Joel B. Mohler
Curriculum Vitae (April 2009)

Address:

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Personal:

Born: January 9, 1979
Married, Spouse: Lydia; Two Children

Education:

- **PhD:** May 2009 Lehigh University with advisor Gautam Chinta (“Residues of Weyl Group Multiple Dirichlet Series” was my dissertation title)
- **MS:** May 2005 Lehigh University
- **BS:** December 2002 Millersville University (Mathematics Departmental Honors and University Honors).

Teaching Experience:

- Lecturer for Introduction to Mathematical Thought (Lehigh Univ. - Spring 2008): I was responsible for topic selection and course outline.
- Lecturer for College Algebra (Lehigh Univ. - Fall 2007)
- Lecturer for Calculus I (Part A) (Lehigh Univ. - Spring 2007): I was responsible for all aspects of the class, including lectures, exams, grading, and assigning grades.
- Technical Organizer for an online assessment program MapleTA for Calculus I (Lehigh Univ. - Summer and Fall 2006): I was responsible for creating question banks and various other technical aspects of the program.
- Lecturer for Calculus I (Part A) (Lehigh Univ. - Summer 2006): I was responsible for all aspects of the class, including lectures, exams, grading, and assigning grades.
- Teaching Assistant for Calculus II (Lehigh Univ. - Spring 2006): Four sections with formal recitations eachweek with each section. Responsibilities included quizzes and grading homework and quizzes along with Office Hours.

- Lecturer for Calculus I (Part A) (Lehigh Univ. - Fall 2005): I was responsible for lecturing, had significant input into exam material, and determined final grades for my section.
- Lecturer for Calculus I (Cedar Crest College - Summer 2005): I was responsible for all aspects of the class, including lectures, exams, grading, and assigning grades.
- Teaching Assistant for Calculus III (Lehigh Univ. - Spring 2005): (Same as above TA position).
- Teaching Assistant for Calculus III (Lehigh Univ. - Fall 2004): (Same as above TA position).
- Teaching Assistant for Calculus II (Lehigh Univ. - Spring 2004): (Same as above TA position).
- Teaching Assistant for Calculus I (Lehigh Univ. - Fall 2003): (Same as above TA position).
- Tutoring College Algebra (Millersville Univ. - Fall 2001): Semi-formal bi-weekly recitation sessions with students taking College Algebra. Responsibilities included making and grading quizzes.

Presentations:

- Factoring Multivariate Polynomials - Graduate Student Colloquium at Lehigh (April 2008)
- Integer Sequences - Spring Epadel MAA Regional Meeting at Cedar Crest (April 2008)
- Sums of L -functions over the Rational Function Field - 22nd Annual Workshop on Automorphic Forms and Related Topics - Texas A&M University (March 2008)
- Sums of L -functions over the Rational Function Field - US Naval Academy (September 2007)
- Sums of L -functions over the Rational Function Field - AMS Sectional Meeting (April 2007)
- SAGE - Software for Algebra and Geometry Experimentation - Graduate Student Colloquium at Lehigh (March 2007)
- A Collatz Sequence Sieve - Graduate Student Colloquium at Lehigh (September 2006)
- Evaluating a Multiple Dirichlet Series over a Function Field - Multiple Dirichlet Series Conference II (July 2006)
- Contributed to a panel discussion on Undergraduate Research as part of a day of preparing mathematics undergraduates for graduate school (April 2006)

- Geodesics on an Ice Cream Cone - Graduate Student Colloquium at Lehigh (February 2006)
- The Functional Equation for the Riemann Zeta Function - Graduate Student Colloquium at Lehigh (October 2005)
- Valuations of Function Fields & Algebraic Varieties - Lehigh Algebra Seminar (March 2005)
- Repeating Decimals & Finite Fields - Graduate Student Colloquium at Lehigh (October 2004)
- Bernoulli Numbers - Lehigh Algebra Seminar (October 2004)
- Student Research Conference (Moravian University)
- MathFest 2001 (Madison Wisconsin): Student presentation at the MAA-AMS joint meetings. (August 2001)

Conferences Attended:

- Multiple Dirichlet Series and Applications to Automorphic Forms (August 2008)
- 22nd Annual Workshop on Automorphic Forms and Related Topics (March 2008)
- SAGE Days 5 (October 2007).
- SAGE Days 2 (June 2007).
- *L*-Functions and Automorphic Forms conference in honor of Dorian Goldfeld's 60th Birthday (May 2007)
- East Coast Computer Algebra Day (April 2007)
- AMS Sectional Meeting (April 2007)
- SAGE Days 2 (October 2006).
- Multiple Dirichlet Series Workshop II (July 2006).
- Multiple Dirichlet Series Workshop I (July 2005).
- MAA EPADEL Section Meeting: Student presentation (October 2001)
- MathFest 2001 (Madison Wisconsin): Student presentation at the MAA-AMS joint meetings. (August 2001)

Writing:

- *Minimal Paths on Some Simple Surfaces with Singularities (with Ron Umble). Pi Mu Epsilon Journal, 12(8), 2008.*
- *Undergraduate Senior Honors Project: “Geodesics on a Conical Drinking Cup with Lid”.*

Other Experience - Software Development

- 2006-present: Esh Computer Center (part time). I designed and implemented a more general inventory management subsystem affecting approximately 75,000 lines of C++ source. I also provided technical guidance to other members of the development team.
- 2006-present: Contributed significant patches to the SAGE computer algebra system. Principle contributions included optimizations for complex numbers and number fields. This involved benchmarking various options for backends and writing a mix of C/C++ and python using the meta-language Cython.
- 2005-2006: Contributed a variety of patches to the SCons opensource build tool project written in Python.
- 1996-2003: Esh Computer Center. I was one of two lead developers for an accounting system comprised of approximately 500,000 lines of C++ source. I was the primary programmer for the inventory management subsection and also contributed significant to database and user interface layer.

Awards:

- 2003 Student Mathematical Paper Competition, for the paper “Geodesics on a Conical Drinking Cup with Lid”, awarded by the EPADEL section of the Mathematical Association of America.

Memberships:

- American Mathematical Society
- Mathematical Association of America