

MATTHEW J. LAFFERTY

CONTACT INFORMATION	Department of Mathematics University of Arizona 617 N. Santa Rita Ave. Tucson, AZ 85075	Office: (520) 626-04108 math.arizona.edu/~mlafferty mlafferty@math.arizona.edu
RESEARCH INTERESTS	Algebraic number theory, specifically Iwasawa theory, modular forms and L -functions.	
EDUCATION	University of Arizona , Tucson, AZ Ph.D in Mathematics Advisor: Romyar Sharifi	August 2008 - present
	Clemson University , Clemson, SC M.S. in Mathematics Advisor: Kevin James	May 2008
	Saint Olaf College , Northfield, MN B.A. in Mathematics	June 2003
EMPLOYMENT	NSF GK-12 Fellow <i>Mountain View High School</i>	June 2011 to Present Tucson, AZ
	<ul style="list-style-type: none">• Working with David Romero at Mountain View High School, focusing on creating exciting and interesting projects for the algebra and college ready math students that will allow them to utilize what they are learning in the classroom to solve real world problems.	
	NSF GK-12 Fellow <i>St. Michael's Parish Day School</i>	June 2010 to May 2011 Tucson, AZ
	<ul style="list-style-type: none">• Worked with Jennifer Gould and her 6th, 7th, and 8th grade classes at St. Michael's Parish Day School in an effort to introduce concepts and lessons that will challenge students, pique their curiosity, and expand their overall idea of what mathematics is.• Created a non-competitive after school math club.• Created a bi-monthly middle school mathematics newsletter, containing short articles on mathematical topics, profiles of mathematicians, and challenge problems.	

Teaching Assistant August 2008 to May 2010
University of Arizona, Department of Mathematics Tucson, AZ

- Instructor for two semesters of MATH 112 - College Algebra and one semester MATH 120R - Calculus Preparation. Responsible for all lectures, assigning and grading of homework, as well as creation and grading of in class exams.

Research Assistant July 2007 to May 2008
Clemson University, Academic Success Center Clemson, SC

- Responsible for the collection and analysis of data from Clemson's Supplemental Instruction (SI) and Tutoring programs to assess effectiveness. Creation of weekly and semester reports in support of this project.
- Organized a workshop for calculus students on the "Graphing Calculator" software package.

Teaching Assistant July 2006 to May 2007
Clemson University, Department of Mathematical Sciences Clemson, SC

- Graduate assistant for a "scale-up" formatted calculus class. Responsible for the grading of homework and tests, as well as lecturing for several class sessions.
- Grader for Multivariable Calculus.

Trading Analyst December 2004 to July 2006
GMAC-RFC, Principal Investment Activities Bloomington, MN

- Provided analysis to support the trading desk in acquisition and management of performing and non-performing residential mortgage portfolios. Performed initial pricing and risk analysis of mortgage pools, communicated with vendors, and created weekly reports detailing the performance of portfolios in the acquisitions pipeline.
- Augmented several aspects of the loan pricing model for increased efficiency and accuracy.

PAPERS

The Square Threshold Problem in Number Fields

Master's Thesis, Clemson University

Given an arbitrary number field and the corresponding ring of integers, we determine a probabilistic bound on the number of ideals of a specified norm that would need to be randomly selected with uniform probability before the product of some subset of these ideals is a square.

AWARDS	2011	NSF GK-12 Fellowship <i>Department of Mathematics, University of Arizona</i>	
	2010	NSF GK-12 Fellowship <i>Department of Mathematics, University of Arizona</i>	
	2009	High Pass, Mathematics Ph.D Qualifying Exams (first attempt) <i>Department of Mathematics, University of Arizona</i>	
	2008	Outstanding Mathematics Graduate Student <i>Department of Mathematical Sciences, Clemson University</i>	
	2008	Graduate Assistant of the Year <i>Academic Success Center, Clemson University</i>	
TALKS		“A Middle School Math Circle” <i>MEAD Conference, Tucson High School</i>	February 2010 Tucson, AZ
		“Math is Everywhere” <i>Family Math Night, St. Michael’s Parish Day School</i>	November 2010 Tucson, AZ
		“Galois Groups of p-polynomials” <i>RTG Mini Confrence, University of Arizona</i>	December 2009 Tucson, AZ
		“Primes in Arithmetic Progression” <i>Graduate Student Colloquium, University of Arizona</i>	September 2008 Tucson, AZ
CONFERENCES ATTENDED	Workshop on Iwasawa Theory <i>University of Arizona</i>	October 2011 Tucson, AZ	
	G-TEAMS Summer Institute <i>University of Arizona</i>	June 2011 Tucson, AZ	
	Mathematicians in Higher Education <i>University of Arizona</i>	April 2011 Tucson, AZ	
	G-TEAMS, HEATWAVES & BioME Showcase <i>University of Arizona</i>	February 2011 Tucson, AZ	
	Mathematical Educator Appreciation Day <i>Tucson High School</i>	January 2011 Tucson, AZ	
	G-TEAMS Summer Institute <i>University of Arizona</i>	June 2010 Tucson, AZ	
	Mathematicians in Higher Education <i>University of Arizona</i>	April 2010 Tucson, AZ	
	Research Tutorial Group Mni-Conferencei <i>University of Arizona</i>	December 2009 Tucson, AZ	
	Arizona Winter School - Quadratic Forms <i>University of Arizona</i>	March 2009 Tucson, AZ	

COMPUTER
SKILLS

C, C++, Visual Basic, Maple, L^AT_EX, Microsoft Office.

REFERENCES

Available upon request.