

## George J. Schaeffer

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- CONTACT Department of Mathematics  
University of California, Berkeley  
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gschaeff@math.berkeley.edu
- PERSONAL Date of Birth: August 4, 1984.  
Citizenship: USA.
- RESEARCH INTERESTS Computational number theory, modular forms, Galois representations, construction of “exceptional” number fields, cryptography.
- EDUCATION **Carnegie Mellon University**  
M.S. Mathematical Sciences, 2007.  
Thesis: *Diophantine definability in rings of algebraic integers*,  
Directed by James Cummings.  
B.S. Mathematical Sciences, 2007.  
**University of California, Berkeley**  
Fifth year PhD student in mathematics, expected graduation May, 2012.  
Dissertation: *The Hecke stability method and ethereal forms*.  
Advisor: Akshay Venkatesh (Stanford University).
- FELLOWSHIPS AND GRANTS National Science Foundation Graduate Research Fellowship  
Received Spring 2007, active Fall 2009–Present.  
UC Berkeley Chancellor’s Fellowship: Summer 2007–Summer 2009.
- PUBLICATIONS “On the Delta-set of a singular arithmetical congruence monoid,” (with P. Baginski and S. Chapman). *J. de Théorie des Nombres de Bordeaux*, **20** (2008) 45–59.  
“Elastic properties of some semirings defined by positive systems,” (with P. Cesarz, S. McAdam, and S. T. Chapman). In *Proceedings of the Fifth International Fez Conference on Commutative Algebra and Applications* (2008) 89–103.  
“On the Delta-set and catenary degree of a Krull monoid with infinite cyclic divisor class group,” (with P. Baginski, S. T. Chapman, R. Rodriguez, and Y. She). *J. of Pure and Applied Algebra*, **214** (2010) 1334–1339.  
“On the arithmetic of Krull monoids with infinite cyclic class group,” (with A. Geroldinger, D. J. Gryniewicz, and W. A. Schmid). *J. of Pure and Applied Algebra*, **214** (2010) 2219–2250.  
“A constructive proof of Kainrath’s theorem.” (with S. Chapman, R. Kravitz, R. Rodriguez, and Y. She). In preparation.

TALKS	<p>“The congruent number problem and elliptic curves,” Trinity University Mathematics Colloquium, February 2008.</p> <p>“Every abelian group is an ideal class group (following Leedham-Green),” UC Berkeley Commutative Algebra and Algebraic Geometry Seminar, May 2008.</p> <p>“What is the ideal class group?” NSF REU in Mathematics, Trinity University, June 2008.</p> <p>“Small profinite groups,” UC Berkeley Model Theory Seminar, October 2008.</p> <p>“<math>\mathcal{L}</math>-complete subsets of <math>\mathbb{Z}</math>,” at the Special Session on Commutative Rings and Monoids of the Spring Regional Meeting of the AMS in Raleigh, NC, April 2009.</p> <p>“Arithmetic of Krull monoids with infinite cyclic class group,” invited, Karl–Franzens–Universität Graz, Austria, June 2009.</p> <p>“A brief introduction to complex multiplication,” UC Berkeley Number Theory Student Seminar, February 2010.</p> <p>“Non-solvable number fields ramified at only one prime,” UC Berkeley Number Theory Seminar, April 2010.</p> <p>“Computing weight 1 modular forms mod <math>p</math>,” invited, at <i>University of Santa Cruz/Stanford Arithmetic Geometry and Number Theory Day</i>, November 2010.</p> <p>“The Hecke stability method and isogeny graphs,” UC Berkeley Number Theory Seminar, March 2011.</p> <p>“The Hecke stability method,” invited, at <i>Computations with Modular Forms</i>, Universität Heidelberg, September 2011.</p>
ORGANIZER	UC Berkeley Number Theory Student Seminar (Spring 2010–Spring 2011).
TEACHING ASSISTANCE	<p>Math 116, <i>Cryptography</i>, Spring 2012 (tentative), UC Berkeley. Professor: Ken Ribet.</p> <p>Math 16A, <i>Analytic Geometry and Calculus I</i> (calculus for non-technical majors), Spring 2011, UC Berkeley, 3 hrs. section per week. Professor: Keith Conrad.</p> <p>15-251, <i>Great Theoretical Ideas in Computer Science I</i> (intermediate discrete math for CS), Spring 2007, Carnegie Mellon University, adjunct role. Professor: Luís von Ahn.</p> <p>21-127, <i>Concepts of Mathematics</i> (introduction to discrete math and proofs for technical majors), Spring 2005 and Spring 2006, Carnegie Mellon University, 4 hrs. section per week. Professor: John Mackey.</p>
RESEARCH SUPERVISED	Research Mentor, NSF Research Experience for Undergraduates (REU), Trinity University, San Antonio, TX. Director: Scott Chapman. Mentored 8 undergraduate students in 3 research projects in algebra and number theory.
MEMBERSHIPS	American Mathematical Society, 2006–present.
OTHER SKILLS	Fluent in Spanish. Reading-level proficiency in French, German, and Japanese. $\LaTeX$ , Sage/Python, Mathematica.