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## Education

*May 2005*      Ph.D. Mathematics · The University of Texas at Austin  
Thesis Advisor · Alan Reid  
*May 1998*      A.B. Mathematics · Oberlin College

## Professional Experience

*2008-*            Assistant Professor (tenure track) · Florida State University  
*May-July 2012*    Visitor · Max Planck Institut für Mathematik · Bonn, Germany (scheduled)  
*Fall 2008*        Fields Postdoctoral Fellow · The Fields Institute  
*2005 - 2008*      Coleman Postdoctoral Fellow · Queen's University  
*2004*            Saturday Morning Math Group Coordinator · University of Texas  
*2002 - 2005*      Assistant Instructor · University of Texas  
*1999 - 2002*      Teaching Assistant · University of Texas

## Research Interests

Geometric Topology · Number Theory

## Grants and Awards

*2011-2016*      Simons Foundation Collaboration Grant  
*2008*            First Year Assistant Professor Award · Florida State University  
*2006*            Scholarly and Professional Development Fund Grant · Queen's University  
*2004*            Rupert Fellowship · University of Texas  
*2001*            Frank Gerth III Teaching Excellence Award · University of Texas  
*2000*            Departmental Fellowship · University of Texas

## Courses Taught

Florida State    Theory of Numbers, Topology I (graduate),  
Hyperbolic Geometry (graduate), Calculus I (honors), II, III  
Queen's        Linear Algebra II, Precalculus, Algebraic Structures with Applications,  
Differential and Integral Calculus (pure and applied)  
Texas            Emerging Scholars Workshop, Precalculus

**Publications**

15. *Character Varieties of Once Punctured Torus Bundles of Tunnel Number One* (with K. Baker), in preparation
14. *A-polynomials of Once Punctured Torus Bundles of Tunnel Number One* (with K. Baker) in preparation
13. *A-Polynomials of a Family of Two-Bridge Knots*, preprint
12. *A Bombieri-Vinogradov Theorem for Number Fields* (with M.R. Murty), submitted for publication
11. *The Euclidean Algorithm for Number Fields and Primitive Roots* (with M.R. Murty) accepted for publication in Proc. Amer. Math Soc.
10. *On Well-Rounded Ideal Lattices* (with L. Fukshansky), to appear in Int. J. Number Theory, Feb 2012 Int. J. Number Theory
9. *Character Varieties of a Family of Two-Bridge Knots* (with M. Macasieb and R. van Luijk) Proc. London Math. Soc. (2011) 103(3): 473-507
8. *Equidistribution of Imaginary Quadratic Points on the Unit Circle* (with C. Sinclair) Int. J. Number Theory Volume: 7, Issue: 7(2011) pp. 1841-1861.
7. *On Character Varieties of Certain Families of 3-Manifolds*, Oberwolfach Reports Volume 7, Issue 3, 2010.
6. *The Generalized Artin Conjecture and Arithmetic Orbifolds* (with M.R. Murty), Groups and symmetries, 259265, CRM Proc. Lecture Notes, 47, Amer. Math. Soc., Providence, RI, 2009.
5. *Counting Cusps of Subgroups of  $\mathrm{PSL}_2(\mathcal{O}_K)$* , Proc. Amer. Math. Soc. 136 (2008), no. 7, 2387-2393.
4. *Conjugate Reciprocal Polynomials with all Roots on the Unit Circle* (with C. Sinclair) Canad. J. Math. 60 (2008), no. 5, 1149-1167.
3. *One-Cusped Congruence Groups of Bianchi Groups*, Mathematische Annalen 338 (2007), no 2, 249 - 282.
2. *One-Cusped Congruence Subgroups of  $\mathrm{PSL}_2(\mathcal{O}_K)$*  · PhD dissertation · University of Texas, May 2005
1. *Vibrational and Quantum Chemical Studies of 1,2-Difluoroethylenes: Spectra of 1,2-<sup>13</sup>C<sub>2</sub>H<sub>2</sub>F<sub>2</sub> Species, Scaled Force Fields, and Dipole Derivatives* (N.C. Craig, K.L. Petersen and D.C. McKean) The Journal of Physical Chemistry A, 2002, Vol. 106, No. 26, pp. 6358-6369.

## Invited Conference and Meeting Talks

- 2011 (Scheduled for December) · Tech Topology Conference · Georgia Tech
- 2011 Character Varieties of a Family of Once-Punctured Torus Bundles · AMS Special Session on Geometry and Applications of 3-Manifolds · Worcester MA
- 2011 A-Polynomials of a Family of Two-Bridge Knots · AMS Special Session on Number Theory, Arithmetic Topology, and Arithmetic Dynamics · Worcester MA
- 2011 Character Varieties of Some Families of 3-Manifolds · Low Dimensional Topology and Number Theory III · Fukuoka Japan
- 2010 Character Varieties of Certain Families of Knots · Mathematisches Forschungsinstitut Oberwolfach
- 2010 Character Varieties of Two-Bridge Knots · AMS/AMM Joint Meeting Special Session on Low-Dimensional Topology · Berkeley
- 2009 Character Varieties of a Family of Two-Bridge Knots · Spring Topology and Dynamics Conference · Gainesville Florida
- 2008 Cusps, Congruence Subgroups and Artin's Primitive Root Conjecture · Thematic Program on Arithmetic Geometry, Hyperbolic Geometry and Related Topics The Fields Institute · Toronto
- 2007 Cusps and Congruence Subgroups, Low-Dimensional Topology and Number Theory · Banff International Research Station
- 2007 The Euclidean Algorithm and Applications to Hyperbolic Geometry · AMS/MAA Joint Meetings · Special Session on Arithmetic of Function Fields · New Orleans

## Contributed Conference Talks

- 2011 Artin's Primitive Root Conjecture and the Euclidean Algorithm · Palmetto Number Theory Series XVI · Emory University
- 2011 Artin's Primitive Root Conjecture and the Euclidean Algorithm · Journées Arithmétiques · Vilnius Lithuania
- 2009 The Generalized Riemann Hypothesis on the Average · Journées Arithmétiques Saint-Étienne France
- 2008 Character Varieties of a Family of Two-Bridge Knots · Knots, Surfaces, the Curve Complex, Foliations, and all that... Institute for Advanced Study Women and Math Program · Princeton NJ
- 2008 A Bombieri-Vinogradov Theorem for Number Fields · Canadian Number Theory Association X Meeting · Waterloo Ontario

## Invited Seminar Talks

- 2011 Character Varieties and Hyperbolic 3-manifolds · Colloquium · University of Oregon
- 2011 The Euclidean Algorithm and Primitive Roots · Algebra and Number Theory Seminar · University of Mississippi
- 2011 Character Varieties of Once-Punctured Torus Bundles of Tunnel Number One Geometry and Topology Seminar · University of Maryland
- 2010 The Euclidean Algorithm and Primitive Roots · Colloquium · University of Miami
- 2009 The Euclidean Algorithm and Primitive Roots · Algebra/Number Theory/Combinatorics Seminar · The Claremont Center for the Mathematical Sciences
- 2008 Character Varieties of Twist Knots · Topology Seminar · University of British Columbia
- 2008 Artin's Conjecture and Euclidean Domains · Number Theory Seminar University of British Columbia (UBC)/Simon Fraser University (SFU)
- 2008 Cusps and Congruence Subgroups · Colloquium · Queens College, City University of New York
- 2008 Cusps and Congruence Subgroups · Colloquium · Florida State University
- 2008 Character Varieties of Twist Knots · Topology Seminar · Florida State University
- 2008 Character Varieties of Twist Knots · Colloquium · Kansas State University
- 2007 Character Varieties of Twist Knots · Topology/Geometry Seminar · State University of New York (SUNY) Buffalo
- 2007 The Topology of Certain Congruence Subgroups of  $\mathrm{PSL}_2(\mathcal{O}_K)$  · Ganita Seminar University of Toronto
- 2006 One-Cusped Congruence Subgroups of Bianchi Groups · Topology Seminar Université du Québec à Montréal (UQÀM)
- 2006 Cusps and Congruence Subgroups of  $\mathrm{PSL}_2(\mathcal{O}_K)$  · Number Theory Seminar · UBC/SFU
- 2006 Cusps and Congruence Subgroups of Bianchi Groups · Topology/Geometry Seminar SUNY Buffalo

## Other Recent Conferences Attended

- 2011 Diophantine Methods, Lattices, and Arithmetic Theory of Quadratic Forms · Banff International Research Station
- 2011 Faces of Geometry: Groups, 3-Manifolds and Singularities · Columbia University
- 2010 Geometry, Topology and Dynamics of Character Varieties · National University of Singapore
- 2010 Character Varieties in the Geometry and Topology of Low-dimensional Manifolds Banff International Research Station

2009 Interactions Between Hyperbolic Geometry, Quantum Topology and Number Theory · Columbia University

## Outreach

2010 What is Topology? · Women in Math, Science and Engineering (WIMSE) Florida State University

2005 Science Fair Judge · University of Texas Elementary School

2004 Saturday Morning Math Group Coordinator · University of Texas

2003 Emerging Scholars Program Instructor · University of Texas

## Service

Thesis advisor

Jonathon (Kyle) Armstrong (co-advisor with Eriko Hironaka)

Thesis Committee Member · Florida State Department of Mathematics

Gregory (Ivan) Dungan, and Xia Liao

Teaching Mentor · Florida State Department of Mathematics

Organizer

Algebra and Its Applications Seminar · Florida State · Fall 2011

Professional Development Lunches (with Eriko Hironaka) · Florida State · 2011

Topology Seminar · Florida State · Fall 2009, Spring 2011