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Education

University of Arizona	Mathematics	BS 2007
University of New Mexico	Mathematics	PhD 2013

Appointments

Research Assistant (undergraduate)	University of Arizona, Department of Mathematics	2005–2006
Research Assistant (undergraduate)	University of Arizona, Department of Biochemistry	2006–2007
Teaching Assistant	University of New Mexico, Department of Mathematics	2007–

Teaching Experience

Teaching: Trigonometry, Pre-Calculus, Calculus II, Calculus III, Business Calculus; Recitation Section: Calculus I; Grading: Abstract Algebra, Fourier Analysis, Complex Analysis.

Research Interests

Broad: Arithmetic Geometry, Algebraic Geometry and Number Theory
Specific: Deformation Theory, Jet Spaces, Differential Algebra, “Field With One Element” constructions

Papers

- *Positivity and lifts of the Frobenius* (submitted)
- *Arithmetic deformation classes associated to curves*, (submitted)

Talks and Posters

- *A Torsor of Frobeniuses*, “Witt Vectors, Lifting and Descent” Special Session, Joint Mathematics Meeting, San Diego, Winter 2013
- *An Introduction to p -derivations and the Torsor of Frobeniuses*, Texas Tech University, Algebra Seminar, Fall 2012
- *Deformations of Principal Homogeneous Spaces*, UNM Geometry Seminar, Albuquerque, New Mexico, Fall 2012
- *Arithmetic Deformation Classes Associated to Curves*, Witt Vectors and Geometry, Albuquerque, New Mexico, Summer 2012
- *Arithmetic Deformation Theory*, UNM Geometry Seminar, Spring 2012
- *The Field with One Element*, UNM Geometry Seminar, Spring 2012
- *Deninger Cohomology Theories*, UNM Geometry Seminar, Spring 2012
- *Cohomology Classes associated to Arithmetic Jet Spaces*, Texas Algebraic Geometry Symposium, College Station, Spring 2012 (Same poster given at Southwest Local Algebra Conference in Lubbock Texas)

- *Why lifts of the Frobenius don't exist (for the most part) I and II*, Geometry Seminar, University of New Mexico, Fall 2011
- *Dyadic Harmonic Analysis and the p -adic Numbers*, Harmonic Analysis, Metric Spaces and PDEs, IMUS, University of Sevilla, Sevilla, Spain 2011
- *Arithmetic Deformation Theory of Cycloelliptic Curves*, Geometry Seminar, University of New Mexico, Spring 2011
- *Interactions between Čech Cohomology and Group Cohomology I and II*, Geometry Seminar, University of New Mexico, Fall 2010
- *Coalgebras for Physicists*, Math and Physics Student Seminar, University of New Mexico, Spring 2010
- *Derivations and p -Derivations I and II*, Geometry Seminar, University of New Mexico, Spring 2010
- *Hilbert's 6th Problem*, Math and Physics Student Seminar, University of New Mexico, Fall 2008
- *Generalizing Kuratowski's Theorem to Higher Dimensions*, "AMS General Session", AMS-MAA Joint Meeting, San Diego, 2008
- *Parameter Estimation in Models of Ammonia Metabolism in Aedes-Aegypti Mosquitos*, Meisfeld-Wells Group Seminar, Department of Biochemistry, University of Arizona, Fall 2007
- *The Angel-Devil Problem*, Graduate Student Seminar, University of Arizona, Fall 2006
- *Partial Sums of Taylor Series and Some Steepest Descent Analysis*, Arizona Mathematics Undergraduate Conference, Flagstaff, 2006

Conference Organization

- co-organizer, "Witt Vectors Lifting and Descent", AMS-MAA Joint Meeting, San Diego 2013
- co-organizer, Mathematics and Physics Student Seminar, University of New Mexico
- co-chair, "AMS General Session", AMS-MAA Joint Meeting, San Diego, 2008

Conference Attendance (places where we may have met)

- Joint Meetings (2004–2012)
- Arizona Winter School (2009–2012)
- Western Algebraic Geometry Symposium (2011–2012)
- Oberwolfach Seminar: Algebraic Groups and Patching (2012)
- Algebraic Dynamics (New York, 2012)
- Lifts of the Frobenius (Leiden, 2009)
- Witt Vectors, Foliations and Absolute de Rham Cohomology (Nagoya, 2010)
- Witt Vectors in Arithmetic Geometry and Topology (Albuquerque, 2012)
- IMUS Doc Course: Harmonic Analysis, Metric Spaces and PDEs (Sevilla, 2011)
- 12th New Mexico Analysis Seminar (Albuquerque, 2009)
- Southwest Local Algebra Meeting (Lubbock, 2012)
- Texas Algebraic Geometry Symposium (College Station, 2012)