

CONTACT	Department of Mathematics Athens, GA 30602	(706) 542-2555 dkrashen@uga.edu
WEBPAGE	<a href="http://www.math.uga.edu/~dkrashen">http://www.math.uga.edu/~dkrashen</a>	
APPOINTMENT	Assistant Professor since 08/08	
EDUCATION	University of Texas at Austin Oberlin College	Mathematics Mathematics Ph.D. 2001 B.A. 1994
PHD THESIS	Birational Isomorphisms between Severi-Brauer Varieties	
APPOINTMENTS	Assitant Professor Visiting Scholar Member Member Gibbs Assistant Professor Visiting Scholar VIGRE Assistant Professor Graduate Instructor	University of Georgia University of Pennsylvania Institute for Advanced Study, Princeton Institute for Advanced Study, Princeton Yale University University of Michigan, Ann Arbor University of California, Los Angeles University of Texas at Austin 2008-present 2007-2008 Fall 2006 2004-2005 2003-2007 2002-2003 2001-2003 1997-2001

## Research

REFEREED PUBLICATIONS	<ol style="list-style-type: none"> <li>1. <i>Relative Brauer groups of genus 1 curves</i>, with Mirela Ciperiani, to appear in the Israel Journal of Mathematics.</li> <li>2. <i>Distinguishing algebras by their finite splitting fields</i>, with Kelly McKinnie, to appear in Manuscripta Mathematica.</li> <li>3. Appendix to: <i>Period and index in the Brauer group of an arithmetic surface</i>, by Max Lieblich. To appear in the Journal für die reine und angewandte Mathematik (Crelle's Journal).</li> <li>4. <i>Patching subfields of division algebras</i>, with David Harbater and Julia Hartmann. Transactions of the American Mathematical Society, Vol. 363, no. 6, 2011, Pages 3335-3349.</li> <li>5. <i>Corestrictions of algebras and splitting fields</i>. Transactions of the American Mathematical Society, Vol. 362, no. 9, Sep. 2010, Pages 4781-4792.</li> <li>6. <i>Field patching, factorization and local-global principles</i>. In the book "Quadratic forms, linear algebraic groups, and cohomology," Developments in Mathematics, Vol. 18, pp. 57–82, Springer, 2010.</li> <li>7. <i>Zero cycles on homogeneous varieties</i>. Advances in Mathematics, 223 (2010), 2022–2048.</li> <li>8. <i>Applications of patching to quadratic forms and central simple algebras</i>, with D. Harbater and J. Hartmann. Inventiones Mathematica, 178 (2009), no. 2, 231–263.</li> </ol>
--------------------------	---

9. *Pointed trees of projective spaces*, with L. Chen and A. Gibney. *Journal of Algebraic Geometry*, 18 (2009), no. 3, 477–509.
10. *Index reduction for Brauer classes via stable sheaves*, with M. Lieblich, appendix by Bhargav Bhatt. *Int Math Res Notices* (2008) Vol. 2008, article ID: rnn010.
11. *Birational isomorphisms between generalized Severi-Brauer varieties*. *Journal of Pure and Applied algebra*, 212 (2008), no. 4, 689–703.
12. *Motives of unitary and orthogonal homogeneous varieties*. *Journal of Algebra*, 318 (2007), no. 1, 135–139.
13. *Severi-Brauer varieties and symmetric powers*, with D.J. Saltman. In *Algebraic Transformation Groups and Algebraic Varieties*, volume 132 of *Encyclopaedia Math. Sci.*, pages 59-70. Springer, Berlin, 2004.
14. *Severi-Brauer varieties of semidirect product algebras*. *Documenta Mathematica*, 8:527-546, 2003.

CONFERENCES  
ORGANIZED

- 2011 *Ramification in Algebra and Geometry at Emory*, with Asher Auel, Eric Brussel, Skip Garibaldi and R. Parimala, Emory University.
- 2011 *Deformation theory, patching, quadratic forms, and the Brauer group*, with Max Lieblich, American Institute of Mathematics.
- 2010 *Local-global principles for étale cohomology*, with David Harbater and Julia Hartmann, Banff International Research Station, Research in Teams program.
- 2010 *The Brauer group in Israel*, with Skip Garibaldi, Louis Rowen, David Saltman, Jack Sonn and Uziel Vishne Kibbutz Ketura, Israel.
- 2008 *Conference on the Brauer group at Pingree Park*, with Skip Garibaldi and Kelly McKinnie, Pingree Park, Colorado.

WORKSHOPS

- 2009 *Rational curves and  $\mathbb{A}^1$ -homotopy theory*, American Institute of Mathematics

CONFERENCE  
LECTURES

- 2011 AMS MAA Joint Meeting, Special Session on Quadratic Forms, New Orleans
- 2010 *Field patching and local-global principles for Galois cohomology*  
*Motives and the Homotopy Theory of Schemes*, Oberwolfach MFO, Germany
- 2009 *Field patching and local-global principles for Galois cohomology*  
*Quadratic Forms and Linear Algebraic Groups*, Oberwolfach MFO, Germany
- 2009 *Patching topologies and local-global principles*,  
*Linear Algebraic Groups and Related Structures*, Banff International Research Station
- 2009 *Patching subfields of division algebras*  
*Special session on Brauer groups, Quadratic Forms, Algebraic Groups, and Lie Algebras*,  
AMS Southeastern Section Meeting Raleigh, NC,
- 2008 *Local global principles for field patching and applications to quadratic forms and division algebras*  
*Quadratic forms, linear algebraic groups and cohomology*, Hyderabad, India.
- 2008 *Field patching, quadratic forms and division algebras*

- Algebraic Groups session of the 2nd Canada-France Math Congress
- 2007 *Corestriction and splitting fields of algebras*,  
Linear Algebraic Groups and Cohomology, Emory University.
- 2006 *Index reduction for genus 1 curves*,  
Algebraic Groups, Quadratic Forms and Related Topics, Banff  
International Research Station.
- 2006 *Relative Brauer groups and index reduction for genus 1 curves*,  
Quadratic Forms and Linear Algebraic Groups, Mathematisches  
Forschungsinstitut Oberwolfach.
- 2005 *Zero cycles on homogeneous varieties*,  
Applications of torsors to Galois cohomology and Lie theory,  
Banff International Research Station.
- 2005 *Zero cycles on homogeneous varieties*,  
AMS Summer Institute on Algebraic Geometry, Seattle.
- 2004 *Cycles on homogeneous varieties and subfields of division algebras*,  
Conference on Brauer Groups, Pingree Park, Colorado.
- 2002 *Moduli of subfields of central simple algebras*,  
Conference on Brauer Groups, Pingree Park, Colorado.
- 2002 *Birational isomorphisms between generalized Severi-Brauer varieties*,  
Joint Mathematics Meetings, special session on forms, algebras and  
algebraic groups.
- 2001 *Birational isomorphisms between generalized Severi-Brauer varieties*,  
Conference on K-Theory and Linear Algebraic Groups, Duisburg, Germany.
- 1999 *Rational morphisms between Severi-Brauer varieties*,  
Summer Conference on Brauer Groups, University of Montana, 1999.

SEMINAR  
LECTURES

- 2011  $A^1$ -homotopy theory, group cohomology, and characteristic classes,  
*Categories, Functors and Presheaves*,  
*Presheaves and Limits*,  
*Simplicial Sheaves and Topology*,  
*Sheaves on a Grothendieck Topology*,  
 $A^1$  Homotopy Theory Seminar, University of Georgia.
- 2010 *Higher dimensional Tate-Shafarevich groups*,  
Algebra Seminar, Emory University.
- 2010 *The Clifford algebra of a morphism*,  
Algebra Seminar, Michigan State University.
- 2010 *Division algebras and projective space bundles*,  
VIGRE Graduate Student Seminar, University of Georgia.
- 2010 *Introduction to tropical geometry*,  
*Fields and valuations*,  
*Fields and valuations; algebraic geometry*,  
Tropical Geometry Seminar, University of Georgia.
- 2008 *The index of a division algebra*,  
Number Theory Seminar, University of Georgia.
- 2008 *The field with one element?* (2 part talk),  
Galois Seminar, University of Pennsylvania.
- 2008 *Corestrictions and splittings of separable algebras via Segre embeddings*  
Algebra Seminar, University of Georgia.
- 2008 *Division algebras and homogeneous varieties*,  
Algebra Seminar, University of Georgia.
- 2007 *Splitting fields and corestrictions of algebras*,  
Galois Seminar, University of Pennsylvania.
- 2007 *Galois subfields of division algebras*,

- Algebraic Geometry Seminar, Rice University.
- 2006 *The relative Brauer group of a genus 1 curve*,  
Algebra Seminar, University of Pennsylvania.
- 2005 *R-equivalence and 0-dimensional cycles*,  
Algebra Seminar, University of Pennsylvania.
- 2005 *Compactifying a space of configurations of points on  $\mathbb{A}^n$* ,  
Infinite dimensional algebraic geometry seminar, Yale University.
- 2005 *Quadratic forms and the period index problem*,  
Algebra and Lie Groups seminar, Yale University.
- 2004 *The geometry of division algebras*,  
Algebraic Geometry Seminar, Columbia University.
- 2004 *Zero cycles on homogeneous varieties*,  
Institute for Advanced Study, Princeton.
- 2003 *Zero cycles on some homogeneous varieties*,  
Geometry, Algebra, Singularities, Combinatorics Seminar, Northeastern University.
- 2002 *The geometry of central simple algebras*,  
Algebraic Geometry Seminar, University of Michigan, Ann Arbor.
- 2002 *Moduli spaces of tori in a linear algebraic group*,  
Algebra Seminar, University of Texas at Austin, 2002.
- 2001 *Ideal varieties of algebras*,  
Colloquium, Emory University, Department of Mathematics and  
Computer Science, 2001.

---

## Grants

EXTERNAL FUNDING	2010–2013	National Science Foundation Grant, “The structure of invariants in arithmetic and geometry”
	2009–2010	National Security Agency Young Investigator’s Grant
	2008–2009	National Security Agency Young Investigator’s Grant, H98230-08-1-0109
	2006–2007	National Security Agency Young Investigator’s Grant, H98230-06-1-0032
INTERNAL FUNDING	2009	UGA Foreign travel assistance grant

---

## University Service at UGA

DEPARTMENTAL COMMITTEES	2011	Algebra Qualifying Examination Committee
	2010 - 2011	Cantrell Lecture Series Committee (for 2011 lectures)
	2008 - Present	Personnel Committee

UNDERGRADUATE TEACHING	2011	Fall	MATH3000 Linear Algebra
	2011	Fall	MATH2700 Differential Equations
	2011	Spring	MATH2250, Calculus
	2010	Spring	MATH4690/6690, Graph Theory
	2009	Fall	MATH2200, Calculus (2 sections)
	2008	Fall	MATH3000, Linear Algebra
GRADUATE TEACHING	2011	Spring	Quadratic Forms
	2010	Fall	MATH8000, Graduate Algebra
	2010	Summer	MATH8900, Spectral Sequences
	2009	Spring	MATH8310, Algebraic Geometry: Schemes
COURSES DEVELOPED			Designed summer intensive course on spectral sequences (MATH8900, Summer 2010)
GRADUATE ADVISORY COMMITTEES			<ul style="list-style-type: none"> <li>• Joseph Tenini (Chair)</li> <li>• Patrick McFaddin</li> <li>• Nick Castro</li> <li>• Duy Nguyen</li> <li>• Phong Luu</li> <li>• Brian Bonsignore</li> </ul>
GRADUATE PH.D. COMMITTEES AT UGA			<ul style="list-style-type: none"> <li>• Jim Stankewicz (Number Theory)</li> <li>• Kate Thompson (Number Theory)</li> <li>• Duy Nguyen (Algebra)</li> <li>• Jae Ho Shin (Algebraic Geometry)</li> </ul>

---

## Professional Activities

REFeree SERVICE	2011–2014	Associate Editor, the American Mathematical Monthly
	2010	Transactions of the American Mathematical Society
	2010	Communications in Algebra
	2010	Journal of Pure and Applied Algebra
	2010	Crelle’s Journal (Journal für die reine und angewandte Mathematik)
	2010	Journal of Algebra
	2009	Mathematische Annalen
	2009	Journal of Algebra
	2009	Journal of K-Theory
	2009	Pacific Journal of Mathematics
	2009	National Security Agency Mathematical Sciences Grant Reviewer
	2008	Manuscripta Mathematica
OUTREACH	2010	Advisor for the “Young Dawgs” summer program at UGA, for student Rita Koslov
	2010	Administrator for “Mentoring and Advice for Talented High-School Students” program
	2009	Barrow elementary school career day presentation
	2008	Barrow elementary school career day presentation
UNDERGRADUATE PRESENTATIONS	2010	UGA undergraduate mathematics club presentation