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WEBSITE	<a href="http://dkrashen.org">http://dkrashen.org</a>	
APPOINTMENTS	<i>Associate Professor</i> , 2012-present, University of Georgia <i>Assistant Professor</i> , 2008-2012, University of Georgia <i>Visiting Scholar</i> , 2007-2008, University of Pennsylvania <i>Member</i> , Fall 2006, Institute for Advanced Study, Princeton <i>Member</i> , 2004-2005, Institute for Advanced Study, Princeton <i>Gibbs Assistant Professor</i> , 2003-2007, Yale University <i>Visiting Scholar</i> , 2002-2003, University of Michigan, Ann Arbor <i>VIGRE Assistant Professor</i> , 2001-2003, University of California, Los Angeles <i>Graduate Instructor</i> , 1997-2001, University of Texas at Austin	

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## Grants

ACTIVE GRANTS	<ol style="list-style-type: none"><li>1. <i>FRG: Collaborative Research: Obstructions to Local-Global Principles and Applications to Algebraic Structures.</i>, National Science Foundation PI: Daniel Krashen. Awarded 4/28/2015, award amount \$173,174. Description: <i>This proposal funds research activities including faculty summer salary, and graduate student support. It is a collaborative proposal in conjunction with parallel proposals by David Harbater and Julia Hartmann at the University of Pennsylvania, Parimala and V. Suresh at Emory University, and also involving Jean-Louis Colliot-Thelene as an additional participant at the Universite Paris-Sud.</i> 07/01/15-06/31/18.</li><li>2. <i>Collaborative Research: Georgia Algebraic Geometry Symposium</i>, National Science Foundation PI: Valery Alexeev, coPIs: Valery Alexeev, Noah Giansiracusa, Daniel Krashen, Angela Gibney, Dino Lorenzini. Awarded 6/13/2015, award amount \$27,813. Description: <i>Joint proposal together with Emory and Georgia Tech. For an Algebraic Geometry conference in each of the 3 years, rotating institutions each year.</i> 06/15/15-05/31/18.</li><li>3. <i>RTG: Algebra, Algebraic Geometry, and Number Theory</i>, National Science Foundation (DMS-1344994) PI: Dino Lorenzini,</li></ol>
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coPIs: Valery Alexeev, Pete L. Clark, Daniel Krashen, Angela Gibney.

Awarded 04/23/2014, award amount \$2,000,000.

Description: *The AGANT (Algebraic Geometry, Algebra and Number Theory) Research and Training Group at the University of Georgia Mathematics Department grant supports a number of programs and activities the the UGA Math department at a variety of levels, from high school students to postdoctoral fellows.*

05/01/14-04/30/19.

<http://agant.torsor.org>.

4. *CAREER: The Arithmetic of Fields and the Complexity of Algebraic Structures, National Science Foundation (DMS-1151252)*

PI: Daniel Krashen.

Awarded 02/16/2015, award amount \$790,922.

Description: *This is a research grant for work in Algebra, Arithmetic Geometry and Algebraic Geometry, drawing on ideas from Homotopy theory. The grant provides summer faculty support, travel funding, graduate stipends and a number of outreach activities.*

07/01/12-06/30/17.

<http://dkrashen.github.io>.

#### PREVIOUS GRANTS AWARDED

5. *The 12th Brauer Group Meeting, National Science Foundation*

PI: Kelly McKinnie,

coPIs: Daniel Krashen, Eric Brussel.

Description: *For a conference which was held summer 2015 at Pingree Park Colorado on the study of the Brauer group.* 04/01/15-03/31/16

<http://torsor.github.io/brauer/index2015/>

6. *The structure of invariants in algebra and geometry, National Science Foundation (DMS-1007462)*

PI: Daniel Krashen.

Awarded , award amount \$164,879.

09/01/10-08/31/13

7. *The 10th Brauer Group Meeting, National Science Foundation (DMS-1214939)*

PI: Kelly McKinnie,

coPIs: Daniel Krashen, Eric Brussel.

06/01/12-05/31/13

8. *Young Investigator's Grant, National Security Agency*

PI: Daniel Krashen.

2009-2010

9. *University of Georgia Foreign travel grant, University of Georgia*

PI: Daniel Krashen.

2009

10. *Young Investigator's Grant, National Security Agency (H98230-08-1-0109)*

PI: Daniel Krashen.

2008-2009

11. *Young Investigator's Grant, National Security Agency (H98230-06-1-0032)*  
PI: Daniel Krashen.  
2006-2007

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## Awards

1. Presidential Early Career Award for Scientists and Engineers (PECASE) (2016)
2. University of Georgia Outstanding Professor Award (2016)
3. University of Georgia Creative Research Medal (2012)

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## Research

### PUBLICATIONS

1. *Derived categories for torsors for Abelian schemes*, with Benjamin Antieau and Matthew Ward.  
<http://arxiv.org/abs/1409.2580>.
2. *Torsion in Chow groups of zero cycles of homogeneous projective varieties*.  
<http://arxiv.org/abs/1409.1888>.
3. *Period and index, symbol lengths, and generic splittings in Galois cohomology*, to appear in the Bulletin of the London Mathematical Society.  
<http://arxiv.org/abs/1305.5217>.
4. *Local-global principles for torsors over arithmetic curves*, with David Harbater and Julia Hartmann, American Journal of Mathematics, 137 (2015), no. 6, 1559–1612.  
<http://arxiv.org/abs/1108.3323>.
5. *Diophantine and cohomological dimensions*, with Eliyahu Matzri, Proceedings of the AMS, 143 (2015), no. 7, 2779–2788. <http://arxiv.org/abs/1305.5295>.
6. *Refinements to patching and applications to field invariants*, with David Harbater and Julia Hartmann, International Math. Research Notices, doi: 10.1093/imrn/rnu278 (2015). <http://arxiv.org/abs/1404.4349>.
7. *Local-global principles for Galois cohomology*, with David Harbater and Julia Hartmann, Comment. Math. Helv., 89 (2014), no. 1, 215–253. <http://arxiv.org/abs/1208.6359>.
8. *Weierstrass preparation and algebraic invariants*, with David Harbater and Julia Hartmann, Math. Ann., 356 (2013), no. 4, 1405–1424. <http://arxiv.org/abs/1109.6362>.
9. *Relative Brauer groups of genus 1 curves*, with Mirela Ciperiani, Israel J. Math., 192 (2012), no. 2, 921–949. <http://arxiv.org/abs/math/0701614>.

10. *Appendix to: Period and index in the Brauer group of an arithmetic surface*, J. Reine Angew. Math., 659 (2011), 1–41. <http://arxiv.org/abs/math/0702240>.
11. *Patching subfields of division algebras*, with David Harbater and Julia Hartmann, Trans. Amer. Math. Soc., 363 (2011), no. 6, 3335–3349. <http://arxiv.org/abs/0904.1594>.
12. *Distinguishing division algebras by finite splitting fields*, with Kelly McKinnie, Manuscripta Math., 134 (2011), no. 1-2, 171–182.. <http://arxiv.org/abs/1001.3685>.
13. *Field patching, factorization, and local-global principles*, Quadratic forms, linear algebraic groups, and cohomology, 57–82, Dev. Math., 18, Springer, New York, 2010. <http://arxiv.org/abs/0909.3115>.
14. *Corestrictions of algebras and splitting fields*, Trans. Amer. Math. Soc., 362 (2010), no. 9, 4781–4792. <http://arxiv.org/abs/0704.3443>.
15. *Zero cycles on homogeneous varieties*, Adv. Math., 223 (2010), no. 6, 2022–2048. <http://arxiv.org/abs/math/0501399>.
16. *Applications of patching to quadratic forms and central simple algebras*, with David Harbater and Julia Hartmann, Invent. Math., 178 (2010), no. 2, 231–263. <http://arxiv.org/abs/0809.4481>.
17. *Pointed trees of projective spaces.*, with Linda Chen and Angela Gibney, J. Algebraic Geom., 18 (2009), no. 3, 477–509.. <http://arxiv.org/abs/math/0505296>.
18. *Index reduction for Brauer classes via stable sheaves*, with Max Lieblich, Int. Math. Res. Not. IMRN, no. 8 (2008), Art. ID rnn010, 31 pp.. <http://arxiv.org/abs/0706.1072>.
19. *Birational maps between generalized Severi-Brauer varieties*, J. Pure Appl. Algebra, 212 (2008), no. 4, 689–703. <http://arxiv.org/abs/math/0203117>.
20. *Motives of unitary and orthogonal homogeneous varieties*, J. Algebra, 318 (2007), no. 1, 135–139. <http://arxiv.org/abs/math/0603389>.
21. *Severi-Brauer varieties and symmetric powers*, with David J. Saltman, Algebraic transformation groups and algebraic varieties, 59–70, Encyclopaedia Math. Sci., 132, Springer, Berlin, 2004.
22. *Severi-Brauer varieties of semidirect product algebras*, Doc. Math., 8 (2003), 527–546 (electronic). <http://arxiv.org/abs/math/0206154>.
23. *Moduli of étale subalgebras in an Azumaya algebra.* <http://arxiv.org/abs/0411529>.

EXPOSITORY  
MONOGRAPHS

PHD THESIS

*Birational Isomorphisms between Severi-Brauer Varieties*  
University of Texas at Austin, under the direction of David J. Saltman

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## Research Presentations

- (2015) *The Clifford Algebra of a finite morphism*, Special Session on Quadratic Forms in Arithmetic and Geometry, AMS Sectional Meeting, Huntsville, Alabama.
- (2014) *Birational isomorphisms between noncommutative surfaces, finite over their centers*, Special Algebraic Geometry Seminar, UT Austin.
- (2014) *Higer dimensional local-global principles for torsors under linear algebraic groups*, Special Session on Exceptional Groups in Physics, Algebra, and Geometry, AMS Southeastern Sectional Meeting University of North Carolina at Greensboro.
- (2014) Workshop on Algebraic and Geometric Invariants of Linear Algebraic Groups and Homogeneous Spaces, University of Ottawa.
- (2014) *Algebraic structures and the arithmetic of fields*, Invited address at the Sectional Meeting of the AMS, Knoxville, TN.
- (2013) *Derived categories of torsors for Abelian varieties*, Winter Meeting of the Canadian Mathematical Society.
- (2013) *Field patching and local-global principles*, Thematic Program on Torsors, Nonassociative Algebras and Cohomological Invariants, Fields Institute.
- (2013) *The Clifford algebra of a morphism*, RIMS workshop, Kyoto, Japan.
- (2013) *Bounding the symbol length in Galois cohomology*, Conference on Brauer groups, the Technion University, Haifa, Israel.
- (2013) *Splitting dimension and symbol length in Galois cohomology*, AMS MAA Joint Meeting, Special session on the Brauer group on algebra and geometry, San Diego.
- (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.

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## Workshops

1. Local-Global Principles and Their Obstructions, University of Pennsylvania (organizer, presenter), 2015.
2. Algebraic Geometry in Seattle: New connections for recent PhDs (mentor), 2014.

3. Brauer groups and obstruction problems: moduli spaces and arithmetic, American Institute of Mathematics (organizer, participant), 2013.
  4. Rational curves and  $\mathbb{A}^1$ -homotopy theory, American Institute of Mathematics (participant), 2009.
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## Conference Organization

1. The Georgia Algebraic Geometry Symposium at Emory, co-organized with A. Gibney, R. Parimala, V. Suresh, D. Zurich-Brown, 2015.  
<https://sites.google.com/site/galgeoms/>
2. Workshop: Local-Global Principles and Their Obstructions, co-organized with D. Harbater, J. Hartmann, R. Parimala, V. Suresh, 2015.  
<https://www.math.upenn.edu/~hartmann/sha/>
3. The 12th Brauer Group Meeting at Pingree Park, co-organized with Eric Brussel and Kelly McKinnie, 2015.  
<http://torsor.github.io/brauer/index2015/>
4. The Georgia Algebraic Geometry Symposium, co-organized with Valery Alexeev, Noah Giansiracusa and Angela Gibney, 2014.  
<http://gags.torsor.org/conf2014/>
5. AMS special session: Galois Cohomology and the Brauer Group, Knoxville, TN, co-organized with Ben Antieau and V. Suresh, 2014.  
[http://www.ams.org/meetings/sectional/2216\\_special.html](http://www.ams.org/meetings/sectional/2216_special.html)
6. The Georgia Algebraic Geometry Symposium, co-organized with Valery Alexeev and Angela Gibney, 2013.  
<http://gags.torsor.org/conf2013/>
7. Algebraic Groups and Patching, Oberwolfach Mathematical Research Institute, Oberwolfach, Germany, co-organized with Karim Becher, David Harbater and Julia Hartmann, 2012.
8. The 10th Brauer Group Meeting at Pingree Park, co-organized with Eric Brussel and Kelly McKinnie, 2012.
9. The Georgia Algebraic Geometry Symposium and Summer School Program, University of Georgia, co-organized with Valery Alexeev, Angela Gibney and Elham Izadi, 2012.
10. Ramification in Algebra and Geometry at Emory, co-organized with Asher Auel, Eric Brussel, Skip Garibaldi and R. Parimala, 2011.
11. Deformation theory, patching, quadratic forms, and the Brauer group, American Institute of Mathematics, co-organized with Max Lieblich, 2011.
12. Local-global principles for étale cohomology, Banff International Research Station, Research in Teams program, co-organized with David Harbater and Julia Hartmann, 2010.
13. The Brauer group in Israel, Kibbutz Ketura, Israel, co-organized with Skip Garibaldi, Louis Rowen, David Saltman, Jack Sonn and Uziel Vishne, 2010.

14. Conference on the Brauer group at Pingree Park, co-organized with Skip Garibaldi and Kelly McKinnie, 2008.