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APPOINTMENTS

Associate Professor, 2012-present, University of Georgia Assistant Professor, 2008-2012, University of Georgia Visiting Scholar, 2007-2008, University of Pennsylvania Member, Fall 2006, Institute for Advanced Study, Princeton Member, 2004-2005, Institute for Advanced Study, Princeton

Gibbs Assistant Professor, 2003-2007, Yale University Visiting Scholar, 2002-2003, University of Michigan, Ann Arbor

VIGRE Assistant Professor, 2001-2003, University of California, Los Angeles

Graduate Instructor, 1997-2001, University of Texas at Austin

Publications

- 1. Derived categories for torsors for Abelian schemes, with Benjamin Antieau and Matthew Ward (preprint posted in 2014). http://arxiv.org/abs/1409.2580.
- 2. Torsion in Chow groups of zero cycles of homogeneous projective varieties (preprint posted in 2014).

http://arxiv.org/abs/1409.1888.

- 3. Period and index, symbol lengths, and generic splittings in Galois cohomology (preprint posted in 2013). http://arxiv.org/abs/1305.5217.
- 4. Local-global principles for torsors over arithmetic curves, with David Harbater and Julia Hartmann, To appear in the American Journal of Mathematics (accepted in 2015).

http://arxiv.org/abs/1108.3323.

- 5. Diophantine and cohomological dimensions, with Eliyahu Matzri, to appear in Transactions of the AMS (accepted in 2014). 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. 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.

RECENT PRESENTATIONS

1. The Clifford Algebra of a finite morphism, Special Session on Quadratic Forms in Arithmetic and Geometry, AMS Sectional Meeting, Huntsville, Alabama, 2015.

- 2. Birational isomorphisms between noncommutative surfaces, finite over their centers, Special Algebraic Geometry Seminar, UT Austin, 2014.
- 3. 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.
- 4. 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, 2014.
- 6. Derived categories of torsors for Abelian varieties, Winter Meeting of the Canadian Mathematical Society, 2013.
- 7. Field patching and local-global principles, Thematic Program on Torsors, Nonassociative Algebras and Cohomological Invariants, Fields Institute, 2013.
- 8. The Clifford algebra of a morphism, RIMS workshop, Kyoto, Japan, 2013.
- 9. 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, 2013.

RECENT WORKSHOPS

- 1. Algebraic Geometry in Seattle: New connections for recent PhDs (mentor), 2014.
- 2. Brauer groups and obstruction problems: moduli spaces and arithmetic, American Institute of Mathematics SQuaRE, 2013.

Conference Organization

- 1. The 12th Brauer Group Meeting at Pingree Park, co-organized with Eric Brussel and Kelly McKinnie, 2015. http://torsor.github.io/brauer/
- The Georgia Algebraic Geometry Symposium, co-organized with Valery Alexeev, Noah Giansiracusa and Angela Gibney, 2014. http://gags.torsor.org/conf2014/
- 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
- The Georgia Algebraic Geometry Symposium, co-organized with Valery Alexeev and Angela Gibney, 2013. http://gags.torsor.org/conf2013/
- Algebraic Groups and Patching, Oberwolfach Mathematical Research Institute, Oberwolfach, Germany, co-organized with Karim Becher, David Harbater and Julia Hartmann, 2012.
- The 10th Brauer Group Meeting at Pingree Park, co-organized with Eric Brussel and Kelly McKinnie, 2012.

- The Georgia Algebraic Geometry Symposium and Summer School Program, University of Georgia, co-organized with Valery Alexeev, Angela Gibney and Elham Izadi, 2012.
- 8. Ramification in Algebra and Geometry at Emory, co-organized with Asher Auel, Eric Brussel, Skip Garibaldi and R. Parimala, 2011.
- 9. Deformation theory, patching, quadratic forms, and the Bruaer group, American Institute of Mathematics, co-organized with Max Lieblich, 2011.
- Local-global principles for étale cohomology, Banff International Research Station, Research in Teams program, co-organized with David Harbater and Julia Hartmann, 2010.
- 11. The Brauer group in Israel, Kibbutz Ketura, Israel, co-organized with Skip Garibaldi, Louis Rowen, David Saltman, Jack Sonn and Uziel Vishne, 2010.
- 12. Conference on the Brauer group at Pingree Park, co-organized with Skip Garibaldi and Kelly McKinnie, 2008.

ACTIVE GRANTS

1. The 12th Brauer Group Meeting, National Science Foundation PI: Kelly McKinnie, coPIs: Daniel Krashen, Eric Brussel. 04/01/15-03/31/16. http://torsor.github.io/brauer/.

2. RTG: Algebra, Algebraic Geometry, and Number Theory, National Science Foundation (DMS-1344994)

PI: Dino Lorenzini, coPIs: Valery Alexeev, Pete L. Clark, Daniel Krashen, Angela Gibney.

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

http://agant.torsor.org.

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

PI: Daniel Krashen.

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

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PREVIOUS GRANTS AND AWARDS

- 4. University of Georgia Creative research medal (2012)
- 5. The structure of invariants in algebra and geometry, National Science Foundation PI: Daniel Krashen. 09/01/10-08/31/13
- 6. The 10th Brauer Group Meeting, National Science Foundation (DMS-1214939) PI: Kelly McKinnie, coPIs: Daniel Krashen, Eric Brussel. 06/01/12-05/31/13
- 7. Young Investigator's Grant, National Security Agency PI: Daniel Krashen. 2009-2010

- 8. University of Georgia Foreign travel grant, University of Georgia PI: Daniel Krashen. 2009
- 9. Young Investigator's Grant, National Security Agency (H98230-08-1-0109) PI: Daniel Krashen. 2008-2009
- 10. Young Investigator's Grant, National Security Agency (H98230-06-1-0032) PI: Daniel Krashen. 2006-2007

CURRENT PHD STUDENTS

1. Patrick McFaddin

Topic: Algebraic K-theory and K-cohomology of homogeneous varieties.

2. Maren Turbow

Topic: Structure theory of graded central simple algebras.

3. Ernest Guico

Topic: Field patching.

FORMER PHD STUDENTS

4. Stacy Musgrave, thesis title: Structure and Representation of Alternative Clifford Algebras of Quadratic Forms.

Current position: Postdoctoral scholar at Arizona State University

5. Kate Thompson (coadvised with Jonathan Hanke), thesis title: Explicit Representation Results of Quadratic Forms over \mathbb{Q} and $\mathbb{Q}\sqrt{5}$ by Analytic Methods. Current position: Visiting Assistant Professor at Davidson College