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WEBSITE

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

Grants

- ACTIVE GRANTS
1. *FRG: Collaborative Research: Obstructions to Local-Global Principles and Applications to Algebraic Structures.*, National Science Foundation
PI: Daniel Krashen.
Description: *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.*
07/01/15-06/31/18.
 2. *Collaborative Research: Georgia Algebraic Geometry Symposium*, National Science Foundation
PI: Valery Alexeev,
coPIs: Valery Alexeev, Noah Giansiracusa, Daniel Krashen, Angela Gibney, Dino Lorenzini.
Description: *Joint proposal together with Emory and Georgia Tech. For an Algebraic Geometry conference in each of the 3 years, rotating institutions each year.*
06/15/15-05/31/18.
 3. *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.
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.

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>.

Awards

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

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*.
<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.
<http://arxiv.org/abs/1108.3323>.
5. *Diophantine and cohomological dimensions*, with Eliyahu Matzri, Proceedings of the American Mathematical Society, 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.
<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>.

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/>
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
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.