

Patrick K. McFaddin

LeConte College 300E
Department of Mathematics
University of South Carolina

pkmcfaddin@gmail.com
mcfaddin.github.io

Education

Ph.D., Mathematics

University of Georgia

May 2016

Athens, GA

- Advisor: Daniel Krashen
- Dissertation: K -Cohomology of Generalized Severi-Brauer Varieties

M.A., Mathematics

University of Georgia

August 2011

Athens, GA

- Advisor: Robert Varley

B.A., with Honors in Mathematics

University of Southern California

May 2010

Los Angeles, CA

Employment

University of South Carolina

Visiting Research Assistant Professor

Aug. 2016 - Present

University of Georgia

Graduate Research/Teaching Assistant

June 2010- May 2016

Research Interests

Algebra and algebraic geometry: algebraic K -theory, K -cohomology, algebraic cycles, motives, central simple algebras, algebraic groups, homogenous varieties

Publications

1. The group of K_1 -zero-cycles on the second generalized Severi-Brauer variety of an algebra of index 4, submitted, (arXiv:1606.05762v2), 2016.
2. (with V. Alexeev, et al.) Extended Torelli map to the Igusa blowup in genus 6, 7, and 8. *Experimental Mathematics*, Vol. 21(2), pp. 193-203, 2012.

Work in Progress

1. A conditional description of the group of K_1 -zero-cycles on generalized Severi-Brauer varieties.
2. Patching over fields and étale K -theory.
3. The Chen-Gibney-Krashen moduli spaces revisited.
(with P. Gallardo, N. Giansiracusa, and X. Wu).
4. A cocycle-free proof of a theorem of Uematsu on the Brauer group of affine diagonal quadrics.
(with R. Gordon-Sarney, D. Adams, D. Litt, S. Mathur).

Selected Talks

Subfields of Central Simple Algebras <i>Math Department Colloquium, California State University Sacramento</i>	Feb. 2016
Chow Groups with Coefficients and Generalized Severi-Brauer Varieties <i>Algebra and Number Theory Seminar, Emory University</i>	Feb. 2016
K-Cohomology of Generalized Severi-Brauer Varieties <i>Algebra Seminar, University of Georgia</i>	Sept. 2015
Twisted Homogenous Varieties, Derived Equivalences, and dg-Stacks <i>Algebra Seminar, University of Georgia</i>	Jan. 2015

Conferences and Workshops Attended

Georgia Algebraic Geometry Symposium <i>Emory University</i>	Oct. 2015
Local-Global Principles and Their Obstructions <i>University of Pennsylvania</i>	Oct. 2015
Grad Student Bootcamp for the Alg. Geom. Research Institute <i>University of Utah</i>	July 2015
The 12th Brauer Group Conference <i>Pingree Park, CO</i>	June 2015
Arizona Winter School: Arithmetic and Higher-Dimensional Varieties <i>University of Arizona</i>	March 2015
Georgia Algebraic Geometry Symposium <i>University of Georgia</i>	Oct. 2014
Representation Theory and K-Theory <i>University of Southern California</i>	May 2014

Southeastern Lie Theory Workshop <i>University of Georgia</i>	May 2014
Georgia Algebraic Geometry Symposium <i>University of Georgia</i>	Oct. 2013
Torsors, Nonassociative Algebras, and Cohomological Invariants <i>Fields Institute</i>	June 2013
Homotopical Methods in Algebraic Geometry <i>University of Southern California</i>	May 2013
Workshop on Torsors, Motives, and Cohomological Invariants <i>Fields Institute</i>	May 2013
Oberwolfach Seminar on Algebraic Groups and Patching <i>Mathematisches Forschungsinstitut Oberwolfach</i>	Oct. 2012
Georgia Algebraic Geometry Symposium <i>University of Georgia</i>	May 2012
VIGRE Summer School Program in Algebraic Geometry <i>University of Georgia</i>	May 2012
Arizona Winter School: Ramification and Geometry <i>University of Arizona</i>	March 2012
Algebraic Geometry Northeastern Series Workshop <i>Stony Brook University</i>	Oct. 2011
A Celebration of Algebraic Geometry <i>Harvard University</i>	Aug. 2011
K-Theory and Motives <i>University of California, Los Angeles</i>	March 2011
Compact Moduli and Vector Bundles <i>University of Georgia</i>	May 2010

Service and Outreach

UGA Graduate Student Bootcamp <i>Job Market Panelist/Speaker on "How to give a good math talk"</i>	June 2016
University of Georgia Math Camp <i>Graduate Instructor</i>	June 2016 July 2014
Project REFOCUS <i>21st Century Skills Program Volunteer</i>	Spring 2016 Fall 2015
University of Georgia High School Math Tournament <i>Volunteer</i>	Nov. 2014 Nov. 2013
A Place Called Home Non-Profit Youth Center <i>Volunteer Tutor, K-12, all subjects</i>	Spring 2008

Teaching

University of South Carolina

Instructor of Record

- Math 242- Elementary Differential Equations Fall 2016

University of Georgia

Instructor of Record

- Math 2260- Calculus II for Science and Engineering Fall 2015
- Math 1113- Pre-Calculus Spring 2015
- Math 2250- Calculus I for Science and Engineering Spring 2014
- Math 1113- Pre-Calculus Fall 2013

Recitation Instructor

- Math 2200- Analytic Geometry and Calculus Spring 2011
Fall 2010

Skills

Technology

Self-instructed coding in Python, HTML, website building, Mathematica, Sage, Git, L^AT_EX, experience with Windows, Mac, Linux (via Ubuntu) operating systems.

Language

- French, limited working proficiency
- Spanish, elementary proficiency

Awards

Great Lakes National Scholarship

Aug. 2015

Great Lakes Educational Loan Services

Outstanding Teaching Assistant

March 2015

University of Georgia

VIGRE Fellowship

Aug. 2011 - July 2012

References

Daniel Krashen

Department of Mathematics
University of Georgia
Email: dkrashen@uga.edu
Phone: (706) 542-2555

Pete Clark

Department of Mathematics
University of Georgia
Email: plclark@gmail.com
Phone: (706) 542-2594

David Harbater

Department of Mathematics
University of Pennsylvania
Email: harbater@math.upenn.edu
Phone: (215) 898-9594

Daniel Nakano

Department of Mathematics
University of Georgia
Email: nakano@math.uga.edu
Phone: (706) 542-2576

Lisa Townsley (Teaching)

Department of Mathematics
University of Georgia
Email: townsley@math.uga.edu
Phone: (706) 542-2580

Robert Varley

Department of Mathematics
University of Georgia
Email: rvarley@math.uga.edu
Phone: (706) 542-2550