

JOSHUA RUITER

Michigan State University
Department of Mathematics

CONTACT INFORMATION

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EDUCATION

Ph.D., Mathematics, Michigan State University September 2016 - Present
Advisor: Igor Rapinchuk, Current GPA: 3.66 Graduation expected May 2022

B.A., Mathematics, Calvin College September 2012-May 2016
Thesis advisor: Christopher Mosely, GPA: 3.9

RESEARCH

Current interests: Algebraic K-theory, group cohomology, Brauer groups, algebraic number theory.

Publications:

- Julia Bujalski, Grace Dwyer, Todd Kapitula, Quang-Nhat Le, Harjasleen Malvai, Jordan Rosenthal-Kay, and **Joshua Ruiter**. Consensus and clustering in opinion formation on networks. 376. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. <http://doi.org/10.1098/rsta.2017.0186>
- Shamuël Auyeung, **Joshua Ruiter**, and Daiwei Zhang. An Algebraic Characterization of Highly Connected $2n$ -Manifolds. *Rose-Hulman Undergraduate Mathematics Journal*: Vol. 17 : Iss. 2 , Article 5. <https://scholar.rose-hulman.edu/rhumj/vol17/iss2/5>

Talks and seminars:

- *Universal Central Extensions of Groups with Connections to K-Theory*
MSU Student Algebra Seminar Fall 2018
- *Absolute Values on the Rational Numbers and Ostrowski's Theorem*
Calvin College Math Colloquium Fall 2018
- *Absolute Values, Ostrowski's Theorem, and Completions of Fields*
MSU Student Algebra Seminar Fall 2018
- *The Galois Correspondence for Infinite Galois Extensions*
MSU Student Algebra Seminar Spring 2018
- *Lie Algebras and their Root Systems*
Calvin College Math Colloquium Spring 2016
- *Classification of Manifolds via Homotopy*
Calvin College Math Colloquium Spring 2015
- *Is it Possible to Play in Tune?*
Calvin College Math Colloquium Fall 2015

TEACHING

- Instructor for survey of calculus, MSU Fall 2018
- Instructor for multivariable calculus, MSU Summer 2018

- Instructor for multivariable calculus, MSU Summer 2017
- Tutor in math learning center, MSU Fall 2016
- Grader for calculus 2 and linear algebra, Calvin College 2012-2014

EXPERIENCE

Graduate assistant for summer REU in dynamical systems at ICERM with Todd Kapitula and Bjorn Sandstede. Summer 2016

Summer REU in algebraic topology at Calvin College with James Turner. Summer 2014

Internship with Milliman, Inc. Systems and Programming group. Worked in VBA (Microsoft Excel) to update and maintain ActFact, a suite of Excel tools for actuaries. Summer 2012, 2013

HONORS AND AWARDS

- MSU College of Natural Science Recruiting Fellowship 2016-2017
- Calvin College National Merit Scholarship 2012-2016
- Howard Hughes Medical Institute Scholarship 2012-2016
- Wendell Milliman Scholarship 2012-2016
- Kenneth E. and Jean Baker Mathematics and Music Scholarship 2015
- Calvin College Dean's List 2012-2016

MUSICAL ACTIVITIES

- Cellist 1998-present
- Member of MSU Symphony Orchestra and MSU Opera Orchestra Fall 2017
- Principal cellist of MSU Concert Orchestra 2016-2017
- Co-principal cellist of Calvin College orchestra 2014-2016
- Studied with Karen Krummel 2012-2016
- Winner of Calvin College concerto competition 2013
- Toured Costa Rica and Chicago as soloist with Calvin College orchestra 2013,2014
- Founding member and organizer of Calvin College Cello Cabaret 2012-2016
- Solo and chamber recitals at Calvin College 2012-2016
- Composing and arranging for cello ensembles

Arranging portfolio at <https://users.math.msu.edu/users/ruiterj2/music/>