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David C. Meyer

Research Interests

- Finite-dimensional algebras, persistent homology, topological data analysis, modular representation theory, incidence algebras, group cohomology, universal deformation rings

Position

- Visiting Assistant Professor, Smith College, 2018-present
- Postdoctoral Fellow, University of Missouri, 2015-2018
  Mentor: Professor Calin Chindris

Education

- Ph.D. Mathematics, University of Iowa, 2015.
  Thesis Title: Universal deformation rings and fusion
  Advisor: Professor Frauke Bleher
- M.A. Mathematics, Indiana University, 2006.
- B.S. Mathematics, University of Hawaii, 2001.

Publications

- K. Meehan, D. Meyer, *Algebraic stability for the $\mathbb{A}_n$-quiver*, In preparation.
- D. Meyer, R. Soto, D. Wackwitz, *Versal deformation rings for symmetric special biserial algebras*, In preparation.
- K. Meehan, D. Meyer, *Interleaving distance as a limit*. (arXiv:1710.11489v1 [math.AT])
- K. Meehan, D. Meyer, *An Isometry theorem for generalized persistence modules*, Submitted. (arXiv:1710.02858v1[math.AT])
- D. Meyer, *Universal deformation rings for extensions of finite subgroups of $GL_2(\mathbb{C})$*, Submitted. (arXiv:1602,03164[math.RA])
- D. Meyer, *Universal deformation rings and fusion*, Journal of Algebra, 417 (2014), pp. 275-289. (arXiv:1305.3012v3[math.RT])

Awards and Recognition

- Dr. Bor-Luh Lin Award (outstanding PhD thesis in Mathematics), University of Iowa, 2015
- Catherine Wegner Outstanding Mathematics TA Award, University of Iowa, 2013
- NSF VIGRE Fellowship, Indiana University, 2002-2005
- Robert E. Weber Memorial Award (performance on qualifying exams), Indiana University, 2003
- Dorothy Koehler Reed Memorial Scholarship, University of Hawaii, 2001

Conference, Workshops and Seminars

Conferences and Seminars Organized

- Fifth Conference on Geometric Methods in Representation Theory, University of Iowa, co-organizer, November 2017
- Fourth Conference on Geometric Methods in Representation Theory, University of Missouri, co-organizer, November 2016
- Representation Theory of Algebras Reading Seminar, University of Missouri, organizer Fall 2015-2016
- Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, founder 2011, organizer 2011-2015

Conferenc/Invited Talks

- *Representations of incidence algebras and generalized persistence modules*
  BIRS-CMO Multiparameter Persistent Homology Workshop, Oaxaca, Mexico, August 2018
- *Representations of quivers and the shape of finite data sets*
  Departmental Colloqium, Smith College, Northampton, MA, May 2018
- *Representations of posets and the topology of data sets*
  Departmental Colloquium, Bucknell University, Lewisburg, PA, May 2018
- *Some algebraic stability theorems*
  Applied Algebraic Topology Research Network Seminar, online (available on youtube), January 2018
- *Generalized persistence modules and taking limits*
  AMS MAA Joint Meetings, San Diego, CA, January 2018
- *An isometry theorem for incidence algebras*
  Fifth Conference on Geometric Methods in Representation Theory, Iowa City, IA, November 2017
- *Finite subgroups of $Gl_2(\mathbb{C})$ and universal deformation rings*
  Fourth Conference on Geometric Methods in Representation Theory, Columbia, MO, November 2016

- *Universal deformation rings and finite subgroups of $Gl_2(\mathbb{C})$*
  AMS Sectional Meeting, Minnesota, MN, October 2016

- *Universal deformation rings and groups with faithful irreducible complex representations*
  International Conference on Representations of Algebras, Syracuse, NY, August 2016

- *Incidence-like algebras*
  AMS MAA Joint Meetings, Seattle, WA, January 2016

- *Representations of finite subgroups of $GL_2(\mathbb{C})$ and universal deformation rings*
  AMS MAA Joint Meetings, San Antonio, TX, January 2015

- *Universal deformation rings for extensions of finite subgroups of $GL_2(\mathbb{C})$*
  Third Conference on Geometric Methods in Representation Theory, Iowa City, IA, November 2014

- *Universal deformation rings for representations of subgroups of $GL_2(\mathbb{F}_p)$*
  Maurice Auslander Distinguished Lectures and International Conference, Woods Hole, MA, April 2014

- *Universal deformation rings and fusion*
  AMS MAA Joint Meetings, Baltimore, MD, January 2014

- *Universal deformation rings in extensions corresponding to faithful representations*
  Second Conference on Geometric Methods in Representation Theory, Columbia, MO, November 2013

- *Do universal deformation rings recognize fusion?*
  AMS Sectional Meeting, Ames, IA, April 2013

- *Do universal deformation rings recognize fusion?*
  Maurice Auslander Distinguished Lectures and International Conference, Woods Hole, MA, April 2013

- *Universal deformation rings and fusion*
  First Conference on Geometric Methods in Representation Theory, Columbia, MO, November 2012

Workshops and Summer Schools Attended

- Workshop on Multiparameter Persistent Homology, BIRS-CMO, 2018
- PIMS Workshop on Geometric & Topological Aspects of the Representation Theory of Finite Groups, UBC, 2016
- Summer Graduate School on Geometric Group Theory, MSRI, 2015

Selected Seminar Talks

- *Topological data analysis and representations of posets*
  Algebra Seminar, University of Iowa, October 2017

- *The spectrum of the power set of the natural numbers and taking limits*
  Graduate Student Algebra Seminar, University of Missouri, September 2016

- *Candidates for robust invariants for generalized persistence modules*
  Representation Theory of Algebras Reading Seminar, University of Missouri, February 2016

- *Fusion in group theory and a function into local rings*
  Graduate Student Algebra Seminar, University of Missouri, November 2015

- *I spaces of finite representation type*
  Representation Theory of Algebras Reading Seminar, University of Missouri, October2015

- *The function* $R(\Gamma, -)$
  Algebra Seminar, University of Iowa, March 2015

- *The image of a function into* $\widehat{C}$
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, February 2015

- *The no loops conjecture*
  Algebra Seminar, University of Iowa, December 2014

- *Valuation rings and bezout rings*
  Commutative Ring Theory Seminar, University of Iowa, Novemeber 2014

- *Finite subgroups of* $GL_2(\mathbb{C})$ *and the deformation functor*
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, September 2014

- *An exact sequence in group homology*
  Algebra Seminar, University of Iowa, February 2014

- *On fusion categories*
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, February 2014

- *Universal deformation rings in faithful extensions*
  Algebra Seminar, University of Iowa, November 2013

- *Group cohomology and the program for exhaustion*
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, November 2013

- *Connections between group cohomology and fusion*
  Algebra Seminar, University of Iowa, March 2013

- *Cohomology and fusion*
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, February 2013

- *Second cohomology and fusion in dihedral groups*
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, November 2012

- *A cohomological computation*
  Algebra Seminar, University of Iowa, September 2012

- *On group cohomology and extensions by elementary abelian groups*
  Graduate Student Group Representation/Group Cohomology Seminar, University of Iowa, April 2012

- *Exact couples and group cohomology*
  Algebra Seminar, University of Iowa, March 2012

- *Ordinary and modular representation theory*
  Algebra Seminar, University of Iowa, September 2011

- *Generalizing infinite sums*
  GAUSS Seminar, University of Iowa, April 2011

Teaching and Mentoring

Students Mentored

- Killian Meehan, PhD, the University of Missouri

- Katelyn Gutteridge, MA, the University of Missouri

Courses Taught

- Discrete Mathematical Structures, University of Missouri, Spring 2018
- Calculus III, University of Missouri, Spring 2018
- The Theory of Numbers, University of Missouri, Fall 2017
- Discrete Mathematical Structures, University of Missouri, Fall 2017
- Calculus III, University of Missouri, Spring 2017
- Higher Algebra, University of Missouri, Fall 2016
- Discrete Mathematical Structures, University of Missouri, Fall 2016
- Matrix Theory, University of Missouri, Spring 2016
- Calculus III, University of Missouri, Fall 2015
- Calculus I, University of Iowa, Fall 2014
- Elementary Functions, University of Iowa, Spring 2013
- Finite Mathematics, Indiana University, Fall 2005

Recitation Sections Taught

Duties typically included lecturing, writing quizzes, grading, and assisting students in office hours

- Calculus II, University of Iowa, Summer 2014
- Calculus for the Biological Sciences, University of Iowa, Spring 2014
- Engineering Math I, University of Iowa, Fall 2013
- Introduction to Abstract Algebra (undergraduate level), University of Iowa, Fall 2012
- Calculus for the Biological Sciences, University of Iowa, Spring 2012
- Calculus I, University of Iowa, Fall 2011
- Engineering Math II: Multi-variable Calculus, University of Iowa, Spring 2011
- Calculus I, University of Iowa, Fall 2010
- Mathematics for the Biological Sciences, University of Iowa, Fall 2009
- Honors Finite Math, Indiana University, Spring 2006

Thesis Committees

- Killian Meehan, PhD Committee, the University of Missouri, Spring 2018
- Katelyn Gutteridge, Masters Committee, the University of Missouri, Spring 2018
- Dan Kline, PhD Committee, the University of Missouri, Spring 2016

References

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