Benjamin Briggs CV

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Citizenship  UK

Research

Publications and Preprints

9. *Rigidity properties of the cotangent complex* - arXiv:2010.13314, 2020, with Srikanth Iyengar

8. *Constructing non-proxy small test modules for the complete intersection property* - arXiv:2009.11800, 2020, with Eloísa Grifo and Josh Pollitz

7. *Locally complete intersection maps and the proxy small property* - arXiv:2007.08562, 2020, with Srikanth Iyengar, Janina Letz and Josh Pollitz

6. *Stable invariance of the restricted Lie algebra structure of Hochschild cohomology* - arXiv:2006.13871, 2020, with Lleonard Rubio y Degrassi

5. *Vasconcelos’ conjecture on the conormal module* - arXiv:2006.04247, 2020

4. *Hochschild cohomology of twisted tensor products* - arXiv:2005.01087, 2020, with Sarah Witherspoon

3. *The A-infinity Centre and the Characteristic Action of Hochschild Cohomology* - arXiv:1702.00721, 2018, with Vincent Gélinas

2. *Matrix Factorisations Arising From Well-Generated Complex Reflection Groups* - Journal of Algebra, 2020

1. *Lusternik-Schnirelmann Category in Commutative Algebra and The Homotopy Lie Algebras* - C. R. Math. Rep. Acad. Sci. Canada, 2018

Books edited

1. *Maximal Cohen-Macaulay modules and Tate cohomology* - Transcription of an unpublished manuscript by Ragnar-Olaf Buchweitz (1952–2017). To be published as a volume in the Mathematical Surveys and Monographs series of the AMS. Co-editor with Luchezar Avramov, Srikanth Iyengar and Janina Letz.

Thesis

*Local Commutative Algebra and Hochschild Cohomology Through the Lens of Koszul Duality* - math.utah.edu/~briggs/briggsthesis.pdf, 2018

Employment

June 2018 - May 2021  Wylie Assistant Professor, University of Utah

Education

June 2018  PhD in Mathematics advised by Ragnar-Olaf Buchweitz, University of Toronto

June 2013  Master of Mathematics (MMath) first class honours, University of Warwick
Awards

2020 Don H. Tucker Posdoctoral Fellow Award, $3500
2015 Vivekananda Graduate Scholarship for academic excellence in graduate studies for international students, $4000
2013 Warwick Mathematics Institute annual departmental prize for outstanding academic achievement in the MMath, £100

PhD Students

- With Claudia Miller at Syracuse University I am coadvisor to Mkrtich Ohanyan for his PhD thesis on the Hochschild cohomology of short Gorenstein rings.
- With Srikanth Iyengar I am coadvising Daniel McCormick at the University of Utah.

Teaching and Volunteering

2018 - 2020 Lecturer at the University of Utah
- Introduction to Modern Algebra 5310, Fall 2020,
- Linear algebra 2270, Spring 2019, Fall 2019, Spring 2020 (two sections),
- Calculus 1210, Fall 2018

2017 Lecturer at the University of Toronto, Mississauga
- Linear algebra MAT223 Fall 2017

2013 - 2017 Teaching assistant at the University of Toronto

2016 University of Toronto Math Mentorship Program - four month long research program for high school students, volunteer

2012 - 2013 Supervisor for the Warwick Mathematics institute - paid teaching position

2011 - 2012 Academic support for the Warwick Mathematics Society - elected volunteer position

Organising

- Co-organiser of the Zoom special session on DG Methods in Commutative Algebra and Representation Theory, May 2020 (see math.utah.edu/~briggs/dgsession). With Janina Letz and Josh Pollitz.
- Co-organiser of the AMS special session on Building bridges between commutative algebra and nearby areas, to be held at the University of Utah in October 2022. With Josh Pollitz.
- Organiser of the Homological Methods seminar at the University of Toronto, 2016–2018.

Talks

- Spring Southeastern AMS Sectional Meeting, special session on Differential Graded Methods in Commutative Algebra, Georgia Institute of Technology (invited, online, title TBA), 2021
- AMS Joint Mathematics Meeting, Commutative algebra meets representation theory special session, Washington, DC (invited, online)
  * Hochschild cohomology and André-Quillen cohomology, 2021
- UCR (invited, online)
  * The friendship between commutative algebra and rational homotopy theory, 2020
- Commutative and Homological Algebra Market Presentations “CHAMP” (invited, online, title TBA), 2020
- UConn Algebra Seminar, University of Connecticut (invited, online, title TBA), 2020
- Fall Western AMS Sectional Meeting, special session on Geometry and Representation Theory of Quantum Algebras and Related Topics, University of Utah (invited, online)
  The Hochschild cohomology of twisted tensor products, 2020
- IIT Bombay Virtual Commutative Algebra seminar (invited, series of 2 online talks)
  On a conjecture of Vasconcelos, 2020
- Fellowship of the Ring, worldwide commutative algebra seminar, MRSI (invited, online)
  The homotopy Lie algebra and the conormal module, 2020
- Zoom Special Session on Commutative Algebra (invited, online)
  A categorical characterisation of complete intersection homomorphisms, 2020
- Ragnar’s Ramifications in Algebra and Geometry Emerging Workshop, Fields Institute (invited)
  A-infinity central elements, 2019
- Algebra seminar, University of Murcia (invited)
  The Hochschild cohomology of twisted tensor products, 2019
- Interaction between algebraic topology, commutative algebra, and representation theory (IRTATCA) follow up conference, Centre de Recerca Matemàtica (invited)
  The Hochschild cohomology of twisted tensor products, 2019
- Algebra and Combinatorics Seminar, Texas A&M (invited)
  Reflection Groups and Derivations, 2019
- Fall Western AMS Sectional Meeting, special session on Homological Aspects of Noncommutative Algebra and Geometry, San Francisco State University (invited)
  Stable invariance of the p-power structure on Hochschild cohomology, 2018
- Commutative Algebra Seminar, University of Nebraska-Lincoln (invited)
  Long exact sequences for the homotopy Lie algebra, 2018
- KUMUNUjr VII at the University of Nebraska-Lincoln (invited)
  The homotopy Lie algebra and LS category, 2018
- Commutative Algebra Seminar, University of Utah (invited)
  Long exact sequences for the homotopy Lie algebra and the L.S. category of a homomorphism, 2017
- London Algebra Colloquium (invited)
  The characteristic action of Hochschild cohomology, and Koszul duality, 2017
- The European Talbot Workshop (summer school)
  Introduction to Operads and models for commutative ring spectra, 2017
- Maurice Auslander International Conference (contributed)
  The characteristic action of Hochschild cohomology on the derived category, 2017
- International Conference on Representations of Algebras (ICRA) (contributed)
  Hochschild cohomology, Koszul duality, and the $A_\infty$-centre, 2016
- BIREP Summer School on Koszul Duality (summer school)
  The BGG correspondence, 2015
- The Anglo-Franco-German Representation Theory Network Summer School on support varieties in modular representation theory (summer school)
  Introduction to support varieties, 2015

Please ask me for a research statement, a teaching statement, or for contact details of letter writers
Updated 28th September 2020