

CV

Curriculum vitae

Mathematician | Postdoc Researcher

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Research

Representation theory, algebraic geometry, combinatorial representation theory.

Education

University of Toronto, St George Ph.D. Candidate, Mathematics, Expected November 2019

Thesis: Equivariant Volumes of Perfect Bases

Advisor: Joel Kamnitzer

University of Toronto, St George M.Sc. in Mathematics, June 2014

Thesis: Maslov Cycles as Wavefront Sets

Advisor: Eckhard Meinrenken

Refereed publications

Baumann, P. and Kamnitzer, J. and Knutson, A., *The Mirkovic–Vilonen basis and Duistermaat–Heckman measures* with an appendix by Dranowski, A., Kamnitzer, J. and Morton-Ferguson, C., *Acta* (2020) arXiv:1905.08460

Dranowski, A., *Generalized orbital varieties for Mirkovic–Vybornov slices as affinizations of Mirkovic–Vilonen cycles*, *Transformation Groups* (2019) arXiv:1905.18174

Burchard, A., Chambers, G. R. and Dranowski, A., *Ergodic properties of folding maps on spheres*, *Discrete and Continuous Dynamical Systems-Series A* (2015) arXiv:1509.02454

Invited talks

TBA, IAS Workshop on Recent Developments in Geometric Representation Theory. (November 2020)

TBA, UConn Algebra Seminar. (November 2020)

~~*A tale of two bases*~~ *An ode to D data*, IAS Postdoc Talks. (September 2020)

Generalized Orbital Varieties and MV cycles, Lie theory and integrable systems in symplectic and Poisson geometry. (June 2020)

Measuring bases, Algebraic Geometry, UC Davis. (February 2020)

Duistermaat-Heckman measures of a biproduct basis, RTMP, UC Berkeley. (February 2020)

Generalized orbital varieties and MV modules, Geometry and Representation Theory Seminar, Queens University. (November 2019)

Generalized orbital varieties for Mirković-Vybornov slices, EPFL. (July 2019)

MV cycles from generalized orbital varieties, Symplectic Geometry Seminar. (April 2019)

Affinizations of MV cycles, Geometric Representation Theory Seminar. (April 2019)

A Hitchhiker's guide to the affine Grassmannian, Graduate Student Seminar, University of Toronto. (September 2018)

Lusztig Datum of an Open MV Cycle, Southeastern Lie Theory Workshop X, University of Georgia. (June 2018)

On Random Foldings, 8th Annual Ottawa Mathematics Conference, University of Ottawa. (June 2015)

Posters

Equations of MV cycles in type A, Young Topologists Meeting, EPFL. (July 2019)

Flag Functions of Modules over Preprojective Algebras and Equivariant Multiplicities of MV Cycles, Interactions between Representation Theory and Algebraic Geometry, University of Chicago. (August 2017)

Teaching experience

Selected Teaching Assistantships and *Teaching Appointments are listed below. Other teaching experience includes Girls in STEM, Fields Math Circles, U of T Math Academy, U of T Math Mentorship, Science Rendezvous, and private tutoring.

Summer 2020	*Linear Algebra I (MAT223), *PUMP I (Precalc), EGMO Camp
Fall 2019	*Linear Algebra I (MAT223)
Summer 2019	*Multivariable Calculus (MAT237)
Spring 2019	Math Aid Center, Linear Algebra II (MAT224)
Fall 2018	Algebra I (MAT1100), Graph Theory and Algorithms for its Applications (MATC32)
Summer 2018	Math Aid Center
2017–2018	Groups, Rings and Fields (MAT347), Trinity College Math Aid Center

Summer 2017	*Groups and Symmetries (MAT301)
2016–2017	Groups, Rings and Fields (MAT347), Trinity College Math Aid Center
Fall 2016	Introduction to Ordinary Differential Equations (MAT244)
Summer 2016	Polynomial Equations and Fields (MAT401)
2015–2016	Multivariable Calculus (MAT237), New College Math Aid Center
Fall 2015	Concepts in Abstract Mathematics (MAT246), Introduction to Topology (MAT327)
Summer 2015	Multivariable Calculus (MAT237)

Honours & awards

2020

Martin Shubik Graduate Award in Mathematics

2018-20

Doctoral Completion Award

2018

Daniel B. DeLury Teaching Assistant Award

2017

Faculty of Arts and Sciences Math Fellowship

2016

Coxeter Graduate Scholarship

2015

Women in Math Scholarship, Blyth Fellowship

2013

¹NSERC Undergraduate Student Research Award

2012

[#]NSERC Undergraduate Student Research Award

2011

Jane McAdams Perron Scholarship

¹Supervised by Eckhard Meinrenken. [#]Supervised by Luis Seco.

Leadership & service

Served two terms as president of the Mathematics Graduate Student Association, and one term as vice-president and Graduate Student Union Representative. Served on the Departmental Library Committee, as Department Council Representative, and on Department Awards Committee.

Organization of conferences and workshops

AMS Special Session on Geometric Representation Theory and Equivariant
Elliptic Cohomology at JMM 2020

Professional development

2019	Integrability, Combinatorics and Representations, Quiver Varieties and Representation Theory at CRM
2018	SageDays@ICERM: Combinatorics and Representation Theory, Southeastern Lie Theory Workshop X
2017	WARTHOG 2017: Symplectic duality (the Abelian case), Interactions between Representation Theory
2016	WARTHOG 2016: Knot homologies, Hilbert schemes, and Cherednik algebras , Apprenticeship Weeks
2015	Geometric and categorical representation theory, PCMI GSS: Geometry of Moduli Spaces and Repres
2014	Introductory Workshop: Geometric Representation Theory, MSRI GSS: Algebraic Topology, Winter S

Skills

Sage, GAP, Macaulay2, Singular, LaTeX, Pandoc, Git,...

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