Curriculum Vitae

June 16, 2020

1 BIOGRAPHICAL INFORMATION

1.1 Personal

Joel Kamnitzer, Department of Mathematics, BA 6110, 416-978-5163

1.2 Degrees

PhD, 2005, University of Califonia, Berkeley
Thesis title: Mirković-Vilonen cycles and polytopes, Advisor: Allen Knutson.

1.3 Employment

University of Toronto, Professor, July 2016 - present. Received tenure July 1, 2013. Appointed to School of Graduate Studies July 1, 2008.

University of Toronto, Associate Professor, July 2013 - June 2016.

Ecole Polytechnique Fédérale de Lausanne, Professeur invité, September 2014 - June 2015.

University of Toronto, Assistant Professor, July 2008 - June 2013.

Mathematical Sciences Research Institute, Member, January - May 2008.

UC Berkeley, Postdoctoral Fellow and Visiting Assistant Professor, August 2006 - May 2008.

Massachusetts Institute of Technology, Postdoctoral Fellow, September 2005 - August 2006.

1.4 Professional Affiliations and Activities

Editor, Mathematische Zeitschrift, 2011 - present.

Affiliate member, Perimeter Institute, 2014 - present.

2 ACADEMIC HISTORY

2.1 Research Endevours

Representation theory, algebraic geometry, combinatorial representation theory, knot homology, categorification.

2.2 Research Awards

Simons CRM Professor, 2020.

NSERC Discovery Accelerator Supplement, 2020–2023, $120000.

Mitacs Accelerate award, 2018, $15000.

NSERC Discovery Grant, 2018–2023, $205000.

Poincaré Chair, 2018–2019.

NSERC E.W.R. Steacie Memorial Fellowship, 2018–2020, $250000.

Simons Fellowship in Mathematics, 2014–2015, $100000.

NSERC Discovery Accelerator Supplement, 2013–2016, $120000.

NSERC Discovery Grant, 2013–2018, $220000.

Sloan Research Fellowship, Sloan Foundation, 2012–2014, $50000.

André Aisenstadt Prize, Centre de recherches mathématiques, 2011, $3000.

Province of Ontario Early Researcher Award, 2010–2015, $150000.

NSERC Discovery Grant, 2008–2013, $90000.

American Institute of Mathematics 5 year fellowship, 2005–2010, $270000.

UC Berkeley, Distinguished Teaching Award, 2007.

3 SCHOLARLY AND PROFESSIONAL WORK

3.1 Refereed publications

1. P. Baumann, J. Kamnitzer, and A. Knutson, The Mirkovic-Vilonen basis and Duistermaat-Heckman measures, to appear in *Acta Math.*, arXiv:1905.08460.
2. J. Kamnitzer, M. McBreen, and N. Proudfoot, The quantum Hikita conjecture, 45 pages, to appear in *Adv. Math.*; arXiv:1807.09858.
3. I. Halacheva, J. Kamnitzer, L. Rybnikov, A. Weekes, Crystals and monodromy of Bethe vectors, 64 pages, to appear in *Duke Math. J.*; arXiv:1708.05105.
4. A. Braverman, M. Finkelberg, J. Kamnitzer, R. Kodera, H. Nakajima, B. Webster, and A. Weekes, Appendix to Coulomb branches of 3d N=4 quiver gauge theories and slices in the affine Grassmannian, *Adv. Theoretical and Mathematical Physics*, **23** (2019) no. 1, 75–166.
5. J. Kamnitzer, P. Tingley, B. Webster, A. Weekes, and O. Yacobi, Highest weights for truncated shifted Yangians and product monomial crystals, *J. Combinatorial Algebra* **3** (2019), 237–303.
6. J. Kamnitzer, P. Tingley, B. Webster, A. Weekes, and O. Yacobi, On category $\mathcal{O}$ for affine Grassmannian slices and categorified tensor products, *Proc. London Math. Soc.* **119** (2019) no. 5, 1179–1233.
7. J. Kamnitzer, D. Muthiah, and A. Weekes, On a reducedness conjecture for spherical Schubert varieties and slices in the affine Grassmannian, *Transform. Groups* **23** (2018) no. 3, 707–722.
8. S. Cautis and J. Kamnitzer, Categorical geometric symmetric Howe duality, *Selecta Math.*, **24** (2018), no. 2 , 1593–1631.
9. M. Finkelberg, J. Kamnitzer, K. Pham, L. Rybnikov, and A. Weekes, Comultiplication for shifted Yangians and quantum open Toda lattice, *Adv. Math.* **327** (2018), 349–389.
10. J. Kamnitzer, D. Muthiah, A. Weekes, and O. Yacobi, Reducedness of affine Grassmannian slices in type A, *Proc. Amer. Math. Soc.* **146** (2018), no. 2, 861–874.
11. S. Cautis and J. Kamnitzer, Quantum K-theoretic geometric Satake: the SLn case, *Compositio Math.* **154** (2018), no. 2, 275–327.

12. S. Cautis and J. Kamnitzer, Knot homology via derived categories of coherent sheaves IV, coloured links, *Quantum Topol.* **8** (2017), no. 2, 381–411.
13. J. Kamnitzer, A combinatorial geometric Satake equivalence, *Adv. Math.* (2016) 5–16.
14. S. Cautis, J. Kamnitzer, and S. Morrison, Webs and quantum skew Howe duality, *Math. Ann.* **360** no. 1 (2014), 351–390.
15. J. Kamnitzer, B. Webster, A. Weekes, and O. Yacobi, Yangians and quantization of slices in the affine Grassmannian, *Alg. Num. Theory* **8** (2014) 857–893.
16. P. Baumann, J. Kamnitzer, and P. Tingley, Affine Mirkovic-Vilonen polytopes, *Publ. IHES* **120** no. 1 (2014), 113-205.
17. B. Fontaine, and J. Kamnitzer, Cyclic sieving, rotation, and geometric representation theory, *Selecta Math.* **20** no. 2 (2014), 609–625.
18. S. Cautis, J. Kamnitzer, and A. Licata, Coherent sheaves on quiver varieties and categorification, *Math. Ann.* **357** no. 3 (2013), 805–854.
19. B. Fontaine, J. Kamnitzer, and G. Kuperberg, Buildings, spiders, and geometric Satake, *Compositio Math.* **149** no. 11 (2013), 1871–1912.
20. P. Baumann, T. Dunlap, J. Kamnitzer, and P.Tingley, Rank 2 affine MV polytopes, *Represent. Theory* **17** (2013), 442–468.
21. S. Cautis, J. Kamnitzer, A. Licata, Derived equivalences for cotangent bundles of Grassmannians via categorical sl(2) actions, *J. Reine Angew. Math.*, **675** (2013), 53–99.
22. P. Baumann, S. Gaussent, and J. Kamnitzer, Réflexions dans un cristal, *C. R. Math. Acad. Sci. Paris* **350** (2012), no. 23-24, 999–1002.
23. P. Baumann and J. Kamnitzer, Preprojective algebras and MV polytopes, *Represent. Theory* **16** (2012), 152–188.
24. S. Cautis and J. Kamnitzer, Braiding via geometric Lie algebra actions, *Compositio Math.*, **148** no. 2 (2012), 464–506.
25. J. Kamnitzer and C. Sadanand, Modules with 1-dimensional socle and components of Lusztig quiver varieties in type A, in *Combinatorial Aspects of Commutative Algebra and Algebraic Geometry*, Abel Symposia, 2011.
26. J. Kamnitzer, Lectures on geometric constructions of representations

of GL_n, in *Geometric Representation Theory and Extended Affine Lie Algebras*, Fields Institute Communications, 2011.

27. J. Kamnitzer, The Beilinson-Drinfeld Grassmannian and symplectic knot homology, in *Grassmannians, Moduli spaces and vector bundles*, Clay Mathematics Proceedings, 2011.
28. P. Etingof, A. Henriques, J. Kamnitzer, and E. Rains, The cohomology ring of the real locus of the moduli space of stable curves of genus 0 with marked points, *Annals of Mathematics*, **171**, no. 2, (2010) 731–777.
29. J. Kamnitzer, Mirković-Vilonen cycles and polytopes, *Annals of Mathematics*, **171**, no. 1, (2010) 245–294.
30. S. Cautis, J. Kamnitzer, and A. Licata, Categorical geometric skew Howe duality, *Invent. Math.*, **180**, no. 1 (2010), 111–159.
31. S. Cautis, J. Kamnitzer, and A. Licata, Coherent sheaves and categorical sl(2) actions, *Duke Math. J.*, **154**, no. 1 (2010), 135–179.
32. J. Kamnitzer and P. Tingley, The crystal commutor and Drinfeld's unitarized R-matrix, *J. of Alg. Comb.* **29** no. 3 (2009), 315–335.
33. J. Kamnitzer and P. Tingley, A definition of the crystal commutor using Kashiwara's involution, *J. of Alg. Comb.* **29** no. 2 (2009), 261–268.
34. S. Cautis and J. Kamnitzer, Knot homology via derived categories of coherent sheaves II, sl(m) case, *Invent. Math.*, **174** no. 1 (2008), 165–232.
35. S. Cautis and J. Kamnitzer, Knot homology via derived categories of coherent sheaves I, sl(2) case, *Duke Math. J.* **142** no. 3 (2008), 511–588.
36. J. Kamnitzer, Hives and the fibres of the convolution morphism, *Selecta Math. N.S.* **13** no. 3 (2007) 483–496.
37. J. Kamnitzer, Crystal structure on Mirković-Vilonen polytopes, *Adv. in Math.* **215** no. 1, (2007) 66–93.
38. A. Henriques and J. Kamnitzer, The octahedron recurrence and gl(n) crystals, *Adv. in Math.* **206**, no. 1 (2006), 211–249.
39. A. Henriques and J. Kamnitzer, Crystals and coboundary categories, *Duke Math. J.* **132**, no. 2 (2006), 191–216.
40. J.Kamnitzer and R. B. Mann, Super Liouville black holes. *Nucl. Phys. B* **609** (2001), no. 3, 429–441.

41. J. M. Borwein, J. D. Broadhurst, and J. Kamnitzer, Central binomial sums, multiple Clausen values, and zeta values. *Exper. Math.* **10** (2001), no. 1, 25–34.
42. Armitage et al., Construction and initial beam tests of the Atlas tungsten forward calorimeter. *Nucl. Phys. B, Proc. Suppl.* **78** (1999) 171–175.

3.2 Non-Refereed Publications

1. J. Kamnitzer, Categorification of Lie algebras, *Séminaire Bourbaki, Astérisque* **1072** (2014) 1–22.

3.3 Manuscripts submitted, but not yet accepted

1. J. Hilburn, J. Kamnitzer, and A. Weekes, BFN Springer theory, 68 pages, arXiv:2004.14998.
2. S. Cautis, C. Dodd, and J. Kamnitzer, Associated graded of Hodge modules and categorical sl(2) actions, 31 pages; arXiv:1603.07402.

3.4 Invited Lectures

3.4.1 Conference talks

Lie theory and integrable systems in symplectic and Poisson geometry, online conference, June 2020.

CMS meeting, Algebraic geometry and representation theory session, Toronto, December 2019.

Algebraic and geometric categorification, Oaxaca, December 2019.

Symplectic Representation Theory, Luminy, April 2019.

Categorification in Quantum Topology and beyond, Vienna, January 2019.

International Conference on Geometric Representation Theory and Symplectic Varieties, South Bend, June 2018.

Combinatorial algebra meets algebraic combinatorics, Hamilton, January 2018.

Plenary lecture, Canadian Mathematical Society winter meeting, Waterloo, December 2017.

Mathematical Congress of the Americas, Symmetry in Algebra, Topology, and Physics session, Montreal, July 2017.

Algebra and number theory day, Baltimore, April 2017.

Categorification and gauge theory, Los Angeles, March 2017.

Introductory workshop on combinatorial algebraic geometry, Toronto, August 2016.

Advances in geometric representation theory, Ann Arbor, May 2016.

Symplectic duality and gauge theory, Perimeter Institute, April 2016.

Algebra, geometry, and combinatorics day, Ann Arbor, October 2015.

Enveloping Algebras and Geometric Representation Theory, Oberwolfach, May 2015.

Categorification in Algebra, Geometry, and Physics, Cargese, May 2015.

Representation Theory, Paris, January 2015.

Quiver varieties, Stony Brook, October 2013.

Physics and mathematics of link homology, Montreal, July 2013.

Perverse sheaves in representation theory, Besse, June 2013.

Geometric methods in infinite-dimensional Lie theory, Toronto, March 2013.

Whittaker functions, Schubert calculus and crystals, Providence, March 2013.

String-Math, Bonn, July 2012.

Journés Solstice d'été, Paris, June 2012.

Perspectives in representation theory, Yale, May 2012.

The geometry of derived categories and representation theory, Boston, April 2012.

Category theoretic methods in representation theory, Ottawa, Oct 2011.

Twenty-five years of representation theory of quantum groups, Banff, Aug 2011.

Langlands Duality in Representation Theory and Gauge Theory, Jerusalem, Dec 2010.

Workshop on Hitchin fibration and the fundamental Lemma, Duntroon, Aug 2010.

Affine Schubert calculus, Toronto, July 2010.

Categorification and low-dimensional topology, Stony Brook, June 2010.

Whittaker functions, crystals, and quantum groups, Banff, May 2010.

Connections in geometry and physics, Waterloo, May 2010.

CMS meeting, Lie algebras and representation theory session, Windsor, December 2009.

Conference on geometric representation theory and extended affine Lie algebras, Ottawa, July 2009.

Summer school on geometric representation theory and extended affine Lie algebras, Ottawa, June 2009 (5 lectures).

Abel symposium on combinatorial aspects of algebraic geometry and commutative algebra, Voss, June 2009.

Categorification and geometrization in representation theory, Glasgow, April 2009 (2 lectures).

AMS meeting, Algebra, geometry and combinatoris session, Urbana-Champaign, March 2009.

CMS meeting, Infinite-dimensional Lie algebra session, Ottawa, December 2008.

Conference in honour of Peter Orlik, Toronto, August 2008.

Topics in Combinatorial representation theory, Berkeley, March 2008.

Conference on Algebro-Geometric Derived Categories and Applications, Princeton, March 2008.

Workshop on homological mirror symmetry and related topics, Miami, January 2008.

SACNAS conference, Low dimensional topology and quantum geometry symposium, Kansas City, October 2007.

Algebraic Analysis and Around, Kyoto, June 2007 (poster session).

Link homology and categorification, Kyoto, May 2007 (3 lectures).

Lie algebra workshop, Ottawa, April 2007.

Buildings and combinatorial representation theory workshop, Palo Alto, March 2007.

Winter School on Knot Theory and Representations, Plenary Speaker, Austin, Jan 2007.

CMS meeting, Knot homologies session, Toronto, Dec 2006.

AMS meeting, Combinatorial Representation Theory session, Fayetteville, Nov 2006.

EMS Summer School, Arithmetic and Geometry Around Quantization, Istanbul, June 2006 (2 lectures).

AMS meeting, Arrangements and Configuration Spaces session, Durham, April 2006.

Flavours of Groups conference, Banff, Nov 2005.

AMS meeting, Algebraic Combinatorics and Geometry session, Eugene, Nov 2005.

AMS meeting, Noncommutative algebra session, Eugene, Nov 2005.

Schubert Varieties and Schubert Calculus workshop, Fields Institute, Toronto, June 2005.

CMS meeting, Geometry and Combinatorics session, Waterloo, June 2005.

AMS meeting, Algebraic Geometry and Combinatorics session, Santa Barbara, April 2005.

Western Algebraic Geometry Seminar, Seattle, April 2005.

Geometric Langlands workshop, New Hampshire, March 2005.

AMS meeting, Modern Schubert Calculus session, Evanston, October 2004.

Representations of Algebraic Groups, Quantum Groups and Lie Algebras conference, Utah, June 2004.

Formal Power Series and Algebraic Combinatorics conference, Vancouver, June 2004.

3.4.2 Seminar and Colloquium talks

University of Pisa, Seminar on Combinatorics, Lie Theory, and Topology (online), May 2020.

Université de Quebec à Montreal, Geometry and Topology seminar, February 2020.

Univerité de Strasbourg, séminaire quantique, June 2019.

Université de Lyon, colloquium, April 2019.

Université de Paris Diderot, séminaire groupes, représentations et géométrie, April 2019.

Institut Henri Poincaré, mini-course on combinatorics and geometry of canonical bases (4 lectures), March 2019.

Université de Caen, séminaire d'algèbre et de géométrie, March 2019.

IST Austria, algebraic geometry seminar, January 2019.

University of Chicago, geometric Langlands seminar, November 2018.

MIT, geometric representation theory seminar, October 2018.

Perimeter Institute / Max Planck Institute, teleseminar on categorified knot invariants, May 2018.

MIT, infinite-dimensional algebras seminar, March 2018.

Cornell University, Algebraic geometry seminar, March 2018.

UQAM, LACIM seminar, July 2017.

MIT, geometric representation theory seminar, December 2015.

Northeastern University, geometry, physics, and representation theory seminar, December 2015 (3 lectures).

Perimeter Institute, symplectic duality seminar, October 2015.

University of Waterloo, algebraic combinatorics seminar, October 2015.

Université de Paris-sud, Séminaire d'Arithmétique et de géométrie algébrique, April 2015.

Université Claude Bernard Lyon 1, séminaire d'algèbre, Feb 2015.

Université de Genève, groupes de Lie et espaces des modules seminar, Dec 2014.

ETH Zurich, mathematical physics seminar, Oct 2014 (4 lectures).

École Polytechnique Fédérale de Lausanne, geometry seminar, September 2014.

MIT, colloquium, Mar 2014.

MIT, infinite-dimensional algebras seminar, Mar 2014.

Northeastern University, geometry, singularities, algebra, combinatorics seminar, Mar 2014.

Séminaire N. Bourbaki, Paris, June 2013.

Northwestern University, colloquium, April 2013.

University of Toronto, colloquium, November 2012.

University of North Carolina, colloquium, November 2012.

Universiteit Utrecht, quarterly seminar on geometry and topology, June 2012.

Université de Paris-sud, Séminaire d'Arithmétique et de géométrie algébrique, June 2012.

Oxford University, representation theory seminar, May 2012.

University of Waterloo, colloquium, Sept 2011.

Yale University, colloquium, Mar 2011.

Centre de recherches mathématiques, André Aisenstadt Prize lecture, Feb 2011.

University of Western Ontario, geometry/topology seminar, Feb 2010.

MIT, colloquium, Nov 2009.

MIT, Geometry seminar, Nov 2009.

Columbia University, NY joint symplectic geometry seminar, Nov 2009.

Georg–August–Universität Gottingen, Courant lecture series, May 2009 (3 lectures).

Université de Strasbourg, Séminaire Quantique, May 2009.

UC Berkeley, Representation theory, geometry, and combinatorics seminar, Feb 2009.

University of Toronto, Geometric representation seminar, Jan 2009.

York University, Applied algebra seminar, Nov 2008.

University of Western Ontario, Colloquium, Oct 2008.

University of North Carolina, Colloquium, Oct 2008.

Brown University, Colloquium, Oct 2008.

University of Toronto, Symplectic geometry seminar, Sept 2008.

University of Michigan, Algebraic geometry seminar, Sept 2008.

Queens University, Algebraic geometry seminar, Sept 2008.

Mathematical Sciences Research Institute, Reductive groups seminar, Apr 2008.

Stanford University, Algebraic geometry seminar, Apr 2008.

UC Berkeley, Topology seminar, Apr 2008.

UC Berkeley, Colloquium, Mar 2008.

Institute for Advanced Study, Categories and knot theory seminar, Mar 2008.

California Institute of Technology, Algebraic geometry seminar, Feb 2008.

University of Oregon, Colloquium, Oct 2007.

Rice University, Colloquium, Oct 2007.

UC Davis, Colloquium, Oct 2007.

San Francisco State University, Algebra, geometry and combinatorics seminar, March 2007.

Columbia University, Gauge theory and symplectic geometry seminar, Feb 2007.

University of British Columbia, Representation theory seminar, Jan 2007.

University of British Columbia, Colloquium, Jan 2007.

University of Toronto, Colloquium, Dec 2006.

University of Waterloo, Colloquium, Dec 2006.

UC Riverside, Lie theory seminar, Oct 2006.

UC Berkeley, Representation theory, geometry, and combinatorics seminar, Oct 2006.

Universität zu Köln, Algebra seminar, June 2006.

Boston University, Geometry seminar, March 2006.

UC Berkeley, Combinatorics seminar, Feb 2006.

UC Berkeley, Representation theory, geometry, and combinatorics seminar, Feb 2006.

Stanford University, Algebraic geometry seminar, Feb 2006.

Stanford University, Representation theory seminar, Feb 2006.

UT Austin, GRASP seminar, Jan 2006.

UT Austin, Geometry seminar, Jan 2006.

Massachussets Institute of Technology, Lie groups seminar, Sept 2005.

École Polytechnique Fédérale de Lausanne, Group theory seminar, June 2005.

UC Davis, Geometry/Topology seminar, April 2005.

Stanford University, Algebraic geometry seminar, Feb 2005.

Northwestern University, Algebra seminar, November 2004.

Massachusetts Institute of Technology, Lie groups seminar, October 2004.

University of Toronto, Symplectic geometry seminar, October 2004.

York University, Applied algebra seminar, September 2004.

UC Berkeley, Representation theory, geometry, and combinatorics seminar, Sept 2004.

UC Davis, Representation theory and discrete math seminar, May 2004.

University of Oregon, Colloquium, May 2004.

UC Berkeley, Lie algebras, combinatorics, and geometry seminar, April 2004.

4 LIST OF COURSES

4.1 Undergraduate courses

MAT 137Y, Calculus!, 2017–2018.

MAT 224HF, Linear algebra II, 2016.

MAT 347Y, Groups, rings, and fields, 2015–2016.

MAT 247HS, Algebra II, 2014.

MAT 477Y, seminar course, 2012–2013.

MAT 137Y, Calculus!, 2011–2012.

MAT 247HS, Algebra II, 2011.

MAT 448HF / 1155HF, Introduction to commutative algebra and algebraic geometry, 2009.

4.2 Graduate courses

MAT1105HF, Geometry of Flag Varieties, 2016

MAT 1101HS, Algebra II, 2012.

MAT 1196HS, Representation theory, 2011.

MAT 1344HS, Symplectic geometry, 2009.

4.3 Supervisions

4.3.1 PhD students

Bruce Fontaine, PhD 2012, Bases for invariant vectors and geometric representation theory, supervised 2008–2012.

Stephen Morgan, PhD 2014, Quantum Hamiltonian reduction of W-algebras and category O, supervised 2011–2014.

Bradley Hannigan-Daley, PhD 2014, Hypertoric varieties and wall-crossing, supervised 2009–2014.

Daniel Rowe, PhD 2015, Lusztig slices in the affine Grassmannian and nilpotent matrices, supervised 2009–2015.

Alexander Weekes, PhD 2016, Highest weights for truncated shifted Yangians, supervised 2011–2016.

Iva Halacheva, PhD 2016, Alexander type invariants of tangle, skew Howe duality for crystals and the cactus group (jointly supervised by Dror Bar-Natan).

Vincent Gelinas, PhD 2018, Contributions to the stable derived categories of Gorenstein rings (jointly supervised with Colin Ingalls).

Benjamin Briggs, PhD 2018, Local commutative algebra and Hochschild cohomology through the lens of Koszul duality (jointly supervised by Srikanth Iyengar).

Chia-Cheng Liu, PhD 2019, ongoing supervision since 2013 (jointly supervised by Alexander Braverman).

Bulent (Ozgür) Esentepe, PhD 2019, ongoing superivision since 2017 (jointly supervised by Graham Leuschke).

Anne Dranovski, expected PhD 2020, ongoing supervision since 2014.

Khoa Pham, expected PhD 2020, ongoing supervision since 2015.

Kathlyn Dykes, expected PhD 2021, ongoing supervision since 2016.

Yuguang (Roger) Bai, expected PhD 2021, ongoing supervision since 2017.

Hyuengseop Kim, expected PhD 2023, ongoing supervision since 2019.

4.3.2 MSc Students

Simon Andrews, MSc 2009, Analytic and algebraic geometry.

Patrick Robinson, MSc 2010, Line bundles in algebraic geometry.

Mikhail Gudim, MSc 2010, Homological algebra.

Emily Cliff, MSc 2011, Lie bialgebras.

Alexander Weekes, MSc 2011, Drinfeld-Gavarini duality.

Jerrod Smith, MSc 2012, Representation theory and Springer theory.

Liudmyla Kadets, MSc 2012, Representation theory and Springer theory.

Anne Dranovski, MSc 2014, Okounkov bodies of flag varieties.

Maximillian Klambauer, MSc 2014, Okounkov bodies of flag varieties.

Xiao Ding, MSc 2016, Yangians and shift of argument algebras.

Xiao Jie, MSc 2017, Representation theory and particle physics.

4.3.3 Undergraduate Students

Chandrika Sadanand, 2009.

Xiao Ding, 2014.

Daniel Nackan, 2016.

Calder Morton-Ferguson, 2018.

4.3.4 Postdoctoral Fellows

Changjian Su, supervised 2018–present.

Kostiantyn Tolmachov, supervised 2018–present.

Balazs Elek, supervised 2018–present.

Michael McBreen, supervised 2018–present.

Alexander Shapiro, supervised 2016–2018.

Dinakar Muthiah, supervised 2013–2015.

Peter Samuelson, supervised 2012–2015.

Karene Chu, supervised 2012–2013.

Christopher Dodd, supervised 2011–2014.

Jaimal Thind, supervised 2011–2013.

Oded Yacobi, supervised 2010–2013.

5 ADMINISTRATIVE POSITIONS

5.1 Within the department

Associate chair, research, 2016–2018.

Chair of outreach committee, 2013–2014.

Member of merit committee, 2016–2018.

Member of undergraduate committee, 2011–2014, 2015–2016.

Member of outreach committee, 2010–2013, 2015-2016.

Member of appointments committee, 2009–2011, 2012–2014, 2016–2018.

Member of colloquium committee, 2008–2009 and 2010–2011.

Organizer of geometric representation theory seminar, 2008–present.

5.2 Outside the University

5.2.1 Committees

Member of Province of Ontario Early Researcher Award panel, 2017.

Member of Canadian Mathematics Society COMC committee, 2012–2018.

Member of Fields-CRM-PIMS Prize committee, 2017–2018.

5.2.2 Referee service

Referee for: Acta Mathematica, Inventiones Mathematicae, Journal of the AMS, Duke Mathematical Journal, Representation theory, Journal of Algebra, Compositio Mathematica, Advances in Mathematics, Selecta Mathematica, Cambridge University Press, Homology, Homotopy, and its Applications, Transactions of the AMS, International Mathematics Research Notices, Discrete Applied Mathematics, Journal of Combinatorial Theory, Journal of Algebra, Fundamenta Mathematicae, Transformation Groups, Mathematiche Annalen, Journal of the Korean Mathematical Society, Quantum Topology, Mathematische Zeitschrift, Canadian Journal of Mathematics, Journal of Algebraic Combinatorics, Geometry and Topology, SIGMA, Memoirs of the AMS, Geometry Dedicata.

Reviewer for Mathematics Reviews.

Reviewer of proposals for Banff International Research Station (BIRS) and Fields Institute.

Reviewer of grant proposals for National Sciences and Engineering Research Council (NSERC), Austrian Science Fund, European Research Council, National Security Agency (NSA), and France Canada Research Fund.

5.2.3 Organization of conferences and workshops

Geometric Representation Theory double conference, Perimeter Institute and Max Planck Institute Bonn, July 2020.

Illustrating Number Theory and Algebra, ICERM, Providence, October 2019.

Thematic activity on Quiver varieties and representation theory, CRM, Montreal, August 2019.

Workshop on Hall algebras, enumerative invariants, and gauge theory, Fields Institute, Toronto, November 2016.

Geometric Representation Theory and Categorification workshop, CRM, Montreal, June 2014.

Special session on Representation Theory and Categorification at Pacific Rim Mathematical Association (PRIMA) Congress, Shanghai, June 2013.

Infinite-dimensional Lie algebras workshop, CRM, Montreal, August 2012.

Representation theory and symplectic algebraic geometry workshop, CIRM, France, July 2012.

Southern Ontario Groups and Geometry workshop, Fields Institute, Toronto, April 2011.

Duntroon workshop on Hitchin fibration and the fundamental Lemma, Duntroon, August 2010.

Southern Ontario Groups and Geometry workshop, Fields Institute, Toronto, October 2009.