CURRICULUM VITAE

ARKADIY BERENSTEIN

Education and academic degrees.

1996   Ph.D. in Mathematics, Northeastern University.
Thesis title: "Algebraic and combinatorial structure of quantum
groups and their canonical bases";
Thesis adviser Professor Andrei V. Zelevinsky.

1988   M.S. in Applied Mathematics, Moscow Railway Transportation Institute.
Senior thesis: "Some estimates in queuing theory";
Thesis adviser Professor Alexander Vainshtein.

Academic career.

06/2012–present	Full Professor, University of Oregon
06/2006–06/2012	Associate Professor, University of Oregon
07/2000–05/2006	Assistant Professor, University of Oregon
07/1999–06/2000	Visiting Fellow, Harvard University
07/1996–06/1999	H. C. Wang Assistant Professor, Cornell University
01/1992–06/1996	Graduate student, Northeastern University

Visiting positions.

12/2023–01/2024	Hebrew University, Jerusalem, Israel
11/2023–12/2023	University of Geneva, Switzerland
09/2023–09/2023	University of Vienna
08/2023–08/2023	Heidelberg University, Germany
06/2023–08/2023	Erwin Schrödinger International Institute for Mathematics and Physics
03/2023–03/2023	MIT
11/2022–01/2023	University of Geneva, Switzerland
10/2022–10/2022	Hebrew University, Jerusalem, Israel
09/2022–09/2022	University of Geneva, Switzerland
07/2022–09/2022	Erwin Schrödinger International Institute for Mathematics and Physics
06/2022–06/2022	IHES, France.
12/2021–03/2022	(Sabbatical) University of Geneva, Switzerland
09/2021–12/2021	(Sabbatical) MIT
07/2021–08/2021	Max Planck Institute, Bonn, Germany
07/2021–07/2021	Heidelberg University, Germany
06/2021–07/2021	University of Geneva, Switzerland
12/2020–01/2021	University of Geneva, Switzerland
11/2019–01/2020	University of Geneva, Switzerland
09/2019–11/2019	Hebrew University, Jerusalem, Israel
08/2019–08/2019	Max Planck Institute, Bonn, Germany
07/2019–07/2019	IHES, France.
06/2019–06/2019	Heidelberg University, Germany
11/2018–01/2019	University of Geneva, Switzerland

09/2018–10/2018   MIT
08/2018–09/2018   Hebrew University, Jerusalem, Israel
07/2018–07/2018   Mathematical Research Institute at Oberwolfach, Germany
07/2018–07/2018   Heidelberg University, Germany
11/2017–01/2018   University of Geneva, Switzerland
09/2017–10/2017   Hebrew University, Jerusalem, Israel
07/2017–08/2017   IHES, France.
06/2017–07/2017   University of Geneva, Switzerland
11/2016–12/2016   Hebrew University, Jerusalem, Israel
09/2016–10/2016   MIT
09/2016–09/2016   University of Geneva, Switzerland
07/2016–08/2016   Max Planck Institute, Bonn, Germany
06/2016–07/2016   University of Geneva, Switzerland
11/2015–12/2015   Hebrew University, Jerusalem, Israel
09/2015–10/2015   MIT
08/2015–09/2015   University of Manchester, UK
07/2015–08/2015   IHES, France.
06/2015–07/2015   CRM, Barcelona, Spain
11/2014–12/2014   Hebrew University, Jerusalem, Israel
09/2014–10/2014   MIT
08/2014–09/2014   University of Manchester, UK
07/2014–08/2014   Mathematical Research Institute at Oberwolfach, Germany
06/2014–07/2014   CRM, Barcelona, Spain
05/2014–06/2014   (Sabbatical leave) CRM, Montreal, Canada
03/2014–04/2014   (Sabbatical leave) MIT
07/2013–08/2013   Max Planck Institute, Bonn, Germany
06/2013–07/2013   IHES, France
04/2012–05/2012   MSRI, Berkeley
03/2012–04/2012   ICERM, Providence
08/2012–09/2012   MSRI, Berkeley
06/2012–07/2012   Mathematical Research Institute at Oberwolfach, Germany
08/2011–09/2011   IHES, France
07/2011–08/2011   MIT
05/2011–06/2011   Hebrew University, Jerusalem, Israel
04/2011–05/2011   Hausdorff Research Institute, Bonn, Germany
08/2010–09/2010   Max Planck Institute, Bonn, Germany
06/2010–07/2010   MIT
07/2010–08/2010   IHES, France
07/2009–08/2009   MIT
08/2007–09/2008   MIT
07/2007–08/2008   University of Warwick, UK
06/2008–07/2008   Mathematical Research Institute at Oberwolfach, Germany
12/2007–01/2008   MIT
06/2007–07/2007   University of Warwick, UK
01/2007–03/2007   (Sabbatical leave) Harvard
10/2006–11/2006   (Sabbatical leave) MIT
08/2006–09/2006   Max Planck Institute, Bonn, Germany
07/2004–08/2004   RIMS, Kyoto, Japan
08/1992–09/1992   RIMS, Kyoto, Japan

Other experience.

1992–1996	Research assistant for prof. David Kazhdan,
	Department of Mathematics, Harvard University
1993	Consultant, Parametric Technology Corporation, Waltham, MA

Principal research interests.

Representation theory, quantum groups, Schubert calculus, Hecke algebras, cluster algebras, combinatorics, commutative and noncommutative birational algebraic geometry.

Research grants.

• June 2001–June 2004 National Science Foundation award DMS #0102382 for the research in *Representation Theory, Quantum Groups and Piecewise-Linear Combinatorics.*

• June 2005–June 2008 National Science Foundation award DMS #0501103 for the research in *Representation Theory, Quantum Groups and Birational Algebraic Geometry.*

• May 2008-May 2010 U.S. Civilian Research and Development Foundation – National Science Foundation award #246830 for the research in *Rational Cherednik Algebras, Macaulay Inverse Systems, and Canonical Bases.*

• June 2008–June 2012 National Science Foundation award DMS #0800247 for the research in *Representation Theory, Quantum Groups and Canonical Bases.*

• October 2009–September 2013 USA-Israel Binational Science Foundation award BSF-2008386 for the collaborative research in *Representation Theory Over Local and $2 - D$ fields.*

• March 2011-June 2011 London Mathematical Society award for the research in *Twisted Cherednik Algebras.*

• September 2011–August 2014 National Science Foundation award DMS#1101507 for the research in *Representation Theory, Cluster Algebras, and Canonical Bases.*

• October 2013–September 2017 USA-Israel Binational Science Foundation award BSF-2012365 for the collaborative research in *The local Langlands conjecture for local Fields and basics of the Langlands conjecture for affine Kac-Moody groups.*

• June 2014–May 2017 National Science Foundation award DMS#1403527 for the research in *Representation Theory, Cluster Algebras, and Canonical Bases.*

• August 2014–September 2014 London Mathematical Society award for the research in *Braided doubles and Cherednik Algebras.*

• October 2017–September 2020 USA-Israel Binational Science Foundation award BSF-2016363 for the collaborative research in *Representation theory of Hecke algebras.*

• September 2019–August 2024 Simons Foundation Collaboration Grant for Mathematicians Award 636972 for the research in *Noncommutative cluster structures.*

Other awards.

1993	Phi Kappa Phi (the National Honor Society)
1986	First prize, Moscow Mathematical Olympiad
1983	Second prize, the *Quantum* problem solving
	contest in mathematics

Publications.

Totally 80 items. See the list of publication for complete description.

Talks given.

139 invited talks on various seminars, workshops, and conferences. See the list of talks for details.

Organizing conferences.

• Special Session "Noncommutative Algebra and Noncommutative Birational Geometry" AMS meeting, Eugene, Oregon, November, 2005

• Special Session "Noncommutative Algebra and Noncommutative Birational Geometry" AMS meeting, Boston, Massachusetts, January 2012

• Workshop "Hall and cluster algebras" in May 2014, within the semester program *New Directions in Lie theory* in CRM, Montreal.

• Special Session "Non-commutative birational geometry, cluster structures and canonical bases," AMS Meeting, UC Riverside, November, 2017.

• Special Session "Canonical bases, cluster structures and non-commutative birational geometry," AMS Meeting, UC Riverside, November, 2019.

Other professional services.

• refereed papers for various mathematical journals, including Advances in Mathematics, Transactions of the American Mathematical Society, Duke Mathematical Journal, IMRN, Journal of Algebra, Israel Journal of Mathematics etc.

• Undergraduate honors adviser for 2 students (Jeffrey Petty in 2004-2005 and Tristan Holmes in 2007-2008).

• Introduced a new course *Cluster algebras* at University of Oregon in 2010 and taught it again in 2023.

Graduate students.

Sebastian Zwicknagl (Ph.D., University of Oregon, 2006).

Dylan Rupel (Ph.D., University of Oregon, 2012).

John Foster (Ph.D., University of Oregon, 2013).

Karl Schmidt (Ph.D., University of Oregon, 2018).

Yanpeng Li (Ph.D., Univ. of Geneva, 2020, co-advised with Anton Alekseev).

Dennis Nguyen (Ph.D student, University of Oregon, co-advising with Boris Botvinnik).

Postdoctoral mentoring.

Edward Richmond, University of Oregon, 2008-2010.

Jianrong Li, Weizmann Institute of Science, 2016-2019 (co-mentored with Professors Gorelik and Joseph of Weizmann Institute of Science).

Maitreyee Kulkarni, Max Planck Institute for Mathematics and Univ. of Oregon, September 2019-2022 (co-mentored with Ben Young of Univ. of Oregon)

Teaching experience.

Since 1992. Among the courses given recently, there are:

Graduate courses in Lie algebras, Lie groups, quantum groups, simple rings, cluster algebras (University of Oregon)

Undergraduate courses in calculus 1–3, linear algebra, business calculus, vector calculus, graph theory (University of Oregon), applicable algebra, differential calculus, integral calculus, linear algebra (Cornell University).

Address.

Arkadiy Berenstein,
Department of Mathematics,
University of Oregon,
Eugene, OR, 97403.
Phone: (541) 346-5624.
E-mail: arkadiy@math.uoregon.edu
Home page: http://pages.uoregon.edu/arkadiy

PUBLICATIONS

Published papers.

1. A. Berenstein, A. Zelevinsky, Involutions on Gelfand-Tsetlin patterns and multiplicities in skew $\mathfrak{gl}_n$-modules, *Soviet Math. Dokl.*, vol. 300, **6** (1988).

2. A. Berenstein, A. Vainstein, A multiplicative analogue of Bergström's inequality for the Hadamard matrix product, *Russian Math. Surveys*, vol. 42, **6** (1988) p. 225.

3. A. Berenstein, A. Kreinin, A. Vainstein, A convexity property of the Poisson distribution and its application in queuing theory, *Journal of Soviet Mathematics*, vol. 47, **1** (1989).

4. A. Berenstein, A. Zelevinsky, Tensor product multiplicities and convex polytopes in partition space, *Journal of Geometry and Physics*, **5** (1989).

5. A. Berenstein, A. Zelevinsky, When the weight multiplicity is 1, *Funct. Anal. and applications*, vol. 24, **4** (1990), pp. 1–13.

6. A. Berenstein, A. Zelevinsky, Triple multiplicities for $\mathfrak{sl}_{r+1}$ and the spectrum of the exterior algebra of the adjoint representation, *Journal of Algebraic Combinatorics*, vol. 1, **1** (1992), pp. 7–22.

7. A. Berenstein, Anatol Kirillov, Groups generated by involutions, Gelfand-Tsetlin patterns and combinatorics of Young tableaux, *St. Petersburg Journal of Mathematics*, vol. 7, **1** (1995), pp. 92–152.

8. A. Berenstein, A. Zelevinsky, String bases for quantum groups of type A_r, *Advances in Soviet Mathematics*, vol. 16, part 1 (1993), pp. 51–89.

9. A. Berenstein, A. Zelevinsky, Canonical bases for the quantum group of type A_r and piecewise-linear combinatorics, *Duke Math. J.*, vol. 82, **3** (1996), pp. 473–502.

10. A. Berenstein, S. Fomin, A. Zelevinsky, Parametrizations of canonical bases and totally positive matrices, *Advances in Mathematics*, vol. 122, **1** (1996), pp. 49–149.

11. A. Berenstein, A. Zelevinsky, Total positivity in Schubert varieties, *Comment. Math. Helv.*, vol. 72, **1** (1997), pp. 128–166.

12. A. Berenstein, Alexander Vainstein, Concavity of weighted arithmetic means with applications, *Arch. Math.* (Basel), vol. 69, **2** (1997), pp. 120–126.

13. A. Berenstein, Anatol Kirillov, Domino tableaux, the Schützenberger involution and the symmetric group action, *Discrete Math.*, vol. 225, **1–3** (2000), pp. 15–24.

14. A. Berenstein, R. Sjamaar, Projections of Coadjoint Orbits and the Hilbert-Mumford Criterion, *J. Amer. Math. Soc.*, vol. 13, **2** (2000), pp. 433–466.

15. A. Berenstein, D. Kazhdan, Geometric and unipotent crystals, *Geom. Funct. Anal.*, Special Volume, Part I (2000), pp. 188–236.

16. A. Berenstein, A. Zelevinsky, Tensor product multiplicities, canonical bases and totally positive varieties, *Invent. Math.*, vol. 143, **1** (2001), pp. 77–128.

17. A. Berenstein, S. Fomin, A. Zelevinsky, Cluster algebras III: Upper and lower bounds, *Duke Math. Journal*, vol. 126, **1** (2005), pp. 1–52.

18. A. Berenstein, A. Zelevinsky, Quantum cluster algebras, *Advances in Mathematics*, vol. 195, **2** (2005), pp. 405–455.

19. A. Berenstein, V. Retakh, Noncommutative double Bruhat cells and their factorization, *Int. Math. Res. Not.*, **8** (2005), pp. 477–516.

20. A. Berenstein, D. Kazhdan, Geometric and unipotent crystals II: from geometric crystals to crystal bases, *Contemp. Math.*, **433**, Amer. Math. Soc., Providence, RI, 2007, pp. 13–88.

21. A. Berenstein, D. Kazhdan, Lecture notes on geometric crystals and their combinatorial analogues, *Combinatorial aspect of integrable systems*, MSJ Memoirs, **17**, Mathematical Society of Japan, Tokyo, 2007.

22. A. Berenstein, S. Zwicknagl, Braided symmetric and exterior algebras, *Trans. Amer. Math. Soc.*, **360** (2008), pp. 3429–3472.

23. A. Berenstein, V. Retakh, Lie algebras and Lie groups over noncommutative rings, *Advances in Mathematics*, Vol. 218, **6**, (2008), pp. 1723–1758.

24. Y. Bazlov, A. Berenstein, Braided doubles and rational Cherednik algebras, *Advances in Mathematics*, Vol. 220 (2009) **5** pp. 1466–1530.

25. Y. Bazlov, A. Berenstein, Noncommutative Dunkl operators and Braided Cherednik algebras, *Selecta Mathematica*, **14**, (2009), pp. 325–372.

26. A. Berenstein, Yu. Burman, Dunkl operators and canonical invariants of reflection groups, *SIGMA*, **5** (2009), 057, 18 pages.

27. A. Berenstein, Yu. Burman, Quasiharmonic polynomials and representations of rational Cherednik algebras, *Trans. Amer. Math. Soc.*, **362** (2010), pp. 229–260.

28. A. Berenstein, J. Greenstein, Quantum folding, *Int. Math. Res. Not.*, 2011, no. 21, pp. 4821-4883.

29. A. Berenstein, V. Retakh, A short proof of Kontsevich cluster conjecture, *C.R. Acad. Sci.*, Paris, Ser. I, Vol. 349 (2011), pp. 119–122.

30. A. Berenstein, M. Kapovich, Stability inequalities and universal Schubert calculus of rank 2, *Transformation Groups*, Vol. **16**, Issue 4 (2011), pp. 955–1007.

31. A. Berenstein, M. Kapovich, Affine buildings for dihedral groups, *Geometriae Dedicata*, 156 (2012), pp. 171-207.

32. Y. Bazlov, A. Berenstein, Cocycle twists and extensions of braided doubles, *Contemp. Math.*, Vol. 592 (2013), pp 19-70.

33. A. Berenstein, V. Retakh, C. Reutenauer, D. Zeilberger, The Reciprocal of $\sum_{n \geq 0} a^n b^n$ for non-commuting a and b, Catalan numbers and non-commutative quadratic equations, *Contemp. Math.*, Vol. 592 (2013), pp 103-109.

34. A. Berenstein, J. Greenstein, Quantum Chevalley groups, *Contemp. Math.*, Vol. 592 (2013), pp 71-102.

35. M. Bennett, A. Berenstein, V. Chari, A. Khoroshkin, S. Loktev, Macdonald Polynomials and BGG reciprocity for current algebras, *Selecta Mathematica*, Vol. 20, **2** (2014), pp. 585–607.

36. A. Berenstein, A. Zelevinsky, Triangular bases in quantum cluster algebras, *Int. Math. Res. Not.* **2014**(6), pp. 1651–1688 (2014).

37. Y. Bazlov, A. Berenstein, Mystic reflection groups, SIGMA 10 (2014), 040.

38. A. Berenstein, D. Rupel, Quantum cluster characters of Hall algebras, *Selecta Mathematica*, Vol. 21, **4** (2015), pp. 1121–1176.

39. A. Berenstein, J. Greenstein, D. Kazhdan, Integrable clusters, *Comptes rendus Mathematique* Vol. 353, **5** (2015), pp. 387–390.

40. A. Berenstein, E. Richmond, Littlewood-Richardson coefficients for reflection groups, *Advances in Mathematics*, Vol. 284 (2015), pp. 54–111.

41. A. Berenstein, J. Greenstein, Generalized Joseph's decompositions, *Comptes rendus Mathematique*, Vol. 353, **10**, (2015), pp. 887–892.

42. A. Berenstein, J. Greenstein, Primitively generated Hall algebras, *Pacific Journal of Mathematics*, Vol. 281, No. 2, 2016.

43. A. Berenstein, V. Retakh, Generalized adjoint actions, *Journal of Lie Theory*, **26** (2016), No. 1, pp. 219–225.

44. A. Berenstein, J. Greenstein, Canonical bases of quantum Schubert cells and their symmetries, *Selecta Mathematica New Series*, Vol. 23, **4** (2017), pp. 2755–2799.

45. A. Berenstein, J. Greenstein, Double canonical bases, *Advances in Mathematics*, Vol. 316 (2017), pp. 54–111.

46. A. Berenstein, K. Schmidt, Factorizable Module Algebras, *Int. Math. Res. Not.*, **2019** (21), pp. 6711–6764 (2019).

47. A. Berenstein, V. Retakh, Noncommutative marked surfaces, *Advances in Mathematics*, Vol. 328 (2018), pp. 1010–1087.

48. A. Alekseev, A. Berenstein, B. Hoffman, Y. Li, Poisson structures and potentials, *Lie Groups, Geometry, and Representation Theory: A Tribute to the Life and Work of Bertram Kostant*, Birkhaüser, December 2018.

49. A. Berenstein, D. Kazhdan, Hecke-Hopf algebras, *Advances in Mathematics*, Vol. 353 (2019), pp. 312–395.

50. A. Berenstein, J. Greenstein, J. Li, On cacti and crystals, *Representations and Nilpotent Orbits of Lie Algebraic Systems: in honor of the 75th Birthday of Tony Joseph*, *Progress in Mathematics*, **330**, 2019.

51. A. Berenstein, V. Retakh, Noncommutative Catalan numbers, *Annals of Combinatorics*, Vol. 23, Issue 3–4 (2019), pp. 527–547.

52. A. Alekseev, A. Berenstein, B. Hoffman, Y. Li, Langlands Duality and Poisson-Lie Duality via Cluster Theory and Tropicalization, *Selecta Mathematica*, **27**, 69, 2021, pp. 6711–6764.

53. D. Alessandrini, A. Berenstein, V. Retakh, E. Rogozinnikov, A. Wienhard, Symplectic groups over noncommutative algebras, *Selecta Mathematica New Series*, Vol. 28, **82** (2022)

54. Y. Bazlov, A. Berenstein, E. Jones-Healey, A. McGaw, Twists of rational Cherednik algebras, *Quarterly Journal of Mathematics*, Vol. 74, Issue 2, 2022, pp. 511–528.

Submitted.

55. R. M. Adin, A. Berenstein, J. Greenstein, J.-R. Li, A. Marmor, Y. Roichman, Transitive and Gallai colorings.

56. A. Berenstein, A. Gainutdinov, V. Gorbunov, Generalized electrical Lie algebras

Preprints.

57. A. Berenstein, J. Greenstein, J. Li, On cacti and crystals, Hecke and Artin monoids and their homomorphisms, `arXiv:2405.18821`.

58. A. Berenstein, Y. Li, Geometric Multiplicities, `arXiv:1908.11581`.

59. D. Grigoriev, Valuations, bijections, and bases, `arXiv:2405.00470`.

60. A. Berenstein, V. Retakh, Noncommutative Catalan numbers, IHES preprint `M-17-14`.

61. A. Berenstein, Group-like elements in quantum groups and Feigin's conjecture, `arXiv:q-alg/9605016v16`.

62. A. Berenstein, V. Retakh, Noncommutative loops over Lie algebras, MPIM2006-131.

63. A. Berenstein, Anatol Kirillov, The Robinson-Schensted-Knuth bijection, quantum matrices and piecewise-linear combinatorics, *preprint FPSAC01*, Arizona State University, May 20-26, 2001.

Papers in preparation.

64. A. Berenstein, V. Retakh, Noncommutative clusters.

65. A. Berenstein, M. Huang, V. Retakh, Noncommutative clusters and Laurent Phenomenon on marked surfaces.

66. A. Berenstein, J. Greenstein, J. Li, Geometric cacti and crystals.

67. A. Berenstein, J. Greenstein, J. Li, Monomial braidings.

68. A. Berenstein, K. Schmidt, Factorizable bialgebroids.

69. A. Berenstein, D. Kazhdan, Hecke-Hopf algebras II.

70. A. Berenstein, Y. Greenstein, D. Kazhdan, Interval bases.

71. Y. Bazlov, A. Berenstein, H-cross products.

72. A. Berenstein, D. Grigoriev, Anatol Kirillov, G. Koshevoy, Generalized RSK.

73. A. Berenstein, J. Greenstein, Quantum centralizers and double canonical bases.

74. A. Berenstein, J. Greenstein, D. Kazhdan, Quantum Hankel algebras and canonical bases.

75. A. Berenstein, E. Richmond, V. Vologodsky, Equivariant bi-homology and Nil Hecke algebras.

76. A. Berenstein, J. Foster, V. Ostrik, Yetter-Drinfeld module algebras over $U_q(\mathfrak{g})$.

77. Y. Bazlov, A. Berenstein, Noncommutative reflections.

78. Y. Bazlov, A. Berenstein, Generalized braided doubles and 2-categories.

79. A. Berenstein, S. Fomin, A. Zelevinsky, Cluster algebras of rank 3.

80. A. Berenstein, D. Kazhdan, Algebro-geometric distributions on reductive groups and geometric crystals.

81. A. Berenstein, Kostka polynomials at roots of unity and characters of Weyl groups.

INVITED TALKS

1. *Noncommutative surfaces, clusters, and their symmetries*, International Workshop on Noncommutative Integrable Systems, March 2024.
2. *Double canonical bases*, Lie groups and moduli spaces Seminar, University of Geneva, November 2022.
3. *Geometric multiplicities*, Lie groups and moduli spaces Seminar, University of Geneva, January 2022.
4. *Coenveloping algebras*, Lie groups and moduli spaces Seminar, University of Geneva, December 2020 (by Zoom).
5. *Noncommutative orthogonal polynomials and beyond*, Homology, graded algebras, infinity and Lie type structures workshop, Belfast, October 2020 (by Zoom)
6. *Canonical bases for dual groups*, mini-course at Workshop on Poisson Geometry, Stokes Automorphisms and Cluster Algebras, Peking University, Beijing, China, December 2019.
7. *Canonical bases for sl_2-modules*, Lie groups and moduli spaces Seminar, University of Geneva, December 2019.
8. *Generalized RSK*, Conference on Toric Topology 2019 in Okayama, Okayama University of Science, Japan, November 2019.
9. *Integrable clusters*, AMS Sectional Meeting, UC Riverside, November 2019.
10. *Noncommutative Catalan numbers*, Algebraic Geometry and Representation Theory Seminar, Weizmann Institute of Science, Israel, September 2019.
11. *Noncommutative clusters*, Conference on Cluster Algebras, RIMS, Kyoto, Japan, June 2019.
12. *Hecke-Hopf algebras*, Quantum groups Seminar, University of Geneva, December 2018.
13. *Canonical bases*, Quantum groups Seminar, University of Geneva, December 2018.
14. *Noncommutative clusters*, Algebraic Geometry and Representation Theory Seminar, Weizmann Institute of Science, Israel, September 2018.
15. *Noncommutative clusters*, Non-commutative structures, cluster algebras and applications conference, University of Angers, June 2018.
16. *Integrable clusters*, Cluster Algebras and Math Physics conference, Michigan State University, May 2018.
17. *Geometric crystals and tropical combinatorics*, Lie groups and moduli spaces Seminar, University of Geneva, January 2018.
18. *Geometric crystals, potentials, and tropicalization*, Lie groups and moduli spaces Seminar, University of Geneva, December 2017.
19. *Noncommutative Dunkl operators and braided Cherednik algebras*, AMS Sectional Meeting, UC Riverside, November 2017.
20. *Noncommutative Catalan numbers*, Combinatorics seminar, Bar Ilan University, Tel Aviv, October 2017.
21. *Hecke-Hopf algebras*, conference on noncommutative and nonassociative structures in Physics and Geometry, Belfast, August, 2017.
22. *Generalized Joseph's decompositions*, International conference on Algebraic Modes of Representations, Weizmann Institute of Science, Israel, July 2017.

23. *Hecke-Hopf algebras and new solutions of QYBE*, Seminar in Geometry and Topology, UC Davis, June 2017.
24. *Integrable clusters*, Spring School on Cluster Algebras in Mathematical Physics, University of Mainz, Germany, March 2017.
25. *Hecke-Hopf algebras*, Boston college, March 2017.
26. *Canonical bases in quantum Schubert cells*, Algebraic Geometry and Representation Theory Seminar, Weizmann Institute of Science, Israel, December 2016.
27. *Hecke-Hopf algebras*, Colloquium, Bar Ilan University, Tel Aviv, November 2016.
28. *Hecke-Hopf algebras*, Infinite Dimensional Algebra Seminar, MIT, September 2016.
29. *Hecke-Hopf algebras*, Lie Theory and Representation Theory Workshop 2016, University of Cologne, August 2016.
30. *Hecke-Hopf algebras*, NWDR Workshop, Ruhr-University Bochum, July 2016.
31. *Generalized RSK*, Algebra and Number Theory Seminar, University of Cologne, July 2016.
32. *Hecke-Hopf algebras*, Conference on Algebraic Combinatorics and Group Actions, Herstmonceux, UK, July 2016.
33. *Geometric crystals and tropical combinatorics*, Lie groups and moduli spaces Seminar, University of Geneva, June 2016.
34. *Hecke-Hopf algebras*, Colloquium, University of Notre Dame, March 2016.
35. *Generalized RSK*, Workshop on Integrable random systems, representation theory and geometry of Lie groups, Les Diablerets, Switzerland, February 2016.
36. *Generalized RSK*, Tropical Mathematics Conference, Bar Ilan University, Tel Aviv, December 2015.
37. *Generalized RSK*, Combinatorics seminar, Bar Ilan University, Tel Aviv, December 2015.
38. *Generalized RSK*, Algebraic Geometry and Representation Theory Seminar, Weizmann Institute of Science, Israel, December 2015.
39. *Generalized RSK*, Algebra Seminar, University of Haifa, December 2015.
40. *Hecke-Hopf algebras*, Algebraic Geometry and Representation Theory Seminar, Weizmann Institute of Science, Israel, November 2015.
41. *Double canonical bases*, Interactions between Representation Theory, Algebraic Topology and Commutative Algebra seminar, CRM, Universitat Autonoma de Barcelona, June 2015.
42. *Integrable clusters*, AMS-EMS-SPM International Meeting, Porto, June 2015.
43. *Noncommutative marked surfaces*, USA-Mexico conference in Representation Theory and Non-commutative Algebra, Instituto de Matematicas, UNAM, Mexico, January 2015.
44. *Noncommutative Laurent Phenomenon*, Conference on strings, quivers and cluster algebras in mathematical physics, Seoul, Korea, December 2014.
45. *Noncommutative marked surfaces*, Conference on cluster algebras in combinatorics and topology, Seoul, Korea, December 2014.

46. *Double canonical bases*, Conference on cluster algebras and representation theory, Seoul, Korea, November 2014.
47. *Noncommutative marked surfaces*, Seminar in Geometry and Topology, UC Davis, November 2014.
48. *Hall algebras and canonical bases*, Lie Groups Seminar, MIT, September 2014.
49. *Quantum cluster characters of Hall algebras*, ICM Satellite conference "Representation Theory and Related Topics," Daegu, Korea, August 2014.
50. *From commutative to totally noncommutative clusters*, CRM, Universitat Autonoma de Barcelona, June 2014.
51. *Noncommutative triangulated surfaces and related groups*, CRM, Universitat Autonoma de Barcelona, June 2014.
52. *Generalized RSK*, Combinatorics pre-Seminar, MIT, April 2014.
53. *Equivariant Littlewood-Richardson coefficients*, Topology Seminar, Louisiana State University, March 2014.
54. *Quantum cluster characters of Hall algebras*, Geometric Langlands Seminar, Louisiana State University, March 2014.
55. *Quantum cluster algebras*, Graduate Colloquium, Louisiana State University, March 2014.
56. *Cluster recursions*, Undergraduate Colloquium, Louisiana State University, March 2014.
57. *Quantum cluster characters of Hall algebras*, Geometry Seminar, University of Texas, March 2014.
58. *Quantum cluster algebras*, Algebra Seminar, University of Texas, March 2014.
59. *From geometric crystals to crystal bases*, Combinatorics Seminar, University of Texas, March 2014.
60. *Noncommutative clusters*, Mathematics Colloquium, Bar Ilan University, Tel Aviv, October 2013.
61. *Noncommutative clusters*, Noncommutative Algebra seminar, MSRI, May 2013.
62. *Noncommutative clusters*, Conference on Algebra, Combinatorics and Representation Theory, Northeastern University, April 2013.
63. *Quantum cluster characters of Hall algebras*, Seminar in Algebra and Discrete Mathematics, UC Davis, December 2012.
64. *Cluster recursions*, Lecture for Graduate Students, Kansas State University, March 2012.
65. *Quantum Hankel algebras*, Algebra Seminar, Kansas State University, March 2012.
66. *Quantum Cluster Algebras*, 47th William J. Spencer Lecture, Kansas State University, March 2012.
67. *Quantum Hankel algebras*, Lie Theory Workshop on Quantum Groups, Stanford University, February 2012.
68. *Quantum Hankel algebras*, Lie Theory Seminar, UC Riverside, February 2012.
69. *Quantum Cluster Algebras*, Cluster algebras, representation theory, and Poisson geometry Workshop, Banff International Research Station, September 2011.

70. *Equivariant Littlewood-Richardson coefficients*, ICMS workshop "New developments in noncommutative algebra and its applications," Sabhal Mor Ostaig, Isle of Skye, Scotland, June 2011.

71. *Littlewood-Richardson coefficients for reflection groups*, Combinatorics Seminar, Bar Ilan University, Tel Aviv, June 2011.

72. *Littlewood-Richardson coefficients for reflection groups*, Algebra Seminar, University of Haifa, May 2011.

73. *Littlewood-Richardson coefficients for reflection groups*, Enveloping algebras and Representation Theory Seminar, Jussieu Institute of Mathematics, Paris, April 2011.

74. *Littlewood-Richardson coefficients for reflection groups*, Workshop on the Interaction of Representation Theory with Geometry and Combinatorics, Hausdorff Research Institute, Bonn, March 2011.

75. *Littlewood-Richardson coefficients for reflection groups*, Algebra Seminar, University of Manchester, UK, March 2011.

76. *Littlewood-Richardson coefficients for reflection groups*, Colloquium, Wayne State University, March 2011.

77. *Littlewood-Richardson coefficients for reflection groups*, Algebra and Discrete Mathematics Seminar, UC Davis, December 2010.

78. *Matrix factorizations over noncommutative ring*, Noncommutative Algebra Seminar, Max Planck Institute, Bonn, Germany, August 2010.

79. *Geometric Crystals*, Workshop "Whittaker Functions, Crystal Bases, and Quantum Groups," Banff, Canada, June 2010

80. *q-commuting Dunkl operators and braided Cherednik algebras*, AMS Sectional Meeting, UC Riverside, November 2009.

81. *Lie algebras and Lie groups over noncommutative rings*, AMS Sectional Meeting, UC Riverside, November 2009.

82. *Geometric crystals and tropical combinatorics*, Workshop "Tropical Geometry in Combinatorics and Algebra," MSRI, October 2009.

83. *Universal rank 2 Schubert calculus*, Conference on Eigenvalue and Saturation Problems for Reductive Groups, University of North Carolina, Chapel Hill, May 2009.

84. *From geometric crystals to crystal bases*, GADUDIS Conference, University of Glasgow, UK, March 2009.

85. *Braided doubles and braided Cherednik algebras*, Conference on Enveloping Algebras and Geometric Representation Theory, Oberwolfach, Germany, March 2009.

86. *Quantum Hankel algebras, clusters, and canonical bases*, International Conference on Cluster Algebras and Related Topics, Mexico City, Mexico, December 2008.

87. *Quantum Hankel algebras, clusters, and canonical bases*, Algebra and Discrete Mathematics Seminar, UC Davis, December 2008.

88. *q-commuting Dunkl operators and Braided Cherednik algebras*, Meeting of the American Mathematical Society, Vancouver, Canada, October 2008.

89. *q-commuting Dunkl operators and Braided Cherednik algebras*, Algebra Seminar, University of Leeds, UK, July 2008.

90. *Lie algebras and Lie groups over noncommutative rings*, International Colloquium on Integrable Systems and Quantum symmetries, Prague, June 2008.

91. *Braided doubles and rational Cherednik algebras*, Representation Theory Seminar, Northeastern University, December 2007.

92. *From geometric crystals to crystal bases*, Joint meeting of Lie Groups and Combinatorics seminars, MIT, December 2007.

93. *Braided doubles and rational Cherednik algebras*, Representation Theory Seminar, University of Minnesota, December 2007.

94. *From geometric crystals to crystal bases*, Combinatorics Seminar, University of Minnesota, December 2007.

95. *Braided doubles and rational Cherednik algebras*, Algebra Seminar, University of Oregon, November 2007.

96. *Lie algebras and Lie groups over noncommutative rings*, Lie Theory Seminar, UC Riverside, October 2007.

97. *Braided doubles and rational Cherednik algebras*, Colloquium, UC Riverside, October 2007.

98. *Lie algebras and Lie groups over noncommutative rings*, Conference *Group Representations and Combinatorics*, University of Florida, September 2007.

99. *Lie algebras and Lie groups over noncommutative rings*, Algebra Seminar, Warwick University, July 2007.

100. *Quasiharmonic polynomials for Coxeter groups and rational Cherednik algebras*, Workshop *Cherednik algebras*, ICMS, Edinburgh, UK, June 2007.

101. *Quasiharmonic polynomials for Coxeter groups and canonical elementary invariants*, Workshop *Interactions between Algebraic Combinatorics and Algebraic Geometry*, CRM, Montreal, May 2007.

102. *Polytopal models and tropical geometry*, Workshop *Buildings and combinatorial representation theory*, AIM, Palo Alto, March 2007.

103. *Noncommutative loops over Lie algebras*, Alumni Conference, Northeastern University, February 2007.

104. *Noncommutative loops over Lie algebras*, Infinite Dimensional Algebra Seminar, MIT, October 2006.

105. *Braided symmetric algebras*, Oberseminar, Max Planck Institute, Bonn, Germany, September 2006.

106. *Noncommutative double Bruhat cells*, Noncommutative Algebra Seminar, Max Planck Institute, Bonn, Germany, August 2006.

107. *Braided symmetric and exterior algebras*, Algebra Seminar, University of Washington, April 2006.

108. *Braided symmetric and exterior algebras*, Colloquium, Indiana University Purdue University of Indiana, September 2005.

109. *From geometric crystals to crystal bases*, Workshop *Generalized Kostka Polynomials*, AIM, Palo Alto, July 2005.

110. *From geometric crystals to crystal bases*, Lie Theory Seminar, UC Riverside, May 2005.

111. *From geometric crystals to crystal bases*, Winter Solstice Workshop, Weizmann Institute of Science, Israel, December 2004.

112. *From geometric crystals to crystal bases*, Workshops on Integrable Systems and Tropical Combinatorics, Research Institute for Mathematical Sciences, Kyoto, Japan, July-August 2004.
113. *Quantum cluster algebras*, International Conference on Quantum Groups, Technion, Haifa, July 2004.
114. *Crystal bases and Geometric crystals*, Combinatorics seminar, University of California, Davis, October 2003.
115. *Cluster algebras and canonical bases*, Algebra seminar, University of Oregon, March 2003.
116. *Macdonald's Identities*, Basic notions seminar, University of Oregon, October 2002.
117. *Cluster algebras and canonical bases*, Workshop on Representations of Lie Algebras, Rehovot, Israel, July 2002.
118. *Cluster algebras II: q-cluster algebras*, Algebra seminar, University of Oregon, June 2002.
119. *Cluster algebras I*, Algebra seminar, University of Oregon, May 2002.
120. *Geometric and combinatorial crystals*, AMS/SMF meeting, Lyon, France, July 2001.
121. *Linear Inequalities and the Schubert Calculus*, Basic notions seminar, University of Oregon, March 2001.
122. *Geometric and unipotent crystals*, Geometric Langlands seminar, University of Chicago, February 2001.
123. *Geometric crystals*, Algebra seminar, University of Oregon, October 2000.
124. *Geometric crystals*, Algebraic Groups Seminar, Ohio State University, February 2000.
125. *Tensor Product Multiplicities, Canonical Bases and Totally Positive Varieties*, Special Department of Mathematics Colloquium, Purdue University, February 2000.
126. *Geometric crystals*, Infinite Dimensional Algebra Seminar, MIT, December 1999.
127. *The Knuth bijection, quantum matrices and free crystals*, Combinatorics Seminar, MIT, February 1999.
128. *Total Positivity and Canonical Bases*, Lie Groups and Lie Algebras seminar, Cornell University, November 1998.
129. *Products of Schur polynomials, sums of Hermitian matrices and piecewise linear combinatorics*, Combinatorics and Algebraic Geometry seminar, Cornell University, September 1997.
130. *Group-like elements in quantum groups and Feigin's conjecture*, International Press conference, University of California at Irvine, January 1997.
131. *On Feigin's conjecture*, Lie Group Seminar, Cornell University, September–October 1996.
132. *Coordinatization of Quantum Groups and the Gelfand-Kirillov Conjecture*, Lie Algebras and Lie Groups Seminar, Yale University, February 1995.
133. *String bases in quantum groups*, Algebra seminar, University of Wisconsin at Madison, Madison, July 1995.
134. *Triple multiplicities in representations of* GL_{r+1}, Algebra Seminar, De Paul University, Chicago, March 1995.

135. *Canonical bases for the quantum group of type $\mathcal{A}_r$ and piecewise linear combinatorics*, Meeting of AMS, Chicago, March 1995.
136. *Gelfand-Tsetlin patterns and piecewise linear combinatorics*, Combinatorics Seminar, Northeastern University, October 1993.
137. *String bases for quantum groups*, Kobe University, Kyoto University, Japan, September 1992.
138. *When the weight multiplicity is one*, Algebra Seminar, Hebrew University, Jerusalem, Israel, October 1990.
139. *Tensor product multiplicities and convex polytopes*, Winter School on Representations Theory, Srni, Chekhoslovakia, January 1990.

December 17, 2023