LI, YU

CONTACT INFORMATION

Department of Mathematics University of Toronto Bahen Centre, Room 6290 40 St. George Street, Toronto, ON M5S 2E4	Email: liyu9112@gmail.com Web page: http://www.math.toronto.edu/liyu/ Citizenship: Chinese
EMPLOYMENT	
University of Toronto Postdoctoral fellow	2022 - 2025
Max Planck Institute for Mathematics Postdoctoral fellow	2021 - 2022
EDUCATION	
University of Chicago Ph.D. (mathematics) Advisor: Victor Ginzburg	2014 - 2021
University of Hong Kong B.Sc. (first class honors, mathematics)	2011 - 2014
University of California at Berkeley Exchange student	Spring 2013
Zhejiang University Preparation year	2010 - 2011

RESEARCH INTERESTS

Geometric representation theory; symplectic/Poisson geometry; cluster algebra; deformation quantization; toric variety; mathematical physics; combinatorics.

PUBLICATIONS

8. A. Balibanu, C. Crowley and Y. Li: *Degeneration of Toric Varieties into Matroid Schubert Varieties*. In preparation.

7. L. Jiang and Y. Li: *Topology of Real Matroid Schubert Varieties*. To be posted on the arXiv soon, manuscript available upon request.

6. Y. Li, Y. Li and J.-H. Lu: *Polynomial Integrable Systems from Cluster Structures*. To be posted on the arXiv soon, manuscript available upon request.

5. S. Evens and Y. Li: *Wonderful Compactification of a Cartan Subalgbra of a Semisimple Lie Algebra*. To be posted on the arXiv soon, manuscript available upon request.

4. A. Ilin, J. Kamnitzer, Y. Li, P. Przytycki and L. Rybnikov: *The Moduli Space of Cactus Flower Curves*. arXiv: 2308.06880. Submitted.

3. S. Evens and Y. Li: Abelian Ideals and the Variety of Lagrangian Subalgebras. Journal of Pure and Applied Algebra, 2025; 229(1). https://doi.org/10.1016/j.jpaa.2024.107813.

2. Y. Li: *Quantum Boson Algebra and Poisson Geometry of the Flag Variety*. arXiv: 1904.10141. Submitted.

1. Y. Li: Gaiotto's Lagrangian Subvarieties via Loop Groups. arXiv: 1705.01639. Submitted.

INVITED TALKS

- 32. Symplectic and Poisson Geometry Seminar, October 2024, UIUC;
- 31. Symplectic Seminar, September 2024, University of Toronto;
- 30. Geometry Seminar, August 2024, the University of Hong Kong;
- 29. Algebraic and Enumerative Combinatorics Seminar, May 2024, University of Waterloo;
- 28. Symplectic Seminar, March 2024, University of Toronto;
- 27. Symplectic Geometry and Mathematical Physics Seminar, December 2023, Peking University;
- 26. Mathematical Physics Seminar, December 2023, Skoltech;
- 25. December 2023, Chern Institute of Mathematics, Nankai University;

24. Session on "Cluster Algebra in Representation Theory", 2023 CMS Winter Meeting, December 2023;

- 23. Applied Algebra Seminar, November 2023, York University;
- 22. Geometry Seminar, August 2023, the University of Hong Kong;
- 21. June 2023, Beijing Institute of Technology;
- 20. March 2023, Sichuan University;
- 19. 2023 "Gone Fishing" Poisson Geometry Conference, March 2023, Amherst College;
- 18. December 2022, somewhere in Montreal;
- 17. November 2022, University of Geneva;
- 16. Higher Differential Geometry Seminar, November 2022, Max Planck Institute for Mathematics;
- 15. Global Poisson Webinar, March 2022, virtual meeting (hosted by the University of Geneva);
- 14. March 2022, Sichuan University;
- 13. MPI-Oberseminar, February 2022, Max Planck Institute for Mathematics;
- 12. Lie Theory and Poisson Geometry, January 2022, Centre International de Rencontres Mathématiques;
- 11. Symplectic Geometry and Mathematical Physics Seminar, September 2021, Peking University;
- 10. September 2021, Sichuan University;
- 9. Poisson 每周一谈, June 2021, Peking University;

8. Special session on "Geometric and Categorical Methods in Representation Theory", AMS Sectional Meeting, May 2021, virtual meeting (originally at San Francisco State University);

- 7. Friday Fish Seminar, April 2021, Utrecht Geometry Center;
- 6. February 2021, University of Toronto;
- 5. December 2020, the Chinese University of Hong Kong;
- 4. Geometry, Physics and Representation Theory Seminar, December 2020, Northeastern University;

3. Special session on "Supergeometry, Poisson Brackets, and Homotopy Structures", AMS Sectional Meeting, September 2019, University of Wisconsin - Madison;

- 2. Cluster Algebra Seminar, January 2019, University of Notre Dame;
- 1. Geometry Seminar, August 2018, the University of Hong Kong.

AWARDS

8. Lawrence and Josephine Graves Prize for Excellence in Undergraduate Teaching, 2018, Department of Mathematics, University of Chicago;

- 7. Undergraduate Research Fellowship 2013, Faculty of Science, the University of Hong Kong;
- 6. Dean's Honors List, Spring 2013, College of Letters and Science, University of California at Berkeley;

5. Wong Yung Chow Prize in Mathematics, 2012 - 2013, Department of Mathematics, the University of Hong Kong;

4. C. V. Starr Scholarships 2012 - 2013;

- 3. Summer Research Fellowship 2012, Faculty of Science, the University of Hong Kong;
- 2. Dean's Honors List, 2011 2012, Faculty of Science, the University of Hong Kong;

1. Walter Brown Memorial Prizes in Mathematics, 2011-2012, Department of Mathematics, the University of Hong Kong.

TEACHING

11. MAT235, Multivariable Calculus, fall 2023, winter 2024, fall 2024, winter 2025, University of Toronto;

- 10. MAT224, Linear Algebra II, winter 2023, University of Toronto;
- 9. MAT334, Complex Variables, winter 2023, University of Toronto;
- 8. MATH 13200, Elementary Functions and Calculus-2, spring 2021, University of Chicago;
- 7. MATH 15200, Calculus-2, autumn 2016, 2017, University of Chicago;
- 6. MATH 15300, Calculus-3, winter 2017, 2018, autumn 2019, 2020, University of Chicago;
- 5. MATH 19520, Mathematical Methods in the Social Sciences, spring 2017, the University of Chicago;

4. MATH 19620, Linear Algebra, spring and autumn 2018, winter 2019, winter 2020, University of Chicago;

3. MATH 27300, Basic Theory of Ordinary Differential Equations, (college fellow), winter 2016, University of Chicago;

2. MATH 27000, Basic Complex Variables, (college fellow), autumn 2015, spring 2016, University of Chicago;

1. MATH 1111, Linear Algebra, (teaching assistant), summer 2012, the University of Hong Kong.

SERVICES

- 5. Lecturer, Summer School on Poisson Geometry and Its Applications, July 2023, Sichuan University;
- 4. Problem session moderator, Poisson 2022 Advanced School, July 2022, Centre de Recerca Matemàtica;
- 3. Organizer, Student Poisson Geometry Seminar, 2018 2019, University of Chicago;
- 2. Organizer, Student Representation Theory Seminar, 2017 2018, University of Chicago;

1. Mentor, Directed Reading Program, autumn 2015, 2016, spring 2017, Department of Mathematics, the University of Chicago.

LANGUAGES AND SKILLS

- 1. Chinese, native;
- 2. English, fluent;
- 3. LaTeX, proficient;
- 4. Macaulay2, proficient;
- 5. SageMath, proficient;
- 6. Matlab, familiar;