

**Curriculum Vitae**  
**Changjian Su**

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CONTACT INFORMATION	Department of Mathematics University of Toronto 40 St. George Street, Room 6290 Toronto, Ontario, Canada, M5S 2E4	Email: <a href="mailto:csu@math.toronto.edu">csu@math.toronto.edu</a>  Webpage: <a href="https://www.math.toronto.edu/csu/">https://www.math.toronto.edu/csu/</a>
RESEARCH INTERESTS	Representation theory, Algebraic geometry	
EDUCATION	Columbia University Ph.D., Mathematics, May 2017 Advisor: Andrei Okounkov  University of Science and Technology of China B.S. in Mathematics, May 2012	
EMPLOYMENT	2018-present, University of Toronto, postdoc fellow  2017-2018, IHES, postdoc fellow	
PUBLICATIONS	<i>Structure constants for Chern classes of Schubert cells</i> Mathematische Zeitschrift (2020), 1-21  <i>Motivic Chern classes and Iwahori invariants of principal series</i> To appear in proceedings of the 8th International Congress of Chinese Mathematicians, 2019  <i>Stable bases of the Springer resolution and representation theory</i> (with Changlong Zhong), In International Conference on the Trends in Schubert Calculus, Springer Proceedings in Mathematics & Statistics, Vol 332, 195-221, 2020  <i>Positivity of Segre-MacPherson classes</i> (with Paolo Aluffi, Leonardo Mihalea and Jörg Schürmann) arXiv:1902.00762, to appear in “Facets of Algebraic Geometry: A Volume in Honour of William Fulton’s 80th Birthday”  <i>On the K-theory stable basis of the Springer resolution</i> (with Gufang Zhao and Changlong Zhong), Ann. Sci. Éc. Norm. Supér (4) 53 (2020), no. 3, 663-711  <i>Restriction formula for stable basis of the Springer resolution</i> Selecta Mathematica, Volume 23 (2017), Issue 1, pp 497-518.  <i>Equivariant quantum cohomology of cotangent bundle of G/P</i> Advances in Mathematics, 289 (2016), 362-383.	
PREPRINTS	<i>Chern-Schwartz-MacPherson classes and hook formula</i> (with Leonardo C. Mihalea and Hiroshi Naruse), preprint, available on my homepage	

*Geometric properties of the Kazhdan-Lusztig Schubert basis*  
(with Cristian Lenart, Kirill Zainoulline, Changlong Zhong), arXiv:2009.06595

*Left Demazure-Lusztig operators on equivariant (quantum) cohomology and K theory*  
(with Leonardo C. Mihalcea and Hiroshi Naruse), arXiv:2008.12670

*Whittaker functions from motivic Chern classes*  
(with Leonardo Mihalcea, joint appendix with D. Anderson), arXiv:1910.14065

*Wall crossings and a categorification of K-theory stable bases of the Springer resolution*  
(with Gufang Zhao and Changlong Zhong), arXiv:1904.03769

*Motivic Chern classes of Schubert cells, Hecke algebras, and applications to Casselman's problem*  
(with Paolo Aluffi, Leonardo Mihalcea and Jörg Schürmann) arXiv:1902.10101

*Shadows of characteristic cycles, Verma modules, and positivity of Chern-Schwartz-MacPherson classes of Schubert cells*  
(with Paolo Aluffi, Leonardo Mihalcea and Jörg Schürmann) arXiv:1709.08697, submitted to Duke Mathematical Journal on Nov. 2018

*Stable Basis and Quantum Cohomology of Cotangent Bundles of Flag Varieties*  
Columbia University, Ph.D. Thesis (2017)

INVITED TALKS

*Geometry and Combinatorics from Root Systems*, ICERM, Brown University, March 2021

*AMS special section on Recent advances in Schubert calculus and related topics*, Brown University, March 2021

*Algebra seminar*, East China Normal University, China, Dec. 2020

*Representation and Number Theory seminar*, The Chinese University of Hong Kong, Dec. 2020

*Informal Mathematical Physics Seminar*, Columbia University, Nov. 2020

*Symplectic and Mathematical Physics Seminar*, BICMR, Beijing, China, Oct 2020

*Mathematical Physics seminar*, Perimeter Institute, Canada, Mar. 2020

*IHP Winter School: Categorifications, Moduli Spaces and Representation Theory*, CIRM, Marseille, France, Jan 2020

*New interactions between Geometry and Combinatorics*, Osaka City University, Japan, Oct. 2019

*Algebraic geometry seminar*, University of Illinois at Urbana-Champaign, Sep. 2019

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

*Invited speaker, International Congress of Chinese Mathematicians*, Beijing, June, 2019

*Geometric Representation theory seminar*, Yau Mathematical Sciences Center, Tsinghua University, China, June, 2019

*Representation theory seminar*, Harbin Engineering University, China, May, 2019

*Representation theory seminar*, Shanghai Center for Mathematical Sciences, May, 2019

*Algebra seminar*, University of Science and Technology of China, Hefei, May, 2019

*GAGP seminar*, Sun Yat-sen University, China, April, 2019

*Geometry, Physics, and Representation Theory Seminar*, Northeastern University, April, 2019

*Algebraic geometry seminar*, The Ohio State University, April, 2019

*Lie group seminar*, Cornell University, March, 2019

*Algebra seminar*, Virginia Tech, Feb, 2019

*Algebra seminar*, University of Virginia, Feb, 2019

*Mathematics - String Theory seminar*, Kavli IPMU, Japan, Feb. 2019

*Representation theory, gauge theory, and integrable systems*, Kavli IPMU, Japan, Feb. 2019

*Algebra seminar*, York University, Jan 2019

*Geometric Representation Theory seminar*, University of Toronto, Jan. 2019

*Geometric representation theory seminar*, MIT, Dec. 2018

*Geometric representation theory seminar*, UNC Chapel Hill, Nov. 2018

*Informal Mathematical Physics Seminar*, Columbia University, Nov. 2018

*Number theory/ Representation theory seminar*, University of Toronto, Oct. 2018

*Geometry, Symmetry and Physics seminar*, Yale University, Sep. 2018

*GAGP seminar*, Sun Yat-sen University, China, Aug. 2018

*Algebra seminar*, East China Normal University, China, Aug. 2018

*Algebra seminar*, Zhejiang University, China, Aug. 2018

*Representation theory seminar*, Academy of Mathematics and Systems Science, Aug. 2018

*Geometric Representation Theory seminar*, University of Toronto, May. 2018

*Representation and Geometry seminar*, Paris Diderot University, May. 2018

*Algebra seminar*, University of Münster, Nov, 2017

*International Festival in Schubert Calculus*, Sun Yat-sen University, Nov. 2017

*Representation and Geometry seminar*, Paris Diderot University, Oct. 2017

*Algebra seminar*, University of Connecticut, Apr. 2017

*Algebra seminar*, Virginia Tech, Mar. 2017

*Informal Mathematical Physics Seminar*, Columbia University, Feb. 2017

*Geometric representation seminar*, MIT, Nov. 2016

*Algebra seminar*, University of Albany, Oct. 2016

*Global singularity theory and curves workshop*, Centre Interfacultaire Bernoulli, May. 2016

*Workshop on Equivariant generalized Schubert calculus and its applications*, University of Ottawa, Apr. 2016

*Algebra seminar*, Virginia Tech, Feb. 2016

*AMS Special Session on Modern Schubert Calculus*, Rutgers University, Nov. 2015

*Moduli spaces in algebraic geometry and mathematical physics*, Tianjin, Sep. 2015 (half hour contributed talk)

*Informal Mathematical Physics Seminar*, Columbia University, Nov. 2014

CONFERENCES  
ATTENDED

*Arbeitsgemeinschaft: Higher Gross Zagier Formulas*, Oberwolfach, Germany, Apr, 2017

*Global Langlands correspondence*, AIM, Dec. 2016

*Geometric representation theory program*, Simons Center for Geometry and Physics, Jan. 2016

*Park City Math Institute Graduate Summer School and Research Program: Geometry of moduli spaces and representation theory*, Jul. 2015

*Quiver varieties*, Simons Center, Oct. 2013

TEACHING  
EXPERIENCE

University of Toronto

Fall	2020	Instructor, Introduction to Ordinary Differential Equations
Fall	2020	Instructor, Calculus I
Spring	2020	Instructor, Calculus II (196 students)
Fall	2019	Instructor, Calculus II (196 students)
Spring	2019	Instructor, Calculus I (about 150 students)
Fall	2018	Instructor, Calculus I (about 150 students)

Columbia University

Spring 2017 Instructor, Calculus I  
Fall 2016 Teaching Assistant, Lie group I  
Summer 2016 Instructor, Calculus III  
Spring 2016 Teaching Assistant, Lie group II  
Fall 2015 Teaching Assistant, Calculus II  
Spring 2015 Teaching Assistant, Representation of finite groups  
Fall 2014 Teaching Assistant, Linear algebra

#### REFERENCES

- Andrei Okounkov  
Columbia University  
okounkov@math.columbia.edu
- Alexander Braverman  
University of Toronto  
sashabraverman@gmail.com
- Joel Kamnitzer  
University of Toronto  
jkamnitz@math.toronto.edu
- Leonardo C. Mihalcea  
Virginia Tech  
lmihalce@math.vt.edu
- Sarah Mayes-Tang (teaching reference)  
University of Toronto  
smt@math.toronto.edu

#### SYNERGISTIC ACTIVITIES

Referee for IMRN, Math Z, PRIMS, SIGMA  
Co-organizer of geometric representation theory seminar at University of Toronto