

# Rui Xiong

熊锐; Pinyin: Xióng Ruì.



## Personal Information

- **First Name** *Rui*
- **Last Name** *Xiong*
- **E-mail** rxion043@uottawa.ca
- **Homepage** <https://cubicbear.github.io/>

## Degrees

- **B.Sc.** 2019, Shandong University, China  
Thesis Title: 关于群行列式 (*On the theory of group determinants*)  
Supervisor: Shoumin Liu
- **M.Sc.** 2021, Saint Petersburg State University, Russia  
Thesis Title: *Comodule Structure of Chow Rings of Flag Varieties*  
Supervisor: Victor Petrov

## Talks

- **2021 Oct** Spectral Sequence, My Homological Saw at [Shandong University](#)
- **2022 May** Hook Formulae and Schubert Calculus at [Sichuang University](#)
- **2023 Jan** Murnaghan–Nakayama rules and hook formulas (poster session) at the [University of Waterloo, 2023 CAAC](#)
- **2023 Feb** Pieri Type Rules for Chern Classes of Schubert Cells at the [University of British Columbia, UBC Discrete Math seminaar](#)
- **2023 Apr** Chern–Schwartz–MacPherson Classes over Flag Varieties: Pieri Rules, Conjectures, and More at [Schubert seminar](#) [part 1] [part 2]
- **2023 Jun** Automorphisms of the Quantum Cohomology of the Springer Resolution and Applications at [University of Ottawa, CMS](#)

## Publications

- [1] 集合论、拓扑与代数初步 (*An introduction to sets, topology and algebra*) Tsinghua University Press.  
ISBN: 9787302541646 (with [Shoumin Liu](#))

## Preprints

- [2] *Equivariant log-concavity and equivariant Kähler packages.*  
(with [Tao Gui](#)) [[arXiv:2205.05420](#)] [math.CO](#) [math.AG](#)
- [3] *Pieri and Murnaghan–Nakayama type Rules for Chern classes of Schubert Cells.* (submitted)  
(with [Neil J.Y. Fan](#) and [Peter L. Guo](#)) [[arXiv:2211.06802](#)] [math.CO](#) [math.AG](#)

- [4] *Structure algebras, Hopf algebroids and oriented cohomology of a group.* (submitted)  
(with Martina Lanini and Kirill Zainoulline) [arXiv:2303.02409] [math.AG](#) [math.RT](#) [math.CO](#)
- [5] *Automorphisms of the Quantum Cohomology of the Springer Resolution and Applications.* (submitted)  
(with Changzheng Li and Changjian Su) [arXiv:2304.07173] [math.AG](#) [math.RT](#) [math.CO](#)
- [6] *Bumpless Pipe Dreams Meet Puzzles.* (submitted)  
(with Neil J.Y. Fan and Peter L. Guo) [arXiv:2309.00467] [math.CO](#) [math.AG](#)

## L<sup>A</sup>T<sub>E</sub>X

- [7] The L<sup>A</sup>T<sub>E</sub>X package TooYoung. (Github: CubicBear/TooYoung)

## Research Areas

Algebraic Combinatorics. Enumerative Geometry.