


# Rui Xiong

熊锐; Xióng Ruì. 



[cubicbear.github.io](https://cubicbear.github.io)

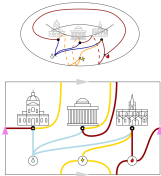
## Personal Information

- **First Name** RUI
- **Last Name** XIONG
- **E-mail** [rxion043@uOttawa.ca](mailto:rxion043@uOttawa.ca)
- **Advisor** Kirill Zainoulline

## Education

- **B.Sc.** 2015 – 2019, SHANDONG UNIVERSITY, CHINA.  
关于群行列式理论 (*On the theory of group determinants*)  
Advisor: Shoumin Liu
- **M.Sc.** 2019 – 2021, SAINT PETERSBURG STATE UNIVERSITY, RUSSIA.  
*Comodule Structure of Chow Rings of Flag Varieties*  
Advisor: Victor Petrov
- **PhD student** 2022 – 2025, UNIVERSITY OF OTTAWA, CANADA.  
Advisor: Kirill Zainoulline

## Preprints and Publications

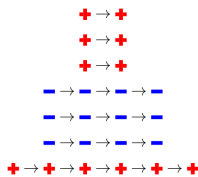


TSINGHUA UNIVERSITY PRESS, ISBN: 9787302541646 (2019).

集合论、拓扑与代数初步

(An introduction to set theory, topology and algebra)

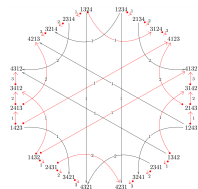
Shoumin Liu and Rui Xiong



JOURNAL OF ALGEBRA, Volume 657, November 2024, 379-401 [[arXiv:2205.05420](https://arxiv.org/abs/2205.05420)]

Equivariant log-concavity and equivariant Kähler packages

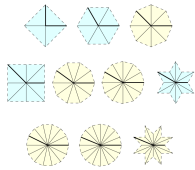
Tao Gui and Rui Xiong



[[arXiv:2211.06802](https://arxiv.org/abs/2211.06802)]

Pieri and Murnaghan–Nakayama type Rules for Chern classes of Schubert Cells

Neil J.Y. Fan, Peter L. Guo and Rui Xiong



MATHEMATICAL RESEARCH LETTER, accepted

[arXiv:2303.02409]

## Structure algebras, Hopf algebroids and oriented cohomology of a group

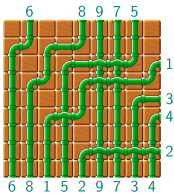
Martina Lanini, Rui Xiong and Kirill Zainoulline

$$\begin{array}{l} \begin{array}{cccc} 1 & 2 & 3 & 4 \\ \hline \chi_1 \chi_2 \chi_3 & \frac{B^2_{\chi_1 \chi_2} B_{\chi_3}}{(n-1)!} \chi_3 & \frac{B^2_{\chi_1 \chi_3} B_{\chi_2}}{(n-1)!} \chi_2 & \frac{B^2_{\chi_2 \chi_3} B_{\chi_1}}{(n-1)!} \chi_1 \end{array} \\ \begin{array}{cccc} 1 & 2 & 3 & 4 \\ \hline \chi_1 \chi_2 \chi_4 & \frac{B^2_{\chi_1 \chi_2} B_{\chi_4}}{(n-1)!} \chi_4 & \frac{B^2_{\chi_1 \chi_4} B_{\chi_2}}{(n-1)!} \chi_2 & \frac{B^2_{\chi_2 \chi_4} B_{\chi_1}}{(n-1)!} \chi_1 \end{array} \\ \begin{array}{cccc} 1 & 2 & 3 & 4 \\ \hline \chi_1 \chi_3 \chi_4 & \frac{B^2_{\chi_1 \chi_3} B_{\chi_4}}{(n-1)!} \chi_4 & \frac{B^2_{\chi_1 \chi_4} B_{\chi_3}}{(n-1)!} \chi_3 & \frac{B^2_{\chi_3 \chi_4} B_{\chi_1}}{(n-1)!} \chi_1 \end{array} \\ \begin{array}{cccc} 1 & 2 & 3 & 4 \\ \hline \chi_2 \chi_3 \chi_4 & \frac{B^2_{\chi_2 \chi_3} B_{\chi_4}}{(n-1)!} \chi_4 & \frac{B^2_{\chi_2 \chi_4} B_{\chi_3}}{(n-1)!} \chi_3 & \frac{B^2_{\chi_3 \chi_4} B_{\chi_2}}{(n-1)!} \chi_2 \end{array} \end{array}$$

ADVANCES IN MATHEMATICS, Volume 442, April 2024, 109577. [arXiv:2304.07173]

## Automorphisms of the Quantum Cohomology of the Springer Resolution and Applications

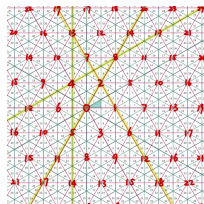
Changzheng Li, Changjian Su and Rui Xiong



ADVANCES IN MATHEMATICS, Volume 463, March 2025, 110113 [arXiv:2309.00467]

## Bumpless pipe dreams meet puzzles

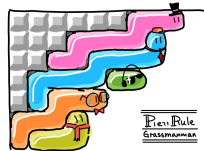
Neil J.Y. Fan, Peter L. Guo and Rui Xiong



[arXiv:2312.03965]

## On the Peterson subalgebra and its dual

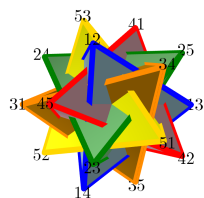
Rui Xiong, Changlong Zhong and Kirill Zainoulline



[arXiv:2402.04500]

## A Pieri type formula for motivic Chern classes of Schubert cells in Grassmannians

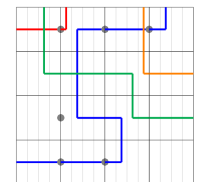
Neil J.Y. Fan, Peter L. Guo, Changjian Su and Rui Xiong



[arXiv:2404.07314]

## Motivic Lefschetz theorem for twisted Milnor hypersurfaces

Rui Xiong and Kirill Zainoulline



[arXiv:2411.01637]

## Hybrid pipe dreams for key polynomials

Yihan Xiao, Rui Xiong and Haofeng Zhang



[arXiv:2501.16172]

## Chern Classes of Open Projected Richardson Varieties and of Affine Schubert Cells

Neil J.Y. Fan, Peter L. Guo, Changjian Su and Rui Xiong