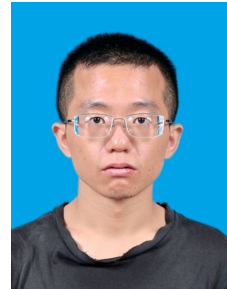# Curriculum Vitae

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Hongsheng Hu / 胡泓昇

Postdoctor in

Beijing International Center for Mathematical Research,

Peking University.

- **Research interests:** Representation theory, Lie theory, Coxeter groups and their representations, Kazhdan-Lusztig theory.
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- **Homepage:** https://huhongsheng.github.io
- **ORCID:** https://orcid.org/0000-0002-1850-056X
- **Language:** Chinese (native). English.
- **Birth:** May 16, 1994. Zhangzhou, Fujian Province, China.
- **Other information:** Male. Married. No child. Political status: masses.

Education and Working Experiences.

- Since Jul. 2022. Postdoc.
  Beijing International Center for Mathematical Research, Peking University. Beijing, China.
  Mentor: Xiang Fu.
- Feb. 26, 2019 - Aug. 26, 2019. Visiting graduate student.
  University of California, Riverside. California, USA.
  Host professor: Carl Mautner.
  Funding: China Scholarship Council. No. 201804910559.
- Sep. 2016 - Jun. 2022. Ph.D.
  Academy of Mathematics and Systems Science, Chinese Academy of Sciences. Beijing, China.
  Major in Fundamental Mathematics.
  Supervisor: Nanhua Xi.
- Sep. 2012 - Jun. 2016. B.S.
  Fudan University. Shanghai, China.
  Major in Mathematics and Applied Mathematics.

Ph.D. Dissertation (written in Chinese).

- Title: "Reflection" representations of Coxeter groups.

Papers and Preprints.

- Representations of Coxeter groups of Lusztig's a-function value 1.
  Preprint. `arXiv:2309.00593`
- On exterior powers of reflection representations.
  Published online. Bull. Aust. Math. Soc.
  `https://doi.org/10.1017/S0004972723000965`
  `arXiv:2306.16946v2`
- Reflection representations of Coxeter groups and homology of Coxeter graphs.
  Preprint. `arXiv:2306.12846`
- A note on least squares solutions and Gaussian eliminations.
  Preprint (teaching paper, written in Chinese). To appear in College Mathematics.
- Some infinite dimensional representations of certain Coxeter groups.
  Preprint. `arXiv:2205.09294v2`

Lectures and Talks.

- Exterior powers of reflection representations.
  Nov. 15 - 20, 2023. The 16th national academic conference on algebra.
  Huaqiao University. Quanzhou, Fujian Province, China.
- Reflection representations of Coxeter groups.
  Nov. 10 - 14, 2023. The fourth international conference on group actions and symmetrical graphs/The fourth international conference on groups, graphs and combinatorics.
  Southern University of Science and Technology. Shenzhen, Guangdong Province, China.
- Graphs and reflection representations, I — classifications and beyond.
  Sep. 14, 2023. Seminar on representation theory.
  Academy of Mathematics and Systems Science, Chinese Academy of Sciences. Beijing, China.
- Graphs and reflection representations, II — exterior powers.
  Sep. 14, 2023. Seminar on representation theory.
  Academy of Mathematics and Systems Science, Chinese Academy of Sciences. Beijing, China.
- Hecke algebras — an incomplete overview.
  Apr. 27, 2023. 3+X undergraduate seminar.
  School of Mathematical Sciences, Peking University. Beijing, China.
- Coxeter groups and their reflection representations.
  Nov. 28, 2022. Postdoc seminar (online).
  Beijing International Center for Mathematical Research, Peking University. Beijing, China.

Teaching.

- Linear Algebra II B. Spring 2022. Teaching assistant. Lecturer: Ming Fang.
  University of Chinese Academy of Sciences. Beijing, China.
- Algebra. Fall 2019. Teaching assistant. Lecturer: Nanhua Xi.
  University of Chinese Academy of Sciences. Beijing, China.
- Linear Algebra II A. Spring 2017. Teaching assistant. Lecturer: Nanhua Xi.

University of Chinese Academy of Sciences. Beijing, China.

- Linear Algebra I A. Fall 2016. Teaching assistant. Lecturer: Nanhua Xi.
  University of Chinese Academy of Sciences. Beijing, China.

Professional Activities.

- Since Dec. 2021. Reviewer for zbMATH Open.

Funding.

- Feb. 2019 - Aug. 2019. China Scholarship Council. No. 201804910559.

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