

# Curriculum Vitae<sup>1</sup>

Keisuke Hoshino

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## Education

2023–        Ph.D. course in Division of Mathematics and Mathematical Sciences, Faculty of Science, Kyoto University.

2021–2023 Master’s course in Division of Mathematics and Mathematical Sciences, Faculty of Science, Kyoto University.

Thesis title : *Towards structures of higher dimensional categories*

2017–2021 Undergraduate course in Faculty of Science, Kyoto University.

## Publications

- [1] K. Hoshino and H. Nasu. “Double categories of relations relative to factorisation systems”. In: *Appl. Categ. Structures* 33.2 (2025), Paper No. 11, 70. ISSN: 0927-2852,1572-9095. DOI: 10.1007/s10485-025-09799-y. URL: <https://doi.org/10.1007/s10485-025-09799-y>.
- [2] S. Fujii, K. Hoshino, and Y. Maehara. “Weakly invertible cells in a weak  $\omega$ -category”. In: *High. Struct.* 8.2 (2024), pp. 386–415. ISSN: 2209-0606.

## Preprints

- [1] S. Fujii, K. Hoshino, and Y. Maehara.  *$\omega$ -weak equivalences between weak  $\omega$ -categories*. 2024. arXiv: 2406.13240 [math.CT]. URL: <https://arxiv.org/abs/2406.13240>.

## Talks

(Invited)

- [1] K. Hoshino and H. Nasu. *Double categories of relations relative to factorisation systems*. Second Virtual Workshop on Double Categories, Online. Mar. 2024.

(non-refereed)

- [1] K. Hoshino. *Bivirtual double categories and localisation of composing cells*. Computer Science and Category Theory, CSCAT2025, Kumamoto, Japan. Mar. 2025.
- [2] K. Hoshino. *Towards Structures of Higher Dimensional Categorical Structures*. Computer Science and Category Theory, CSCAT2023, Kyoto, Japan. Mar. 2023.
- [3] K. Hoshino and H. Nasu. *Double categories of relations relative to factorisation systems*. 67th Annual Meeting of the Australian Mathematical Society (AustMS 2023), Brisbane, Australia. Dec. 2023.
- [4] K. Hoshino. *PCAs as algebras over operads*. Computer Science and Category Theory, CSCAT2022, Online. 2022.

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<sup>1</sup>Last updated: May 17, 2025