

# Ryo ISHIZUKA | 石塚 伶

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<https://ryo1203.github.io>

## Education

### Tokyo Institute of Technology

*Master of Science in Mathematics*

Supervisor: Kazuma Shimomoto (2nd year), Fumiharu Kato (1st year)

Tokyo, Japan

Apr 2022–Current

### Tokyo Institute of Technology

*Bachelor of Science in Mathematics*

Supervisor: Fumiharu Kato

Tokyo, Japan

Apr 2018–Mar 2022

## Research Interests

Commutative algebra in mixed characteristic (via arithmetic methods such as perfectoid rings, prismatic cohomologies, and almost mathematics).

## Papers and Preprints

- [3] D.Dine and **R.Ishizuka**. *Tilting and untilting for ideals in perfectoid rings*. arXiv: 2308.0960.
- [2] **R.Ishizuka**. *A calculation of the perfectoidization of semiperfectoid rings*. to appear in Nagoya Math. J. arXiv: 2305.07916.
- [1] **R.Ishizuka** and K.Shimomoto. *A mixed characteristic analogue of the perfection of rings and its almost Cohen-Macaulay property*. arXiv: 2303.13872.

## Talks

- Mar 2024. “Perfectoid ideals and its correspondence”, The 20th Mathematics Conference for Young Researchers, Hokkaido University, Japan
- Feb 2024. “Mixed characteristic Kunz’ s theorem with prismatic theory”, The 28th Conference on Algebra for Young Researchers in Japan, Waseda University, Japan
- Dec 2023. “Commutative ring theoretic approach for the perfectoidization of semiperfectoid rings”, Number Theory Seminar, Kyoto University, Japan
- Nov 2023. “Ideal correspondence between a perfectoid ring and its tilt”, The 44th Japan Symposium on Commutative Algebra, Lectore Hayama, Japan
- Aug 2023. “Absolute integral closure”, The 18th Summer School on Commutative algebra, Tokyo Institute of Technology, Japan
- Aug 2023. “On the relation between perfectoidization and  $p$ -root closure”, The 9th China-Japan-Korea International Conference on Ring and Module Theory, Incheon National University, Republic of Korea
- July 2023. *On the commutative ring-theoretic structure of the perfectoidization of semiperfectoid rings*, The 22nd Hiroshima-Sendai Workshop on Number Theory at Hiroshima, Hiroshima University, Japan
- July 2023. “On the application of perfectoidization to commutative algebra and its structure”, The 34th Seminar on Commutative Algebra in Japan, Kitami Institute of Technology, Japan
- May 2023. “On Perfectoid(ization) and its commutative ring-theoretic properties”, Ookayama Youth Seminar in Algebra, Tokyo Institute of Technology, Japan

- Mar 2023. “A mixed characteristic analogue of the perfection of rings”, The 11th Japan-Vietnam Joint Seminar on Commutative Algebra - by and for young mathematicians -, Vietnam Academy of Science and Technology, Vietnam
- Mar 2023. “An explicit construction of perfectoid almost Cohen-Macaulay algebras in mixed characteristic”, MSJ Spring Meeting 2023, Chuo University, Japan
- Mar 2023. “An explicit construction of perfectoid almost Cohen-Macaulay algebras”, The 19th Mathematics Conference for Young Researchers, Hokkaido University, Japan
- Oct 2022. “An explicit construction of perfectoid almost Cohen-Macaulay algebras in mixed characteristic”, The 43rd Japan Symposium on Commutative Algebra, Osaka University, Japan

## Membership

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- Apr 2023– . Mathematical Society in Japan (MSJ)

## Languages

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<b>Japanese:</b> Native	<i>Mother tongue</i>
<b>English:</b> Intermediate	<i>Can read, write, and, listen but may struggle with conversation</i>
<b>French:</b> Beginner	<i>Can only read mathematical texts</i>