

# Ryo ISHIZUKA | 石塚 伶

Tokyo Institute of Technology  
2-12-1 Ookayama 152-8551 Meguro-ku Tokyo – Japan  
3 December 1999 • ✉ [ishizuka.r.ac@m.titech.ac.jp](mailto:ishizuka.r.ac@m.titech.ac.jp)  
<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).

## Preprints

- [3] D.Dine and **R.Ishizuka**. *Tilting and untilting for ideals in perfectoid rings*. arXiv:2308.09600.
- [2] **R.Ishizuka**. *A calculation of the perfectoidization of semiperfectoid rings*. 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, Lecture 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

---

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

## Languages

---

<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>