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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

- 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 Algebra Seminar for Young Researchers, 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

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

Languages

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