

# Yutaro Mikami (三神 雄太郎)

Graduate school of Mathematical Science, The University of Tokyo,  
3-8-1, Komaba, Meguro-ku, Tokyo, 153-8914, Japan  
Email: y-mikmi@g.ecc.u-tokyo.ac.jp

## EDUCATION

- Doctor course, Mathematical Science, The University of Tokyo, April 2023-present (expected to graduate in March 2026)  
Supervisor: Yoichi Mieda
- Master, Mathematical Science, The University of Tokyo, April 2021-March 2023
- Bachelor, Science, The University of Tokyo, April 2017-March 2021

## Grants/Fellowship

- JSPS Research Fellow (DC1), Japan Society for the Promotion of Science, April 2023-March 2026

## Awards

- Dean's Award (Master Course, valedictorian), Graduate school of Mathematical Science, The university of Tokyo, March 2023

## Papers

---

1. "Faithfully flat descent of quasi-coherent complexes on rigid analytic varieties via condensed mathematics." *Int. Math. Res. Not. IMRN* 2024, no. 8, 7099–7128.

## Preprints

---

1. "Finiteness and duality of cohomology of  $(\varphi, \Gamma)$ -modules and the 6-functor formalism of locally analytic representations." *arXiv preprint arXiv:2504.01780* (2025)
2. "On the relative Nullstellensatz in nonarchimedean geometry." with Kiran S. Kedlaya, *arXiv preprint arXiv:2503.18183* (2025)
3. " $(\varphi, \Gamma)$ -modules over relatively discrete algebras." *arXiv preprint arXiv:2409.14145* (2025)
4. "Fppf-descent for condensed animated rings." *arXiv preprint arXiv:2311.13408* (2023)

## Talks in Seminars/Workshops/Conferences

1. "Cohomology of  $(\varphi, \Gamma)$ -modules and duality", Oberseminar Arithmetic Geometry and Representation Theory, Max Planck Institute for Mathematics, May 23, 2025.
2. "Cohomology of  $(\varphi, \Gamma)$ -modules and duality", Workshop on Frontiers in Number Theory, Tianyuan Mathematics Research Center, May 12, 2025.
3. "Finiteness and duality of cohomology of  $(\varphi, \Gamma)$ -modules and the 6-functor formalism of locally analytic representations, II", Mittagsemminar zur Arithmetik, The University of Münster, May 6, 2025.

4. "Finiteness and duality of cohomology of  $(\varphi, \Gamma)$ -modules and the 6-functor formalism of locally analytic representations, I", Mittagseminar zur Arithmetik, The University of Münster, April 29, 2025.
5. "Cohomology of  $(\varphi, \Gamma)$ -modules and duality", 2025 Lyon-Tokyo conference in Number Theory and Arithmetic Geometry, ÉNS de Lyon, March 25, 2025.
6. " $(\varphi, \Gamma)$ -modules over relatively discrete algebras", Algebraic Number Theory and Related Topics 2024, RIMS, January 6, 2025.
7. " $(\varphi, \Gamma)$ -modules over relatively discrete algebras", Workshop on Shimura varieties, representation theory and related topics, The University of Tokyo, October 10, 2024.
8. "Finiteness of  $(\varphi, \Gamma)$ -cohomology", 23rd Sendai-Hiroshima Workshop on Number theory, Tohoku University, July 11, 2024.
9. "Descent theory in condensed mathematics", NTU-UTokyo Joint Conference: Number theory and arithmetic geometry, National Taiwan University, December 7-8, 2023.
10. "Faithfully flat descent of quasi-coherent complexes on rigid analytic varieties via condensed mathematics", Number Theory Seminar, The University of Tokyo, May 24, 2022.
11. "Faithfully flat descent of quasi-coherent complexes on rigid analytic varieties via condensed mathematics", Number Theory Seminar, Kyoto University, July 29, 2022.
12. "Faithfully flat descent of quasi-coherent complexes on rigid analytic varieties over non-archimedean local fields via condensed mathematics", 21st Sendai-Hiroshima Workshop on Number theory, Tohoku University, July 14, 2022.

### **Survey Talks in Seminars/Workshops/Conferences**

1. "The  $K(\pi, 1)$  theorem (I): the Bertini theorem", Yatsugatake workshop on Wild Ramification and Etale Homotopy, Yamanashi, Japan, September 19, 2025.
2. "Revêtements du demi-plan de Drinfeld et correspondance de Langlands  $p$ -adique", Kurashiki Number Theory Meeting, Kurashiki Seaside Hotel, September 8-9, 2025.
3. "Emerton-Gee stack", Kurashiki Number Theory Meeting, Kurashiki Seaside Hotel, September 6-10, 2024.
4. "Locally analytic functions on perfectoid modular curves", Kanazawa Arithmetic Geometry Meeting, Ishikawa Prefectural bunkyo hall, March 25-29, 2024.
5. "Higher Coleman theory", Kurashiki Number Theory Meeting, Kurashiki Seaside Hotel, September 11-18, 2023.
6. "The solid structure on a Huber pair", Yatsugatake workshop on Condensed Mathematics, Haramura, Japan, September 7, 2023.
7. "The Yoneda embedding, and the adjoint functor theorem", Kurashiki Number Theory Meeting, Kurashiki Seaside Hotel, February 6-10, 2023.
8. "Etale cohomology of diamonds", Kurashiki Number Theory Meeting, Kurashiki Seaside Hotel, September 6-7, 2022.

### **Teaching**

1. Winter 2025, Teaching assistant, "Algebra and Geometry", The University of Tokyo.
2. Winter 2024, Teaching assistant, "Algebra and Geometry", The University of Tokyo.
3. Winter 2023, Teaching assistant, "Algebra and Geometry", The University of Tokyo.