Reinier Sorgdrager

Employment

- Université Paris-Saclay • Postdoctoral researcher • October 2026 - September 2027
- Université Paris-Saclay and University of Amsterdam • Doctoral researcher • 2022-2026
  Defense date: 28 September 2026
- University of Amsterdam • Teaching assistant • 2019-2020

Education

- Université Paris-Saclay • 2nd year of ALGANT master • Grade: 18.48 out of 20 • 2021-2022
  Master thesis: Lubin-Tate towers, supervised by Benjamin Schraen
- Universität Duisburg-Essen • 1st year of ALGANT master • Grade: 1.0 • 2020-2021
- University of Amsterdam • BSc in Mathematics • Grade: 9.3 out of 10 • 2017-2020
  Undergraduate thesis: Chebotarev's density theorem, supervised by Arno Kret

Research visits

- Hausdorff Research Institute for Mathematics, Bonn • "The Arithmetic of the Langlands Program" • May 2023

Articles

2. Gelfand-Kirillov bound for p-adic Banach representations with infinitesimal character for GL_2 and quaternion units
   arXiv-preprint
1. Note on a certain category of mod p representations
   Published in *manuscripta mathematica*

Works in progress

- Gelfand-Kirillov bound for p-adic Banach representations with infinitesimal character in families
- Hecke action on the derived pro-p Iwahori invariants of certain mod p representations of GL_2 of an unramified p-adic field

Talks

- *Lecture series on Gelfand-Kirillov dimension, "Two Directions in the p-adic Langlands Program" workshop, Korea Institute of Advanced Study, July 2027
- *"Bound on the Gelfand-Kirillov dimension for GL_2", conference "Aspects locaux et globaux du programme de Langlands", Orsay, December 2026
- *"Bound on the Gelfand-Kirillov dimension for GL_2", séminaire de l'équipe Algèbre et Théorie des Nombres de Besançon, December 2026
- *"Bound on the Gelfand-Kirillov dimension for GL_2", Bergische Universität Wuppertal, November 2026
- *"Bound on the Gelfand-Kirillov dimension for GL_2", London Number Theory Seminar, London, November 2026
- "Bound on the Gelfand-Kirillov dimension for GL_2", Alfréd Rényi Institute of Mathematics, Budapest, October 2026
- "Gelfand-Kirillov bound for GL_2" (online), HCMC seminar, Korea Institute of Advanced Study, July 2026
- "Upper GK-bound for p-adic Banach representations with infinitesimal character", p-adic day, Peking University, May 2026
- "GK-bound for p-adic Banach representations with infinitesimal character in families", Morningside Center for Mathematics, Beijing, May 2026
- "Gelfand-Kirillov bound for p-adic Banach representations with infinitesimal character", Séminaire Algèbre ICJ, Lyon, April 2026
- "Upper bound to the GK-dimension for p-adic Banach representations with infinitesimal character", Artihmetic Geometry Seminar, Oxford University, April 2026
- "Upper bound to the GK-dimension for p-adic Banach representations with infinitesimal character", Junior Number Theory seminar, London, April 2026
- "Bounding the Gelfand-Kirillov dimension for p-adic Banach representations with infinitesimal character", GRK seminar, Essen, January 2026
- "p-adic Langlands and Gelfand-Kirillov dimension", UvA arithmetic and algebraic geometry seminar, Amsterdam, December 2025
- Talk on analytic representations of real groups, working group "Geometrization of Real Representations, after Peter Scholze", Orsay, January 2025
- "Pro-p Iwahori Hecke action and the mod p Langlands program", ENTR Workshop 24, Essen, September 2024
- Expository talk about Fermat's Last Theorem to master students, Amsterdam, December 2023
- "Lubin-Tate spaces and the mod p Jacquet-Langlands functor", Séminaire Mathjeunes, Paris, June 2023

*: to be given

Courses taught

- As lecturer: Mathematics 1 for Chemical Sciences (Amsterdam 2025)
- As teaching assistant: Mathematics 1 for Chemical Sciences (Amsterdam 2025), Algèbre linéaire (Orsay 2025), Galoistheorie (Amsterdam 2024), Differential geometry (Amsterdam 2023-2024), Reduction of endomorphisms (École Polytechnique 2022-2023), Lineaire algebra 1 (Amsterdam 2019-2020), Introduction to numerical mathematics (Amsterdam 2019)

Awards

- Listed for the "Golden Chalk Award" for best mathematics teaching assistant in 2023-2024 at the University of Amsterdam
- 1st prize International Mathematics Competition, online • 2020
- 3rd prize International Mathematics Competition, Blagoevgrad, Bulgaria • 2019
- 3rd prize International Mathematics Competition, Blagoevgrad, Bulgaria • 2018

Languages

- Dutch (native)
- English (fluent)
- French (professional working proficiency)
- German (working proficiency)
- Spanish (basic command)

References

Benjamin Schraen, Arno Kret, Vytautas Paškūnas, Jan Kohlhaase, Valentin Hernandez