Pol van Hoften

✉ pol.van.hoften@stanford.edu
https://web.stanford.edu/~pvhoften/

Employment

Fall 2023- **Assistant professor (universitair docent),** *Vrije Universiteit Amsterdam*.

2021-2023 **Postdoctoral fellow,** *Stanford University*.

Education

2017-2021 **PhD in mathematics,** *King's College London*, supervised by James Newton and Ana Caraiani.

2015-2017 **Master mathematical sciences,** *Utrecht University*, *cum laude*.

2012-2015 **Bachelor mathematics,** *Utrecht University*, *cum laude*.

Publications and preprints

2022 *Hecke orbits on Shimura varieties of Hodge type*, with Marco D'Addezio, https://arxiv.org/abs/2205.10344, submitted.

2021 *On the ordinary Hecke orbit conjecture*, https://arxiv.org/abs/2112.12422 submitted.

2021 *The Langlands–Rapoport conjecture*, Automorphic forms, Automorphic representations, Galois representations, and its related topics, pages 124-133.

2021 *Monodromy and irreducibility of Igusa varieties*, with Luciena Xiao Xiao, https://arxiv.org/abs/2102.09870, submitted.

2020 *Mod p points on Shimura varieties of parahoric level*, with an appendix by Rong Zhou, https://arxiv.org/abs/2010.10496, submitted.

2019 *A geometric Jacquet-Langlands correspondence for paramodular Siegel threefolds*, Mathematische Zeitschrift **299**, pages 2029–2061 (2021).

Invited conference talks

Aug 2023 *Conference on global Langlands, Shimura varieties and shtukas*, HIM Bonn.

Jun 2022 *Arithmetic and topology around the Langlands program*, Stockholm.

Aug 2021 *Arithmetic of Shimura varieties over global fields*, Cetraro.

Jan 2021 *Galois representations and related topics*, RIMS, Kyoto.

Oct 2019 *Supersingular abelian varieties and related arithmetic*, Nagoya.

Selected invited seminar talks

Feb 2023 *Number theory seminar*, Ohio State University.

Dec 2022 *Algebra-number theory seminar*, University of Maryland.

Oct 2022 *Stanford number theory seminar*, Stanford University.

Sep 2022 *Number theory and representation theory seminar*, University of Utah.
Jul 2022 *Séminaire Arithmétique et Géométrie Algébrique*, Université Paris-Saclay.
Jul 2022 *Algebraic geometry seminar*, TU Darmstadt.
Jun 2022 *Geometry and algebra seminar*, Utrecht University (two talks).
Jun 2022 *Arithmetic and algebraic geometry seminar*, University of Amsterdam (two talks).
Jun 2022 *Number theory seminar*, Imperial College London.
Jun 2022 *Number theory seminar*, University of Cambridge.
Feb 2022 *Number theory seminar*, University of Wisconsin-Madison.
Feb 2022 *Number theory seminar*, University of Chicago.
Oct 2021 *Berkeley-Caltech-Stanford number theory seminar*.
Jul 2021 *Oberseminar*, University of Duisburg-Essen.
May 2021 *Number theory seminar*, University of Münster.
Apr 2021 *Number theory seminar*, Massachusetts Institute of Technology.
Apr 2021 *Joint number theory seminar*, Hebrew University and Ben-Gurion University.
Apr 2021 *RGR webinar*, Institut de Mathématiques de Marseille.
Mar 2021 *Number theory seminar*, UCLA.
Feb 2021 *Algebra-number theory seminar*, University of Maryland (two talks).
Nov 2020 *London-Paris number theory seminar*.
Nov 2020 *Algebra and geometry seminar*, Stockholm.
Nov 2020 *Number theory lunch seminar*, University of Sheffield.
Jun 2020 *Séminaires de géométrie arithmétique et motivique*, Paris 13.
Apr 2020 *Number theory seminar*, University of Warwick.
Dec 2019 *Algebra, geometry and number theory seminar*, Leiden University.
Nov 2019 *ENS de Lyon number theory seminar*, École normale supérieure de Lyon.
Jul 2019 *Arithmetic and algebraic geometry seminar*, University of Amsterdam.

Service and other professional activities

Referee for journals including IMRN, Math. Ann., and Math. Z. .

Seminars organised

Fall 2022 *Berkeley-Stanford number theory learning seminar on EG stacks*, with Lie Qian.
Spring 2022 *Berkeley-Stanford number theory learning seminar on moduli of L-parameters*.
Fall 2021 *Reading group on "A unipotent circle action on p-adic modular forms"*.
Winter 2020 *Reading group on Deligne–Lusztig theory*, with Miriam Norris.
Winter 2019 *Organised the London number theory reading group on 'derived structures in the Langlands programme'*, with Carl Wang-Erickson, Ashwin Iyengar and Alice Pozzi.

Teaching Experience

2022-2023 **Lecturer** *Stanford University*.

- Topics in algebraic geometry: Deligne–Lusztig theory (Winter 2023)
- Graduate algebraic geometry (Fall 2022)
- Reading course on Shimura varieties in characteristic p (Spring 2022)

2018-2020 **Graduate teaching assistant** *King's College London*.

- Groups and Symmetry (Fall 2020)
- Introduction to number theory (Fall 2019/Fall 2018)

Summer 2019 **Undergraduate research opportunities programme** *Imperial College London*, Together with Chris Williams, I supervised Tin Lau's summer project on local fields.

2018-2019 **London maths outreach**, I am a cofounder of London Maths Outreach, which is a program run by PhD students in London to teach extracurricular topics in math to high school students in the London area, especially students from state schools. In the Fall of 2018 and 2019 I taught a course on cryptography through this program.

Summer 2018 **Counselor** *Ross mathematics program Asia*, 5 weeks, I was personally responsible for grading and tutoring four students. I taught the thrice-weekly seminars to groups of fifteen students. Moreover I taught an 11-part graduate level evening course to other counselors on local fields and perfectoid fields.

2013-2017 **Teaching assistant** *Utrecht University*.

- Rings and Galois theory (Spring 2017)
- Introduction to probability and statistics (Winter 2016)
- Measure theory (Fall 2016/Fall 2015)
- Summer school in geometry for advanced undergraduates at Utrecht University (two weeks in August 2016), I helped run the following courses: 'Elliptic Curves', 'p-adic numbers', 'the local global principle for quadratic forms' and 'Diophantine equations'.
- Lab course optics (Spring 2014). In the summer of 2014 I was involved in redesigning part of the curriculum for this course.
- Introduction to special relativity (Fall 2013)

Languages

Dutch **Native speaker**

English **Fluent**