Sally Gilles

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Research Interests

Arithmetic geometry: p-adic cohomologies, p-adic Hodge theory, dualities in p-adic geometry

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Employment

2023 – 2024	**Postdoctoral member of the IAS**, *Institute for Advanced Study*, Princeton, US
2022 – 2023	**Postdoctoral fellow in the Arithmetic Geometry group of the MPIM**, *Max Planck Institute for Mathematics*, Bonn, Germany
2020 – 2022	**Postdoctoral research associate in the research group of Ana Caraiani**, *Imperial College*, London, UK

Formation

2017 – 2020	**PhD student under the supervision of Wiesława Nizioł**, *UMPA (ÉNS de Lyon)*, Lyon, France
	<u>Subject</u>: p-adic period morphisms and syntomic cohomology
	<u>Jury</u>: A. Abbes, D. Benois, L. Berger, K. Česnavičius, G. Dospinescu, M. Gros, A. Mézard, W. Nizioł
2017 – 2017	**Master thesis under the supervision of Wiesława Nizioł**, *UMPA (ÉNS de Lyon)*, Lyon, France
	<u>Subject</u>: Integral p-adic Hodge Theory
2015 – 2017	**Master degree in Mathematics**, *ÉNS de Lyon*, Lyon, France
	Arithmetic geometry
2014 – 2015	**Bachelor degree in Mathematics**, *ÉNS de Lyon*, Lyon, France
2011 – 2014	**Classes Préparatoires aux Grandes Écoles**, *Lycée Blaise Pascal/Lycée La Fayette*, Clermont-Ferrand, France
	Mathematics-Physics

Teaching

Spring 2019 and 2020	**Exercise sessions in Number Theory**, *ÉNS de Lyon*, Lyon, France
	For master students
Fall 2018 and 2019	**Exercise sessions in Algebra 1**, *ÉNS de Lyon*, Lyon, France
	For undergraduate students
2017 – 2018	**Oral examinations**, *ÉNS de Lyon*, Lyon, France
	Oral exercises to postsecondary students to train them for competitive exams
2016 – 2017	**Oral examinations**, *Lycée Aux Lazaristes*, Lyon, France

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Participation in research programs

2023 – 2024	**Special year on p-adic Arithmetic Geometry**, *Institute for Advanced Study*, Princeton, US
Summer 2023	**HIM trimester program: The Arithmetic of the Langlands Program**, *Hausdorff Research Institute for Mathematics*, Bonn, Germany

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(Pre)publications

2023	**On the v-Picard group of Stein spaces**, *joint work with V. Ertl and W. Nizioł*, Preprint, arxiv:2312.14649, 22 pages
2023	**Arithmetic duality for p-adic proétale cohomology of analytic curves**, *joint work with P. Colmez and W. Nizioł*, Preprint, arXiv:2308.07712, 64 pages
2023	**Morphismes de période et cohomologie syntomique**, Algebra Number Theory 17 (2023), 603–666

Papers in preparation

∼ 2024	**Compactly supported p-adic proétale cohomology of analytic varieties**, *joint work with P. Achinger and W. Nizioł*, in preparation
∼ Winter 2024	**A proétale-to-de Rham comparison theorem for curves**, in preparation

Research talks

March 2024	**Conference "Nearby cycles and derived geometry"**, *University of Regensburg*, Regensburg, Germany
November 2023	**IAS/Princeton Arithmetic Geometry Seminar**, *Princeton University*, Princeton, US
October 2023	**Essen Oberseminar**, *Universität Duisburg-Essen*, Essen, Germany Online talk
October 2023	**IAS short talks by postdoctoral members**, *Insitute for Advanced Study*, Princeton, US
July 2023	**Trimester Seminar Series**, *HIM trimester program: "The Arithmetic of the Langlands Program"*, Bonn, Germany
June 2023	**SFB "Higher invariants" Lecture**, *University of Regensburg*, Regensburg, Germany
December 2022	**Oberseminar**, *Max Planck Institute*, Bonn, Germany
November 2022	**Mittagsseminar zur Arithmetik**, *University of Münster*, Münster, Germany
November 2022	**Number Theory Seminar**, *University of Cambridge*, Cambridge, UK Online talk
February 2022	**Number Theory Seminar**, *Imperial College*, London, UK
April 2021	**Number Theory Seminar**, *UCLA*, Los Angeles, USA Online talk
March 2021	**Weekly seminar of the Laboratory of Algebraic Geometry and its Applications**, *HSE University*, Moscow, Russia Online talk
March 2021	**Séminaire Arithmétique et Géométrie algébrique**, *IRMA*, Strasbourg, France Online talk
February 2021	**Number Theory Seminar**, *Warwick Mathematics Intitute*, Warwick, UK Online talk
November 2020	**Paris London Number Theory seminar**, Paris, France Online talk
November 2020	**London Number Theory seminar**, London, UK Online talk
January 2020	**Séminaire des doctorantes et doctorants**, *Université Claude Bernard Lyon 1*, Lyon, France
October 2019	**Séminaire d'arithmétique de Lyon**, *Éns de Lyon*, Lyon, France
November 2018	**Oberwolfach seminar "Syntomic cohomology and p-adic Hodge theory"**, *MFO*, Oberwolfach, Germany

Organisational activities

September 2023	**Co-organiser of the conference Young Number Theorists in Bonn**, *Max Planck Institute*, Bonn, Germany
Fall 2020	**Co-organiser of a study group about Higher Hida Theory**, *Imperial College of London*, London, UK
Fall 2020	**Co-organiser of the London Number Theory seminar**, *Imperial College of London*, London, UK
2018 – 2019	**Co-organiser of the PhD students seminar**, *ICJ/UMPA*, Lyon, France

Outreach talks

October 2023	**Noetherian Ring seminar**, Princeton, US Talk directed to undergraduate and graduate students
February 2020	**Rendez-Vous des Jeunes Mathématiciennes**, Lyon, France Subject: What is arithmetic geometry? Talk directed to high-school girls interested in pursuing studies in STEM fields