

Sally Gilles

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Research Interests

Arithmetic geometry: p -adic cohomology, p -adic Hodge theory

Formation

- 2020 – Present **Postdoctoral research associate under the supervision of Ana Caraiani**, Imperial College, London, UK.
- 2017 – 2020 **PhD student under the supervision of Wiesława Nizioł**, UMPA (ÉNS de Lyon), Lyon, France.
Subject: p -adic period morphisms and syntomic cohomology
Jury: Ahmed Abbes, Denis Benois, Laurent Berger, Kęstutis Česnavičius, Gabriel Dospinescu, Michel Gros, Ariane Mézard, Wiesława Nizioł
Referees: Denis Benois, Peter Scholze
- April – July 2017 **Master thesis under the supervision of Wiesława Nizioł**, UMPA (ÉNS de Lyon), Lyon, France.
Worked on the article *Specializing varieties and their cohomology from characteristic 0 to characteristic p* by Bhargav Bhatt
- 2015 – 2017 **Master degree in Mathematics**, ÉNS de Lyon, Lyon, France, With highest honors.
Arithmetic geometry
- 2014 – 2015 **Bachelor degree in Mathematics**, ÉNS de Lyon, Lyon, France, With high honors.
- 2011 – 2014 **Classes Préparatoires aux Grandes Écoles**, Lycée Blaise Pascal/Lycée La Fayette, Clermont-Ferrand, France.
Mathematics-Physics

Teaching

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

(Pre)publications

- 2020 **Morphismes de période et cohomologie syntomique**, Preprint.

Talks

- November 2020 **p -adic nearby cycles and syntomic cohomology**, Paris London Number Theory seminar.
- November 2020 **p -adic nearby cycles and syntomic cohomology**, London Number Theory seminar, London, UK.
- January 2020 **Introduction to p -adic Hodge theory**, Séminaire des doctorantes et doctorants, ÉNS de Lyon / Université Claude Bernard Lyon 1, Lyon, France.
- October 2019 **p -adic nearby cycles and syntomic cohomology**, Séminaire d'arithmétique de Lyon, ÉNS de Lyon, Lyon, France.

November 2018 **p -adic nearby cycles and \mathbb{A}_{inf} -cohomology**, Oberwolfach seminar "Syntomic cohomology and p -adic Hodge theory", MFO, Oberwolfach, Germany.

Conferences/schools/research programs attended

October 2019 **Oberwolfach seminar: Topological cyclic homology and arithmetic**, MFO, Oberwolfach, Germany.

September 2019 **Hausdorff school: The Emerton-Gee stack and related topics**, Bonn, Germany.

April 2019 **Derived algebraic geometry**, MSRI, Berkeley, USA.

November 2018 **Oberwolfach seminar: Syntomic cohomology and p -adic Hodge theory**, MFO, Oberwolfach, Germany.

September 2018 **School: Arithmetic geometry**, Essen, Germany.

September 2018 **School: Arithmetic of differential equations**, Łukęcin, Poland.

July 2018 **p -adic Langlands correspondence, Shimura varieties and perfectoids**, CIRM Luminy, Marseille, France.

May-June 2018 **Trimestre thématique: Groupes algébriques et géométrisation du programme de Langlands**, ÉNS de Lyon, Lyon, France.

November 2017 **Workshop on Motives, Galois representations and cohomology around the Langlands program**, IAS, Princeton, USA.

Other activities

2018 – 2019 **Co-organiser of the PhD students seminar**, ICJ/UMPA, Lyon.