

Salim Tayou

Personal data

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Positions held

2020-present **Benjamin Peirce fellow at Harvard university**, *Cambridge, Massachusetts.*
January-July 2021 **Member of the School of Mathematics, Institute for Advanced Study**, *Princeton.*
Fall 2020 **Postdoctoral researcher**, *Centre de recherches mathématiques, Montréal.*
2017-2020 **Teaching assistant**, *École Normale Supérieure Ulm, Paris.*
2016-2017 **Teaching assistant**, *Université Paris-Sud, Orsay.*

Education

2016-2019 **Ph.D in Pure Mathematics**, *Université Paris-Sud, Orsay.*
Advisor: François Charles; Thesis: *On some arithmetic and geometric aspects of orthogonal Shimura varieties.*
2016 **Fourth year at the École Normale Supérieure**, *Ph.D begun under the supervision of François Charles.*
2015 **Master 2 in Pure Mathematics**, *École Normale Supérieure-Université Pierre et Marie Curie, Paris, Summa Cum Laude.*
Advisor: Gaëtan Chenevier; Thesis: *Images of certain Galois representations associated to Siegel modular forms of genus 2.*
2014 **Master 1 in Pure Mathematics**, *École Normale Supérieure-Université Paris Diderot, Paris, Summa Cum Laude.*
2013 **Licence in Mathematics**, *École Normale Supérieure-Université Paris Diderot, Paris, Summa Cum Laude.*
Advisor: Olivier Biquard ; Thesis: *On curve shortening flow.*
2010-2012 **Classes préparatoires in sciences**, *Moulay Youssef high school, Rabat, Morocco.*
Admission to École Normale Supérieure.
2010 **Baccalauréat option Mathematics**, *Moulay Youssef Technical high school, Tangier, Morocco.*
Summa Cum Laude, ranked second at the national level.

Honors and Awards

- 2016-2019 **Allocation spécifique normalien Grant.**
- 2012-2016 **École Normale Supérieure Ulm Grant.**
- 2012 **Entrance contest to École Polytechnique.**
Ranked first, international entrance exam.
- 2012 **Concours National Commun, Morocco.**
Ranked first. Moroccan national exam for entrance to best engineering schools.
- 2010 **International Mathematical Olympiads, Astana, Kazakhstan.**
Bronze medal.
- 2010 **Concours Général des Sciences et Techniques of Morocco.**
First prize in mathematics. The Concours Général is the highest competitive contest in Morocco for 12th grade students.

Publication list

- March 2021 **Equidistribution of Hodge loci II, with Nicolas Tholozan.**
Preprint.
- September 2019 **Exceptional jumps of Picard ranks of K3 surfaces over number fields, with Ananth Shankar, Arul Shankar and Yunqing Tang.**
Preprint.
- Mai 2018 **Rational curves on elliptic K3 surfaces.**
To appear in Mathematical Research Letters.
- January 2018 **Equidistribution of some Hodge loci.**
To appear in Journal für die reine und angewandte Mathematik.
- February 2016 **Image de certaines représentations galoisiennes associées aux formes modulaires de Siegel de genre 2.**
Int. J. Number Theory, **13**, 1129 (2017)

Invitations for talks

- December 2021 Michigan state, algebraic geometry seminar.
- November 2021 Chicago university, number theory seminar.
- October 2021 UC Santa Barbara, algebraic geometry seminar.
- September 2021 Harvard university number theory seminar.
- Mai 2021 Humboldt Universität algebraic geometry seminar, Berlin.
- April 2021 University of Georgia algebraic geometry seminar.
- March 2021 Harvard university number theory seminar.
- February 2021 IAS/Princeton university joint number theory seminar.
- January 2021 Member's seminar, Institute for Advanced Study, Princeton.
- December 2020 Essener Oberseminar, Duisburg-Essen university.
- October 2020 Geometry and Arithmetic of Hyperkähler Manifolds, Fall Southeastern Sectional Meeting.

- October 2020 MIT number theory seminar.
- September 2020 Member's seminar, CRM Montréal.
- September 2020 Quebec-Vermont number theory seminar.
- January 2020 Séminaire Arithmétique et géométrie algébrique, IRMA, Strasbourg
- January 2020 Number theory seminar, University of Copenhagen.
- December 2019 Arithmetische und Algebraische Geometrie seminar, TU, Munich.
- September 2019 Séminaire de géométrie complexe, Institut Élie Cartan, Nancy.
- May 2019 Young Mathematicians Academic Forum, Hefei, China.
- April 2019 Séminaire de Géométrie Arithmétique et Motivique, Université Paris 13.
- January 2019 Séminaire "Raconte moi...", ENS Paris.
- November 2018 Algebraic geometry seminar, Bonn University.
- October 2018 Seminario di geometria algebrica, Università degli Studi di Milano.
- March 2018 Séminaire d'Arithmétique et de Géométrie Algébrique, Paris-Sud University, Orsay.
- February 2018 Groupes Fondamentaux, Théorie de Hodge et Motifs, villa Finaly, Florence.
- January 2018 Cycles algébriques, UPMC, Paris.
- June 2017 Mathjeunes Seminar, IHÉS, Bures-sur-Yvette.
- March 2017 Ph.D students seminar, Université Paris-Sud, Orsay.
- May 2016 Mathjeunes seminar, Université Pierre et Marie Curie, Paris.

Long term invitations

- December 2019 Technische Universität München, invited by Frank Gounelas.
- November 2019 Princeton University, invited by Yunqing Tang.
- November 2018 Max Planck Institute, Bonn, invited by Daniel Huybrechts.
- October 2018 Università degli Studi di Milano, invited by Fabrizio Andreatta.

Teaching and advising

2017-2020 **Teaching assistant, ENS Paris.**

- Supervision of the first year project at ENS ULM of Jérémie Gaspar and Côme Tabary on "Banach-Ruziewicz problem".
- Member of the jury of third year defense at ENS ULM.
- Supervision of the first year project at Ens Ulm of Pierre Godfard and Raphaël Picovschi on "Deformations of Galois representations".
- Supervision of the first year project at Ens Ulm of Nataniel Marquis and Paul Wang on "On the class number of quadratic imaginary fields".
- Teaching assistant for Algebraic Topology course intended for second year students in ENS Ulm.
- Supervision of the first year project of Florent Noisette and Théo Lenoir. Subject: Representations of integers by positive definite quadratic forms and the Siegel Mass formula.
- 4 hours course of LaTeX for bachelor students in mathematics at Paris-Sud university.

- 2016-2017 **Teaching assistant**, *Université Paris-Sud*, 64 hours of teaching.
- TA for Linear differential equations intended for second year students in biochemistry. Course taught by Yves Duval. 15 hours.
 - TA for the course Calculus for first year students. Course taught by Guy David. 33 hours.
 - TA for Scilab for second physics students. Course taught by Christian Gérard. 10 hours.
 - 4 hours course of LaTeX for bachelor students in mathematics.
- 2014-2015 **Oral examiner in Mathematics**, *Lycée Louis-Le-Grand*.
Oral examinations to students preparing french best engineering schools.
- Mai 2014 **Member of the jury in Tournoi Français Des Jeunes Mathématiciens et Mathématiciennes**, *National mathematics competition for high school students*.

Scientific outreach

- 2016-present **Training of the Moroccan team for international Mathematical Olympiads**.
Supervision of several summer camps and online training.
- 2017 **Pan African Mathematics Olympiads (PAMO)**.
Organization of the 25th edition of PAMO. Member of the jury.
- 2014-2016 **Speaker at Parimaths**, *Mathematics club for high school students in Paris area*.

Administrative and scientific duties

- 2019-2020 **Assessment of master students**.
Member of jury of defense for master 2 students in ENS Paris.
- 2017-2019 **Entrance contest in Mathematics, Physics, Computer science of ENS Paris, Lyon, Cachan, Rennes**.
In charge of the administrative aspects. Elaborating timetables for the examiners. Contacting the students for oral exams.
- 2016-2018 **Organizer of RéGA**, *Réseau d'étudiants en Géométrie Algébrique*.
Seminar for Ph.D students and Post-docs in algebraic geometry in Paris area.

Languages

- Arabic: Mother tongue.
- French: Bilingual.
- English: Fluent.
- German, Spanish: Basic notions.