

Julien Boulanger

Curriculum Vitae

EDUCATION

2021 - : PhD Thesis, *Institut Fourier*, Université Grenoble Alpes, supervised by Erwan LANNEAU and Daniel MASSART.

2016 - 2021 : Student at the *École normale supérieure de Paris*.

2020 - 2021 : Preparation for the *agrégation de mathématiques*. Université Grenoble Alpes. Ranked 22nd out of all France.

2018 - 2019 : Master 2 in pure mathematics. *Sorbonne université*, Paris. With highest honours.

2016 - 2018 : Bachelor and Master 1 at the, *École normale supérieure*, Paris.

2014 - 2016 : Classe préparatoire aux grandes écoles, MPSI, MP*. *Lycée du Parc*, Lyon. With highest honours.

2014 : Baccalauréat scientifique spécialité mathématiques. With highest honours.

PUBLICATIONS AND PRE-PUBLICATIONS

JULIEN BOULANGER, *Central points of the double heptagon translation surface are not connexion points*. *Bulletin de la SMF*, Vol. 2, 2022

JULIEN BOULANGER AND SAM FREEDMAN, *There are no primitive Teichmüller curves in $Prym(2, 2)$* . Accepted for publication at the *Comptes rendus de l'académie des sciences*.

JULIEN BOULANGER, ERWAN LANNEAU AND DANIEL MASSART, *Algebraic intersections in regular polygons*. Available on *Arxiv*, 2022.

JULIEN BOULANGER, *Algebraic intersections, lengths, and Veech groups*. Available on *Arxiv*, 2023.

JULIEN BOULANGER, *Lower bound for $KVol$ on the minimal stratum of translation surfaces*. Available on *Arxiv*, 2023.

TEACHING

2023 - 2024: Mathematical tools for the natural sciences. In english. To first year undergraduate international students.

2022 - 2023: Outils mathématiques pour la biologie. In french. To first year undergraduate students.

2021 - 2022 and 2022-2023: Algèbre bilinéaire, formes quadratiques, séries de Fourier. In french. To second year undergraduate students.

2021 - 2022: Introduction to Analysis. In english. To first year undergraduate international students.

2020 - 2021: Colles, MPSI, *Lycée Champollion*, Grenoble.

2019 - 2020 : Volunteer with the association Mayaa Nepal, Katmandou ¹, 5 months during which I gave English and basic computer lessons to primary/middle school students.

2016 - 2017 : Astrophysics teaching to high school students under the program *TalENS* of *pôle PESU*.

¹<https://mayaa.world/fr>.

OTHER WORK EXPERIENCE

2021-2023: Organizer of the PhD seminar of the Institut Fourier. It includes the organisation of two two-days conferences (2022 and 2023) for the PhD students of the Institut Fourier.

2019: Master internship, Grenoble, under Erwan LANNEAU's supervision. Master's thesis on Veech groups of translation surfaces.

2018: Five month internship at the University of Warwick, UK, under supervision of Mark POLLICOTT on the ergodic theory of the horocycle flow on a hyperbolic surface.

2017: Bachelor's thesis supervised by Jeremy DANIEL about Sylvester-Gallai's problem.

TALKS

- Geometry and Topology seminar, Institut Fourier, September 2021.
- Presentation aimed at a wide audience "*Polygonal billiards and translation surfaces*", as part of the scientific conferences organized by the French Embassy in China. December 2021
- Winter school "Billards dans le Vercors". January 2022.
- Geometry seminar of the Institut mathématique de Marseille. February 2022.
- Number theory seminar of Oregon State University. March 2022.
- Conference "Geometry, topology and dynamics in low dimension", Sète, May 2022.
- Workshop "Hyperbolic dynamical systems, geometry and spectral theory", Peyresq, June 2022.
- PhD days of the Institut Fourier, Grenoble, October 2022.
- PhD seminar of the Institut Fourier, Grenoble, November 2022.
- Interactions between geometry and topology, to celebrate Ivan Babenko, Banyuls-sur-Mer, June 2023.
- Geometry seminar of the Sarre university, Sarrebruck, July 2023.

ATTENDED CONFERENCES

- Meeting of the ANR Adyct, Nantes, November 2021.
- Meeting for young researchers of the GDR Platon, CIRM, November 2021.
- Winter school in dynamics and geometry, Aussois, December 2021.
- Winter school "Billards dans le Vercors", Autrans, January 2022.
- Meeting of the ANR Modiff, Bordeaux, April 2022.
- Conference "Geometry, topology and dynamics in low dimension", Sète, May 2022.
- Sage days 112.5, Montpellier, June 2022.
- Workshop "Hyperbolic dynamical systems, geometry and spectral theory", Peyresq, June 2022.
- Conference "Combinatorics, Dynamics and Geometry on Moduli Spaces", CIRM, September 2022.
- Conference "Big mapping class groups", CIRM, October 2022.
- Meeting for young researchers of the GDR Platon, Orsay, Novembre 2022.
- Winter school in dynamics and geometry, Lille, March 2023.
- Interactions between geometry and topology, to celebrate Ivan Babenko, Banyuls-sur-Mer, June 2023.
- Reserch school on Renormalization and visualisation in dynamics, geometry and number theory, CIRM, July 2023.

- Workshop on Renormalization and visualisation in dynamics, geometry and number theory, CIRM, September 2023.

OTHER

<i>Languages</i>	French (native), english (advanced), spanish (basic)
<i>Programming</i>	L ^A T _E X, Python (and Sagemath)
<i>Music</i>	Piano, trombone
<i>Interests</i>	Music, cooking, hiking...