

Marc Abboud

*PhD student in complex algebraic geometry at IRMAR
(Université de Rennes 1)*



Education

- 2020- **PhD in Mathematics under the supervision of Serge Cantat and Junyi Xie**, Rennes University, *On endomorphisms of affine surfaces*
- 2019-2020 **Data scientist intern at Tinyclues**, Paris
[link of the company](#).
- 2018-2019 **Master Degree in Cryptography**, Diderot university, Master thesis in post-quantum cryptography in Oxford at PQShield
- 2017-2018 **Second year of Master degree in Mathematics**, Orsay university and *Ecole Normale Supérieure*, Paris
Master thesis under the supervision of Serge Cantat on *nilpotent groups acting on complex algebraic varieties*.
- 2016-2017 **First year of Master Degree in Mathematics**, *École Normale Supérieure*, Paris
First semester at *École Normale Supérieure*.
Second semester at *Courant Institute of Mathematical Science*, New York. Internship in algebraic geometry under the supervision of Yuri Tschinkel.
- 2015-2016 **Last year of undergraduate in Mathematics**, *École Normale Supérieure*, Paris
- 2013-2015 **Classes préparatoires MPSI-MP***, *Lycée Saint Louis*, Paris

Publications

- 2022 On the dynamical degrees of endomorphisms of affine surfaces - *in preparation*.
- 2021 Actions of nilpotent groups on complex algebraic varieties - IMRN.
- 2019 Cryptographic Divergences : New Techniques and New Applications - SCN 2020 - with Thomas Prest.

Teaching

- 2020-2022 Cryptography Master at University of Rennes 1, *Fast algorithm on polynomials and graph theory*. Lectures and exercise sessions.
- 2020-2022 Preparation for the french exam *Agrégation* (master level). Lectures on finitely generated abelian groups, field theory and topology on sets of matrices.
- 2016-2018 Oral examinations in mathematics in *classes préparatoires* at Lycée Saint Louis (undergraduate level).

Conferences I attended

- January 2023 12th swiss-french workshop in Algebraic Geometry in Charmey.
- January 2023 2023 Joint Mathematics Meetings - special session on arithmetic dynamics.
- September 2022 Complex analysis and dynamical systems - Oberwolfach.
- January 2022 11th swiss-french workshop in Algebraic Geometry in Charmey.
- June 2022 Conference in Saint-Jacut, mini-courses by Serge Cantat, Bertrand Deroin, Sébastien Gouezel.
- October 2020 Conference in Saint-Jacut, mini-courses by Jérôme Buzzi, Sebastian Hurtado, Ludovic Marquis, Chloé Perrin.
- September 2020 SCN 2020 : 12th Conference on Security and Cryptography for Networks. Online conference.
- March 2019 Oxford Post-Quantum Cryptography Workshop.

Talks

- March 2023 Cambridge University, Algebraic Geometry seminar
- January 2023 12th swiss-french workshop in Algebraic Geometry, Charmey, Switzerland.
- January 2023 Special year topic seminar - Institute of Advanced Studies, Princeton.
- January 2023 University of Michigan, Ann Arbor
- January 2023 IUPUI, Indianapolis
- January 2023 2023 Joint Mathematics Meetings - special session on arithmetic dynamics, Boston.
- September 2022 Seminar Algebra and Geometry - University of Basel.
- March 2022 Iskovskikh seminar - HSE Moscow (online talk).

Workshop I attended at the University of Rennes

- 2022- Reading group on Markov surfaces, holomorphic dynamics of the automorphism group, relation to representation theory. I gave three talks in this reading group.
- 2021-2022 Workshop on entropy, dimension and Lyapunov exponents after the work of Ledrappier-Young.
- 2021 Workshop on negative curvature spaces and horocyclic flows (conformal measures, boundary, entropy).

Math related activities

- 2021-2022 Co-organiser of the algebra and geometry PhD student seminar at IRMAR, **link of the seminar**. I gave 3 talks in this seminar throughout my PhD.
- 2021-2023 Creator and head of a math club for high school students at the University of Rennes - **link of the club**. Every other Saturday, a 2-hour lecture is given by a member of the math department at the university for high school students wanting to learn more about what kind of math we do in research.
- 2022 Math talk in high school about pavement and constructible numbers.
- 2020 I coached the french team at the *International tournament for young mathematicians* (**link**).

- 2020 I coached with Arthur Touati an all-female team that was created after the RJM 2019 (see below) at the TFJM ([link](#)), a national math tournament for high school students. We won the tournament!
- 2018-2019 Co-organisator of the *Rendez-vous des jeunes mathématiciennes* (RJM) with Arthur Touati and Élodie Maignant at École Normale Supérieure 2 years in a row. This is an event where around 20 female high school students spend a weekend at the École Normale Supérieure to do math, talk about math careers, talk with women researchers in mathematics and talk about stereotypes. [link](#).
- 2016-2019 Participation at *Parimaths*, the math club for high school students of École Normale Supérieure. I gave lectures about Permutations, Algorithmic, Equivalence relations, Metric spaces.