

Corentin Kilque

IMT (Toulouse, France)

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Education

- 2019 - 2022 **Institut de mathématiques de Toulouse**, Toulouse, France.
Ph.D. in mathematics. *Multiphased geometric optics for hyperbolic systems of conservation laws*, under Prof. Jean-François Coulombel.
- 2015 - 2019 **École normale supérieure de Rennes**, France.
○ MSc in mathematics, with first class honours
○ Preparation year for the agrégation externe de mathématiques, a competitive exam for recruiting teachers
○ First year of a MSc in mathematics, with first class honours
○ BSc in mathematics, with first class honours.
- 2013 - 2015 **Lycée Clemenceau**, Nantes, France.
Classe préparatoire : MPSI-MP*.

Paper

- [1] **Weakly nonlinear multiphase geometric optics for hyperbolic quasi-linear boundary value problems : construction of a leading profile**, *SIAM Journal on Mathematical Analysis*, to appear.

Seminars, conferences and scientific schools

- 2021 **PDE and Probability seminar**, LMPA, Calais (France), 13 January 2022.
- 2021 **CJC-MA (Congress of young researchers in applied mathematics)**, École Polytechnique, Palaiseau (France), 27 - 29 October 2021.
- 2021 **PDE team seminar**, IRMAR, Rennes (France), 30 September 2021.
- 2021 **Advanced summer school in mathematical fluid dynamics**, Institut d'études scientifiques de Cargèse, Cargèse (France), 13 - 21 August 2021.
Attendance at the summer school and presentation of a poster.
- 2021 **Congrès SMAI**, La Grande Motte, 21 - 25 June 2021.
Attendance at the conference and presentation of a 20 minutes talk.
- 2021 **Analysis doctoral seminar**, IRMAR, Rennes (France), 10 May 2021.
- 2019 **Stability of nonlinear waves: analysis and computation**, IHP, Paris (France), 1 - 5 June 2019.

Teaching

- 2021 - 2022 **Université Toulouse 3 Paul Sabatier.**
Tutorials in real analysis, 2nd year of BSc (18h), lectures and tutorials in linear algebra, 1st year of BSc (26h), practical work in linear algebra, 1st year of BSc (8h).
- 2020 - 2021 **Université Toulouse 3 Paul Sabatier.**
Tutorials in real analysis, 2nd year of BSc (18h), practical works in linear algebra and differential calculus, 2nd year of BSc (12h), lectures and tutorials in linear algebra, 1st year of BSc (26h), practical work in linear algebra, 1st year of BSc (8h).
- 2019 - 2020 **Université Toulouse 3 Paul Sabatier.**
Tutorials in mathematics, 1st year of BSc (30h), practical works in arithmetic, 1st year of BSc (6h), practical works in linear algebra and differential calculus, 2nd year of BSc (12h), practical works in modelisation, 2nd year of BSc (14h).

Administrative and organizational responsibilities

- 2020 - 2022 **PhD students' representative to the doctoral school MITT.**
- 2020 - 2022 **Co-organizer of the doctoral seminar, IMT.**
- 2020 - 2022 **Co-organizer of the PDE doctoral seminar, IMT.**

Awards and scholarships

- 2018 **Agrégation externe de mathématiques, 19/315.**
- 2017 - 2019 **Scholarship from the École normale supérieure de Rennes, 1/17.**
- 2016 - 2017 **Scholarship from Center Henri Lebesgue.**

Research experiences

- 2019 **Institut de mathématiques de Toulouse, France**, four months MSc internship under Prof. Jean-François Coulombel.
Theory for hyperbolic partial differential equations and geometric optics expansions for related problems.
- 2017 **Sapienza Università di Roma, Italy**, two months summer internship under Prof. Paolo Papi.
General Lie group theory, and study of a paper by Mark Reeder, proving that the De Rham cohomology ring of a compact connected Lie group has an exterior algebra structure.
- 2016 **Université de Poitiers, France**, six weeks summer internship under Prof. Pol Vanhaecke.
Lie algebras, universal enveloping algebras and two proofs of the Poincaré-Birkhoff-Witt theorem.

Computer skills

Scilab, Python, Sage, Matlab, L^AT_EX

Languages

- French **Mother tongue**
- English **Fluent** *TOEIC (march 2017) : 930/990, IELTS (january 2019) : 7.5/9.*

Interests

Horse riding (show jumping), photography [Flickr page, cinema, hiking, skiing.