

Thibault Lefeuvre

Curriculum Vitae

Laboratoire de Mathématiques d'Orsay,
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Former student of the Ecole Polytechnique, Paris. Since September 2017, I am a Ph.D student under the supervision of Colin Guillarmou. I will complete my Ph.D. in December 2019.



European Research Council
Established by the European Commission



Research interests

Geometric inverse problems, microlocal analysis and dynamical systems.

Education

- Sept. 2017– **Ph.D, Mathematics under the supervision of Colin Guillarmou, Université Paris-Sud, Orsay.**
- 2016–2017 **M.S. Mathematics, Université Pierre et Marie Curie, Paris.**
Highest honours
- 2013–2016 **B.S. Mathematics, École Polytechnique, Palaiseau.**

Research papers

- 2019 *Geodesic stretch and marked length spectrum rigidity*, with Colin Guillarmou and Gerhard Knieper, in preparation
- 2019 *Local rigidity of manifolds with hyperbolic cusps II. Nonlinear theory*, with Yannick Guedes Bonthonneau, in preparation
- 2019 *Local rigidity of manifolds with hyperbolic cusps I. Linear theory and pseudodifferential calculus* (<https://arxiv.org/abs/1907.01809>), with Yannick Guedes Bonthonneau,
- 2019 *Classical and microlocal analysis of the X-ray transform on Anosov manifolds* (<https://arxiv.org/abs/1904.12290>), with Sébastien Gouëzel, submitted
- 2018 *The marked length spectrum of Anosov manifolds* (<https://arxiv.org/abs/1806.04218>), with Colin Guillarmou, to appear in **Annals of Mathematics**, vol. 190, no. 1 (2019)
- 2018 *Boundary rigidity of negatively-curved asymptotically hyperbolic surfaces* (<https://arxiv.org/abs/1805.05155>), to appear in **Commentarii Mathematici Helvetici**
- 2018 *Local marked boundary rigidity under hyperbolic trapping assumptions* (<https://arxiv.org/abs/1804.02143>), to appear in **Journal of Geometric Analysis**
- 2018 *On the s-injectivity of the X-ray transform for manifolds with hyperbolic trapped set* (<https://arxiv.org/abs/1807.03680>), **Nonlinearity**, vol. 32, no. 4 (2019), 1275–1295

2016 *On the genericity of the shadowing property for conservative homeomorphisms* (<https://arxiv.org/abs/1606.02924>), with Pierre-Antoine Guihéneuf, **Proceedings of the AMS vol. 146 (2018), n. 10, 4225—4237**

Awards

2016 **Outstanding research internship**, *Ecole Polytechnique*.

Teaching

Fall 2018 Maths 201, Calculus II, Université Paris-Sud

Fall 2017 Maths 101, Calculus I, Université Paris-Sud

Research talks

- July 2019 Applied Inverse Problems, Grenoble, France
- June 2019 Anisotropic Spaces and their Applications to Hyperbolic and Parabolic Systems, Oberwolfach, Allemagne
- May 2019 Séminaire EDP, Orsay, France
- Apr. 2019 Conference "Probing the Earth and the Universe with microlocal analysis", Banff, Canada
- Apr. 2019 Séminaire Teich, Marseille, France
- Mar. 2019 Séminaire de Physique mathématique, Grenoble, France
- Fev. 2019 Séminaire des Doctorants, Orsay, France
- Jan. 2019 Séminaire de Géométrie, Nantes, France
- Dec. 2018 Séminaire de Géométrie et de Topologie dynamique, Orsay, France
- Oct. 2018 Séminaire d'Analyse harmonique, Orsay, France
- Aug. 2018 Conference "Inverse problems, PDE and Geometry", Jyväskylä, Finland
- June 2018 Journées de Physique Mathématiques de Lyon : Quantum Chaos, Lyon, France
- June 2018 Workshop on the analytic study of flows, Peyresq, France
- Feb. 2018 Workshop on inverse problems and the analytic study of flows, UPS, Orsay, France
- June 2016 Seminário de Teoria Ergódica, UFRJ, Rio de Janeiro, Brasil

Roadmap

- Sept.-Dec. 2019 Program Associate at the "Microlocal analysis" trimester, MSRI, Berkeley, USA
- Apr. 2019 Institut Fourier de Grenoble (collaboration with Frédéric Faure) — 1 week

Conferences attended

- July 2019 Applied Inverse Problems, Grenoble, France
- June 2019 Anisotropic Spaces and their Applications to Hyperbolic and Parabolic Systems, Oberwolfach, Allemagne
- May 2019 Microlocal methods in analysis and geometry, CIRM, Marseille, France
- Apr. 2019 Research school "Du quantique au classique" (teaching assistant), CIRM, Marseille, France
- Apr. 2019 Probing the Earth and the Universe with microlocal analysis, Banff, Canada
- Fev. 2019 11ème rencontre du GDR Dynamique Quantique, Bordeaux, France
- Dec. 2018 Workshop on the analytic study of flows, Jussieu/Orsay, France
- Aug. 2018 Inverse problems, PDE and Geometry, Jyväskylä, Finland

- June 2018 Journées de Physique Mathématiques de Lyon : Quantum Chaos, Lyon, France
- June 2018 Pseudo-riemannian geometry and Anosov representations, Université du Luxembourg, Luxembourg
- June 2018 Workshop on the analytic study of flows, Peyresq, France
- Feb. 2018 Workshop on inverse problems and the analytic study of flows, Orsay, France
- Dec. 2017 Spectral geometry, graphs and semiclassical analysis, Aussois, France
- July 2017 Analytical aspects of hyperbolic flows, Nantes, France
- June 2017 Summer school in Microlocal Analysis and Applications, Cardiff, UK
- Feb. 2017 Winter school : Resonances, scattering and dynamics, Orsay, France
- June 2016 Workshop for young researchers : groups acting on manifolds, Teresopolis, Brasil