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Date and place of birth: december 19, 1981—Chenôve, France.
Nationality: French.
Married, two children (2011, 2015).

Current position

Maître de Conférence, Université Paris Diderot, Paris.

Speciality

Geometric analysis: conformal geometry, problem of prescribed curvature, blow-up analysis on elliptic PDEs.

Previous activities

1 Positions

2010–2011 Agrégé préparateur, École Normale Supérieure de Lyon.
2007–2010 Allocataire de recherche et moniteur, École Normale Supérieure de Lyon.
2005–2007 Élève stagiaire, École Normale Supérieure de Cachan.

2 Studies

7/12/2010 Defence of a PHD OF MATHÉMATICS, École Normale Supérieure de Lyon, First Class Honours.
2006–2010 PhD under the supervision of Olivier Druet.
2005–2006 AGRÉGATION DE MATHÉMATIQUES, rank 20.
2005–2006 RESEARCH MASTER'S DEGREE OF MATHEMATICS, École Normale Supérieure de Lyon.

Awards

- 2013–2017 Awarded the "Prime d'excellence" by the french ministry of research .
2017 Robert Bartnik Visiting Fellowships at Monash University, Melbourne.
2017–2021 Awarded the "Prime d'encadrement doctorale et de recherche" by the french ministry of research.
2018–2021 Holder (with J. Lira) of the COFECUB-CAPES's project: "Analyse géométrique et théorie des singularités dans les espaces stratifiés".
2018–2022 Holder of the project ANR JCJC BLADE.

Publications & Talks

ARTICLES

- 2008 Stability of the Pohožaev Obstruction in dimension 3, with O. Druet, 2008, J.E.M.S **12**.
2009 An obstruction to the existence of immersed curves of prescribed curvature, with S. Kirsch, 2009, Potential Analysis **32**.
2010 Concentration of CMC surfaces in a Riemannian manifold, 65 pages, 2012, I.M.R.N. **24**.
2010 Concentration of CMC surfaces with free boundaries, Annales de l'Institut Henri Poincaré (C), Non Linear Analysis, Volume 29, Issue 1, January–February 2012, Pages 109–129.
2011 Angular Energy Quantization for Linear Elliptic Systems with Antisymmetric Potentials and Applications, with T. Rivière, Anal. PDE **7** (2014), no. 1, 1–41.
2012 Stability of elliptic PDEs with respect to the boundaries, with O.Druet and E.Hebey, Journal of Differential Equations **255** (2013), no. 10, 3703–3718.
2012 Energy Quantization for Biharmonic Maps, Advances in Calculus of Variations, with T. Rivière, Adv. Calc. Var. **6** (2013), no. 2.
2013 Concentration of small Willmore spheres in Riemannian 3-manifolds. Anal. PDE **7** (2014), no. 8, 1901–1921.
2014 Optimal estimate for the gradient of Green functions on degenerating surfaces and applications, with T.Rivière, Comm. Anal. Geom. Vol. 26, No 4, 2018.
2015 Regularity and quantification for harmonic maps with free boundary, with R. Petrides, Adv. Calc. Var. **10** (2017), no. 1, 69–82.
2016 Energy Quantization of Willmore surfaces at the boundary of the Moduli Space, 42 pages, with Tristan Rivière, Accepted to Duke Mathematical Journal [arXiv:1606.08004](https://arxiv.org/abs/1606.08004).
2016 A Pohozaev-type formula and Quantization of Horizontal Half-Harmonic Maps, 41 pages, with T. Da Lio and T. Rivière, [arXiv:1607.05504](https://arxiv.org/abs/1607.05504), submitted.
2018 Existence of Min-Max Free Boundary Disks Realizing the Width of a Manifold, avec R. Petrides, [arXiv:1806.04665](https://arxiv.org/abs/1806.04665), submitted.

SURVEY

- 2017 Analyse des problèmes conformément invariants , 27 pages, à paraître dans les actes du séminaire Laurent Schwartz — EDP et applications.

ARTICLE FOR LARGE AUDIENCE

Mathématiques savonneuses, Images des mathématiques, <http://images.math.cnrs.fr/Mathematiques-savonneuses.html> (french).

SEMINARS AND TALKS IN CONFERENCES

- November, 2018 Speaker at Analysis Seminar, E.T.H. (Zürich).
- October, 2018 Speaker at Variational Methods in Geometry Seminar, I.A.S. Princeton.
- September, 2018 Speaker at the seminar of geometry of the UFC, Fortaleza.
- July 5-9, 2018 Speaker at special session "Geometric and Nonlinear PDEs" at the 12th bi-annual AIMS, in Taipei.
- April 6, 2018 Speaker at séminaire de géométrie de Tours.
- March 20, 2018 Speaker at séminaire d'analyse de Lyon 1.
- February 16, 2018 Speaker at "Géométrie: échanges et perspectives".
- October, 2017 Speaker at séminaire de géométrie de Paris 7.
- August, 2017 Speaker at Analysis Seminar, Monash University, Melbourne.
- 26-30 June, 2017 Speaker at: Nonlinear Analysis conference, at the University of Notre Dame's, Rome.
- 6-9 June 2017 Speaker at: "Advances in Geometric Analysis", E.T.H. Zurich.
- June 2017 Speaker at "Séminaire Quimpériodique", Quimper.
- March 2017 Invited at séminaire Laurent Schwartz, Ecole Polytechnique.
- October 2016 Invited at séminaire de géométrie de L'institut mathématiques de Jussieu, Paris.
- August 2016 Speaker at XIX Escola de Geometria Diferencial IMPA, Rio de Janeiro.
- March 2016 Speaker at Sixth Workshop on Differential Geometry, Maceió, Brazil, March 14 to 18, 2016.
- Mars 2016 Invited at séminaire de géométrie de L'institut mathématiques de Jussieu, Paris.
- January 2016 Invited to GT Calcul des Variations, Paris 6.
- Décembre 2015 Invited to Geometric Analysis seminar at FU Berlin.
- Juillet 2015 Speaker at International Workshop On Conformal Geometry and Geometric PDE, Beijing University.
- Mai 2015 Analysis Seminar at Toronto University.
- Février 2015 Geometry Analysis Seminar of the San Francisco Bay area, Stanford University.
- Février 2015 Geometry seminar, University of California Santa Cruz.
- Juillet 2014 Mini-cours at Summer School on Geometric Measure Theory and Geometric Analysis, Bâle.
- Juin 2014 Speaker at special session of the AIMS Conference, Madrid.
- Mai 2014 Analysis seminar, Université d'Orsay.
- July 2013 Seminar at Research Program on Geometric analysis, IAS/Park City.
- May 2013 Seminar at GDT d'analyse non linéaire et EDP, IHP Paris.
- Février 2013 Invited at journées de l'ANR Aspect Conforme de Géométrie, Paris.
- November 2012 Invited at séminaire d'analyse de L'Université de Paris XIII.
- October 2012 Invited at séminaire d'analyse de L'Université de Cergy Pontoise.
- Fall 2012 Seminar during the semester: Conformal and Kähler geometry, IHP, Paris.
- September 2012 Speaker at International Conference on Geometric Analysis, Tours, France.
- Aout 2012 Speaker at the conference: Recent trends in geometric and nonlinear analysis, Banff.
- Mars 2012 Invited at séminaire de géométrie et dynamique de L'Université d'Orsay.
- Mars 2012 Invited at seminar of geometric analysis of Imperial College, Londres.
- January 2012 Invited at séminaire d'analyse et de géométrie de L'institut mathématiques de Jussieu, Paris.
- November 2011 Invited at séminaire de géométrie de L'institut mathématiques de Jussieu, Paris.
- November 2011 Invited at séminaire de l'ANR "Mathematical General Relativity. Analysis and geometry of space-times with low regularity", Paris.
- November 2011 Invited at analysis seminar of the university of Warwick.
- June 2011 Speaker at: conférence d'analyse géométrique à l'Université de Tours.
- June 2011 Speaker at: Geometric and Nonlinear Analysis Meeting in Lorraine, Nancy.
- June 2011 Invited at séminaire de géométrie de L'institut mathématiques de Jussieu, Paris.
- Mars 2011 Invited at séminaire d'analyse du laboratoire Paul Cezanne, Marseille.
- Mars 2011 Speaker at: Conférence d'analyse géométrique à l'U.B.O, Brest.
- February 2011 Invited at analysis seminar of E.T.H., Zurich.
- February 2011 Invited at séminaire de géométrie différentielle de l'institut Élie Cartan, Nancy.

January 2011 Invited at séminaire de géométrie et d'analyse du Laboratoire J.A. Dieudonné, Nice.
 December 2010 Invited at séminaire d'analyse du laboratoire Paul Painlevé, Lille.
 November 2010 Speaker at: Journées E.D.P. Rhône-Alpes-Auvergne.
 July 2010 Speaker at: École d'été franco-asiatique, Singularités dans les équations aux dérivées partielles, à l'I.H.E.S.
 May 2010 Invited at séminaire interne à l'U.M.P.A., ENS Lyon.
 January 2010 Invited at séminaire des doctorants de l'ENS Lyon et de Lyon 1.
 October 2009 Speaker at: Conference on Lack of Compactness in Nonlinear Problems, au CIRM, Marseille.
 May 2009 Speaker at: Conference on Geometric and nonlinear analysis à l'Université de Cergy-Pontoise.
 January 2009 Invited at séminaire des doctorants de l'ENS Lyon et de Lyon 1.

Teaching

2007-2008 Tutor of differential calculus(L3) and "préparation à l'agrégation", ENS LYON.
 2008-2009 Tutor in advanced geometry(M1) and "préparation à l'agrégation", ENS LYON.
 2009-2010 Tutor in advanced geometry(M1) and "préparation à l'agrégation", ENS LYON.
 2010-2011 Tutor in advanced geometry(M1), Tutor in Riemannian geometry(M1) and "préparation à l'agrégation", ENS LYON.
 2011-2012 Tutor in Integration and Fourier analysis(L3) and Tutor in Calculus 1 (L1), Paris 7.
 2012-2013 Tutor in the Master course: Minimal surfaces of F. Hélein and Tutor in Calculus (L1), Paris 7.
 2013-2014 In charge of a Master course: Measure and Spectral theory, In charge of calculus 1 and tutor Calculus 1, Paris 7.
 2014-2015 In charge of a Master course: Measure and Spectral theory, Paris 7.
 2015-2016 Tutor in Integration and Fourier analysis(L3) and Tutor in Calculus 1 (L1), Paris 7 and In charge of calculus 1, Paris 7.
 2016-2017 Tutor in Integration and Fourier analysis(L3) and in charge of calculus 1 & 2, Paris 7.
 2017-2018 Tutor in Integration and Fourier analysis(L3), in charge of calculus 1, graduate course on positive mathematical general relativity, Paris 7.
 2017-2018 Tutor in Optimization (L3), graduate course on positive mathematical general relativity, Paris 7.

Activity for the spread of mathematics

2009-2011 Involving in Math-à-Lyon (a itinerary exposition about math) .
 October 2011 Conference on "Soap bubble" at the secondary school of Is sur Tille.
 November 2012 Conference on "Tiling and Quasicrystal" at the secondary school of Is sur Tille.
 October 2016 Speaker at the Awards "Olympiades de mathématiques" at Dijon.
 December 2016 Speaker at "Stage de troisième" at University Paris 7.

Invitation in foreign university

01/2008-07/2008 P.I.M.S./U.B.C., Vancouver, Canada.
 Mars 2011 F.I.M./E.T.H., Zurich.
 November 2011 F.I.M./E.T.H., Zurich.
 May 2012 F.I.M./E.T.H., Zurich.
 January 2013 F.I.M./E.T.H., Zurich.
 June 2014 F.I.M./E.T.H., Zurich.
 11/2014-07/2015 Stanford University.
 July 2016 Universidade Federal do Ceara, Brazil.

August 2017 Robert Bartnik Visiting Fellowships at Monash University, Melbourne.
 December 2017 Robert Bartnik Visiting Fellowships at Monash University, Melbourne.
 September 2018 Universidade Federal do Ceara, Brazil.
 November 2018 I.A.S., Princeton.
 November 2018 F.I.M./E.T.H., Zurich.

Students

Spring 2014 Supervision of two Students of L₃ on the Steiner Problem.
 Spring 2016 Supervision of the master thesis of Nicolas Marque (ENS Lyon) about the Willmore surfaces.
 Autumn 2016- Supervision of the PhD thesis of Nicolas Marque about compactness of Willmore surfaces.
 Spring 2017 Supervision of a Master student, Robin Bossut (ENS Lyon) about "positive mass theorem".
 2019- Supervision of the PhD thesis of Yang Liu: Application 1/2 harmonic maps and min-max methods.

Administrative Responsibilities and Organisation of events

October 2011 Organizer of journées d'analyse géométrique de Lyon.
 2012-2013 Organizer of the workshop : Surfaces de Willmore at Paris 7.
 Spring 2014 Co-organizer of the workshop: Théorie de Yang-Mills at I.M.J..
 Spring 2017 Organizer of the workshop: Positive mass theorem at I.M.J..
 2015- Member of the parity committee of Institut Mathématiques de Jussieu.
 2016- Member of the scientific board of the UFR de mathématique de l'université Paris 7.
 2017- Member of the teaching duties board of the U.F.R. of Mathematics of Paris 7.
 July 2018 Co-organizer of the special session "Geometric Analysis" at the 12th bi-annual AIMS, in Taipei.
 2018-2019 Organizer of the Workshop: Espace de Teichmüller à Paris 7.
 December 2018 Co-organizer of the conference: Workshop in Geometric Analysis at IHP, Paris.
 April 2019 Co-organizer of the conference: Three days Workshop on mathematical general relativity à Lyon.
 July 2019 Co-organizer of the special session "P.D.E. linked to curvature problems" at THE FIRST JOINT MEETING BRAZIL FRANCE IN MATHEMATICS., at IMPA(Rio).

Participation to Searching Comities and Editorial Activities

2011-2013 Jury Member at Polytechnique and Écoles Normales Supérieures.
 May 2013 Member of searching committees at the university Paris 7 .

Edition, Reviewer for : *Potential Analysis*, *I.M.R.N.*, *Journal of the A.M.S.*, *Journal of Differential Geometry*, *Mathematische Annalen*, *The Journal of Geometric Analysis* , *Nonlinear Analysis: Theory, Methods & Applications*, *Manuscripta Mathematica*, *Advances in Mathematics*, *Publication de l'I.H.E.S.*, *Journal de mathématiques Pures et appliquées*, *Annales de l'Institut Henri Poincare (C) - Analyse non linéaire*, *Annales de l'Institut Fourier* and *Journal of Geometric Analysis*.

Computer abilities

I get good notions in **Latex**, **Maple** and **Python** .

Spoken languages

- **English**, fluent.
- **Spanish**, good notions.

Last updated: February 24, 2019 •