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50 y.o.
Married
2 children

Career and education

Academic education

- Dec. 10 • HDR (french University degree needed to be in charge of Ph.D. students), entitled *Analyse globale et sous-variétés*.
- Jan. 97 • Ph.D. at the Institut Fourier (Grenoble, France), P. BÉRARD supervisor, entitled *Sur les sous-variétés à courbure moyenne constante dans l'espace hyperbolique*. Defended on January 10th, 1997.

Work experiences

- since Sept. 01 • Maître de Conférences (ie. Associate Professor) at the Institut Montpelliérain Alexander Grothendieck (IMAG), UMR 5149, University of Montpellier and CNRS.
- Sept. 13 - Sept. 14 • CNRS temporary position at the Pacific Institute for the Mathematical Sciences, UMI 3069, University of British Columbia, Vancouver, Canada.
- Sept. 98 - Sept. 00 • ATER (temporary position) at the University Joseph Fourier, Grenoble.
- Mar. - Sept. 98 • Post-doctoral stay at the Mathematical Department of the Universidade Federal do Ceará, Fortaleza, Brazil. Invited researcher of the CNPq.
- Aug. - Oct. 97 • Post-doctoral stay at the Mathematical Department of the Pontificia Universidade Católica, Rio de Janeiro, Brazil. Invited by professor Ricardo Sá Earp.

Other

- Jan. 12 - Dec. 15 • Member of the ANR project *CCEM : Curvature Constraints and Spaces of Metrics*.
- Jan. 12 - Dec. 15 • Member of the ANR project *GMT : geometry and mass transportation*.

Research activities

Publications

- [1] J. BERTRAND, P. CASTILLON – Prescribing the Gauss curvature of convex bodies in hyperbolic space. *Preprint*. [arXiv:1903.06502](https://arxiv.org/abs/1903.06502).
- [2] P. CASTILLON, B. RUFFINI – A spectral characterization of geodesic balls in noncompact rank one symmetric spaces. *Ann. Scuola Norm. Sup. Pisa*, to appear. [arXiv:1611.06081](https://arxiv.org/abs/1611.06081).
- [3] P. BÉRARD, P. CASTILLON – Inverse spectral positivity for surfaces. *Rev. Mat. Iberoam.*, **30** (2014), 1237–1264.
- [4] P. CASTILLON, A. SAMBUSETTI – On asymptotically harmonic manifolds of negative curvature. *Math. Z.*, **277** (2014), 11049–1072.

- [5] P. BÉRARD, P. CASTILLON – Spectral positivity and Riemannian coverings. *Bull. London Math. Soc.* **45** (2013), 1041–1048.
- [6] P. BÉRARD, P. CASTILLON – Remarks on J. Espinar’s ”Finite index operators on surfaces”, [arXiv:1204.1604](https://arxiv.org/abs/1204.1604).
- [7] P. BÉRARD, P. CASTILLON, M. CAVALCANTE – Eigenvalue estimates for hypersurfaces in $\mathbb{H}^n \times \mathbb{R}$ and applications. *Pacific J. Math.*, **253** (2011), 19–35.
- [8] P. CASTILLON – Submanifolds, isoperimetric inequalities and optimal transportation. *J. Funct. Anal.* **259** (2010), 79–103.
- [9] P. CASTILLON – A spectral inverse problem on surfaces. *Comment. Math. Helv.* **81** (2006), 271–286.
- [10] P. CASTILLON – Un problème spectral inverse sur les surfaces. In *Séminaire de Théorie Spectrale et Géométrie*, vol. 20, p. 139–142, Univ. Grenoble 1, Saint Martin d’Hères, 2002.
- [11] P. CASTILLON – Spectral properties and conformal type of surfaces. *An. Acad. Brasil. Ciências* **74** (2002), 585–588.
- [12] P. CASTILLON – Problème de petites valeurs propres sur les surfaces de courbure moyenne constante. *Proc. Amer. Math. Soc.* **130** (2002), 1153–1163.
- [13] P. CASTILLON – Spectral properties of constant mean curvature submanifolds in hyperbolic space. *Ann. Global Anal. Geom.* **17** (1999), 563–580.
- [14] P. CASTILLON – Sur les surfaces de révolution à courbure moyenne constante dans l’espace hyperbolique. *Ann. Fac. Sci. Toulouse* **6** (1998), 379–400.
- [15] P. CASTILLON – Sur l’opérateur de stabilité des sous-variétés à courbure moyenne constante dans l’espace hyperbolique. *Manuscripta Math.* **94** (1997), 385–400.
- [16] P. CASTILLON – Métriques à courbure positive et entropie topologique positive sur la sphère. In *Séminaire de Théorie Spectrale et Géométrie*, vol. 10, p. 97–107, Univ. Grenoble 1, Saint Martin d’Hères, 1992.

Talk in conferences (most recent ones)

- 15 au 19 juillet 19 • *Partial Differential Equations Linked to Curvature Problems*. Special session of the *First Joint Meeting Brazil-France in Mathematics*, Rio de Janeiro, Brésil. Organized by P. Laurain et J. Lira.
Talk : *Prescribing the Gauss curvature of hyperbolic convex bodies*.
- 4 au 8 juin 18 • *Recent advances in Geometric Analysis*, CRM, Scuola Normale Superiore di Pisa, Italie. Organized by A. Malchiodi et L. Mari.
Talk : *Prescribing the Gauss curvature of hyperbolic convex bodies*.
- Dec. 16-20, 13 • *Geometric variational problems*, Banff International Research Station. Organized by J. Chen, A. Fraser and T. Lamm.
Talk : *Submanifolds, Isoperimetric inequalities and optimal transport*.
- June 3-7, 13 • *Workshop on Spectral Theory and Geometry*, Neuchâtel, Switzerland. Organized by B. Colbois and A. Girouard.
Talk : *Spectral positivity on surfaces*.
- Sept. 4-7, 12 • *International Conference on Geometric Analysis*, Seillac. Organized by A. El Soufi.
Talk : *Spectral positivity for surfaces*.

Organizations of conferences (most recent ones)

- mars 16 • Organization with I. Babenko, M. Herzlich and C. Vernicos of the *Conference in Honor of Jacques Lafontaine*, Montpellier, March 10–11, 2016.
- juin 15 • Organization with J. Bertrand of the *International Workshop on Optimal Transport and Geometry*, Montpellier, June 22–26, 2015.
- June 09 • Organization with V. Berthé and Ch. Mercat of the “Journée Annuelle de la SMF” about *Géométries Discrètes*, Montpellier on June 12th, 2009.

Workgroup at the IMAG

- Sept. 14 - June 15 • Organization of the workgroup *Courbure Scalaire et Rigidité*.
- Sept. 06 - June 07 • Organization of the workgroup *Mouvement Brownien et Géométrie*, from a survey by A. Grigor'yan.
- Sept. 04 - June 06 • Organization of the workgroup *Transport de Mesures et Espaces à Courbure de Ricci Minorée*, from a preprint by J. Lott et C. Villani.

Teaching and popularization

Main teaching (the most recent ones)

- Sept. 19 - June 20 • Master of mathematics, class of *Géométrie Différentielles*.
- Sept. 19 - June 20 • Undergraduate courses, *Théorie de la Mesure et Intégration* and *Analyse Complexe* : classes of Measure Theory and of Complex Analysis for students in Mathematics.
- Sept. 14 - June 18 • Undergraduate course, *Topologie des Espaces Métriques* : class of Topology for students in Mathematics.
- Sept. 14 - June 18 • Undergraduate course, *Analysis and Linear Algebra* : class of Mathematics for students of the School of Engineering.
- Sept. 10 - Jan. 13 • Master *Enseignement et Diffusion des Mathématiques* : class of Analysis for the future mathematics teachers of junior high school.

Supervision

- Apr. - July 15 • Supervision of Abdesamad Miftah El Bahlouli for his memoir of postgraduate degree of the ENS Lyon, about *Inégalité isopérimétrique quantitative et transport optimal*, from a paper by A. Figalli, F. Maggi et A. Pratelli.
- Sept. 08 - June 09 • Supervision of Eric Zabban for his memoir of postgraduate degree, about *Knotted Jordan curves and minimal surfaces*, from a paper by J. Choe and R. Gulliver.

Popularization

- 2004 - 2007 • Participation to the “Fête de la Science” (a one week event organized each year in France). Several conferences in junior high schools on *Mathematics and Soap Bubbles*. Realization of posters on the same subject.