

Jean-Marc Schlenker

- Born 05/31/1968 in Grenoble (France), french citizen. Married, one daughter.
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Education

- 1/17/2000 : defence of the "habilitation", Université Paris-Sud (Orsay).
- 9/1992-8/1995 : PhD, Ecole Polytechnique. Advisor : François Labourie. Title : isometric immersions of surfaces. Defended 12.12.1994.
- 9/1991-7/1992 : D.E.A. (master) d'Analyse Non-Linéaire Appliquée at the Ecole Polytechnique and at the Université Paris IX (Dauphine). "Stage de D.E.A." at the Ecole Polytechnique under the supervision of François Labourie on isometric immersions.
- 9/1989-7/1991 : Undergraduate studies at Ecole Polytechnique.

Employment

- 9/2000-... : Professor, Université Toulouse III. "1st class" since 9/2005. "délégation" to CNRS (one semester each) in 2004-05, 2007-08, 2011-12.
- 9/1999-8/2000 : "détachement" to CNRS ; visit to FIM, ETH Zürich.
- 9/1995-8/1999 : Maître de conférences, Université Paris-Sud (Orsay).

Main administrative responsibilities

- *President of the "Comité de suivi de la loi LRU"* since 2/2011. The organization of french universities was deeply changed in 2007 when a new law, called LRU was voted, giving in particular more autonomy to universities. The law created a committee to oversee the application of the law and make recommendations on its application and adaptation. It is composed of 12 independent personalities (mostly academics), 2 members of the Senate and 2 members of Parliament. It produces each year a report, distributed to the members of Parliament and of the Senate. I was named on this committee on Jan 2010, and have been its president since Feb 2011, after my predecessor, Claire Bazy-Malaurie, was named to the french Supreme Court (Conseil constitutionnel).
- Deputy director of Institut de Mathématiques de Toulouse, 1/2011–12/2012. This is a large research institute (over 180 researchers with permanent positions, over 100 graduate students) regrouping mathematicians from the 3 Toulouse universities and one engineering school (INSA).

Main scientific responsibilities

- Coordinator of the Fermat prize for the 2009 edition. The Fermat prize is a research prize in mathematics, awarded every other year in one of three areas (variational principles, number theory, probabilities). Recent laureates were A.J. Wiles (1995) - M. Talagrand (1997) - F. Bethuel, F. Hélein (1999) - R. L. Taylor, W. Werner (2001) - L. Ambrosio (2003) - P. Colmez, J.-F. Le Gall (2005) - C. Khare (2007) - E. Lindenstrauss, C. Villani (2009).

- Member of the C.N.U. (Conseil National des Universités), 2007-2010. The C.N.U. is responsible for giving the possibility to apply to positions in France (qualification) and also of half the promotions of faculty in the country.
- Member of the AERES evaluation committees of the mathematics labs at *Ecole Polytechnique* (CMLS & CMAP), 2008, at *Ecole Normale Supérieure* (DMA), 2009, at *Ecole Normale Supérieure de Lyon* (UMPA), 2010.
- Editorial boards of *Geometriae Dedicata* since 1/2009, and of *Annales de la Faculté des Sciences de Toulouse, mathématiques*, 2002-05.
- Member of the quadrennial evaluation committee of mathematics departments in Portugal, organized by FCT in 2008. Member of the FCT grant evaluation committee in 2009, and president of this committee in 2011.
- Since 2000, I've done a number of scientific evaluations for the french ministry of research. In particular I was on the committee for the PEDR, later renamed PES (a supplement to the salary attributed for 4 years to the most active researchers) in pure and applied mathematics in 2001, 2002, 2003, 2006, 2007, 2009, and president of this committee in 2010.
- regular activity of international evaluations (for instance DFG panel for a planned “Transregional Collaborative Research Centre” in 2011 and 2012, reports for funding agencies in various countries, etc).
- I regularly write referee reports or screening advices for various mathematical journals, for instance *Acta Mathematica*, *Inventiones math.*, *Duke Math. J.*, *J. Differential Geom.*, etc.

Organization of scientific events

- Co-organizer (with Bill Goldman, Olivier Guichard, Anna Wienhard) of a trimester on *Geometry and analysis of surface group representations*, I.H.P., Jan-Mar 2012.
- Workshop “Immersed surfaces in 3-manifolds”, IHP, Mar 26-30, 2012.
- Conférence “Surface groups in Paris”, IHP, 2/2012.
- Conference “SPK 60” for the 60th birthday of Steve Kerckhoff, Luminy, June 2011.
- Conference “Teichmüller Theory and its Interactions in Mathematics and Physics”, 6-7/2010, CRM, Bellaterra, Spain
- Summer school and workshop on Einstein metrics, Nantes, 27/6-03/7/2009.
- Program “Geometry, Topology and Dynamics of Character Varieties”, 18 June 2010 – 15 Aug 2010, Institute of Mathematical Sciences (IMS), National University of Singapore (included a workshop and a conference which were satellite events of ICM 2010).
- “Colloque Fermat”, Toulouse, Oct. 2001.
- “Premier congrès Canada-France des sciences mathématiques”, 12-15 juillet 2004, Toulouse.
- “Variétés d'Einstein et au-delà”, C.I.R.M., 26-30 nov. 2007.
- “Geometric Structures in 2 and 3 dimensions”, 17-22/01/2010, Autrans, France.
- “Analysis and geometry of surface group representations”, 20-25/3/2011, Autrans, France.

Teaching experience

Various teaching since 9/1995, at every level from first-year to graduate courses. Advising of several research projects at the undergraduate or master's level.

Doctoral supervision

- Dmitriy Slutskiy, 9/2008-... , on hyperbolic manifolds with convex boundary. Co-direction with Victor Alexandrov (Novossibirsk). Dmitriy was in Novossibirsk for the beginning of his PhD but

was in Toulouse during the academic years 2010-11 and 2011-12. Defense planned in late 2012 or early 2013.

- Boubacar Diallo, 9/2007-..., on convex cores of globally hyperbolic anti-de Sitter manifolds. Boubacar should defend in early 2012.
- Brice Loustau, 9/2008–07/2011, on the complex symplectic structure of the space of quasifuchsian representations. Since 9/2011, Brice has a 3-years ERC postdoctoral position at Orsay.
- François Fillastre, 2002-2006, on fuchsian isometric embeddings of surfaces. Currently Maître de Conférences at Cergy University. Co-direction with Bruno Colbois (Neuchatel).
- Grégoire Montcouquiol, 2001-2005, on deformations of singular Einstein manifolds. Currently Maître de Conférences at Université Paris-Sud (Orsay).

Grants and funding

- Member of the GEAR NSF research network (2011-2015).
- Coordinator of the A.N.R. program “ETTT”, 2009-13 (total funding 188k€).
- Member (15 %) of the A.N.R. program “Flows and Operators in Geometry”, 2007-10.
- Research project on polyhedral geometry, with Igor Pak (then at MIT, now at UCLA) supported by the M.I.T.-France seed fund, 2007.
- Member (65%, in charge of the Toulouse node) of an ANR program on “Higher Teichmüller theory”, 2006-09.
- Member (33%) of the A.N.R. program “geometry of non-compact or singular Einstein metrics”, 2006-09.
- Coordinator of a “ACI jeune chercheur” program on “Special metrics on manifolds with boundary”, 2003-06.

Outreach and general audience communication

- Since it’s creation in 2007 I have been involved *nonfiction.fr*, a website with a wide audience publishing book reviews on a daily basis. From 2007 to 2010 I have coordinated the science part of the project.
- From March 2008 to December 2010 I wrote monthly (in principle) columns in *La Tribune*, one of the main national daily newspapers in France, on themes related to research and higher education.

Miscellaneous

Fluent in french and english. Basic written and spoken german. Basic understanding of italian (needs brushing up). Good programming skills (mostly python, sagemath).

Publication list

Articles (mathematics)

- A 1** Compactly supported bidimensional wavelet bases with hexagonal symmetry. A. Cohen and J.-M. Schlenker. *Constructive Approximation*, 9 :209–236, 1993.
- A 2** Surfaces convexes dans des espaces lorentziens à courbure constante. J.-M. Schlenker. *Commun. Anal. and Geom.*, 4 :285–331, 1996.
- A 3** Métriques sur les polyèdres hyperboliques convexes. J.-M. Schlenker. *Journal of Differential Geometry*, 48(2) :323–405, 1998.
- A 4** Représentations de surfaces hyperboliques complètes dans H^3 . J.-M. Schlenker. *Annales de l'Institut Fourier*, 48(3) :837–860, 1998.
- A 5** Généricité des hypothèses de non focalisation. N. Burq and J.-M. Schlenker. Annexe à *Contrôle de l'équation des ondes dans des ouverts peu réguliers*, N. Burq, *Bulletin de la S.M.F.* 126 (1998), 601–637.
- A 6** The Schläfli formula in Einstein manifolds with boundary. I. Rivin and J.-M. Schlenker. *Electronic Research Announcements of the A.M.S.* 5 (1999) 18-23.
- A 7** Dihedral angles of convex polyhedra. J.-M. Schlenker. *Discrete Comput. Geom.*, 23(3) :409–417, 2000.
- A 8** Surfaces convexes fuchsienues dans les espaces lorentziens à courbure constante. F. Labourie and J.-M. Schlenker. *Math. Annalen* 316 (2000) 3, 465-483.
- A 9** Surfaces à courbure extrinsèque négative dans l'espace hyperbolique. J.-M. Schlenker. *Annales Scientifiques de l'E.N.S.* 34(2001) :1, 79-130.
- A 10** Convex polyhedra in Lorentzian space-forms. J.-M. Schlenker. *Asian Journal of Math.* 5(2001) :2, 327-364.
- A 11** Einstein manifolds with convex boundaries. J.-M. Schlenker. *Commentarii Mathematici Helvetici* 76(2001) :1, 1-28.
- A 12** Hypersurfaces in H^n and the space of its horospheres. J.-M. Schlenker. *Geom. Funct. Anal.* 12(2002) :2 pp. 395-435.
- A 13** Higher Schläfli formulas and applications. J.-M. Schlenker and R. Souam. *Compositio Mathematica* 135(2003) :1, 1-24.
- A 14** Rhombic embeddings of planar quad-graphs. Richard Kenyon, Jean-Marc Schlenker. math-ph/0305057, 2003. *Trans. Amer. Math. Soc.* 357 (2005), 3443-3458.
- A 15** A rigidity criterion for non-convex polyhedra. Jean-Marc Schlenker. math.DG/0301333, 2003. *Discrete Comput. Geom.* 33 (2005) :2, 207-221.
- A 16** Hyperideal circle patterns. Jean-Marc Schlenker. math.GT/0407043, 2004. *Math. Res. Lett.* 12 (2005) :1, 85-102.
- A 17** Hyperbolic manifolds with convex boundary. Jean-Marc Schlenker. math.DG/0205305, 2002. *Inventiones mathematicae* 163(2006) :1, 109-169.
- A 18** Jean-Marc Schlenker. Small deformations of polygons and polyhedra. *Trans. Amer. Math. Soc.* 359 (2007), 2155-2189. math.DG/0410058.
- A 19** Minimal surfaces and particles in 3-manifolds. Kirill Krasnov and Jean-Marc Schlenker. math.DG/0511441, 2005. *Geometriae dedicata* 126 :1 (2007), 187-254.

- A 20** Notes on a paper of Mess. Lars Andersson, Thierry Barbot, Riccardo Benedetti, Francesco Bonsante, William M. Goldman, François Labourie, Kevin P. Scannell, Jean-Marc Schlenker. *Geometriae Dedicata* 126 :1 (2007), 47-70.
- A 21** On the renormalized volume of hyperbolic 3-manifolds. Kirill Krasnov, Jean-Marc Schlenker. math.DG/0607081. *Comm. Math. Phys.* 279 :3 (2008), 637-668.
- A 22** Circle patterns on singular surfaces. Jean-Marc Schlenker. math.DG/0601631. *Discr. Comput. Geom.* 40(2008) :1, 47-102.
- A 23** Higher Schläfli formulas II. Vector-valued differential relations. Jean-Marc Schlenker, Rabah Souam. math.DG/0611499. *Intern. Math. Res. Notices*, IMRN 2008, Art. ID rnn 068, 44 pp.
- A 24** AdS manifolds with particles and earthquakes on singular surfaces. Francesco Bonsante, Jean-Marc Schlenker. math.GT/0609116. *Geom. Funct. Anal.* 19 :1 (2009) 41–82.
- A 25** On the infinitesimal rigidity of weakly convex polyhedra. Robert Connelly and Jean-Marc Schlenker. math.DG/0606681. *European Journal of Combinatorics* 31(2010) :4, 1080-1090.
- A 26** Quasifuchsian manifolds with particles. Sergiu Moroianu, Jean-Marc Schlenker. *Journal of Differential Geometry* 83 :1 (2009), 75-129.
- A 27** On weakly convex star-shaped polyhedra. Jean-Marc Schlenker. arXiv :0704.2901. *Discrete Mathematics* 309(2009) :20, 6139-6149.
- A 28** Representations of quantum permutation algebras. Teodor Banica, Julien Bichon, Jean-Marc Schlenker. arXiv :0901.2331. *J. Funct. Anal.* 257 (2009), 2864-2910.
- A 29** A symplectic map between hyperbolic and complex Teichmüller theory. Kirill Krasnov, Jean-Marc Schlenker. arXiv :0806.0010. *Duke Mathematical Journal* 150(2009) :2, 331-356.
- A 30** Profiles of inflated surfaces. Igor Pak, Jean-Marc Schlenker. arXiv :0907.5057. *Journal of Nonlinear Mathematical Physics* 17 :2 (2010) 145–157.
- A 31** On the infinitesimal rigidity of polyhedra with vertices in convex position. Ivan Izmistiev, Jean-Marc Schlenker. arXiv :0711.1981. *Pacific J. Math.* 248(2010) :1, 171-190.
- A 32** The Weil-Petersson metric and the renormalized volume of hyperbolic 3-manifolds. Kirill Krasnov and Jean-Marc Schlenker. arXiv :0907.2590. To appear, *Handbook of Teichmüller theory*, vol III.
- A 33** Multi Black Holes and Earthquakes on Riemann surfaces with boundaries. Francesco Bonsante, Kirill Krasnov, Jean-Marc Schlenker. math.GT/0610429. *Intern. Math. Res. Not.* 2010, doi : 10.1093/imrn/rnq070.
- A 34** On orthogonal matrices maximizing the 1-norm. Teodor Banica, Benoit Collins, Jean-Marc Schlenker. arXiv :0901.2923. *Indiana Univ. Math. J.* 59(2010) :3, 839–856.
- A 35** Maximal surfaces and the universal Teichmüller space. Francesco Bonsante, Jean-Marc Schlenker. arXiv :0911.4124. *Inventiones Math.* 182(2010) :279-333.
- A 36** On polynomial integrals over the orthogonal group. Teodor Banica, Benoit Collins, Jean-Marc Schlenker. arXiv :0910.1258. *J. Combinatorial Theory A* 118 :3 (2011), 778-795.
- A 37** Volume maximization and the extended hyperbolic space. Feng Luo, Jean-Marc Schlenker. arXiv :0908.2023. To appear, *Proc. Amer. Math. Soc.*
- A 38** Combinatorial aspects of orthogonal group integrals. Teodor Banica, Jean-Marc Schlenker. arXiv :1011.2454. To appear, *Intern. J. Math.*
- A 39** Fixed points of compositions of earthquakes. Francesco Bonsante, Jean-Marc Schlenker. arXiv :0812.3471. To appear, *Duke Math. J.*

A 40 Collisions of particles in locally AdS spacetimes I. Local description and global examples. Thierry Barbot, Francesco Bonsante and Jean-Marc Schlenker. arXiv :1010.3602. *Comm. Math. Phys.* 308 (2011) :1, 147-200.

Recent preprints

P 1 Collisions of particles in locally AdS spacetimes. Thierry Barbot, Francesco Bonsante, Jean-Marc Schlenker. arXiv :0905.1823.

P 2 The convex core of quasifuchsian manifolds with particles. Cyril Lecuire, Jean-Marc Schlenker. arXiv :0909.4182.

P 3 Flippable tilings of constant curvature surfaces. François Fillastre, Jean-Marc Schlenker. arXiv :1012.1594.

P 4 Non-rigidity of spherical inversive distance circle packings. Jiming Ma, Jean-Marc Schlenker. arXiv :1105.1469.

P 5 A cyclic extension of the earthquake flow. Francesco Bonsante, Gabriele Mondello, Jean-Marc Schlenker. arXiv :1106.0525.

P 6 The renormalized volume and the volume of the convex core of quasifuchsian manifolds. Jean-Marc Schlenker. arXiv :1109.6663.

Proceedings, notes, etc

C 1 Surfaces elliptiques dans des espaces lorentziens à courbure constante. J.-M. Schlenker. *Compte Rendus de l'Académie des Sciences, Série A*, 319 :609–614, 1994.

C 2 Un analogue du théorème d'Efimov en courbure variable. J.-M. Schlenker. In *Séminaire de théorie spectrale et géométrie, 1994-1995*, pages 67–79. Institut Fourier, 1995.

C 3 La conjecture des soufflets, d'après I. Sabitov. J.-M. Schlenker. *Séminaire Bourbaki*, Exposé no. 918, Nov. 2002. *Asterisque* No. 294 (2004), vii, 77–95.

C 4 Des immersions isométriques de surfaces aux variétés hyperboliques à bord convexe. J.-M. Schlenker. In *Séminaire de théorie spectrale et géométrie, 2002-2003*, pages 165–216. Institut Fourier, 2003.

Scientific publications outside mathematics

N 1 Shape-from-shading for surfaces applicable to planes. Jean-Denis Durou, Jean-Marc Schlenker. Proceedings PACV 2007 (workshop on Photometric Analysis For Computer Vision).

N 2 Productivity and Mobility in Academic Research : Evidence from Mathematicians. Pierre Dubois, Jean-Charles Rochet, Jean-Marc Schlenker. Working Paper IDEI 606 and TSE 10-160, May 2010.

General audience

V 1 Polyèdres. J.-M. Schlenker. Article du “fond documentaire” de l'*Encyclopaedia Universalis*, 2004.

V 2 Espaces (mathématiques). J.-M. Schlenker. Article pour le “notionnaire” l'*Encyclopaedia Universalis* (ouvrage de référence vendu avec la version DVD), 2004.