Camille HORBEZ

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Appointments

2016-	**Chargé de recherches**	
	CNRS - Université Paris Sud	
Aug. 2015 - Jan. 2016	**Post-doc**	
	University of Utah	

Education

2012-2014	PhD thesis at the University of Rennes 1
	Advisor: Vincent Guirardel
	Subject: *Random walks on $Out(F_N)$ and automorphism groups of free products*
2011-2012	Second year of master in mathematics, Université Paris XI - Summa cum laude
	Master thesis realized at Cornell University, Ithaca, NY
	Advisor: Karen Vogtmann
2009-2012	École Normale Supérieure, Paris

Awards

Cours Peccot (2017-2018)

Papers

Preprints

- *Algebraic laminations for free products and arational trees*, with V. Guirardel, arXiv:1709.05664 (2017)

- *Boundary amenability of $Out(F_N)$*, with M. Bestvina and V. Guirardel, arXiv:1705.07017 (2017)

- *Morphisms from higher rank lattices to $Out(F_N)$*, 8-page appendix to the paper "Hyperbolic rigidity of higher rank lattices" by T. Haettel, arXiv:1607.02004

- *On the topological dimension of the Gromov boundaries of some hyperbolic $Out(F_N)$-graphs*, with M. Bestvina and R.D. Wade, arXiv:1610.02115 (2016)

- *A compactification of outer space which is an absolute retract*, with M. Bestvina, arXiv:1512.02893 (2015)

1

- *The Tits alternative for the automorphism group of a free product*, arXiv:1408.0546 (2014)

Published papers

- *Spectral theorems for random walks on mapping class groups and $Out(F_N)$*, with F. Dahmani, Int. Math. Res. Not. (9)(2018), 2693–2744

- *Central limit theorems for mapping class groups and $Out(F_N)$*, Geom. Topol. **22**(1)(2018), 105–156.

- *The boundary of the outer space of a free product*, Israel J. Math. **221**(1)(2018), 179–234.

- *The hyperbolicity of the sphere complex via surgery paths* (with A. Hilion), J. reine angew. Math. **730** (2017), 135–161.

- *The horoboundary of outer space, and growth under random products of automorphisms*, Ann. Scient. Ec. Norm. Sup. (4) **49**(5)(2016), 1075–1123.

- *A short proof of Handel and Mosher's alternative for subgroups of $Out(F_N)$*, Groups Geom. Dyn. **10**(2)(2016), 709–721.

- *Hyperbolic graphs for free products, and the Gromov boundary of the graph of cyclic splittings*, J. Topol. **9**(2)(2016), 401–450.

- *The Poisson boundary of $Out(F_N)$*, Duke Math. J. **165**(2)(2016), 341–369.

- *Spectral rigidity for primitive elements of F_N*, J. Group Theory **19**(1)(2016), 55–123.

- *Automorphisms of graphs of cyclic splittings of F_N* (with R.D. Wade), Geom. Dedic. **178**(1)(2015), 171–187.

- *Sphere paths in outer space*, Alg. Geom. Topol. **12**(4)(2012), 2493–2517.

Selected talks

International conferences

- August 2018: Midway, Summer 2018 Wasatch Topology Conference

- July 2018: Warwick, 'Graphs, surfaces, and cube complexes'

- April 2018: Warwick, 'Geometry of outer spaces and outer automorphism groups'

- February 2018: Luminy, CIRM

- October 2016: MSRI, 'Geometry of mapping class groups and $Out(F_N)$'

- August 2016: MSRI, 'Geometric Group Theory', Introductory Workshop

- February 2016: Karlsruhe, Young Geometric Group Theory V

- 08/04/2015: Park City, Summer 2015 Wasatch Topology Conference

- 07/14/2015: Luminy, CIRM, "Impacts of geometric group theory"

- 06/26/2015: Dubrovnik VIII - Geometric Topology, Geometric Group Theory and Dynamical Systems

- 06/01/2015: Notre Dame, International Conference on Boundaries and Ergodic Geometry

- 05/28/2015: Austin, Workshop on Mapping Class Groups and Out(F_N)

- 27/10/2014 - 31/10/2014: Carcassonne, Final meeting of the ANR LAM

- 06/18/2014: University of Rennes 1, Conference on "Geometric, dynamical and combinatorial aspects of infinite groups"

- 07/03/2013: University of Aix-Marseille, Research programme "The geometry of outer space : investigated through its analogy with Teichmueller space"

- 06/05/2013: Oberwolfach, Workshop "Geometric structures in group theory"

- 11/20/2012-11/22/2012: Centre de Recerca Matematica, Barcelona

Colloquia

- 2018: Queen's University (Kingston)

- 2015: University of Oklahoma

Seminar talks

- 2019: Munich

- 2018: Bordeaux, Avignon, Mexico, Kingston (seminar and colloquium), Toronto, Buffalo, McGill University (Montreal)

- 2017: IHÉS, Université de Lyon I, University of Toronto, École Polytechnique

- 2015: Université Paris Sud, Université Paris VI, Aix-Marseille Université, Universität Wien, Freie Universität Berlin, McGill University (Montreal), University of Illinois (Urbana-Champaign), Université de Nantes, Université Paul Sabatier (Toulouse), Université Lille 1, University of Utah (Salt Lake City), University of Oklahoma (seminar and colloquium), University of British Columbia (Vancouver), Yale University (New Haven), Rice University (Houston)

- 2014: Université de Rennes 1, Université Paris Sud, Université de Caen, Université de Strasbourg, Université de Genève, Institut Fourier (Grenoble)

- 2013: Aix-Marseille Université, Universität Münster, Université de Rennes 1 (séminaire et Journées Louis Antoine)

- 2012: Aix-Marseille Université, Max Planck Institut für Mathematik (Bonn)

- 2011: Cornell University (Ithaca)

Conferences attended

- February 2016: Young Geometric Group Theory V, Karlsruhe

- December 2015: Winter 2015 Wasatch Topology Conference, Salt Lake City

- August 2015: Summer 2015 Wasatch Topology Conference, Park City

- July 2015: "Impacts of geometric group theory", CIRM, Luminy

- June 2015: Dubrovnik VIII - Geometric Topology, Geometric Group Theory and Dynamical Systems

- June 2015: International Conference on Boundaries and Ergodic Geometry, Notre Dame (USA)

- May 2015: Workshop on Mapping Class Groups and $\mathrm{Out}(F_N)$, Austin

- January 2015: Young Geometric Group Theory IV, Spa (Belgium)

- October 2014: Carcassonne, Final meeting of the ANR LAM,

- June 2014: Conference on "Geometric, dynamical and combinatorial aspects of infinite groups", University of Rennes 1

- March 2014: Asymptotic properties of groups, IHP, Paris

- January 2014: Random walks on groups, IHP, Paris

- January 2014: 3rd Young Geometric Group Theory Meeting, CIRM, Luminy

- January 2014: Introductory school for the IHP trimester on random walks and asymptotic geometry of groups, CIRM, Luminy

- June-July 2013: Summer school and research program "The geometry of outer space: investigated through its analogy with Teichmueller space", University of Aix-Marseille

- June 2013: Workshop "Geometric structures in group theory", Oberwolfach

- February 2013: Young Geometric Group Theory II, Technion, Haifa

- November 2012: Conference on Automorphisms of free groups : Algorithms, Geometry and Dynamics, Centre de Recerca Matematica, Barcelona

- July 2012: Summer school "Geometric group theory", Park City Mathematics Institute, Utah

- June 2012: Summer school and conference "Topology and groups", Berlin

- January-March 2012: Program on "Geometry and analysis of surface group representations", IHP, Paris

- January 2012: Winter school "Introductory Workshop to Geometry and Analysis of Surface Group Representations", Autrans

- September 2011: 1072nd meeting of the AMS, Cornell University, Ithaca, Special session on Geometry of Arithmetic Groups

- June-July 2011: Program on "Geometric and measured group theory", IHP, Paris

- April 2011: "An invitation to von Neumann algebras and ergodic theory of group actions", CIRM, Luminy

Teaching

2018-2019	Master course 'Geometric group theory', Université Paris Sud
2013-2015	Exercise sessions at the University of Rennes 1 for the courses: • "Linear algebra 2" (2nd-year math students) • "Geometry in small dimension" (1st-year math students) • "Mathematics: analysis" (1st-year biology students)
June 2013	Participation in training sessions for high school students in Rennes
2009-2011	Participation in training sessions for high school students in Paris

Languages

French (native), English (TOEFL 116), German