

Paul-Henry Leemann

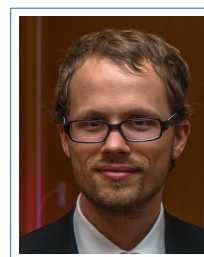
Researcher in Pure Mathematics

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Personal Information

Date of Birth April 12, 1987

Citizenship Switzerland

Main areas of research

My research interests lie in geometric and combinatorial group theory. I am particularly interested in groups acting on rooted trees, limits and coverings of (Schreier) graphs and rigidity phenomenon in Cayley and Schreier graphs.

Employment

Since 2016 **ENS-Lyon**, *Post-Doc*, in Unité de Mathématiques Pures et Appliquées, with Mikael de la Salle.

Education

2011–2016 **Université de Genève**, *Ph.D. in Mathematics*, PhD-thesis: “On Subgroups and Schreier Graphs of Finitely Generated Groups”, advisor: Tatiana Smirnova-Nagnibeda.

Mention très bien

2013–2015 **Université de Genève**, *Basic Certificate of Didactic in Mathematics and in Educational Science*.

2009–2011 **Université de Genève**, *M. Sc. in Mathematics*, Master-thesis: “Caractères irréductibles des groupes de Coxeter finis”, advisors: Pierre de la Harpe and Tatiana Smirnova-Nagnibeda.

grades: 6/6 (Master-thesis) and 5.7/6 (courses)

2006–2009 **Université de Genève**, *B. Sc. in Mathematics*.

Publications and Preprints

1. *Weakly maximal subgroups of branch groups*. (2019). Preprint: <https://arxiv.org/abs/1910.06399>
2. *Cayley graphs with few automorphisms*. Submitted (2019). Preprint: <https://arxiv.org/abs/1812.02199>
3. *Schreier graphs: Transitivity and Coverings*. Internat. J. Algebra Comput., Vol. 26, Issue 1 (2016). Published version: <https://dx.doi.org/10.1142/S021819671650003X> or preprint: <https://arxiv.org/pdf/1505.03433.pdf>

4. *Weakly maximal subgroups in regular branch groups*, with K. Bou-Rabee and T. Nagnibeda. Journal of Algebra, Vol. 455 (2016). Published version: <https://authors.elsevier.com/a/1Sg4i4-F0pyqM> or preprint: <https://arxiv.org/pdf/1502.07283v2.pdf>
5. *Lamplighter groups, de Bruijn graphs, spider-web graphs and their spectra*, with R. Grigorchuk and T. Nagnibeda. Journal of Physics A: Mathematical and Theoretical, Vol. 49, Number 20 (2016). Preprint: <https://arxiv.org/pdf/1502.06722.pdf>

Prizes, Grants and Scientific Visits

- 2016 Vacheron Constantin prize for the best thesis in mathematics
- 2016–2018 Early Postdoc.Mobility grant supported by the Swiss National Science Foundation
- 07-12 2015 Semester “Analytic and Geometric Aspects of Probability on Graphs”, *EPFL, Lausanne, Switzerland*
- 01-04 2014 IHP Semester “Marches aléatoires et géométrie asymptotique des groupes”, *CIRM, Marseille and IHP, Paris, France*
- 04 2011 Topology and Geometric Group Theory, *Columbus, Ohio, USA*

Teaching Experiences

- Since 2016 In ENS Lyon:
 - Teaching assistant of “Coverings and fundamental groups” (master)
 - Teacher of “Introduction to L^AT_EX” (3rd year class)
- 2011–2016 Teaching assistant at the University of Geneva:
 - Advanced course on Combinatorics (master)
 - Algebra II: groups, rings, fields, Galois theory (2nd year class)
 - Algebra I: linear algebra (1st year class)
 - Analysis I: basics of logic and set theory, real analysis (1st year class)
 - Mathématiques générale: 1st year class for students of other departments
 - Tutoring for first year students
 - Scientific popularization: for students from high school
- 2006–2011 Private tutor in mathematics for high school students

Languages

French native
English fluent

Others

Computer skills (L^A)T_EX, HTML/CSS, GAP