

# Alessandro Sisto

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Citizenship: Italy

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## Positions held

Since June 2020: Assistant, then Associate Professor at Heriot-Watt University  
June 2015 - May 2020: Assistant Professor at ETH Zürich  
September 2013 - May 2015: Postdoc at ETH Zürich

### *Visiting positions*

June 2019: Junior Simons professor at IMPAN, Warsaw

## Education

July 2013: Ph.D., University of Oxford

Advisor: C. Druţu

Thesis title: Geometric and probabilistic aspects of groups with hyperbolic features

December 2010: "Diploma di Licenza" (Full Diploma), Scuola Normale Superiore

June 2010: "Diploma di Laurea" (Master's degree), University of Pisa

July 2008: "Diploma di Primo Livello" (First Level Diploma), Scuola Normale Superiore

May 2008: "Diploma di Laurea Triennale" (Bachelor's Degree), University of Pisa

## Phd students

Davide Spriano, 2016 - 2020

Antoine Goldsborough, 2020 - 2024

Stefanie Zbinden 2021 -

Giorgio Mangioni 2023 -

## Postdocs mentored

Dominik Gruber, 2016 - 2019

Peter Feller, 2017 - 2019

Nicolas Vaskou 2022

## Awards, Honours, and grants

2018: Kamil Duszkenko award

2024: Invited speaker at the European Congress of Mathematics

2024: Whitehead prize of the London Mathematical Society

Grant: ETH start-up fund, 2015-2020, 80k CHF

Grant: Swiss National Science Foundation grant (PI), *Groups with hyperbolic features*, 2018-2021, 400k CHF

## Publications and accepted papers (in reverse order of acceptance)

57. (with U. Bader, P.-E. Caprace, and A. Furman) Hyperbolic actions of higher-rank lattices come from rank-one factors  
Accepted in *Ergodic Theory and Dynamical Systems*
56. (with P. Feller and G. Viaggi) Uniform models and short curves for random 3-manifolds  
Accepted in *Compositio Mathematica*
55. (with J. Behrstock, M. Hagen, and A. Martin) A combinatorial take on hierarchical hyperbolicity and applications to quotients of mapping class groups  
Accepted in *Journal of Topology*
54. (with Elia Fioravanti, Annette Karrer, and Stefanie Zbinden) On the Čech cohomology of Morse boundaries  
**Advances in Mathematics** 443 (2024), 53 pp.
53. (with J. MacKay) Maps between relatively hyperbolic spaces and between their boundaries  
**Transactions of the AMS** 377 (2024), 1409-1454.
52. Appendix to “Property (NL) for group actions on hyperbolic spaces”, by S. Balasubramanya, F. Fournier-Facio, and A. Genevois  
Accepted in *Groups, Geometry, and Dynamics*
51. (with M. Hagen, J. Russell, and D. Spriano) Equivariant hierarchically hyperbolic structures for 3-manifold groups via quasimorphisms  
Accepted in *Annales de l’Institut Fourier*
50. (with Matt Cordes and Stefanie Zbinden) Corrigendum to Morse Boundaries of Proper Geodesic Metric Spaces  
**Groups, Geometry, and Dynamics** 18 (2024), 1559-1563.
49. (with S. Dowdall, M. Durham, and C. Leininger) Extensions of Veech groups I: A hyperbolic action  
**Journal of Topology** 16 (2023), 757-805.
48. (with A. Zalloum) Morse subsets of injective spaces are strongly contracting  
Accepted in *Groups, Geometry, and Dynamics*
47. (with M. Hagen) Some examples of separable convex-cocompact subgroups  
**Bulletin of the LMS** 55 (2023), 2242-2257.
46. (with A. Goldsborough) Markov chains on hyperbolic-like groups and quasi-isometries  
Accepted in *J. Reine Angew. Math. (Crelle)*
45. (with M. Hagen and A. Martin) Extra-large type Artin groups are hierarchically hyperbolic  
**Math. Annalen** 388 (2024), 867-938.
44. (with S. Dowdall, M. Durham, and C. Leininger) Extensions of Veech groups II: Hierarchical hyperbolicity and quasi-isometric rigidity  
**Commentarii Mathematici Helvetici** 99 (2024), 149-228.

43. (with R. Frigerio) Central extensions and bounded cohomology  
**Annales Henri Lebesgue** 6 (2023), 225-258.
42. (with M. Durham and Y. Minsky) Stable cubulations, bicomings, and barycenters  
**Geometry & Topology** 27 (2023), 2383-2478.
41. (with A. Boulanger, P. Mathieu, and C. Sert) Large deviations for random walks on hyperbolic spaces  
**Annales scientifiques de l'École normale supérieure** 56 (2023), 885-944.
40. (with R. Charney and M. Cordes) Complete topological descriptions of certain Morse boundaries  
**Groups, Geometry, and Dynamics** 17 (2023), 157-184.
39. (with J. Behrstock and M. Hagen) Quasiflats in hierarchically hyperbolic spaces  
**Duke Mathematical Journal** 170 (2021), 909-996.
38. (with D. Gruber) Divergence and quasi-isometry classes of random Gromov's monsters  
**Mathematical Proceedings of the Cambridge Philosophical Society** 171 (2021), 249-264.
37. (with F. Dahmani and M. Hagen) Dehn filling Dehn twists  
**in Proceedings of the Royal Society of Edinburgh** 151 (2021), 28-51.
36. (with A. Iozzi and C. Pagliantini) Characterising actions on trees yielding non-trivial quasimorphisms  
**Annales Mathématiques du Québec** 45 (2021), no. 1, 185-202.
35. (with P. Mathieu) Deviation inequalities for random walks  
**Duke Mathematical Journal** 169 (2020), 961-1036.
34. (with M. Bestvina, K. Bromberg and K. Fujiwara) Acylindrical actions on projection complexes  
**L'Enseignement Mathématique** 65 (2019), 1-32.
33. (with D. Gruber and R. Tessera) Random Gromov's monsters do not act non-elementarily on hyperbolic spaces  
**Proceedings of the AMS** 148 (2020), 2773-2782.
32. (with J. MacKay) Quasi-hyperbolic planes in relatively hyperbolic groups  
**Annales Academiae Scientiarum Fennicae Mathematica** 45 (2020), 139-174.
31. (with D. Groves and J. Manning) Boundaries of Dehn fillings  
**Geometry & Topology** 23 (2019), 2929-3002.
30. (with J. Behrstock and M. Hagen) Hierarchically hyperbolic spaces II: Combination theorems and the distance formula  
**Pacific Journal of Mathematics** 299 (2019) 257-338.
29. (with T. Hartnick) Bounded cohomology and virtually free hyperbolically embedded subgroups  
**Groups, Geometry, and Dynamics** 13 (2019), 677-694.
28. Many Haken Heegaard splittings  
**Journal of Topology and Analysis** 12 (2020), 357-369.
27. (with F. Franceschini, R. Frigerio, and B. Pozzetti) The zero norm subspace of bounded cohomology of acylindrically hyperbolic groups  
**Commentarii Mathematici Helvetici** 94 (2019) 89-139.

26. (with D. Gruber) Infinitely presented graphical small cancellation groups are acylindrically hyperbolic  
**Annales de L'Institut Fourier** 68 (2018) 2501-2552.
25. (with D. Hume) Groups with no coarse embeddings into hyperbolic groups  
**New York Journal of Mathematics** 23 (2017), 1657-1670.
24. (with Y. Antolin, M. Mj, and S. Taylor) Intersection properties of stable subgroups and bounded cohomology  
**Indiana University Mathematics Journal**, 68 (2019) 179-199.
23. (with S. Taylor) Largest projections for random walks and shortest curves in random mapping tori  
**Mathematical Research Letters** 26 (2019) 293-321.
22. (with J. Maher) Random subgroups of acylindrically hyperbolic groups and hyperbolic embeddings  
**International Mathematics Research Notices** (2019), 3941-3980.
21. What is a hierarchically hyperbolic space?  
Appearing in "Beyond hyperbolicity", **London Math. Soc. Lecture Note Series** 454, 117-148.
20. (with M. Durham and M. Hagen) Boundaries and automorphisms of hierarchically hyperbolic spaces  
**Geometry and Topology** 21 (2017), 3659-3758.
19. (with J. Behrstock and M. Hagen) Asymptotic dimension and small-cancellation for hierarchically hyperbolic spaces and groups  
**Proceedings of the London Mathematical Society** 114 (2017), 890-926.
18. (with J. Behrstock and M. Hagen) Hierarchically hyperbolic spaces I: curve complexes for cubical groups  
**Geometry and Topology** 21 (2017), 1731-1804.
17. (with J. Behrstock, M. Hagen, and (appendix only) P.-E. Caprace) Thickness, relative hyperbolicity, and randomness in Coxeter groups  
**Algebraic and Geometric Topology** 17 (2017), 1731-1804.
16. Contracting elements and random walks  
**Journal für die reine und angewandte Mathematik** 742 (2018), 79-114.
15. (with Y. Antolin and A. Minasyan) Commensurating endomorphisms of acylindrically hyperbolic groups and applications  
**Groups, Geometry, and Dynamics** 10 (2016), 1149-1210.
14. (with P. Przytycki) A note on acylindrical hyperbolicity of Mapping Class Groups  
**Advanced Studies in Pure Mathematics** 73 (2017), Hyperbolic Geometry and Geometric Group Theory conference proceedings, 255-264.
13. (with R. Frigerio and M.B. Pozzetti) Extending higher dimensional quasi-cocycles  
**Journal of Topology** 8 (2015), 1123-1155.
12. (with J.F. Lafont and R. Frigerio) Rigidity of high dimensional graph manifolds.  
**Astérisque** 372 (2015), xxi+177 pp.
11. Tracking rates of random walks.  
**Israel Journal of Mathematics** 220 (2017), 1-28.

10. Quasi-convexity of hyperbolicly embedded subgroups.  
**Mathematische Zeitschrift** 283 (2016), 649-658.
9. (with I. Goldbring) The fundamental group of a locally finite graph with ends: a hyperfinite approach.  
**Fundamenta Mathematicae** 232 (2016), 21-39.
8. (with E. Martínez-Pedroza) Virtual Amalgamation of Relatively Quasiconvex Subgroups.  
**Algebraic and Geometric Topology** 12 (2012), 1993-2002.
7. (with J. MacKay) Embedding relatively hyperbolic groups in products of trees.  
**Algebraic and Geometric Topology** 13 (2013), 2261-2282.
6. Projections and relative hyperbolicity.  
**L'Enseignement Mathématique** 59 (2013), 165-181.
5. (with D. Hume) Embedding universal covers of graph manifolds in products of trees.  
**Proceedings of the AMS** 141 (2013), 3337-3340.
4. Tree-graded asymptotic cones.  
**Groups, Geometry, and Dynamics** 7 (2013), 697-735.
3. Separable and tree-like asymptotic cones of groups.  
**Münster Journal of Mathematics** 5 (2012), 233-248.
2. Exponential triples.  
**Electronic Journal of Combinatorics** 18 (1) (2011)
1. (with R. Frigerio) Characterizing Hyperbolic Spaces and Real Trees.  
**Geometriae Dedicata** 142 (2009), 139-149.

## Preprints

12. (with Daniel Groves, Peter Haïssinsky, Jason Manning, Damian Osajda, and Genevieve Walsh) Drilling hyperbolic groups
11. (with Ruth Charney, Matt Cordes, Antoine Goldsborough, and Stefanie Zbinden) (Non-)existence of Cannon-Thurston maps for Morse boundaries
10. (with Antoine Goldsborough, Mark Hagen, and Harry Petyt, with an appendix by Jacob Russell) Induced quasi-isometries of hyperbolic spaces, Markov chains, and acylindrical hyperbolicity
9. (with Mark Hagen and Giorgio Mangioni) A combinatorial structure for many hierarchically hyperbolic spaces
8. (with Peter Feller and Gabriele Viaggi) Hyperbolic Heegaard splittings and Dehn twists
7. (with Antoine Goldsborough) Random divergence of groups
6. (with G. Mangioni) Rigidity of mapping class groups mod powers of twists
5. (with U. Bader) Characterising acylindrical hyperbolicity via permutation actions
4. The word problem for free groups is not solvable in linear time\*
3. On metric relative hyperbolicity.
2. 3-manifold groups have unique asymptotic cones.
1. (with L. Scheele) Iterated asymptotic cones.

## Talks

### *Mini-courses:*

Thematic programme on geometry and randomness, Fields institute, Toronto, Random walks on hyperbolic-like groups, April 2024, 4 lectures.

Autumn school on large-scale geometry, University of Göttingen, Gromov-hyperbolic groups and generalisations, October 2023, 6 lectures.

1,2,3: Curves, Surfaces, and 3-Manifolds (Minsky's 60th birthday conference), Nahsholim, The influence of the curve graph, May 2023, 4 lectures (together with Mladen Bestvina).

University of Pisa, Mapping class groups and relatives: Hierarchically hyperbolic groups, February 2023, 3 lectures.

Workshop on nonpositively curved groups and spaces, University of Regensburg, September 2017, 3 lectures on acylindrically hyperbolic groups.

Université de Marseille, March 2015, 4 lectures on Mapping Class Groups and curve complexes.

Seoul National University, September 2014, 2 lectures on acylindrically hyperbolic groups.

Mini-workshop on hyperbolic geometry and mapping class groups, University of Pisa, June 2013, 3 lectures on Gromov boundaries and relative hyperbolicity.

Université de Caen, April 2013, 4 lectures on relatively hyperbolic spaces and random walks.

### *Conferences:*

1. UK-Poland-Ukraine trilateral meeting, Warsaw, October 2024, Asymptotically CAT(0) spaces and applications.
2. European Congress of Mathematics, Seville, July 2024, An invitation to hierarchical hyperbolicity.
3. Workshop on hierarchical hyperbolicity, Banff, May 2024, Combinatorial HHSs.
4. Group actions and low-dimensional topology, El Barco de Avila, July 2023, Towards geometric finiteness in mapping class groups.
5. Geometry of Subgroups, Montreal, May 2023, Dehn-filling-like quotients of mapping class groups.
6. Quotients of hierarchically hyperbolic groups, Bristol, August 2022, (Hierarchically) hyperbolic quotients of mapping class groups
7. Metric geometry and Geometric Analysis Summer School, Oxford, July 2022, Introduction to hierarchically hyperbolic spaces
8. Hyperbolic groups and generalisations, Paris, June 2022, (Hierarchically) hyperbolic quotients of mapping class groups
9. Action Now, Haifa, June 2022, Morse boundaries are sometimes not that wild
10. Mapping class groups and  $Out(F_n)$ , Paris, April 2022, Extensions of Veech groups
11. Random walks beyond hyperbolic groups, AIM, April 2022, Markov chains on group and quasi-isometries
12. Geometric structures in Group Theory, Oberwolfach, March 2022, Markov chains on group and quasi-isometries
13. Miniworkshop on Geometric Group Theory, Munich, November 2019, (Hierarchically) hyperbolic quotients of mapping class groups

14. Groups and geometry in the South East, University College, London, October 2019, (Hierarchically) hyperbolic quotients of mapping class groups
15. Workshop on bounded cohomology, July 2019, Bounded cohomology of acylindrically hyperbolic groups
16. Aspects of Non-Positive and Negative Curvature in Group Theory, Mladen Bestvina's 60th birthday conference June 2019, Dehn filling Dehn twists
17. Nonpositive curvature, Warsaw, May 2019, Dehn filling Dehn twists
18. Groups, Geometries, and Space, Alessandra Iozzi's 60th birthday conference, Zurich, January 2019, Cubulation of hulls of points in hierarchically hyperbolic spaces
19. Graphs, surfaces, and cube complexes, Warwick, July 2018, Cubulation of hulls of points in hierarchically hyperbolic spaces
20. Topology, Oberwolfach, July 2018, What does a generic 3-manifold look like?
21. Nonpositively curved groups on the Mediterranean, Haifa, May 2018, Actions and geometry of Gromov's monsters
22. Workshop on Large Scale Geometry and Applications, Toronto, May 2018, Actions and geometry of Gromov's monsters
23. Manifolds and groups, Regensburg, September 2017, Quasiflats in hierarchically hyperbolic spaces
24. GAGTA: Geometric and Asymptotic Group Theory with Applications, Bilbao, July 2017, Quasiflats in hierarchically hyperbolic spaces
25. Geometrical and probabilistic properties of infinite groups, Lille, June 2017, Random walks on mapping class groups and subsurface projections
26. Spring topology and dynamics conference, New Jersey, March 2017, Boundaries at infinity of Dehn fillings
27. Nonpositive curvature in action, Cambridge, January 2017, Bounded cohomology via hyperbolically embedded subgroups
28. Groups acting on  $CAT(0)$  spaces, Berkeley, September 2016, Hierarchically hyperbolic structures on cube complexes and applications
29. Beyond hyperbolicity, Cambridge, June 2016, Introduction to hierarchically hyperbolic spaces
30. Advanced school on Geometric Group Theory and Low-dimensional Topology, Trieste, June 2016, Boundaries of hierarchically hyperbolic spaces
31. Measured Group Theory, Vienna, February 2016, Central Limit Theorem for acylindrically hyperbolic groups
32. Cohomology and Large Scale Geometry, Regensburg, July 2015, Acylindrical hyperbolicity and bounded cohomology
33. Geometric Topology, Geometric Group Theory and Dynamical Systems, Dubrovnik, June 2015, Boundaries at infinity of Dehn fillings
34. Random walks on graphs and potential theory, Warwick, May 2015, Central Limit Theorem for acylindrically hyperbolic groups
35. Groups and geometry in the South East, Southampton, December 2014, Deviation estimates for random walks and acylindrically hyperbolic groups

36. Geometry on Groups and Spaces, Seoul, August 2014, On the bounded cohomology of acylindrically hyperbolic groups
37. Joint meeting of the Spanish and Italian Mathematical Societies, session on Geometric topology, Bilbao, July 2014, On the bounded cohomology of acylindrically hyperbolic groups
38. Geometric, dynamical, and combinatorial aspects of infinite groups, Rennes, June 2014, On the bounded cohomology of acylindrically hyperbolic groups
39. Discrete Groups and Geometric Structures with Applications V, Leuven, June 2014, Deviation estimates for random walks and acylindrical actions
40. Ninth Barcelona Weekend in Group Theory, May 2014, Bounded cohomology of acylindrically hyperbolic groups
41. Young geometric group theory meeting 3, Luminy, January 2014, Quasi-cocycles detect hyperbolically embedded subgroups
42. Canadian Mathematical Society Winter Meeting, Ottawa, December 2013, Quasi-cocycles detect hyperbolically embedded subgroups
43. Canadian Mathematical Society Winter Meeting, Ottawa, December 2013, Tracking rates of random walks
44. Young topology meeting UK, Imperial College, London, April 2013, Fundamental groups of 3-manifolds and products of trees
45. Outer automorphisms of free groups, Barcelona, November 2012, Actions on hyperbolic spaces and random walks
46. British Topology Meeting, Cambridge, September 2012, Mapping tori of pseudo-Anosovs
47. Measure and asymptotics in group theory and low-dimensional geometry, Dublin, August 2012, Random walks on groups with contracting elements
48. Model theory of groups, Luminy, November 2011, Asymptotic cones via nonstandard analysis

*Seminar talks:*

1. University of Karlsruhe, June 2024, Asymptotically CAT(0) spaces and applications
2. University of Cambridge, November 2023, Asymptotically CAT(0) spaces and applications
3. UCLA, April 2023, Markov chains and quasi-isometries
4. Purdue University, February 2023, Hierarchically hyperbolic spaces: What they are and how to make new ones
5. University of Vienna, May 2022, Morse boundaries are sometimes not that wild
6. University of Glasgow, May 2022, Geometry of random 3-manifolds
7. Chinese university of Hong Kong, March 2022, Quasiflats in hierarchically hyperbolic groups
8. University of Michigan, March 2022, A simple hierarchical hyperbolicity criterion
9. Columbia University, February 2022, Markov chains on groups and quasi-isometries
10. Technion, February 2022, Markov chains on group and quasi-isometries
11. New York Group Theory Seminar, November 2021, A simple hierarchical hyperbolicity criterion and extra-large Artin groups



12. Technion, November 2021, Markov chains on group and quasi-isometries
13. University of Munich, June 2021, What does a generic 3-manifold look like?
14. Columbia university, February 2021, Cubulation of hulls and bicomings
15. École normale supérieure (online), November 2020, Cubulation of hulls and bicomings
16. Colloquium talk at the University of Pisa (online), May 2020, Gromov-hyperbolicity and beyond
17. University of Strasbourg, January 2020, Groups that do not coarsely embed into hyperbolic groups
18. University of Strasbourg, January 2020, (Hierarchically) hyperbolic quotients of mapping class groups
19. Colloquium talk at IMPAN, July 2019, Gromov-hyperbolicity and beyond
20. University of Pisa, November 2018, Short curves in hyperbolic 3-manifolds via knots on Heegaard surfaces
21. University of Bristol, October 2018, Dehn fillings, Dehn drillings, and versions of Cannon's conjecture
22. Yale University, January 2018, Quasiflats in hierarchically hyperbolic spaces
23. EPFL, November 2017, Bounded cohomology of acylindrically hyperbolic groups
24. University of Illinois at Urbana-Champaign, August 2017, Quasiflats in hierarchically hyperbolic spaces
25. University of Cambridge, February 2017, Quasi-flats in hierarchically hyperbolic spaces
26. San Francisco State University, November 2016, Haken manifolds from Heegaard splittings
27. Brown University, January 2016, Asymptotic dimension of hierarchically hyperbolic spaces
28. EPFL, November 2015, Asymptotic dimension of hierarchically hyperbolic spaces
29. University of Pisa, October 2015, Boundaries at infinity of Dehn fillings
30. Université de Marseille, March 2015, Central Limit Theorem for acylindrically hyperbolic groups
31. University of Utah, February 2015, Deviation estimates for random walks and acylindrically hyperbolic groups
32. Vanderbilt University, February 2015, Deviation estimates for random walks and acylindrically hyperbolic groups
33. University of Toronto, January 2015,  $CAT(0)$  cube complexes, distance formulas and quasi-flats
34. Columbia University, January 2015, Deviation estimates for random walks and acylindrically hyperbolic groups
35. Karlsruhe Institute of Technology, December 2014, Bounded cohomology of acylindrically hyperbolic groups
36. University of Oxford, November 2014,  $CAT(0)$  cube complexes, distance formulas and quasi-flats
37. Seoul National University, September 2014, Deviation estimates for random walks and acylindrically hyperbolic groups
38. Université Rennes 1, May 2014, Deviation estimates for random walks and acylindrically hyperbolic groups

39. Fribourg University, May 2014, Quasi-symmetric maps between boundaries of relatively hyperbolic groups
40. Bristol University, February 2014, Actions of (random) right-angled Coxeter groups on hyperbolic spaces
41. University of Warwick, February 2014, Bounded cohomology via hyperbolically embedded subgroups
42. University of Pisa, January 2014, Tracking rates of random walks
43. ETH, Zürich, January 2014, Generic objects in Geometric Group Theory
44. Columbia University, December 2013, Relative hyperbolicity vs thickness of (random) right-angled Coxeter groups
45. CUNY, December 2013, Boundaries of relatively hyperbolic groups
46. University of Michigan, December 2013, Quasi-isometric embeddings of 3-manifold groups in products of trees
47. Université de Grenoble, November 2013, Non-vanishing of bounded cohomology in degree 3
48. University of Vienna, November 2013, Random walks and relative hyperbolicity
49. Université de Genève, November 2013, Tracking rates of random walks
50. University of Bern, October 2013, Actions on hyperbolic spaces of (random) right-angled Coxeter groups
51. Université de Neuchâtel, October 2013, Relative hyperbolicity vs thickness of (random) right-angled Coxeter groups
52. ETH, Zürich, October 2013, Relative hyperbolicity vs thickness of (random) right-angled Coxeter groups
53. ETH, Zürich, May 2013, Metric embeddings of relatively hyperbolic groups
54. University of Wrocław, April 2013, Metric embeddings of relatively hyperbolic groups
55. Polish Academy of Sciences, April 2013, Random walks and relative hyperbolicity
56. University of Southampton, March 2013, Metric embeddings of relatively hyperbolic groups
57. University of Oxford, February 2013, Relatively hyperbolic groups, mapping class groups and random walks
58. Université Rennes 1, December 2012, Comparing boundaries of relatively hyperbolic groups
59. Hebrew University of Jerusalem, December 2012, Statistical properties of groups
60. Bar-Ilan University, Tel Aviv, December 2012, Actions on hyperbolic spaces and random walks
61. Université catholique de Louvain, November 2012, Comparing boundaries of relatively hyperbolic groups
62. ENS Lyon, November 2012, Actions on hyperbolic spaces and random walks
63. Max Planck Institute, Bonn, October 2012, Quasi-isometric embeddings in products of trees
64. Université Paris-Sud 11, September 2012, Boundaries of relatively hyperbolic groups
65. University of Southampton, March 2012, Hyperbolic directions in non-hyperbolic groups
66. University of Pisa, November 2009, Graphs of manifolds of nonpositive curvature

## Services to the mathematical community

### *Conferences organised*

Co-organiser of Young Geometric Group Theory VII, March 2018, Les Diablerets, Switzerland

Co-organiser of Groups with hyperbolic features, August 2019, Zurich, Switzerland