Olivier Haution

Personal information

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Languages	French, English, German, Italian

Appointments

2023–present	Associate professor, Università di Milano-Bicocca
2018–2023	Heisenberg position, LMU München
2022	Interim Professor (W3), TU München
2020–2021	Interim Professor (W2), LMU München
2012–2018	Lecturer (akademischer Rat auf Zeit), LMU München
2010–2012	Research Fellow, University of Nottingham
2009–2010	Temporary Lecturer (ATER à temps complet), Université Paris 6
2006–2009	Teaching Assistant (allocataire–moniteur), Université Paris 6

Education

2016	Habilitation in Mathematics, LMU München (January 2016)
	Thesis: *Integrality properties of algebraic cycles*
2006–2010	Ph.D. Mathematics, Université Paris 6 (February 2010),
	Thesis: *Steenrod operations and quadratic forms*
	Advisor: Nikita Karpenko
2005–2006	M.Sc. in Mathematics, École Polytechnique
2002–2005	Ingénieur Polytechnicien Program, École Polytechnique
2000–2002	Classes Préparatoires, Lycée la Martinière Montplaisir, Lyon

Grants and awards

2021	National Scientific Qualification (*Abilitazione Scientifica Nazionale*) as Full and Associate Professor, Sector 01/A2 (Geometry and Algebra)
2020–2023	DFG individual research grant *Intersection Theory and Cobordism with a Quadratic Twist*, sole PI (€286,200)
2018–2023	DFG Heisenberg Programme, sole PI (€620,600)
2016–2019	DFG individual research grant *New Perspectives for Canonical Dimension*, sole PI (€14,400)
2006–2009	Ph.D. scholarship AMX funded by the French Ministry of Research
2005	Prix d'option scientifique awarded by the École Polytechnique for an internship at the Tata Institute of Fundamental Research, Mumbai

Research interests

Motivic theories, quadratic forms, group actions on schemes

Preprints

- O. Haution, Dimension of fixed loci of diagonalizable groups via algebraic cobordism, arXiv:2602.17451
- O. Haution, Actions of diagonalizable p-groups and Chern numbers modulo p, arXiv:2412.02483

Publications

19. O. Haution, The geometric concentration theorem, *Advances in Mathematics*, 489 (2025), paper no. 110237
18. J. Fasel and O. Haution, The stable Adams operations on Hermitian K-theory, *Geometry and Topology*, 29 (2025), no. 1, 127–169
17. O. Haution, Odd rank vector bundles in eta-periodic motivic homotopy theory, *Journal of the Institute of Mathematics of Jussieu*, 24 (2025), no. 5, 1733–1764
16. O. Haution, Motivic Pontryagin classes and hyperbolic orientations, *Journal of Topology*, 16 (2023), no. 4, 1423–1474
15. O. Haution, On the algebraic cobordism ring of involutions, *Annales Scientifiques de l'École Normale Supérieure* (4) 56 (2023), no. 4, 981–1028
14. O. Haution and A. S. Merkurjev, Connective K-theory and Adams operations, *EMS Surveys in Mathematical Sciences*, 8 (2021), no. 1-2, 135–162
13. O. Haution, Involutions and Chern numbers of varieties, *Commentarii Mathematici Helvetici*, 95 (2020), no. 4, 811–843
12. O. Haution, Diagonalisable p-groups cannot fix exactly one point on projective varieties, *Journal of Algebraic Geometry*, 29 (2020), 373–402
11. O. Haution, Fixed point theorems involving numerical invariants, *Compositio Mathematica*, 155 (2019), no. 2, 260–288
10. O. Haution, Involutions of varieties and Rost's degree formula, *Journal für die reine und angewandte Mathematik (Crelle)*, 745 (2018), 231–252
9. O. Haution, On rational fixed points of finite group actions on the affine space, *Transactions of the American Mathematical Society*, 369 (2017), 8277–8290
8. O. Haution, Detection by regular schemes in degree two, *Algebraic Geometry*, 2 (2015), no. 1, 44–61
7. O. Haution, Invariants of upper motives, *Documenta Mathematica*, 18 (2013), 1555–1572

6. O. Haution, Duality and the topological filtration,
Mathematische Annalen, 357 (2013), no. 4, 1425–1454

5. O. Haution, Degree formula for the Euler characteristic,
Proceedings of the American Mathematical Society, 141 (2013), no. 6, 1863-1869

4. O. Haution, On the first Steenrod square for Chow groups,
American Journal of Mathematics, 135 (2013), no. 1, 53–63

3. O. Haution, Integrality of the Chern character in small codimension,
Advances in Mathematics, 231 (2012), no. 2, 855–878

2. O. Haution, Reduced Steenrod operations and resolution of singularities,
Journal of K-theory, 9 (2012), no. 2, 269–290

1. O. Haution, Lifting of coefficients for Chow motives of quadrics,
in Quadratic Forms, Linear Algebraic Groups, and Cohomology,
volume 18 of *Developments in Mathematics*, 239-247, Springer, New York (2010)

Conference talks

18. Conference *Motifs and Motives*, Munich, 2026 (upcoming)

17. Conference *Motives in Mainz*, Mainz, 2024

16. Workshop *Motives and Invariants: Theory and Applications to Algebraic Groups and their Torsors*, Banff International Research Station, 2023

15. Mini course (4 hours), Summer school *Motives in Ratisbona*, Regensburg, 2022

14. *Workshop on Birational Geometry*, Higher School of Economics Moscow, 2020

13. Workshop *Affine Algebraic Groups, Motives and Cohomological Invariants*, Banff International Research Station, 2018

12. *Workshop on Motivic and Equivariant Homotopy Theory*, Osnabrück, 2017

11. *International Conference in K-Theory*, Sydney, 2016

10. Workshop *Algebraic Cobordism and Projective Homogeneous Varieties*, Mathematisches Forschungsinstitut Oberwolfach, 2016

9. Workshop *The Use of Linear Algebraic Groups in Geometry and Number Theory*, Banff International Research Station, 2015

8. Conference *(A)round Forms, Cycles and Motives*, Mainz, 2014

7. Workshop *Projective Modules and A1-Homotopy Theory*, American Institute of Mathematics, Palo Alto, 2014

6. Workshop *Étale and Motivic Homotopy Theory*, Heidelberg, 2014

5. *Spring School and Workshop on Torsors, Motives and Cohomological Invariants*, Field Institute, Toronto, 2013

4. Workshop *Lie Algebras, Torsors and Cohomological Invariants*, Banff International Research Station, 2012

3. Joint Mathematics Meetings AMS Special Session *Linear Algebraic Groups: Their Arithmetic, Geometry, and Representations*, Boston, 2012

2. Conference *Ramification in Algebra and Geometry at Emory*, Atlanta, 2011

1. Mini-course *Torsors and Geometry of Quadrics*, Lens, 2009

Invited seminars and colloquia (Selection)

- Department colloquium (2026, upcoming) and Algebra seminar (2015), University of Alberta, Edmonton
- Motivic algebraic topology seminar, LMU München, 2008, 2012, 2024, 2025
- Arithmetic Geometry seminar, University of Milan, 2024
- Algebraic geometry seminar at TIFR, Mumbai, 2020
- Séminaire Variétés Rationnelles, École Normale Supérieure, Paris, 2017, 2019
- Algebra and geometry seminar, University of Grenoble, 2015, 2019
- Seminar, Institut Mittag-Leffler Stockholm, 2017
- Department colloquium, University of Western Ontario, 2016
- Algebra seminar, University of Ghent, 2016

Visiting fellowships and research stays

- 2025, CAS visiting fellowship, Munich, Germany (3 weeks)
- 2017, Institut Mittag-Leffler, Stockholm, Sweden (2 weeks)
- 2006, University of Bielefeld, Germany (3 months)
- 2005, TIFR Mumbai, India (3 months)

Supervision

- Postdoctoral advisor for Fabio Tanania, 2020–2023
- Master's thesis advisor: *The Bloch-Kato conjecture* (ongoing)
- Bachelor's thesis advisor: *Nonsolvability of degree five equations*, 2016

Service

Conference organization

- Co-organizer, *Geometria in Bicocca*, 2024, 2025, 2026
- Co-organizer, *Quadratic forms and algebraic cycles*, Paris, 2025
- Organizer, Fifth edition of the cycle *Crossings*, Milan, 2025

Evaluation, refereeing, and committees

- Hiring committee member for a postdoc position at Milano-Bicocca, 2026
- Ph.D. thesis referee and examination committee member, *Isotropy of Quadratic Pairs* by A. W. Medhi, Université Paris 13, 2026
- Grant reviewer, DAAD (German Academic Exchange Service), 2016
- Journal referee for several mathematical journals, including Journal of the EMS, Annales Scientifiques de l'ENS, Compositio Mathematica, Journal für die reine und angewandte Mathematik (Crelle), Advances in Mathematics, and Algebra & Number Theory.

Teaching

Lectures (as primary instructor)

- Mathematics for Future Teachers: Algebra (biology majors), 2024–2026
- Linear Algebra and Geometry (computer science majors), 2023–2026
- Complex Geometry, 2023–2024
- Algebraic Number Theory (lectures and exercises), 2021–2022
- Exam Preparation Course in Algebra for Future Teachers, 2021–2022
- Brauer Groups of Fields (lectures and exercises), 2020–2021
- Galois Cohomology (lectures and exercises), 2019–2020
- Intersection Theory (lectures and exercises), 2014–2015, 2017–2018
- Homological Methods in Commutative Algebra (lectures and exercises), 2016–2017
- Local Algebra (lectures and exercises), 2013–2014

Student seminars (as primary instructor)

- Reading course on Étale Cohomology, 2020–2021
- Number Theory for Future Teachers, 2019–2020
- Topological Data Analysis, 2019–2020
- Quadratic Forms and Arithmetic, 2018–2019
- Brauer Groups and Galois Cohomology, 2015–2016
- Quadratic Forms, 2014–2015
- Introduction to Motivic Cohomology and Motives, 2013–2014
- Arithmetic, 2012–2013

Exercises (as teaching assistant)

- Various undergraduate and graduate courses, including Linear Algebra, Algebra, Arithmetic, Geometry, and Algebraic Geometry, 2006–2026.

Date: March 26, 2026