Olivier Haution

Personal information

Email	olivier.haution@gmail.com
Webpage	https://haution.gitlab.io
Family status	Married, 2 children (born 2017, 2019)
Languages	French, English, German, Italian

Appointments

2023–present	Associate professor, Università di Milano-Bicocca
2018–2023	Heisenberg position, LMU München
2022–2022	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
2005–2006	Tutor, École polytechnique

Education

2016	Habilitation, Mathematics, LMU München (obtained Jan. 18, 2016), "Integrality properties of algebraic cycles"
2006–2010	Ph.D., Mathematics, Université Paris 6 (obtained Feb. 9, 2010), "Steenrod operations and quadratic forms" (advisor: Nikita Karpenko)
2005–2006	Master, Mathematics, École polytechnique
2002–2005	Ingénieur Polytechnicien program, École polytechnique
2000–2002	Classes préparatoires, Lycée la Martinière Montplaisir, Lyon

Awards, Grants

2021–2033	"Abilitazione scientifica nazionale" (01/A2), prima & seconda fascia
2020–2023	DFG individual research grant "Intersection theory and cobordism with a quadratic twist", sole PI, one postdoctoral position (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, 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", June 2026, Munich

17. Conference "Motives in Mainz", Mar. 2024, Mainz

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

15. Summer school "Motives in Ratisbona", Sept. 2022, Regensburg (4-hour mini-course)

14. Workshop on birational geometry, Nov. 2020, Higher School of Economics Moscow (online)

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

12. Workshop on motivic and equivariant homotopy theory, Oct. 2017, Osnabrück

11. International Conference in K-theory, Aug. 2016, Sydney

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

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

8. Conference "(A)round forms, cycles and motives", Sept. 2014, Mainz

7. Workshop "Projective modules and A1-homotopy theory", May 2014, American Institute of Mathematics, Palo Alto

6. Workshop "Étale and motivic homotopy theory", Mar. 2014, Heidelberg

5. Spring school and workshop on Torsors, Motives and Cohomological Invariants, May 2013, Field Institute, Toronto

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

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

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

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

Research stays (longer than 2 weeks)

- 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)

Conference organization

- "Geometria in Bicocca", 2024, 2025
- "Quadratic forms and algebraic cycles", Paris, Oct. 2025
- Fifth edition of the cycle "Crossings", Milan, Nov. 2025

Supervision

- One postdoctoral researcher: Fabio Tanania (2020–2023)
- One bachelor's thesis "Nonsolvability of degree 5 equations" (2016)
- Referee for a PhD thesis at Paris 13: "Isotropy of quadratic pairs" by A. W. Medhi (2026)

Teaching

Lectures (as course responsible)

2025–2026	Mathematics for future teachers — algebra (for biology students)
2025–2026	Linear algebra and geometry (for computer science students)
2024–2025	Mathematics for future teachers — algebra (for biology students)
2024–2025	Linear algebra and geometry (for computer science students)
2023–2024	Linear algebra and geometry (for computer science students)
2023–2024	Complex geometry
2021–2022	Algebraic number theory
2021–2022	Exam preparation course in algebra for future teachers
2020–2021	Brauer groups of fields
2019–2020	Galois cohomology
2017–2018	Intersection theory
2016–2017	Homological methods in commutative algebra
2014–2015	Intersection theory
2013–2014	Local algebra

Student seminars (as course responsible)

2020–2021	Reading course on étale cohomology
2019–2020	Number theory for future teachers
2018–2019	Topological data analysis
2015–2016	Quadratic forms and arithmetic
2014–2015	Brauer groups and Galois cohomology
2013–2014	Quadratic forms
2012–2013	Introduction to motivic cohomology and motives
2012–2013	Arithmetic

Exercises

2025–2026	Geometry II
2024–2025	Geometry II
2023–2024	Geometry II
2023–2024	Linear algebra and geometry (for computer science students)
2021–2022	Algebraic number theory
2020–2021	Brauer groups of fields
2019–2020	Galois cohomology
2017–2018	Intersection theory
2017–2018	Linear algebra I
2016–2017	Homological methods in commutative algebra
2016–2017	Algebraic geometry I
2016–2017	Algebraic geometry II
2015–2016	Algebra
2015–2016	Linear algebra II
2014–2015	Intersection theory
2014–2015	Algebraic geometry I
2014–2015	Algebraic geometry II
2013–2014	Local algebra
2013–2014	Linear algebra II
2012–2013	Linear algebra I
2012–2013	Linear algebra II
2009–2010	Linear algebra II
2009–2010	Arithmetic
2008–2009	Arithmetic
2007–2008	Arithmetic
2006–2007	Quadratic forms and geometry
2006–2007	Matrices for physics/chemistry students
2005–2006	Individual tutoring, 60 hours (distributions, dynamical systems)

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