Curriculum Vitae

Lie Fu

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Personal Information

Family name: Fu
First name: Lie

Born on October 5th 1986 in Zhejiang, China.
Nationality: China

Professional Positions

- **Université de Strasbourg** — Strasbourg, France
  Professor — Sep. 2023 -
- **Université de Strasbourg** — Strasbourg, France
  USIAS research fellow — Sep. 2022 - Aug. 2024
- **Radboud University** — Nijmegen, Netherlands
  Assistant Professor — Sep. 2021 - Aug. 2022
- **Radboud University** — Nijmegen, Netherlands
  Radboud Excellence Initiative Fellow — Sep. 2019 - Aug. 2021
- **Université Claude Bernard Lyon 1** — Lyon, France
  Maître de Conférence (associate professor) — Sep. 2014 - Aug. 2019
- **Institute for Advanced Study (IAS)** — Princeton, New Jersey, USA
  Member — Sep. 2014 - Dec. 2014

Education and Diplomas

- **Université Claude Bernard Lyon 1** — Lyon, France
  Habilitation — 19 Nov. 2019
  - Dissertation: *Around hyper-Kähler varieties: motives, supersingularity and automorphisms.*
- **Sorbonne University (Paris 6)** — Paris, France
  Ph.D. Pure Mathematics — Sep. 2011 - Aug. 2014
  - Thesis: *Sub-Hodge structures, Chow rings and action of certain automorphisms.*
  - supervised by Claire Voisin, defended on 3 Oct. 2013.
- **École Normale Supérieure** — Paris, France
  Diploma of École Normale Supérieure de Paris — Sep. 2008 - Aug. 2011
- **Sorbonne University (former Paris 6)** — Paris, France
  Master (equiv. M.S.) Pure Mathematics — Sep. 2010 - Aug. 2011
  - Memoir: *Cohomological operations on Chow theory.*
  - supervised by Bruno Kahn
- **Université de Paris (former Paris 7)** — Paris, France
  Licence (equiv. B.S.) Mathematics; Maîtrise on Mathematics — Sep. 2008 - Jun. 2009

- **Peking University** Beijing, China
  Undergraduate Sep. 2005 - Aug. 2008

Research Interests

Algebraic geometry. Some key words:

- Motives, algebraic cycles, Chow rings, Bloch–Beilinson conjecture.
- Derived categories, categorical entropy, stability conditions.
- Calabi–Yau varieties, hyper-Kähler varieties (e.g. K3 surfaces).
- Moduli spaces of vector bundles and sheaves, Higgs bundles.
- Fano manifolds, e.g. cubic hypersurfaces, Gushel–Mukai varieties.
- Hodge theory, Hodge conjecture, Tate conjecture and Mumford–Tate conjecture.
- Real algebraic geometry.
- Orbifold cohomology, quantum cohomology, crepant resolution conjecture.
- Hochschild homology and cohomology.
- Bershadsky–Cecotti–Ooguri–Vafa invariants, analytic torsion.

Publications

1. S. Billi, L. Fu, A. Grossi, V. Kharlamov, *In search of maximal branes on hyper-Kähler manifolds*, preprint.
2. L. Fu, M. Porta, N. Sibilla, S. Scherotzke, *Hochschild-Kostant-Rosenberg isomorphism for derived Deligne-Mumford stacks*, preprint.
3. L. Fu, Z.Li, T. Takamatsu, H. Zou, *Finiteness of pointed families of symplectic varieties: a geometric Shafarevich conjecture*, preprint.
4. L. Fu, S. Floccari, *The Hodge conjecture for Weil fourfolds with discriminant 1 via singular OG6-varieties*, preprint.
5. L. Fu, *Twisted Hodge groups and deformation theory of Hilbert schemes of points on surfaces via Hodge modules*, preprint.
6. P. Belmans, L. Fu, A. Krug, *Hochschild cohomology of Hilbert schemes of points on surfaces*, preprint.
7. L. Fu, Y. Zhang, *A remark on the higher torsion invariants for flat vector bundles with finite holonomy*, preprint.
8. L. Fu, Z. Tian, *Motivic hyper-Kähler resolution conjecture: II. Hilbert schemes of K3 surfaces*, preprint.
9. L. Fu, Z. Li, T. Takamatsu, H. Zou, *Unpolarized Shafarevich conjectures for hyper-Kähler varieties*, **Algebraic Geometry**, to appear (scheduled in 2026).
10. L. Fu, *Maximal real varieties from moduli constructions*, **Moduli**, Volume 2 (2025), e8. DOI: 10.1112/mod.2025.4
11. L. Fu, B. Moonen, *The Tate Conjecture for even dimensional Gushel-Mukai varieties in characteristic $p \geq 5$*, **Journal of Algebraic Geometry**, 34 (2025), 233-298. DOI: 10.1090/jag/836

12. L. Fu, B. Moonen, *Algebraic cycles on Gushel–Mukai varieties*,
Épijournal de Géométrie Algébrique, (2024), special volume in honor of Claire Voisin, No. 17. DOI: 10.46298/epiga.2024.9815

13. L, Fu, C. Vial, *Cubic fourfolds, Kuznetsov components and Chow motives*,
Documenta Mathematica, 28 (2023), 827–856. DOI: 10.4171/DM/925

14. L. Fu, V. Hoskins, S. Pepin Lehalleur, *Motives of moduli spaces of bundles on curves via variation of stability and flips*,
Journal of the London Mathematical Society, (2) 108, 1–53 (2023). DOI: 10.1112/jlms.12739

15. L. Fu, Y. Zhang, *Motivic integration and the birational invariance of BCOV invariants*,
Selecta Mathematica (N.S.) volume 29, No. 25 (2023) DOI: 10.1007/s00029-023-00832-3

16. P. Belmans, L. Fu, T. Raedschelders, *Derived categories of flips and cubic hypersurfaces*,
Proceedings of the London Mathematical Society, (3) 125 no. 6, 1452–1482 (2022). DOI: 10.1112/plms.12487

17. L. Fu, R. Laterveer, *Special cubic fourfolds, K3 surfaces and the Franchetta property*,
International Mathematics Research Notices, rnac102, (2022). DOI:10.1093/imrn/rnac102

18. L. Fu, C. Li, X. Zhao, *Stability manifolds of varieties with finite Albanese morphisms,*
Transactions of the American Mathematical Society, 375 (8): 5669–5690 (2022). DOI: 10.1090/tran/8651

19. L. Fu, V. Hoskins, S. Pepin Lehalleur, *Motives of moduli spaces of rank 3 vector bundles and Higgs bundles on a curve*, Special issue *Birational geometry and moduli of projective varieties*,
Electronic Research Archive Volume 30, Issue 1: 66–89 (2022). DOI: 10.3934/era.2022004

20. L. Fu, Z. Li, H. Zou, *Supersingular O'Grady varieties of dimension six*.
International Mathematical Research Notices 2022, Issue 11, 8769–8802 (2022). DOI:10.1093/imrn/rnaa349.

21. L. Fu, R. Laterveer, C. Vial, *The generalized Franchetta conjecture for some hyper-Kähler varieties, II*
Journal de l'École polytechnique - Mathématiques, Tome 8, 1065–1097 (2021). DOI:10.5802/jep.166.

22. Y.-W. Fan, L. Fu, G. Ouchi, *Categorical polynomial entropy*.
Advances in Mathematics (2021), Volume 383, 107655, DOI: 10.1016/j.aim.2021.107655.

23. L. Fu, C. Vial, *A motivic global Torelli theorem for isogenous K3 surfaces.*
Advances in Mathematics (2021), Volume 383, 107674, DOI: 10.1016/j.aim.2021.107674.

24. L. Fu, Z. Li, *Supersingular irreducible symplectic varieties*.
Rationality of Algebraic Varieties (2021), 147–200.
Progress in Mathematics, volume 342. https://doi.org/10.1007/978-3-030-75421-1_7.

25. L. Fu, G. Menet, *On the Betti numbers of compact holomorphic symplectic orbifolds of dimension four*.
Mathematische Zeitschrift 299, 203–231 (2021). DOI:10.1007/s00209-020-02682-7.

26. L. Fu, R. Laterveer, C. Vial, *Multiplicative Chow-Künneth decompositions and varieties of cohomological K3 type*.
Annali di Matematica Pura ed Applicata 200, 2085–2126 (2021). DOI:10.1007/s10231-021-01070-0.

27. S. Floccari, L. Fu, Z. Zhang, *On the motive of O'Grady's ten-dimensional hyper-Kähler varieties*.
Communications in Contemporary Mathematics 23, No. 04, 2050034 (2021). DOI:10.1142/S0219199720500340.

28. L. Fu, C. Vial, *Distinguished cycles on varieties with motive of abelian type and the Section Property*.
Journal of Algebraic Geometry 29, 53–107 (2020). DOI: 10.1090/jag/729.

29. P. Belmans, L. Fu, and T. Raedschelders, *Hilbert squares: derived categories and deformations*. **Selecta Mathematica (N. S.)** 25, Article number: 37 (2019). DOI:10.1007/s00029-019-0482-y.

30. L. Fu, M. T. Nguyen, *Orbifold products for higher K-theory and motivic cohomology*. **Documenta Mathematica** 24, 1769–1810 (2019). DOI: 10.25537/dm.2019v24.1769-1810.

31. A. Cattaneo, L. Fu, *Finiteness of Klein actions and real structures on compact hyperkähler manifolds*. **Mathematische Annalen** 375 (3–4), 1783–1822 (2019). DOI: 10.1007/s00208-019-01876-7.

32. L. Fu, Z. Tian, *2-cycles sur les hypersurfaces cubiques de dimension 5*. **Mathematische Zeitschrift** 293, 661–676 (2019). DOI: 10.1007/s00209-018-2201-3.

33. L. Fu, Z. Tian, *Motivic multiplicative McKay correspondence for surfaces*. **Manuscripta Mathematica** (2019) 158 (3), 295–316. DOI: 10.1007/s00229-018-1026-z.

34. L. Fu, R. Laterveer, C. Vial, M. Shen, *The generalized Franchetta conjecture for some hyper-Kähler varieties*. **Journal de Mathématiques Pures et Appliquées** 130, 1–35 (2019). DOI: 10.1016/j.matpur.2019.01.018.

35. L. Fu, Z. Tian, C. Vial, *Motivic hyper-Kähler resolution conjecture: I. Generlized Kummer varieties*. **Geometry & Topology** 23-1 (2019), 427–492. DOI: 10.2140/gt.2019.23.427.

36. L. Fu, *Beauville-Voisin conjecture for generalized Kummer varieties*. **International Mathematics Research Notices** (2015), no. 12, 3878–3898. DOI: 10.1093/imrn/rnu053.

37. L. Fu, *Classification of polarized symplectic autormorphisms of Fano varieties of cubic fourfolds*. **Glasgow Mathematical Journal**, Volume 58 (2016), Issue 01, pp 17–37. DOI: 10.1017/S001708951500004X.

38. L. Fu, *On the action of symplectic automorphisms on the CH_0-groups of some hyper-Kähler fourfolds*. **Mathematische Zeitschrift**, 280 (2015), no. 1-2, 307–334. DOI: 10.1007/s00209-015-1424-9.

39. L. Fu, *Decomposition of small diagonals and Chow rings of hypersurfaces and Calabi-Yau complete intersections*. **Advances in Mathematics** (2013), pp. 894–924. DOI: 10.1016/j.aim.2013.06.008.

40. L. Fu, *On the coniveau of certain sub-Hodge structures*. **Mathematical Research Letters** 19 (2012), No. 05, pp. 1097–1116. DOI: 10.4310/MRL.2012.v19.n5.a11.

Fundings

- 2025 - 2027, *PerMoMo*, IdEx Attractivité, PI, University of Strasbourg.
- 2025 - 2026, *Cohomological and Arithmetic aspects of orbifold geometry – recent and emerging developments*, International Emerging Actions (IEA), PI, 7 K€×2
  CNRS (France)
- 2022 - , *Variétés K-triviales et K-équivalence : une perspective motivique*, PI, 152.25 K€
  USIAS, University of Strasbourg (France).
- 2024 - , *Derived algebraic geometry applied to representation theory and singularities of schemes* (DAG-ARTS), ANR-24-CE40-4098
  Financement collectif (14 persons), PI: M. Porta
  Agence Nationale de la Recherche (ANR).
- 2021 - 2025, *From Fano varieties to hyper-Kähler manifolds: geometry and derived categories* (FanoHK), ANR-20-CE40-0023.
  Collective funding (11 persons), PI : L. Manivel, 207.6K€
  Agence Nationale de la Recherche (France).

- 2016 - 2020, *Hodge theory and Fundamental groups (HodgeFun)*, ANR-16-CE40-0011.
  Collective funding (15 persons), PI: P. Eyssidieux, B. Klingler, 196.9K€
  Agence Nationale de la Recherche (France).
- 2015 - 2019, *Étude Cohomologique des Variétés Algébriques (ECOVA)*, ANR-15-CE40-0002.
  Collective funding (11 persons), PI: A. Cadoret, 166.4K€
  Agence Nationale de la Recherche (France).
- 2016, 2017, 2018, 2019, Projet Inter-Laboratoire, PI, 2K€$\times$ 4
  Fédération de Recherche en Mathématiques Rhône-Alpes/Auvergne.
- 2016, Projet Exploratoire Premier Soutien (PEPS), PI, 7.5K€
  National Institute of Mathematical Sciences and their Interactions (INSMI).
- 2014 - 2015, Bonus Qualité de Recherche, PI, 7K€
  Université Claude Bernard Lyon 1.

Awards and Honors

- Fellow of University of Strasbourg Institute for Advanced Study, 2022 - .
- Solemn prize of the chancellery of universities of Paris (Perrissin-Pirasset/Schneider) Dec. 2014.
- Second prize of Alumni Association of Zhejiang University in France, May 2014.

Invited Talks

International conferences

- 19/08/2025, *Hodge conjecture for abelian fourfolds of Weil type with discriminant 1*, closing conference of *Representations, Moduli and Duality*, Bernoulli Center at EPFL, Lausanne.
- 21/07/2025, *Hodge conjecture for abelian fourfolds of Weil type with discriminant 1*, Colloquium in Tianyuan Mathematical Center in Southeast China, Xiamen.
- 17/06/2025, *Hodge conjecture for abelian fourfolds of Weil type with discriminant 1*, ANR Fano-HK conference, Dijon.
- 18/12/2024, *Birational geometry and BCOV invariants*, Around local index theory, École Polytechnique, CMLS, Paris.
- 03/12/2024, *Twisted Hodge Numbers of Hilbert Schemes of Points on Surfaces via Hodge Modules*, Algebraic geometry in Taipei.
- 03/09/2024, *Motive of moduli spaces of vector bundles on curves*, New perspectives on hyperkähler manifolds and moduli of vector bundles, A conference in honor of Kieran O'Grady. Cetraro, Italy.
- 19/08/2024, *Motive of moduli spaces of bundles on curves*, USTC, Hefei, China.
- 12/07/2024, *Hyper-Kummer consctruction*, Oberwolfach workshop Algebraic Geometry: Wall Crossing and Moduli Spaces, Varieties and Derived Categories, Germany.
- 13/06/2024, *Birational invariance of BCOV invariants*, Workshop on algebraic and differential geometries related to Arakelov theory, Gothenburg, Sweden.
- 09/05/2024, *Categorical polynomial entropy* , Algebraic Geometry Days in Glasgow, UK.

- 07/02/2024, *Cohomologie de Hochschild et déformation de schémas d'Hilbert*, ANR Fano-HK conference, IHP, Paris.
- 22/11/2023, *Hochschild cohomology and deformation theory of Hilbert schemes of points on surfaces*, Birational Workshop Junior Trimester Program on Algebraic geometry: derived categories, Hodge theory, and Chow groups, Bonn, Germany.
- 08/08/2023, *Constructing maximal real varieties via moduli spaces*, Tianyuan International Conference in Algebraic Geometry, Kunming, China.
- 10/03/2023 *Construction des variétés réelles maximales par espaces de modules*, Workshop Cycle algébrique, périodes et motifs, IRMA, Strasbourg, France.
- 01/02/2023, *Derived equivalent K3 surfaces and their motives as algebra objects*, Workshop Hyperkahler quotients, singularities, and quivers, Simons Center for Geometry and Physics, Stony Brook, USA.
- 31/10/2022, *Real structures on hyperkähler manifolds*, Real Aspects of Geometry, on the occasion of 60th anniversary of Alex Degtyarev, CIRM, Marseille, France.
- 13/09/2022, *Unpolarized Shafarevich conjecture for hyperkähler varieties*, Hyperkähler varieties and related topics, Roma, Italy.
- 13/07/2022, *Algebraic cycles on Gushel–Mukai varieties*, Oberwolfach workshop Algebraic Geometry: Moduli Spaces, Birational Geometry and Derived Aspects, Germany.
- 1–2/06/2022, Mini-course *Orbifold products and hyper-Kähler resolution conjectures*, Geometric and Arithmetic Frontiers of Orbifolds, CIRGET, Université du Québec à Montréal, Canada, online.
- 14-18/03/2022, Mini-course *Franchetta property for K3 surfaces and hyper-Kähler varieties*, Japanese-European Symposium on Symplectic Varieties and Moduli Spaces, Bologna, Italy.
- 30/09/2021 *Multiplicative McKay correspondence for surfaces*, Representation theory's hidden motives, WWU, Münster, Germany.
- 28/05/2021 *Fano varieties, hyperkahler varieties, and the Franchetta property*, Kick-off conference of the ANR project "From Fano varieties to hyperKähler manifolds: geometry and derived categories", Laboratoire de Mathématiques de Versailles, France, online.
- 04/10/2019 *Derived categories and motives of K3 surfaces*, Algebraic Geometry and Homotopy Theory, IMAPP, Radboud University, Nijmegen, Netherlands.
- 01/08/2019 *Motives and derived categories of isogenous K3 surfaces*, Workshop on Algebraic Geometry, Fudan University, Shanghai, China.
- 03/06/2019 *A motivic global Torelli theorem for isogenous K3 surfaces*, Japanese-European Symposium on Symplectic Varieties and Moduli Spaces, ETH, Zürich, Switherland.
- 29/08/2018 *Finiteness results on automorphism groups of compact hyperkähler manifolds*, Japanese-European Symposium on Symplectic Varieties and Moduli Spaces, Tokyo University of Science, Kagurazaka, Tokyo, Japan.
- 21/08/2018 *Finiteness of real structures on compact hyperkähler manifolds*, workshop in algebraic geometry, AMSS, Chinese Academy of Sciences, Beijing, China.
- 21/08/2018 *Chow rings of cubic fivefolds*, workshop in algebraic geometry, AMSS, Chinese Academy of Sciences, Beijing, China.

- 26/07/2018 *Supersingular irreducible symplectic varieties*, Motives and Algebraic Cycles, FRIAS, Freiburg, Germany.
- 30/03/2018 *Structures réelles et groupe des automorphismes d'une variéeté hyper-kählérienne compacte*, workshop in algebraic geometry, IMB, Dijon, France.
- 24/10/2017 *Distinguished cycles on varieties whose motives are of abelian type*, Algebraic Geometry Conference (in honour of 70-th birthday of Arnaud Beauville), Morningside Center of Mathematics, Chinese Academy of Sciences, Beijing, China.
- 21/10/2017 *From K3 surfaces to hyper-Kähler varieties*, Hong Kong Colloquium of Algebraic Geometry, Hong Kong University of Science and Technology, China.
- 19/09/2017 *Generalized Franchetta conjecture for some holomorphic symplectic varieties*, Japanese-European Symposium on Symplectic Varieties and Moduli Spaces, Levico-Terme, Italy.
- 16/05/2017 *K-theoretical and motivic hyper-Kähler resolution conjecture*. K-theory in algebraic geometry and number theory, HIM, Bonn, Germany.
- 01/03/2017 *Crepant resolution conjecture in the study of algebraic cycles and motives of hyper-Kähler varieties.* Fudan young mathematicians forum, Shanghai, China.
- 20/12/2016 *Motivic hyperKähler resolution conjecture for generalized Kummer varieties.* Workshop associated to Claire Voisin's master lectures, Hyper-Kähler Manifolds, Hodge Theory and Chow Groups, TSIMF, Sanya, Chine.
- 19/09/2016 *Motivic HyperKähler Resolution Conjecture.* Derived Categories and Chow groups of hyperKähler and Calabi-Yau varieties, Simons Center for Geometry and Physics, Stony Brook, USA.
- 29/08/2016 *Symplectic resolution and explicit description of Chow rings of certain symplectic varieties.* On explicit description of holomorphic symplectic varieties, Onuma International Seminar House, Hakodate, Japan.
- 05/07/2016: *Specialization of decomposition of the diagonal (after Voisin, Colliot-Thélène and Pirutka).* Workshop Decomposition of the diagonal and stable rationality, BICMR, PKU, Beijing, China.
- 15/06/2016: *Towards Beauville's splitting principle and Motivic hyperkähler resolution conjecture for generalised Kummer varieties.* Classical algebraic geometry, Oberwolfach, Germany.
- 26/05/2016: *Zero-cycles on Calabi-Yau three-folds with algebraic fiber space structure.* Sino-French Conference in Algebraic and Arithmetic Geometry, IMB, Bordeaux, France.
- 29/10/2015: *Motivic hyper-Kähler resolution conjecture.* Japanese-European Symposium on Symplectic Varieties and Moduli Spaces, RIMS, Kyoto, Japon.
- 25/06/2015: *Motivic hyper-Kähler resolution conjecture* Rationality problems in algebraic geometry, Levico Terme, Italy.
- 11/02/2015 : *Motivic hyper-Kähler resolution conjecture.* Geometry and arithmetic of hyper-Kähler manifolds, Leibniz University, Hannover, Germany.
- 21-23/07/2014: Mini-course *Intersection theory of hyper-Kähler varieties.* Colloquium of algebraic geometry, Beijing International Centre of Mathematical Research, Beijing, China.
- 01/07/2014: *Algebraic cycles on hyper-Kähler varieties: the Beauville-Voisin conjecture.* Classical Algebraic Geometry, Oberwolfach, Germany.

- 12/06/2013: *Action of symplectic automorphisms on the 0-cycles of varieties of lines of cubic fourfolds.* Rational curves, rational points and entier holomoprhic curves on projective varieties, CRM, Montreal, Canada.
- 28/01/2013: *Decomposition of small diagonals and Chow rings of Calabi-Yau complete intersections.* Géométrie Algébrique et Géométrie Complexe (GAGC) conference, Centre International de Rencontres Mathématiques, Luminy, France.

Seminars

- 16/04/2025, *Twisted Hodge numbers of Hilbert schemes of points on surfaces and their deformation theory*, Geometry seminar, Univeristy of Pisa, Italy.
- 10/10/2024, *Hyper-Kummer construction*, URTAGS, Stuttgart, Germany.
- 25/07/2024, *Classification of vector bundles*, summer school, Westlake university, Hangzhou, China.
- 10/05/2024 *Hyper-Kummer construction*, geometry seminar, Edinburgh, UK.
- 07/05/2024 *Non-commutative methods in deformation theory of Hilbert schemes of points on surfaces.*, Algebraic Geometry seminar, Cambridge, UK.
- 19/03/2024 *Construction des variétés réelles maximales par espace des modules*, Algebraic Geometry seminar, Lille, France.
- 14/12/2023 *Sur les variétés hyperkählériennes de dimension 6*, Algebraic Geometry seminar, Paris, France.
- 20/06/2023 *Constructing maximal real varieties via moduli spaces*, Geometry seminar, Saarbruecken, Germany.
- 09/06/2023 *Bershadsky-Cecotti-Ooguri-Vafa invariants and birational geometry of Calabi-Yau manifolds*, Beijing-Saint Petersburg Mathematics Colloquium, online.
- 11/05/2023 *Constructions des variétés réelles maximales par espaces de modules*, Geometry seminar, LMJL, Nantes, France.
- 24/02/2023 *Motifs d'espaces de modules des fibrés sur une courbe*, Geometry seminar, ICJ, Lyon, France.
- 20/10/2022 *Unpolarized Shafarevich conjecture*, Algebraic and arithmetic geometry seminar, Strasbourg, France.
- 26/04/2022 *BCOV invariants for Calabi–Yau manifolds*, geometry seminar, Nijmegen, Netherlands.
- 14/04/2022 *Calabi–Yau manifolds and mirror symmetry*, IMAPP day, Nijmegen, Netherlands.
- 24/03/2022 *Birational geometry and Bershadsky-Cecotti-Ooguri-Vafa invariants*, geometry seminar, Angers, France.
- 26/11/2021 *Des courbes elliptiques aux variétés de Calabi-Yau: symétrie miroir et invariants de Bershadsky-Cecotti-Ooguri-Vafa*, Colloquium, Strasbourg, France.
- 25/11/2021 *Variétés symplectiques supersingulières*, Algebraic and arithmetic geometry seminar, Strasbourg, France.
- 14/07/2021 *Categorical dynamical systems and their entropy*, Topology seminar, Osnabrück, online.

- 08/06/2021 *Generalized Franchetta conjecture for certain families of K3 surfaces and hyper-Kähler varieties*, Derived seminar, online.
- 20/05/2021 *Motivic integration and BCOV invariants*, Algebraic Geometry seminar, Shanghai Center for Mathematical Sciences, Shanghai, online.
- 29/03/2021 *Birational invariance of BCOV invariants*, geometry seminar Institut Élie Cartan de Lorraine, Nancy, online.
- 18/03/2021 *Birational invariance of BCOV invariants*, Seminar on pure mathematics, Hong Kong University of Science and Technology, online.
- 02/12/2020 *Derived categories of flips and cubic hypersurfaces*, Algebraic Geometry seminar, Warwick University, online.
- 12/11/2020 *Derived categories of flips and cubic hypersurfaces*, seminars on geometry and arithmetic, UCSB, California, online.
- 16/06/2020 *Birational invariance of BCOV invariants*, Algebraic geometry seminar, WWU, Münster, online.
- 30/04/2020 *Derived categories of flips, cubic hypersurfaces, and Fano visitors*, Séminaire de géométrie algébrique de Jussieu, Paris, online.
- 06/02/2020 *Derived categories of flips and cubic hypersurfaces*, Algebraic geometry seminar, KdV Institute for Mathematics, University of Amsterdam, Netherlands.
- 16/12/2019 *On the motive of some hyper-Kähler varieties of O'Grady-10 type*, Geometry seminar, Università degli Studi di Roma Tor Vergata, Rome, Italy.
- 21/11/2019 *Motif des variétés hyperkählériennes et sa partie de degré 2*, Geometry Seminar, Université Côte d'Azur, Nice, France.
- 08/11/2019 *Orbifold products on motivic cohomology and hyper-Kähler resolution conjectures*, Belgian-Dutch Algebraic Geometry Seminar, University of Antwerp, Antwerp, Belgium.
- 18/04/2019 *Orbifold products and crepant resolutions*, Seminar ALPE, IMAG, Montpellier, France.
- 20/08/2018 *Hyperkähler manifolds and their motives*, Colloquium in algebraic geometry, AMSS, Chinese Academy of Sciences, Beijing, China.
- 16/08/2018 *Finiteness results on automorphism groups of compact hyperkähler manifolds*, Algebraic geometry seminar, BICMR, Beijing, China.
- 19/01/2018 *Finitude des structures réelles sur variétés hyperkählériennes compactes*, Day of Algebra, Geometry and Logic, ICJ, Saint-Étienne, France.
- 21/12/2017 *Sur la conjecture de Franchetta généralisée pour les variétés hyperkäléiriennes*, Algebraic geometry seminar, IMJ, Paris, France.
- 31/10/2017 *Chow rings of Hilbert schemes of K3 surfaces via symmetric products*, algebraic geometry seminar, SCMS, Fudan University, Shanghai, China.
- 17/10/2017 *Chow rings of crepant resolutions: the motivic version of Ruan's conjecture*, Geometry seminar, Hong Kong University of Science and Technology, China.
- 09/03/2017 *Sur les applications de la conjecture de résolution crépante à l'étude des cycles algébriques.* Arithmetic and algebraic geometry seminar, IRMA, Strasbourg, France.

- 13/01/2017 *Zéro-cycles canoniques des variétés Calabi-Yau de dimension 3 avec structures de fibration.* Geometry seminar, Institut Élie Cartan, Nancy, France.
- 10/11/2016 *L'anneau de Chow d'une résolution crépante d'une variété symplectique holomorphe.* Geometry seminar, Institut de Mathématiques de Bourgogne, Dijon, France.
- 02/06/2016: *Conjecture de résolution hyperkählérienne motivique des variétés de Kummer généralisées.* Algebraic geometry seminar, Institut de Mathématiques de Jussieu, Paris, France.
- 06/05/2016: *Conjecture de résolution hyperkählérienne motivique et décomposition multiplicative de Chow-Künneth.* Geometry and Topology seminar, LMBA, Brest, France.
- 04/04/2016: *Cycles algébriques des variétés de Kummer généralisées.* Algebraic geometry seminar, Institut Fourier, Grenoble, France.
- 21/12/2015: *Chow rings of hyperkähler varieties: the motivic hyperkähler resolution conjecture.* Seminario di Natale, Milan, Italy.
- 22/10/2015: *Théorie d'intersection des variétés hyperkählériennes et la conjecture de résolution crépante.* Arithmetic Seminar, ENS Lyon, Lyon, France.
- 17/09/2015: *L'anneaux de Chow des variétés hyperkählériennes.* Geometry Seminar, Poitiers University, Poitiers, France.
- 05/02/2015: *On the motivic hyper-Kähler resolution conjecture.* Seminar 'Geometry and Algebra', Amsterdam University, Amsterdam, Netherland.
- 08/12/2014: *Chow rings of hyperkähler varieties: Ruan's crepant resolution conjecture and Beauville's splitting principle.* Algebraic geometry seminar, Duke University, Durham, USA.
- 05/11/2014: *Crepant resolution conjecture and algebraic cycles on hyperkähler varieties.* Mathematcis Colloquium, University of Rutgers-Newark, Newark, USA.
- 04/11/2014: *Beauville's splitting principle for Chow rings of projective hyperkähler manifolds.* Seminar 'Topology of algebraic varieties', Institute for Advanced Study, Princeton, USA.
- 26/03/2014: *Algebraic cycles on hyper-Kähler varieties: the Beauville-Voisin conjecture.* Seminar 'Geometry and Algebra', Università di Roma Sapienza, Rome, Italy.
- 07/02/2014: *Cycles algébriques de variétés hyperkählériennes.* Geometry Seminar, Institut Camille Jordan, Lyon, France.
- 24/10/2013: *Action of symplectic automorphisms on the 0-cycles of varieties of lines of cubic fourfolds.* Algebraic geometry seminar, Max Planck Institute, Bonn, Germany.
- 16/10/2013: *Algebraic cycles on certain projective hyper-Kähler varieties: the Beauville-Voisin conjecture.* Seminar 'Around the algebraic cycles', Institut de Mathématiques de Jussieu, Paris, France.
- 27/05/2013: *Action des automorphismes symplectiques sur les 0-cycles des variétés des droites de cubiques de dimension 4.* Algebraic geometry seminar, Institut Fourier, Grenoble, France.
- 25/04/2013: *Action des automorphismes symplectiques sur les 0-cycles des variétés des droites de cubiques de dimension 4.* Algebraic geometry seminar, Institut de Mathématiques de Jussieu, Paris, France.
- 14/11/2012: *Autour des cycles algébriques: coniveaux de structures de Hodge et décomposition de la diagonale.* Réseau d'Étudiants en Géométrie Algébrique (RéGA), Institut Henri Poincaré, Paris, France.
- 24/03/2012: *Autour des cycles algébriques.* Séminaire MathJeunes, Université d'Orsay, Paris, France.

- 02/02/2012: *Variétés hyper-Kählériennes associées à une cubique de dimension 4. (d'apres Iliev et Ranestad).* Algebraic geometry seminar, Institut de Mathématiques de Jussieu, Paris, France.

Academic Visits

- Jul. - Aug. 2025, visit at Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China. (Invited by Zhi Jiang).
- Apr. 2025, visit at University of Pisa, Italy, (Invited by Francesco Sala).
- Jul.- Aug. 2024, visit at Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China. (Invited by Zhiyuan Li).
- Apr. - Jun. 2024, Semester program *New equivariant methods in algebraic and differential geometry*, Issac Newton Institute, Cambridge, UK.
- Jul. 2023, visit at Kyoto University, Japan. (Invited by Teppei Takamatsu).
- Jul. - Aug. 2023, visit at Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China. (Invited by Zhi Jiang).
- Nov. 2021, visit at IRMA, University of Strasbourg, France. (Invited by Robert Laterveer).
- Feb. 2020, visit at KdV Institute for Mathematics, University of Amsterdam, Netherlands. (Invited by Mingmin Shen).
- Aug. 2019, visit at Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China. (Invited by Zhi Jiang).
- Aug. 2018, visit at Academy of Mathematics and Systems Science, Chinese Academy of Sciences, Beijing, China. (Invited by Baohua Fu).
- Aug. 2018, visit at BICMR, Beijing, China. (Invited by Qizheng Yin).
- Aug. 2018, visit at Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China. (Invited by Zhiyuan Li).
- Oct. 2017, visit at Hong Kong University of Science and Technology, Hong Kong, China. (Invited by Wei-Ping Li).
- Oct. 2017, visit at Shanghai Center for Mathematical Sciences, Fudan University, Shanghai, China. (Invited by Zhi Jiang).
- May - June 2017. Hausdorff trimester program in K-theory and related fields, Hausdorff Research Institute for Mathematics, Bonn, Germany.
- Dec. 2015. Visit at Amsterdam University, Amsterdam, Netherlands. (Invited by Mingmin Shen).
- Sep - Dec 2014, Special year *Topology of Algebraic Varieties*, IAS, Princeton, USA.
- July 2014, two weeks visit at BICMR, Beijing, China. (Invited by Chenyang Xu).
- Jan. 2014, *Algebraic geometry*, trimester program at Hausdorff centre, Bonn, Germany.
- Oct. 2013, one week visit at Max Planck Institute, Bonn, Germany. (Invited by Daniel Huybrechts).

Events Organized

- Conference Une journée autour des motifs, Strasbourg, 11 September, 2025.
- Conference Current trends in Calabi–Yau moduli, Strasbourg, 10-13 June, 2025.
- Summer school Arakelov Geometry and Condensed Mathematics , Strasbourg, 19-23 May, 2025.
- Recurring regional seminar Upper-Rhine and Tributaries Algebraic Geometry Seminar. 2024 - present.
- Workshop Geometric and Arithmetic Frontiers of Orbifolds II: Arithmetic and hyperbolicity, IRMA, Strasbourg, France, June 5-9, 2023.
- Workshop Fano varieties, hyper-Kähler varieties, and algebraic cycles, IRMA, Strasbourg, France, 9-11 January, 2023.
- Conference Algebraic Geometry, in honor of Claire Voisin, Institut Henri Poincaré, 16-22 May, 2022.
- Intercity Geometry Seminar. *Perverse filtrations, Hilbert schemes, and the $P = W$ conjecture for parabolic Higgs bundles*, Netherlands, 2020.
- Sino-French conference in algebraic and complex geometry, Institut Camille Jordan, Lyon, France, 23-27 April 2018.
- Workshop *Cubic fourfolds, hyper-Kähler varieties and algebraic cycles*, Institut Camille Jordan, Lyon, France, 11-12 October 2016.

Responsibilities and Services

- 2024 - present, in charge of Master 1 Mathématiques Fondamentales. Univ. Strasbourg.
- 2023 - present, Head of the research team *Arithmetic and Algebraic Geometry*, IRMA, Univ. Strasbourg.
- 2023 - present, Scientific Council of the institute, IRMA, Univ. Strasbourg.
- 2023 - present, Organizer of Upper-Rhine and Tributaries Algebraic Geometry Seminar.
- 2026, Jury of thesis defence of Dion Leijnse, Amsterdam, Netherlands.
- 2023 - 2025, Organizer of Seminar *Arithmetic and Algebraic Geometry*, Strasbourg.
- 2025, Hiring committee for professor, IRMA, Strasbourg, France.
- 2023, Jury of thesis defence of Ivan Rosas Soto, Dijon, France.
- 2022, Jury of thesis defence of Pablo Magni, Nijmegen, Netherlands.
- 2021, Hiring committee of maître de conférence, Orsay, France.
- 2021, Jury of thesis defence of Salvatore Floccari, Nijmegen, Netherlands.
- 2020, Jury of thesis defence of Renjie Lyu, Amsterdam, Netherlands.
- 2019, Jury of thesis defence of Valeria Bertini, Roma, Italy.
- 2019, Hiring committee of maître de conférence, Nancy, France.
- 2018 - 2019, Organizer of Geometry seminar of the Institut Camille Jordan, Lyon, France.
- 2017, Hiring committee of maître de conférence, Poitiers, France.
- 2016 - 2019, Scientific council of the Institut Camille Jordan, Lyon, France.

- Nov. 2012 - July 2014, *Séminaire MathJeunes*, École Normale Supérieure, Paris, France.

Supervisions

Post-doc

- Nov. 2017 - Mar. 2019, Andrea Cattaneo.

PhD

- Defended 2022. Lin Zhou (cosupervised by Zhiyu Tian).
- Defended 2023. Pablo Magni (cosupervised by Ben Moonen and Lenny Taelman).
- Defended 2025. Yiran Cheng (cosupervised by Zhiyuan Li).
- 2024 -. Christopher Nicol.
- 2025 - . Lucas Toury (cosupervised by Dragoş Frăţilă).

Master

- 2024, Christopher Nicol, *Finite-dimensional motives*, master thesis (M2).
- 2022, Jelmer Hinssen, *On the topology of real loci*, master thesis, Radboud University.
- 2020, Dirk van Bree, *Stability and moduli spaces*, master thesis (cosupervised by B. Moonen), Radboud University.
- 2019, Redero Guillaume, $K(G,1)$ *et groupe (co)homologie*, mémoire de M1G, Université Lyon 1.
- 2011 - 2012, Gaspard Fougea and Romain Gourvil, *Théorème de syzygie*, mémoire, ENS Paris.

Undergraduate (recent)

- 2025, Lucas Rohr, *Théorème de point fixe*, Mémoire L3, Université de Strasbourg.
- 2025, Camille Bagheriche. *Anneaux Borroméens*, Mémoire L3, Université de Strasbourg.
- 2024, Tom Eygonnet. *Groupe libre, théorème de Nielsen–Schreier*. Mémoire L3, Université de Strasbourg.
- 2024, Michaël Kong Chan. *Caractéristique d'Euler*. Mémoire L3, Université de Strasbourg.

Teaching Experience

- **Université de Strasbourg** (2025/2026)
  - Topology (L3)
  - Algebra S6 + TD (L3)
  - Algebra (M1)
- **Université de Strasbourg** (2024/2025)
  - Topology (L3)
  - Algebra S6 (L3)
  - Geometry (L3)

  - Algebra (M1)

- **Université de Strasbourg** (2023/2024)
  - Homological algebra and sheaves (M2)
  - Topology (L3)
  - Geometry, TD (L2)
- **Radboud University** (2021/2022)
  - Category theory and homological algebra (Master course)
- **École Normale Supérieure de Lyon** (2016 - 2019)
  - Algebraic Geometry (Master course) $\times 3$.
- **Université Claude Bernard Lyon 1** (2018/2019)
  - Algebraic Topology (Master 1).
  - Exercise courses in Commutative Rings and Fields (Master 1).
  - Exercise courses in Linear Algebra (L2).
- **Université Claude Bernard Lyon 1** (2017/2018)
  - Exercise courses in Classical Groups and Geometry (Master 1).
  - Algebra and Geometry (Year 3 khôlles).
- **Université Claude Bernard Lyon 1** (2016/2017)
  - Exercise courses in Fundamentals of Mathematics (L1).
  - Exercise courses in Classical Groups and Geometry (Master 1).
  - First year mathematics for Cursus Prépa (Khôlles).
- **Université Claude Bernard Lyon 1** (2015/2016)
  - Exercise courses in Classical Groups and Geometry (Master 1).
  - Exercise courses in Algebraic Topology (Master 1).
  - First year mathematics for Cursus Prépa (Khôlles).
  - Second year mathematics for Cursus Prépa (Khôlles).
- **Université Claude Bernard Lyon 1** (2014/2015)
  - Personal advisor for initiative work.
  - Exercise courses in Algebra II (Cursus Prépa).
  - Second year mathematics for Cursus Prépa (Khôlles).
  - Exercise courses in Algebra IV.
  - Exercise courses in Geometry.
- **École Normale Supérieure de Paris** (2011-2014)
  - Exercise courses in Algebraic Topology
  - Tutorial for international students in mathematics

  - Magistère defense (2013/2014)

Outreach activities

- 19/03/2025, *The never-ending mystery of π*. π-day public lecture for high school students, European School of Strasbourg.
- 15/03/2024, *Sum of squares*. π-day public lecture for high school students, European School of Strasbourg.
- 30/06/2023, Short internship with high school students from competition "Rallye Mathématiques d'Alsace".
- 14 & 16/03/2023, *Breaking numbers*. π-day public lecture for high school students, European School of Strasbourg.

Language Skills

Chinese (native speaker), English (fluent), French (fluent).

Last updated: September 25, 2025