

Lie Fu

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Personal Information

Family name: Fu
First name: Lie
Married, two children

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

Professional Positions

- **Radboud University** Nijmegen, Netherlands
Assistant Professor Sep. 2021 - now
- **Radboud University** Nijmegen, Netherlands
Radboud Excellence Initiative Fellow Sep. 2019 - Aug. 2021
- **Université Claude Bernard Lyon 1 (on leave since 2019)** Lyon, France
Maître de Conférence (tenured A.P.) Sep. 2014 - now
- **Institute for Advanced Study** Princeton, New Jersey, USA
Membership 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
– *Dissertation:* Sub-Hodge structures, Chow rings and action of certain automorphisms.
– *Advisor:* Claire Voisin
– Thesis defense 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
– *Dissertation:* Cohomological operations on Chow theory.
– *Advisor:* 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 student Sep. 2005 - Aug. 2008

Research Interests

Algebraic geometry, arithmetic geometry and analytic geometry. Some key words:

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

Publications

1. L. Fu, Y. Zhang, *A remark on the higher torsion invariants for flat vector bundles with finite holonomy*, preprint 2022.
2. L. Fu, Z. Li, T. Takamatsu, H. Zou, *Unpolarized Shafarevich conjectures for hyper-Kähler varieties*, preprint 2022.
3. L. Fu, R. Laterveer, *Special cubic fourfolds, K3 surfaces and the Franchetta property*, preprint 2021.
4. L. Fu, V. Hoskins, S. Pepin Lehalleur, *Motives of moduli spaces of bundles on curves via variation of stability and flips*, preprint 2020.
5. L. Fu, C. Vial, *Cubic fourfolds, Kuznetsov components and Chow motives*, preprint 2020.
6. L. Fu, Y. Zhang, *Motivic integration and the birational invariance of BCOV invariants*, preprint 2020.
7. P. Belmans, L. Fu, T. Raedschelders, *Derived categories of flips and cubic hypersurfaces*, preprint 2020.
8. L. Fu, Z. Tian, *Motivic hyper-Kähler resolution conjecture: II. Hilbert schemes of K3 surfaces*, preprint 2019.
9. L. Fu, C. Li, X. Zhao, *Stability manifolds of varieties with finite Albanese morphisms*, **Transactions of the American Mathematical Society**, to appear (2022).
10. 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) <https://doi.org/10.3934/era.2022004>
11. 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.
12. Y.-W. Fan, L. Fu, G. Ouchi, *Categorical polynomial entropy*. **Advances in Mathematics** (2021), Volume 383, 107655, DOI: 10.1016/j.aim.2021.107655.
13. 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.
14. L. Fu, Z. Li, H. Zou, *Supersingular O'Grady varieties of dimension six*. **International Mathematical Research Notices** (2021) rnaa349. DOI:10.1093/imrn/rnaa349.

15. L. Fu, Z. Li, *Supersingular irreducible symplectic varieties*. Rationality of Algebraic Varieties (2021), **Progress in Mathematics**, volume 342, 147–200. https://doi.org/10.1007/978-3-030-75421-1_7.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. L. Fu, Z. Tian, *Motivic multiplicative McKay correspondence for surfaces*. **Manuscripta Mathematica** (2019) 158 (3), 295–316. DOI: 10.1007/s00229-018-1026-z.
25. 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.
26. L. Fu, Z. Tian, C. Vial, *Motivic hyper-Kähler resolution conjecture: I. Generalized Kummer varieties*. **Geometry & Topology** 23-1 (2019), 427–492. DOI: 10.2140/gt.2019.23.427.
27. L. Fu, *Beauville-Voisin conjecture for generalized Kummer varieties*. **International Mathematics Research Notices** (2015), no. 12, 3878–3898. DOI: 10.1093/imrn/rnu053.
28. L. Fu, *Classification of polarized symplectic automorphisms of Fano varieties of cubic fourfolds*. **Glasgow Mathematical Journal**, Volume 58 (2016), Issue 01, pp 17–37. DOI: 10.1017/S001708951500004X.
29. 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.
30. 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.
31. 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

- 2021 - 2025, *From Fano varieties to hyper-Kähler manifolds: geometry and derived categories (FanoHK)*, ANR-20-CE40-0023.
Collective funding (11 persons), 207.6K€
Agence Nationale de la Recherche (France).
- 2016 - 2020, *Hodge theory and Fundamental groups (HodgeFun)*, ANR-16-CE40-0011.
Collective funding (15 persons), 196.9K€
Agence Nationale de la Recherche (France).
- 2015 - 2019, *Étude Cohomologique des Variétés Algébriques (ECOVA)*, ANR-15-CE40-0002.
Collective funding (11 persons), 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

- 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 and workshops

- 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 hyperkahler 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 variété 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 and colloquiums

- 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 hyperkählériennes*, 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*. Mathematicis 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: coniveau 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'après Iliev et Ranestad)*. Algebraic geometry seminar, Institut de Mathématiques de Jussieu, Paris, France.

Academic Visits

- 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 *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.
- Research seminars
 - Grothendieck-Katz conjecture, ICJ, Lyon, 2018-2019.
 - Lawson homology, ICJ, Lyon, 2 - 6 July, 2018.
 - Perverse sheaves, ICJ, Lyon, 24 - 28 July, 2017.
 - Non-commutative motives, HIM, Bonn, May - June 2017.
 - Bloch's lectures on algebraic cycles, ICJ, Lyon, 2016 - 2017.
 - Suslin conjecture (after Merkurjev), ICJ - ENS, Lyon, 2016.

Responsibilities and Services

- Referee for journal articles, in average > 4 full reports per year.
- 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

- expected 2022. Lin Zhou (cosupervised by Zhiyu Tian).
- expected 2023. Pablo Magni (cosupervised by Ben Moonen and Lenny Taelman).
- 2021- . Yiran Cheng (cosupervised by Zhiyuan Li).

Master

- 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

- 2015, Jef Bussiere. *Théorème fondamental d'algèbre via groupes fondamentaux*. Travail d'Initiative Personnelle Encadré (TIPE). Université Lyon 1.

Teaching Experience

- **Radboud University** Nijmegen, Netherlands
Assistant Professor 2021/2022
– Category theory and homological algebra (Master)
- **Université Claude Bernard Lyon 1** Lyon, France
Maître de Conférence 2018/2019
– Algebraic Topology (Master 1).
– Algebraic Geometry (Master 1 at **École Normale Supérieure de Lyon**).
– Exercise courses in Commutative Rings and Fields (Master 1).
– Exercise courses in Linear Algebra (L2).
- **Université Claude Bernard Lyon 1** Lyon, France
Maître de Conférence 2017/2018
– Exercise courses in Classical Groups and Geometry (Master 1).
– Algebraic Geometry (Master 1 at **École Normale Supérieure de Lyon**).
– Algebra and Geometry (Year 3 khôlles).
- **Université Claude Bernard Lyon 1** Lyon, France
Maître de Conférence 2016/2017
– Exercise courses in Fundamentals of Mathematics (L1).

- Exercise courses in Classical Groups and Geometry (Master 1).
- Algebraic Geometry (Master 1 at **École Normale Supérieure de Lyon**).
- First year mathematics for Cursus Prépa (Khôlles).
- **Université Claude Bernard Lyon 1** Lyon, France
Maître de Conférence 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** Lyon, France
Maître de Conférence 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** Paris, France
Teaching Assistant; Moniteur Sep. 2011 - Aug. 2014
 - Exercise courses in Algebraic Topology
 - Tutorial for international students in mathematics
 - In charge of the Magistère defense (2013 - 2014)

Language Skills

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