Curriculum Vitae
Yichao TIAN

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Personal Details:

Date of birth: May 31, 1983
Place of birth: Sichuan, China
Nationality: Chinese
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Research Topics:

Arithmetic algebraic geometry: p-adic geometry of Shimura varieties and arithmetic applications, p-adic modular forms, Beilinson–Bloch–Kato conjecture, special values of L-functions, p-adic Hodge theory.

Education

- Ph.D. in Mathematics, Institut Galilée, Université Paris 13, Villetaneuse, France, September 2005-June 2008
  Thesis title: "*Sous-groupes canoniques et monodromie p-adique des groupes de Barsotti-Tate*"
  Thesis advisor: Prof. Ahmed Abbes
  Defense date: November 19, 2007
- Master of Mathematics, Université Paris-sud 11, Orsay, France, September 2004-June 2005
- Bachelor of Fundamental Sciences, Tsinghua University, Beijing, China, September 2000-June 2004.

Professional Experience

- June 2011–present, Academy of Mathematics and Systems Science, Professor, Chinese Academy of Sciences, China
- July 2011-September 2015, 2021–present, Professor, Morningside Center of Mathematics, Chinese Academy of Sciences, Beijing, China
- September 2018–2021, Professor, University of Strasbourg, France.
- October 2015-August 2018, Bonn Junior Fellow, W2-level Professor, University of Bonn, Germany.
- September 2008-June 2011, Veblen Research Instructor, Princeton University and Institute for Advanced Study, Princeton, USA.

Honors and Awards:

- 2025 Alexanderson Award
- 2024 Tan Kah Kee Young Scientist Award
- 2022 Chinese Academy of Sciences Young Scientist Award

Publications and Preprints

1. Survey on bounding Selmer groups for Rankin–Selberg motives, (with Yifeng Liu, Liang Xiao, Wei Zhang and Xinwen Zhu), arXiv:2509.16881.
2. A prismatic-étale comparison theorem in the semistable case, arXiv:2507.08451.
3. Iwasawa's main conjecture for Rankin–Selberg motives in the anticyclotomic case, (with Yifeng Liu and Liang Xiao), arXiv:2406.00624.
4. Deformations of rigid conjugate self-dual Galois representations, (with Yifeng Liu, Liang Xiao, Wei Zhang, Xinwen Zhu), *Acta Math. Sinica, English Ser.*, 40(7), 1599-1644 (2024).
5. Finiteness and duality for the cohomology of prismatic crystals, *J. Reine und Ang. Math.* (Crelle's Journal), Vol. 2023, no. **800**, (2023), pp. 217-257.
6. On the Beilinson-Bloch-Kato conjecture for Rankin-Selberg motives, (with Yifeng Liu, Liang Xiao, Wei Zhang, Xinwen Zhu), *Invent. Math.*, Vol. **228**, 107-375 (2022).
7. Supersingular locus of Hilbert modular varieties, arithmetic level raising, and Selmer groups (with Yifeng Liu), *Algebra and Number Theory*, Vol. **14** (2020), No. 8, 2059–2119.
8. Tate cycles on some quaternionic Shimura varieties (with Liang Xiao), *Duke Math. Journal,* Vol. **168**, No. 9 (2019), 1551-1639.
9. Tate cycles on some unitary Shimura varieties mod p (with David Helm and Liang Xiao), *Algebra and Number Theory*, **11** (2017), 2213-2288.
10. On Goren-Oort stratification for quaternionic Shimura varieties (with Liang Xiao), *Compositio Math.*, Vol. **152** (2016), 2134-2220.
11. p-adic cohomology and classicality of overconvergent Hilbert modular forms, (with Liang Xiao), Astérisques **382** (2016), 73-162.
12. Modularity lifting theorem in parallel weight one and applications to the Artin conjecture: the tamely ramified case, (with Payman Kassaei and Shu Sasaki), *Forum of Math. Sigma*, Vol. **2**, 2014, e 18, p.58.
13. Classicality of overconvergent Hilbert eigenforms: Case of quadratic residue degree, *Rendiconti del Seminario Matematico della Università di Padova*, Vol. **132**, 2014, 133-229.
14. An upper bound on the Abbes-Saito filtration of finite group schemes and applications, *Algebra and Number Theory*, Vol. **6**, No. 2 (2011), 231-242.
15. p-adic monodromy of the universal deformation of a HW-cyclic Barsotti-Tate group, *Documenta Math.* **14** (2009), 397-440.
16. Canonical subgroups of Barsotti-Tate groups, *Annals of Math.*, **172** No.2 (2010), 955-988.

Teaching

- *Selected topics in Arithmetic Geometry: crystalline cohomology and prismatic cohomology*, Chinese Academy of Sciences, China, 2025
- *Advanced Algebraic Number Theory: Class Field Theory*, Chinese Academy of Sciences, China, 2024
- *Introduction to Shimura varieties*, Chinese Academy of Sciences, China, 2023
- *Tutorial for the course Ordinary Differential Equations*, University of Strasbourg, France, 2021
- *Tutorial for the course Number Theory*, University of Strasbourg, France, 2020-2021
- *Linear Algebra II* at University of Strasbourg, France, 2018-2021
- M1 course, *Algebraic Number Theory*, University of Bonn, winter 2017, Bonn, Germany.
- Seminar for M2 students, *Galois representations and modular forms*, summer 2017, Bonn, Germany.
- M1 and M2 course, *Introduction to arithmetic of Elliptic Curves*, University of Bonn, winter 2016, Bonn, Germany.
- M1 and M2 course, *Introduction to rigid geometry*, University of Bonn, summer 2016, Bonn, Germany.
- M1 course, *Introduction to Intersection Theory*, University of Bonn, summer 2015, Bonn, Germany.
- L3 and M1 course, *Algebraic Number Theory*, Tsinghua University, Spring 2014, Beijing, China.
- Summer school course, *Basic Number Theory*, Tsinghua University, July-August 2011, Beijing, China.
- L1 course, *Advanced Linear Algebra*, Spring 2011, Princeton University, USA.
- L1 course, *Linear Algebra*, Spring and Fall 2010, Princeton University, USA.
- L1 course, *Multi-variable Calculus*, Fall 2009, Princeton University, USA.
- Tutorial for M1 course, *Galois Theory*, September 2006-June 2007, Université Paris-13, France
- Tutorial for *Linear Algebra*, September 2005-June 2006, Université Paris-13, France