

# YIFEI ZHAO

## CURRICULUM VITÆ

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### Personal Information

PLACE AND DATE OF BIRTH: Suzhou, China | January 19, 1993  
CITIZENSHIP: Chinese  
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ADDRESS: Westfälische Wilhelms-Universität Münster  
Mathematics Münster  
Einsteinstrasse 62  
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### Academic Position

PRESENT Postdoctoral researcher  
**Universität Münster**, Münster  
Mentor: Eugen Hellmann  
2020-2021 Postdoctoral researcher  
**Université Paris-Sud**, Orsay  
Mentor: Kęstutis Česnavičius

### Education

MAY 2020 Ph.D. in MATHEMATICS  
**Harvard University**, Cambridge, MA  
Advisor: Dennis Gaitsgory  
JUNE 2015 B.A. in MATHEMATICS, SUMMA CUM LAUDE  
Junior Phi Beta Kappa (= 2% of graduating class)  
**Columbia University**, New York, NY  
Advisor: Aise Johan de Jong

### Papers and Preprints

1. Zhao, Yifei. *Metaplectic group schemes*. Submitted. arXiv:2204.00610
2. Zhao, Yifei. *Tannakian duality over a general base*. Submitted. arXiv:2107.12472
3. Zhao, Yifei. *Tame twistings and  $\Theta$ -data*. Submitted. arXiv:2004.09671
4. Zhao, Yifei. *Quantum parameters of the geometric Langlands theory*. Submitted. arXiv:1708.05108
5. Zhao, Yifei.  *$p$ -torsion étale sheaves on the Jacobian of a curve*. Journal of Algebra **592** (2022): 64-99. arXiv:1909.12462.
6. Tao, James, and Yifei Zhao. *Central extensions by  $\mathbf{K}_2$  and factorization line bundles*. Mathematische Annalen (2021): 1-37. arXiv:1901.08760.

7. Zhao, Yifei. *Maximally Frobenius-destabilized vector bundles over smooth algebraic curves*. International Journal of Mathematics **28.02** (2017): 1750003. arXiv:1408.5117
8. McNamara, Jacob, and Yifei Zhao. *Limiting behavior of Donaldson's heat flow on non-Kähler surfaces*. Preprint. arXiv:1403.8037
9. Adler, Jeffrey D., Michael Cassel, Joshua M. Lansky, Emma Morgan, and Yifei Zhao. *Lifting representations of finite reductive groups: a character relation*. Involve, a Journal of Mathematics **9.5** (2016): 805-812. arXiv:1205.6448

## Awards

- The John Dash Van Buren, Jr. Prize in Mathematics, Columbia University, 2015
- The Professor Van Amringe Mathematics Prize, Columbia University, 2014
- —, Columbia University, 2013
- —, Columbia University, 2012

## Invited Talks

### Research

- *What is a metaplectic group?* Gästseminar, Bergische Universität Wuppertal, Wuppertal, 2022
- *Étale metaplectic parameters*, Mittagsseminar, Universität Münster, Münster, 2021
- *Étale metaplectic parameters*, Journée de rentrée, Université Paris-Saclay, Orsay, 2021
- *Revisiting the Frenkel–Gaitsgory–Vilonen vanishing conjecture*, Séminaire groupes réductifs et formes automorphes, Institut de Mathématiques de Jussieu, Paris, 2020
- *Some questions about Langlands duality for  $p$ -torsion sheaves*, Representation theory, University of Massachusetts, Amherst, MA, 2019
- *A relation between K-theory and factorization structures*, Conference on vertex algebras, factorization algebras and applications, Kavli IPMU, Tokyo, 2018

### Workshops

- *Deformation theory of animated rings*, Workshop on Higher Algebra, Technische Universität Darmstadt, 2022
- *Drinfeld's construction of Hecke eigensheaves for  $GL_2$* , Réseau des Étudiants en Géométrie Algébrique, Institut Henri Poincaré, Paris, 2020
- *Local and global compatibilities of Jacquet functors*, Winter school on local geometric Langlands theory, Université Paris Diderot, Paris, 2018
- *Quantum parameters of the geometric Langlands theory*, Winter school on local geometric Langlands theory, Université Paris Diderot, Paris, 2018
- *Cayley–Hamilton theorem and Eichler–Shimura relations*, Global Langlands correspondence, AIM, San Jose, CA, 2016

## Seminars

### Organized

- *Quantization of the Hitchin integrable system*, Harvard University, 2017
- *Ind-coherent sheaves*, Harvard University, 2016

### Talks

- *Cup product and Yoneda product in Hochschild cohomology*, Oberseminar, Universität Münster, 2021
- *The geometric Satake equivalence*, Cohomology and Singularity, Université Paris-Saclay, 2021
- *An overview of the geometric Langlands program*, Cohomology and Singularity, Université Paris-Saclay, 2020
- *Overview*, Singular support in the geometric Langlands theory, Harvard University, 2017
- *The Pfaffian line bundles*, Quantization of the Hitchin integrable system, Harvard University, 2017
- *What is the Hecke eigenproblem?*, Quantization of the Hitchin integrable system, Harvard University, 2017
- *A crash course on  $\infty$ -categories*, Ind-coherent sheaves, Harvard University, 2016
- *Lie theory in formal geometry*, Ind-coherent sheaves, Harvard University, 2016
- *Grothendieck's specialization theorem*, Étale fundamental group, Harvard University, 2017
- *The Bondal–Orlov reconstruction theorem*, Derived category of coherent sheaves, Harvard University, 2017
- *Serre's GAGA theorems*, Algebraic geometry seminar, Columbia University, 2014

## Teaching Experience

### Harvard University:

#### *Instructor*

- Fall 2019 MATH 99 Étale cohomology
- Fall 2018 MATH 21A Multivariable calculus
- Fall 2016 MATH 21A Multivariable calculus

#### *Teaching Assistant*

- Fall 2017 MATH 25A Honors linear algebra and real analysis I

### Columbia University

#### *Teaching Assistant*

- Fall 2015 V2500 Analysis and optimization
- Spring 2014 V2020 Honors linear algebra
- Fall 2013 W3007 Complex variables
- Spring 2013 W4062 Introduction to modern analysis II
- Spring 2012 W1101 Calculus I

## Languages

ENGLISH: Fluent  
FRENCH: Intermediate  
MANDARIN: Fluent  
SPANISH: Intermediate

## Reference

Dennis Gaitsgory Professor of MATHEMATICS  
Harvard University  
gaitsgde@math.harvard.edu