

## YIDI WANG

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CONTACT INFORMATION	Department of Mathematics David Rittenhouse Lab 3N4A University of Pennsylvania 209 South 33rd Street Philadelphia, PA, 19104, U.S.A.  yidiwang@math.upenn.edu <a href="https://ywang-math.github.io">https://ywang-math.github.io</a>	
RESEARCH INTERESTS	Algebra, Algebraic Geometry, Arithmetic Geometry, Algebraic Number Theory, Differential Galois Theory, Invariant Theory, Representation Theory of Algebraic Groups.	
EDUCATION	<b>University of Pennsylvania</b> , Philadelphia, Pennsylvania, U.S.A. Ph.D. Candidate in Mathematics, Graduate School of Art and Science, 2024. <ul style="list-style-type: none"><li>• Advisor: Julia Hartmann</li><li>• Thesis: The local aspects and the local-global principles of algebraic objects</li><li>• Benjamin Franklin Fellowship</li><li>• Passed Ph.D. Qualifying Examination on May 7th, 2020.</li></ul> <b>University of California, Berkeley</b> , Berkeley, California, U.S.A. B.A. in Mathematics, May 2018 <ul style="list-style-type: none"><li>• Honors in Mathematics</li></ul>	
PUBLICATIONS AND PROJECTS	<ol style="list-style-type: none"><li>4. A local-global principle for differential torsors.</li><li>3. A cohomology theory for Picard-Vessiot extensions. Joint work with Man Cheung Tsui. Preprint in preparation.</li><li>2. Generalized period-index problem over hensel semi-global fields. Preprint in preparation: 21 pages</li><li>1. Arithmetic invariant theory of reductive groups. 17 pages, submitted. Preprint available at <a href="https://arxiv.org/abs/2212.12863">arXiv:2212.12863</a></li></ol>	
RESEARCH TALKS	May 2023	Local-global principles over hensel semi-global fields and the applications to the generalized period-index problem, <i>Arithmetic Geometry and Algebraic Groups Conference, University of Virginia</i>
	Feb 2023	Patching, local-global principles, and their application to the generalized period-index problem, <i>Algebra seminar, University of Pennsylvania</i>
	Nov 2022	Local-global principles over hensel semi-global fields and their applications to the generalized period-index problem, <i>Algebra seminar, Florida State University</i>
	Feb 2022	Linearly reductive group schemes over rings, <i>Algebra seminar, University of Pennsylvania</i>
EXPOSITORY TALKS	Apr 2023	Group theory in Rubik's cubes, <i>Penn Undergraduate Math Society, talk series.</i>

TEACHING AND MENTORING	DIRECT READING PROGRAM, <i>University of Pennsylvania</i>		
	Spring	2023	Mentor, topic: étale cohomology
	Spring	2022	Mentor, topic: Elliptic curves
TEACHING, <i>University of Pennsylvania</i>			
	Spring	2023	Teaching Assistant, Math 3140, Advanced Linear Algebra
	Spring	2020	Teaching Assistant, Math 312, Linear Algebra
	Fall	2020	Teaching Assistant, Math 104, Calculus II
	Spring	2020	Teaching Assistant, Math 313, Computational Linear Algebra
	Fall	2019	Teaching Assistant, Math 240, Calculus III: Linear Algebra and Differential Equations
TEACHING, <i>University of California, Berkeley</i>			
	Spring	2017	Adjunct Instructor, Math 16B, Calculus II for Social Science and Environmental Science, Student Learning Center
HONORS AND AWARDS	2023	CTL Teaching Certificate Center for Teaching and Learning, University of Pennsylvania	
	2018	Benjamin Franklin Fellowship Graduate School of Arts and Science, University of Pennsylvania.	
	2018	Honors in Mathematics University of California, Berkeley	
CONFERENCE AND WORKSHOP	Jun	2023	Mathematical Research Community: Explicit Computations with Stacks, American Mathematical Society
	May	2023	Arithmetic Geometry and Algebraic Groups Conference, University of Virginia
	Mar	2023	Arizona Winter School: Unlikely Intersections
	Jan	2023	Joint Mathematics Meeting, Boston
	May	2022	GTA Philadelphia 2022: Graduate student conference at Temple University in algebra, geometry and topology
	Jul	2020	ALGAR 2020: valuations, quadratic forms and definability, University of Antwerp, online
	Jun	2020	Chicago Number Theory Day, online
RELEVANT SKILLS	Languages:	English, Mandarin Chinese, Japanese	
	Skills:	Latex, Mathematica, MatLab, Python, Java	