

Joseph M. STAHL

PERSONAL DATA

PLACE/DATE OF BIRTH: United States of America | 02 December 1992
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EDUCATION

Began Studies: AUG 2016 PhD Candidate in MATHEMATICS at **UC Berkeley**, Berkeley, CA
Passed Qualls: 23 AUG 2018 Advisor: Martin OLSSON
AUG 2015 - JUL 2016 Fulbright Scholar at **University of Bonn**, Germany
Graduated: MAY 2015 B.A. in MATHEMATICS, **Boston University**, Boston, MA
Major: Mathematics | Minor: German
Thesis: The Néron-Ogg-Shafarevich Criterion | Advisor: Robert POLLACK
GPA: 3.91/4.0 | [Detailed List of Courses](#)
Graduated: JUNE 2011 High School Diploma, **Oley Valley High School**, Oley, PA
GPA: 4.0/4.0 | *Salutatorian*

RESEARCH

Publications

- AUG 2019 | **“Examples of Eilenberg–MacLane spectra that may be realized as Thom spectra”**
PUBLICATION | *In preparation*
Joint with David Mehrle
- NOV 2014 | **“Newman’s Conjecture in Function Fields”**
PUBLICATION | *Journal of Number Theory 157, 2015; arXiv submission available [here](#)*
Joint with Alan Chang, David Mehrle, Steven Miller, Tomer Reiter, and Dylan Yott during the SMALL REU
- NOV 2014 | **“Elliptic Curves of Moderate Rank over Number Fields”**
PUBLICATION | *arXiv submission available [here](#)*
Joint with David Mehrle, Steven Miller, Tomer Reiter, and Dylan Yott during the SMALL REU

Presentations

- APR 2019 | **“Thom spectra and topological Hochschild homology”**
BERKELEY NUMBER THEORY SEMINAR
- MAR 2019 | **“Topological Hochschild homology of \mathbb{Z} and \mathcal{O}_K as Thom spectra”**
ARIZONA WINTER SCHOOL PROJECT PRESENTATION
- NOV 2018 | **“Extracting a sheaf of Dieudonné Algebras from $A\Omega$ ”**
BERKELEY NUMBER THEORY SEMINAR
- NOV 2018 | **“Basics of Derived Algebraic Geometry”**
SEMINAR ON TOPOLOGICAL HOCHSCHILD HOMOLOGY
- NOV 2018 | **“Derived Algebraic Geometry Motivation: Intersection Theory and Stacks”**
SEMINAR ON TOPOLOGICAL HOCHSCHILD HOMOLOGY
- OCT 2018 | **“Calculation of the Saturated de Rham-Witt Complex in the Case of a Cusp”**
BERKELEY NUMBER THEORY SEMINAR
- OCT 2018 | **“Construction of the Saturated de Rham-Witt Complex and Comparison with Witt Vectors and the de Rham Complex”**
BERKELEY NUMBER THEORY SEMINAR
- APRIL 2018 | **“Topological Hochschild Homology and p -adic Hodge Theory”**
BERKELEY STUDENT ARITHMETIC GEOMETRY THEORY SEMINAR
- JAN 2018 | **“Deformation Theory of Galois Representations”**
BERKELEY NUMBER THEORY SEMINAR

- OCT 2017 | **“Homotopy Theory in Arithmetic Geometry: Cyclic Presheaves”**
BERKELEY STUDENT ARITHMETIC GEOMETRY THEORY SEMINAR
- MAY 2017 | **“Algebraic Solutions to Differential Equations”**
BERKELEY STUDENT ARITHMETIC GEOMETRY THEORY SEMINAR
- APR 2017 | **“The de Rham specialization of $R\Gamma_{A_{\text{inf}}}(X)$ ”**
BERKELEY NUMBER THEORY SEMINAR
- MAR 2017 | **“The Functor $L\eta$ ”**
BERKELEY NUMBER THEORY SEMINAR
- OCT 2016 | **“Adic Spaces”**
BERKELEY NUMBER THEORY SEMINAR
- SEP 2016 | **“Adelic Automorphic Forms”**
BERKELEY STUDENT NUMBER THEORY SEMINAR
- MAR 2016 | **“Riemann-Roch for Curves”**
BONN UNIVERSITY SEMINAR ON STABLE REDUCTION OF CURVES
- JAN 2015 | **“Newman’s Conjecture in Function Fields”**
JOINT MATH MEETINGS
- AUG 2014 | **“Newman’s Conjecture in Function Fields”**
YOUNG MATHEMATICIAN’S CONFERENCE
- SEP 2014 | **“Newman’s Conjecture in Function Fields”**
QUÉBEC/MAINE NUMBER THEORY CONFERENCE
- JUNE 2014 | **“Abelian Categories and Derived Functors”**
BOSTON UNIVERSITY ÉTALE COHOMOLOGY STUDENT SEMINAR
- SEP 2014 | **“ p -Divisible Groups”**
BOSTON UNIVERSITY p -ADIC HODGE THEORY LEARNING SEMINAR
- AUG 2014 | **“A First Glimpse of Cohomology”**
BOSTON UNIVERSITY PROMYS STUDENT MINICOURSE
- AUG 2014 | **“ \mathbb{F}_1 -Geometry and a Nonabelian Freyd-Mitchell Embedding Theorem”**
BOSTON UNIVERSITY PROMYS COUNSELOR LECTURE
- JULY 2014 | **“Categories for the Working Counselor”**
BOSTON UNIVERSITY PROMYS COUNSELOR LECTURE
- JULY 2013 | **“A Crash Course in Modular Forms”**
BOSTON UNIVERSITY PROMYS COUNSELOR LECTURE
- JULY 2013 | **“Tropical Geometry”**
BOSTON UNIVERSITY PROMYS STUDENT MINICOURSE
- JULY 2012 | **“Algebraic Music Theory”**
BOSTON UNIVERSITY PROMYS STUDENT MINICOURSE

Attended Conferences/Events

- FALL 2019 | **Seminar on Prisms and Prismatic Cohomology** (Organizer)
SEMINAR | *UC Berkeley*
- MAY 2019 | **RTG Research Workshop**
WORKSHOP | *UC Berkeley*
- MAR 2019 | **Arizona Winter School 2019: Topology and Arithmetic**
CONFERENCE | *University of Arizona*
- JULY 2018 | **Witt Vectors, Deformations, and Absolute Geometry**
CONFERENCE | *University of Vermont*
- APR 2018 | **RTG Research Workshop** (Organizer)
WORKSHOP | *UC Berkeley*
- APR 2018 | **Arbeitsgemeinschaft: Topological Cyclic Homology**
ARBEITSGEMEINSCHAFT | *Mathematisches Forschungsinstitut Oberwolfach*
- MAR 2018 | **Arizona Winter School 2018: Iwasawa Theory**
CONFERENCE | *University of Arizona*
- MAR 2017 | **Arizona Winter School 2017: Perfectoid Spaces**
CONFERENCE | *University of Arizona*
- FEB/MAR 2016 | **HCM Workshop: Recent developments in integral p-adic cohomology theories**
WORKSHOP | *Universität Bonn*
- JANUARY 2015 | **Joint Mathematics Meetings**
CONFERENCE | *San Antonio*
- MAY 2013 | **Motivic Invariants and Singularities Thematic Program**
CONFERENCE | *Notre Dame*

TEACHING CREDENTIALS

Work Experience

DEC 2016 - PRESENT	Teacher for Art of Problem Solving Taught classes and released homework.
AUG 2016 - PRESENT	Graduate Student Instructor at UC Berkeley Graded, wrote quizzes, held office hours, and conducted discussion sections for various courses, including single variable and multivariable calculus and linear algebra.
JUN 2012 - AUG 2015	PROMYS Student Counselor Helped high school students learn basic number theory from an axiomatic point of view through personal interaction and grading of daily problem sets; gave introductory lectures on mathematical topics to students and lectures on more advanced material to other counselors.
SEP 2012 - MAY 2015	Course Grader for the Boston University Math Dept. Graded for courses including calculus, number theory, complex variables, and real analysis.
SEP 2013 - MAY 2015	Math Helper at Boston University Tutored and assisted students with coursework for various mathematics courses, including calculus, differential equations, and abstract algebra.
FEB - MAY 2012	Tutor with Tutors-for-All, Boston Tutored middle school students after school in Cambridge on basic mathematics, including arithmetic and elementary algebra.

Teaching Experience

FALL 2019	Math 53 UC Berkeley Multivariable calculus
FALL 2019	UC Berkeley Quantitative Sciences Discipline Cluster Leader Led workshop for first-time GSIs teaching in quantitative sciences
FALL 2016 - PRESENT	Directed Reading Program Organizer and Mentor Organized the Berkeley DRP (2017-present), Mentored projects in p -adic numbers, number theory, algebraic and arithmetic geometry, and commutative algebra
DEC 2016 - PRESENT	Art of Problem Solving Introduction to Number Theory, Introduction to Counting & Probability, MATH-COUNTS/AMC 8 Basics, Prealgebra 1, Introduction to Algebra A
SPRING 2019	UC Berkeley Quantitative Sciences Discipline Cluster Leader Led workshop for first-time GSIs teaching in quantitative sciences
FALL 2018	Math 53 UC Berkeley Multivariable calculus
FALL 2018	UC Berkeley Quantitative Sciences Discipline Cluster Leader Led workshop for first-time GSIs teaching in quantitative sciences
FALL 2017	Math 54 UC Berkeley Linear algebra and differential equations
SUMMER 2017	Math 53 UC Berkeley Multivariable calculus
SPRING 2017	Math 53 UC Berkeley Multivariable calculus
FALL 2016	Math 1A UC Berkeley Single variable calculus

Conferences/Workshops attended

OCT 2019	How Students Learn WORKSHOP <i>UC Berkeley</i>
OCT 2019	Working with Student Writing WORKSHOP <i>UC Berkeley</i>
OCT 2019	Creating Inclusive Classrooms: Microaggressions and the Learning Environment WORKSHOP <i>UC Berkeley</i>
SEP 2019	Syllabus and Course Design WORKSHOP <i>UC Berkeley</i>

SCHOLARSHIPS AND AWARDS

2018	UC Berkeley Outstanding Graduate Instructor (\$250)
Aug 2015 - Jul 2016	Fulbright Scholar at the University of Bonn, Germany
2013	Outstanding Student in Mathematics Award, Boston University Chapter of Phi Beta Kappa (\$100)
Fall 2011 - Fall 2014	Boston University Dean's List
Spring 2014	Boston University UROP Undergraduate Student Research Award

OTHER SKILLS

Computers and Programming

Proficient with \LaTeX , Excel/Google Sheets, Word/Google Docs, PowerPoint
Prior experience with Java, Sage

Languages

ENGLISH: Fluent (Native Speaker)
GERMAN: Proficient

INTERESTS AND ACTIVITIES

Active user on math.stackexchange.com and mathoverflow.net (username: Stahl)
Classically trained pianist/jazz pianist, composer, singer, trombonist

Bachelor of Arts in MATHEMATICS

Grades

COURSE	GRADE	CREDIT HRS
CAS LG211 Third Semester German	A	4
CAS MA129 Honors Calculus	A	4
CAS PH100 Introduction to Philosophy	A-	4
KHC EN101 Literature and Hunger	A-	4
KHC ST111 Writing Studio I	A-	2
CAS LG212 Fourth Semester German	A	4
CAS MA230 Honors Multivariable Calculus	A	4
CAS MA412 Complex Variables	A	4
CAS MA492 Directed Study in Elliptic Curves and Modular Forms	A	1
CFA MU199 Symphonic Chorus	A-	1
KHC MA101 Investigations in Number Theory	A	4
KHC ST112 Writing Studio II	A	2
CAS LG303 German Composition and Conversation I	A	4
CAS MA491 Directed Study in Elliptic Curves and Modular Forms	A	2
CAS MA511 Introduction to Real Analysis I	A	4
CAS MA541 Modern Algebra I	A	4
CAS MA563 Introduction to Differential Geometry	A	4
KHC HC301 The Disciplined Mind	A-	4
CAS LG304 German Composition and Conversation II	A	4
CAS MA442 Honors Linear Algebra	A	4
CAS MA492 Directed Study in Topology	A	2
CAS MA512 Introduction to Real Analysis II	A	4
CAS MA542 Modern Algebra II	A	4
GRS MA926 Directed Study in Riemann Surfaces	A	2
CAS LG350 Introduction to German Literature	A-	4
CAS MA573 Qualitative Differential Equations	A	4
GRS MA727 Algebraic Topology I	A	4
GRS MA731 Lie Groups and Lie Algebras	A	4
CAS CS111 Introduction to Computer Science	B+	4
CAS LG325 German History and Culture through Film	A-	4
GRS MA822 Topics in Geometry	A	4
GRS MA844 Algebraic Number Theory	A	4
CAS EC101 Introductory Microeconomics	A-	4
CAS LG456 German Culture since 1945	A-	4
GRS MA725 Differential Geometry I	A-	4
GRS MA841 Euler Systems Seminar	A	4
GRS MA745 Algebraic Geometry	A	4
CAS LG315 German Linguistics	A	4
GRS MA842 Algebra Seminar	A	4
	Total	140
	GPA	3.91
(At Bonn) ¹ Selected Topics in Algebra	1.3	5
(At Bonn) Selected Topics in Algebraic Geometry - p -adic Hodge Theory	1.3	5