

Shenghao Sun

Centre de mathématiques Laurent Schwartz - UMR 7640
Ecole polytechnique
91 128 Palaiseau cedex, France

Email: shenghao@math.polytechnique.fr

Research Interests

Arithmetic algebraic geometry, in particular zeta functions and ℓ -adic cohomology of (modular) stacks, weight theory, and independence of ℓ for stacks over finite fields.

Education

Ph.D., Department of Mathematics, University of California at Berkeley, CA 94720,
2005 – 2010

Advisor: Martin Olsson

B.S. in Mathematics, Zhu Kezhen science class, Zhejiang University, Hangzhou, China,
2001 – 2005.

Advisor: Shiuchun Wong

Thesis topic: Elementary Operad theory

Teaching

Math 1A, Calculus I, Fall 2005, TA

Math 53, Multi-variable Calculus, Spring 2006, TA

Math 256A, Algebraic geometry, Fall 2006, Reader

Math 1B, Calculus II, Spring 2007, TA

Math 256A, Algebraic geometry, Fall 2007, Reader

Math 1A, Calculus I, Fall 2008, TA

Math 1A, Calculus I, Spring 2009, TA

Math 53, Multi-variable Calculus, Fall 2009, TA

Math 53, Multi-variable Calculus, Spring 2010, TA

Selected Talks

Derived categories, derived functors, and Grothendieck duality, perverse sheaf seminar,
UC Berkeley, Oct. 2007

Zeta functions of schemes over finite fields, student arithmetic geometry seminar, UC
Berkeley, Feb. 2008

Zeta functions of algebraic stacks over a finite field, student arithmetic geometry semi-
nar, UC Berkeley, May 2008

Fundamental groups of algebraic curves, student algebraic geometry seminar, UC Berkeley, Aug. 2008

Hermitian symmetric domains, student arithmetic geometry seminar, UC Berkeley, Sep. 2008

Zeta functions and weight theorem for stacks over a finite field, number theory seminar, UC Berkeley, Oct. 2008

Motives using absolute Hodge cycles, and general Shimura varieties, student arithmetic geometry seminar, UC Berkeley, Nov. 2008

The fundamental theorem in complex multiplication, student arithmetic geometry seminar, UC Berkeley, Nov. 2008

Langlands-Rapoport conjecture I, student arithmetic geometry seminar, UC Berkeley, Mar. 2009

Langlands-Rapoport conjecture II, student arithmetic geometry seminar, UC Berkeley, Apr. 2009

Log geometry and stacks, log geometry seminar, MSRI, Apr. 2009

Zeta functions of stacks over a finite field, Representation Theory, Geometry and Combinatorics: Equivariant algebraic geometry and related topics, UC Berkeley, May 2009

Zeta functions of Artin stacks over finite fields, 2009 Graduate Workshop on Zeta Functions, L-Functions and their Applications, Utah Valley University, Orem, Utah, Jun. 2009

Derived category of ℓ -adic sheaves I, student arithmetic geometry seminar, UC Berkeley, Sep. 25, 2009

Derived category of ℓ -adic sheaves II, student arithmetic geometry seminar, UC Berkeley, Oct. 2, 2009

Independence of ℓ and fixed point formula, graduate student colloquium, UC Berkeley, Oct. 16, 2009

Kottwitz's orbital integral formula I, number theory seminar, UC Berkeley, Oct. 21, 2009

Kottwitz's orbital integral formula II, number theory seminar, UC Berkeley, Oct. 28, 2009

Decomposition theorem for stacks, number theory seminar, UC Berkeley, Apr. 14, 2010

Decomposition theorem for stacks, Representation Theory, Geometry and Combinatorics seminar, UC Berkeley, Apr. 21, 2010