

# Zhengyao Wu

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## 1 Work

August 2016-now: Lecturer in Department of Mathematics, Shantou University, China.

## 2 Education

Time	Degree	Major	Area	University	Advisor
Fall 2011 - Spring 2016	Ph.D.	Mathematics	Algebra	Emory University	Prof. Venapally Suresh
Fall 2007 - Spring 2010	M.S.	Mathematics	K-theory	Graduate University of Chinese Academy of Sciences	Prof. Guoping Tang
Fall 2003 - Spring 2007	B.S.	Math. and Applied Math.		Fudan University	

During Fall 2010-Spring 2011, I was in the Mathematics PhD program of Texas A&M University with GPA4/4. I left because I got married and moved to Atlanta to accompany my wife.

## 3 Research interests

**Broad:** algebra, algebraic geometry, algebraic groups and algebraic number theory.

**Specific:** local-global principles, quadratic and Hermitian forms, central simple algebras, involutions, maximal orders, projective homogeneous varieties (twisted flag varieties), torsors (principal homogeneous varieties), valuation theory, Galois cohomology, linear algebraic groups, algebraic curves and surfaces, algebraic  $K$ -theory, etc.

## 4 Papers

- [3] Zhengyao Wu, *Hermitian  $u$ -invariants over function fields of  $p$ -adic curves*, accepted by Proc. Amer. Math. Soc., preprint [arXiv:1512.06921](https://arxiv.org/abs/1512.06921)  
[2] Zhengyao Wu, *Hasse principle for hermitian spaces over semi-global fields*, J. Algebra, vol.458 (2016) 171-196. Corrigendum [doi:10.1016/j.jalgebra.2016.05.028](https://doi.org/10.1016/j.jalgebra.2016.05.028).  
[1] Zhengyao Wu, Yubin Gao and Guoping Tang,  *$K$ -theory of higher bundle gerbes*, J. Univ. Chinese Acad. Sci., vol.27 (2010), no.6, 721-738.

## 5 Invited Talks

- *On Springer's theorem*, Palmetto Number Theory Series XXIV, Emory, Atlanta, Sep. 12-13, 2015.
- *Odd degree extensions*, The 12th Brauer group conference at Pingree Park, Colorado, 11 June 2015.

- Poster session: *A Hasse principle on hermitian forms*, Texas Algebraic geometry symposium at Rice University, 5 April 2014.
- *A Hasse principle on hermitian forms*, AMS Southeastern Spring Sectional Meeting at University of Tennessee, Knoxville, 22 March 2014.

## 6 Teaching activities

Time	Job	Course	Evaluation	University
Fall 2015	Instructor	Math 112-000: Calculus II	7.71/9	Emory
Spring 2015	Instructor	Math 112-000: Calculus II	8.35/9	Emory
Fall 2014	Instructor	Math 111-014: Calculus I	7.07/9	Emory
Spring 2014	Instructor	Math 112-001: Calculus II	7.40/9	Emory
Fall 2013	Instructor	Math 111-011: Calculus I	7.23/9	Emory
Spring 2013	Instructor	Math 119-000: Calculus with Business Applications	5.46/9	Emory
Fall 2012	Lab Instructor	Math 115 LAB0 and LAB1: Life Sciences Calculus I		Emory
Spring 2012	Lab Instructor	Math 116 LB2 and LC2: Life Sciences Calculus II		Emory
Fall 2011	Grader	Math 112Z: Calculus II		Emory
Fall 2011	Tutor	Calculus Help Session		Emory
Spring 2011	Grader	Math 467: Modern geometry		Texas A&M
Fall 2010	Grader	Math 367: Basic concept of geometry		Texas A&M
Spring 2010	Grader	Partial Differential Equations		GUCAS

## 7 Graduate student seminar talks

- In my five years at Emory, I gave about 40 talks in the weekly Reading Seminar organized by Prof. Parimala and Prof. Suresh. Topics are from chapters of Hartshorne's *Algebraic Geometry* on curves and surfaces in 2014-2015; Saltman's *Lecture notes on division algebras* in 2013-2014; Springer's *Linear Algebraic Groups* and Morita Equivalence in 2012-2013; Galois Cohomology in Shatz's *Profinite groups, Arithmetic and Geometry*, Cassels and Frohlich's *Algebraic Number Theory*, Lam's *Introduction to quadratic forms over fields* and Waterhouse's *Introduction to Affine Group Schemes* in 2011-2012. I also attended seminars in *étale cohomology* and *stacks* as audience in 2015-2016.
- Two talks at the Graduate Student Seminar of MGSO at Texas A& M University: Direct and inverse limits (11 Nov 2010);  $d^3 = 0$  homology (24 Mar 2011).
- In my 3 years at GUCAS, I gave about 40 talks in the weekly Reading Seminar organized by Prof. Guoping Tang. Topics are on Algebraic K-theory and Algebraic Topology.

## 8 Conferences and workshops attended

- *Joint Mathematics Meetings*, Washington State Convention Center, 6-9 Jan 2016.
- *Georgia Algebraic Geometry Symposium*, Emory Univ., Atlanta, 23-25 Oct 2015.
- *Local-Global Principles and Their Obstructions*, Univ. of Pennsylvania, Philadelphia, 1-3 Oct 2015.
- *Palmetto Number Theory Series XXIV*, Emory Univ., Atlanta, Sep. 12-13, 2015.

- *The 12th Brauer group conference*, Pingree Park, Colorado, 8-12 June, 2015.
- *AMS Spring Southeastern Sectional Meeting*, Univ. of Alabama in Huntsville, 27-29 March 2015.
- *Joint Athens-Atlanta Number Theory Seminar*, Georgia Tech., Atlanta, 4 Nov 2014.
- *Georgia Algebraic Geometry Symposium*, Univ. of Georgia, Athens, 17-19 Oct 2014.
- *AMS Spring Southeastern Sectional Meeting*, Univ. of Tennessee, Knoxville, 21-23 March 2014.
- *Texas Algebraic geometry symposium*, Rice Univ., 4-6 April 2014.
- *Joint Athens-Atlanta Number Theory Seminar*, Emory Univ., Atlanta, 25 Feb 2014.
- *Georgia Algebraic Geometry Symposium*, Univ. of Georgia, Athens, 18-20 Oct 2013.
- *Homotopical Methods in Algebraic Geometry*, Univ. of Southern California, 28 May-1 June 2013.
- *Joint Athens-Atlanta Number Theory Seminar*, Georgia Tech., Atlanta, 16 Apr 2013.
- *Joint Athens-Atlanta Number Theory Seminar*, Emory Univ., Atlanta, 25 Oct 2012.
- *MSRI Summer Graduate Workshop: Noncommutative algebraic geometry*, MSRI, 18-29 June 2012.
- *Arizona Winter School: Ramification and Geometry*, Univ. of Arizona, 10-14 March 2012.
- *Joint Athens-Atlanta Number Theory Seminar*, Georgia Tech., Atlanta, 2 Nov 2011.
- *Ramification in Algebra and Geometry*, Emory, 16-20 May 2011.
- *Graduate Teaching Academy*, TAMU, Fall 2010-Spring 2011.
- *Texas Geometry and Topology Conference*, TAMU, 12-14 Nov 2010.
- *Southeast Texas Discrete Math and its Applications Workshop #2*, Sam Houston State Univ., 16 Oct 2010
- *Sino-Indian Workshop on Mathematics*, Beijing International Center for Mathematical Research, 26-29 Oct 2009.
- *The 11th National Conference in Algebra*, Xiangtan Univ., 19-25 Oct 2008.

## 9 Other skills

- **Languages:** Chinese (native), English (proficient). I can read math papers in French/German (quickly) and Russian (slowly) with the help of Google Translate.
- **Latex:** I always use Latex to write papers and lecture notes; use beamer to prepare slides.
- **Webs:** I can design web pages with Html, Javascript and Mathjax; I can design a conference webpage with a registration form with the help of Google Forms.
- **Animations:** I sometimes make short animations on calculator/software instructions with the help of screen-record softwares when I teach undergraduate courses.
- **Programming:** I often use Python, Java and Prolog. I also know basics of C/C++ and SAGE.
- **Driving:** Georgia Driver's Liscence class C.