

Curriculum Vitae

Sinan Ünver

Academic Positions

Associate professor. Department of Mathematics, Koç University. 2006-present.

Visiting position. Department of Mathematics, Freie University Berlin. October 2015-August 2016.

Visiting position. Department of Mathematics, University of Duisburg-Essen. Summer, 2009 and Summer, 2011.

Post-doctoral position. Department of Mathematics, University of Chicago. 2003-2006.

Post-doctoral position. IHES, Bures-sur-Yvette, France. Summer, 2004.

Education

Ph.D., Mathematics. University of California-Berkeley, May 2003. Advisor: Paul Vojta.

B.Sc., Mathematics. Middle East Technical University, Turkey, June 1997, *summa cum laude*.

Research Interest

Arithmetical algebraic geometry. In particular, mixed Tate motives, polylogarithms, p -adic fundamental groups of curves, geometric ramification theory, Arakelov geometry.

Publications and Preprints

- *A note on the algebra of p -adic multi-zeta values.* Preprint. 10 pages.
- *Cyclotomic p -adic multi-zeta values of depth two.* Manuscripta Mathematica (to appear). DOI: 10.1007/s00229-015-0789-8
- (with A. Chatzistamatiou) *On p -adic periods for mixed Tate motives over a number field.* Mathematical Research Letters 20, no. 5, 825-844 (2013).
- *Drinfel'd-Ihara relations for p -adic multi-zeta values.* Journal of Number Theory, 133,

1435-1483, (2013).

- *Deformations of Bloch groups and Aomoto dilogarithms in characteristic p .* Journal of Number Theory, 131 , no. 8, 1530-1546, (2011).

- *Additive polylogarithms and their functional equations.* Mathematische Annalen, Vol. 348, No. 4, 833-858, (2010).

- *Swan conductors and torsion in the logarithmic de Rham complex.* Turkish Journal of Mathematics, 34, 451-464, (2010).

- *On the purely irregular fundamental group.* Mathematische Nachrichten, Volume 283, Issue 9, pages 1353-1357, (2010).

- *On the local unipotent fundamental group scheme.* Canadian Mathematical Bulletin, 53, no. 1, 187-191, (2010).

- *On the additive dilogarithm.* Algebra and Number Theory 3, no. 1, p. 1-34, (2009).

- *An Arakelov theoretic proof of the equality of conductor and discriminant.* Journal de Théorie des Nombres de Bordeaux no.2, 60, p. 423-427, (2004).

- *p -adic multi-zeta values.* Journal of Number Theory 108, p. 111-156, (2004).

Publications of students while in the PhD program

- Saglam, I. *Triangulations and quadrangulations of the sphere.* International Journal of Mathematics (to appear). DOI:10.1142/S0129167X15500639

- Erdogan, A. *A Universal Formula for the j -Invariant of the canonical lifting.* Journal of Number Theory, Volume 150, May 2015, Pages 26-40.

Prizes and Awards

- Humboldt fellowship for experienced researchers (2015)
- Masatoshi Gündüz Ikeda award (2013)
- Tüba-Gebip award for distinguished young scientist (2011)
- Charles B. Morrey Jr. award, U. California-Berkeley (1999)

Projects

• *Karmaşık Tate motiflerinin p -adik gerçellemesi, deformasyonu ve yüksekliği.* Tübitak 2019 project, no. 1059B191500470, September 2015-August 2016.

Note: This project was awarded to me on August 2015, but I rejected it because it was not possible to use this together with the Humboldt fellowship above.

• *Artin yerel halkaları ve p -adik cisimler üzerinde karmaşık Tate motifleri: regülatörlerin inşası ve periyotlar arasında ilişkiler.* Tübitak 1001 project, no. 109T674. May 2010-May 2012

Theses Supervised

İsmail Sağlam, Ph.D., 2011-2015.

Altan Erdoğan, Ph.D., 2008-2013.

Redi Haderi, M.S., 2012-2014.

Özlem Ejder, M.S., 2008-2011.

Barış Tümerkan, M.S., 2007-2010.

Zekiye Şahin, M.S., 2006-2008.

Talks

Introduction to Arakelov theory. *CIMPA Summer school on algebraic geometry and number theory.* Galatasaray University. June, 2014.

Cyclotomic p -adic multi-zeta values. *Conference on Motives.* University of Tokyo. October, 2013.

Cyclotomic p -adic multi-zeta values. *Conference on Grothendieck-Teichmüller Theory and Multiple Zeta Values.* Isaac Newton Institute of Mathematical Sciences, Cambridge University. April, 2013.

Periods according to Kontsevich and Zagier. *Bosphorus University.* April, 2012.

On periods. *İstanbul Teknik Üniversitesi.* November, 2011.

Motives over dual numbers. *Conference in honor of P. O'Sullivan's 60th birthday, Australian National University.* September, 2011

p -adic multi-zeta values at roots of unity. *University of Duisburg-Essen.* July, 2011.

Sydler's theorem and additive polylogarithms. *Sabancı University*. March, 2011.

Introduction to motives. *Bilgi University*. March, 2011.

Aomoto polylogarithms over the dual numbers. *University of Edinburgh*. February, 2011.

Finding points on Fano Varieties over Finite Fields in *Cebirsel Sayılar ve L-Fonksiyonlar Çalıştayı, 29 August-4 September, 2010. Akdeniz Üniversitesi, Adrasan, Antalya*.

Deformations of Aomoto Dilogarithms in *Sayılar Teorisi, Aritmetik ve Cebirsel Geometri Konferansı, 22-25 April, 2010, in METU Northern Cyprus Campus*.

Introduction to Rational points on rationally connected varieties (three 60-minute lectures) in *Motivic Themes from Algebraic Geometry, June 7-13, 2010. Tübitak-Feza Gürsey Institute*.

Additive polylogarithms (On a conjecture of Goncharov). *University of Essen-Duisburg*. July, 2009.

Cyclic homology and infinitesimal variations of motives. *May, 2009. Antalya Algebra Days*.

Mixed Tate motives over local fields. *January, 2009. Algebraic Geometry and Algebraic Topology Workshop. Dokuz Eylül Üniversitesi*.

A series of lectures on "Double shuffle relations and the Grothendieck-Teichmüller group." *June, 2008. GTEM Summer school at Galatasaray University on "The geometry and arithmetic of moduli spaces of coverings."*

Unipotent fundamental group schemes on affine varieties. *November, 2007. Bilgi University*.

On the local unipotent fundamental group scheme. *September, 2007. Invited speaker at the National Mathematical Symposium*.

Comparison of Nori's and Voevodsky's category of mixed motives. *March, 2007. Middle East Technical University*

Mixed Tate motives over ramified rings. *December, 2006. Middle East Technical University*

Three talks on Nori's construction of the category of mixed motives. *September-October 2006, Koc University (In the context of Saturday seminars with Bilgi University)*.

Grothendieck-Teichmuller group. *April, 2006. Koc University.*

Additive trilogarithm. *Algebraic geometry seminar, November 2004, University of Chicago.*

Drinfel'd-Ihara relations for crystalline Frobenius. *American mathematical society meeting, January 2004, Phoenix, Arizona.*

p-adic multi-zeta values. *Algebraic geometry seminar, January 2003, University of Chicago.*

Crystalline fundamental group of the projective line minus three points. *Arizona winter school in arithmetical algebraic geometry, March 2002.*

Swan conductors and torsion in the logarithmic de Rham complex. *Number theory seminar, November 2001, Berkeley.*

Conductors and discriminants of curves. *Number theory seminar, November 2000, Berkeley.*

Mumford's isomorphism and Moret-Bailly's key formula. *Algebraic geometry seminar, October 2000, Berkeley.*

Higher analytic torsion in Arakelov geometry (after Quillen, Faltings, Bismut, Gillet, Soulé). *Arithmetic geometry seminar, September 1999, Berkeley.*

Proof of the Bogomolov conjecture (after Szpiro, Ullmo, Zhang). *Arithmetic geometry seminar, April 1999, Berkeley.*

Organized the student seminar on abelian varieties, and gave bi-weekly talks. *Spring 1998, Berkeley.*

Conferences organized

- Istanbul Summer School in Algebraic Geometry, June 2013 (International conference). Istanbul Center for Mathematical Sciences. Co-organized with İ. Coşkun.
- Cycles in Istanbul, April, 2011 (International conference). Tübitak-Feza Gürsey Institute. Co-organized with K. Aker.
 - Participated in the scientific committee of "Cebirsel Sayılar ve L-Fonksiyonlar Çalıştayı," 29 August-4 September, 2010. Akdeniz Üniversitesi, Adrasan, Antalya.
 - Motivic Themes from Algebraic Geometry, June 7-13, 2010 (International conference). Tübitak-Feza Gürsey Institute. Co-organized with K. Aker.
 - GTEM/TUBITAK summer school at Galatasaray University. "Geometry and Arithmetic around Galois Theory." 8-19 June 2009, Istanbul. Co-organized with K. Aker, P. Debes, M. Tosun, M. Uludag.
 - GTEM Summer school at Galatasaray University on "The geometry and arithmetic of moduli spaces of coverings." June, 2008. Co-organized with: M. Uludag, A. Kisisel, M. Romagny, M. Tosun.