

CURRICULUM VITAE

Name Peter Louis Clark (professionally: Pete L. Clark)

Date and Place of Birth June 28, 1976; Philadelphia, Pennsylvania

Citizenship United States of America

Professional Preparation

1998–2003 HARVARD UNIVERSITY, Mathematics PhD 2003

1994–1998 UNIVERSITY OF CHICAGO, Mathematics BA, MS 1998

Appointments

2009, 2010 VISITING SCHOLAR, Université de Bordeaux I

2006– ASSISTANT PROFESSOR, University of Georgia

2006 POSTDOCTORAL FELLOW, Mathematical Sciences Research Institute

2003-2005 POSTDOCTORAL FELLOW, McGill University

2003 VISITING SCHOLAR, University of Pennsylvania.

Publications

[15] P.L. Clark, *Covering numbers in linear algebra*, to appear in Amer. Math. Monthly

[14] P.L. Clark, *The period-index problem in WC-groups IV: a local transition theorem*, to appear in J. Théor. Nombres Bordeaux.

[13] P.L. Clark, *Curves over global fields violating the Hasse Principle*, to appear in International Mathematics Research Notices.

[12] P.L. Clark and S. Sharif, *Period, index and potential Sha*, Algebra Number Theory 4 (2010), no. 2, 151–174.

[11] P.L. Clark, *Elliptic Dedekind domains revisited*, Enseign. Math. (2) 55 (2009), no. 3-4, 213–225.

[10] P.L. Clark, *On the indices of curves over local fields*, Manuscripta Math. 124 (2007), no. 4, 411–426.

[9] P.L. Clark, *An “Anti-Hasse Principle” for Prime Twists*, Int. J. of Number Theory 4 (2008), 627-637.

[8] P.L. Clark and X. Xarles, *Local bounds for torsion points on abelian varieties*, Canad. J. Math. 60 (2008), no. 3, 532-555.

[7] P.L. Clark, *On the Hasse principle for Shimura curves*, Israel J. Math. 171 (2009), 349–365.

[6] P.L. Clark, *Abelian points on algebraic varieties*, Math. Research Letters 14 (2007), 731–743.

[5] P.L. Clark, *Galois groups via Atkin-Lehner twists*, Proc. Amer. Math. Soc. 135 (2007), 617–624.

[4] P.L. Clark, *There are genus one curves of every index over every number field*, J. Reine Angew. Math. 594 (2006), 201–206.

[3] P.L. Clark, *On elementary equivalence, isomorphism and isogeny*, J. Théor. Nombres Bordeaux 18 (2006), 29–58.

[2] G. Alon and P.L. Clark, *On the number of representations of an integer by a linear form*, Journal of Integer Sequences, Vol. 8 (2005), Article 05.5.2

[1] P.L. Clark, *Period-index problems in WC-groups I: elliptic curves*, J. Number Theory 114 (2005), 193–208.

Submitted for Publication

[18] P.L. Clark, *Thue’s Lemma and idoneal forms*, submitted to INTEGERS: Electronic J. Combinatorial Number Theory.

[17] P.L. Clark, *Period-index problems in WC-groups II: abelian varieties*, submitted to Documenta Math.

[16] P.L. Clark, B. Cook,¹ and J. Stankewicz, *Torsion points on elliptic curves with complex multiplication*, submitted to Int. J. Number Theory.

In Preparation

[23] P.L. Clark and S. Sharif, *Rational roots of the canonical bundle*.

[22] P.L. Clark, *Ramanujan graphs and Shimura curves*.

[21] P.L. Clark and J. Voight, *Algebraic curves uniformized by congruence subgroups of triangle groups*.

[20] P.L. Clark, P. Corn and the UGA Number Theory VIGRE Research Group, *Torsion points on elliptic curves with complex multiplication*.

[19] P.L. Clark, *The period-index problem in WC-groups III: biconic curves*.

¹Formerly a UGA PhD student, now a PhD student at U. British Columbia.

Teaching

- 2006-present **Tenure track assistant professor**, University of Georgia
 Introduction to Model Theory and its Applications (Math 8900), Summer 2010.
 Introduction to Number Theory II (Math 8410), Spring 2010.
 Introduction to Higher Mathematics (Math 3200), Spring 2009, Fall 2009.
 Number Theory (Math 4400/6400), Spring 2009.
 Algebraic Curves (Math 8320), Fall 2008.
 Topics in Arithmetic Geometry (Math 8430), Spring 2008.
 Calculus for Science and Engineering II (Math 2260), Fall 2007.
 Number Theory (Math 4400/6400), Spring 2007.
 Analytic Geometry and Calculus (Math 2200), Fall 2006, Fall 2009.
- 2003-2005 **Instructor**, McGill University
 Introduction to Shimura Varieties (Math 726), Fall 2005.
 Real Analysis II (Math 243), Winter 2005.
 Calculus I (Math 139), Winter 2005.
 Linear Algebra (Math 133), Fall 2003.
Instructor, Concordia University
 Advanced Calculus (Engineering Math 233) Winter 2004.
- 1999-2003 **Teaching Fellow**, Harvard University
 Calculus (Math 1A & 1B), Fall 1999-2003.
Course Assistant, Harvard University
 Class Field Theory (Math 255r), Fall 2001.

Synergistic Activities

- (1) Leader of a 2007-2008 VIGRE research group on rational points on CM elliptic curves. Other participants: Patrick K. Corn (postdoc), Steve Lane, Jim Stankewicz, Nathan Walters, Steve Winburn, Ben Wyser (graduate students), Alex Rice (undergraduate).
- (2) Leader of a 2005 summer research project for undergraduates at McGill University, funded by the Institut Scientifique des Mathématiques (ISM).
 Topic: Almost sure limit sets of vector-valued Rademacher series.
- (3) Leader of a 2009 working seminar on a preprint of Mazur and Rubin, *Ranks of twists of elliptic curves and Hilbert's 10th problem*.

Students

- (1) Laura Nunley, MS, University of Georgia, 2010.
- (2) Jim Stankewicz, PhD student, University of Georgia, proposed graduation 2011/2012.

Other Service

- (1) UGA Math Department Colloquium Committee: 2008–2010.

- (2) Qualifying Exam Committees: Complex Analysis, Topology.
- (3) On the Oral Exam Committee for: Steve Winburn, Nathan Walters, Jim Stankewicz, Matt Mastin, David Krumm, Kate Thompson, John Doyle.
- (4) Co-organizer, special session on arithmetic geometry, AMS Sectional Meeting, Boca Raton, FL, October/November 2009.

Grant Support

- (1) Principal Investigator, NSF Research Grant DMS-0701771, 2007-2010. Extended to 2010-2011.

Selected Talks

- Number Theory Seminar, MIT, 3/10
Title: “The period-index problem for torsors under abelian varieties”
- Number Theory Seminar, University of Georgia, 9/09 (twice)
Title: “Algebraic Curves Uniformized By Congruence Subgroups of Hyperbolic Triangle Groups”
- Arithmetic Geometry Seminar, Université de Bordeaux I, 6/09.
Title: “Algebraic Curves Violating the Hasse Principle”
- Number Theory Seminar, University of Georgia, 2/09.
Title: “Biconic Curves, Part I”
- Number Theory Seminar, University of Georgia, 11/08.
Title: “Probabilistic Ideas and Methods in Analytic Number Theory.”
- Number Theory Seminar, University of Georgia, 9/08.
Title: “Quadratic twists, modular curves and the Inverse Galois Problem.”
- VIGRE Graduate Seminar, University of Georgia, 9/08.
Title: “Things to do with a conditionally convergent series.”
- Number Theory Seminar, University of Georgia, 12/07.
Title: “Torsion points on elliptic curves.”
- Number Theory Seminar, University of Illinois at Chicago.
Title: “On Curves Without Rational Points.”
- Number Theory Seminar, University of Georgia, 10/07.
Title: “Existence of abelian varieties with prescribed endomorphism algebras.”
- Algebraic Geometry Seminar, University of Georgia, 10/07.
Title: “Endomorphism algebras of abelian varieties.”
- Number Theory Seminar, University of Georgia, 3/07.
Title: “Ramanujan graphs” (two talks).
- Number Theory Seminar, University of Georgia, 2/07.
Title: “Abelian points on algebraic varieties.”
- VIGRE Research Group on Hodge Theory, University of Georgia, 11/06.
Title: “Mumford-Tate groups and abelian varieties.”
- Number Theory Seminar, University of Georgia, 8/06-9/06
Title: “Selections from the arithmetic geometry of modular curves and Shimura curves.”
- Algebra Seminar, University of Pennsylvania, 7/06.
Title: “Rational points on Atkin-Lehner twists of modular curves”

- Seminar Talk, MSRI, 4/06.
Title: “Period-index problems in Galois cohomology and geometry.”
- Colloquium, Arizona State University, 2/06.
Title: “Acquisition of rational points on algebraic curves.”
- Colloquium, U.C. Santa Cruz, 2/06.
Title: “Acquisition of rational points on algebraic curves.”
- Number Theory Seminar, U.C. Berkeley, 2/06.
Title: “Acquisition of rational points on algebraic curves.”
- Number Theory Seminar, University of Georgia, 1/06
Title: “The period-index problem in WC-groups.”
- Colloquium, University of Georgia, 1/06
Title: “Acquisition of rational points on algebraic curves.”
- Québec-Vermont Number Theory Seminar, 4/05.
Title: “Arithmetic of algebraic curves with Galois Belyi maps.”
- Canadian Mathematical Society Winter Meeting, 12/04.
Title: “On a question of Lang and Tate.”
- Number Theory Seminar, McMaster University, 11/04.
Title: “The period-index problem in Weil-Châtelet groups.”
- Québec-Vermont Number Theory Seminar, 1/04.
Title: “Period, index and potential Sha.”
- Galois Seminar, University of Pennsylvania, 7/03.
Title: “Period-index problems in WC-groups.”
- Number Theory Workshop, Brown University, 5/03.
Title: “Rational points on Atkin-Lehner quotients of Shimura curves.”
- Number Theory Seminar, Harvard University, 5/03.
Title: “Rational points on Atkin-Lehner quotients of Shimura curves.”
- Galois Actions on Fundamental Groups Seminar, Harvard, 4/02.
Title: “Fundamental groups in characteristic p .”

Address

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