

DETCHAT SAMART

Department of Mathematics

Faculty of Science

Burapha University

Chonburi 20131, Thailand

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EDUCATION

Texas A&M University

Ph.D. Mathematics

Thesis: *Mahler measures of hypergeometric families of Calabi-Yau varieties*

Advisor: Professor Matthew Papanikolas

August 2014

Chulalongkorn University

B.Sc. Mathematics (Honors Program)

March 2008

EMPLOYMENT

Burapha University

Assistant Professor (November 2019 - Present)

Lecturer (January 2018 - October 2019)

January 2018 - Present

University of Illinois at Urbana-Champaign

J.L. Doob Research Assistant Professor

September 2014 - August 2017

(on leave Spring 2015)

Université de Montréal

Postdoctoral Fellow

January 2015 - June 2015

RESEARCH INTERESTS

Number Theory (Modular forms, Mahler measures, and Special values of L -functions)

PUBLICATIONS

1. D. Samart, *A functional identity for Mahler measures of non-tempered polynomials*, Integral Transforms and Special Functions (in press)
2. Y. Meemark and D. Samart, *Mahler measures of a family of non-tempered polynomials and Boyd's conjectures*, Research in the Mathematical Sciences **7**:1 (2020)
3. D. Samart, *On a non-critical symmetric square L -value of the congruent number elliptic curves*, Bulletin of the Australian Mathematical Society **101** (2020), 13–22.
4. S. Ahlgren, N. Andersen and D. Samart, *A polyharmonic Maass form of depth $3/2$ for $SL_2(\mathbb{Z})$* , Journal of Mathematical Analysis and Applications **468** (2018), 1018–1042.
5. S. Ahlgren and D. Samart, *A note on cusp forms as p -adic limits*, Journal of Number Theory **168** (2016), 360–373.
6. D. Samart, *Feynman integrals and critical modular L -values*, Communications in Number Theory and Physics **10** (2016), no. 1, 133–156.

7. M. Lalin, D. Samart and W. Zudilin, *Further explorations of Boyd's conjectures and a conductor 21 elliptic curve*, Journal of the London Mathematical Society (2), **93** (2016), 341–360.
8. D. Samart, *The elliptic trilogarithm and Mahler measures of K3 surfaces*, Forum Mathematicum **28** (2016), 405–423.
9. D. Samart, *Mahler measures as linear combinations of L-values of multiple modular forms*, Canadian Journal of Mathematics **67** (2015), 424–449.
10. M. A. Papanikolas, M. D. Rogers and D. Samart, *The Mahler measure of a Calabi-Yau threefold and special L-values*, Mathematische Zeitschrift **276** (2014), 1151–1163.
11. D. Samart, *Three-variable Mahler measures and special values of modular and Dirichlet L-series*, Ramanujan Journal **32** (2013), no. 2, 245–268.

TEACHING EXPERIENCE

Burapha University

January 2018 - Present

Contemporary Mathematics

Calculus I, II

Abstract Algebra I (undergraduate and graduate levels)

Calculus for Health Science

Calculus for Business II

Mathematical proof and analysis (graduate level)

Algebraic Number Theory (graduate level)

Complex Analysis (graduate level)

Number Theory for math olympiad training camps

University of Illinois at Urbana-Champaign

September 2014 - May 2017

Fundamental Mathematics (Fall 14, Fall 15)

Introduction to Differential Equations Plus (Spring 16)*

Elementary Theory of Numbers (Fall 16)*

Abstract Linear Algebra (Spring 17)*

Texas A&M University

September 2009 - August 2014

For All Practical Purposes (Instructor of Record)

Engineering Mathematics III (Recitation)

Engineering Mathematics II, Advanced Calculus (Help session)

(* = ranked as excellent by students)

Graduate students supervised

2018-present

One Ph.D. student and one Master's student (Burapha University)

HONORS, AWARDS, AND GRANTS

Research Grant for New Scholar

2019-2020

Awarded to conduct research on “Mahler measures of a family of non-tempered polynomials” (600,000 THB)

Representative of Thailand in GYSS 2019

January 2019

Selected as one of the five Thai delegates for the Global Young Scientists Summit 2019 at Nanyang Technological University, Singapore

L. F. Guseman Prize in Mathematics

April 2013

Given for outstanding research, teaching, and service as a graduate student.

SERVICE

Referee for Canadian Journal of Mathematics, Proceedings of the American Mathematical Society, Journal of Number Theory, Women in Numbers (WIN) proceedings, Communications in Number Theory and Physics, International Journal of Number Theory, Journal of the London Mathematical Society, The Ramanujan Journal, Research in Number Theory, manuscripta mathematica, Electronic Research Archive, Chamchuri Journal of Mathematics, Burapha Science Journal

Reviewer for the Mathematical Reviews (2014 - Present)

Vice president of the Texas A&M Thai Student Association (2012 - 2013).

TALKS

Invited Talks

The Asian Mathematical Conference (AMC) 2020, Halong Bay, Vietnam, July 2020 (Postponed to July 2021 due to COVID-19 pandemic)

Thammasat University “Ola Bratteli” Mathematics in Thailand Colloquium (Online), April 2020

The 24th Annual Meeting in Mathematics, Burapha University, May 2019

Spring Central and Western Joint Sectional Meeting, University of Hawaii at Manoa, March 2019

Mathematics Seminar, MUIC, October 2018

A semester on “Arithmetic and geometry of local and global fields”, Vietnam Institute for Advanced Study in Mathematics, July 2018

Mathematical Seminar, Chulalongkorn University, April 2018

Number Theory Seminar, Texas A&M University, March 2016.

Special Talks, Chulalongkorn University, Prince of Songkla University, and Burapha University, June-July 2015.

Regulators, Mahler measures, and special values of L -functions workshop, Centre de recherches mathématiques, February 2015.

AMS Spring Central Sectional Meeting, Texas Tech University, April 2014.

Analytic Number Theory Seminar, Université de Montréal, May 2013.

Algebra and Number Theory Seminar, Emory University, April 2013.

Contributed Talks

Conference in Number Theory and Analysis (CNA 2019), Rajamangala University of Technology Thanyaburi, November 2019.

International Conference in Number Theory and Applications (ICNA 2018), Walailak University, December 2018.

UIUC Graduate Student Number Theory Seminar, April 2017.

Number Theory Seminar, University of Illinois at Urbana-Champaign, January 2016.

UIUC Graduate Student Number Theory Seminar, November 2014.

Number Theory Seminar, University of Illinois at Urbana-Champaign, September 2014.

The 28th Automorphic Forms Workshop, Moab, Utah, May 2014.

Graduate Student Organization (GSO) Seminar, Texas A&M University, March 2014.

Number Theory Seminar, Texas A&M University, October 2013.

Texas-Oklahoma Representations and Automorphic forms IV (TORA IV), University of North Texas, March 2013.

The 27th Automorphic Forms Workshop, University College Dublin, Ireland, March 2013.

Number Theory Seminar, Texas A&M University, October 2012.

Midwest Number Theory Conference for Graduate Students and Recent PhDs IX, University of Illinois at Urbana-Champaign, October 2012.

The 1st Annual Mathematics Conference, Chulalongkorn University, Thailand, March 2008.

COMPUTATIONAL EXPERIENCE

Maple, Mathematica, Sage, Magma, PARI/GP