CURRICULUM VITAE

CHRISTOPHE DETHIER

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Education.

PhD in Mathematics - University of Oregon, June 2019 (expected)
   Adviser: Shabnam Akhtari
   Area: Diophantine Approximation and Thue Equations
BA in Mathematics - Carleton College, Spring 2013
   Distinction, Magna Cum Laude

Publications.

- Diagonalizable Quartic Thue Equations with Negative Discriminant, accepted for publication in Acta Arithmetica (2018)
- Reduction Theory of Diagonalizable Forms, in preparation

Talks Given.

- A Summary of Results about Line Segment Contact Graphs, Carleton College Fall 2012.
- Number Theory in the Spirit of Liouville, Carleton College Spring 2013.
- Some Elementary Combinatorial Methods in Additive Number Theory, University of Oregon Summer Seminar, Summer 2014.
- Hermite's Proof of the Transcendence of e, University of Oregon Winter 2015.
- Applications of the Subspace Theorem to Conbinatorial Number Theory, University of Oregon Fall 2016.
- The Proof of the Dirichlet Unit Theorem, University of Oregon Student Number Theory Seminar, Spring 2017.
- Thue Equations Over Algebraic Number Fields, University of Oregon Student Number Theory Seminar, Spring 2017.
- Classical Invariant Theory, University of Oregon Student Number Theory Seminar, Fall 2018.
- Reduction Theory of Binary Forms, University of Oregon Student Number Theory Seminar, Fall 2018.
- Diagonalizable Thue Equations, University of Oregon Student Number Theory Seminar, Winter 2019.

Teaching Experience.

Courses Taught. Sole instructor unless otherwise specified with (TA). Descriptions for these courses can be found at math.uoregon.edu.

- MATH 105: University Math I
  Summer 2015
- MATH 111: College Algebra
  Fall 2013, Winter 2014, Summer 2014, Fall 2014
- MATH 112: Elementary Functions
  Spring 2015, Fall 2015, Winter 2016, Fall 2016, Spring 2017
- MATH 241: Calculus for Business and Social Science I
  Winter 2015 (TA)
- MATH 243: Introduction to Probability and Statistic
  Spring 2014, Winter 2018 (TA)
- MATH 251: Calculus I
  Spring 2016, Summer 2016, Fall 2018
- MATH 252: Calculus II
  Winter 2017, Summer 2017, Fall 2017

In Winter 2017 I lead an undergraduate in a reading about cryptography and coding theory, using the book "Introduction to cryptography: with coding theory" by Trappe and Washington. I have applied to teach a similar directed reading in the Winter and Spring of 2019.

Conferences Attended.

- 2016 Fields Medal Symposium in honor of Manjul Bhargava
- 2017 Arizona Winter School - Perfectoid Spaces

Programming Experience.

I am proficient in Sage and Python. The paper "Diagonalizable Quartic Thue Equations with Negative Discriminant" required some computations to complete. I accomplished them using Sage. The code and results of these computations can be found at pages.uoregon.edu/cdethier

Relevant Coursework.

Number Theory Readings. Over the years I have read on various topics with Shabnam Akhtari and Chris Sinclair:

- Modular Forms, Hecke Operators, and The Circle Method (Akhtari)
- Algebraic Number Theory (Akhtari)
- Adeles, Ideles, and Tate's Thesis (Sinclair)
- The Riemann Hypothesis and the Prime Number Theorem (Sinclair)

Number Theoretic Graduate Courses:

- Seminar in Diophantine Equations, Shabnam Akhtari - Winter 2015.
- Seminar in Combinatorial Number Theory, Shabnam Akhtari - Fall 2016.
- Seminar in Algebraic Number Theory, Shabnam Akhtari - Fall 2017.
- Seminar: Number Theory I & II, Ellen Eischen - Winter & Spring 2019 (anticipated).

- Seminar in Computer Algebra, Benjamin Young - Winter 2018
- Algebraic Geometry, Nicolas Addington - Fall 2017 & Winter 2018

Undergraduate Coursework:

- Comprehensive Project. Over two terms I read *Number Theory in the Spirit of Liouville* by Kenneth Williams, with Chas Karch. We later gave an expository talk.
- REU - Willamette University (Summer 2012). We proved some combinatorial results about line segment contact graphs which it turns out had already been discovered. (Hence nothing published.) I later gave an expository talk about our results at Carleton College in Fall 2012.

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