

Samuel S. Schiavone

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Education

Dartmouth College

PH.D. IN MATHEMATICS (EXPECTED JUNE 2019)

Hanover, New Hampshire

September 2014 - Present

The University of Vermont

M.S. IN MATHEMATICS

- GPA: 4.00.
- Major: Abstract algebra, Minor: Cryptography.

Burlington, Vermont

January 2012 - December 2013

Amherst College

B.A. IN MATHEMATICS, *magna cum laude*

- GPA: 3.86 overall, 3.79 in mathematics.
- Member of Phi Beta Kappa.
- Completed a senior honors thesis in applied mathematics.

Amherst, Massachusetts

September 2006 - May 2010

Université Paris VII

STUDY ABROAD

- Took courses in math and linguistics, both taught in French.

Paris, France

September 2008 - December 2008

Experience

Dartmouth College

GRADUATE STUDENT INSTRUCTOR

- Instruct undergraduate students in introductory and intermediate mathematics courses. Prepare and give lectures three to four times per week.
- Evaluate students' performance on homework assignments, quizzes, and exams.

Hanover, New Hampshire

September 2016 - Present

Dartmouth College

GRADUATE TEACHING ASSISTANT

- Led evening tutorial sessions three times per week, responding to students' questions about homework.
- Graded students' exams.

Hanover, New Hampshire

September 2014 - August 2016

Dartmouth College

RESEARCH ASSISTANT

- Worked with Professor John Voight to improve and extend results from our publication, *Numerical calculation of three-point branched covers of the projective line*.

Hanover, New Hampshire

January 2014 - September 2014

The University of Vermont

GRADUATE TEACHING FELLOW

- Instructed undergraduate students in introductory mathematics courses. Planned and gave lectures three times per week.
- Evaluated students' performance on homework assignments, quizzes, and exams.

Burlington, Vermont

January 2012 - December 2013

The Joshua M. Stimson Mathematics Program

North Haverhill, New Hampshire

MATHEMATICS INSTRUCTOR

July 2013

- Instructed middle school students in a mathematics enrichment program at Haverhill Cooperative Middle School.
- Designed a curriculum focusing on combinatorics, probability, and number theory.
- Planned daily lessons and activities with an emphasis on discovery and inquiry.

French Ministry of National Education

Vendôme, France

ENGLISH TEACHING ASSISTANT

October 2010 - April 2011

- Instructed French middle school students in English in two schools, as a part of the Teaching Assistant Program in France.
- Planned lessons focusing on oral expression and comprehension, grammar, and vocabulary.

The Claremont Colleges

Claremont, California

UNDERGRADUATE RESEARCHER

June 2009 - July 2009

- Studied formal groups over the p-adic numbers at the NSF-sponsored research program for undergraduates, working in a small group under Professor Ghassan Sarkis.
- Chronicled results in an individual paper.
- Presented results at WIMIN conference (Smith College, Northampton, Massachusetts) and at undergraduate poster competition at 2010 Joint Math Meetings (San Francisco, California).

Honors & Awards

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|------|---|----------------|
| 2018 | Selfridge Prize in Number Theory , Algorithmic Number Theory Symposium XIII | Madison, WI |
| 2014 | Graduate Assistance in Areas of National Need (GAANN) Fellowship , Dartmouth College | Hanover, NH |
| 2013 | Kenney award for excellence in graduate mathematics , University of Vermont | Burlington, VT |

Publications

A Database of Belyi Maps

(WITH MICHAEL MUSTY, JEROEN SIJSLING, AND JOHN VOIGHT), PROCEEDINGS OF THIRTEENTH ALGORITHMIC NUMBER THEORY SYMPOSIUM (TO APPEAR).

- We use a numerical method to compute a database of three-point branched covers of the complex projective line of small degree. We report on some interesting features of this data set, including issues of descent.

Numerical calculation of three-point branched covers of the projective line

(WITH MICHAEL KLUG, MICHAEL MUSTY, AND JOHN VOIGHT), LMS JOURNAL OF COMPUTATION AND MATHEMATICS, 17 (2014), NO. 1, 379-430.

- We exhibit a numerical method to compute three-point branched covers of the complex projective line. We develop algorithms for working explicitly with Fuchsian triangle groups and their finite index subgroups, and we use these algorithms to compute power series expansions of modular forms on these groups.

Teaching

Dartmouth College

GRADUATE STUDENT INSTRUCTOR

- Math 22: Linear Algebra with Applications, Fall 2017
- Math 23: Differential Equations, Fall 2016

The University of Vermont

GRADUATE TEACHING FELLOW

- Math 19: Fundamentals of Calculus I, Fall 2012, Summer 2013, Fall 2013
- Math 17: Applications of Finite Math, Spring 2012

Skills

Programming Python, Sage, Magma, Mathematica, R, \LaTeX

Languages English (native), French (fluent), Spanish (basic)

Selected Talks

Computing Canonical Rings Of Hilbert Modular Surfaces

QUÉBEC-MAINE NUMBER THEORY CONFERENCE, UNIVERSITÉ LAVAL

Québec City, Canada

October 2018

A Database Of Belyi Maps

THIRTEENTH ALGORITHMIC NUMBER THEORY SYMPOSIUM (ANTS XIII), UNIVERSITY OF WISCONSIN

Madison, Wisconsin

July 2018

Computing A Database of Belyi Maps: A Progress Report

QUÉBEC-MAINE NUMBER THEORY CONFERENCE, UNIVERSITY OF MAINE

Orono, Maine

October 2017

The Szpiro Conjecture For Hyperelliptic Curves

(JOINT PRESENTATION WITH NICHOLAS TRIANTAFILLOU), CURVES, L-FUNCTIONS, AND GALOIS REPRESENTATIONS
SUMMER SCHOOL, INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS

Trieste, Italy

September 2017

Computing Belyi Maps

PEER-TO-PEER SEMINAR, COMPUTATIONAL ASPECTS OF THE LANGLANDS PROGRAM, ICERM

Providence, Rhode Island

October 2015

Formal Groups Over the p -adic Numbers

WOMEN IN MATHEMATICS IN NEW ENGLAND CONFERENCE, SMITH COLLEGE

Northampton, Massachusetts

January 2010

Service

Johns Hopkins Center For Talented Youth

FAMILY AND ACADEMIC PROGRAMS, DARTMOUTH COLLEGE (JOINT WORK WITH BENJAMIN BREEN)

- Designed a lecture on mathematical game theory.
- Created worksheets that introduced students to matrix games and Nash equilibria.
- Gave two hour-long interactive presentations for middle- and high school students and their parents.

Hanover, New Hampshire

April 2016

Exploring Mathematics Summer Camp

DARTMOUTH COLLEGE

- Designed and taught, in collaboration with other graduate students, two week-long camps for local middle- and high school students on the topics probability and knot theory.
- Created a stock market game based on Markov chains using simulations from *SageMath*.
- Created manipulatives for an activity introducing students to properties of the unknotting number.

Hanover, New Hampshire

July 2015

Johns Hopkins Center For Talented Youth

FAMILY AND ACADEMIC PROGRAMS, DARTMOUTH COLLEGE (JOINT WORK WITH MICHAEL MUSTY)

- Designed a lecture on symmetry, group theory, and their applications.
- Created a worksheet and manipulatives to aid students in learning about the dihedral and symmetric groups.
- Gave two hour-long interactive presentations for middle- and high school students and their parents.

Hanover, New Hampshire

October 2014