

# SAMUEL BLOOM, PH.D.

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## EDUCATION

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### University of Maryland, College Park

*Aug. 2012 - May 2018*

*Doctor of Philosophy, Mathematics.*

- **Advisor:** Dr. Lawrence C. Washington. **GPA:** 3.95.
- **Thesis:** “Lang-Trotter Questions on the Reductions of Abelian Varieties.”
- Research interests in number theory and algebraic geometry for cryptographic application.
- Ralph P. Pass III Fellowship for Excellence in Number Theory, 2015-2016.
- Spotlight on Graduate Research Competition winner, 2018.

### University of Maryland, College Park

*May 2016*

*Master of Arts, Mathematics.*

- Scholarly Paper: “Denominators of Igusa Class Polynomials and Superspecial Reduction of Abelian Surfaces.”

### University of Chicago

*Aug. 2008 - June 2012*

*Bachelor of Science, Mathematics, with Honors.*

- **GPA:** 3.67. Dean’s List, Dec. 2008 - June 2012.

## TEACHING AND WORK EXPERIENCE

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### Graduate Teaching Assistant

*University of Maryland, College Park. Aug. 2012 - present*

- Produced and taught linear algebra, calculus, precalculus courses.
- Led discussion sections, graded, tutored for calculus, number theory, linear algebra, cryptography courses.
- Aziz/Osborn Gold Medal in Teaching Excellence, May 2014.

### Directed Reading Program President

*University of Maryland, College Park. May 2016 - present*

- Organized, planned undergraduate research projects; coordinated graduate-undergraduate mentorings.

### Young Scholars Program Counselor

*University of Chicago. June-Aug. 2012 & 2010*

- Taught abstract algebra, number theory, computer algebra systems to Chicago-area high school students.

## PUBLICATIONS

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1. “Almost Prime Values of the Order of Abelian Varieties over Finite Fields,” arXiv: 1803.03698. (2018)
2. “The Square Sieve and a Lang-Trotter Question for Generic Abelian Varieties.” *J. Number Theory*. (2018)
3. A. Vu, et al. (as co-author), “Effect of Composition on the Voltage Fade Phenomenon in Lithium-, Manganese-Rich  $x\text{LiMnO}_3 \cdot (1-x)\text{LiNi}_a\text{Mn}_b\text{Co}_c\text{O}_2$ : A Combinatorial Synthesis Approach.” *J. Power Sources*. (2015)

## SELECTED PRESENTATIONS

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1. “Almost-Prime Orders of the Reductions of Abelian Varieties,” Uni. of MD, Fall 2017.
2. “The Square Sieve and a Lang-Trotter Question for Generic Abelian Varieties,” Uni. of MD, Spring 2017.
3. “Computing with Isogeny Graphs,” Uni. of MD, Spring 2016.
4. “Constructing Abelian Varieties for Cryptography,” Uni. of MD, Fall 2015.

## COMPUTER LANGUAGES AND SKILLS

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Python, Sage, Microsoft Office Suite, LaTeX (mathematics typesetting).

## INTERESTS AND ACTIVITIES

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Organizer of local Jewish community. Competitive fencer & fencing referee. Amateur ukulele & guitar player.