Travis Scholl

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U.S. Citizen
Last Updated: October 22, 2021

Academic Employment

2018 – 2019 Visiting Assistant Professor, University of California, Irvine
2018 – 2018 Lecturer, University of Washington

Education

2018 Ph.D. Mathematics, University of Washington (advisor: Neal Koblitz)
2013 B.S. Mathematics, University of Oregon

Research Interests

- Computational algebraic number theory
- Elliptic curve cryptography

Publications

1. S. Arpin, C. Camacho-Navarro, K. Lauter, J. Lim, K. Nelson, T. Scholl, J. Sotáková. Adventures in Supersingularland. *Experimental Mathematics*. Published October 2021. Available at https://doi.org/10.1080/10586458.2021.1926009.
2. S. Marseglia, T. Scholl. Products and polarizations of super-isolated abelian varieties. *Mathematische Zeitschrift*. Published June 2021. Available at https://doi.org/10.1007/s00209-021-02791-x
3. Eric Rains, Karl Rubin, Travis Scholl, Shahed Sharif, Alice Silverberg. Algebraic maps constant on isomorphism classes of unpolarized abelian varieties are constant. *Algebra Number Theory*. Published June 2021. Available at https://doi.org/10.2140/ant.2021.15.711
4. T. Scholl. Super-Isolated Abelian Varieties. *Journal of Number Theory*. Published January 2020. Available at https://doi.org/10.1016/j.jnt.2019.06.008.
5. T. Scholl. Abelian Varieties with Small Isogeny Class and Applications to Cryptography. *PhD Thesis, University of Washington*. Published July 2018. Available at http://hdl.handle.net/1773/42458.
6. T. Scholl. Super-Isolated Elliptic Curves and Abelian Surfaces in Cryptography. *Experimental Mathematics*. Published January 2018. Available at https://doi.org/10.1080/10586458.2017.1412371.

7. T. Scholl. Isolated elliptic curves and the MOV attack. *Journal of Mathematical Cryptology*. Published May 2017. Available at `https://doi.org/10.1515/jmc-2016-0053`.

Awards and grants

2019 eTech Mini Grant, University of California, Irvine
2018 Best Poster, Algebraic Number Theory Symposium XIII
2017 Kazanci Fellowship, University of Washington
2014 Academic Excellence Award, University of Washington
2013 ARCS Fellowship, University of Washington
2013 Academic Merit Award, University of Washington
2012 DeCou Scholarship, University of Oregon

Research Talks

2021 Jan. AMS special session on Mathematics of Cryptography Join Math Meetings, Online
2020 Jan. Special Section on Arithmetic Galois Actions, Join Math Meetings, Denver, CO
2019 Aug. Rump Session, Crypto 2019
2019 May. Number Theory Seminar, University of Maryland
2019 Mar. AMS Special Session on Arithmetic Geometry, University of Hawai'i at Mānoa
2019 Mar. AMS Special Session on Cryptography, University of Hawai'i at Mānoa
2018 Oct. Number Theory Seminar, University of California Los Angeles
2018 Oct. Number Theory Seminar, University of California Irvine
2018 Oct. Cryptography Seminar, University of California Irvine
2018 Jun. Communicating Mathematics Effectively, University of Oregon
2018 Feb. Computer Science Theory Seminar, University of Pennsylvania
2018 Feb. Colloquium, Center for Communications Research Princeton
2017 Oct. Oregon Number Theory Days, University of Oregon
2017 May. Number Theory Seminar, University of Washington

Teaching

University of California Irvine

Math 199C: Independent Study (Number Theory)
Spring 2019
Math 120B: Ring Theory
Spring 2019
Math 173B: Cryptography
Winter 2019
Math 3A: Linear Algebra, Instructor
Winter 2019

Math 2E: Multivariable Calculus, Instructor
Fall 2018

University of Washington

Math 308: Matrix Algebra with Applications, Instructor
Spring 2018

Math 124: Calculus I, Teaching Assistant
Winter 2014

Math 125: Calculus II, Teaching Assistant
Fall 2013, Spring 2014, Fall 2014, Winter 2014, Spring 2015, Fall 2015, Winter 2016, Spring 2016, Winter 2017, Fall 2017, Winter 2018

Math 126: Calculus III, Teaching Assistant
Fall 2016

Math 125: Calculus II, Instructor
Summer 2014, Summer 2015, Summer 2016, Summer 2017, Summer 2018

Math 510A: Preliminary Exam Preparation for Graduate Students, Instructor
Summer 2015, Summer 2016

Seminars Organized

2018 – cur. *Cryptographic Multilinear Maps*, University of California Irvine

Working Groups

2019 Jun. *Invited working group participant, Microsoft Research. Hosted by Kristin Lauter and the Cryptography Research Group*

Conferences Attended

2020 Jan. *Join Math Meetings*, Denver, CO
2019 Mar. *AMS Sectional Meeting*, Honolulu, HI
2019 Jan. *Joint Math Meetings*, Baltimore, MD
2018 Sep. *Open Questions in Cryptography and Number Theory*, Irvine, CA
2018 Aug. *MAA MathFest*, Denver, CO
2018 Jul. *Algorithmic Number Theory Symposium XIII*, Madison, WI
2018 Jun. *Communicating Mathematics Effectively*, Seattle, WA
2018 Apr. *PNW MAA Section Meeting*, Seattle, WA
2018 Jan. *Joint Math Meetings*, San Diego, CA
2017 Oct. *Oregon Number Theory Days*, Eugene, OR
2016 June *SaTC Workshop on Privacy and Security*, Madison, WI
2016 Mar. *Arizona Winter School, Analytic Methods in Arithmetic Geometry*, Tucson, AZ
2016 Jan. *Joint Mathematics Meetings*, Seattle, WA
2015 Oct. *Western Algebraic Geometry Symposium*, Seattle, WA
2015 Aug. *Sage Days 68*, Bellingham, WA
2015 May. *Sage Days 64.25*, Encinitas, CA

2015 Mar. *Arizona Winter School*, *Rational Points on Surfaces*, Tucson, AZ

Outreach

2019 – 2019 Math Circle Leader, University California, Irvine, Irvine CA
2018 – 2018 Tutor, Ada Developers Academy, Seattle WA
2015 – 2018 Member, Association for Women in Mathematics, University of Washington Chapter
2016 – 2018 Mentor, Washington Experimental Mathematics Lab, University of Washington
2015 – 2018 Sage Workshop Leader, Math Day, University of Washington
2015 – 2017 Volunteer, Julia Robinson Math Festival, University of Washington
2016 – 2016 Mentor, Google Summer of Code, University of Washington

Other Employment

2018 – 2018 Software Engineer, `www.cocalc.com`
2015 – 2017 Web Developer, University of Washington
2015 – 2016 Contract Web Designer, Virginia Tech
2013 – 2014 Contract Web Designer, San Diego
2012 – 2013 Math Librarian, University of Oregon

Other Skills

- I contribute to the free and open source computer algebra system `Sage`, and reguarly use `Sage` in my research.
- I have written tens of thousands of lines of code in `Go`, `Javascript`, and `Python` and built several web applications, including an online math homework system.