

# Adam Topaz

## Curriculum Vitae

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Mathematical Institute  
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### Personal Information

- **Full Name:** Adam Topaz. **Date of Birth:** 12 November, 1986.
- **Research Focus:** Algebraic and arithmetic geometry, Galois theory, anabelian geometry, algebraic cycles, valuation theory, model theory of fields.

### Education

- **University of Pennsylvania.** Philadelphia, Pennsylvania, USA.  
Ph.D. in mathematics. Awarded May 2013.  
Thesis title: *Commuting-liftable subgroups of Galois groups*. Advisor: Florian Pop.
- **Davidson College.** Davidson, North Carolina, USA.  
B.S. in mathematics. Awarded May 2008.  
*Magna cum laude* with high honors in mathematics.

### Academic Positions

- **University of Oxford.** Oxford, United Kingdom.  
Postdoctoral Research Assistant. Sept. 2016 – present.  
Supported by EPSRC Programme grant on Symmetries and Correspondences.
- **Mathematical Sciences Research Institute.** Berkeley, California, USA.  
MSRI Postdoc. Spring 2014.  
Part of the MSRI semester on Model Theory, Arithmetic Geometry and Number Theory.
- **University of California, Berkeley.** Berkeley, California, USA.  
National Science Foundation Postdoctoral Fellow. Aug. 2013 – July 2016.

## Publications and Preprints

### Preprints

1. A. Topaz, *A Torelli theorem for higher-dimensional function fields*. Preprint (2017). Available at <https://arxiv.org/abs/1705.01084>.
2. P. Guillot, J. Mináč and A. Topaz, with an appendix by O. Wittenberg, *Four-fold Massey products in Galois cohomology*. Preprint (2016). Available at <https://arxiv.org/abs/1610.05748>.

### Published and Accepted Journal Articles

1. A. Topaz, *The Galois action on geometric lattices and the mod- $\ell$  I/OM*. Invent. Math. (accepted for publication, 2018). Available at <https://arxiv.org/abs/1510.08836>.
2. A. Topaz, *Commuting-liftable subgroups of Galois groups II*. J. reine angew. Math. (Crelle's Journal) (2017) 730, pg. 65-133.
3. A. Topaz, *Abelian-by-central Galois groups I: A formal description*. Trans. Amer. Math. Soc. (2017) 368, pg. 2721-2745.
4. A. Topaz, *Reconstructing function fields from rational quotients of mod- $\ell$  Galois groups*. Math. Annalen, (2016) 366 (1), pg. 337-385.
5. A. Topaz, *Abelian-by-central Galois groups II: Definability of inertia/decomposition groups*. Israel J. Math. (2016) 215 (2), pg. 713-748.
6. A. Topaz, *On the nature of base fields*. Appendix in *On The Minimized Decomposition Theory of Valuations* by F. Pop, Bull. Math. Soc. Sci. Math. Roumanie. Tome 58(106) No. 3.
7. J. Mináč, J. Swallow and A. Topaz, *Galois module structure of  $\mathbb{Z}/\ell^n$ -th classes of fields*, Bull. London Math. Soc. (2014) 46 (1), pg. 143-154.

### Other Publications

1. A. Topaz, *On Milnor  $K$ -groups of function fields*. In Oberwolfach Reports (2014), Vol. 11 (4), Valuation Theory and its Applications.
2. A. Topaz, *Detecting valuations using small Galois groups*. In Valuation Theory in Interaction, EMS Series of Congress Reports (2014). Eds: A. Campillo, F.-V. Kuhlmann, B. Teissier.
3. A. Topaz, *Pro- $\ell$  Galois groups and valuations*. In Oberwolfach Reports (2013), Vol. 10 (2), The Arithmetic of Fields.
4. A. Topaz, *Commuting-liftable subgroups of Galois groups*, Ph.D. Thesis at the University of Pennsylvania (2013).

## Grants and Fellowships

- Oxford postdoc supported by EPSRC programme grant EP/M024830/1 on Symmetries and Correspondences. Sept. 2016 – present.
- NSF mathematical sciences postdoctoral research fellowship DMS-1304114. Aug. 2013 – July 2016.

## Awards and Honors

- National Science Foundation Mathematical Sciences Postdoctoral Fellowship, 2013 – 2016.
- Carlitz-Zippen Prize for outstanding Ph.D. Thesis, University of Pennsylvania, May 2013.
- Benjamin Franklin Fellowship, University of Pennsylvania, 2008 – 2013.
- High honors in mathematics, Davidson College, 2008.
- Membership in Phi Beta Kappa, Davidson College, 2008.
- Barry M. Goldwater scholarship, Davidson College, 2007–2008.
- William G. McGavock Mathematics Award, Davidson College, 2008.

## Teaching Experience

### University of California, Berkeley (2013 – 2016)

- Math 113 – Abstract algebra; primary instructor, Fall 2013.
- Math 254A – Graduate-level number theory; primary instructor, Fall 2014.
- Math 250B – Second-semester graduate-level algebra; primary instructor, Spring 2015.
- Math 114 – Second-semester abstract algebra; primary instructor, Fall 2015.

*Sample teaching evaluations available upon request.*

### University of Pennsylvania, (2008 – 2013)

- Math 312 – Linear algebra; grader, Fall 2009.
- Math 103 – Introduction to Calculus; teaching assistant (4 sections), Spring 2010.
- Math 502 – Abstract Algebra I (Masters level); teaching assistant (2 sections), Fall 2010.
- Math 503 – Abstract Algebra II (Masters level); teaching assistant (2 sections), Spring 2011.
- Math 312 – Linear algebra; primary instructor, Summer 2012.
- Math 602 – Abstract Algebra I (Graduate level); grader, Fall 2012.
- Math 603 – Abstract Algebra II (Graduate level); grader, Spring 2013.

## Selected Lectures and Presentations

1. BIRS Workshop on Nilpotent Fundamental Groups; survey talk; June 2017.
2. Kyoto University, 2nd KTGU Workshop for Young Researchers; invited lecture; February 2017.
3. University of Oxford; joint Logic/Number Theory seminar; January 2017.
4. University of Oxford; Arithmetic Geometry Seminar; November 2016.
5. University of Western Ontario; Algebra Seminar; April 2016, April 2015.

6. University of California, Santa Cruz; Algebra and Number Theory Seminar; October 2015.
7. Summer Institute on Algebraic Geometry, Salt-Lake City Utah; research talk; July 2015.
8. University of Chicago; Algebraic Geometry Seminar; May 2015.
9. Oberwolfach Workshop on Valuation Theory; research talk; October 2014.
10. University of Pennsylvania; Galois Seminar; April 2014.
11. Mathematical Sciences Research Institute; Research Seminar; April 2014.
12. Mathematical Sciences Research Institute; Postdoc Seminar; March 2014.
13. Oberwolfach Workshop on Arithmetic of Fields; research talk; June 2013.
14. Wesleyan University; Algebra Seminar; February 2013.
15. Tel-Aviv University; Field Arithmetic seminar; December 2011.
16. Hausdorff Institute for Mathematics, Bonn Germany; Field Arithmetic seminar; July 2011.

## Other Activities

- **BIRS Workshop on Nilpotent Fundamental Groups.** Co-organized BIRS workshop 17w5112 with J. Mináč, F. Pop and K. Wickelgren (June 2017).
- **Refereeing.** Refereed manuscripts for: Trans. Amer. Math Soc.; J. Pure and Appl. Logic; Math. Nach.; Pub. Res. Inst. Math. Sci.; Canad. J. Math.; Res. Number Theory.
- **Seminar Organizer.** Co-organizer of the Number Theory Seminar at the Mathematical Institute, University of Oxford (Winter 2017 – present).
- **Undergraduate Advising.** Supervised undergraduate honors theses at the University of California, Berkeley (Fall 2015, Spring 2016).
- **Oberwolfach Reports.** Compiler of Oberwolfach Reports for MFO Workshop on Arithmetic of Fields (June 2013).