

# Will Johnson

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## Education

Ph.D. Mathematics, University of California Berkeley, 2016.

Dissertation: *Fun with Fields*. Advised by Tom Scanlon.

B.S. Mathematics and Computer Science, University of Washington, 2011.

Thesis: *Combinatorial Game Theory, Well-Tempered Scoring Games, and a Knot Game*.

## Research

### *Research Interests:*

Model theory of fields and valued fields

Neostability: strongly dependent theories,  $NTP_2$  theories, dp-rank, o-minimality

Applications of model theory to arithmetic geometry

Pseudofinite fields and ACFA

Applications of cohomology and category theory to model theory

### *Journal Articles*

1. Appendix to Freitag, J. et al (2017). *Differential Chow varieties exist*. To appear in *Journal of the London Mathematical Society*.
2. Johnson, W. (2014). *The combinatorial game theory of well-tempered scoring games*. *International Journal of Game Theory* 43, 415–438.

### *Conference Talks*

3. *When does  $T^{eq}$  eliminate  $\exists^\infty$ ?* 2016 North American meeting of the Association for Symbolic Logic.
4. *On dp-minimal fields*. 2015 Neostability Theory meeting in Oaxaca, Mexico.
5. *Interpretable sets in o-minimal structures*. 2015 North American meeting of the Association for Symbolic Logic.

## Preprints

6. *On dp-minimal fields* (2015). arXiv:1507.02745.
7. *On the proof of elimination of imaginaries in algebraically closed valued fields* (2014). arXiv:1406.3654.
8. *A pathological o-minimal quotient* (2014). arXiv:1404.3175.
9. *Circular planar resistor networks with nonlinear and signed conductors* (2012). arXiv:1203.4045.
10. *The knotting-unknotting game played on sums of rational shadows* (2011). arXiv:1107.2635.

## Miscellaneous

11. *Fun with Fields* (2016). PhD dissertation, UC Berkeley.
12. *Combinatorial Game Theory, Well-Tempered Scoring Games, and a Knot Game* (2011). Undergraduate Senior Thesis, University of Washington.

## Fellowships and Awards

- 2015–2016 Herb Alexander Prize for an outstanding dissertation in pure mathematics (UC Berkeley)
- 2011 NSF Graduate Research Fellow
- 2009 Putnam Fellow
- 2008, 2010 honorable mention in Putnam contest
- 2011 Dean's Medalist in the Natural Sciences (University of Washington)

## Teaching

### UC Berkeley

Graduate Student Instructor, Fall 2014–Spring 2015, first year calculus. Led weekly discussion sections, held office hours, helped grade exams. Worked for Ole Hald in 2014 and Alexander Coward in 2015.

Directed Reading Program Mentor, Fall 2014. Guided an undergraduate mathematics major through Lou van den Dries' *Tame Topology and O-minimal Structures*, and helped the undergraduate prepare an end-of-semester presentation on the book.

### University of Washington

Undergraduate Teaching Assistant, Fall 2010–Spring 2011, second year honors calculus and complex analysis (proof-based). Led weekly discussion sections, held office hours, graded homework. Worked for Jim Morrow.

## Employment

Software Engineer. Niantic, Inc., 2016–present.

Last updated: December 11, 2016

<https://math.berkeley.edu/willij/drafts/will-cv.pdf>