

Joseph D. Flenner

Curriculum Vitæ

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Department of Mathematics
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Citizenship: United States

RESEARCH INTERESTS: Model theory of fields, valuation theory, lattice theory and order

· EDUCATION ·

Ph.D. Mathematics. University of California, Berkeley, December 2008.

Thesis: The Relative Structure of Henselian Valued Fields

Committee: Thomas Scanlon (Chair), Leo Harrington, Branden Fitelson

B.S. Mathematics, Linguistics. University of Michigan, May 2000.

With Highest Distinction and Highest Honors in Mathematics

· EMPLOYMENT ·

• UNIVERSITY OF NOTRE DAME, DEPARTMENT OF MATHEMATICS

Research Assistant Professor, July 2009 - Present.

• HAUSDORFF RESEARCH INSTITUTE FOR MATHEMATICS

Guest Researcher: Trimester Program on Diophantine Equations, January - April 2009.

· AWARDS & FELLOWSHIPS ·

1. UC LEADS Outstanding Mentor Award, 2004.
2. National Defense Science & Engineering Graduate Fellowship, 2001-2004.
3. NSF Graduate Research Fellowship Honorable Mentions, 2000 & 2001.
4. Fulbright Fellowship (Germany), Albert-Ludwigs-Universität Freiburg, 2000-2001.
5. Evelyn O. Bychinsky Award in Mathematics, University of Michigan, 1998.

· PUBLICATIONS ·

Preprints available at <http://www.nd.edu/~jflenner/research.html>.

1. *Relative decidability and definability in henselian valued fields.*
Journal of Symbolic Logic **76** (2011), no. 4, 1240-1260.
2. *Canonical forests in directed families.*
With Vincent Guingona. Submitted, 2011.
3. *Two theories which are not VC-minimal.*
With Vincent Guingona. In preparation.
4. *Interpretable linear orders and lattices of finite breadth.*
In preparation.

· TEACHING ·

• UNIVERSITY OF NOTRE DAME

- Spring 2012: Beginning Logic.
Introductory logic course for non-majors.
- Fall 2011: Calculus III (Multivariable Calculus).
- Summer 2011: SUMR Reading Course: Real Analysis.
Part of a special intensive program for honors students.
- Academic year 2010-2011: Honors thesis project.
Advised a senior thesis project on model theory of algebraically closed valued fields.
- Spring 2011: Topics in Mathematical Logic II: Decision Problems in Algebra.
Graduate level topics course.
- Fall 2010: Calculus A (Life Sciences Sequence).
- Spring 2010: Calculus II (Science & Engineering Sequence).
- Fall 2009: Calculus II (Science & Engineering Sequence).
Calculus courses were mid-sized lecture courses of 50-70 students.

• UNIVERSITY OF CALIFORNIA, BERKELEY

- Professional Development Program, Graduate Student Instructor, 2007-2008.
Taught precalculus and calculus in intensive discussion sections aimed at students underrepresented in the sciences.
- Department of Mathematics, Instructor, Summer 2006.
Principal instructor for summer course: Linear Algebra & Differential Equations.
- Department of Mathematics, Graduate Student Instructor, 2004-2007.
Led discussion sections in calculus, linear algebra & differential equations.
- UC LEADS Graduate Student Mentor, Summer 2004.
Mentored an undergraduate student during a summer research program.

- Departments of Mathematics and History, Instructor, Spring 2003.
Co-taught self-designed course, The World of Early-Modern Mathematics, with historian Luke Clossey, covering early-modern mathematics especially in non-western cultures.
- Extensive individual tutoring experience in algebra, analysis, linear algebra, and logic.

· PRESENTATIONS ·

1. Logic seminars of University of Notre Dame, University of Illinois at Chicago, University of Illinois at Urbana-Champaign, University of Maryland, and Ohio State University. *Relative definability in henselian valued fields.* 2009-2011.
2. Hausdorff Research Institute, Diophantine Equations Seminar. *Relative decidability in henselian valued fields.* February 2009.
3. UCLA Logic Colloquium. *The relative structure of valued fields.* November 2008.
4. Wesleyan University, AMS Eastern Sectional meeting. *Definability in characteristic 0 henselian valued fields via leading terms.* October 2008.
5. McMaster University, Model Theory Seminar. *A decomposition theorem for characteristic 0 henselian fields.* November 2007.
6. University of Leeds, Model Theory Seminar. *Coding subsets of henselian fields.* June 2007.
7. University of California, Berkeley, Model Theory Seminar. Various topics. 2002-2008.

· CONFERENCES & WORKSHOPS ·

1. *2012 Joint Mathematics Meetings.* Boston, Massachusetts. January 2012.
2. *Recent Developments in Model Theory.* Oléron, France. June 2011.
3. *Association for Symbolic Logic 2011 North American Annual Meeting.* University of California, Berkeley. March 2011.
4. *2011 Joint Mathematics Meetings.* New Orleans, Louisiana. January 2011.
5. *Model Theory of Fields.* AMS Mathematics Research Communities, Snowbird, Utah. June 2010.
6. *Association for Symbolic Logic 2010 North American Annual Meeting.* George Washington University, Washington, DC. March 2010.
7. *New Methods in Hilbert's Tenth Problem.* Hausdorff Research Institute for Mathematics, Bonn. February 2009.
8. *Number Theory and Computability.* International Centre for Mathematical Sciences, Edinburgh. June 2007.

9. *Association for Symbolic Logic Annual Meeting*. University of Florida. March 2007.
10. *Model Theory and Computable Model Theory*. University of Florida. February 2007.
11. *Logic Colloquium '05*. University of Athens. July 2005.
12. *Model Theory and Applications to Algebra and Analysis*. Isaac Newton Institute for Mathematical Sciences, Cambridge. January-July 2005.
13. *Extensions of Hilbert's Tenth Problem*. American Institute of Mathematics, Palo Alto. March 2005.

· REFERENCES ·

- *Research:*
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