

Erik Walsberg

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Employment

University of Illinois, Urbana-Champaign

J.L. Doob Research Assistant Professor

Aug 2016–Present

Hebrew University of Jerusalem

Postdoctoral research position supervised by Ehud Hrushovski

(I spent the year as a visitor at Paris VI)

Aug 2015–Aug 2016

Education

University of California, Los Angeles

PhD, mathematics

2010–2015

Arizona State University

BS, mathematics

Tempe, AZ

2006–2010

Awards

Stephen J. Girsky Fellowship Award at UCLA, 2014

Charles Wexler Award at ASU, 2010 (senior award)

Papers

1. **Nontrivially Noetherian C^* -algebras**
with T. Hines, Math. Scand. 111 (2012), no. 1, 135–146.
2. **Marker Steinhorn via definable linear orders**
Notre Dame J. Form. Log., accepted.
3. **Dp-minimal valued fields**
with F. Jahnke and P. Simon, J. Symb. Log. 82 (2017), 1, 151–165.
4. **Tame topology over dp-minimal structures**
with P. Simon, Notre Dame J. of Form. Log., 60, (2019) 1, 61–76.
5. **On the topology of metric spaces definable in o-minimal expansions of fields**
submitted
6. **On the Hausdorff dimension of metric spaces definable in o-minimal expansions of the real field**
with J. Marikova, Fund. Math., accepted.

7. **Isometric embeddings of snowflakes into finite-dimensional Banach spaces**
with *E. Donne and T. Rajala*, Proc. Amer. Math. Soc. 146 (2018), 685-693 .
8. **Interpreting the monadic second order theory of one successor in expansions of the real line**
with *P. Hieronymi*, Israel J. Math. 224 (2018), no. 1, 39-55.
9. **How to avoid a compact set**
with *P. Hieronymi and A. Fornasiero*, Adv. Math. 317 (2017), 758-785.
10. **Wild theories with o-minimal open core**
with *P. Hieronymi and T. Nell*, Ann. Pure Appl. Logic 169 (2018), 2, 146-163.
11. **On continuous functions definable in expansions of the ordered real additive group**
with *P. Hieronymi*, submitted.
12. **A family of dp-minimal expansions of $(\mathbb{Z}; +)$**
with *M. Tran*, submitted.
13. **Expansions of the real field by discrete subgroups of $GL_n(\mathbb{C})$**
with *P. Hieronymi and S. Xu*, submitted.
14. **Interpolative Fusions**
with *A. Kruckman and M. Tran*, arXiv:1811.06108.
15. **Fractals and the monadic second order theory of one successor**
with *P. Hieronymi*, arXiv:1901.03273.
16. **Continuous Regular Functions**
with *A. Block Gorman, P. Hieronymi, E. Kaplan, R. Meng, Z. Wang, Z. Xiong, and H. Yang*, arXiv:1901.03366.
17. **Coarse dimension and definable sets in expansions of the ordered real vector space.**
arXiv:1903.00736
18. **Dp-minimal expansions of discrete ordered abelian groups.**
arXiv:1903.06222.
19. **Dp- and other minimalities.**
with *Pierre Simon*, appearing soon.
20. **Interpolative Fusions: NSOP₁**
with *A. Kruckman and M. Tran*, in preparation.

Invited Talks

Workshop on Tame Expansions of O-minimal Structures

University of Konstanz, Konstanz, Germany

Oct. 2018

Ohio State University

Logic Seminar, Columbus, Ohio

May 2018

Association of Symbolic Logic, Annual Meeting <i>Model theory special session, WIU, Illinois</i>	May 2018
McMaster University <i>Logic Seminar, Hamilton, Ontario</i>	March 2018
Fields Institute <i>Geometry and Model Theory Seminar, Toronto, Ontario</i>	March 2018
Canadian Mathematical Society Winter Meeting <i>Model theory special session, University of Waterloo, Ontario</i>	Dec. 2017
AMS Sectional Meeting <i>Model theory special session, University of Indiana, Bloomington</i>	April 2017
Midwest Model Theory Day <i>University of Illinois, Chicago</i>	April 2017
Ohio State University <i>Logic Seminar, Columbus, Ohio</i>	Jan. 2017
City University of New York <i>Model theory seminar, New York</i>	Dec. 2016
University of Illinois, Chicago <i>Logic Seminar</i>	Nov. 2016
Workshop on Model Theory: From Fields to Hardy Fields <i>Fields Institute, Toronto, Ontario</i>	Aug. 2016
University of Konstanz <i>Model theory seminar, Konstanz, Germany</i>	June 2016
Münster Model Theory Month Conference <i>University of Münster, Münster, Germany</i>	May 2016
University of the Andes <i>Logic Seminar, Bogota, Columbia</i>	April 2016
University of Illinois, Urbana-Champaign <i>Logic Seminar, Urbana, Illinois</i>	April 2016
University of Jyväskylä <i>Geometry Seminar, Jyväskylä, Finland</i>	Jan. 2016
Paris VI <i>Seminar on Ordered Algebraic Structures</i>	Jan. 2016
Paris VI <i>Model theory and group theory seminar</i>	Dec. 2015
Joint Mathematics Meetings <i>Model theory special session, San Antonio, Texas</i>	Jan. 2015
Western Illinois University <i>Departmental Colloquium, Macomb, Illinois</i>	Dec. 2014
University of Illinois, Chicago	Oct. 2014

Logic Seminar

Ohio State University

Sept. 2014

Logic Seminar, Columbus, Ohio

University of Illinois, Urbana-Champaign

Aug. 2014

Logic Seminar

Association of Symbolic Logic, Annual Meeting

May 2014

Model theory special session, Boulder, Colorado

Logic in Southern California Meeting

March 2014

Caltech, California

McMaster University

Nov. 2013

Logic Seminar, Hamilton, Ontario

Teaching

University of Illinois: Lecturer

- Noneuclidean Geometry (Math 402, 20 students, Fall 2018)
- Mathematical Logic (Math 414, 28 students, Spring 2018)
- Fundamental Mathematics (Math 347, two sections with 45 students total, Fall 2017 *)
- Fundamental Mathematics (Math 347, two sections with 54 total students, Spring 2017 *)
- Fundamental Mathematics (Math 347, 27 students, Fall 2016)

(* indicates appearance on the 'List of teachers ranked as excellent by their students')

University of California: Teaching Assistant

Differential and integral calculus for life sciences, Precalculus, and linear optimization.

Undergraduate Research Projects

University of Illinois

- Automata and Numeration Systems, Fall 2018 and Spring 2019, 5 students
- Automata and Differentiable Functions, Fall 2017 and Spring 2018, 4 students.

Both projects were done through the Illinois Geometry Labi.

The latter project resulted in the paper "Continuous Regular Functions"

Service

Referee for the following journals: International Colloquium on Automata, Languages and Programming, Annales scientifiques de l'ENS, Journal of Symbolic Logic, Annals of Pure and Applied Logic, Archive of Mathematical Logic, Illinois Journal of Mathematics.

Currently organizing the UIUC logic seminar.