

James Hanson

CONTACT INFORMATION

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EMPLOYMENT

University of Maryland, College Park

Novikov Postdoctoral Fellow, Fall 2021

I was offered a postdoctoral position at the ANR Project AGRUME for Spring 2021 working with Tomás Ibarlucía at the Université de Paris, but the pandemic prevented me from officially accepting the position. Instead, I worked remotely with Ibarlucía on a related research project.

EDUCATION

University of Wisconsin-Madison

PhD in Mathematics, December 2020
MA in Physics, December 2016

University of Minnesota-Twin Cities

BSc in Mathematics and Physics, May 2012

PUBLICATIONS

1. J. HANSON, *Analog reducibility*. Journal of Logic and Computation, 2021, exab036, <https://doi.org/10.1093/logcom/exab036>.
2. J. HANSON, T. IBARLUCÍA, *Approximate isomorphism of randomization pairs*. arxiv.org/abs/2202.04151. Preprint.
3. J. HANSON, *Bounded ultraimaginary independence and its total Morley sequences*. arxiv.org/abs/2201.03631. Preprint.
4. G. CONANT, J. HANSON, *Separation for isometric group actions and hyperimaginary independence*. arxiv.org/abs/2110.07763. Accepted.
5. G. CONANT, K. GANNON, J. HANSON, *Keisler measures in the wild*. arxiv.org/abs/2103.09137. Submitted.
6. J. HANSON, *Strongly Minimal Sets and Categoricity in Continuous Logic*. arxiv.org/abs/2011.00610. Submitted.
7. J. HANSON, *Approximate Isomorphism of Metric Structures*. arxiv.org/abs/2011.00588. Submitted.
8. J. HANSON, *Approximate Categoricity in Continuous Logic*. arxiv.org/abs/2011.00589. Submitted.
9. J. HANSON, *Metric spaces are universal for bi-interpretation with metric structures*. arxiv.org/abs/2103.14957. Submitted.
10. J. HANSON, *Topometric characterization of type spaces in continuous logic*. arxiv.org/abs/2106.13261. Submitted.
11. J. HANSON, *Indiscernible Subspaces and Minimal Wide Types*. arxiv.org/abs/2004.03062. Preprint.

12. W. COTTRELL, J. HANSON, A. HASHIMOTO, A. LOVERIDGE, AND D. PETTENGILL, *Intersecting $D3$ - $D3'$ brane system at finite temperature*. Phys. Rev. D, 95, 044022 (2017).
13. W. COTTRELL, J. HANSON, AND A. HASHIMOTO, *Dynamics of $\mathcal{N} = 4$ supersymmetric field theories in $2 + 1$ dimensions and their gravity dual*. J. High Energ. Phys. 2016, 12.

TALKS

Bounded ultraimaginary independence

- University of Maryland Logic Seminar. (February 2022)

Definable sets in continuous logic

- University of Maryland Logic Seminar. (September 2021)

A gentle introduction to continuous logic

- University of Maryland Logic Seminar. (September 2021)

A Versatile Counterexample for Invariant Types and Keisler Measures outside NIP

- Notre Dame Model Theory Seminar (Digital). (March 2021)
- Séminaire de Logique Lyon-Paris (Digital). (March 2021)

Joint work with Gabriel Conant and Kyle Gannon.

Strongly Minimal Sets in Continuous Logic (regarding essential continuity)

- Online Logic Seminar (Digital). (August 2021)

Definability and Categoricity in Continuous Logic

- UW Logic Seminal (Digital), University of Wisconsin-Madison. (April 2020)

Skolemization in Continuous Logic

- UW Logic Seminar, University of Wisconsin-Madison. (November 2019)

Strongly Minimal Sets in Continuous Logic (regarding categoricity)

- Logic Seminar, University of Illinois at Chicago. (October 2019)
- AMS Sectional Meeting, Special Session on Model Theory, University of Wisconsin-Madison. (September 2019)
- Graduate Student Conference in Logic XX, University of Illinois at Chicago. (April 2019)
- UCI Logic and Set Theory Seminar, University of California, Irvine. (April 2019)
- UW Logic Seminar, University of Wisconsin-Madison. (February 2019)

Separable and inseparable Gromov-Hausdorff categoricity in continuous logic

- Association for Symbolic Logic North American Annual Meeting, Western Illinois University. (May 2018)
- Graduate Student Conference in Logic XIX, University of Wisconsin-Madison. (April 2018)

Encoding metric structures as metric spaces

- UW Logic Seminar, University of Wisconsin-Madison. (February 2018)

AWARDS

University of Wisconsin-Madison, Department of Mathematics

- *Excellence in Mathematical Research Award*, October 2019.
- *Physical Sciences Award*, October 2018.

University of Wisconsin-Madison, Department of Physics

- *Van Vleck Fellowship for Teaching Assistants*, September 2012.
- *David L. Huber Fellowship*, September 2012.
- *Firminhac Fellowship*, September 2012.

University of Minnesota

- *Professor Hans H. Dalaker Scholarship for Undergraduate Mathematics*, April 2011.
- *Presidential Scholarship*, August 2008.
- *Maroon and Gold Leadership Award*, August 2008.
- *National Merit Scholarship*, August 2008.
- *Undergraduate Research Scholarship*, August 2008.

ORGANIZATIONAL
EXPERIENCE

In Fall 2021, I run the University of Maryland, College Park, Logic Seminar.

I helped organize the 19th Graduate Student Conference in Logic which was held at the University of Wisconsin-Madison in April 2018.

OUTREACH

I participated the University of Wisconsin-Madison Math Department Directed Reading Program.

I volunteered for the University of Wisconsin-Madison Math Circle.

I volunteer for the Skype a Scientist program.