## James Hanson


CONTACT INFORMATION

University of Maryland, College Park
Department of Mathematics
Kirwan Hall
4176 Campus Drive
College Park, MD 20742

jhanson9@umd.edu
JamesHansonMath.com


EMPLOYMENT

**University of Maryland, College Park**

Novikov Postdoctoral Fellow, Fall 2021 to present

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, *Strongly Minimal Sets and Categoricity in Continuous Logic*. arxiv.org/abs/2011.00610. Accepted at *Memoirs of the AMS*.
2. G. CONANT, K. GANNON, J. HANSON, *Keisler measures in the wild*. Model Theory 2, no. 1 (2023): 1-67. doi.org/10.2140/mt.2023.2.1.
3. J. HANSON, T. IBARLUCÍA. *Approximate isomorphism of randomization pairs*. Confluentes Mathematici, Volume 14 (2022) no. 2, pp. 29-44. doi : 10.5802/cml.85.
4. J. HANSON, *Metric spaces are universal for bi-interpretation with metric structures*. Ann. Pure Appl. Logic (2023), doi.org/10.1016/j.apal.2022.103204.
5. G. CONANT, J. HANSON, *Separation for isometric group actions and hyperimaginary independence*. Fundamenta Mathematicae 259 (2022), 97-109, doi.org/10.4064/fm167-2-2022.
6. J. HANSON, *Analog reducibility*. Journal of Logic and Computation, 2021, exab036, doi.org/10.1093/logcom/exab036.
7. 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).
8. 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.

PUBLICATIONS (PREPRINTS)

1. J. HANSON, *A simple continuous theory*. arxiv.org/abs/2306.14324.
2. J. HANSON, *Bi-invariant types, reliably invariant types, and the comb tree property*. arxiv.org/abs/2306.08239.
3. J. HANSON, *Some semilattices of definable sets in continuous logic*. arxiv.org/abs/2302.02264. Submitted.

4. J. Hanson, *A metric set theory with a universal set.* arxiv.org/abs/2302.02258. Submitted.
5. J. Hanson, *Bounded ultraimaginary independence and its total Morley sequences.* arxiv.org/abs/2201.03631. Submitted.
6. J. Hanson, *Topometric characterization of type spaces in continuous logic.* arxiv.org/abs/2106.13261. 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.

## Talks

*Generic stability and randomizations*
- Mid-Atlantic Mathematical Logic Seminar Spring Fling 2023. (May 2023)
- Joint Mathematics Meetings. (April 2022)

*How bad could it be? The semilattice of definable sets in continuous logic*
- NYLogic Logic Workshop. (April 2023)
- Wesleyan Logic Colloquium. (November 2022)
- University of Maryland Logic Seminar. (October 2022)

*Bounded ultraimaginary independence*
- 2023 North American Annual Meeting of the ASL. (March 2023)
- UCLA Logic Colloquium. (May 2022)
- University of Maryland Logic Seminar. (February 2022)

*An introduction to continuous logic*
- VCU Analysis, Logic and Physics Seminar. (April 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

I run the University of Maryland, College Park, Logic Seminar and have done so since Fall 2021.

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.