

Monroe Eskew

Curriculum Vitæ

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Education

- 10.09.2014 **Ph.D.**, *Mathematics*, University of California, Irvine, USA.
- 11.06.2009 **MS**, *Mathematics*, University of California, Irvine, USA.
- 14.05.2005 **BA**, *Mathematics and Philosophy*, Rice University, USA.

Employment

- 2017-present **Postdoctoral Researcher**, *University of Vienna*, Kurt Gödel Research Center, Faculty of Mathematics.
- 2015-2017 **Visiting Assistant Professor**, *Virginia Commonwealth University*, Department of Mathematics and Applied Mathematics.
- 2014-2015 **Postdoctoral Researcher**, *University of Tsukuba*, Department of Mathematics.
- 2010-2014 **Teaching Assistant**, *University of California, Irvine*, Department of Mathematics.

Language competency

- English (native tongue)
- German (B2 level)

Main areas of research

My research interests lie in logic, infinitary combinatorics, and foundations of mathematics. I focus mainly on large-cardinal-like properties of small cardinals and the extent to which these can be realized. I have also worked recently on applications of logic to analysis.

Projects and awards

1. Lead investigator on Austrian Science Foundation (FWF) Project P34603, "Trouble in Cantor's Paradise." Vienna, Austria. 01.08.2021–31.07.2025. €323,358.
2. Co-investigator on Vera Fischer's FWF START-Programm Project Y1012, "Infinitary Combinatorics and Definability." Vienna, Austria. January 2020–July 2021.
3. Co-investigator on Sy-David Friedman's FWF Project P28420, "The Hyperuniverse Programme." Vienna, Austria. September 2017–July 2020.
4. Co-investigator on Virginia Commonwealth University *Presidential Research Quest Fund* Project, "Open

problems in the foundations of mathematics.” Co-applicant with Sean Cox and Brent Cody. Richmond, Virginia, USA. Fall 2016–Summer 2017. \$40,000

5. International Research Fellow of the Japan Society for the Promotion of Science (JSPS) under the project, “Forcing and Large Cardinals.” Host professor: Mashiro Shioya. Tsukuba, Japan. October 2014–June 2015. Approximately \$30,000.
6. Invited Scientific Researcher. Fields Institute. Toronto, Canada. Fall 2012. \$3000.
7. GAANN Fellowship (Graduate Assistantships for Areas of National Need), US Department of Education. Irvine, California, USA. Fall 2008–Spring 2010. \$30,000.

Selected invited talks

1. “The tree property.” Introductory seminar in set theory, University of Vienna. May 2021.
2. “Uncommon systems of embeddings.” Barcelona Set Theory Seminar. November 2020.
3. “Weak square from weak presaturation.” University of Illinois at Chicago Logic Seminar. September 2020.
4. “Integration via ultrafilters.” Philosophy colloquium, University of Konstanz. June 2020.
5. “Global Chang’s Conjecture.” Mid-Atlantic Mathematical Logic Seminar. Richmond, Virginia, USA. April 2017.
6. “Reflection in Higher Logics.” James Madison University Mathematics Colloquium. March 2017.
7. “Precipitous ideals.” Lecture series for the UC Irvine Graduate Summer School in Set Theory. July 2015.
8. “An \aleph_2 -saturated ideal on \aleph_3 ?” Kobe University Set Theory Seminar. June 2015.
9. “Local saturation of the nonstationary ideals.” Nagoya University Logic Seminar. March 2015.
10. “Measurability properties on small cardinals.” Logic in Southern California Meeting. UCLA. June 1, 2013.

Thesis Supervision

“Gödel’s Second Incompleteness Theorem,” by Timo Rydholm. Bachelor’s thesis for the Mathematics degree at the University of Vienna. May 2020.

Teaching Experience

- Instructor for “Mathematics for Business and Economics” at the Fachhochschule Wiener Neustadt. Flipped-classroom format. Winter Semester 2022.
- Taught the following Master’s courses at the University of Vienna:
 - Introductory seminar on Mathematical Logic. Summer Semester 2019.
 - Axiomatic Set Theory 2. Winter Semester 2019.
- Taught the following courses at Virginia Commonwealth University between Fall 2015 and Spring 2017:
 - Calculus II
 - Calculus III (x4)
 - Linear Algebra (x2)
 - Special Topics Course: Ultrafilters and Applications
- Served as a Teaching Assistant for the following courses at the University of California, Irvine, between Fall 2010 and Spring 2014. Duties included leading discussion section, holding office hours, writing and administering examinations, and providing feedback to student work.
 - Calculus (x6)
 - Math for Economists
 - Linear Algebra (x4)
 - Introduction to Abstract Math

- Rings and Fields
- Elementary Analysis (x2)
- Complex Analysis
- Modern Geometry
- History of Mathematics
- Introduction to Logic (x2)
- Introduction to Cryptology
- Probability and Stochastic Processes