KAMERYN J WILLIAMS

kamerynw@hawaii.edu · kamerynjw.net

Department of Mathematics · University of Hawai'i at Mānoa

2565 McCarthy Mall, Keller 401A · Honolulu, HI 96822

ACADEMIC POSITIONS

University of Hawai'i at Mānoa   **Fall 2018–Present**
Temporary Assistant Professor

EDUCATION

Ph.D. in Mathematics   **May 2018**
The Graduate Center, The City University of New York

Dissertation Advisor: Joel David Hamkins (jdh.hamkins.org)
Dissertation Title: The structure of models of second-order set theories

B.S. in Mathematics   **Dec 2012**
Boise State University

High Honors
Minor in Computer Science

RESEARCH INTERESTS

I am a mathematical logician, specializing in set theory. My work has touched on models of set theory and set-theoretic potentialism, the foundations of forcing, especially class forcing, set-theoretic geology, and second-order set theories. I am also interested in connections between set theory to other areas of logic and mathematics, and in connections to philosophy of mathematics. I have worked on the computable structure theory of forcing, and am currently engaged in work on applications of cardinal characteristics of the continuum to analysis.

PUBLICATIONS

Jonas Reitz and Kameryn J. Williams, Inner mantles and iterated HOD, *in preparation.*

Miha Habič, Joel David Hamkins, Lukas Daniel Klausner, Jonathan Verner, and Kameryn J. Williams, Set-theoretic blockchains, *under review*, eprint: arXiv:1808.01509 [math.LO] (2018).

Kameryn J. Williams, *The Structure of Models of Second-Order Set Theories*, Ph.D. Dissertation, The City University of New York, eprint: arXiv:1804.09526 [math.LO] (2018).

Kameryn J. Williams, Least models of second-order set theories, *under review*, eprint: arXiv:1709.03955 [math.LO] (2017).

Victoria Gitman, Joel David Hamkins, Peter Holy, Philipp Schlict, and Kameryn Williams, The exact strength of the class forcing theorem, *under review*, eprint: arXiv:1707.03700 [math.LO] (2017).

Joel David Hamkins, Philip Welch, and Kameryn J. Williams, The universal finite sequence of ordinals in the constructible universe, *in preparation.*

Kameryn J. Williams, Bi-interpretability of second-order set theories, *in preparation.*

Joel David Hamkins, Russell Miller, and Kameryn J. Williams, Forcing as a computational process, *in preparation.*

Kameryn J. Williams, Transfinite recursion from Gödel–Bernays to Kelley–Morse, *in preparation.*

AWARDS AND FELLOWSHIPS

Quantitative Reasoning Fellowship, The Graduate Center, CUNY. 2017–2018 academic year.

Graduate Teaching Fellowship, The Graduate Center, CUNY. 2014–2016 academic years.

University Fellowship, The Graduate Center, CUNY. 2014–2015 academic year.

Tuition Fellowship, The Graduate Center, CUNY. 2013–2018 academic years.

Student Award of Excellence, 2nd place, Mathematics Section, for presentation "Minimal models of Kelley–Morse set theory." AAAS Pacific Division 2016 meeting.

TEACHING

University of Hawaiʻi at Mānoa   **Fall 2018–Present**
Temporary Assistant Professor

As a temporary assistant professor at UH Mānoa I was instructor of record for my classes, with my duties involving supervising a grader.

Courses Taught:

Math 244 Calculus IV

Math 302 Introduction to Differential Equations I

Bronx CC, CUNY   **Fall 2017–Spring 2018**
Quantitative Reasoning Fellow

In this interdisciplinary program I partnered with non-mathematics faculty to promote the teaching of quantitative reasoning and the use of mathematical methods across the curriculum. I gave guest lectures in classrooms, conducted training for faculty, and advised them on how to incorprorate the teaching of quantitative reasoning in their courses.

Brooklyn College, CUNY   **Fall 2013–Spring 2017**
Lecturer   Fall 2016–Spring 2017
Graduate Teaching Fellow C   Fall 2014–Spring 2016
Teaching Assistant   Fall 2013–Spring 2014

My final three years at Brooklyn College I taught courses as the instructor of record. My final year at Brooklyn College I this teaching was in their Brooklyn College Academy program, an early-college program where high school juniors and seniors take college courses for credit. My first year at Brooklyn College I worked as a teaching assistant, holding recitation sessions and grading exams.

Courses Taught:

Math 1011 Precalculus Mathematics	Math 1201 Calculus I
Math 1021 Precalculus Mathematics A	Math 1311 Thinking Mathematically
Math 1026 Precalculus Mathematics B	

DISTANT TALKS

These are talks I gave at conferences and at seminars in other institutions.

Minimal models of second-order set theory, contributed talk, *2018 ASL North America Annual Meeting*, (May 2018).

Strong second-order set theories do not have least transitive models, *Logic and Computation Seminar*, University of Pennsylvania (Nov 2017).

On the length of iterated full satisfaction classes, *Warsaw Workshop on Formal Truth Theories*, Institute of Philosophy, University of Warsaw (Sept 2017).

The exact strength of the class forcing theorem, *Research Seminar*, Kurt Gödel Research Center, University of Vienna (Sept 2017).

Minimal models of Kelley-Morse set theory, *Boise Extravaganza in Set Theory*, part of the 97th Annual Meeting of the AAAS Pacific Division, University of San Diego (June 2016).

LOCAL TALKS

These are talks I gave at seminars hosted by my current institution.

Forcing as a computational process, *Logic Seminar*, Univerisity of Hawai'i at Mānoa (Sept 2018).

A conceptual overview of forcing, *Logic Seminar*, University of Hawai'i at Mānoa (Sept 2018).

Universes of sets, *Logic Seminar*, University of Hawai'i at Mānoa (Aug 2018).

The length of inductive iterated full satisfaction classes, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Oct 2017).

Chains and antichains of finitely axiomatizable theories conservative over Peano Arithmetic, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Oct 2017).

The exact strength of the class forcing theorem, *Set Theory Seminar*, The Gradate Center, CUNY (Oct 2017).

Minimal models of Kelley-Morse set theory, *NY Graduate Student Logic Conference*, The Graduate Center, CUNY. (May 2016).

Minimal models of second-order set theories, *Set Theory Day*, The Graduate Center, CUNY (Mar 2016).

Separating Class Determinacy, *Set Theory Seminar*, The Graduate Center, CUNY (Nov 2016).

Models of arithmetic with two expansions to ACA_0, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Oct 2016).

Yet more forcing in arithmetic: life in a second-order world, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Sept 2016).

Recursive definability of the standard cut, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Oct 2015).

Is there a least transitive model of Kelley-Morse set theory? *Set Theory Seminar*, The Graduate Center, CUNY (Oct 2015).

Admissible covers and compactness arguments for ill-founded models of set theory, *Set Theory Seminar*, The Graduate Center, CUNY (Sept 2015).

A perfectly generic talk, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Apr 2015).

Rather classless models of set theory and second-order set theory, *Set Theory Seminar*, The Graduate Center, CUNY (Mar 2015).

Forcing over models of arithmetic, *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY (Nov 2014).

Scott's problem for models of ZFC, *Set Theory Seminar*, The Graduate Center, CUNY (Oct 2014).

On the independence of Borel's conjecture, *Set Theory Seminar*, The Graduate Center, CUNY (Apr 2014).

SERVICE

Reviewer for *Mathematical Logic Quarterly*.

Served on Putnam/Hanf Competition Committee, Department of Mathematics, University of Hawaiʻi at Mānoa. Fall 2018–Present.

Co-organizer (with V. Gitman), *MAMLS Logic Friday*, Mid-Atlantic Mathematical Logic Seminar, The Graduate Center, CUNY. Oct 2017.

Co-organizer (with V. Gitman), *Set Theory Seminar*, The Graduate Center, CUNY. Fall 2017–Spring 2018.

Co-organizer (with A. Dolich), *Models of Peano Arithmetic Seminar*, The Graduate Center, CUNY, Fall 2017–Spring 2018.

Organizer, *Student Set Theory Seminar*, The Graduate Center, CUNY. Fall 2017–Spring 2018.

REFERENCES

Available upon request.