ALEXI BLOCK GORMAN

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EDUCATION

Doctorate in Mathematics, University of Illinois at Urbana-Champaign — Expected May 2021
Advisor: Philipp Hieronymi, GPA – 3.89.

Bachelor of Arts in Mathematics, Wellesley College — 2012 - 2016
with Honors, Magna Cum Laude, GPA – 3.75.

HONORS AND AWARDS

NSF Graduate Research Program Fellow — 2018 - 2021

List of Teachers Ranked as Outstanding — Fall 2017 & Spring 2018

GAANN fellowship at UIUC — 2016-2017

Martha Davenport Heard Senior Prize in Mathematics from Wellesley College — 2016

Martha Davenport Heard Sophomore Prize in Mathematics from Wellesley College — 2014

PUBLICATIONS

Companionability characterization for the expansion of an o-minimal theory by a dense subgroup, submitted. Preprint: https://arxiv.org/abs/2003.06366, 2020.

Pairs of theories satisfying a Mordell-Lang condition, with Philipp Hieronymi & Elliot Kaplan, *Fundamenta Mathematicae*, vol. 251, 131-160, 2020.

Continuous regular functions, with Philipp Hieronymi, Elliot Kaplan, Ruoyu Meng, Erik Walsberg, Zihe Wang, Ziqin Xiong & Hongru Yang, *Logical Methods in Computer Science*, vol. 16 no. 1, 17:1–17:24, 2020.

The density of primes dividing a particular non-linear recurrence sequence, with Tyler Genao, Heesu Hwang, Noam Kantor, Sarah Parsons & Jeremy Rouse, *Acta Arithmeticae*, vol. 175, no. 1, 71-100, 2016.

CONFERENCES AND SELECTED SEMINARS

Conferences:

- Invited speaker at the Model Theory Special Session at the **2020 ASL North American Annual meeting**, canceled due to COVID-19.

- Invited Speaker at the **AMS Spring Central Sectional Meeting 2020**, in the special session on "Model Theory and its Applications," canceled due to COVID-19.

- Contributed talk at the **2020 ASL Winter Meeting at the JMM**, on "Companionability characterization for the expansion of an o-minimal theory by a dense subgroup."

- Invited speaker at **SIU Pure Mathematics Conference 2019**, on "Characterizing companionability for expansions of an o-minimal group by a generic subgroup."

- Invited speaker at **Workshop on Tame Expansions of O-minimal Structures 2018 (Konstanz)**, on "Pairs of theories satisfying a Mordell-Lang condition."

- Contributed talk at the **2018 ASL North American Annual meeting**, on "Pairs of theories satisfying a Mordell-Lang condition."

Seminar Talks:

- University of Manchester logic seminar, on "Companionability characterization for the expansion of an o-minimal theory by a dense subgroup," 2020.

- Notre Dame logic seminar, on "Characterizing companionability for expansions of o-minimal theories by a dense, proper subgroup," 2020.

- University of Waterloo, on "Continuous Regular Functions: where automata theory meets metric geometry," 2020.

- The Ohio State University logic seminar, on "When does a subgroup of the real numbers embed nicely into a 'generic' subgroup of the reals?" 2019.

- Séminaire: structures algébriques ordonées at Université Paris Diderot (Paris 7), on "O-minimal expansions of groups with a predicate for a dense substructure expanding a group," 2019.

- University of Lyon logic seminar, on "O-minimal expansions of groups with a predicate for a dense substructure expanding a group," 2019.

LEADERSHIP & OUTREACH

- Academic Committee Chair, AWM Grad Student Chapter at UIUC   Fall 2020 - Spring 2021

- Organizer for Graduate Student Conference in Logic XXII   Spring 2021

- Organizer for the Theory of Computation reading course & learning seminar (UIUC)   Fall 2020

- Sloan UCEM peer mentor at UIUC   Fall 2020

- Research manager for the Illinois Geometry Lab   Fall 2019 - Spring 2020

- Organizer for Computability learning seminar (UIUC)   Spring 2020

- Activity coordinator at Getting Engaged in Math and Science (GEMS) Workshop   Spring 2020
  (AWM at UIUC outreach event)

- Interim Director for Summer in Illinois Mathematics Camp at UIUC   Spring 2019

- Outreach training and development manager for the Illinois Geometry Lab   Fall 2018 - Spring 2019

- Illinois Geometry Lab team leader (for 3 distinct projects)   Spring 2018, Fall 2018, Spring 2019

- Activity coordinator at Sonia Math Day (AWM at UIUC outreach event)   Spring 2018

RESEARCH EXPERIENCES & PROGRAMS

- Visiting scholar at Zukunftskolleg, University of Konstanz   April 2019

- Thematic Program in Model Theory at Notre Dame (Participant)   Summer 2016

- Program for Interdisciplinary and Industrial Internships at Illinois   Summer 2016

- Honors Thesis in Mathematics at Wellesley College, "Generalizations of Nil Clean to Ideals"   Spring 2016
  available at: http://repository.wellesley.edu/cgi/viewcontent.cgi?article=1532&context=thesiscollection

- WADE Into Research REU at Wake Forest University   Summer 2015

- Science Center Summer Research at Wellesley College   Summer 2014

- Summer Math Program for Women at Carleton College   Summer 2013

TEACHING

University of Illinois at Urbana-Champaign:

- Instructor for Summer in Illinois Mathematics Camp at UIUC   Summer 2018
  "Counting to Infinity plus one!" (Original educational content on naive set theory.)

- Teaching Assistant for Multivariable Calculus   Fall 2017 & Spring 2018
  (twice-weekly discussion sections)

- Teaching Assistant for Calculus I   Fall 2017
  (twice-weekly discussion sections)

Wellesley College:

- Student Grader for Real Analysis and Math Helproom Tutor   Fall 2015

- Student Grader for Complex Analysis and Math Helproom Tutor   Spring 2015

- Supplemental Instruction Leader for Calculus II   Spring 2014

- Supplemental Instruction Leader for Multivariable Calculus   Fall 2013