

## ALEXI BLOCK GORMAN

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### EDUCATION

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**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

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**NSF Graduate Research Program Fellow** 2018 - 2021

**List of Teachers Ranked as Outstanding by their Students** 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

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**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, Ziheng Wang, Ziqin Xiong & Hongru Yang, *Logical Methods in Computer Science*, vol. 16 no. 1, 17:117:24, 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

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#### 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 ordonnées 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

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- 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 (AWM at UIUC outreach event) Spring 2020
- Assistant Director for Summer in Illinois Mathematics Camp at UIUC Summer 2019
- Interim Director for Summer in Illinois Mathematics Camp at UIUC Fall 2018 - 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

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- 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
- 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

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### 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 naïve set theory.)
- Teaching Assistant for Multivariable Calculus Fall 2017 & Spring 2018  
(twice-weekly discussion sections)
- Teaching Assistant for Calculus I Fall 2016  
(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