

## Meng-Che “Turbo” Ho

University of Wisconsin–Madison  
Department of Mathematics  
480 Lincoln Dr.  
Madison, WI 53715 USA

*Phone:* (608) 263-2410  
*Fax:* (608) 263-8891  
ho@math.wisc.edu  
www.math.wisc.edu/~ho

### EDUCATION

- 2012 Ph.D. Candidate, Mathematics, University of Wisconsin–Madison (expected graduation: May 2017)  
Advisors: Uri Andrews, Tullia Dymarz  
Thesis title: Randomizing and Describing Groups  
Minor: Geometry/Topology
- 2012 M.A., Mathematics, University of Wisconsin–Madison
- 2009 B.A., Mathematics, National Taiwan University

### EMPLOYMENT

- 2016 Research Assistant, Department of Mathematics, University of Wisconsin–Madison
- 2010 - 2016 Teaching Assistant, Department of Mathematics, University of Wisconsin–Madison
- 2013 Research Assistant, Mathematics, Academia Sinica, Taiwan  
Advisor: Ching Hung Lam  
Topic: Geometry of Sporadic Groups

### RESEARCH INTERESTS

Group Theory, Geometric Group Theory, Combinatorial Group Theory, Random Groups, Nilpotent Groups, Word Maps, Growth of Groups, Free Groups  
Logic, Computable Structure Theory, Scott Sentences and Index Sets, Model Theory

### PUBLICATIONS

Arxiv author link: [https://arxiv.org/a/ho\\_m\\_4.html](https://arxiv.org/a/ho_m_4.html)

- Horocyclic Growth in HNN Extensions of  $\mathbb{Z}^m$ , with Andrew P. Sánchez, in preparation
- The word problem of  $\mathbb{Z}^m$  is a multiple context free language, <https://arxiv.org/abs/1702.02926>, in preparation
- On optimal Scott sentences of finitely generated algebraic structures, with Matthew Harrison-Trainor, <https://arxiv.org/abs/1702.06448>, submitted
- On the Symmetry of Images of Word Maps in Groups, with William Cocke, <http://arxiv.org/abs/1701.05947>, submitted
- Random Nilpotent Groups I, with Matthew Cordes, Moon Duchin, Yen Duong, and Andrew P. Sánchez, <https://arxiv.org/abs/1506.01426>, *International Mathematics Research Notices*, to appear
- Describing Groups, <http://arxiv.org/abs/1512.03729>, *Proc. Amer. Math. Soc.* **145** (2017), no. 5, 22232239

### HONORS AND AWARDS

- 2015 Excellence in Research Award, Department of Mathematics, University of Wisconsin–Madison
- 2013 Mathematics Graduate Teaching Award, Department of Mathematics, University of Wisconsin–Madison
- 2011 Honored Instructor, Division of University Housing, University of Wisconsin–Madison

## SERVICE

- 2016-2017 Mentor in Directed Reading Program  
2012-2015 Organizer of semesterly Logic Picnic of University of Wisconsin–Madison logic group  
2014 Organizer of the 15th Annual Graduate Student Conference in Logic

## TEACHING

### University of Wisconsin–Madison (Grader)

Fall 2016: Fundamentals of Set Theory

### University of Wisconsin–Madison (Instructor)

Spring 2015: Mathematics for Teaching: Geometry and Measurement

Fall 2014: Mathematics for Teaching: Numbers and Operations

Spring 2014: Mathematics for Teaching: Numbers and Operations

Fall 2013: Mathematics for Teaching: Numbers and Operations

Spring 2013: Mathematics for Teaching: Numbers and Operations

### University of Wisconsin–Madison (Teaching Assistant)

Fall 2015: Calculus with Algebra and Trigonometry I

Fall 2012: Calculus\*

Spring 2012: Calculus and Analytic Geometry\*

Fall 2011: Calculus – Functions of Several Variables\*

Spring 2011: Calculus and Analytic Geometry\*

Fall 2010: Calculus and Analytic Geometry

\* denotes a teaching evaluation of *superior* based on the scale: superior, satisfactory plus, satisfactory, satisfactory minus, needs improvement, and unsatisfactory.

## INVITED TALKS

- 4/2017 On the Scott sentence of finitely generated structures, XVIII Graduate Student Conference in Logic, Urbana, IL
- 3/2017 The word problem of  $\mathbb{Z}^n$ , 2017 Spring Topology and Dynamical Systems Conference, New Jersey City University, Jersey City, NJ
- 2/2017 On the Scott sentence of finitely generated structures, Southern Wisconsin Logic Colloquium, University of Wisconsin–Madison, Madison, WI
- 10/2016 Scott Sentences and Index Sets of Groups, Student Logic Colloquium, University of California, Berkeley, CA
- 5/2016 A National Research Conference in the Fields of Pure Mathematics, Southern Illinois University, Carbondale, IL (declined)
- 1/2016 Describing Groups, Logic Seminar, University of Illinois at Chicago, Chicago, IL
- 10/2015 Describing Groups, AMS Central Fall Sectional Meeting, Loyola University Chicago, Chicago, IL
- 9/2015 Describing Groups, Computability Seminar, University of Notre Dame, Notre Dame, IN
- 4/2015 Describing Groups, The 16th Annual Graduate Student Conference in Logic, University of Illinois at Chicago, Chicago, IL
- 9/2014 Random Nilpotent Groups, Southern Wisconsin Logic Colloquium, University of Wisconsin–Madison, Madison, WI
- 9/2014 0-1 Conjecture of Groups, Geometric Group Theory and Topology Seminar, Tufts University, Medford, MA
- 4/2014 The 0-1 Conjecture for Groups, The 15th Annual Graduate Student Conference in Logic, University of Wisconsin–Madison, Madison, WI

### **CONTRIBUTED TALKS**

- 10/2015 Describing Groups, Models and Groups, Istanbul 5, Istanbul Center for Mathematical Sciences, Istanbul, Turkey
- 3/2015 Random Nilpotent Groups, Association for Symbolic Logic 2015 North American Annual Meeting, University of Illinois Champaign-Urbana, Urbana, IL
- 10/2014 Random Nilpotent Groups, Models and Groups, Istanbul 3, Istanbul Center for Mathematical Sciences, Istanbul, Turkey

### **WORKSHOPS ATTENDED BY INVITATION**

- 2016 Geometric Group Theory, Mathematical Science Research Institute, Berkeley, CA
- 2014, 2015, 2016 Models and Groups, Istanbul, Istanbul Center for Mathematical Sciences, Istanbul, Turkey
- 2014 Research Cluster in Random Group, Tufts University, Medford, MA
- 2012 Summer Graduate School in Model Theory, Mathematical Science Research Institute, Berkeley, CA
- 2012 Asian Initiative for Infinity Graduate Summer School, National University of Singapore, Singapore