ELLIOT KAPLAN

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EDUCATION

University Illinois at Urbana-Champaign   2015-2021
· Doctorate in mathematics, expected May 2021
· Dissertation: *Derivations on o-minimal fields*
· Advisor: Lou van den Dries

Undergraduate at Ohio University   2011-2015
· Bachelor of Science through the Honors Tutorial College, May 2015
· Mathematics major; philosophy minor
· Graduated summa cum laude
· Undergraduate thesis: *Initial Embeddings in the Surreal Number Tree*, advised by Philip Ehrlich.

PUBLICATIONS

Generic derivations on o-minimal structures
With Antongiulio Fornasiero.
Journal of Mathematical Logic, to appear.

Pairs of theories satisfying a Mordell-Lang condition
With Alexi Block Gorman and Philipp Hieronymi.
Fundamenta Mathematicae, vol. 251, no. 2, 2020.

Distality for the asymptotic couple of the field of logarithmic transseries
With Allen Gehret.
Notre Dame Journal of Formal Logic, vol. 61, no.2, 2020.

Continuous regular functions
With Alexi Block Gorman, Philipp Hieronymi, Ruoyu Meng, Erik Walsberg, Zihe Wang,
Ziqin Xiong, and Hongru Yang.
Logical Methods in Computer Science, vol. 16, no. 1, 2020.

Logarithmic hyperseries
With Lou van den Dries and Joris van der Hoeven.
Transactions of the American Mathematical Society, vol. 372, no. 7, 2019.

Number systems with simplicity hierarchies II
With Philip Ehrlich.
Journal of Symbolic Logic, vol. 83, no. 2, 2018.

Resolution depth of positive braids
With David Krcatovich and Patricia O'Brien.
Journal of Knot Theory and Its Ramifications, vol. 24, no. 14, 2015.

PREPRINTS

Surreal ordered exponential fields
With Philip Ehrlich.

Hyperserial fields
With Vincent Bagayoko and Joris van der Hoeven.

AWARDS AND ACHIEVEMENTS

NSF Mathematical Sciences Postdoctoral Research Fellowship (MSPRF)	2021 - 2024
Kuo-Tsai Chen Prize in Mathematics	2019
Waldemar J., Barbara G., and Juliette Alexandra Trjitzinsky Fellowship	2019
List of Teachers Ranked as Excellent by Their Students	2015, 2017 - 2020
Honorable mention, Graduate Research Fellowship Program	2016
Graduate College Conference Travel Award	2016
U.S. Junior Oberwolfach Fellows NSF Grant (DMS-1641185)	2016
Gateway Excellence Scholarship (full tuition)	2011 - 2015
Dean's Scholarship	2012 - 2015
Philosophy Department Student Achievement Award	2013 - 2015
Honorable mention, COMAP Mathematical Contest in Modeling	2013, 2015
Outstanding Presentation Award in the MAA Student Paper Session	MathFest 2014

INVITED TALKS

AMS Spring Central Sectional Meeting at Purdue University Model Theory and its Applications Special Session, canceled due to COVID-19.	April 2020
North American meeting of the Association of Symbolic Logic at UC Irvine Model Theory Special Session, canceled due to COVID-19.	March 2020
Summer Illinois Mathematics Camp at UIUC A discussion of the basics of knot theory aimed at a high school audience.	July 2018
Mathematical Research Institute of Oberwolfach, Germany Mini-Workshop on Surreal Numbers, Surreal Analysis, Hahn Fields and Derivations.	December 2016
Joint Math Meetings in Seattle, WA Surreal Numbers Special Session.	January 2016

SEMINAR TALKS

Topological and Differential Expansions of O-minimal Structures Seminar	February 2021
Manchester Logic Seminar	June 2020
Notre Dame Logic Seminar	June 2020
Lyon-Paris Logic Seminar	May 2020
Caltech-UCLA Logic Seminar	February 2020
Logic Seminar at Ohio State University	November 2019
Graduate Model Theory Seminar at UCLA	January 2018

CONTRIBUTED TALKS

Joint Math Meetings in Denver, CO	January 2020
North American meeting of the Association of Symbolic Logic at CUNY	May 2019
XIX Graduate Student Conference in Logic at UW-Madison	April 2018
XVIII Graduate Student Conference in Logic at UIUC	April 2017
North American meeting of the Association of Symbolic Logic at UIUC	March 2015
Undergraduate Mathematics Symposium at UIC	October 2014
Young Mathematicians Conference at Ohio State University	August 2014
MathFest in Portland, OR	August 2014

WORK EXPERIENCE

Teaching Assistant   2015-2021
University of Illinois at Urbana-Champaign

· Led discussion sections for Calculus II (Fall 2015, Summer 2020), Calculus III (Fall 2016, Spring 2017, Fall 2018, Fall 2019), and Applied Linear Algebra (Spring 2018, Fall 2020).
· Head teaching assistant for Elementary Linear Algebra (Fall 2017) and Applied Linear Algebra (Spring 2018, Fall 2020).
· Grader for Mathematical Logic (Fall 2016, Fall 2017) and General Topology (Fall 2017)
· Facilitated group work, helped students prepare for exams, helped write worksheets and exams.

Workshop Leader   Summer 2019
University of Illinois at Urbana-Champaign

· Led a three day workshop on advanced linear algebra topics for graduate students.
· Part of the Program for Interdisciplinary and Industrial Internships at Illinois, an NSF funded research program.

Summer Intern   Summer 2016
Wolfram Research

· Helped develop a way to code theorems from general topology in the Wolfram language.

Program for Interdisciplinary and Industrial Internships at Illinois   Summer 2015
University of Illinois at Urbana-Champaign

· NSF funded research program.
· Researched random matrix pencils for seven weeks, supervised by a visiting professor.
· Worked as part of a team of four within a program of fourteen students.

Lead Mathematics Tutor   August 2014 - May 2015
Ohio University Tutoring Services

CRLA Certified Mathematics Tutor   February 2012 - May 2015
Ohio University Tutoring Services

Summer Undergraduate Research Institute in Experimental Mathematics   Summer 2014
Michigan State University

MENTORSHIP AND PROFESSIONAL SERVICE

Graduate Student Member   Fall 2019 - Spring 2020
UIUC Math Department Undergraduate Affairs Committee

Graduate Team Leader   Summer 2019
Illinois Geometry Lab
Led a group of three undergraduate students in a project about three-player combinatorial games.

Graduate Mentor   Spring 2018
Illinois Geometry Lab
Helped lead a group of four undergraduate students in a research project studying functions recognizable by Büchi automata.

Co-organizer   Spring 2017, Spring 2021
Graduate Student Conference in Logic