

Uri Andrews

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

Phone: (608) 262-7349
Fax: (608)263-8891
andrews@math.wisc.edu
www.math.wisc.edu/~andrews

EMPLOYMENT

2018– Associate Professor, University of Wisconsin–Madison
Spring 2014 MSRI Postdoc, Mathematical Sciences Research Institute, Berkeley, CA
2013-2018 Assistant Professor, University of Wisconsin–Madison
2010-2013 Van Vleck Visiting Assistant Professor, University of Wisconsin–Madison

EDUCATION

2010 Ph.D., Mathematics, University of California, Berkeley, Advisor: Thomas W. Scanlon
Thesis title: Amalgamation constructions and recursive model theory
2005 B.A., Mathematics, University of California, Berkeley
2003 A.A., Anthropology, Economics, Liberal Arts, West Valley College

RESEARCH PUBLICATIONS

1. Amalgamation constructions and recursive model theory, Ph.D. Thesis, University of California, Berkeley, 2010.
2. New spectra of strongly minimal theories in finite languages, *Annals of Pure and Applied Logic*, 162 (2011), 367-372
3. A new spectrum of recursive models using an amalgamation construction, *Journal of Symbolic Logic*, 76 (2011), 883-896
4. The degrees of categorical theories with recursive models, *Proceedings of the American Mathematical Society*, 141 (2013), 2501-2514
5. The index set of uncountably categorical theories, with Tamvana Makuluni, *Israel Journal of Mathematics*, 196 (2013), 491-498.
6. Recursive spectra of strongly minimal theories satisfying the Zilber trichotomy, with Alice Medvedev, *Transactions of the American Mathematical Society*, 366 (2014), 2393-2417.
7. Decidable models of ω -stable theories, *Journal of Symbolic Logic*, 79 (2014), 186–192.
8. Spectra of theories and structures, with Joseph S. Miller, *Proceedings of the American Mathematical Society*, 143 (2015), 1283–1298.
9. Spectra of atomic theories, with Julia F. Knight, *Journal of Symbolic Logic*, 78 (2013), 1189–1198.
10. Universal computably enumerable equivalence relations, with Steffen Lempp, Joseph S. Miller, Keng Meng Ng, Luca San Mauro, and Andrea Sorbi, *Journal of Symbolic Logic*, 79 (2014), 60-88.
11. The degrees of bi-hyperhyperimmune sets, with Peter Gerdes and Joseph S. Miller, *Annals of Pure and Applied Logic*, 165 (2014), no. 3, 803–811.
12. On the structure of the degrees of relative provability, with Mingzhong Cai, David Diamondstone, Steffen Lempp, and Joseph S. Miller, *Israel Journal of Mathematics*, 207 (2015), 449-478.
13. Computing and dominating the Ryll-Nardzewski function, with Asher Kach, *Algebra and Logic*, 53 (2014), no. 2, 176–183.
14. Separable models of randomizations, with H. Jerome Keisler, *Journal of Symbolic Logic*, 80 (2015) 1149-1181.

15. Spectra of Recursive Models of Disintegrated Strongly Minimal Theories, *Lobachevskii Journal of Mathematics*, 2014, Volume 35, Issue 4, 287-291.
16. Definable closure in randomizations, with Isaac Goldbring and H. Jerome Keisler, *Annals of Pure and Applied Logic*, Volume 166, Issue 3, 2015, 325-341.
17. A local characterization of VC-minimality, with Vincent Guingona, *Proceedings of the American Mathematical Society*, 144 (2016), 2241-2256.
18. The complements of lower cones of degrees and the degree spectra of structures, with Mingzhong Cai, Iskander Sh. Kalimullin, Steffen Lempp, Joseph S. Miller, and Antonio Montalbán, *Journal of Symbolic Logic*, 81 (2016), 997–1006
19. Asymptotic density, computable traceability, and 1-randomness, with Mingzhong Cai, David Diamondstone, Carl Jockusch, and Steffen Lempp, *Fundamenta Mathematicae*, 234 (2016), 41–53
20. Theory spectra and classes of theories, with Mingzhong Cai, David Diamondstone, Steffen Lempp, and Joseph S. Miller, *Transactions of the American Mathematical Society*, 369 (2017), 6493-6510
21. Comparing classes of finite sums, with Dmitriy Dushenin, Cameron Hill, Julia Knight, and Alexander Melnikov, *Algebra and Logic*, Vol. 54, No. 6, January, 2016, 489–501.
22. Strongly minimal theories with recursive models, with Julia F. Knight, *Journal of the European Mathematics Society*, 20 (2018), 1561-1594
23. The complexity of index sets of computably enumerable equivalence relations, with Andrea Sorbi, *Journal of Symbolic Logic*, 81 (2016), 1375–1395
24. Nondensity of double bubbles in the d.c.e. degrees, with Rutger Kuyper, Steffen Lempp, Mariya I. Soskova, and Mars M. Yamaleev, A chapter in the book *Computability and Complexity*, in the Lecture Notes in Computer Science series, 547–562
25. A survey on universal computably enumerable equivalence relations, with Serikzhan Badaev and Andrea Sorbi, A chapter in the book *Computability and Complexity*, in the Lecture Notes in Computer Science series, 418–451
26. On cototality and the skip operator in the enumeration degrees, with Hristo A. Ganchev, Rutger Kuyper, Steffen Lempp, Joseph S. Miller, Alexandra A. Soskova, and Mariya I. Soskova, *Transactions of the American Mathematical Society*, 372 (2019), no. 3, 16311670.
27. Jumps of computably enumerable equivalence relations, with Andrea Sorbi, *Annals of Pure and Applied Logic*, 169 (2018), 243–259
28. Independence in Randomizations, with Isaac Goldbring and H. Jerome Keisler, *Journal of Mathematical Logic*, Vol. 19, No. 01, (2019)
29. Hindman’s theorem and idempotent types, with Isaac Goldbring, *Semigroup Forum*, Volume 97, 471-47.
30. Definable sets containing productsets in expansions of groups, with Gabriel Conant and Isaac Goldbring, *Journal of Group Theory*, Volume 22 (2019), 63-82.
31. Characterizing the continuous degrees, with Gregory Igusa, Joseph S. Miller, and Mariya I. Soskova, *Israel Journal of Mathematics*, to appear (17 pages)
32. Scattered sentences have few separable randomizations, with Isaac Goldbring, Sherwood Hachtman, H. Jerome Keisler, and David Marker, *Archive for Mathematical Logic*, to appear.
33. Jumps of computably enumerable equivalence relations, with Andrea Sorbi, *Annals of Pure and Applied Logic*, 169 (2018), 243–259
34. Joins and meets in the structure of ceers, with Andrea Sorbi, *Computability*, to appear.
35. On Isomorphism Classes of Computably Enumerable Equivalence Relations, with Serikzhan Badaev, *Journal of Symbolic Logic*, to appear.
36. Effective inseparability, lattices, and pre-ordering relations, with Andrea Sorbi, *Reviews of Symbolic Logic*, to appear.

37. Trial and error mathematics: dialectical systems and completions of theories, with Jacopo Amidei, Duccio Pianigiani, Luca San Mauro, and Andrea Sorbi, *Journal of Logic and Computation*, 29 (2019), no. 1, 157184.
38. Limit computations and ultrafilters on ω , with Mingzhong Cai, David Diamondstone, and Noah Schweber, *Computability*, to appear. (15 pages)
39. Spectra of computable models of strongly minimal disintegrated theories in languages of bounded arity, with Steffen Lempp, submitted. (38 pages)
40. VC-minimality: examples and observations, with Sarah Cotter Blanset, James Freitag, and Alice Medvedev, submitted. (15 pages)
41. Algebraic independence relations in randomizations, with Isaac Goldbring and H. Jerome Keisler, submitted. (20 pages)
42. The theory of ceers computes true arithmetic, with Noah Schweber and Andrea Sorbi, submitted (23 pages)
43. Self-Fullness for ceers, with Noah Schweber and Andrea Sorbi, submitted (16 pages)
44. Building models of strongly minimal theories, with Steffen Lempp and Noah Schweber, submitted (23 pages)
45. $[0, n] \cup \{\omega\}$ is a spectrum of a non-disintegrated flat strongly minimal model complete theory in a language with finite signature, with Omer Mermelstein, submitted

HONORS AND AWARDS

- 2019-2020 Fall Research Competition, UW–Madison
- 2017-2019 Educational Innovation Small Grant for redeveloping Math 171 and 217.
- 2016-2020 National Science Foundation Grant DMS-1600228
 - 2016 Honored Instructor Award from the University of Wisconsin Residence Halls
- 2015-2017 Co-PI on Science Committee of the Republic of Kazakhstan Grant GF-4/3952
 - 2013 Honored Instructor Award from the University of Wisconsin Residence Halls
 - 2013 Awarded the title of National Master by the US Chess Federation
- 2012-2015 National Science Foundation Grant DMS-1201338
 - 2012 Oberwolfach Leibniz graduate student grant
 - 2011 ASL Sacks Prize, for most outstanding doctoral dissertation in Logic worldwide in 2010
- 2011-2013 AMS Simons Travel Grant
 - 2011 Honored Instructor Award from the University of Wisconsin Residence Halls
- Summer 2008 MATHLOGAPS Fellowship (funded by the European Union)
- 2005 Dorothea Klumpke Roberts Prize for Undergraduate Scholarship

POSTDOCTORAL ADVISING

- Omer Mermelstein (2018-2021)
- Noah Schweber (2016-2019 as NSF postdoctoral fellow)

GRADUATE STUDENT ADVISING

- Meng-Che Ho, UW-Madison, model theory and group theory (graduated 2017, currently a postdoc at Purdue University)
- Tamvana Makuluni, UW-Madison, model theory (graduated 2018)
- James Hanson, UW-Madison, model theory (expected graduation 2021)

UNDERGRADUATE THESIS ADVISING

- 2015-2016 Rebecca Eastham, University of Wisconsin, Madison, Undergraduate thesis on combinatorics and logic.
2013-2014 Eric Katzelnick, University of Wisconsin, Madison, Undergraduate thesis on model theory of modules

SERVICE

- September 2019 Organizing special session in Model theory at AMS central sectional meeting.
2018-2019 Educational Innovation Small Grant to overhaul the math 171 and 217 Calculus with “just in time” precalculus series.
2016 Course development for the new course Math 570, Introduction to Set Theory.
October 2015 Co-organizer of special session on Model Theory for ASL sectional meeting, Chicago, IL
April 2015 Co-organizer of special session on Recursion Theory for annual ASL meeting, Urbana, IL
August 2013 Co-organizer (with Julia Knight and M. Chris Laskowski) of AIM Conference: Computable Stability Theory
2012 Organizing committee for ASL Annual Meeting in Madison, WI
Since 2011 Regular speaker at the Madison Math Circle
2011-2012 Putnam club coach at the University of Wisconsin, Madison (2011 team ranking 39, up from 93 in the previous year)
2011 Developed curricular materials for the Calculus with Algebra and Trigonometry series at the University of Wisconsin, Madison
Since 2010 Co-organizer of the semesterly Midwest Model Theory Day Conference, University of Illinois, Chicago

INVITED TALKS

- 1/2018 On building models of Solovay theories, Oberwolfach, Germany
8/2016 Tutorial series of 3 lectures: “Computable Model Theory” at the Logic Colloquium, ASL European Summer Meeting, Leeds, UK
6/2016 Spectra of recursive models of trichotomous strongly minimal theories, Workshop in Computability Theory, Ghent, Belgium
1/2016 Connections Between Computation and Geometry, Computability Complexity and Randomness Workshop, Honolulu, HI
6/2015 Tutorial series on computability theory for Vaught’s conjecture, Vaught’s conjecture workshop, Berkeley, CA
6/2014 Spectra of recursive models of disintegrated strongly minimal theories, Algebra and Mathematical Logic: Theory and Applications, Kazan, Russia
5/2014 Computable Stability Theory: A tutorial series, Algebra and Mathematical Logic: Theory and Applications, Kazan, Russia
3/2014 Relative recursiveness of models of strongly minimal theories, MSRI program in model theory, arithmetic geometry and number theory, Berkeley, CA
11/2013 Relative recursiveness of models of strongly minimal theories, Banff workshop on Computable Model Theory, Banff, Alberta, Canada
9/2013 A hop, skip, and a jump through the degrees of relative provability, Mathematics Department Colloquium, University of Wisconsin, Madison
8/2013 Introductory talk for workshop in Computable Stability Theory, AIM conference on Computable Stability Theory, Palo Alto, CA
5/2013 Relative computability of models of strongly minimal theories, Buenos Aires semester in Computability, Complexity and Randomness, Buenos Aires, Argentina

- 5/2013 Spectra of theories, North American Annual ASL Meeting, Plenary Speaker, Waterloo, Ontario, Canada
- 4/2013 Recursively presenting models of Solovay theories, AMS Sectional Meeting, Ames, Iowa
- 4/2013 A hands on approach to definability in randomizations, Midwest Model Theory Day, Chicago, IL
- 1/2013 Recursive spectra of strongly minimal theories satisfying the Zilber trichotomy, Joint Math Meetings, San Diego, CA
- 7/2012 Contributions to Two Questions of Goncharov, Workshop on Computable Model Theory, Novosibirsk, Russia
- 7/2012 Randomizations of Theories with Countably Many Countable Models, Novosibirsk Model Theory Seminar, Novosibirsk, Russia
- 6/2012 Universal Computably Enumerable Equivalence Relations, 15th Latin American Symposium on Mathematical Logic, Bogotá, Colombia
- 5/2012 Amalgamation Constructions Coding the Arithmetical Hierarchy, Workshop on Definability in Computable Structures, University of Chicago, Chicago, IL
- 5/2012 Recursive Spectra of Strongly Minimal Theories Satisfying the Zilber Trichotomy, Conference on Definability in Computable Structures, University of Chicago, Chicago, IL
- 2/2012 Amalgamation Constructions and Recursive Model Theory, Computability Theory Meeting, Oberwolfach, Germany
- 1/2012 Amalgamation Constructions and the Degrees of Categorical Theories with Recursive Models, UCLA Logic Colloquium
- 12/2011 Computable Stability Theory, Asian Logic Colloquium, Wellington, New Zealand
- 11/2011 Computable Stability Theory, Marquette University Colloquium, Milwaukee, WI
- 8/2011 Computability of the Model Theory of Groups, Geometric Group Theory and Logic, Chicago, IL
- 5/2011 Decidable Models of ω -stable Theories, Midwest Model Theory Weekend Conference, Columbus, OH
- 3/2011 Computable Stability Theory, Special Session on Model Theory, 2011 ASL Annual Meeting, Berkeley, CA
- 2/2011 (Ah)madness, Midwest Computability Theory Conference, Chicago, IL
- 2/2011 (Ah)madness, 2011 VIG Conference Honoring Yiannis Moschovakis, UCLA
- 9/2010 Computable Stability Theory, Mathematics Department Colloquium, University of Wisconsin, Madison
- 10/2008 Amalgamation Constructions and Recursive Model Theory, Special Session on Computability Theory and Effective Algebra, AMS Sectional Meeting, Middletown, CT

TEACHING

University of Wisconsin, Madison (Instructor)

- Fall 2019 Calculus With Algebra and Trigonometry I
- Spring 2019 Two lectures of Calculus II
- Fall 2018 Introduction to Mathematical Logic (graduate course)
- Spring 2017 Model Theory (graduate course)
- Spring 2017 Calculus I
- Fall 2016 Set Theory
- Fall 2016 Continuous Model Theory (graduate course)
- Spring 2016 Model Theory (graduate course)
- Fall 2015 Calculus With Algebra and Trigonometry I
- Spring 2015 Model Theory (graduate course)

Fall 2014 Models of Arithmetic (graduate course)
Fall 2014 Introduction to Mathematical Logic (graduate course)
Fall 2013 Recursion Theory (graduate course)
Fall 2013 Mathematical Logic
Spring 2013 Modern Algebra II
Spring 2013 Analysis I
Fall 2012 Applied Model Theory (graduate course)
Fall 2012 Analysis I
Spring 2012 Linear Algebra and Differential Equations
Fall 2011 Introduction to Mathematical Logic (graduate course)
Fall 2011 Model Theory and Algebraic Geometry (graduate course)
Spring 2011 Model Theory (graduate course)
Spring 2011 Calculus With Algebra and Trigonometry II
Fall 2010 Computable and Classical Model Theory (graduate course)
Fall 2010 Calculus With Algebra and Trigonometry I

University of California, Berkeley (Instructor)

Summer 2009 Number Theory
Summer 2006 Analytic Geometry and Calculus 1

University of California, Berkeley (Teaching Assistant)

Spring 2008 Recursion Theory (graduate course)
Fall 2007 Abstract Algebra
Spring 2007 Analytic Geometry and Calculus 1
Fall 2006 Analytic Geometry and Calculus 2
Spring 2006 Linear Algebra
Fall 2005 Calculus

Stanford EPGY Summer Institutes (Summer program for gifted high-school students)

Summer 2005 Mentored, taught courses, tutored, and supervised small group projects.

WORKSHOPS ATTENDED BY INVITATION

2018 Computability Theory, Oberwolfach, Germany
2017 Computability Theory, Dagstuhl, Germany (not attended)
2016 Computability Complexity and Randomness, Honolulu, HI
2015 Neostability Theory Workshop, Banff International Research Station, Oaxaca, Mexico
2014 Algebra and Mathematical Logic: Theory and Applications, Kazan, Russia
2014 MSRI Postdoc at Model Theory, Arithmetic Geometry and Number Theory workshop, Berkeley CA
2013 Banff workshop on Computable Model Theory, Banff, Alberta, Canada
2013 AIM workshop on Computable Stability Theory, Palo Alto, CA
2013 Buenos Aires Semester in Computability, Complexity and Randomness, Buenos Aires, Argentina
2012 Computable Model Theory, Novosibirsk State University, Novosibirsk, Russia

2012 Definability in Computable Structures, University of Chicago, Chicago, IL
2012 Computability Theory, Oberwolfach, Germany
2011 Reverse Mathematics, University of Chicago, Chicago, IL
2011 Geometric Group Theory and Logic, University of Illinois, Chicago
2010 Model Theory of Fields, Mathematics Research Communities, Snowbird Resort, Utah
2009 Reverse Mathematics: Foundations and Applications, University of Chicago, Chicago, IL
2009 Winter School in o-minimal Geometry, Fields Institute, Toronto, Canada
2008 MODNET Summer School, Manchester Institute for Mathematical Sciences, Manchester, England
2007 Workshop on Model Theory and Computable Model Theory, University of Florida, Gainesville, FL