

Vincent Guingona

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Employment History:

Associate Professor	Towson University	August 2023 to Present
Assistant Professor	Towson University	August 2016 to July 2023
Visiting Assistant Professor	Wesleyan University	September 2015 to June 2016
Postdoctoral Research Fellow	Ben-Gurion University of the Negev	August 2014 to June 2015
Visiting Assistant Professor	University of Notre Dame	July 2011 to June 2014
Teaching and Research Assistant	University of Maryland	August 2005 to May 2011

Education:

Ph.D. in Mathematics	University of Maryland	May 19, 2011
Thesis:	<i>On definability of types in dependent theories</i>	
Advisor:	Dr. M. Chris Laskowski	
B.S. in Mathematics with Honors	University of Chicago	June 11, 2005

Publications:

- Indivisibility for classes of graphs. With Felix Nusbaum, Zain Padamsee, Miriam Parnes, Christian Pippin, and Ava Zinman. Submitted.
- Littlestone and VC-dimension of families of zero sets. With Alexei Kolesnikov, Julie Nierwinski, and Richard Soucy. Submitted.
- Products of classes of finite structures. With Miriam Parnes and Lynn Scow. *Notre Dame J. Form. Log.*, to appear.
- The Brezis-Nirenberg problem for systems involving divergence-form operators. With Burton Brown IV, Mathew Gluck, Thomas Hammons, Miriam Parnes, Sean Pooley, and Avery Schweitzer. *Nonlinear Differ. Equ. Appl.*, **30** 75 (2023).
- Comparing approximate and probabilistic differential privacy parameters. With Alexei Kolesnikov, Julie Nierwinski, and Avery Schweitzer. *Inform. Process. Let.*, **182** (2023).
- Ranks based on strong amalgamation Fraïssé classes. With Miriam Parnes. *Arch. Math. Logic*, **62** (2023), 1-41.
- On VC-density in VC-minimal theories. *Notre Dame J. Form. Log.*, **63**(3) (2022), 395-413.
- On positive local combinatorial dividing-lines in model theory. With Cameron D. Hill. *Arch. Math. Logic*, **58** (2019), 289-323.
- Characterizing model-theoretic dividing lines via collapse of generalized indiscernibles. With Cameron D. Hill and Lynn Scow. *Ann. Pure Appl. Logic.*, **168** (2017), 1091-1111.

- A local characterization of VC-minimality. With Uri Andrews. *Proc. Amer. Math Soc.*, **144** (2016), 2241-2256.
- On a common generalization of Shelah's 2-rank, dp-rank, and o-minimal dimension. With Cameron D. Hill. *Ann. Pure Appl. Logic*, **166** (2015), 502-525.
- On VC-density over indiscernible sequences. With Cameron D. Hill. *Math. Logic Quart.*, **60** (2014), 59-65.
- On VC-minimal fields and dp-smallness. *Arch. Math. Logic*, **53** (2014), 503-517.
- Convexly orderable groups and valued fields. With Joseph Flenner. *J. Symbolic Logic*, **79** (2014), 154-170.
- Canonical forests in directed families. With Joseph Flenner. *Proc. Amer. Math. Soc.*, **142** (2014), 1849-1860.
- On VC-minimal theories and variants. With M. Chris Laskowski. *Arch. Math. Logic*, **52** (2013), 743-758.
- On uniform definability of types over finite sets. *J. Symbolic Logic*, **77** (2012), 499-514.
- Dependence and isolated extensions. *Proc. Amer. Math. Soc.*, **139** (2011), 3349-3357.

Invited Talks:

2022 ASL North American Meeting	Ithaca, NY	April 9, 2022
Carnegie Mellon Model Theory Seminar	Pittsburgh, PA (virtual)	October 14, 2022, October 21, 2022
George Washington University Logic Seminar	Washington, DC	November 22, 2019
Model Theory and Mathematical Logic	College Park, MD	June 23, 2019
Wesleyan Math/CS Colloquium	Middletown, CT	December 7, 2017
AMS Spring Eastern Sectional Meeting	New York, NY	May 6, 2017
Midwest Model Theory Day	Chicago, IL	April 4, 2017
AMS Spring Central Sectional Meeting	Bloomington, IN	April 2, 2017
CUNY Model Theory Seminar	New York, NY	October 28, 2016
Northeast Regional Model Theory Days	Philadelphia, PA	October 22, 2016
2016 ASL North American Meeting	Storrs, CT	May 26, 2016
Wesleyan Math/CS Colloquium	Middletown, CT	November 19, 2015
CUNY Logic Workshop	New York, NY	October 23, 2015
Southern Wisconsin Logic Colloquium	Madison, WI	September 29, 2015
Connecticut Logic Seminar	Middletown, CT	September 21, 2015
CMO Neostability Theory Conference	Oaxaca, Mexico	July 14, 2015
UC Berkeley Model Theory Seminar	Berkeley, CA	March 26, 2014
Carnegie Mellon Model Theory Seminar	Pittsburgh, PA	November 11, 2013

Midwest Model Theory Day	Chicago, IL	October 22, 2013
Hebrew University Logic Seminar	Jerusalem, Israel	March 13, 2013
Very Informal Gathering of Logicians Conference	Los Angeles, CA	February 1, 2013
CUNY Logic Workshop	New York, NY	October 26, 2012
Ohio State Logic Seminar	Columbus, OH	April 10, 2012
2012 AMS Spring Western Sectional Meeting	Honolulu, HI	March 3, 2012
UW Madison Logic Seminar	Madison, WI	February 14, 2012
2011 ASL North American Meeting	Berkeley, CA	March 26, 2011
UIC Logic Seminar	Chicago, IL	February 1, 2011
McMaster University Model Theory Seminar	Hamilton, ON, Canada	January 18, 2011
2011 MAA/AMS Joint Math Meetings	New Orleans, LA	January 7, 2011
George Washington University Logic Seminar	Washington, DC	October 6, 2010, October 13, 2010

Conferences Organized:

Model Theory and Mathematical Logic	College Park, MD	June 2019
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Conferences Attended:

Neostability Workshop	Banff, AB, Canada (virtual)	February 2023
Midwest Model Theory 2022	Chicago, IL (virtual)	October 2022
2022 ASL North American Meeting	Ithaca, NY	April 2022
2021 ASL North American Meeting	South Bend, IN (virtual)	June 2021
South Eastern Logic Symposium 2021	Gainesville, FL (virtual)	February 2021
Model Theory and Mathematical Logic	College Park, MD	June 2019
2019 ASL North American Meeting	New York, NY	May 2019
Pure and Applied Model Theory	Chicago, IL	October 2018
AMS Spring Eastern Sectional Meeting	New York, NY	May 2017
Midwest Model Theory Day	Chicago, IL	April 2017
AMS Spring Central Sectional Meeting	Bloomington, IN	April 2017
2016 ASL North American Meeting	Storrs, CT	May 2016
2016 AMS/MAA Joint Math Meetings	Seattle, WA	January 2016
CMO Neostability Conference	Oaxaca, Mexico	July 2015
2015 AMS/MAA Joint Math Meetings	San Antonio, TX	January 2015

2014 ASL North American Meeting	Boulder, CO	May 2014
Model Theory MSRI Semester	Berkeley, CA	January to May 2014
2014 AMS/MAA Joint Math Meetings	Baltimore, MD	January 2014
Model Theory 2013	Ravello, Italy	June 2013
2013 ASL North American Meeting	Waterloo, ON, Canada	May 2013
Very Informal Gathering of Logicians	Los Angeles, CA	February 2013
Workshop on Model Theory	Oberwolfach, Germany	January 2013
Latin American Symposium on Math. Logic	Bogotá, Colombia	June 2012
2012 ASL North American Meeting	Madison, WI	April 2012
2012 AMS Spring Western Section Meeting	Honolulu, HI	March 2012
Neostability Workshop	Banff, AB, Canada	January, February 2012
2011 ASL North American Meeting	Berkeley, CA	March 2011
2011 AMS/MAA Joint Math Meetings	New Orleans, LA	January 2011
AMS MRC Model Theory of Fields	Snowbird, UT	June 2010
2010 ASL North American Meeting	Washington, DC	March 2010
ESF Research Conference on Model Theory	Będlewo, Poland	August 2009

Other Research Experience:

Referee for Peer-Review Publications	Fall 2011 to Present
Organizer for the Notre Dame Logic Seminar	Fall 2013
Organizer for the Maryland Logic Seminar	Fall 2010, Spring 2011

Classroom Experience:

Graph Theory	Lecturer	Towson	Fall 2022
Calculus I	Lecturer	Towson	Fall 2018 to Fall 2023
Introduction to Abstract Mathematics	Lecturer	Towson	Spring 2017, 2018, 2019, 2020, 2022, 2023
Elementary Linear Algebra	Lecturer	Towson	Fall 2021
Topology	Lecturer	Towson	Fall 2020
Applied Combinatorics	Lecturer	Towson	Fall 2019, Fall 2023
Introduction to Abstract Algebra	Lecturer	Towson	Fall 2017, 2018
Calculus II	Lecturer	Towson	Fall 2016 to Spring 2018
Introductory Real Analysis	Lecturer	Towson	Fall 2016
Abstract Algebra	Lecturer	Wesleyan	Spring 2016
Linear Algebra	Lecturer	Wesleyan	Spring 2016
Vectors and Matrices	Lecturer	Wesleyan	Fall 2015
Calculus I, Part I	Lecturer	Wesleyan	Fall 2015

NIP Theories and Computational Learning Theory	Lecturer	Notre Dame	Fall 2013
A graduate-level topics class of my own design which gave applications of modern model theory to topics in computer science.			
Beginning Logic	Lecturer	Notre Dame	Fall 2013
Calculus III	Lecturer	Notre Dame	Fall 2012, Spring 2013
Calculus B	Lecturer	Notre Dame	Spring 2012
Calculus A	Lecturer	Notre Dame	Fall 2011
Mathematical Logic II	Lecturer	Maryland	Spring 2011
Filled in for a professor for a graduate-level class in mathematical logic. Lectured for three weeks, prepared one homework assignment, and aided in grading the final.			

Advising and Mentoring:

Advisor for REU Project in Model Theory and Graph Theory	Towson	Summer 2023
Directed a research experience for undergraduates (REU) with one other faculty member, M. Parnes, with four undergraduate students. In the project, we explored the connections between model theory and graph theory via coloring and partition properties of graphs and related structures.		
Advisor for REU Project in non-linear PDEs	Towson	Summer 2022
Directed an REU with two other faculty members, M. Gluck and M. Parnes, with four undergraduate students.		
Advisor for REU / Research Project in Machine Learning	Towson	Spring 2021 to Spring 2022
Directed an REU with one other faculty member, A. Kolesnikov, in Model Theory and Machine Learning with four undergraduate students. In the project, we explored the notion of PAC-learning and differential privacy. The project continued with two students and became two honors theses in Spring 2022.		
Advisor for Ingenuity Innovation Practicum	Towson	Fall 2019 to Spring 2020
Directed a research project with two high school students through the Ingenuity Project's Ingenuity Innovation Practicum. Conducted research with the students and another faculty member (M. Parnes) into theoretical machine learning theory.		
Advisor for Undergraduate Research Project	Towson	Spring 2018 to Spring 2019
Directed an undergraduate research project with one student on theoretical machine learning, including VC-dimension, PAC-learning, and online learning. Had weekly meetings with the student. Student gave presentation at the Undergraduate Research Conference at Towson.		
Graduate Reading Course on Valued Fields	Wesleyan	Spring 2016
Directed a reading course for graduate students on a model-theoretic approach to understanding valued fields and, in particular, the p -adic valued field.		
Directed a Reading Group on Discrete Geometry	Notre Dame	Fall 2013
Advised a group of ten advanced undergraduates in reading through "Lectures in Discrete Geometry" by Jiří Matoušek.		

Service:

Pure and Applied Mathematics		Fall 2023 to Present
Scholarship and Research	(Cochair: Fall 2023 to Present)	Fall 2023 to Present
Hiring Committees		Winter 2023, Summer 2023
Core / Calculus Committee	(Chair: Fall 2022 to Spring 2023)	Fall 2022 to Spring 2023
Coordinator for MATH 273		Fall 2020 to Present
Advisor for the Math Club		Fall 2019 to Present
Technology Committee		Fall 2019 to Spring 2023
Policies and Procedures Committee		Fall 2019 to Spring 2020
FCSM Undergraduate Research Committee		Fall 2018 to Present
Pure Mathematics Committee	(Chair: Fall 2020 to Spring 2022)	Fall 2016 to Spring 2023
Colloquium Committee	(Chair: Fall 2018 to Spring 2019)	Fall 2016 to Spring 2019