Curriculum Vitae

Victoria Gitman

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Research Interests

Mathematical Logic

- Set theory – forcing, large cardinals, and their interactions
- Models of Peano Arithmetic – properties of uncountable models

Appointments

- **Adjunct Lecturer**, CUNY Brooklyn College, 2003-2006.
  - Undergraduate courses: *Precalculus*, *Calculus I*, *Calculus II*.
- **Assistant Professor in Mathematics**, CUNY New York City College of Technology, 2007-2013.
  - Undergraduate courses: *College Algebra*, *Statistics and Probability*, *Calculus I*, *Calculus II*, *Differential Equations*, *Linear Algebra*.
  - Graduate courses: *Logic* (CUNY Graduate Center) .
  - Undergraduate research projects in *theoretical computer science*, *chaos theory*.
- **Visiting Scholar**, CUNY Graduate Center, 2014-present.

Professional Development

- **Ph.D. in Mathematics** (supervisor: Joel David Hamkins), CUNY Graduate Center, 2007.
- **B.S. in Mathematics** (summa cum laude), CUNY Brooklyn College, 2001.

Publications

(PDF available at: **https://victoriagitman.github.io/research**)

1. S. D. Friedman, V. Gitman, and S. Müller. *Structural Properties of the Stable Core*, submitted.
2. V. Gitman, J.D. Hamkins, and A. Karagila, *Fodor's Lemma in second-order set theory*, submitted.
3. B. Cody, V. Gitman, C. Lambie-Hanson, *A $\square(\kappa)$-like principle consistent with weak compactness*, submitted.
4. C. Antos, S.D. Friedman, and V. Gitman. *Boolean valued class forcing*, submitted.
5. S. D. Friedman, V. Gitman, and Vladimir Kanovei, *A model of second-order arithmetic satisfying* AC *but not* DC, **Journal of Mathematical Logic**, vol. 19, no. 1, 2019.
6. V. Gitman, J. D. Hamkins, P. Holy, P. Schlicht, K. Williams, *The exact strength of the forcing theorem*, submitted.
7. V. Gitman and J. D. Hamkins, *A model of the generic Vopěnka principle in which the ordinals are not Mahlo*, **Archive for Mathematical Logic**, vol. 58, no. 1-2, pp. 245-265, 2019.

8. V. Gitman and R. Schindler, *Virtual large cardinals*, **Annals of Pure and Applied Logic**, vol. 168, no. 12, pp. 1317-1334, 2018.
9. E. Carmody, V. Gitman, and M. Habič, *Mitchell order for Ramsey and Ramsey-like cardinals*, to appear in **Fundamenta Mathematicae**.
10. J. Bagaria, V. Gitman, and R. Schindler, *Generic Vopěnka's principle, remarkable cardinals, and a weak Proper Forcing Axiom*, **Archive for Mathematical Logic**, vol. 56, no. 1-2, pp. 1-20, 2017.
11. V. Gitman and J. D. Hamkins, *Open determinacy for class games,* **Foundations of Mathematics**, Series: Contemporary Mathematics, American Mathematical Society, vol. 690, pp. 121-143, 2017.
12. G. Fuchs, V. Gitman, and J. D. Hamkins, *Incomparable ω_1-like models of set theory*, to appear in **Mathematical Logic Quarterly**, vol. 63, no. 1-2, pp. 66-76.
13. G. Fuchs, V. Gitman, and J. D. Hamkins, *Ehrenfeucht's Lemma in set theory*, **Notre Dame Journal of Formal Logic**, vol. 59, no. 3, pp. 355-370.
14. Y. Cheng and V. Gitman, *Indestructibility for remarkable cardinals*, **Archive for Mathematical Logic,** vol. 54, no. 7, pp. 961-984, 2015.
15. V. Gitman, T. Johnstone, and J. D. Hamkins, *What is the theory ZFC without power set*, **Mathematical Logic Quarterly**, vol. 62, no. 4-5, pp. 391-406, 2016.
16. B. Cody and V. Gitman, *Easton's theorem for Ramsey and strongly Ramsey cardinals*, **Annals of Pure and Applied Logic**, vol. 166, no. 9, pp. 934-952, 2015.
17. V. Gitman and T. Johnstone, *On ground model definability*, **Infinity, Computability, and Metamathematics: Festschrift in honour of the 60th birthdays of Peter Koepke and Philip Welch**, Series: Tributes, College publications, London, GB, 2014.
18. A. Apter, V. Gitman, and J. D. Hamkins, *Inner models with large cardinal features usually obtained by forcing* , **Archive for Mathematical Logic,** vol. 51, no. 3, pp. 257-283, 2012.
19. V. Gitman and J. D. Hamkins, *A natural model of the multiverse,* **Notre Dame Journal of Formal Logic**, vol.51, no. 4, pp. 475-484, 2010.
20. V. Gitman and P. D. Welch, *Ramsey-like cardinals II*. **Journal of Symbolic Logic**, vol. 76, no. 2, pp. 541-560, 2011.
21. V. Gitman, *Ramsey-like cardinals*. **Journal of Symbolic Logic**, vol. 76, no. 2, pp. 519-540, 2011.
22. V. Gitman, *Proper and piecewise proper families of reals.* **Mathematical Logic Quarterly** vol 55, no. 5, pp.542-550, 2009.
23. V. Gitman, *Scott's Problem for proper Scott sets.* **Journal of Symbolic Logic**, vol. 73, no. 3, pp.845–860, 2008.

Work in Progress

(Some summaries available at: **https://victoriagitman.github.io/research**)

1. V. Gitman, T. Johnstone, and J. D. Hamkins, *Kelley-Morse set theory and choice principles for classes*, in preparation.
2. V. Gitman and T. Johnstone, *Indestructibility for Ramsey and Ramsey-like cardinals*, in preparation.
3. W. Boney, S. Dimopolous, V. Gitman, and M. Magidor. *Model Theoretic Characterizations of Large Cardinals Revisited*.

4. S. Dimopolous, D. Nielsen, V. Gitman. *The virtual large cardinal hierarchy.*
5. V. Gitman, M. Godziszewski, T. Meadows, K. Williams. *On axioms for multiverses of set theory.*

Invited Research Positions

- ❏ Visiting researcher, Kurt Gödel Research Center, Austria, Spring 2018.
- ❏ Visiting researcher, Kurt Gödel Research Center, Austria, Spring 2017.
- ❏ Visiting researcher, National University of Singapore, Singapore, Fall 2016.
- ❏ Participant, **Workshop on High and Low Forcing**, American Institute of Mathematics, San Jose, US, Winter 2016.
- ❏ Visiting Fellow, **Mathematical, Foundational and Computational Aspects of the Higher Infinite** (**HIF**) program, Isaac Newton Institute, United Kingdom, Fall 2015.
- ❏ Visiting researcher, University of Bristol, United Kingdom, Summer 2008.

Invited (non-CUNY) Talks

(Some slides/lecture notes available at: **https://victoriagitman.github.io/research**)

- ❏ **UltraMath2020**, University of Pisa, Italy, Summer 2020.
- ❏ **Logic Seminar**, University of Denver, Winter 2020.
- ❏ *Ground model definability in ZF***, JMM** (special session on choiceless set theory and related areas), Winter 2020.
- ❏ *Toy multiverses of set theory*, **ASL Annual Winter Meeting**, University of Denver, Colorado, Denver, Winter 2020.
- ❏ *Toy multiverses of set theory*, **Philosophy of Set Theory and Foundations Workshop**, University of Konstanz, Germany, Summer 2019.
- ❏ *A model of second-order arithmetic satisfying AC but not DC*, **Journées sur les Arithmétiques Faibles 2019**, CUNY Graduate Center, New York, Spring 2019.
- ❏ *A primer on the set-theoretic multiverse*, **VCU Analysis, Logic, and Physics Seminar**, Virginia Commonwealth University, 2019.
- ❏ *Set theory in second-order*, **STUK 2 Conference**, University of Bristol, United Kingdom, 2019.
- ❏ *Set theories with classes*, **ASL 2019 Annual North American Meeting** (special session in set theory), CUNY Graduate Center, New York, 2019.
- ❏ *The stable core*, **Reflections on set-theoretic reflection conference**, University of Barcelona, Spain, 2018.
- ❏ *Virtual Vopěnka's Principle,* **Accessible categories and their connections: set theory, model theory, and homotopy theory conference**, University of Leeds, United Kingdom, 2018.
- ❏ *The stable core,* **Forcing: conceptual change in the foundation of mathematics conference**, University of Konstanz, Germany, 2018.
- ❏ *Virtual large cardinal principles*, **KGRC Research Seminar**, Kurt Gödel Research Center, Austria, 2018.
- ❏ *The emerging zoo of second-order set theories*, **Forcing and Philosophy Workshop**, University of Konstanz, Germany, 2018.
- ❏ *Virtual large cardinal principles*, **Harvard Logic Seminar**, Harvard University, 2017.

Curriculum Vitae

- *A model of second-order arithmetic with the choice scheme in which Π^1_2-dependent choice fails,* **KGRC Research Seminar**, Kurt Gödel Research Center, Austria, 2017.
- *Computable processes which produce any desired output in the right nonstandar model***, 2017 AMS Eastern Sectional Meeting**, special session: Computability Theory: Pushing the Boundaries, Hunter College of CUNY, New York, 2017.
- *A set-theoretic approach to Scott's Problem*, **NSU Logic Seminar**, National University of Singapore, Singapore, 2016.
- *Generic Vopěnka's Principle*, **Rutgers Logic Seminar**, Rutgers University, New Jersey, 2016.
- *Generic Vopěnka's Principle*, **Young Set Theory Conference**, University of Copenhagen, Denmark, 2016.
- *Ehrenfeucht principles in set theory*, **British Logic Colloquium**, Isaac Newton Institute for Mathematical Sciences, United Kingdom, 2015.
- *Indestructible remarkable* cardinals, **5th European Set Theory Conference**, Isaac Newton Institute for Mathematical Sciences, United Kingdon, 2015.
- *Introduction to nonstandard models of arithmetic,* **VCU Analysis, Logic, and Physics Seminar**, Virginia Commonwealth University, 2015.
- *Nonstandard models of arithmetic,* **Blackboard Day 10**, Columbia University, New York, 2015.
- *Kelley-Morse set theory and choice principles for classes*, **Symposia on the Foundations of Mathematics II**, University of London, United Kingdom, 2015.
- *Choice schemes for Kelley-Morse set theory*, **Colloquium Logicum**, Universität der Bundeswehr München, Germany, 2014.
- *Incomparable ω_1-like models of set theory*, **Connecticut Logic Seminar**, University of Connecticut, 2014.
- *Indestructibility for Ramsey cardinals,* **Rutgers Logic Seminar**, Rutgers University, New Jersey, 2012.
- *A natural model of the multiverse axioms*, **MIT Logic Seminar**, Massachusetts Institute of Technology, Massachusetts. 2010.
- *Gödel's Proof,* **Mathematics Research Seminar**, US Military Academy, 2010.
- *Ramsey-like cardinals,* **ESI workshop on large cardinals and descriptive set theory**, Austria, 2009.
- *Ramsey-like cardinals,* **Bristol Logic Seminar**, University of Bristol, United Kingdom, 2008.
- *Scott's problem for proper Scott sets,* **Rutgers Logic Seminar**, Rutgers University, New Jersey, 2007.
- *Scott's problem for proper Scott sets,* **Logic Colloquium**, University of Wroclaw, Poland, 2007.
- *Scott's Problem for proper Scott sets,* **Notre Dame Logic Seminar**, Notre Dame University, Indiana, 2007.

CUNY Talks

(Some slides/lecture notes available at: **http://boolesrings.org/victoriagitman/talks**)

- *The stable core*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2018.
- *Boolean-valued class forcing*, **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2018.
- *Filter games and Ramsey-like cardinals*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2017.
- *A countable ordinal definable set of reals without ordinal definable elements*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2017.
- *Computable processes can produce arbitrary outputs in nonstandard models*, **MOPA Seminar**, CUNY Graduate Center, New York, 2016.
- *Virtual large cardinals*, **Set Theory Day (celebrating Joel Hamkins' 50th birthday)**, CUNY Graduate Center, New York, 2016.
- *Ehrenfeucht principles in set theory*, **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2015.
- *Remarkable Laver functions*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2014.
- *Choice schemes for Kelley-Morse set theory*, **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2014.
- *Introduction to remarkable cardinals*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2014.
- *Ramsey cardinals and the continuum funciton*, **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2014.
- *A Jónsson ω_1-like model of set theory*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2013.
- *Embeddings between ω_1-like models of set theory*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2013.
- *Indestructibility for Ramsey Cardinals*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2013.
- *Models of ZFC− that are not definable in their set forcing extensions*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2012.
- *Forcing and gaps in 2^ω*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2011.
- *A natural model of the multiverse axioms,* **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2010.
- *Alpha-iterable cardinals,* **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2009.
- *On the Gitik-Shelah indestructibility for strong cardinals*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2009.
- *Standard systems of nonstandard models of Peano Arithmetic,* **Bronx Community College Mathematics Seminar**, CUNY Bronx Community College, 2008.
- *Ramsey and virtually Ramsey cardinals*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2008.
- *Weakly compact cardinals are not downward absolute to L*, **CUNY Set Theory Seminar**, CUNY Graduate Center, New York, 2008.

- *Ramsey-like embeddings,* **CUNY Logic Workshop**, CUNY Graduate Center, New York, 2007.

Conferences and Seminars organized

- Co-organizer of **MAMLS Spring Fling Set Theory**, 2020.
- Co-organizer of **MAMLS Logic Friday**, 2017.
- Co-organizer of **Set Theory Day** (**http://nylogic.org/set-theory-day**), 2016.
- Co-organizer of the **CUNY Set Theory Seminar**, 2014-present.

Additional professional activities

- Member of the editorial board for *Mathematical Logic Quarterly.*
- Referee for journals including *American Mathematical Monthly*, *Topology and its Applications*, *Annals of Pure and Applied Logic, Archive for Mathematical Logic*, *Journal of Symbolic Logic*, *Fundamenta Mathematicae, Journal of Mathematical Logic*.
- Member of oral exam committees at the CUNY Graduate Center:
  - Brent Cody (2009)
  - Erin Carmody (2012)
  - Kameryn Williams (2014)
- Blogger (**https://victoriagitman.github.io**).
- Co-founder (with Roman Kossak) of *Peano's Parlour*, a Wikipedia-style database of current knowledge in models of Peano Arithmetic and related fields (**http://modelsofpa.info**).
- Co-founder (with Joel David Hamkins) of *Cantor's Attic*, a Wikipedia-style database of current knowledge in large cardinal theory (**http://cantorsattic.info**).
- Webmaster for CUNY Logic Seminars website (**https://nylogic.github.io**)