Kenny Gill

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Education

2021–2023	**Doctor of Philosophy (Mathematics)**, *Penn State University, University Park, PA*
	Dissertation: *Two studies in complexity.* Advisors: Jan Reimann and Linda Westrick.
2017–2021	**Master of Arts (Mathematics)**, *Penn State University*
	Paper: *Hyperbolic dynamical systems.* Advisor: Boris Kalinin.
2013–2017	**Bachelor of Science (Pure mathematics)**, *West Chester University of PA*

Other

2016	Graduate of Mathematics Advanced Study Semesters (MASS) program at Penn State. Received awards for most difficult projects in geometry (Teichmüller theory) and in algebra (octonions and the E_8 lattice).

Research interests

Logic: computable combinatorics, computational aspects of Ramsey theory for countable structures, Weihrauch complexity in reverse mathematics and computable analysis, probabilistic automata and string complexity measures.

Experience

2024–present	Adjunct Lecturer at La Salle University
2018–2022	Instructor at Penn State University

Other

- Invitee to Dagstuhl Seminar 25131, *Weihrauch Complexity: Structuring the Realm of Non-Computability* (Mar. 2025)
- Referee for Journal of Symbolic Logic

Publications

- Indivisibility and uniform computational strength, submitted (2024). `arXiv:2312.03919`.
- Probabilistic automatic complexity of finite strings, submitted (2024). `arXiv:2402.13376`.
- A note on the indivisibility of the Henson graphs, submitted (2024). `arXiv:2310.20097`.
- *Two studies in complexity*, Ph.D. dissertation (2023), Penn State University.
- (with D. Costa, V. Davis, G. Hinkle, and L. Reid) Eulerian properties of non-commuting and non-cyclic graphs of finite groups, *Comm. Alg.* **46** (2018), 2659–2665. `doi:10.1080/00927872.2017.1392534`.
- (with V. Niţică) Signed tilings by ribbon L n-ominoes, n even, via Gröbner bases, *Open Journal of Discrete Mathematics* **6** (2016), 185–206. `doi:10.4236/ojdm.2016.63017`.

Talks

May 2025	AMS Spring Western Sectional Meeting (invited)	
Sep. 2024	Connecticut Logic Seminar (invited)	*Indivisibility and Weihrauch complexity*
May 2024	ASL 2024 North American Annual Meeting	*Probabilistic automatic complexity*
Apr. 2024	AMS Spring Central Sectional Meeting	*Indivisibility problems in the Weihrauch framework*

Nov. 2023	MAA EPaDel-NJ Section Meeting	*Probabilistic automatic complexity*
Sep. 2023	Penn State Logic Seminar	*Kleene's $\mathcal{O}$*
Apr. 2023	Penn State Logic Seminar	*Indivisibility and uniform computational strength*
Jan. 2023	Penn State Logic Seminar	*Complexity measures for finite strings using probabilistic automata*
Oct. 2022	Penn State Logic Seminar	*Computable structure theory: existentially atomic models*
Mar. 2022	Penn State Logic Seminar	*Topological games*
Oct. 2021	Penn State Logic Seminar	*Point-to-set principle for Hausdorff dimension in Euclidean space*

▬▬▬ Teaching

La Salle University, Philadelphia, PA (2024-)
Currently employed as an adjunct instructor.
○ MTH 335: Graph Theory (Fall 2024)
  Proof-based course aiming to give a broad overview of the field as well as develop students' mathematical creativity and proof-writing skills.
○ MTH 101: College Algebra (Fall 2024)

The Pennsylvania State University, University Park, PA (2018-22)
Taught as the instructor of record for 3-8 lecture hours per week (depending on semester) for the courses listed below.
○ MATH 251: Ordinary and Partial Differential Equations (Fall 2021 & Fall 2022)
○ MATH 220: Matrices (Fall 2020 & Spring 2021, online)
○ MATH 41: Trigonometry and Analytic Geometry (Fall 2019)
○ MATH 26: Plane Trigonometry (Fall 2018 & Spring 2019)
○ MATH 21: College Algebra I (Spring 2018)
○ Grader for MATH 403: Classical Analysis I (Fall 2017)
  Graded weekly homework for about 45 students in three sections, two regular and one honors.