

Ian Coley

Hill Assistant Professor
Department of Mathematics, Rutgers University
Hill Center for the Mathematical Sciences
110 Frelinghuysen Road
Piscataway, NJ 08854-8019

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E-mail: iacoley@math.rutgers.edu

Homepage: <http://iancoley.org>

Cell: 614-440-5900

Education

University of California, Los Angeles

Los Angeles, CA

Doctor of Philosophy, Mathematics

August 2013 – June 2019

- Thesis: The stabilization and K-theory of pointed derivators, advised by Paul Balmer
- Research interests: derivators, abstract homotopy theory, algebraic K -theory

Northwestern University

Evanston, IL

Bachelor of Arts, Mathematics and Classics (Latin)

September 2009 – June 2013

- Graduated *magna cum laude*
- Honors thesis: An Explicit Construction of an Expander Family, advised by Simon Marshall

Academic Appointments

Hill Assistant Professor

Piscataway, NJ

Rutgers University

August 2019 – present

- Courses taught: Math 136, Math 151, Math 311, Math 351, Math 535, Math 560
- Created original curriculum for graduate courses
- Adapted existing courses to online/hybrid models during COVID-19 pandemic

Teaching Assistant Consultant

Los Angeles, CA

University of California, Los Angeles

August 2018 – December 2018

- Oversaw training of new TAs in the mathematics department
- Worked with other divisions of UCLA to bring student-centered teaching techniques to math classes

Graduate Student Instructor

Los Angeles, CA

University of California, Los Angeles

August 2017 – March 2018

- Courses taught: Math 32A, 32AH, 32BH
- Created original curriculum, homework assignments, and exams
- Lectured thirty hours per course, held office hours, assigned final grades

Teaching Assistant

Los Angeles, CA

University of California, Los Angeles

September 2014 – June 2017, January 2019 – June 2019

- Courses taught: Math 31A, 31B, 32A, 32AH, 32BH, 110A, 115A, 210A, 210B, 210C; LS30B
- Prepared and ran discussion sections, graded homework and exams, held office hours

Synergistic activities

GRE Prep Course

Various

UCLA & Rutgers University

August 2016, August 2018, July 2021

- Developed curriculum for a GRE Math Subject preparation course from scratch

- Taught 60-hour course to prepare undergraduates for the GRE subject test in math
- Advised UCLA students on research interests and the graduate school application process
- Maintain lecture notes and practice exams online to aid undergraduates anywhere in the world

Rutgers Algebra Seminar

Rutgers University

Piscataway, NJ

Spring 2021

- Co-organized with postdoctoral colleagues Franco Rota and Chiara Damiolini
- Transitioned to an online format of the seminar during COVID-19 pandemic

K-theory Learning Seminar

Electronic Computational Homotopy Theory Seminar

Various

Fall 2020

- Co-organized with John Berman
- Led a reading seminar with other postdocs and graduate students to study algebraic K-theory

Algebra and Geometry Learning Seminar (AnGeLS)

Rutgers University

Piscataway, NJ

August 2019 – present

- Co-organized with Franco Rota until Spring 2021
- Constructed reading courses with graduate students on subjects in algebraic geometry and topology
- Selected topics: algebraic K-theory, sheaf cohomology, conformal blocks

Selected presentations

- The localization and the K-theory of monoid schemes. Algebra Seminar, Rutgers University, 3 November 2021.
- An introduction to Model Categories. Summer School on Derived and Triangulated Categories, Bergische Universität Wuppertal, 13 September 2021.
- (Cancelled) The stabilization of derivators. AMS Spring Southeastern Sectional Meeting, University of Virginia, 14 March 2020.
- The stabilization of pointed derivators. Workshop on Derivators, Universität Regensburg, 10 April 2019
- The K-theory of derivators. K-theory ICM Satellite, Universidad de Buenos Aires, 27 July 2018
- Derivators as an enhancement of triangulated categories. Seminar of the Department of Algebra, Universidad de Sevilla, 10 July 2017

Papers and preprints

- *Stabilization of derivators revisited*. Journal of Homotopy and Related Structures, 14 (2019), no. 2, 525-577.
- *The K-theory of left pointed derivators*. arXiv: 2009.09063. Submitted for publication.
- *The theory of half derivators*. arXiv: 2010.12057. Submitted for publication.
- *Localization, monoid sets and K-theory* with Charles Weibel. arXiv: 2109.03193. Submitted for publication.