Asilata Bapat | Curriculum Vitae

Mathematical Sciences Institute, The Australian National University
02 6125 7320 • asilata.bapat@anu.edu.au • asilata.github.io

Education

The University of Chicago — **Chicago, IL**
PhD in Mathematics. — *2010–2016*
Advisor: Victor Ginzburg.

The University of Chicago — **Chicago, IL**
MS in Mathematics. — *2010–2012*

Massachusetts Institute of Technology — **Cambridge, MA**
SB (Bachelor of Science) in Mathematics with Computer Science. — *2006–2010*
GPA 4.9 out of 5.

Employment

Australian National University (ANU) — **Canberra**
Senior Lecturer (Level C), Mathematical Sciences Institute — *2024–present*

Australian National University (ANU) — **Canberra**
Lecturer (Level B), Mathematical Sciences Institute — *2018–2023*

University of Georgia (UGA) — **Athens, GA**
Assistant Professor (Limited Term), Department of Mathematics — *2016–2017*

Papers and preprints

- q-deformed rational numbers and the 2-Calabi–Yau category of type A_2 (with Louis Becker, Anthony Licata)
  Forum of Mathematics, Sigma, 11, e47 (2023).
- Spherical objects and stability conditions on 2-Calabi–Yau quiver categories (with Anand Deopurkar, Anthony Licata)
  Mathematische Zeitschrift 303, 13 (2023).
- Computing the matching distance of 2-parameter persistence modules from critical values (with Robyn Brooks, Claudia Landi, Celia Hacker, Barbara Mahler, Elisabeth Stephenson)
  Preprint.
- Morse-based fibering of the persistence rank invariant (with Robyn Brooks, Claudia Landi, Celia Hacker, Barbara Mahler)
  Research in Computational Topology 2 (2022), pp. 27–62
- A Thurston compactification of the space of stability conditions (with Anand Deopurkar, Anthony Licata)
  Submitted.
- Recollement for perverse sheaves on real hyperplane arrangements
  Journal of Algebra, 568 (2021), pp. 61–90
- The strong topological monodromy conjecture for Coxeter hyperplane arrangements (with Robin Walters)
  Mathematical Research Letters 24 (2017), no. 4, 947–954
- Torus actions and tensor products of intersection cohomology
  Pacific Journal of Mathematics 276 (2015), pp. 19–34
- Lower central series of free algebras in symmetric tensor categories (with David Jordan)
  Journal of Algebra, 373 (2013), pp. 299–311

Grants

The geometry of braids and triangulated categories — **ANU**
ARC DECRA grant DE240100447 (AUD 468000) — *2024–2026*

Stability conditions: their topology and applications **ANU**
ARC Discovery Project grant DP240101084 (AUD 419421) *2024–2026*
Jointly held with Anand Deopurkar and Anthony M. Licata.

AMS-Simons travel grant **UGA**
Grant for research travel (USD 4000) *2016–2018*

Academic and teaching awards

- Anne Penfold street award, 2023
- Dean's Commendation for Excellence in Education (for Teaching Excellence), ANU, 2021.
- Nadine Kowalsky Fellowship, University of Chicago, 2016.
- Jerry Rao Fellowship, University of Chicago, 2014–2015.
- Young Researcher at the 2nd Heidelberg Laureate Forum, Heidelberg, Germany, 2014.
- Lawrence and Josephine Graves Teaching Prize, University of Chicago, 2014.
- Amick Fellowship, University of Chicago, 2010–2012.
- Phi Beta Kappa, MIT, 2010.
- Rogers Prize for best paper, Summer Program in Undergraduate Research, MIT, 2009.
- Indian National Mathematical Olympiad (INMO) scholarship, 2005.
- International Astronomy Olympiad, Silver medal (2005) and Gold medal (2003).

Teaching

Australian National University

- **2023 Semester 2**: Games, Graphs, and Machines (MATH2301)
- **2022 Semester 2**: Games, Graphs, and Machines (MATH2301)
- **2021 Spring Semester**: Mathematics and Applications 2 (MATH1014)
- **2021 Semester 2**: Games, Graphs, and Machines (MATH2301)
- **2021 Summer Session**: Representation theory (IBL reading course)
- **2020 Spring Semester**: Mathematics and Applications 2 (MATH1014)
- **2020 Semester 1**: Perverse Sheaves (half of a special topics course on Perverse Sheaves and Deligne–Lusztig theory)
- **2020 Semester 2**: Games, Graphs, and Machines (MATH2301)
- **2019 Semester 1**: Advanced Studies Extension for Analysis I (MATH2320).
- **2018–2019 Summer Session**: Introduction to the theory of Computation (reading course)
- **2018 Semester 2**: Mathematical Foundations for Actuarial Studies (MATH 1113), Linear Algebra.
- **2018 Semester 1**: Advanced Studies Extension for Analysis I (MATH2320).

University of Georgia

- **Fall 2017**: Precalculus (Math 1113).
- **Fall 2017**: Graduate Algebra (Math 8000).
- **Spring 2017**: Calculus II for Science and Engineering (Math 2260).
- **Fall 2016**: Calculus I for Science and Engineering (Math 2250).

University of Chicago

- **2015–2016**: IBL Honors Calculus I and II (Math 161 and 162).
- **2014–2015**: Studies in Mathematics I and II (Math 112 and 113).
- **Summer 2014**: Linear Algebra (Math 196).
- **2013–2014**: Calculus I, II, and III (Math 151, 152, and 153).
- **2012–2013**: Calculus I, II, and III (Math 151, 152, and 153).
- **2011–2012**: College fellow for Honors Algebra I, II, and III (Math 257, 258, and 259).

Canada/USA Mathcamp

- **Summer 2015**: Academic coordinator and mentor. Coordinated the academic schedule, invited visiting speakers, and taught several undergraduate-level courses.
- **Summer 2013**: Mentor. Taught several undergraduate-level courses.
- **Summer 2012**: Mentor. Taught several undergraduate-level courses.

Talks and presentations