Isabel Longbottom

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Research Interests

I am interested in homotopy theory and algebraic K-theory.

Education

2022-27 (expected)	PhD in Mathematics, supervised by Michael Hopkins **Harvard University**
2018-21	Bachelor of Philosophy - Science (Honours), Mathematics major **The Australian National University** GPA of 7.00 (out of 7.00), First Class Honours

Awards and Scholarships

2022	Attended the IAS/PCMI Undergraduate Summer School
2020	Hanna Neumann Prize for third year mathematics, ANU
2020	Priscilla Fairfield Bok Prize for women in third year science courses, ANU
2020	Invited to the IAS/PCMI Undergraduate Summer School subsequently cancelled due to COVID-19
2019	Hanna Neumann Prize for second year mathematics, ANU
2019	Priscilla Fairfield Bok Prize for women in third year science courses, ANU
2018	Hanna Neumann Prize for first year mathematics, ANU
2018	Mavis Prater Prize for women in mathematics, ANU
2018, 2019, 2020, 2021	Dean's Science Education Commendation
2018, 2019, 2020, 2021	Chancellor's Letter of Commendation
July 2017	Tuckwell Scholarship for an undergraduate degree at the ANU

Talks

May 2023	*On the K-theory of pullbacks and pushouts.* Given for the Harvard Zygotop seminar.
March 2023	*Abouzaid-Blumberg flow categories.* Given for the MIT Juvitop seminar.
November 2022	*A proof of the Pontryagin-Thom theorem.* Given for the MIT Kan seminar.
October 2022	*On the cobordism ring and a complex analogue, after Milnor.* Given for the MIT Kan seminar.

Computer Skills

(alphabetically) Ada, Haskell, Java, LaTeX, Lean, Macaulay2, Magma, Python, Sage

Employment

2020 and 2021	Demonstrator for MATH1115, MATH1116, MATH2222, and MATH2322, ANU Ran (online and in-person) workshops, and marked assignments and exams. This position is equivalent to a TA.
2019	Drop-in tutor, ANU Drop-in tutor for first year courses during the exam preparation period.
2019	Peer-Assisted Learning Mentor for MATH1115 and MATH1116, ANU The Peer-Assisted Learning program at the ANU employs second-year maths students to prepare activities for and teach tutorials to first-year students.

Service

January 2020, 2021, 2022	Tutor at the National Maths Summer School Tutored at a two-week-long summer program for mathematically able high school students.
December 2020	Maths tutor for the Curious Minds STEM program, Online Ran maths problem-solving sessions for rural female-identifying high school students.
2020	Vice President of the ANU Mathematics Society