SANG HYUN KIM

PhD Student in Mathematics Education

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PERSONAL STATEMENT

I am an early-career researcher currently pursuing a PhD in Mathematics Education, with the goal of developing a career in academia. My academic path has been shaped by a sustained interest in both teaching and research, particularly at the intersection of mathematics learning, pedagogy, and psychology.

My doctoral research investigates undergraduate mathematics learning through individual, social, and contextual lenses, analysing how students' sense-making, collaborative tendencies, and exposure to student-centred pedagogies affect their learning experiences and outcomes.

I have also worked as a research assistant, gaining experience with both quantitative and qualitative methodologies, and I am particularly drawn to mixed-methods research and interdisciplinary approaches. In addition to my academic training, I bring strong interpersonal and organisational skills, adaptability, and a committed work ethic. I value collaboration and strive for excellence across research, teaching, and professional practice.

PUBLICATIONS

JOURNAL ARTICLE 2025

Kim, S.H., Evans, T. Interactive tutorials in undergraduate mathematics: investigating the impacts on performance and self-efficacy. Math Ed Res J (2025). https://doi.org/10.1007/s13394-025-00538-z

BOOK CHAPTER 2025

Kim, S.H., Evans, T., Marmur, O., Schillewaert, J. (2025). YouTube Videos as a Content Resource in a Flipped Class on Algebraic Geometry: An Exploratory Case Study in Graduate Mathematics Education. In: Engelbrecht, J., Oates, G., de Carvalho Borba, M. (eds) Social Media in the Changing Mathematics Classroom. Advances in Mathematics Education. Springer, Cham. https://doi.org/10.1007/978-3-031-82837-9_13

CONFERENCE PAPER | PME 48 | Santiago, Chile 2025

Kim, S. H., & Evans, T. (2025). Exploring collaboration: The effect of gender on mathematics learning preferences. In C. Cornejo, P. Felmer, D. M. Gómez, P. Dartnell, P. Araya, A. Peri, & V. Randolph (Eds.), Proceedings of the 48th Conference of the International Group for the Psychology of Mathematics Education: Research Reports (Vol. 2, pp. 11–18). PME.

CONFERENCE PAPER | MERGA 47 | Canberra, Australia 2025

Kim, S. H., & Evans, T. (2025). Examining the impact of tutorial activity engagement on undergraduate students' collaborative preferences. In S. M. Patahuddin, L. Gaunt, D. Harris, & K. Tripet (Eds.), Unlocking minds in mathematics education: Proceedings of the 47th Annual Conference of the Mathematics Education Research Group of Australasia (pp. 229–236). Canberra, Australia: MERGA.

CONFERENCE PAPER | RUME 27 | Alexandria, VA 2024

Kim, S. H., & Evans, T. (2025). *Collaborative preferences for learning mathematics: A scale validation study.* In S. Cook, B. P. Katz, & K. Melhuish (Eds.), Proceedings of the 27th Annual Conference on Research in Undergraduate Mathematics Education (pp. 833–841). SIGMAA on RUME, Alexandria, VA.

CONFERENCE PAPER | PME 47 | Auckland, New Zealand 2024

Kim, S. H., Evans, T., & Marmur, O. (2024). Navigating flipped learning: Insights from a graduate-level algebraic geometry course. In T. Evans, O. Marmur, J. Hunter, G. Leach, & J. Jhagroo (Eds.), Proceedings of the 47th Conference of the International Group for the Psychology of Mathematics Education (Vol. 3, pp. 129–136). Auckland, New Zealand.

CONFERENCE PAPER | ICME-15 | Sydney, Australia [In press]

Kim, S. H., Evans, T., & Marmur, O. (2024, July 7–14). *Quantifying mathematical sense-making modes: A confirmatory factor analysis* [Conference presentation]. 15th International Congress on Mathematical Education, Sydney, Australia.

CONFERENCE PAPER | RUME 25 | Omaha, NE 2024

Kim, S. H., & Evans, T. (2023). *Interactive tutorials in undergraduate mathematics: What are they good for?* In S. Cook, B. Katz, & D. Moore-Russo (Eds.), Proceedings of the 25th Annual Conference on Research in Undergraduate Mathematics Education (pp. 306–314). Omaha, NE.

RESEARCH EXPERIENCE

RESEACH ASSISTANT | University of Auckland | Auckland, New Zealand Jan 2022 – Dec 2022

- Worked with Dr Lisa Darragh to analyse and code qualitative data from secondary schools in Aotearoa New Zealand on students' experiences of learning mathematics. Contributed to reporting and dissemination activities focused on students' perspectives on online and in-person learning.

SUMMER RESEARCH SCHOLAR | University of Auckland | Auckland, New Zealand Nov 2020 – Feb 2021

- Conducted a literature review on undergraduate mathematics education under the supervision of Dr Tanya Evans, with emphasis on effectiveness, efficiency, and student learning in large first-year courses.
- Examined emerging themes related to online teaching during the COVID-19 pandemic and the use of educational technologies.

RESEACH ASSISTANT | University of Auckland | Auckland, New Zealand Jan 2019 – Dec 2019

- Collaborated with Mrs Josephina Tamatoa to design mathematics modules tailored to Māori and Pacific students, aimed at increasing engagement and achievement in mathematics.
- Assisted with resource development and refinement of activities to support students' confidence and participation.

TEACHING EXPERIENCE

GRADUATE TEACHING ASSISTANT / COURSE TUTOR | University of Auckland | Auckland, New Zealand 2020 – Present

- Mathematics Course Tutor (MATHS 102, 108, 120, 208; 2022–2025): Prepared and facilitated tutorials (online and in person) for undergraduate courses in algebra, calculus, and mathematical reasoning; supported students' problem solving and academic development through targeted feedback and guidance.
- Principal Tutor (MATHS 130, 2022 S2; 2025 Summer School): Supported the course coordinator with tutorial delivery and assessment logistics, including test supervision, help sessions, and coordination and mentoring of tutors; served as primary contact for tutorial-related student queries.
- Pacific Academy Tutor (2020–2021): Delivered interactive mathematics and statistics workshops in secondary schools across South Auckland, supporting Māori and Pacific students' preparation for NCEA examinations through culturally responsive and student-centred approaches.

ACADEMIC TUTOR | Self-employed, MyTuition | Auckland, New Zealand 2018 – Present

- Provide one-to-one tutoring in mathematics for students from intermediate through to senior secondary levels.
- Design and deliver individualised lessons tailored to students' goals and curriculum requirements; maintain regular communication with parents regarding progress.
- Experienced working in-person and online, and across all secondary qualification frameworks: NCEA (New Zealand), International Baccalaureate (IB), and Cambridge Assessment International Education (IGCSE/A Levels).

TRUMPET ITINERANT TEACHER | Rutherford College, St Dominic's College | Auckland, New Zealand 2018 – Present

- Teach trumpet to students in Years 9–13, from beginners to those preparing for university auditions.
- Prepare students for NCEA solo performance assessments, coach small ensembles, and support participation in group performances and competitions (e.g., KBB Music Festival).

EDUCATION

PhD | Mathematics Education | University of Auckland — Dec 2022 – Present
BSc (Hons) | Mathematics Education | University of Auckland — 2022
BSc | Mathematics, Chemistry | University of Auckland — 2018 – 2021
BMus | Classical Performance (Trumpet) | University of Auckland — 2018 – 2021

SCHOLARSHIPS

- Student Research Conference 2023 – Best Presentation | University of Auckland — 2023
- University of Auckland Doctoral Scholarship (UoADS) – Fully funded PhD (including stipend & tuition fees) | University of Auckland — Dec 2022
- Mathematics Education Prize | University of Auckland — 2022

INTERESTS

Trumpet | Brass bands | Football | Trumpet | Puzzles