THE MATHEMATICAL ASSOCIATION OF VICTORIA

THE UNIVERSITY OF MELBOURNE

2025 MELBOURNE MATHEMATICS CONFERENCE

Join us for either or both days

The Mathematical Association of Victoria (MAV) in collaboration with The University of Melbourne's Faculty of Education present a conference focusing on, Learning from each other: Connecting theory and practice

BE INSPIRED

Join us for an inspiring mathematics conference that bridges the gap between theoretical insights and practical applications. This conference emphasises the importance of continual learning and the development of new professional knowledge.
By connecting theory with practice, we aim to develop effective teaching methods that foster a deep understanding of mathematical concepts

F-10 LEADERS | PRIMARY TEACHERS | EARLY CHILDHOOD
WEDNESDAY 4 JUNE AND THURSDAY 5 JUNE
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THURSDAY 5 JUNE

The conference will focus on bridging the gap between theoretical knowledge and real-world application for primary school teachers and early childhood educators.

Empowering primary school teachers (F-6)

For all primary teachers.

By inspiring innovative approaches to mathematics education, the conference aims to equip educators with the tools they need to develop their teacher efficacy and support their students in developing the skills and dispositions of a successful mathematics learners.

EXPECTED FOCI FOR PRIMARY TEACHERS

- **Enhanced understanding of bridging theory and practice**

Connect theoretical knowledge with practical application to improve student learning outcomes.

- **Practical strategies and resources**

Acquire practical strategies and resources to effectively bridge theory and practice in the classroom.

- **Increased collaboration and sharing of best practices**

Engage in collaboration among participants to share and learn from each other to adopt innovative approaches in mathematics education.

- **Actionable insights for curriculum development, assessment, and professional development**

Gain actionable insights and ideas for curriculum development, assessment techniques, and professional development, enabling them to design effective math programs, evaluate student learning, and continuously improve their teaching practices.

KEYNOTE SPEAKERS

- Professor Amie Albrecht
- Panel Discussion – Representatives from Department of Education, Catholic Education, Independent Schools Victoria

Empowering early childhood educators

For all early childhood teachers, educators and setting directors.

This conference aims to empower early childhood educators to enhance children's mathematical thinking through play, intentional teaching, and positive mathematical mindsets, fostering engaging and inclusive learning experiences.

EXPECTED FOCI FOR EARLY CHILDHOOD EDUCATORS

- **Enhancing pedagogical knowledge**

Elevate prior mathematical content knowledge to develop a personalised learning trajectory through connection, engagement and play.

- **Developing a positive disposition**

Inspire children's mathematical learning by holding and promoting a growth mindset amongst all. Explore real-life examples, practical strategies, and empowering insights to enhance teaching and make a lasting impact.

- **Intentional planning using play and imagination**

Collaborate with experts and peers to share and learn how to embed purposeful mathematical play experiences involving a variety of pedagogical moves to deepen mathematical understanding and experience.

- **Actionable Insights for curriculum development, assessment, and professional development**

Combine research, theory and personal experience to realign and strengthen current teaching and learning practices to enhance students' experience with mathematics.

Empowering primary school teachers
Thursday 5 June, 2025

Register now
www.mav.vic.edu.au

Join us as we bridge the gap between theoretical knowledge and real-life applications, igniting a passion for continuous improvement and innovation in mathematics education.

Session	Presenters	Title
Registration 8.30am	Ground level, Kwong Lee Dow Building, 234 Queensberry St, Faculty of Education, The University of Melbourne	
Welcome and Keynote 1 9am–10.15am	Amie Albrecht	A1: Beyond one-size-fits-all: Why pedagogical pragmatism matters
Break: 10.15am–10.45am		
Workshop rotation 1 10.50am–11.45am	Rachel Parker	B1: Dyscalculia and learning through play
	Scott Cameron and Max Stephens	B2: AI and the mathematics curriculum in the primary years
	Kaye Stacey	B3: Developing a deep understanding of decimal notation and operations
	Aylie Davidson	B4: At least four planning considerations when making mathematics concepts explicit
	Eamon Light	B5: Using fraction constructs effectively in primary mathematics classrooms
	Cath Epstein and Antje Leigh-Lancaster	B6: Explicit teaching and rich problems: How to marry the two!
	Michael Minas	B7: Fostering a love of maths: Three key principles to boost student engagement
Workshop rotation 2 11.50am–12.45pm	Amie Albrecht	C1: Deeper by design: questioning to uncover mathematical thinking
	Leonie Anstey	C2: Explicit teaching of basic facts - number facts
	Taryn Volpe and Nikki D'Antonio	C3: George Polya's problem solving mode
	Justine Sakurai	C4: Numeracy for life and learning - numeracy vs maths
	Renee Ladner	C5: Using formative assessment to guide student's next stage of learning
	Steph Murphy and Sam Haberman	C6: Introduction to Victorian lesson plans *Workshop sponsor: Victorian Department of Education*
Lunch and networking: 12.45pm–1.30pm		
Keynote 2 1.30pm–2.30pm	Representatives from all educational sectors to discuss their own transformations and how it has driven and enhanced their practice.	D1: Panel discussion draws on the theme of this year's conference, Transformations: An opportunity to reflect and redefine our practice.
Workshop rotation 3 2.35pm–3.30pm	Carmel Mesiti, Kate Copping and Emily Rochette	E1: Exploring numeracy in a native garden
	Antje Leigh-Lancaster	E2: The problem with worded problems is the words!
	Ellen Corovic and Georgia Dimitrovski	E3: Developing mathematical recording in F-2 students
	Jessica Kurzman	E4: Fluency through understanding: Meaningful strategies for mastering multiplication facts
	Dr Gaye Williams	E5: Drawing on story book illustrations to design problem-solving tasks that encourage creative mathematical conversations
	Steph Murphy and Sacha Giurietto	E6: Review and retrieval practices in mathematics *Workshop sponsor: Victorian Department of Education*
F: Happy hour: 3.30pm – 4.30pm Join us for a chat, to network and debrief.		

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Join us as we bridge the gap between theoretical knowledge and real-life applications, igniting a passion for continuous improvement and innovation in mathematics education.

Session	Presenters	Title
Registration 8.30am	Ground level, Kwong Lee Dow Building, 234 Queensberry St, Faculty of Education, The University of Melbourne *Stream sponsor: Goodstart Early Learning*	
Welcome and Workshop 1 9am–10.15am	Caroline Cohrssen and Rachel Pollitt	A1: Trampolines for high-flying maths conversations: Teacher questions and children's responses
Break: 10.15am–10.45am		
Workshop 2 10.50am–11.45am	Jane Page, Katherine Canobi and Rachel Pollitt	B1: Dispositions toward learning: Empowering educators to support children's mathematics explorations.
Workshop 3 11.50am–12.45pm	Hong Chen and Leigh Disney	C1: The role of imagination in early mathematics education
Lunch and networking: 12.45pm–1.30pm		
Workshop 4 1.30pm–2.30pm	Cristina Guarrella and Emma Forsyth	D1: Intentional mathematics in play: Practical examples from empowered educators
Workshop rotation 5 2.35pm–3.30pm	Sarah Louise Nelson	E1: 1 + 1 starts with you: Shifting your mathematical mindset
F: Happy hour: 3.30pm – 4.30pm Join us for a chat, to network and debrief.		

Empowering primary school teachers
Thursday 5 June, 2025

Time	Title/abstract
Keynote 1: 9am-10.15am	**A1: Beyond one-size-fits-all: Why pedagogical pragmatism matters** **Professor Amie Albrecht** Mathematics teaching shouldn't be about choosing sides in pedagogical battles. Yet increasingly, teachers are being told there's a 'right way' to teach - as if one approach could fit all learning goals, contexts and learners. This keynote challenges the false dichotomies that dominate educational discourse and examines how differing purposes, values, and beliefs shape different approaches to mathematics education. Understanding these differences helps explain why there can never be one 'best practice' that works for all situations. We'll explore a way forward through pedagogical pragmatism by examining how this plays out in real classroom decisions about teaching and learning mathematics.
Workshop rotation 1: 10.50am-11.45am	**B1: Dyscalculia and learning through play** **Rachel Parker** Dyscalculia, a learning disability impacting numeracy often goes undiagnosed due to low awareness among educators. This is a critical issue as underachievement in numeracy significantly impacts life outcomes, including employment opportunities. Advances in research have identified the neural basis of dyscalculia and effective, evidence-based interventions grounded in constructivist learning theory). These include playful pedagogies such as using manipulatives, open-ended questioning, and collaborative problem-solving. This session explores the latest evidence on dyscalculia and learning through play, offering practical strategies and lived experiences to help participants support all children in achieve success in mathematics.
	B2: AI and the mathematics curriculum in the primary years **Dr Scott Cameron and Dr Max Stephens** The session will explore the importance of mathematics for AI systems. Through learning about how AI systems work, we will identify areas of alignment with the Victorian Curriculum Mathematics V2.0. These points of alignment show that what students learn in Mathematics underpins AI and provides a foundation for appreciating the strengths and limitations of AI. Students also learn to think critically about the output of AI systems, especially predictive algorithms, recognising intentional and accidental errors or distortions. Join us as we explore examples and resources relevant to the primary curriculum such as ChatGPT, predictive spelling, Google maps, and applications of AI in STEM.
	B3: Developing a deep understanding of decimal notation and operations **Emeritus Professor Kaye Stacey** This session explores students' knowledge and understandings of all aspects of decimal numbers: the wonderfully concise but deceptively simple notation, the base ten system and how it influences the four operations, how big and how small decimal numbers are and can be; some important and intriguing mathematical properties; and the links to the metric system. We will discuss teaching strategies and materials, and history. We will connect decimals and their close cousins (percentages) to fractions, whilst noting how decimals are so much more important than fractions for everyone. Today's world uses numbers much bigger than in the past and some much smaller and our wonderful base ten place value system can do it all.
	B4: At least four planning considerations when making mathematics concepts explicit **Dr Aylie Davidson** Using a fractions context, Aylie will offer a range of task types where teacher actions to make mathematical ideas explicit vary and happen at different points of the lesson, and that's OK! What is most important is that when planning, teachers at least consider: (1) Developing a clear mathematical and pedagogical focus to guide the learning; (2) Using a range of high-quality tasks that are sequenced to build relational understanding of a concept; (3) Understanding the tasks which you are going to teach; (4) Planning and developing appropriate supports to manage the mathematical, cognitive and relational aspects of the task. Participants will have opportunities to discuss the risks and benefits inherent in different approaches.

	B5: Using fraction constructs effectively in primary mathematics classrooms **Eamon Light** Fractions are a fundamental, yet often misunderstood area of mathematics in primary education. This session is designed to support teachers and leaders in deepening their understanding of key fraction constructs critical for student success. Participants will engage with curriculum-aligned content, exploring the developmental progression of fraction concepts and identifying common student misconceptions that can hinder learning. Through practical lesson ideas, discussion and analysis, the session will provide useful strategies to address these difficulties, ensuring a strong foundation for mathematical reasoning. Attendees will leave with insights and tools to enhance their teaching practices, fostering deeper student comprehension and confidence in fractions.
	B6: Explicit teaching is one of 4 elements in the updated Victorian Teaching and Learning Model 2.0, and understanding what explicit teaching is—and what it isn't—is key to effective implementation. **Cath Epstein and Antje Leigh-Lancaster** In this session we will discuss some approaches that 'marry' explicit teaching and rich problems. This marriage provides students with the tools and strategies to engage with challenging problems, and the opportunity to explore, reason, justify, connect ideas and deepen understanding. Engagement is a key element to success in mathematics and central to fostering a positive disposition, which is often regarded as the 5th proficiency in mathematical education. In this interactive session you will engage with a challenging problem and use this to consider and discuss the aspects and approaches outlined above.
	B7: Fostering a love of maths: Three key principles to boost student engagement **Michael Minas** Student engagement is the cornerstone of a thriving maths classroom, yet many teachers face an ongoing challenge when it comes to motivating students. Traditionally, the question of how to improve student engagement has proven difficult to answer for educators and school leaders. This leaves us with schools where some teachers seem to have a natural gift for inspiring students, while others are left with little guidance on how to boost engagement in their classroom. This session aims to equip all teachers with three principles that they can use to significantly boost student engagement. Attendees will leave armed with practical ideas to help foster a dynamic classroom environment where students feel inspired, confident, and actively involved in their learning journey. Join us to discover how to transform your classroom and help your students to feel curious, engaged, and enthusiastic about maths.
Workshop rotation 2: 11.50pm - 12.45pm	**C1: Deeper by design: Questioning to uncover mathematical thinking** **Professor Amie Albrecht** Effective questioning is central to developing students' mathematical thinking, yet it remains one of teaching's biggest challenges. In this workshop, we'll explore different types of questions and their purposes. We'll consider both the planning of questions and the challenges of listening and responding in the moment. Participants will leave with practical strategies to implement in their classrooms.
	C2: Explicit teaching of basic facts - number facts **Leonie Anstey** This session will demonstrate explicit teaching approaches to improve student outcomes, focusing on reasoning and fluency with basic facts. Participants will engage in hands-on strategies to direct student learning, including demonstrations of new content, scaffolding practice, and monitoring progress. The session will also highlight how effective questioning techniques can deepen students' understanding of key concepts.
	C3: George Polya's problem solving model **Taryn Volpe and Nikki D'Antonio** This session will focus on the impact of George Polya's problem solving model and the pivotal role that Professional Learning Communities (PLCs) and teacher collaboration played in the whole school implementation of this model in a primary setting. Nikki and Taryn will unpack what each phase of the model looks like in practice, shining the spotlight on how each of the mathematical proficiencies are embedded into the model. They will share real examples and student work samples along the way, providing authentic and practical way that teachers can analyse and assess their student' problem solving skills. You will walk away with a bank of resources and strategies designed to support leaders and teachers to implement the model into their own classroom.

	C4: Numeracy for life and learning: Numeracy vs maths **Justine Sakurai** This session explores the evolution of numeracy education beyond traditional computational proficiency to a dynamic social practice model. Participants will examine how this comprehensive approach integrates contextual learning, analogue and digital tools, and student dispositions with core mathematical competencies. The session aims to demonstrate how treating numeracy as a social practice can enable teachers to authentically embed mathematical concepts within real-world contexts, enhancing student engagement and understanding. Through analysis of current numeracy frameworks, we will consider current research approaches to strengthening both pedagogical approaches and content knowledge. This approach can transform numeracy from a purely academic exercise into a practical, integrated skill set that students can apply throughout their lives. By embracing numeracy as a dynamic social practice, teachers can revolutionise mathematical learning in the classroom.
	C5: Using Formative Assessment to Guide Student's Next Stage of Learning **Renee Ladner** Setting goals and guiding students toward their next learning stage is crucial for nurturing a love of mathematics. When students understand their achievements and next steps, intrinsic motivation and success grow. This session will focus on how students' wellbeing improves when they know their learning objectives. It will also explore methods for teachers to capture ongoing task progress, enabling immediate feedback without waiting for summative assessments, hence making it timely and effective for both students and teachers.
	C6: Introduction to Victorian lesson plans **Steph Murphy and Sam Haberman** Join us for an engaging workshop exploring the newly developed Victorian Mathematics lesson plans, designed for Foundation to Level 10. With a strong emphasis on building understanding, fluency, problem-solving, and reasoning skills, lesson plans provide valuable support for teachers. This session will delve into both the 'what' and the 'how'—unpacking the structure and intent of the lesson plans while providing practical strategies for implementation in the classroom. *Workshop sponsor:* VICTORIA State Government | Department of Education
Keynote 2: 1.30pm – 2.30pm	**D1: Panel** Drawing on the theme of this year's conference, 'Transformations: An opportunity to reflect and redefine our practice', we invite representatives from all educational sectors to discuss their own transformations and how it has driven and enhanced their practice. This panel discussion will provide a direct link between educational leaders and teachers as we seek to explore whether mathematics education needs to be transformed and, if so, what this transformation should entail. The panel will be facilitated by Dr Sophie Special, host of the Faculty of Education's *Talking Teaching* podcast.
Workshop rotation 3: 2.35pm -3.30pm	**E1: Exploring numeracy in a native garden** **Dr Carmel Mesiti, Kate Copping and Dr Emily Rochette** Discover how to turn your school's garden into a dynamic numeracy classroom! This hands-on workshop will explore engaging, curriculum-aligned maths activities that connect to real-world problem-solving, measurement, data collection, and geometry. Through a guided walk in a native plant garden, you'll experience how gardens or similar spaces can be a rich resource for developing mathematical thinking while showcasing Indigenous knowledges and perspectives on patterns, sustainability, and seasonal changes. You'll leave with practical lesson ideas and strategies for adapting activities to different year levels. Join us for an inspiring session that brings maths to life in the great outdoors!
	E2: The problem with worded problems is the words! **Antje Leigh-Lancaster** This session explores how 2-step worded problems can be tackled using a 'numberless' approach, where numbers are removed and text adapted to help students focus on the essence of the problem. I will discuss Newman's 5-point error analysis framework and show how numberless problems decompose worded questions into simpler statements that progressively reveal mathematical relationships. This approach reduces anxiety by allowing students to focus on context without getting caught up in calculations, increasing accessibility, engagement, and deeper understanding. This practical, hands-on workshop provides opportunities to learn and apply the approach to several 2-step worded problems.

E3: Developing mathematical recording in F-2 students

Ellen Corovic and Georgia Dimitrovski

Ellen and Georgia will showcase their approach to helping Foundation to Year 2 (F-2) students record mathematical ideas. This session explores the journey from early drawings to annotated ideas using pictures, words, and symbols. Participants will gain insights into the importance and stages of early mathematical recording. Ellen and Georgia will demonstrate methods and strategies that aid young learners in articulating their mathematical thinking, fostering deeper comprehension and confidence. Join them for a practical, hands-on experience to equip teachers with tools and knowledge to nurture mathematical communication skills in young learners.

E4: Fluency through understanding: Meaningful strategies for mastering multiplication facts

Jessica Kurzman

Discover how to help your students build fluency with times tables by deepening their understanding. This session focuses on strategies for supporting students in mastering multiplication facts using meaningful strategies that promote understanding, not just memorisation. Participants will discover how conceptual connections strengthen retention and lead to lasting, flexible fluency. Through hands-on activities and practical examples, you'll experience tasks that you can use to help make learning multiplication facts engaging, accessible, and effective for your students. Walk away with strategies you can immediately implement to boost student confidence and set them up for future success in mathematics.

E5: Drawing on story book illustrations to design problem-solving tasks that encourage creative mathematical conversations

Dr Gaye Williams

Illustrated story books with mathematical underpinnings generally contain 'already worked out' mathematics or require children to use 'already known' mathematics. This session focuses on design of problem-solving tasks that 'twist' story books, so children make decisions on what mathematics to use, and how to use it creatively, to explore such tasks. Several tasks (appropriate to various year levels) are presented for groups of participants to consider: a) ways children might respond to tasks; b) various mathematical ideas that might emerge through the task; c) possible productive teacher actions; and d) possible children's mathematical conversations. Groups of participants share their thoughts. Research on task implementations that highlight student and teacher actions are presented to provoke discussion of task features that engage children with mathematics. Participant ideas about other story books with potential are discussed.

E6: Review and retrieval practices in mathematics

Steph Murphy and Sacha Giurietto

Effective learning in mathematics relies on the ability to recall and apply knowledge with ease. This workshop explores the power of retrieval practice in strengthening students' mathematical understanding, fluency, and problem-solving skills. We will explore VLP retrieval resource and practical strategies to incorporate retrieval into daily lessons.

Workshop sponsor: VICTORIA State Government | Department of Education

Learn more about your presenters

Professor Amie Albrecht

Amie Albrecht is a professor of mathematics education at the University of South Australia. Amie teaches secondary mathematics curriculum to pre-service teachers, with a keen interest in developing mathematical thinking and positive dispositions toward mathematics. Her teaching has received national and university awards. Amie's research interests include incorporating authentic mathematical practices into teaching, and supporting teacher development through professional learning. As a mathematician, Amie's research focused on industrial applications of mathematics, particularly for efficient railway operations. Amie actively engages with teachers through workshops and presentations across Australia and connects globally through her blog (amiealbrecht.com) and social media (@nomad_penguin and @nomadpenguin).

Leonie Anstey

Leonie is passionate about leadership, mathematics and numeracy education. Leonie has worked extensively with school districts, systems and individual schools to enable all educators to make progress to meet their mathematics education goals. She holds a Masters of Education (Research) based on the skills and knowledge for mathematics teacher coaching. Leonie was formerly a principal in Victoria and worked extensively as a teacher and principal coach. Leonie's teaching background includes senior secondary, middle years and primary. She has also supported early childhood settings to implement mathematics and science strategies. In her role as education leader at MAV, she works with teachers and leaders to build knowledge, skills and dispositions in mathematics and numeracy. She leads the MAV team to develop resources to support schools to create excellent teaching and learning programs.

Dr Scott Cameron

Scott is a lecturer in mathematics education and clinical practice coordinator in the Master of Teaching (Secondary) program at the University of Melbourne. He oversees the professional development of pre-service teachers during their placement experiences. He teaches mathematics education subjects and is dedicated to enhancing pre-service teachers' pedagogical content knowledge to prepare them for effective classroom practice. Dr Cameron's PhD research investigated senior secondary students' use of computer algebra systems, exploring their attitudes, usage patterns, and influencing factors. Using a longitudinal mixed methods case study, his work provides valuable insights for integrating technology into mathematics teaching. Building on this foundation, he now examines the impact of emerging technologies, including mathematics analysis software and AI, on mathematics teaching and learning, reflecting his commitment to innovation in mathematics education.

Kate Copping

Kate is a lecturer in mathematics education and clinical practice coordinator in the Master of Teaching (Primary) program at the University of Melbourne. She teaches mathematics education in primary and early childhood/primary programs, building pre-service teachers' pedagogical content knowledge and oversees the professional development of pre-service teachers during placements. Kate has extensive teaching experience in Australia and the US. She has served as vice president of MAV, contributed to NAPLAN development, and was part of the RiMEA11 editorial team, supporting mathematics education research. Kate's PhD explores how primary mathematics leadership is conceptualised, experienced, and enacted in schools, positioning these leaders as key middle leaders. Her work informs school policy and decision-making, with a focus on teacher professional learning, assessment, and strategies to enhance student engagement and understanding in mathematics.

Ellen Corovic

Ellen is an experienced educator, focusing on enhancing efficacy in mathematics education. With 15 years experience in mathematics education as a consultant, a Master of Instructional Leadership, and a PhD in progress, she provides schools with coaching, advice, and consulting to reveal the joy in mathematics teaching.

Nikki D'Antonio

Nikki is a dedicated primary education expert, maths consultant, and co-founder of Limitless Maths. With years of experience as a primary school learning specialist, Nikki has a deep understanding of young learners' educational needs, particularly in numeracy. She is passionate about making mathematics engaging and accessible for primary students, believing that strong foundational skills are key to long-term academic confidence and success. Through Limitless Maths, Nikki designs and delivers specialised programs, including one-on-one tutoring, group workshops, and school consulting services. Her approach blends practical strategies with creative teaching methods, with a strong focus on strengthening student mindsets and confidence. Nikki is committed to empowering both students and educators to achieve excellence in maths, one engaging session at a time.

Dr Aylie Davidson

Aylie is an experienced mathematics educator having worked in teaching and leadership roles in metropolitan and regional school settings, initial teacher education, and project leadership for the Department of Education Victoria. Aylie's research examines ways to help teachers work together to plan student-centred mathematics learning sequences and experiences that involve innovative pedagogies. Her other research interests include: mathematical reasoning; the use of challenging tasks to support diverse learners; middle school leadership; and student engagement. Aylie enjoys working with and learning from teachers and school leaders to make learning relevant, practical and sustainable. Aylie works as a lecturer in mathematics education at Deakin University and is the editor of *Prime Number*.

Georgia Dimitrovski

Georgia is the Foundation team leader at Deer Park North Primary School. Over the past nine years, she has taught in all areas of junior school, finding herself in Foundation for the last four years. Georgia is passionate about instilling a love for learning

Learn more about your presenters (continued)

mathematics into her students. For the last three years, she has worked alongside Ellen Corovic learning to develop, plan and implement mathematics lessons to Foundation students that are engaging and promote problem-solving. In 2023, Georgia presented at the MAV conference and is excited to be sharing her knowledge with others again.

Cathy Epstein-Rodgers

Cathy works as a consultant at MAV and is the junior school mathematics coordinator at Camberwell Grammar. Cathy also runs her own mathematics consultancy business. Cathy is passionate about teaching our students to be divergent thinkers, encouraging them to solve problems by collaborating and making connections. In the past 20 years she has acquired a wealth of tried and tested rich, easily differentiated tasks, games and learning sequences based around the big ideas in mathematics. Cathy has written numerous articles for *Prime Number* and *Common Denominator*, designed tasks for Maths 300 and co-authored warmups and exit tickets for Mathology.

Sacha Giurietto

Sacha is the leading teacher at Pleasant Street Primary School where she leads the approach of structured literacy, explicit maths and a whole school knowledge curriculum. She is part of the curriculum and teaching practice division at the Department of Education, where she runs professional learning webinars about evidence-based maths teaching. Sacha works with Ochre Education as a maths subject lead and convenes Think Forward Maths Network with local and international experts to bring knowledge and evidence to all teachers.

Sam Haberman

Sam is an experienced mathematics and science educator with a strong background in curriculum development. A senior project officer in the Victorian lesson plans unit, Sam oversees the development and implementation of high-quality mathematics resources, ensuring alignment with the VTLM 2.0.

Jessica Kurzman

Jessica is the mathematics leader and learning and teaching leader at St Patrick's Primary School in Kilmore. With over 15 years of experience in mathematics leadership, she is deeply committed to enhancing teaching and learning for all. Jessica holds a Master of Education in Mathematics Leadership from Monash University, which has driven her passion for implementing whole-school change. Jess also consults for MAV, where she supports schools in adopting best-practice approaches to mathematics education.

Renee Ladner

Renee is a primary education consultant at MAV and has held positions as a numeracy leader and deputy principal in primary schools. With a Master's in mathematical leadership, Renee is committed to instilling a growth mindset in students and teachers. Her research highlights the impact of a stimulating mathematical environment on student motivation and wellbeing. Renee has facilitated whole-school changes in mathematical content delivery. At MAV, Renee collaborates with Victorian schools and provides professional development, planning assistance, coaching, and modelling to enhance mathematical education.

Antje Leigh-Lancaster

Antje is an education consultant and partner at Leigh-Lancaster Consulting. She has over 20 years of experience in education, delivering professional learning, leading people, managing projects, and driving improvements in student outcomes through learner engagement, strengthening mathematical understanding and increasing opportunities for success. Most recently, Antje contributed as a presenter to Build Me Up, an on-demand professional learning program by MAV, designed to empower mathematics educators. She is also actively supporting teachers in implementing the revised mathematics curriculum, unpacking the four mathematical processes and promoting numeracy across learning areas.

Eamon Light

Eamon is a passionate educator who has 18 years of experience across primary schools and university. Eamon enjoys working with preservice and inservice teachers to build capacity and confidence in teaching Mathematics through promoting a balanced approach. Eamon's priority in mathematics education has always been to build mathematical minds through developing critical, creative and independent thinkers from an early age. Eamon has a passion for developing positive dispositions towards mathematics in young learners through building classroom culture, mathematical inquiry and using real life contexts to stimulate engagement.

Dr Melody McCormick

Melody is the strategic advisor for mathematics improvement in the curriculum and teaching practice division. Her responsibilities include developing and implementing strategic policy and policy advice at the system level. Melody works across Department branches and divisions to provide advice on the development of new department resources, and identify and systemise actions for mathematics improvement in Victorian schools.
Prior to her role at the Department, she worked at the Australian Education Research Organisation as a researcher in the science of learning project and literacy and mumeracy project.

Dr Carmel Mesiti

Carmel is a senior lecturer in mathematics education and course coordinator for the Master of Teaching (Primary) program at the University of Melbourne. With a career spanning primary, secondary, and tertiary education, she is a passionate educator and researcher focused on advancing mathematics teaching and learning. Dr Mesiti has served as a research fellow on the ARC-funded projects and led The International Classroom Lexicon Project, collaborating with research teams worldwide. Carmel's work explores mathematics teaching through video-based research, pedagogical language, and instructional approaches across cultures. Co-leader of the ICCR and research co-lead of MSTEG, she examines classroom practices and emerging methodologies, including generative AI for education.

Learn more about your presenters (continued)

A former secondary mathematics teacher and head of mathematics, Dr Mesiti conducts professional development workshops, sharing insights from her extensive experience.

Michael Minas

Michael is the director of Love Maths, an educational consulting organisation based in Melbourne. He has worked in education for over 25 years and his areas of interest include problem solving and student engagement. Michael's YouTube channel features 100 videos of engaging maths games and has attracted over a million views from educators from across the globe. In 2018, Michael's ability to shape learning was recognised when he won a CHOOSEMATHS Teaching Excellence Award. He presents at Australian and international conferences and provides consultancy services to a range of organisations, including the MAV and the Victorian Academy of Teaching and Leadership. Michael was the editor of *Prime Number* and is a contributing author for the Open Middle and Maths300 websites. He is the author of *Understanding and Teaching Primary Mathematics in Australia* and *The Curse: The Colorful and Chaotic History of the LA Clippers.*

Steph Murphy

Steph is the acting director of lesson plans at the Department of Education. She is an experienced primary school teacher, interventionist, instructional and leadership coach and implementation specialist who has spent the past 4.5 years working in federal and state projects including Bayside Peninsula area office supporting school improvement efforts through implementing explicit instruction techniques. Steph has been in the VLP unit since December and continues to lead the team as VLPs are published in English (including Phonics Plus), mathematics, science, design and technology and design technologies.

Dr Emily Rochette

Emily was a classroom teacher and now teaches pre-service teachers studying science and chemistry education at the The University of Melbourne. Her teaching and research interests are situated within understanding the out-of-field teaching experience, particularly in the sub-disciplines of science. She has a personal interest in mathematics and enjoys working with mathematics teachers to better understand how to meaningfully teach mathematics through science contexts. Recently, she has turned her research lens toward the native plants of the Australian continent and how plants can be incorporated into classrooms to provide contexts for students' learning across the curriculum.

Justine Sakurai

Justine is project lead at the University of Melbourne spearheading and teaching in a major program for the Victorian Academy of Teaching and Leadership on numeracy improvement. Justine is undertaking her PhD studies at the University of Melbourne. Her research seeks to examine theories of engagement and values with numeracy to explore the connections for upper-secondary low-performing mathematics students. Justine has over two decades of experience as a teacher of mathematics and numeracy in Victorian secondary schools. She lectures in initial teacher education at Deakin University. Justine has contributed to curriculum development and writing, benchmarking, quality assurance, and assessment. She is the editor of *Vinculum*, the secondary mathematics teacher journal for MAV.

Emeritus Professor Kaye Stacey

Kaye was foundation professor of mathematics education at the University of Melbourne for 20 years and is now an emeritus professor. She is committed to promoting good mathematics education for people of all ages and at all levels. Her main work has been in teacher education (primary and secondary), research, and curriculum development for the school years. She has written many research articles and many books and teaching resources for teachers. Her latest book is *Learning and Teaching for Mathematical Literacy: Making Mathematics Useful for Everyone.* In 2024, the International Commission for Mathematical Instruction awarded Kaye the third Emma Castelnuova medal for her outstanding contribution to the practice of mathematics education.

Dr Max Stephens

Max is a research fellow in the mathematics, science and technology education group of the Melbourne Faculty of Education. He is also a long time member and supporter of the MAV. One of his main research directions is the rise of computational thinking in the school curriculum worldwide. Recently Max led a seminar at the Faculty of Education on *AI and the Curriculum: Preparing the next generation of teachers*. It's available to MAV members at https://youtu.be/eX8svsMubvA

Taryn Volpe

Taryn is an experienced primary education specialist, maths consultant, and co-founder of Limitless Maths. With a strong background as a primary school learning specialist, she understands the challenges students face in developing numeracy skills. Taryn is committed to making maths an engaging and accessible subject, focusing on hands-on learning and deep conceptual understanding to build student confidence.
At Limitless Maths, Taryn designs and leads tailored programs, including individual tutoring, interactive workshops, and school consulting services. She integrates practical strategies with innovative teaching techniques, fostering a growth mindset and problem-solving abilities in students.

Dr Gaye Williams

Gaye, a University of Melbourne honorary senior fellow, has taught for over 30 years, been a professional learning provider, researched student learning through problem solving, and been a teacher educator. Awards include a Victorian National Excellence in Teaching Award (1994) and the University of Melbourne Chancellor's Prize (2007, for her PhD within David Clarke's international learners' perspective study). Her foci include collaborative mathematical problem solving (task design, implementation, creative mathematical thinking and the positive feelings and resilience building that can accompany this). She is exploring influences of teacher resilience on their implementating of mathematical problem solving and, links between STEM education and learning engagement.

Empowering early childhood educators
Thursday 5 June, 2025

Time	Title/abstract
Welcome and workshop 1: 9am-10.15am	**A1: Trampolines for high-flying maths conversations: Teacher questions and children's responses** **Professor Caroline Cohrssen and Dr Rachel Pollitt** Early childhood educators are experts at creating playful learning environments for children. During play, children frequently demonstrate mathematical thinking. However, noticing mathematical thinking when expressed or demonstrated by children, educators need strong pedagogical content knowledge to respond to individual children in ways that consolidate and extend their thinking. In this session, we will present research from studies that focus on children's understanding of the concept of zero and children's spatial thinking. We will highlight the importance of educators' observing and analysing what children know already and what they are ready to learn next. The contribution of learning trajectories will be proposed as one way to support early childhood educators' confident enactment of the planning cycle within the Early Years Learning Framework for Australia V2.0.
Workshop 2: 10.50am-11.45am	**B1: Dispositions toward learning: Empowering educators to support children's mathematics explorations** **Professor Jane Page, Dr Katherine Canobi, Dr Rachel Pollitt** Early childhood educators are vital to young children's mathematical learning, particularly those experiencing disadvantage; and children's early childhood mathematics knowledge is predictive of their later school achievements and STEM participation. However, advancing children's mathematics learning is reliant on educators' professional wellbeing and positive dispositions as well as their ability to identify and attune to children's mathematics explorations during play. Drawing on the Theory of Practice Architectures to understand educators' perceptions and experiences of mathematics teaching and learning, we explore what can empower educators and children's mathematics experiences. This workshop will highlight Australian educators' reports of mathematics practice in early childhood settings. Workshop participants will have opportunities to engage with real-life examples from early childhood educators working across diverse contexts in terms of mathematics sayings, doings, and relatings.
Workshop 3: 11.50am-12.45pm	**C1: Intentional mathematics in play: Practical examples from empowered educators** **Dr Cristina Guarrella and Emma Forsyth** Empowering early childhood educators as capable math teachers is critical for children's learning. In early childhood, play is a vehicle for young children's mathematics learning and development and takes on many forms including free play, guided play, and playful instruction. Educators purposefully step in and out of play to intentionally prompt and scaffold mathematics learning, aligned with established learning objectives. In this presentation, we showcase practical examples of playful mathematics learning and discuss both the developing mathematics concepts and skills and the playful learning pedagogies adopted by educators. Links to the Victorian Early Years Learning and Development Framework and AERO preschool learning trajectories will also be identified. In doing so, our aim is to empower early childhood educators to intentionally embed mathematics concepts and skills into children's playful learning.
Workshop 4: 1.30pm-2.30pm	**D1: The role of imagination in early mathematics education** **Hong Chen and Dr Leigh Disney** Imagination is a powerful but sometimes underutilised tool in early mathematics education. By imagining scenarios, characters, and narratives, children can engage in mathematical problem-solving within rich, contextualised experiences. This presentation highlights how teachers can purposefully integrate imagination into mathematical learning, enhancing engagement and conceptual understanding. Participants will gain practical strategies to intentionally embed imaginative experiences into their teaching practices, empowering young learners to explore and understand mathematical concepts in the early years.
Workshop 5: 2.35pm-3.30pm	**E1: 1 + 1 starts with you: Shifting your mathematical mindset** **Sarah Louise Nelson** Mathematics in early childhood education and care is more than numbers and equations: it's about nurturing curiosity, building confidence, and fostering a lifelong love of learning. Yet, many educators and leaders grapple with their own mathematical mindsets, shaped by past experiences and traditional teaching approaches. This session will explore the power of mindset in shaping mathematical understanding, both for educators and children. We'll examine common misconceptions, uncover the hidden potential of play-based and inquiry-driven math learning, and discuss practical strategies to bridge the gap between theory and real-world application. By rethinking our own relationship with mathematics, we can empower ourselves to create richer, more inclusive learning environments that encourage deep conceptual understanding.

Learn more about your presenters

Hong Chen
Hong Chen is a PhD candidate at Monash University, specialising in early childhood and primary mathematics education. With over eight years of experience working in different types of early childhood settings and schools, her research interests include early childhood education, mathematics, transition, and play-based learning. In her doctoral research, Hong investigates how imaginary play-based pedagogical approaches can enhance children's mathematical learning during their transition from kindergarten to primary school. She utilises the conceptual play world approach to create motivating conditions for children's engagement with mathematical concepts.

Dr Katherine Canobi
Katherine is a research fellow in the REEaCh (Research in Effective Education in Early Childhood) Centre at The University of Melbourne. She has worked as a lecturer in cognitive and developmental psychology and supervised PhD students in Australia and the UK. Katherine was also awarded an ARC grant to explore cognitive development in early arithmetic as sole chief investigator and ARC postdoctoral fellow at Melbourne University. Her research has been published in leading international journals in cognitive science, developmental psychology and educational psychology. She is researching early numeracy along with ways to understand, measure and enhance educator wellbeing and mathematical learning in early childhood.

Professor Caroline Cohrssen
Caroline is professor in early childhood education and deputy head of the school of education at the University of New England in Armidale, NSW. She also holds an honorary appointment at the University of Melbourne. Caroline contributed to the AERO Early Childhood Learning Trajectories project and advocates for educators' use of a learning trajectories approach to support teaching practice and improved learning outcomes for children.

Dr Leigh Disney
Leigh began his career in the early years working as an early childhood educator in both prior to school and school-based settings for over 10 years. He developed a detailed knowledge of the educative and care needs of children within the 0-8 age range. Leigh specialises in supporting young children's social and emotional development, as well as curricula domains of science, technology and mathematics. As a lecturer at Monash University, Leigh studies early years mathematical learning as well as the impact of digital technology within early years educational settings. Leigh is investigating the enhancement of learning outcomes for children through dynamic leadership processes. Leigh has also spent time working in China on projects related to cross-cultural early childhood practices and the implementation of play-based learning within Chinese preschools.

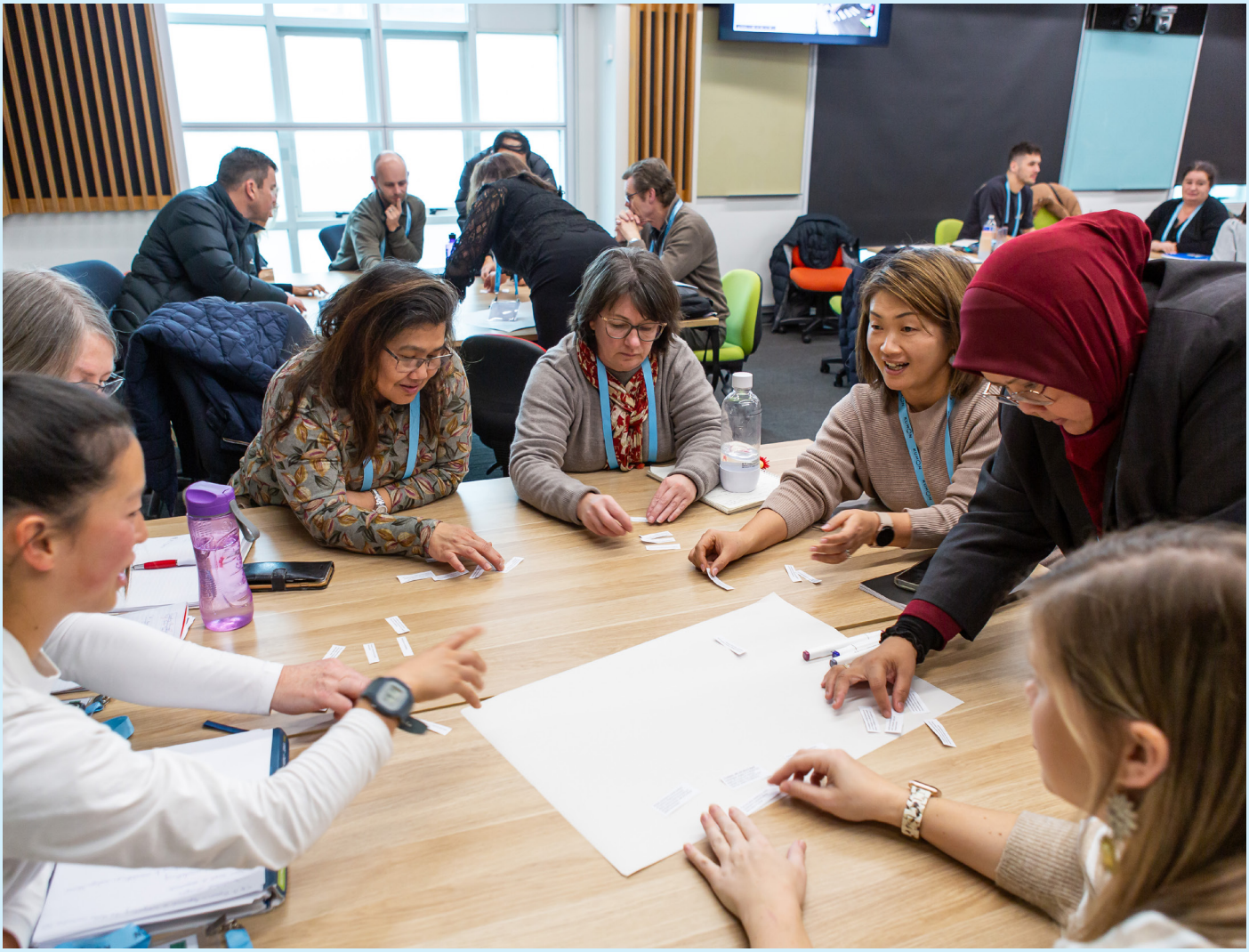
Emma Forsyth
As head of pedagogy at ECMS, Emma's philosophy is anchored in relational pedagogy, with a love for translating research into play-based practice that supports teacher capabilities and ultimately children's love for learning. Originally from Aotearoa, NZ, Emma has been teaching and leading in ECE settings for over 15 years.

Sara Louise Nelson
Sarah Louise, PhD Candidate at Monash University, is a Melbourne based mum of two, early childhood teacher and lecturer, and the founder of Sarah Louise Consultancy. Her 20+ year career spans a variety of roles and settings, and she has complemented her work with formal studies in the areas of early childhood education, leadership and research. Sarah Louise is a forever learner who is committed to making the world a better place for children by tapping into love and kindness.

Dr Cristina Guarrella
Cristina is a postdoctoral research fellow at the University of Melbourne. Her research explores teacher practice at the intersection of science, technology and early years education. Aiming to contribute to the quality of assessment practice in early childhood education and care, Cristina's postdoctoral research applies a bridging approach to support teachers to embed learning progressions that articulate children's knowledge and skills in STEM. Cristina has co-authored a range of teaching resources including the NT Preschool Science Games and publishes in the area of early childhood science education.

Professor Jane Page
Jane is professor and associate director, pedagogy and leadership research at the REEaCh Centre. She has been a teacher of young children and a university academic for over 38 years. Jane has researched with children, teachers and educators, educational leaders, service providers and families across Australia, and with the federal and state governments on a range of projects that build understandings of the impact of educational leadership, coaching, teaching and assessment practices on children's learning and development in the years prior to school. Through her research partnerships, Jane aims to generate new knowledge on the factors and processes that drive high-quality early childhood education to ensure equitable learning outcomes and pathways for young children.

Dr Rachel Pollitt
Rachel is a research fellow at the REEaCh Centre at The University of Melbourne. Her PhD is focused on mathematics and play-based assessment strategies.



2025 MELBOURNE MATHEMATICS CONFERENCE

Dates

Wednesday 4 June 2025
Leadership in mathematics education (F-12)

Thursday 5 June 2025
Primary mathematics teaching and learning
Empowering early childhood educators

Venue

Kwong Lee Dow Building, 234 Queensberry St
Faculty of Education, The University of Melbourne

Time

9am–3.30pm, followed by happy hour.

Contact

For information about bookings email Di Liddell, dliddell@mav.vic.edu.au.

Registrations close on Wednesday 28 May, 2025.

MAV Member registration (20% discount): $320 per day
Non-member: $400 per day
The early childhood stream is free for MAV members.

Special MAV membership offer

To receive the member rate, you must first be a MAV member. If you are not a MAV member and wish to attend this conference, you can join the MAV. Alternatively, join as an individual member. Early childhood educators can receive a free membership by contacting MAV.

Contact mgreen@mav.vic.edu.au to redeem this offer **prior** to completing your conference registration.

REGISTER NOW

Numbers are strictly limited, book at www.mav.vic.edu.au/Conference/Melbourne-Mathematics-Conference and select the day(s) that you wish to attend.

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