

22nd Annual Primary and Secondary Teachers' Mathematics Conference

Wednesday 4th December 2019
8:50am – 3:30pm

ACU (Melbourne Campus) 115 Victoria Pde Fitzroy

Cost \$330 (incl. GST) – includes lunch, afternoon tea, certificate of participation, and all session notes.

Our conference program aims to assist teachers in their development of professional knowledge, practice, and engagement about mathematics education. Our workshops highlight topics which are currently important, and of interest to teachers and mathematics leaders, such as student engagement, differentiation, the Australian Curriculum proficiencies, growth mindset development, and a whole lot more.



Features of the day

- » High-quality presenters.
- » Choose one workshop in each session block from a rich array of options
- » Insights from research will be complemented by the practical experience of workshop presenters
- » Handouts, certificate, lunch, and afternoon tea provided. Tea and coffee available from 8:15am
- » Handy location close to city, easy access by public transport (115 Victoria Parade, Fitzroy)

This is an activity of the Mathematics Teaching and Learning Centre (MTLC) at Australian Catholic University (Melbourne Campus)



Given the large numbers anticipated we will again offer a choice of two keynotes.

Dr Jill Cheeseman is a Senior Lecturer in Education at Monash University. Jill has been a part of many research projects where she has worked closely with classroom teachers and leaders in primary schools. Her current research project focuses on fostering inquiry in mathematics classrooms and leading primary mathematics in schools.

Dr Gaye Williams is an Honorary Senior Fellow at the International Centre for Classroom Research at The University of Melbourne. Her research interests include factors influencing student opportunities to creatively develop mathematical insights during group problem solving in mathematics (including in STEM contexts). Resilience building in both students and teachers is part of that research.



“Really got me enthused for future maths teaching and learning.”

“Great day with top-notch presenters. Always walk away having learned something new to take back to my school.”

“Always a rewarding day for clarity around the latest numeracy and mathematical trends in education.”



Featured Conference Presenter

Charles Lovitt is our featured workshop presenter at this year's conference. Charles works with teachers offering practical advice and tips in making mathematics lessons more engaging for students' learning and more engaging for teachers, too! Be quick to secure your place in one (or more) of Charles' workshops!

THE PROGRAM

Session	Presenter/s	Topic	Yr Levels
Keynote: 8:50am – 10:00am			
Keynote	Jill Cheeseman	Learning from children They say that teaching is a profession where we “learn on the job”. Jill agrees with the sentiment and it strikes her that some of the important things that she has learned have been taught to her by children. In this keynote, Jill will share stories from primary school classrooms where she has learned about mathematics, children, and herself as a teacher of mathematics.	F – 6
Keynote	Gaye Williams	Resilient activity in emotionally safe but cognitively challenging mathematics learning environments Curriculum documents and government policies value independent student thinking, innovation, and creativity. How can we encourage such activity in mathematics lessons and for what purposes? Gaye's findings, as teacher and researcher, are used to illustrate that creative group problem solving can result in deep mathematical understanding. She draws attention to two under-recognised elements required for such activity to occur: emotionally safe but cognitively challenging learning environments, and resilient participants (both students and teachers).	5 – 10
Session A: 10:10am – 11:30am			
A1	Colleen Monaghan	Engaging tasks for counting and place value In this session, we will unpack some favourite counting and place value activities. We will look at how they could be used across the F-2 classroom and be differentiated for abilities within your classroom. These activities are easy to set up and require simple resources. This session will hopefully motivate you to use some fun, engaging, counting and place value tasks.	F – 2
A2	Doug Clarke	Building number sense in the early years Number sense can be thought of as thinking of numbers in a sense-making way. Many children develop creative and efficient strategies when operating on numbers, but a focus on formal algorithms may deter students from using their number sense. This workshop will involve participants actively focusing on ways of using estimation, mental computation, and number relationships to help young children deal with numbers strategically and flexibly.	F – 3
A3	Ann Downton	Understanding quantities A great deal of emphasis is placed on place value in the early primary years' curriculum. We need to give greater focus to developing number sense and a contextual approach. We will explore some of these ideas linking to the proficiency strands of the Victorian Curriculum through practical hands-on tasks.	F – 3
A4	Charles Lovitt	Rich and balanced unit planning This workshop will consider how schools have tackled unit planning and illustrate four particular aspects: developing a shared teaching and learning vision; discussing and publishing a range of illustrative lessons that fit that vision; exploring planning structures that ensure all the right balances; and, developing appropriate classroom culture.	F – 6
A5	Russell McCartney	Cuisenaire rods and some great ways to use them! During this session, you will have a chance to explore the use of Cuisenaire Rods to deepen student understandings in number and measurement domains. This workshop is for teachers who are interested in using these materials in their classroom to provide rich learning experiences for students.	2 – 6
A6	Chris Terlich	Wonderful warm ups! This workshop explores a variety of games that are designed to get students thinking mathematically. These activities can be used as warm-ups or can be extended as a complete learning task. Participants will be positioned as the learner to explore these games using materials such as dice, cards, and counters. These tasks could easily be adapted for any year level.	3 – 6
A7	Aylie Davidson	Planning and assessing mathematical reasoning What is “reasoning”? How do I know when my students are reasoning? How can I elicit students' reasoning? In this hands-on workshop, we will explore the reSolve Mathematics by Inquiry materials including the three key reasoning actions of analysing, generalising, and justifying. We will also consider teacher questioning to elicit students' reasoning as well as approaches to embed reasoning into our daily planning and teaching routines.	3 – 6
A8	Peter Sullivan	Adapting thinking then consolidating learning - Planning to engage and challenge all students Many teachers have found that structured inquiry student-centred lessons are engaging for students. This session will focus on one further step – the importance of consolidating learning that is stimulated by the original inquiry. Using a focus on the learning of percentages, this session will outline that advantages of challenging tasks, appropriately differentiated, supported by further tasks that consolidate the learning.	5 – 8

A9	Lorraine Day	Rich tasks in statistics and probability The Australian Curriculum: Mathematics states that “students should represent, summarise and interpret data and undertake purposeful investigations involving the collection and interpretation of data, assess likelihood and assign probabilities using both experimental and theoretical approaches”. Tasks which lead to rich mathematical activity and have the Proficiency Strands embedded within them encourage students to identify and investigate the links between statistics and probability.	5 – 9
A10	Heath Cambridge	From ‘passive’ to ‘active’, do we rebuild or renovate? For many middle school mathematics tasks, great intentions and ideas do not always translate to active and engaging learning opportunities. Do we rebuild them entirely or could they do with a renovation? This workshop will explore some practical strategies and principles which can help to move student learning from ‘passive to active’ and allow you to explore some engaging middle school mathematics tasks along the way.	7 – 10
Lunch: 11:30am – 12:10pm			
Session B: 12:15pm – 1:35pm			
B1	Linda Parish	Understanding quantity - The key to developing early number sense Children with well-developed number sense are more likely to experience long-term success. This entails making connections between the quantity, the word that describes it, and the symbol that represents it. This session will explore activities that do exactly this – from part-whole number thinking to simple fraction understandings to early multiplicative concepts.	F-2
B2	Matt Sexton	Can you see what I see? Visualisation plays an important role when developing ideas related to geometry and number. Unfortunately, there is very little mention of visualisation as a skill in curriculum documents. We will explore important ideas through tasks that have the potential to develop young students’ numeric, geometric, and spatial visualisation strategies.	F-2
B3	Ann Downton	Fun and games in mathematics lessons - What’s that all about? Games are fun to play, engage children intellectually, can increase motivation, support skill and concept development, and build links between mathematical ideas. Ann will explore a range of games including their rich learning potential in mathematics lessons.	F-3
B4	Russell McCartney	Engaging activities and tasks using beaded number lines This workshop involves a variety of ‘low floor - high ceiling’ tasks that provide multiple levels of challenge. During this workshop, you will have a chance to explore the use of ‘beaded number lines’ and other materials to build student knowledge of addition and subtraction.	F-6
B5	James Russo & Toby Russo	Transforming mathematical games into rich investigations Mathematical games are an effective tool for engaging students, promoting fluency, and encouraging the exploration of new concepts. However, we believe the most powerful games are those that can be transformed into rich mathematical investigations, where students can explore underlying concepts and use deep reasoning. We will share some of our favourite games and explore how these can be extended as investigations, while giving participants time to consider possible investigations linked to a chosen game.	1-6
B6	Shyam Drury	Getting it right - Powerful problem solving What happens when we combine the most effective, evidence-based strategies for teaching through problem solving into a single coherent approach to lesson planning and implementation? Effective collaboration, productive discussion, improved attitude, engagement, and conceptual understanding are a few of the outcomes we’ve seen by applying the ‘Champions of Maths’ approach to problem solving. Experience a session, learn the approach and plan a lesson for your students. Resources, planning tools and examples will be provided.	3-6
B7	Kelly Watson	ReSolve: Mathematics by inquiry - Using student strategies to promote learning This session will focus on ways that student created strategies and their solutions can become key aspects of pedagogical approaches associated with student-centred inquiries. Participants will consider ways in which lessons and teaching based on inquiries differ from approaches which rely on explicit teacher direction and instruction.	4-6
B8	Jill Brown	Making reasoning a reality in your school’s classrooms We will focus on working with teachers to develop and/or improve a sustained focus on mathematical reasoning across the middle years. Approaches will include using challenging tasks that allow all students to engage with important mathematical ideas. As challenging tasks require that initial “not knowing what to do”, they provide an excellent opportunity for teachers to encourage students to articulate their thinking, thus making reasoning visible.	5-8
B9	Charles Lovitt	The rise and rise of open-ended investigative approaches to mathematics learning The shift from a closed ‘text-book’ worksheet view of learning towards a more rich, open-ended investigative style is arguably the biggest growth area in school mathematics at present. In this workshop, a specific focus will be the role educators play in facilitating the greater use of open-ended investigative approaches.	5 – 8
B10	Heath Cambridge	Rock paper scissors dice - Using non-standard dice to explore probability in the middle years These three easy to make dice have some very interesting properties when you play them against each other and they can be used to launch an engaging probability investigation which will pique the curiosity of your secondary students. In this workshop, we will explore how students can use the outcome of chance experiments and a variety of sample space representations to help understand and explain how these dice work.	7 – 10

Afternoon Tea: 1:35pm – 1:55pm

Session C: 2:00pm – 3:20pm

C1	Colleen Monaghan	Building understanding and fluency with the basic facts In this session, we will investigate ways to develop understanding with the basic facts. We will unpack all the various facts that students need to know in the junior years and the sequence in which to teach them. We will look at activities that build fluency and ways to incorporate these in to your daily sessions.	F-2
C2	Matt Sexton	Some more of my favourite mathematical tasks for the early years We all have our favourite “go to” tasks that we know work when it comes to maths. We call them our favourite because through the years we have found that they engage students in opportunities to learn important maths ideas. In this workshop, Matt will share more of his favourite maths tasks that he has used with students in the early years.	F-2
C3	Penelope Kalogeropoulos	Numeracy across the curriculum and student engagement Students become numerate as they develop the knowledge and skills to use mathematics confidently across other learning areas at school and in their lives more broadly. In this session, we will look at the possibilities of addressing numeracy in different curriculum areas so that student engagement is promoted, and the learning of mathematics is valued.	F-6
C4	Linda Parish	Fostering a growth mindset - Do we assess what we value? Independent thinking, risk taking, perseverance in the face of difficulties, sustained effort, creativity, collaboration are just some of the attributes we want to encourage our students to develop. They are also indicators of a growth mindset – a belief that learning, hard work, effort and perseverance is what leads to success. This workshop will explore some rich tasks, and ways to make sure we are assessing what we really value, especially in terms of fostering a growth mindset.	F-6
C5	Charles Lovitt	Happy healthy cheerful productive maths classrooms Happy is self-evident; learning should be an enjoyable experience for the teacher and the students. Healthy is the role of teachers in ensuring that of all the choices in planning we choose the healthier options. Cheerful because happy deserves to be in the title twice; Productive – the students are expected to learn and as a team we are all accountable. What do such classrooms look like and what is the teacher’s role in building pathways to get them?	3-6
C6	Leonie Anstey	Building links through multiplicative strategies Have you noticed that your students sometimes struggle to make the necessary connections between key concepts of multiplication, division, and fractions? This workshop will use a hands-on approach to explore learning assignments that build links between multiplicative thinking and strategies.	3-6
C7	James Russo & Toby Russo	Movies through a mathematical lens Providing an authentic hook is a powerful way to engage students in mathematics. In this workshop, we will explore how short films or clips from movies can be used as a catalyst to launch rich maths investigations. Participants will examine snippets from much-loved films through a mathematical lens, which in turn may provide inspiration to develop their own tasks based on films. Grab your popcorn and your choc top, settle in, and join us on this mathematical adventure!	3-8
C8	Gaye Williams	Implementing problem-solving - Grouping and questioning to engage students in learning Students become excited when, through interactions in groups, they realise something mathematical that none of them knew before. The task, group composition, and questions teachers ask ‘on-the-run’ in class all influence the likelihood of this occurring. Gaye will provide tasks and use anecdotes from teaching (and research) to outline grouping and questioning strategies. We will work with tasks to develop questioning strategies and brainstorm what students might learn.	4-9
C9	Carly Sawatzki	How can schools help students become financially capable citizens? Children bring to school understandings about money that are shaped by their family and community experiences. These understandings influence how children think and feel about problems and decisions that involve money. This workshop will explore possibilities for innovative and impactful “real-world” financial education in mathematics classrooms, focusing on critical and creative thinking and reasoning skills.	5-8
C10	Chris Hurst	Timesing by ten? . . . I just add a zero! Oh no you don’t! Many children have a procedural view of multiplicative concepts such as multiplying and dividing by powers of ten, the inverse relationship, factors and multiples, and the commutative property of multiplication. We will engage with research-based targeted tasks designed to develop conceptual understanding and a connected view of multiplicative concepts.	5-8
C11	Jill Brown	Algebraic thinking Many teachers are finding algebra hard to get their head around in the middle years. In this session, Jill will outline the key ideas, while involving participants in practical classroom activities and tasks which help to build these ideas in your teaching of algebraic thinking.	5-9

Prize Draws & Conference Conclusion: 3:20pm – 3:30pm

TAX INVOICE

22nd Annual Primary and Secondary Teachers' Mathematics Conference **Wednesday 4th December 2019**

Australian Catholic University 115 Victoria Parade, Fitzroy VIC 3065 ABN 15 050 192 660

Date of Issue: 2nd September 2019

School _____ Phone Number _____

School Address _____ Postcode _____

Description of service	Quantity of participants	Cost p.p. (excl GST)	GST p.p.	Total GST	Total cost
Participant registration to attend 22nd Annual Primary and Secondary Teacher's Mathematics Conference on Wednesday 4th of December 2019	1	\$300	\$30		

The above information will form a TAX INVOICE upon payment for this conference. Individual invoices will not be issued for total amounts under \$1000. Please note fees are non-refundable but are transferrable to another person.

Please fill in this registration form and send to: Michelle Fabris, Australian Catholic University,
 Locked Bag 4115, Fitzroy VIC 3065
OR scan and email to michelle.fabris@acu.edu.au

PAYMENT METHOD (please tick)

CREDIT CARD (PREFERRED METHOD) <input type="checkbox"/>	EFT <input type="checkbox"/>
Step 1: Please pay online at: www.acu.edu.au/mathsconference	Step 1: Direct transfer to our account: Name: ACU General Account / BSB: 082 451 Acc No: 506 966 793 / Ref: 901731MTLC "School Name"
Step 2: Send this page (tax invoice and registration form) and a copy of the Remittance to Michelle Fabris via post or email as above.	Step 2: Send this page (tax invoice and registration form) and a copy of the Remittance to Michelle Fabris via post or email as above.

REGISTRATION FORM

22nd Annual Primary and Secondary Teachers' Mathematics Conference **Wednesday 4th December 2019**

Participant's name	Email address	Year Level	SESSION PREFERENCES			
			Keynote (pls tick)	A	B	C
			Cheeseman <input type="checkbox"/> Williams <input type="checkbox"/>	1 st 2 nd 3 rd	1 st 2 nd 3 rd	1 st 2 nd 3 rd
			Cheeseman <input type="checkbox"/> Williams <input type="checkbox"/>	1 st 2 nd 3 rd	1 st 2 nd 3 rd	1 st 2 nd 3 rd
			Cheeseman <input type="checkbox"/> Williams <input type="checkbox"/>	1 st 2 nd 3 rd	1 st 2 nd 3 rd	1 st 2 nd 3 rd
			Cheeseman <input type="checkbox"/> Williams <input type="checkbox"/>	1 st 2 nd 3 rd	1 st 2 nd 3 rd	1 st 2 nd 3 rd

- **It is essential that you receive confirmation of your enrolment by email prior to attending.**
 If you have not received confirmation within one week of making payment please contact Michelle Fabris.
DO NOT ATTEND WITHOUT CONFIRMATION.
- **Attendance at the conference is only confirmed when payment is received.**
- Please contact Michelle Fabris if there are any Medical Dietary Requirements for catering.
 Owing to catering supplier limitations, we can no longer provide Kosher meals.
- Numbers are strictly limited. The sooner you register and pay, the better your chances of receiving your preferred workshops.
- **Some workshops that have been popular in the past have been repeated in this program due to popular demand.**
Please take this into account when choosing your workshop.

Registration closes on
 27th November 2019
 or when sessions are full

Please call Michelle Fabris on (03) 9230 8433 or email michelle.fabris@acu.edu.au for any queries. Places are strictly limited.
Registrations will close when capacity is reached. Please refer to www.acu.edu.au/mathsconference for updated information.



SAVE THE DATE

**These are our conference dates for 2020.
We look forward to your attendance at
our future conferences next year.**

**6th National
Conference for
School Leaders
in Primary
Mathematics
Education**

**12th Annual
Primary
Teachers'
Mathematics
Conference**

**23rd Annual
Primary and
Secondary
Teachers'
Mathematics
Conference**

**SATURDAY
21ST MARCH**

**SATURDAY
23RD MAY**

**WEDNESDAY
2ND DECEMBER**

Check our website for further details as they become available at www.acu.edu.au/mathsconference
or contact Michelle Fabris on 9230 8433 or michelle.fabris@acu.edu.au