Time						
9:00 – 9:15	8:00 Registration and coffee					
9:00 – 9:15	President welcome, Housekeeping and sponsor address					
9:15-10:10	**Keynote – Dr Caty Morris:** Where's the Mankarr? Connecting mathematics with culture through 9 rich contexts					
	Room 1 (Methods Specialist)	**Big room (QCAA, and QAMT)**	**Room 2 (Junior focus)**	**Room 3 (Primary Focus)**	**Room 4 (General, essentials)**	**Room 5 (tech + commercial)**
10:15-11:00 Session 1	**1.1 Nicholas Lim:** What first-year university maths reveals about common conceptual gaps	**QAMT:** Student events and how to run them	**1.2 Ryan Linneman:** Statistics with Desmos	**1.3 Fiona Foley:** Boost student mental computation with Number Talks	**1.4 Peter Flynn:** Promoting Statistical thinking (years 10-12 General or Essentials)	**1.5 Alastair Lupton:** Tackling the 2025 QCAA General Maths exam using a Casio fx-8200AU
11:05 – 11:35	Break 1					
11:40 – 12:25 Session 2	**2.1 Joe Ousby:** Unit 4 Trigonometry In the light of Surds and Beyond	**QCAA Primary Libby Foley and Sally Birks**: The power of statistical investigation	**2.2 Amanda Mathewson:** Moving beyond fluency: Embedding problem solving into classroom practice	**2.3 James Burnett:** Why do some mathematics classrooms achieve more	**2.4 Harel Urkin:** The power of low floor high ceiling open-ended challenges (7-12)	**2.5 Natasha Kumar:** Master the 2025 Specialist Exam: collaborative problem solving (uses TI-Nspire)
12:30-1:15 Session 3	**3.1 Peter Flynn:** Understanding Sample Proportions		**3.2 Tom Sprenger:** What's the chance I'll need that again?!	**3.3 Mike Nelson:** Scaffolding in the upper primary years	**3.4 Mark Ellingham:** Using AI with formative assessment	**3.5 Steven Gill: Casio** Managing the Transition: Teaching with Casio fx-1AU GRAPH and fx-CG50AU
1:20-1:55	Break 2					
2:00-2:45 Session 4	**4.1 Alexander O'Connor:** Extension mathematics in yr 10	**QCAA years 7-10 Sally Birks and Libby Foley**: The power of statistical investigation	**4.2 Julie Curtis and Geno Ferrer:** Doing Maths differently at Fortitude Valley SSC.	**4.3 Sue Carter:** Mathematical modelling in the primary classroom	**4.4 Esther Hohenheim:** Stats assignments from Prep to 12	**4.5 James Burnett: Origo** AI = Assisted Instruction: Implementing the AC9 in Your Classroom with Origo
2:50-3:35 Session 5	**5.1 Joe Ousby:** Methods and Specialist 2025 Paper 2		**5.2 Alexis Evans:** Fun Fodder for Maths - A Tale of Two Jellybeans (7-9)	**5.3 Rebecca Burtenshaw:** What Does Your Assessment Really Say About Mathematics? (P-10)	**5.4 Cal Irons:** Historical Topics That Can Enrich the Teaching of Geometry/Space	**5.5 David Tynan: TI** Introducing Teacher Resource Books for QCE Mathematical Methods & Specialist Mathematics
3:40-4:30	**Panel discussion 1: Current issues in mathematics teaching and learning** Networking, drinks and nibbles will also occur during the panel discussion					

Concurrent **ICOTs workshops** can be attended instead of the afternoon program for QAMT at the same venue. **Time:** 1:30-5:00 with a half hour break.

- **Workshop 4, room 506 P block - Tim Erickson:** Simulation and Inference with CODAP (Shows how CODAP can be used to teach statistical inference through simulation. Participants will create simulated datasets, explore randomization procedures, and investigate inference dynamically – bring a laptop)

Time						
9:00 – 9:15	Housekeeping, and update on ATSI, why join QAMT					
9:15-10:10	**Keynote 1 for high school – Dr John Eckersley:** Sugar mill chimney footing–an applied maths illustration **Keynote 2 for primary school – Mrs Suzanne Carter:** Dive into Data! It's all about Statistics					
	Room 1 (Methods Specialist)	**Big room (QCAA and QAMT)**	**Room 2 (Junior Secondary, General, Essential Maths)**	**Room 3 (Primary Focus)**	**Room 4 (Tech)**	**Room 5 (commercial)**
10:15-11:00 Session 6	**6.1 Philip Trezise:** Mathematical Modelling with Excel (uses Excel)	**QAMT: Sharing great test questions**	**6.2 Alastair Lupton:** Variables vary – algebra, animation and ways of thinking (uses free software)	**6.3 Emma Bird:** Play as a pedagogy in mathematics	**6.4 Melissa Hourigan:** Mathematical Modelling & Technology in High School Maths (uses TI)	**6.5 Sponsor workshop**
11:00 – 11:35	**Break 1 – morning tea**					
11:40 – 12:25 Session 7	**7.1 Ramesh Kapadia, Manfred Borovcnik** (ICOTs presenters): Probability through Risk *Note: Possibly online due to travel restrictions*		**7.2 Evan McGarrity:** Teaching with worked examples	**7.3 Tierney Kennedy:** Great statistics and probability ideas for early years and primary	**7.4 David Tynan: TI** Technology-enriched teaching ideas for QCE Mathematical Methods. (uses TI inspire)	
12:30-1:15 Session 8			**8.2 Stephen Broderick:** QAMT Chicri Maksoud Mathematics Enrichment Activities for Year 7-9	**8.3 Monique Russell:** Measurement and geometry in AC9		**8.5 Matthew Kleidon: Casio** Using the Casio fx-1AU for Specialist Mathematics External Exams
1:15-1:55	**Break 2 – lunch**					
2:00-2:45	**Panel interview: Industry professionals and the way they use mathematics for their jobs** **Facilitated by Tierney, with three industry professionals.**					
2:50-3:00	Sponsor talk					
3:00-4:00	**Bill Simpson Closing Address – Anja Van Hooydonk and Kate Mason: my favourite maths tasks** Presentation to Bill Simpson by QAMT, followed by Anja and Kate with questions from Tierney.					
4:00	Thanks and closing. Prize draw.					

Concurrent **ICOTs workshops** can be attended instead of the morning program for QAMT at the same venue. **Times:** 9:00-1:00 with a half hour break.

- **Workshop 7, room 413 P block – Lisa Birk, Luca Jotzo and Sibel Kazak:** Data Science for Future Teachers – Letting DataSETUP Modules come to life (This workshop introduces the Erasmus+ project *DataSETUP* https://datasetup.euc.ac.cy/. Attendees will gain firsthand experience with innovative materials that prepare future teachers for a data-driven world and promote data science literacy in education – bring a laptop.)
- **Workshop 9, room 506 P block – Pip Arnold and Mauren Porciuncula:** Fostering Curiosity and Inquiry Through Data Exploration (This hands-on workshop invites educators to explore how curiosity drives statistical thinking. Participants will engage in activities that position students as data detectives—observing, questioning, and investigating real-world datasets. They will develop investigative questions and conduct statistical investigations using CODAP – bring a laptop.)

Abstracts:

10:15-11:00 Session 1	**1.1 Nicholas Lim:** What first-year university maths reveals about common conceptual gaps	**QAMT:** Student events and how to run them	**1.2 Ryan Linneman:** Statistics with Desmos	**1.3 Fiona Foley:** Boost student mental computation with Number Talks	**1.4 Peter Flynn:** Promoting Statistical thinking (years 10-12 General or Essentials)	**1.5 Alastair Lupton:** Tackling the 2025 QCAA General Maths exam using a Casio fx-8200AU

QAMT: Student events and how to run them

1.1 Nicholas Lim: What first-year university maths reveals about common conceptual gaps
Transitioning from senior secondary mathematics to first year university mathematics presents significant challenges for many students. This presentation reports on an analysis of common errors observed in first-year mathematics assessments, with the aim of providing senior secondary teachers with insights into the areas where students most frequently struggle after leaving school. These findings aim to support teachers in refining classroom emphasis and better preparing students for the demands of university level mathematics.

1.2 Ryan Linneman: Statistics with Desmos
Get students in 7-12 maths using Desmos Studio for statistics

1.3 Fiona Foley: Boost student mental computation with Number Talks
Building student mental computation enables them to more easily engage in mathematical thinking and reasoning. Learn about the strategies and resources to support your class in more fully accessing the maths syllabus.

1.4 Peter Flynn: Promoting Statistical thinking (years 10-12 General or Essentials)
In this session we showcase activities that encourage and enhance good statistical thinking. The activities include an application of simulation, a first principles approach to understanding standard deviation and creating datasets from given descriptions or summary statistics. While mostly suited to General Mathematics, they can also be conducted in Year 10.

1.5 Alastair Lupton: **Commercial** Tackling the 2025 QCAA General Maths exam using a Casio fx-8200AU
In this workshop a set of worked solutions to the 2025 QCAA General Maths exam will be shared that, where helpful, use this new, more powerful scientific calculator. We will discuss the 'by hand' processes, ways of thinking and electronic technology calculations that students needed to access to be successful, and consider the differences, if any, when using one of a new generation of handheld technology.

11:40 – 12:25 Session 2	**2.1 Joe Ousby:** Unit 4 Trigonometry In the light of Surds and Beyond	**QCAA Primary** **Libby Foley**: Statistical investigations	**2.2 Amanda Mathewson:** Moving beyond fluency: Embedding problem solving into classroom practice	**2.3 James Burnett:** Why do some mathematics classrooms achieve more	**2.4 Harel Urkin:** The power of low floor high ceiling open-ended challenges (7-12)	**2.5 Natasha Kumar:** Master the 2025 Specialist Exam: collaborative problem solving (uses TI-Nspire)
12:30-1:15 Session 3	**3.1 Peter Flynn:** Understanding Sample Proportions		**3.2 Tom Sprenger:** What's the chance I'll need that again?!	**3.3 Mike Nelson:** Scaffolding in the upper primary years	**3.4 Mark Ellingham:** Using AI with formative assessment	**3.5 Steven Gill: Casio** Managing the Transition: Teaching with Casio fx-1AU GRAPH and fx-CG50AU

QCAA Primary: The power of statistical investigation. Runs for **both workshops 2 and 3**. This will be repeated in the afternoon as well, but with a years 7-10 focus.
Statistics tell stories and help to make sense of the world – they provide a means to support or question claims, explore patterns in data, and make informed decisions. In the Australian Curriculum v9.0: Mathematics, the mathematical process of statistical investigation supports students to explore data arising from observations, surveys or experiments. In this interactive session, participants will engage in hands-on activities and discussion to explore how statistical investigation develops across year levels, and examine practical approaches to planning and assessment that support meaningful data inquiry in the classroom.

2.1 Joe Ousby: Unit 4 Trigonometry In the light of Surds and Beyond
Surd operations were added to the Mathematical Methods Syllabus in 2025. This opened up what could reasonably be expected of students when answering questions on the Sine and Cosine Rules and the Area of a Triangle. This workshop reviews what has been expected in this Unit since 2020 and what is now possible since 2025 in both Papers 1 and 2.

2.2 Amanda Mathewson: Moving beyond fluency: Embedding problem solving into classroom practice at Boonah State High School
This presentation explores how teachers can move beyond fluency by embedding explicit problem-solving strategies into everyday classroom practice in the middle years. It will outline a school-wide approach to developing students' mathematical thinking, including the explicit teaching of problem-solving strategies and structured opportunities for inquiry. Practical classroom examples will be shared to demonstrate how these approaches support deeper reasoning and better prepare students for success in senior mathematics.

2.3 James Burnett: Why do some mathematics classrooms achieve more
Drawing on John Hattie's research, this session highlights three high-impact practices proven to accelerate student learning without extra cost, effort, or time. Through practical classroom examples, James shows how these approaches help students build computation fluency progressively across the primary years. Teachers will see how students can move from basic number facts to confident work with whole numbers, decimals, and common fractions.

2.4 Harel Urkin: The power of low floor high ceiling open-ended challenges (7-12)
Practical demonstration of 2 classroom activities and their possible extensions to get students collaborating and thinking on tasks that have multiple approaches and a variety of answers.
Activity 1 - The trigonometry m&m challenge.
Activity 2 - The surface area and volume challenge. How much can you get from 1 A4 sheet of paper?

2.5 Natasha Kumar: Master the 2025 Specialist Exam: collaborative problem solving (uses TI-Nspire but otherwise non-commercial)
Join me for an interactive, hands-on session where we'll dive into the 2025 QCAA Specialist Maths external exam — exploring both the key topics and powerful TI-Nspire strategies that bring solutions to life. This is a collaborative space to share ideas, discover how other teachers are tackling complex problems, and walk away with fresh, classroom-ready approaches. Come ready to learn, share, and leave energised for exam success in 2026 and beyond.

3.1 Peter Flynn: Understanding Sample Proportions
In this Unit 4 Mathematical Methods session we showcase two activities that develop and enhance a sound conceptual understanding of the sample proportion as a random variable and

confidence intervals for sample proportions. Simulation will be used, for example, to demonstrate that there are variations in confidence intervals between samples and that most, but not all, confidence intervals contain p.

3.2 Tom Sprenger: What's the chance I'll need that again?!
Curriculum links from Years7 – 10 that you definitely need for Years 11 and 12 - sharing strategies ideas for supporting students and teachers.

3.3 Mike Nelson: Scaffolding in the upper primary years
Supporting students in the upper years is difficult. This workshop gives practical, hands on approaches to help students with place value, multiplication, addition and fractions and decimals using a range of scaffolds.

3.4 Mark Ellingham: Using AI with formative assessment

3.5 Steven Gill: Commercial Managing the Transition: Teaching with Casio fx-1AU GRAPH and fx-CG50AU
This workshop helps teachers confidently run lessons when students use different Casio graphing calculators. It explains the key differences between the fx-1AU GRAPH and fx-CG50AU and shows how to give instructions that work for both. The focus is on keeping lessons clear, reducing confusion, and keeping attention on the maths rather than the device.

2:00-2:45 Session 4	**4.1 Alexander O'Connor:** Extension mathematics in yr 10	**QCAA years 7-10 Sally Birks and Libby Foley**: The power of statistical investigation	**4.2 Julie Curtis and Geno Ferrer:** Doing Maths differently at Fortitude Valley SSC.	**4.3 Sue Carter:** Mathematical modelling in the primary classroom	**4.4 Esther Hohenheim:** Stats assignments from Prep to 12	**4.5 James Burnett: Origo** AI = Assisted Instruction: Implementing the AC9 in Your Classroom with Origo
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QCAA Years 7-10: The power of statistical investigation. Runs for **both workshops 4 and 5**. This is a *repeat of the primary workshop*, but with a years 7-10 focus.
Statistics tell stories and help to make sense of the world – they provide a means to support or question claims, explore patterns in data, and make informed decisions. In the Australian Curriculum v9.0: Mathematics, the mathematical process of statistical investigation supports students to explore data arising from observations, surveys or experiments. In this interactive session, participants will engage in hands-on activities and discussion to explore how statistical investigation develops across year levels, and examine practical approaches to planning and assessment that support meaningful data inquiry in the classroom.

4.1 Alexander O'Connor: Extension mathematics in year 10
Developing the optional additional ACv9 content for year 10 into an elective Advanced mathematics course to build up student capability to take Specialist/Methods in senior.

4.2 Julie Curtis and Geno Ferrer: Doing Maths differently at Fortitude Valley SSC.
This workshop will discuss the design of Maths units at Fortitude Valley SSC, starting with a moral imperative and encompassing a sustained challenge. This includes assessment techniques beyond a written exam, use of local community settings and all without a set textbook! We will then provide an overview of the Compressed Curriculum model in senior school and how the work we do in the junior stages sets students up for success.

4.3 Sue Carter: Mathematical modelling in the primary classroom
Mathematical modelling is a powerful process for making sense of the real world through the lens of mathematics. It enables students to explore problems, test ideas, and make informed decisions using mathematical thinking. In this session we will unpack what this looks like in the classroom with practical classroom activities that bring this process to life.

4.4 Esther Hohenheim: Stats assignments from Prep to 12
Mark Twain once said, "there are three types of lies, lies, damn lies, and statistics." Understanding statistics is such a crucial skill for a world that uses statistic to in every walk of life from beauty and health to insurance. This workshop will look at statistics assignments from prep all the way up to 12 General Maths and explore the ways we can mould statistically literate adults.

4.5 James Burnett: Commercial AI = Assisted Instruction: Implementing the AC9 in Your Classroom with Origo
ORIGO Education's Go Maths and Stepping Stones programs have long supported teachers in implementing curriculum standards with confidence. ORIGO's newest offering now includes an embedded AI avatar that provides just-in-time instructional guidance to help teachers implement the Australian Curriculum: Mathematics Version 9. Drawing solely on ORIGO's trusted mathematics content, participants will see how teachers can receive practical suggestions for activities, learning sequences, and professional learning tailored to their classroom context.

5.1 Joe Ousby: Methods and Specialist 2025 Paper 2
A workshop on Tech Active responses to External Examination questions in Mathematical Methods and Specialist Mathematics in Queensland. It addresses what to write in the response booklet and what to do on the TI84+CE, the TIN-spire and the Casio fxcg50 calculators. The presentation is informed by past External Assessment Marking Guides, the 2025 syllabus and a cross section of textbooks.

5.2 Alexis Evans: Fun Fodder for Maths - A Tale of Two Jellybeans (7-9)
This session is an immersive experience where teachers can encourage students to take risks in Mathematics. A highly engaging singular activity which can generate a large amount of mathematical learning that connects probability and statistics.

5.3 Rebecca Burtenshaw: What Does Your Assessment Really Say About Mathematics? (P-10)
Assessment is something we do every day—but when was the last time you really stopped to think about it? We invest significant time in curriculum alignment and data analysis, yet assessment itself can be easy to overlook. This session invites teachers to reflect on what might be lost in the busyness and what our assessment practices may be communicating about mathematics.

5.4 Cal Irons: Historical Topics That Can Enrich the Teaching of Geometry/Space
This session will share examples and activities from a range of cultures (Mesopotamia, Egypt, Greece, and the Moors) that can help explain the origins and conventions used in the Space/Geometry strand. Topics will include the origin of work involving degrees, naming 2D shapes (is it Greek or Latin) and 3D objects (what is a hexahedron), aspects of tri-gon-metry, and symmetry (including the finite number of wallpaper patterns). The content will support work in other areas of the curriculum: history, design, robotics and STEM.

5.5 David Tynan: **Commercial** Introducing Teacher Resource Books for QCE Mathematical Methods & Specialist Mathematics for Texas Instruments
Abstract: Teacher Resource Books have been written for MM & SM Units 1–4 to support teachers using the TI-Nspire CX-II T with their students. In this workshop we will showcase a number of features and classroom examples from these free publications.

10:15-11:00 Session 6	**6.1 Philip Trezise:** Mathematical Modelling with Excel (uses Excel)	**QAMT: Sharing great test questions**	**6.2 Alastair Lupton:** Variables vary – algebra, animation and ways of thinking (uses free software)	**6.3 Emma Bird:** Play as a pedagogy in mathematics	**6.4 Melissa Hourigan:** Mathematical Modelling & Technology in High School Maths (uses TI)	**6.5 Sponsor workshop**

QAMT: Sharing great test questions

6.1 Philip Trezise: Mathematical Modelling with Excel (uses Excel but otherwise non-commercial)
Microsoft Excel is commonly used in senior mathematics PSMT's to fit functions to experimental data. However Excel has only a limited number of options for predefined model types, e.g. polynomial, logarithmic, power and exponential. This workshop will explore the use of Excel's Solver Add-in to create models of virtually any function. Demonstrations will include Newton's Law of Cooling, Gaussian Distributions and Sinusoidal functions.

6.2 Alastair Lupton: Variables vary – algebra, animation and ways of thinking (Uses a freely available video + resources but otherwise non-commercial)
What do students see when they look at 2x+1 or (x+3)^2? Why can we 'expand' 4(x+5) but not sin(x+5)? How do the m and the x differ in y=mx+c?
In this workshop we will have a conversation about how we talk about, demonstrate and share algebraic thinking in the middle school algebra – in particular, the much-abused Perfect Square Identity – that uses animation to understand the difference between a variable and an unknown and to provide a powerful mental model for this fundamental result. With a focus on identities rather than processes, you will never "expand brackets" in quite the same way again! A freely available video resource will be shared, along with an accompanying set of materials that reinforce this way of tackling some of the big ideas in algebra.

6.3 Emma Bird: Play as a pedagogy in mathematics (Emma will share her new book, but otherwise non-commercial)
Play helps children learn maths by giving them fun, hands-on ways to explore ideas and practise skills. When teachers use play in maths, students become more confident, enjoy learning, and understand mathematical concepts better. Come to this session to learn more about play as a pedagogy in Mathematics.

6.4 Melissa Hourigan: Mathematical Modelling & Technology in High School Maths (uses TI calculator but otherwise non-commercial)
In this session, participants will investigate activities they can use in the classroom or for assessment that use the Mathematical Modelling Approach from AC V9 Maths and integrate technology use in the form TI-Nspire graphics calculators. (Activities may be completed without TI-Nspire, using graphics calculators and/or scientific calculators and websites)

11:40 – 12:25 Session 7	**7.1 Ramesh Kapadia, Manfred Borovcnik** (ICOTs presenters): Probability through Risk *Note: Possibly online due to travel restrictions*	**7.2 Evan McGarrity:** Teaching with worked examples	**7.3 Tierney Kennedy:** Great statistics and probability ideas for early years and primary	**7.4 David Tynan: TI** Technology-enriched teaching ideas for QCE Mathematical Methods. (uses TI inspire)	
12:30-1:15 Session 8		**8.2 Stephen Broderick:** QAMT Chicri Maksoud Mathematics Enrichment Activities for Year 7-9	**8.3 Monique Russell:** Measurement and geometry in AC9		**8.5 Matthew Kleidon: Casio** Using the Casio fx-1AU for Specialist Mathematics External Exams

7.1 Ramesh Kapadia, Manfred Borovcnik (ICOTs presenters): Probability through Risk
Probability became part of the school curriculum late in the last century. This workshop presents the teaching of probability through the lens of risk, which is deeply connected to real-life decisions involving uncertainty, starting with subjectivist ideas. Paradoxes are presented as a practical approach to develop intuitive understanding in pupils.

7.2 Evan McGarrity: Teaching with worked examples
This session explores how to use worked examples effectively in junior secondary mathematics to support deeper student understanding. Through practical classroom strategies, we will examine what makes a worked example effective, how to avoid common pitfalls, and ways to actively engage students' thinking during the process. The session also connects these approaches to key insights from the science of learning, helping teachers ensure worked examples support learning rather than hinder it.

7.3 Tierney Kennedy: Great statistics and probability ideas for early years and primary
This highly practical workshop includes simple ways to introduce statistics to younger students. We will make graphs with counters and coins, run chance experiments, and look at new terminology in AC9. We will also discuss and share ideas for statistical investigations, including several that are equally suitable for year 2 and year 9.

7.4 David Tynan: Commercial Technology-enriched teaching ideas for QCE Mathematical Methods. (uses TI inspire)
In this workshop, participants will explore a range of teaching ideas using TI-Nspire technology for various topics within the QCE Mathematical Methods Units 1-4 course. The focus is on ideas that help build strong concept understanding in our students and encourage more effective discernment when using technology tools.

8.2 Stephen Broderick: QAMT Chicri Maksoud Mathematics Enrichment Activities for Year 7-9
These enrichment activities for year 7 to 9 students are aimed to build mathematical thinking, confidence and problem-solving skills beyond the standard curriculum. They challenge able students, nurture curiosity and persistence, and expose students to non-routine problems-key foundations for success in mathematics competitions and advanced study later on.

8.3 Monique Russell: Measurement and geometry in AC9

8.5 Matthew Kleidon: Commercial Using the Casio fx-1AU for Specialist Mathematics External Exams
Discover student-friendly and efficient ways to complete Specialist Mathematics External Exams using the Casio fx-1AU.