



IMTA Conference Programme

8.30-9.00

Registration & Exhibitors

9.00	Welcome address & Logistics - Maryborough 1 (for all)
9.10	Workshop 1
10.00	Workshop 2
10.45-11.15	Tea/Coffee break & Exhibitors
11.15	Jo Boaler – Maryborough 1
12.45	Lunch & Exhibitors
13.30	Workshop 3
14.20	Cathy Williams - Maryborough 1 (for all)
15.10	Movement Break
15.20	Workshop 4
16.10	Rachel Linney (NCCA) - Maryborough 1 (for all)
16.25	Conference Close
16.45	AGM (all welcome to attend)

Workshops are 45-minutes plus 5-minute changeover unless it runs into break/lunch

	Workshop 1 (9.10-9.55)	Workshop 2 (10.00-10.45)	Workshop 3 (13.30-14.15)	Workshop 4 (15.10-15.55)
Maryborough 1	Eleanor Byrne <i>Using Gen AI for planning Units of learning</i>	Helen Keenan <i>Promoting Inclusive Mathematics in Mixed Ability Classes</i>	Meighan Duffy <i>My Teaching Philosophy and Strategies for Success in the Maths Classroom</i>	Brendan Guildea <i>Two Quick Chats to Enhance your Professional Development in Teaching Maths</i>
Barrow Suite	Rafael De Andrade Moral <i>Notes and Tricks for Teaching Statistics using Music and Magic</i>	Shannon Ahern <i>Empowering Mathematical Proficiency Through AI: Supporting Student Learning.</i>	Epi-Stem <i>Teaching Math for Understanding: our on-line EPI•STEM Academy of STEM Teachers and research-led CPD Resources in Financial Math</i>	Caoimhe McDonnell & Ciara Delaney <i>Preparations for and reflections on a recent maths inspection</i>
Dunamaise 3	Aidan Roche <i>Engaging Students with Open Tasks in Mathematics: Fostering Problem-Solving Skills and Inquiry</i>	Aedamar O'Donnell <i>Enhancing Mathematics Teaching and Learning with OneNote: A One-Stop Solution for Planning, Collaboration, and Interactive Learning</i>	Gavin Duffy <i>Developing Spatial Thinking – a course to promote spatial ability development among secondary school students in Ireland</i>	Sarah Porcenaluk <i>Using questioning to promote higher-level thinking skill development with all students</i>
Dunamaise 4	Danny Redmond (Oide) <i>Exploring Mathigon's Polypad: A Digital Learning Technology for Visual Representations and Manipulatives in Mathematics</i>	George Humphrey <i>How to teach mathematics so that students understand it and can apply their skills to many different parts of the syllabus</i>	Warren McIntyre <i>Making Geometry accessible to students</i>	Samantha McMorro & Emer Brady (Oide) <i>Desmos - Digital technologies offer deep learning opportunities for students when used with a constructivist approach</i>
Dunamaise 6	Society of Actuaries in Ireland <i>Understanding the Gender Gap at the highest performance level in Leaving Certificate Higher Level Mathematics</i>	Feargal Máirtín <i>Ceardlann Gaeilge ó DBG Mata</i>	Trisha Callanan and Marilyn O'Riordan (Oide) <i>GeoGebra: The Dynamic Digital Manipulative.</i>	Susan Mac Donald <i>Reflections and readings from my book Euclid Transmogrified: A National Scandal</i>

	Presenter	Title	Description
WORKSHOP 1 (9.10-9.55)	Eleanor Byrne	<i>Gen AI powered planning and teaching</i>	In this workshop, teachers will explore the rapidly changing world of generative AI (Gen AI) and how they can maximise its potential to support their Junior Cycle teaching. Participants will engage in a hands-on collaborative dialogue with both Gen AI and fellow educators, focusing on creating and evaluating teaching resources that align with the latest curricular reforms. This workshop aims to equip teachers with the practical skills needed to utilise Gen AI for lesson planning and resource development. Teachers will leave with a stronger grasp of Gen AI applications in education, ready to incorporate Gen AI into their planning and teaching to reduce workload.
	Rafael De Andrade Moral	<i>Notes and Tricks for Teaching Statistics using Music and Magic</i>	In this talk, I will share my recent experience using musical parodies and magic tricks to teach different statistical concepts. I will draw parallels between my lecturing experience in Brazil and in Ireland and discuss how I use general pedagogy and active methodologies to encourage student participation. I will also discuss successful approaches, as well as other approaches still under development. I will showcase some of these activities in the context of explaining the concepts of conditional probability, p-values, and hypothesis tests. That will include playing a song parody and showcasing two magic tricks. I will also present the tools and equipment I currently use to produce music videos to teach Statistics and give tips on what I think has helped improve the quality of the materials I have been producing. Finally, I will teach one card trick any teacher can use in class.
	Aidan Roche	<i>Engaging Students with Open Tasks in Mathematics: Fostering Problem-Solving Skills and Inquiry</i>	In this session, we'll explore how open tasks can transform the classroom into a space of exploration and discovery, engaging students deeply in mathematical thinking. Open tasks encourage creativity, flexibility, and resilience—key skills for problem-solving in both familiar and novel contexts. We'll discuss practical strategies to design open tasks that invite students to investigate, experiment, and collaborate, fostering a sense of ownership and curiosity. Participants will see examples of open-ended mathematical investigations that build a robust understanding of concepts while encouraging students to apply their skills in meaningful, real-world ways. Come ready to see how open tasks can ignite mathematical curiosity and create a dynamic, student-centered learning environment.
	Danny Redmond (Oide)	<i>Exploring Mathigon's Polypad: A Digital Learning Technology for Visual Representations and Manipulatives in Mathematics</i>	This interactive online platform focuses on pupils fostering problem-solving skills. This aligns with the Literacy, Numeracy and Digital Literacy Strategy 2024-2033 by promoting mathematical literacy, helping students understand both procedural and conceptual aspects of mathematics and linking real-life problems to abstract mathematical concepts. Fostering student engagement enhances pupils' numeracy skills and develops their critical thinking skills where they can navigate digital learning environments, an essential skill for their future education and careers.
	Jennifer Loftus, Ger Bradley, Sinead Clarke and Jenny McDonnell	<i>Understanding the Gender Gap at the highest performance level in Leaving Certificate Higher Level Mathematics</i>	The Society of Actuaries in Ireland (SAI) will present a high-level summary of their research into the widening gender gap at entry level to the actuarial profession over the last two decades Link to SAI Research Paper . The proportion of females entering the profession has fallen from 50% in the early 2000's to below 30% in recent years. This trend has broadly mirrored the decline in the proportion of females achieving the highest grade (A1/H1) in Leaving Cert Higher Level Maths over the same period. The gender gap at the highest Leaving Cert attainment level has been particularly pronounced since 2012, the year Project Maths was first examined. The speakers will describe actions currently being undertaken by the SAI with the objective of closing the gender gap at entry level to the profession. These actions include a review of the structure of the Project Maths exam in tandem with Maths teachers and lecturers, and the SAI Transition Year Work Experience Programme.

	Presenter	Title	Description
Workshop 2 (10-10.45)	Helen Keenan	<i>Promoting Inclusive Mathematics in Mixed Ability Classes</i>	This talk will explore the theoretical foundations of inclusion in mathematics, outlining its aims, challenges, and benefits. Practical tools and resources will be provided by examining Universal Design for Learning (UDL) as a methodology, with examples of how it can be applied in mixed ability mathematics classes.
	Shannon Ahern	<i>Empowering Mathematical Proficiency Through AI</i>	This workshop delves into how GenAI can transform mathematics education by equipping students with the skills to leverage AI tools tailored to their individual needs. Learn strategies to teach students to safely and ethically harness GenAI tools to simplify complex topics, build engagement, and enhance their problem-solving abilities.
	Aedamar O'Donnell	<i>Enhancing Mathematics Teaching and Learning with OneNote: A One-Stop Solution for Planning, Collaboration, and Interactive Learning</i>	Ideal For: Mathematics teachers using Windows devices and Microsoft Office 365 who are keen to integrate digital tools for collaboration, assessment, and interactive learning. Please bring your device to the workshop to maximise benefit of talk Join Aedamar O'Donnell, an experienced Sligo-based Math teacher, for an in-person workshop on using OneNote and Microsoft Office 365 in Math education. Designed for educators with Windows devices, the workshop covers lesson planning, resource organization, and interactive teaching using OneNote. Learn how to embed Desmos and GeoGebra, collaborate, and engage students effectively. The session also explores Microsoft Forms, including features like the Maths input panel, branching for personalized learning, and automated feedback for efficient assessment. Discover how OneNote and Forms can transform your classroom, making them foundational tools for interactive, streamlined teaching and assessment.
	George Humphrey	<i>How to teach mathematics so that students understand it and can apply their skills to many different parts of the syllabus.</i>	- What is your role as their maths teacher? It's not what you think! - Coordinate Geometry. Understanding that the constant is essential in the equations and what it means. I use simple, hands-on diagrams, to explain this, even for a circle. Why when we multiply the slopes of perpendicular lines, we get -1; a graphical method that helps students understand it. How to teach dividing a line segment in a given ratio to first years without using the formula! Showing what $\tan^{-1}(1/3)$ means in the angle between two lines. - How to teach mathematical functions. What does $g(x)$ mean. Tackling the three types of questions on functions. - Equations, inequalities and algebraic fractions. - Understanding identities and how they are applied to simple algebra and trigonometry. Why can't we simplify: $2a + 3b$, but no problem with $(2a)(3b)$.
	Feargal Máirtín	<i>Ar scáth a chéile A.I mhaireann na múinteoirí</i>	Teachers co-developing a Maths learning assistant trí Ghaeilge

	Presenter	Title	Description
Workshop 3 (13.30-14.15)	Meighan Duffy	<i>My Teaching Philosophy and Strategies for Success in the Maths Classroom</i>	This talk offers a deep dive into my evolving teaching philosophy and the strategies I've developed to inspire and engage students in the Mathematics classroom. I'll share how I foster a positive, inclusive classroom culture that nurtures a growth mindset and builds confidence, empowering each student to embark on their own individual journey to success and continuous improvement, no matter their starting point.
	David Godley, , Olivia Fitzmaurice and Geraldine Mooney Simmie, EPI•STEM	<i>Teaching Math for Understanding: our on-line EPI•STEM Academy of STEM Teachers and research-led CPD Resources in Financial Maths</i>	In today's complex, technological world, mathematical thinking and broad numeracy skills across curricula are essential for young people. Jo Boaler's 2024 book, <i>Math-ish</i> , emphasizes understanding math ideas in real life, promoting teaching that fosters inclusion and real-world connections. This seminar introduces Irish math teachers to EPI•STEM's CPD resources, developed by the Academy of STEM Teachers at UL, supported by an internal research fund and initially funded by the HEA (2020-2022). These resources, covering Calculus, Trigonometry, and Financial Maths, aim to enhance math teaching for understanding. The seminar highlights Financial Maths as a model for meaningful math instruction.
	Gavin Duffy	<i>Developing Spatial Thinking – a course to promote spatial ability development among secondary school students in Ireland</i>	Spatial ability is a crucial intelligence factor, predicting STEM success more effectively than math or verbal skills. While Ireland performs well in overall PISA math scores, it lags in spatial-related skills, with a gender gap favouring males emerging by secondary school. Recognizing this, a two-year study trained maths teachers in 25 Irish schools to teach "Developing Spatial Thinking" (DST) to Transition Year (TY) students. Results showed that students who took DST had significantly improved spatial abilities, particularly closing the gender gap and benefiting students from disadvantaged (DEIS) schools. The program also enhanced math skills in the experimental group, mirroring spatial ability gains. Teacher feedback indicated initial hesitation, but confidence grew as the course progressed. Challenges included TY scheduling, varied student learning paces, and organizing materials. Unexpectedly, some students excelled in spatial tasks, boosting their confidence. The workshop will showcase the DST student workbook, software, and hands-on activities. Aligned with the TY Programme, DST supports broader curriculum areas, benefiting STEM, geography, and more. Plans for broader implementation will be discussed.
	Warren McIntyre	<i>Making Geometry accessible to students</i>	Synthetic Geometry, Trigonometry, Coordinate Geometry and Translational Geometry make up a significant part of the Junior and Senior cycle syllabi. Students often fail to link together these three topics in a cohesive way and encounter difficulties when tackling questions in examinations. In this workshop we will look at building students' knowledge so that they can apply basic principles to solve bigger questions across the entire geometry syllabus. This will allow students to perform constructions and prove theorems without the need to rote learn them in advance.
	Trisha Callanan and Marilyn O'Riordan (Oide)	<i>GeoGebra: The Dynamic Digital Manipulative</i>	Digital technologies such as GeoGebra offer deep learning opportunities for students when used with a constructivist approach to deepen students' conceptual understanding. Its integration into the classroom can address multiple aspects of the Literacy, Numeracy, and Digital Literacy Strategy 2024-2033 by enhancing visual representation and interactive learning that fosters problem-solving, critical thinking and mathematical reasoning. It also improves students' numeracy skills such as calculation, pattern recognition, and spatial awareness. Pupils develop their digital literacy skills by being able to manipulate data, problem solve and communicate mathematical ideas effectively.

	Presenter	Title	Description
Workshop 4 (15.20-16.05)	Brendan Guildea	<i>Two Quick Chats to Enhance your Professional Development in Teaching Maths</i>	Chat 1: A class on our Climate Emergency and Carbon Emissions. We will look at carbon emissions in a meaningful and entertaining way. Using the iterative process you can adapt the class for first years, to CBA and beyond. The class has a narrative that students will follow throughout their lifetime. Chat 2: Using “old style” technology; a class on teaching strand unification. In this class we look at one question which incorporates area, volume, rotations, number theory, sets, trigonometry, indices, probability and statistics. This question also lends itself to the iterative process. In short, it is a question that keeps on giving!
	Caoimhe McDonnell & Ciara Delaney	<i>Preparations for and reflections on a recent maths inspection</i>	This talk will provide an insightful overview of the preparation process and reflections following a recent mathematics inspection. It will cover strategies used to ensure readiness, such as curriculum planning, evidence of student progress, and integration of differentiated teaching practices. Key areas of focus will include how lessons were structured, resources utilized, and approaches to fostering engagement and attainment. The talk will also share valuable lessons learned from the feedback, highlighting successes, areas for growth, and actionable steps for ongoing improvement. Attendees will gain practical tips for aligning teaching practices with inspection criteria while maintaining a student-centered approach.
	Sarah Porcenaluk	<i>Using questioning to promote higher-level thinking skill development with all students</i>	Overview: Critical thinking skills such as problem solving, analyzing, and innovating are all essential 21st century skills students should be developing during mathematics lessons. Using questions effectively in a lesson can help students develop these skills. But how can we, as teachers, effectively plan for questions in a lesson? How do we respond to a variety of student answers? And how do we find the time to learn how to incorporate this invaluable practice? Come learn about implementing effective questioning, how to plan for lessons without spending hours on prep, and walk away with tools you can use in your lessons immediately.
	Samantha McMorrow & Emer Brady (Oide)	<i>Desmos - Digital technologies offer deep learning opportunities for students when used with a constructivist approach</i>	The effective use of Desmos in a Maths classroom deepens student’s conceptual understanding making connections between algebraic and graphical representations. It supports numeracy by enabling students to visualise and manipulate equations, whilst making abstract concepts more accessible, enabling students to see the practical applications of mathematics in real time. By using this application pupils gain fluency with technology, to solve problems, communicate ideas, and work collaboratively, empowering every learner in recognising the interconnectedness of literacy, numeracy and digital literacy in line with the Literacy, Numeracy and Digital Literacy Strategy 2024-2033.
	Susan Mac Donald	<i>Reflections and readings from my book Euclid Transmogrified: A National Scandal</i>	This book tells the extraordinary story of how in the mid twentieth century, in a well-developed European country, a mathematically solid system of geometry was altered to such an extent that more than one million students were taught foundationally flawed geometry over more than a quarter of a century. The almost unbelievable situation came about in Ireland in the wake of early postcolonial developments that gave rise to an impressionable and unqualified civil service in a position of power over a nation's educational development. This is a multifaceted tale of a perfect storm within mathematics development in Ireland whose result was so destructive that its ramifications continue to be felt into the twenty-first century, forty years after a report of a Royal Irish Academy commission of professors of mathematics described the matter as a national scandal.