2024 Quantum Victoria STEM Conference

Empowering Educators: Enhancing STEAM Education with AI and Machine Learning

Innovative STEAM Pedagogies, Creative Problem-Solving, Data Analysis, Coding/Programming, Robotics & 3D Printing

Friday 22nd November 2024
Quantum Victoria, 235 Kingsbury Drive, Macleod West

A Conference for Primary and Secondary Science, Maths and STEM/STEAM Teachers, Lab Techs and Pre-Service Teachers

Quantum VICTORIA

Empowering Educators: Enhancing STEAM Education with AI and Machine Learning

This conference aims to empower educators with the tools and insights needed to cultivate a dynamic STEM learning environment, preparing students for future challenges and opportunities.

The conference will open new avenues for learning through the integration of AI and machine learning, and will delve into how innovative STEM teaching strategies and pedagogies can enhance and engage students' learning in our classrooms. Emphasizing the importance of effective pedagogies in fostering critical thinking, problem-solving, creativity, collaboration, and communication skills, the conference will highlight approaches that create engaging and inclusive learning environments.

Linda Arthurson

Conference Convenor and Director, Quantum Victoria

KEYNOTE SPEAKER

Anam Javed

Manager, Learning - Teaching Excellence Division, Victorian Academy of Teaching and Leadership

Anam is the Manager, Learning - Teaching Excellence Division, Victorian Academy of Teaching and Leadership. Anam is passionate about harnessing the potential of digital technologies to combat social inequity and improve educational outcomes for students from all backgrounds. She is a keen advocate for the use of generative artificial intelligence to embed effective differentiation strategies and assessment practices into the classroom. Anam was inducted into Victorian Honour Roll of Women 2023 for her working supporting culturally and linguistically diverse communities through STEM pedagogies.

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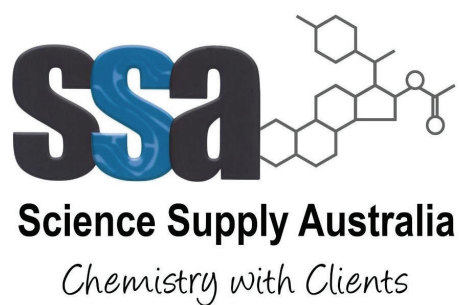VICTORIA State Government | Department of Education

The Victorian Department of Education leads the delivery of education and development services to Victorians both directly through government schools and indirectly through the regulation and funding of early childhood services and non-government schools. The Tech School Branch supports students to develop contemporary skills, knowledge, and capabilities through innovative STEM education provision. Through a network that currently includes 10 Tech Schools, 6 science and mathematics specialist centres and 2 STEM centres of excellence, we design and implement a unique model of schooling to deliver applied STEM learning students need to succeed in the 21st century world. Another 6 Tech Schools will soon be opening across Victoria.

CONFERENCE PROGRAM

8:00 am – 8:45 am	**Registration & Exhibitors -** Gallery
8:45 am – 9:00 am	**Welcome** – Linda Arthurson, QV Director
9:00 am – 9:55 am	**Keynote – Anam Javed,** Manager, Learning - Teaching Excellence Division, Victorian Academy of Teaching and Leadership
	Artificial Intelligence as a Tool to Enhance Learning
9:55 am – 10:30 am	**Morning Tea & Exhibitors** – PD Suite, Gallery & QV STEM Garden

10.35am - 11.35 am **Session 1 Workshops**	**1A New Curriculum, New Opportunities** Michael Minas & Carla Scoleri, Love Maths (Primary and Secondary F-8) **1B AI Tools for Educators** Nick Gissing & Vicki Northey, Wodonga Senior Secondary College (Primary and Secondary 3-12) **1C New Technologies - CoSpaces: Building Virtual Worlds for Real-World Learning** Leanne Caira, Dr TJ Spence & Dhivyaa Ambikavathi, KIOSC - Swinburne University (Primary and Secondary 5-12) **1D Educational Escape Rooms to Captivate Your Learners** Robert Ross, La Trobe University (Primary and Secondary 5-11) **1E Building a Smart Classroom with Nostr Protocol and AI** Kieran Nolan & Antonia Scandizzo, Boneo Primary School (Primary F-6) **1F Scaffolding STEAM Projects by applying Building Thinking Classrooms Pedagogy** Quyen Thai, Christ the King Catholic Primary School (Primary and Secondary 3-8) **1G 3D Modelling with Tinkercad & Fusion 360** Anthony Simcox & Anita Likousis, Quantum Victoria (Primary and Secondary 5-10)
11:40 am – 12:40pm **Session 2 Workshops**	**2A Enhancing Numeracy in the Science Classroom** Sarah Stephen & Natalie Sheridan, Essendon Keilor College (Primary and Secondary 5-10) **2B Creating an Engaging STEM Curriculum in a Rural Setting** Mike Barenskie, Irymple Secondary College (Primary and Secondary 6-10) **2C Developmental Rubrics in STEAM** Jesse Poulton, Preston High School (Secondary 7-12) **2D Educational Escape Rooms to Captivate Your Learners** Robert Ross, La Trobe University (Primary and Secondary 5-11) **2E Making and Breaking - A hands-on adventure in building a Maker Culture** Paul Taylor & Craig Bradley, Rolling Hills Primary School (Primary F-6) **2F STEM Arcade Game Jam** Anthony Gasson, Diamond Valley College (Secondary 7-12) **2G Gears, Hydraulics & Pneumatics and Machine Learning** Adrian McCall, St Albans Secondary College (Secondary 9-10)
12:40 pm – 1:25 pm	**Lunch & Exhibitors –** PD Suite, Gallery & QV STEM Garden
1:30 pm – 2:30pm **Session 3 Workshops**	**3A Exploring real-world 'STEM' problems and issues in the Victorian Curriculum 2.0** Erin Wilson & Alex Louie, VCAA (Primary and Secondary F-12) **3B Inspire Future Innovators with SPIKE™ Prime from LEGO® Education** Libby Moore, Moore Educational (Primary and Secondary 5-9) **3C Engaging Students in STEM Learning using the BBC MicroBit** Ailin Ho & Greg Hellard, Huntingtower School (Primary and Secondary 3-9) **3D Empathy in Action: Leveraging AI for Design Thinking** Chelsea Watts & Ian Gaertner, Monash Tech School (Primary and Secondary F-12) **3E Sustainability Linear and Circular Economy** Annalisa Parisi, Wollert Primary School (Primary and Secondary 5-8) **3F Sparking Science Success: Simple Strategies for Primary School Practicals** Annaliese Winterson & Julia Cherubin, Quantum Victoria (Primary F-6) **3G Differentiating Assessments Using AI** Jeremy Hardy, Melbourne High School (Secondary 7-12)
2:35pm – 3:35pm **Session 4 Workshops**	**4A Beginner Tips and Tricks for Implementing Minecraft Education in the Classroom** Ingrid Noack, Barrawang Primary School (Primary F-6) **4B Ethics & AI** Siobhan Finn, Woodmans Hill Secondary College (Secondary 8-9) **4C The Trials and Tribulations of Junior Robotics** Jakin Stasce & Mahaelia Thavarajah, Quantum Victoria and Carlie Alexander, William Ruthven Primary School (F-6) **4D Wyndham Central College STEM Model** Nigel Keyi, Wyndham Central College (Primary and Secondary 4-10) **4E Applying Design Thinking to STEM Education** Andrew Welsman, Wyndham Tech School - Victoria University & Neil Fernandes, Victoria University (Secondary 7-12) **4F Primary STEM Made Simple: A Roadmap for Whole-School Success** Kate Sommerfield, STEM Educator Hub (Primary F-6) **4G Quantum Girls (QG): Promoting STEM Careers for Women Across Australia** Pascal Jahan Elahi & Edric Matwiejew, Pawsey Supercomputing Research Centre (Primary and Secondary 5-12)
3:35 pm – 4:30 pm	**Meet & Mingle –** PD Suite & QV STEM Garden

EXHIBITORS

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PRESENTERS

Carlie Alexander, William Ruthven Primary School
Dhivyaa Ambikavathi, KIOSC - Swinburne University
Christina Bagas, St Francis Assisi Primary School Mill Park
Mike Barenskie, Irymple Secondary College
Craig Bradley, Rolling Hills Primary School
Leanne Caira, KIOSC - Swinburne University
Julia Cherubin, Quantum Victoria
Pascal Jahan Elahi, Pawsey Supercomputing Research Centre
Neil Fernandes, Victoria University
Siobhan Finn, Woodmans Hill Secondary College
Ian Gaertner, Monash Tech School
Nick Gissing, Wodonga Senior Secondary College
Jeremy Hardy, Melbourne High School
Greg Hellard, Huntingtower School
Ailin Ho, Huntingtower School
Nigel Keyi, Wyndham Central College
Anita Likousis, Quantum Victoria
Alex Louie, VCAA
Edric Matwiejew, Pawsey Supercomputing Research Centre
Adrian McCall, St Albans Secondary College
Michael Minas, Love Maths
Libby Moore, Moore Educational
Ingrid Noack, Barrawang Primary School
Kieran Nolan, Boneo Primary School
Vicki Northey, Wodonga Senior Secondary College
Annalisa Parisi, Wollert Primary School
Jesse Poulton, Preston High School
Robert Ross, La Trobe University
Antonia Scandizzo, Boneo Primary School
Carla Scoleri, Love Maths
Natalie Sheridan, Essendon Keilor College
Anthony Simcox, Quantum Victoria
Kate Sommerfield, STEM Educator Hub
Dr TJ Spence, KIOSC - Swinburne University
Jakin Stasce, Quantum Victoria
Sarah Stephen, Essendon Keilor College
Paul Taylor, Rolling Hills Primary School
Quyen Thai, Christ the King Catholic Primary School
Mahaelia Thavarajah, Quantum Victoria
Chelsea Watts, Monash Tech School
Andrew Welsman, Wyndham Tech School at Victoria University
Erin Wilson, VCAA
Annaliese Winterson, Quantum Victoria

Session 1 Workshops

1A

New Curriculum, New Opportunities

Michael Minas & Carla Scoleri, Love Maths (Primary and Secondary F-8)

One of the most talked about issues in maths education at the moment is the new version of the curriculum. What has changed? How are different schools implementing the new curriculum? What impact will this have on current practices and documentation at your school? This session will highlight the important opportunities that have been provided by the new curriculum to transform the way mathematics is taught. You will leave this session armed with practical ideas drawn from real classrooms of how to bring the new curriculum to life at your school.

1B

AI Tools for Educators

Nick Gissing & Vicki Northey, Wodonga Senior Secondary College (Primary and Secondary 3-12)

This presentation explores how artificial intelligence can enhance teaching and learning experiences. Educators will discover a range of AI-driven tools designed to streamline administrative tasks, personalise learning, and foster student engagement. From intelligent tutoring systems to automated grading, AI offers innovative solutions to common educational challenges. Participants will learn how to integrate these tools into their classrooms, ensuring they are equipped to meet the diverse needs of their students. Additionally, ethical considerations and best practices for using AI in education will be discussed, ensuring a balanced and responsible approach.

1C

New Technologies - CoSpaces: Building Virtual Worlds for Real-World Learning

Leanne Caira, Dr TJ Spence & Dhivyaa Ambikavathi, KIOSC - Swinburne University (Primary and Secondary 5-12)

This professional learning workshop will equip teachers with the skills to harness the power of CoSpaces for dynamic and engaging classroom experiences. Participants will delve into the platform's features, learning how to create immersive 3D environments for a variety of subjects. From interactive storytelling to virtual field trips, CoSpaces offers endless possibilities. Discover how to integrate this innovative tool into your lessons and empower students to become creators and presenters through captivating VR and AR experiences.

1D

Educational Escape Rooms to Captivate Your Learners

Robert Ross, La Trobe University (Primary and Secondary 5-11)

Robert Ross is back with his popular Escape Room workshop! This workshop will also run in Session 2.

Educational Escape Rooms are highly engaging, team-based learning experiences where students work together to solve problems within a time-critical narrative. Educational escape rooms are a new frontier within game-based learning and are widely applicable across age groups and discipline domains. In this seminar we will map out what educational escape rooms are, how they can be used and a series of STEM based example puzzles for participants to stretch their minds on. We will also cover best practice for puzzle design, how to use the electronic decoder box, tips for making escape rooms run smoothly and the new frontiers we are looking towards for further research in educational escape rooms. Find out how you can integrate the next generation of educational escape rooms into your classroom and re-engage your students.

1E

Building a Smart Classroom with Nostr Protocol and AI

Kieran Nolan & Antonia Scandizzo, Boneo Primary School (Primary F-6)

Explore how you can integrate AI technologies into your classroom via the Nostr protocol to personalise learning experiences, streamline administrative tasks, and analyse student performance data. Participants will engage in hands-on activities to apply these concepts. They will start by setting up the Nostr protocol for secure classroom communications, followed by integrating AI tools for tasks such as automated marking and personalised learning recommendations. We will provide detailed instructions and practical tips, ensuring attendees can confidently implement these technologies. By the end of the session, participants will have a comprehensive understanding of how to leverage the Nostr protocol and AI to create a smart, efficient, and secure classroom environment.

1F

Scaffolding STEAM Projects by applying Building Thinking Classrooms Pedagogy

Quyen Thai, Christ the King Catholic Primary School (Primary and Secondary 3-8)

This workshop will show you how to design STEAM projects using Building Thinking Classrooms (BTC) methods, focusing on enhancing students' speaking skills and encouraging group discussions. See how BTC principles were integrated into a "Kids in Space" STEAM project and how its strategies helped create engaging tasks that prompted deep thinking and meaningful dialogue among students. You will be given practical tips on setting up your classroom to foster effective communication and collaboration, using real examples from the "Kids in Space" project to illustrate these techniques. You will leave this session with actionable ideas for applying BTC methods to make your STEAM lessons more interactive and impactful.

1G

3D Modelling with Tinkercad & Fusion 360

Anthony Simcox & Anita Likousis, Quantum Victoria (Primary and Secondary 5-10)

Join us for a hands-on 3D modelling workshop where you'll choose between Tinkercad and Fusion 360 to develop skills that will enhance your teaching toolkit. Whether you're a beginner or looking to deepen your expertise, you'll learn the basics and useful intermediate techniques to support your students in creative projects. Additionally, we'll demo how to slice and prepare your models for 3D printing, ensuring you leave with practical knowledge to integrate into your curriculum. This session is perfect for educators eager to inspire students through innovative and hands-on learning experiences.

Session 2 Workshops

2A

Enhancing Numeracy in the Science Classroom
Sarah Stephen & Natalie Sheridan, Essendon Keilor College (Primary and Secondary 5-10)
We all know that students with high numeracy skills will perform better in maths and VCE science, but how can the science department implement numeracy strategies into their classrooms? This session is designed for science and STEM teachers who are looking to embed more numeracy activities in their classrooms, with a strong focus on years 5-10. Attendees will reflect on their current science curriculum while finding ways to embed numeracy activities into it. The workshop starts with an introduction to the benefits of including numeracy in the science classroom, followed by activities designed to build confidence and expand teaching strategies. Participants will leave with ready-to-use classroom activities.

2B

Creating an Engaging STEM Curriculum in a Rural Setting
Mike Barenskie, Irymple Secondary College (Primary and Secondary 6-10)
Discover how Irymple SC turned STEM around in a rural school, revamping the curriculum with engaging and thought-provoking projects, with a heavy focus on 3D modelling and printing.

2C

Developmental Rubrics in STEAM
Jesse Poulton, Preston High School (Secondary 7-12)
Preston High is an industry leader in how it uses Developmental Rubrics as tools for assessment, teaching, and learning. This has been an established practice in the school since it opened in 2019. The PHS Engineering and Design department started in 2023 and has been creating development rubrics for 7-10 subjects. The rubrics are either Design Thinking rubrics (e.g. prototyping, testing and evaluating), or focus on the development of Technical Skills (e.g. 3D manufacturing or Robotics). This workshop will unpack the work that has been done at PHS broadly, giving you access to a plethora of resources (e.g. how to embed rubrics in units, how to write rubrics, how to use them as planning, teaching, and assessment tools) and then look specifically at the rubrics used in the Engineering and Design Department, providing space for you to critique the rubrics and adapt them for your context.

2D

Educational Escape Rooms to Captivate Your Learners
Robert Ross, La Trobe University (Primary and Secondary 5-11)
This workshop is a repeat of the session 1D.

Educational Escape Rooms are highly engaging, team-based learning experiences where students work together to solve problems within a time-critical narrative. Educational escape rooms are a new frontier within game-based learning and are widely applicable across age groups and discipline domains. In this seminar we will map out what educational escape rooms are, how they can be used and a series of STEM based example puzzles for participants to stretch their minds on. We will also cover best practice for puzzle design, how to use the electronic decoder box, tips for making escape rooms run smoothly and the new frontiers we are looking towards for further research in educational escape rooms. Find out how you can integrate the next generation of educational escape rooms into your classroom and re-engage your students.

2E

Making and Breaking - A hands-on adventure in building a Maker Culture
Paul Taylor & Craig Bradley, Rolling Hills Primary School (Primary F-6)
Join us in a hands-on journey into making. Experience a host of small achievable projects and skill-building activities that have fostered our maker-culture at Rolling Hills PS over the last 3 years. We've collected over 10,000 photos and videos from student portfolios as they document their own journeys. You'll see everything from woodworking at Foundation level, through to industrial laser cutting in grades 3-6.

2F

STEM Arcade Game Jam
Anthony Gasson, Diamond Valley College (Secondary 7-12)
Attendees will take on the role of a game designer to create an 8-bit arcade-style video game. You will learn about game mechanics and game structure, and come up with topic ideas for your own game and code it on a fun and easy-to-use coding platform called MakeCode Arcade. At the end of the program, you will have an opportunity to showcase your game and share it with other like-minded participants. Never coded? No problem. The coding platform – MakeCode Arcade – uses a system of tool drawers and drag and drop blocks so users can quickly and easily learn game design in a free browser-based environment which is colourful and welcoming.

2G

Gears, Hydraulics & Pneumatics and Machine Learning
Adrian McCall, St Albans Secondary College (Secondary 9-10)
Explore how to bring physics and digitech together with Lego Mindstorm EV3 and Spike Prime add-ons, plus tools/devices from educational suppliers. This workshop will cover how you can measure pressure with /compatible/ pneumatic and hydraulic systems and apply this data in related projects, as well as investigating torque measurements for use in gear-controlled vehicles.

Session 3 Workshops

3A
Exploring real-world 'STEM' problems and issues in the Victorian Curriculum 2.0
Erin Wilson & Alex Louie, VCAA (Primary and Secondary F-12)
Victorian Curriculum 2.0 places increased emphasis on the who and why aspects of Science through the new 'Science as a Human Endeavour' strand, highlighting the role of scientific thinking in contemporary decision-making and problem-solving. This workshop focuses on how teachers can integrate the 'STEM' curriculum with the Capabilities (Critical and Creative Thinking, Ethical Capability, Intercultural Capability, and Personal and Social Capability) to create inclusive learning environments that provide students with meaningful learning opportunities to investigate real-world problems and issues. Examples of engaging assessment tasks that assess against the new Victorian Curriculum 2.0 achievement standards will also be explored.

3B
Inspire Future Innovators with SPIKE™ Prime from LEGO® Education.
Libby Moore, Moore Educational (Primary and Secondary 5-9)
Automated and intelligent systems are becoming vital to helping companies automate tasks and generate actionable insights to achieve better outcomes. In this workshop you will explore SPIKE™ Prime as part of the LEGO Learning system that develops your students STEM skills today to be the innovators of tomorrow. Explore the lessons and the design challenges that will engage your students to think critically and collaborate to create simple to complex robotic solutions with real world relevance.

3C
Engaging Students in STEM Learning using the BBC MicroBit
Ailin Ho & Greg Hellard, Huntingtower School (Primary and Secondary 5-9)
Creating engaging STEM experiences using the BBC micro.bit processor board. This workshop aims to introduce the BBC micro.bit to STEM educators in both primary and secondary classes.

3D
Empathy in Action: Leveraging AI for Design Thinking
Chelsea Watts & Ian Gaertner, Monash Tech School (Primary and Secondary F-12)
Unlock the power of AI to enhance empathy in your classroom. Discover how tools like Adobe Firefly and ChatGPT can transform your approach to teaching design thinking by fostering deeper emotional connections and understanding among students. Learn practical techniques for integrating these technologies into your curriculum, enabling students to create solutions that are not only innovative but also sensitive to diverse perspectives. This interactive session will provide hands-on experience and strategies for using AI to guide students through the design process with greater empathy and insight. Join us to empower your students with the skills to make a meaningful impact through technology!

3E
Sustainability Linear and Circular Economy
Annalisa Parisi, Wollert Primary School (Primary and Secondary 5-8)
Join us for an insightful workshop focused on creating and implementing an Inquiry unit for Grade 5/6 students on sustainability. This unit will delve into the concepts of linear and circular economies, highlighting their environmental impacts. Educators will learn to design lessons that guide students in understanding these economic systems and their relevance to sustainability. The unit culminates in a student-run market, where students showcase sustainable products and practices.

3F
Sparking Science Success: Simple Strategies for Primary School Practicals
Annaliese Winterson & Julia Cherubin, Quantum Victoria (Primary F-6)
Sparking Science Success is a practical workshop designed to empower primary educators with the tools and techniques to bring science to life in the classroom. Through a series of hands-on experiments and practical activities, you'll discover how to engage young minds, spark curiosity, and foster a love for science among your students. This workshop will provide you with easy-to-implement strategies, creative lesson plans, and resourceful tips to make science fun, accessible, and impactful. Whether you're looking to refresh your approach or introduce new ideas, you'll leave with a toolkit of activities that align with curriculum standards and inspire your students to explore the wonders of the world around them.

3G
Differentiating Assessments Using AI
Jeremy Hardy, Melbourne High School (Secondary 7-12)
This workshop will delve into the use of Artificial Intelligence (AI) to enhance the differentiation of assessment tasks. Participants will explore various generative AI Large Language Models (LLMs) such as ChatGPT, Microsoft Copilot, Claude, Perplexity, and Google's Gemini. The session aims to empower educators with the knowledge to effectively use AI prompts for creating differentiated and AI-resistant assessments. Through group work, participants will gain practical experience in using AI to design assessments that promote critical thinking, creativity, and authentic student engagement. The workshop will also address ethical considerations of AI use and how it applies to student learning.

Session 4 Workshops

4A

Beginner Tips and Tricks for Implementing Minecraft Education in the Classroom
Ingrid Noack, Barrawang Primary School (Primary F-6)

Many teachers have heard of and can see the benefits of using Minecraft Education but are scared to use it in the classroom for the fear of what could go wrong. This workshop will cover how to get started in Minecraft from a logistical teaching perspective, including teacher settings so you can feel a sense of control, whilst giving students the full ability to collaborate and share. It will also showcase a range of Victorian Education department Minecraft initiatives and ideas to show how Minecraft can be used in the STEM or general classroom with many examples from my own classroom over the years.

4B

Ethics & AI
Siobhan Finn, Woodmans Hill Secondary College (Secondary 8-9)

Participants will leave this workshop with resources and strategies for supporting their STEAM students in investigating how advances in AI technology can impact society and the ethical dilemmas their use can create. A cross-disciplinary approach will be used with a focus on F-10 2.0 ethical capabilities. The learning activities provided encourage students to ask themselves and investigate What ethical considerations are there relevant to artificial intelligence technology? How can I ensure that I am considering an issue from a range of perspectives and getting a sense of the 'big picture'? How could AI positively and negatively impact people from a range of different social, cultural and ethnic backgrounds? And what are our responsibilities as individuals in the use of AI?

4C

The Trials and Tribulations of Junior Robotics
Jakin Stasce & Mahaelia Thavarajah, Quantum Victoria and Carlie Alexander, William Ruthven Primary School (F-6)

Come join us as we talk about what worked, what didn't work, and what was a complete catastrophe when implementing a robotics and coding unit for years P-4. In this workshop we show you the robots we used, the scaffolding activities we needed to implement, and an insight into the student experience across junior primary years in specific programming concepts. Delegates will get the chance to explore a range of robots suitable for different year levels.

4D

Wyndham Central College STEM Model
Nigel Keyi, Wyndham Central College (Primary and Secondary 4-10)

This workshop will share with fellow educators how Wyndham Central College has created and run their STEM program. The workshop will use examples of typical pieces of work that WCC have tried to polish in the last five years. Participants will be shown how STEM projects are created based on the Design Thinking Model and how this can be easily adopted by any school. See how WWC teachers from Mathematics, Science and Technology collaborate to come up with term long projects that will enrich students with year level relevant content and skills.

4E

Applying Design Thinking to STEM Education
Andrew Welsman, Wyndham Tech School - Victoria University & Neil Fernandes, Victoria University (Secondary 7-12)

There is currently a critical shortage of STEM and design teachers both in Victoria and across Australia. As part of two initial teacher education programs at Victoria University, students experience an "Educating for STEM" unit as part of their first-year program. In this program, students experience design thinking workshops at Wyndham Tech School and apply an interdisciplinary approach to teaching and learning in STEM. In this workshop, you will experience how "design sprints", used in combination with AI tools such as copilot, can be applied to teaching and learning. Preliminary results of a research study examining the impact of this approach on pre-service teacher self-efficacy will also be presented.

4F

Primary STEM Made Simple: A Roadmap for Whole-School Success
Kate Sommerfield, STEM Educator Hub (Primary F-6)

Teaching STEM in primary years can be challenging, with the curriculum often feeling overloaded and fragmented. This workshop offers a clear, practical roadmap for creating a whole-school approach to primary STEM education that is both effective and manageable. We'll explore how the pillars of STEM can be used to simplify the various aspects of the curriculum, how design thinking and the science inquiry approach can be seamlessly integrated, and how to develop a scope and sequence that ensures continuous learning as students progress across year levels. This session is designed to help educators streamline their STEM teaching practices, making lessons more meaningful and impactful for students at all stages of their primary education journey.

4G

Quantum Girls: Promoting STEM Careers for Women Across Australia
Pascal Jahan Elahi & Edric Matwiejew, Pawsey Supercomputing Research Centre (Primary and Secondary 5-12)

Quantum Girls is a national initiative dedicated to demystifying the realm of quantum science and computing for both year 5-12 students and educators, fostering a sustainable interest in STEM by closing the gender gap and helping students from all backgrounds visualise themselves as future scientists and engineers. Our workshop will walk attendees through the microcredentials material being developed at Quantum Girls and the hands-on student exercises. By partnering with Pawsey, Quantum Girls provides access to simulated quantum computers using a simple browser. We will cover materials that develop understanding of quantum concepts, introduce hands-on programming and teach foundational quantum computing concepts.

Conference Venue

Quantum Victoria
235 Kingsbury Drive, Macleod West
Victoria, Australia, 3085
Google Maps

Contact Details
Phone: 03 9223 1460
Email: admin@quantumvictoria.vic.edu.au
ABN 65 029 766 137

Parking

Free parking onsite; entry to Quantum Victoria can only be accessed via Kingsbury Drive eastbound. There is a left turning lane into the Charles La Trobe College & Quantum Victoria car park.

Please park in non-designated parking bays.

There is also plenty of free street parking to the east and south on side streets off Waiora Rd and Ruthven St within a five-minute walking distance.

Registration

Register here or scan the QR Code
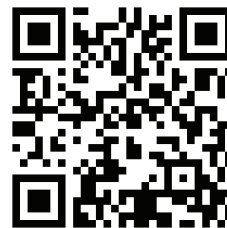
Conference Cost

Primary/Secondary Teachers	$265.00 (Inc.GST) for the first teacher
Additional Teacher	$140.00 (Inc.GST)
Lab Technicians	$140.00 (Inc.GST)
Pre-Service Teachers	$95.00 (Inc.GST)

All prices are inclusive of GST. Morning tea, Lunch and Meet & Mingle are included in the cost of registration.

Refund and Attendance

Notice of cancellation is required by Friday 8th November 2024 for a full refund. Cancellation after this date will incur the full attendance cost. Registrations will be accepted up until Friday November 15th 2024.

To secure your place, please follow the link to register or scan the QR code. Attendance at the QV STEM Conference without a confirmed place will result in you being turned away.

ParagonArt
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