VICTORIA

Thursday, 22 October 2026

It Takes a Spark!

STEM Conference

Imagining a better tomorrow

The conference theme celebrates how STEAM empowers us to imagine, design, and grow a better future.

The It Takes a Spark! STEM Conference is UNIQUE as teachers and students learn together. The day is an inspiring and engaging programme designed for Year 4 to 10 students, and Teachers and Education Leaders.

Why attend...

- Hear from experts in the STEM field
- Engage in innovative, **hands-on STEM** learning alongside your students
- Discover the latest developments, innovations, tips and tools in STEM from experts and practitioners.
- See live demonstrations and receive resources, tools and tips to implement back in the classroom
- Network and collaborate with other schools, educators and industry experts and get **insight into their STEM activities and programs**
- Earn professional development hours

Who the conference is for...

Year 4 to 10 students: those who are already (or aspire to be) STEM Leaders in your school OR those you wish to spark an interest in STEM

Teachers: those who have little experience and those who have a lot, looking to be inspired, participate in hands-on professional learning and network with peers

Heads of Learning Areas / Curriculum: who wish to elevate the teaching of future ready skills and disciplines

Principals and Deputy Principals: to witness what is possible by embedding STEM authentically in your school

Teacher Professional Development Stream

"Many teachers and schools are challenged by HOW to create STEM learning that develops students across the years to be the independent critical thinkers and problem solvers the world needs.

Sessions are designed to provide teachers with the insight, practical guidance and resources they need to improve their planning and practice upon return to their schools. The professional learning will support teachers no matter their prior background, confidence, or capability".

Outstanding Keynote Speakers

DR KIRSTEN BANKS

Astrophysicist and Superstar of STEM, Swinburne University of Technology

Dr Kirsten Banks is a passionate astrophysicist and Lecturer at Swinburne University of Technology, working with the ARC Centre of Excellence for Gravitational Wave Discovery (OzGrav) to connect cutting-edge research with the public. With a PhD in astrophysics and proud Wiradjuri heritage, Kirsten offers a unique perspective in her science communication. She captivates audiences worldwide with her infectious enthusiasm, sharing fun facts and leading workshops to inspire wonder in people of all ages. Join Kirsten on a cosmic journey to explore the wonders of the universe like never before.

DR FARIHA TASMIN JAIGIRDAR

Cybersecurity expert and Superstar of STEM, Deakin University

Have you thought about security risks involved while sharing your personal information with your smartphone or smartwatch? How can we confirm that the large amounts of data shared in various digital platforms is protected? How can we improve people's trust as they access multiple AI-based applications every day?

With the aim of exploring the above questions, Dr. Fariha Tasmin Jaigirdar is serving as a Lecturer in Cybersecurity in the School of Information Technology at Deakin University Australia, where she works in developing innovative solutions that safeguard not only technological systems but also the people who rely on them.

Contact

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Host School

The Knox School

Organiser

Intuyu Consulting

When we asked teachers how the 2025 event made a difference to your thinking or practice? This is what they told us...

- *It has given me a new perspective on design thinking and so many great ideas to introduce to my fellow teachers and students*
- *Confirming STEM connections in Maths*
- *New ideas for integrating sustainability*
- *Encouraged me to utilise skills from specialist into classroom curriculum learning*
- *I'd like to start 3D printing at our school after applying for a grant to get a 3D printer. I'm motivated to use Ozobots in our school and to make CD cars with classes*
- *It allows students to experience what is happening*
- *The AI session was incredible! I enjoyed the interactive sessions*
- *Making connections and building opportunity for future STEAM incursions in 2026*
- *Ignited the passion*
- *I really enjoyed the keynote*
- *Reviewing ways to integrate STEM across all subjects*
- *I have been really inspired by the VR session. I have learned how to use the VR in my class*
- *Greater understanding of more of the steps / process. Making greater connections to real life to make STEM useful and relevant*
- *I have found that seeing real life class practice has helped develop ideas and pedagogy*
- *Small things that can have a big difference. Using skills / things we have in innovative / engaging ways*

When we asked the students 'What has changed in your thinking about STEM now that you have attended this conference?' They told us...

- *I think that becoming an astrophysicist is a good idea and sounds cool*
- *Being curious, asking questions is ok because it gives you more knowledge*
- *Ideas can be outside of the usual and every person on a team has something to bring to a project*
- *I have always loved STEAM/ STEM but after meeting these people I found it great to know that other people also enjoy STEM!*
- *The plastics and how you can reuse nearly everything*
- *That we can pursue any career which we are passionate about*
- *I am now more positive about STEM*
- *It's a really good hands-on learning experience*
- *STEM is more than just maths and making things*
- *That we can pursue any career which we are passionate about*
- *A lot because I just thought was a learning program but I realised it is actually way more fun*
- *I changed my thinking with knowledge*
- *It's amazing!*
- *I think that there is more than meet the eye!*
- *How many things use STEAM in daily life*
- *That creativity is key*
- *It opened my eyes and made me think more positively about STEM*

Flow of the day....

*Listed program is subject to change

8.15am	Sign-in opens
8.45am	Master of Ceremonies - Welcome, set up for the day and housekeeping
9.00am	**KEYNOTE SPEAKER #1**
9.40am	**ROTATION ONE - 45 minute session** **DigiDesign Mini Workshops + STEAM Expo** ○ Preselected parallel selections ○ For Year 4 to 10 students and/or teachers
9.40am	**Teacher only Mini-Master Classes** ○ Preselected parallel sessions ○ Hands-on masterclass on a STEM topic that will make a difference for teachers to enact in their school
10.30am	**MORNING TEA** - provided for students and teachers. An opportunity to network.
11.05am	**ROTATION TWO - 70 minute session** **Problem Solver design challenge** ○ Preselected parallel sessions ○ Aimed at Year 4 to 10 students and/or teachers ○ This session involves real life design challenges where attendees are led through the design process to ideate and present possible solutions
11.05am	**Teacher only Mini-Master Classes - 70 minute session** ○ Preselected parallel sessions ○ Hands-on masterclass on a STEM topic that will make a difference for teachers to enact in their school
12.20pm	**LUNCH** - A light lunch provided for students, teachers. An opportunity to network.
12.55pm	**KEYNOTE SPEAKER #2**
1.35pm	**ROTATION THREE - 45 minute session** **DigiDesign Mini Workshops + STEAM Expo** ○ Preselected parallel selections ○ For Year 4 to 10 students and/or teachers
1.35pm	**Teacher only Mini-Master Classes** ○ Preselected parallel sessions ○ Hands-on masterclass on a STEM topic that will make a difference for teachers to enact in their school
2.30pm	**WHERE TO NEXT, FEEDBACK AND CLOSE OF VIC CONFERENCE** ○ Completion of feedback form ○ Prize draw for Teacher STEM Passport
2.45pm	**END OF THE CONFERENCE**

Spark STEM Conferences

BOOK NOW OR HOLD PLACES

spark-educonferences.com.au/victoria-spark-2026

The Programme so far....

Teacher Mini-Master Class: Practical Professional Development

Make Sense of AI: Teach It Clearly, Use It Ethically, Apply It Confidently

CSER STEM, Adelaide University

CSER has been selected to pilot a global AI education program in Australia in 2026. The program focus is on training teachers to help students develop a clear, technical understanding of AI while examining its ethical impact on society.
In this hands-on workshop, you will explore image generation tools and practical classroom activities. Build confidence using a free classroom-ready program supported by high-quality lesson plans and resources which are free and available to be adapted to diverse school contexts.
Suitable for Primary and Secondary Teachers - 45 minute session *BYO internet-capable device

Built With, Not For: Co-Designing STEM Electives with Students

The Knox School

What does it look like when students help design their own STEM curriculum?
Join this hands-on workshop exploring Sustainable Engineering, a Year 10 science elective that integrates STEM extensions, Design Thinking principles, and real engineering skills into a cohesive, curriculum-aligned program. We will examine how co-designing the subject with students builds engagement, agency, and deeper learning, including an honest look at what worked, what didn't, and why.
Participants will hear first-hand accounts from students about their experience with the subject and how it influenced their future career choices. You'll leave with a complete framework and a ready-to-use resource pack: unit planner, PowerPoint resources, lesson plans, practical guides for key Design Thinking activities, and examples of the activities that most effectively engaged students. While primarily aimed at co-design with Years 7–12, the activities can be readily modified to suit younger year levels and students at different maturity stages.
Suitable for Primary and Secondary Teachers - 70 minute session

Using Game Programming to Develop Logic & Reasoning Skills

Inspire Robotics

Give your students the thrill of building and playing their own video game — and use that excitement to deepen their understanding of core Digital and Design Technologies concepts. This hands-on session shows teachers why coding (and block coding specifically) matters: it has students focus on logic not syntax, it builds critical thinking, logical reasoning, and cause-and-effect understanding.
In this hands-on session, you will learn how to build basic player movement, health and points logic and other important mechanics that all work towards understanding how to make a fully functioning game. Throughout, we'll tie the build back to classroom practice focusing on using proven methods so that students understand what they are coding and how to apply that knowledge to their own unique game ideas.
Suitable for Primary and Secondary Teachers - 70 minute session *BYO internet-capable device

Cosmic Crops: Plant Prototyping for Space

ARC Centre of Excellence in Plants for Space

Join researchers and educators from the Plants for Space Centre for an immersive, hands-on workshop that draws on the science of growing food for space and places teachers in the role of learners.
At the heart of the workshop is a practical prototyping challenge that invites participants to test ideas, respond to feedback, and refine their thinking through inquiry and links directly to scientific investigations. The session will also provide insight into critical thinking pedagogy through the Plants for Space partnership and research project with the author of the Australian Curriculum's Critical Thinking strand.
Participants will leave with a strong understanding of how the Plants for Space resources align with curriculum and critical thinking pedagogies, and how they can be used to support student outcomes through engaging, authentic activities, lessons and units, inquiry projects, and disciplinary knowledge development.
Suitable for Primary and Secondary Teachers - 45 minute session

Belonging by Design: Inclusive STEM Classrooms

Get into STEM

Our success in realising the potential power and impact of STEM depends on our collective ability to harness the talents of ALL people. Despite decades of effort, however, gender equity and broader diversity in STEM remain uneven. The Get into STEM guide updates the GiST (Girls in STEM) guide to reflect an expanded representation to more diverse cohorts.
This hands-on workshop explores practical ways to strengthen engagement and achievement in STEM through inclusive teaching approaches aligned to curriculum and real-world contexts. Drawing on free resources from the Get into STEM web site, you will unpack key principles, explore lesson plans and classroom tools, and trial student facing activities including STEM career resources. The session offers adaptable strategies to enhance challenge, confidence and belonging in STEM learning.
Suitable for Primary and Secondary Teachers - 45 minute session

Designing the design sprint

Scienceworks / Museums Victoria

Teachers face several significant challenges when creating and implementing authentic design challenges. Educators often lack sufficient training in design thinking and ideation tools, leading to gaps in their ability to manage ambiguity and scaffold non-linear, open-ended projects.
This teacher mini-masterclass looks at practical techniques for running creative, meaningful design sprints. It features examples of ways to make the research, empathy, and ideation phases of a design sprint playful and meaningful. Teachers will leave with both the techniques and resources to use back in their classrooms.
Suitable for Primary and Secondary Teachers - 45 minute session

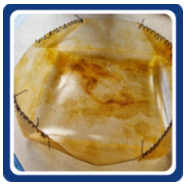
What If Students Could Go Where We Physically Can't? From the Classroom to the Crater with VR

EdgedVR

VR bridges the gap between theory and practice by enabling remote learning and virtual field trips, making high-quality education accessible to students regardless of physical location or economic barriers.
In this workshop run by a teacher, you will explore how immersive virtual reality (iVR) can transform Year 6 Earth Science learning. Teachers will see how students use project-based learning to research earthquakes, tsunamis and volcanoes, then create their own iVR scenes — boosting engagement and deepening scientific inquiry through hands-on, student-generated content.
Suitable for Primary Teachers - 45 minute session

Teacher Mini-Master Class: Practical Professional Development cont'd...

Future Materials Lab



Frankston High School
Plastic pollution is a global environmental and health crisis driven by the fact that over 9 billion metric tonnes of plastic have been produced since the 1950s, yet less than 10% is successfully recycled.
This hands-on, sustainable workshop invites educators to explore how young people can be supported to design and create an effective solution using the intersection of design tech, science and visual art. Attendees will produce their own bioplastic using 2 different methods. This is a great way to experience physically creating and colouring bioplastics from safe, renewable waste products.
Suitable for Secondary Teachers - 45 minute session

Hands-on Cybersecurity Workshop

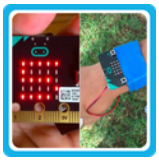
La Trobe University – School of Computing, Engineering and Mathematical Sciences
Cyber threats are on the rise, and Australia has become a frequent target of major cyberattacks. Many digital technologies and IT teachers lack access to practical cybersecurity resources and support.
This workshop will provide hands-on lab ideas, activities, and teaching materials that demonstrate cyber threats, ethical hacking, and digital crime investigation techniques. The session aims to empower teachers to inspire students and promote future pathways into cybersecurity careers.
Suitable for Secondary Teachers - 70 minute session *BYO internet-capable device

DigiDesign hands-on workshops - Student and/or Teacher

Build and Fly: Glider Design Challenge

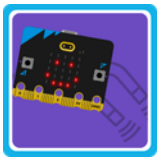
Monash Uncrewed Aerial Systems
For over 3000 years we have looked to the skies, watched the birds, and wanted to fly. Key advancements in the 19th century involved glider experiments and understanding aerodynamics which eventually led to powered flight.
In this workshop you will work in teams to build a balsa wood glider from a pre-cut kit, then flight test and tweak your design for distance and stability. MUAS mentors guide discussion on aerodynamics and iterative design, connecting hands-on building to real uncrewed aerial systems engineering.
Suitable for Year 5 to 10 students and/or teachers

Tiny Tech, Big Brains: Building an AI-Powered Fitness Tracker with the micro:bit



Mazenod College
Discover how a device smaller than your hand can think, learn, and move with you. In this hands-on workshop, students and teachers will dive into the world of embedded AI using the BBC micro:bit — a pocket-sized microcontroller packed with sensors, wireless connectivity, and just enough computing power to run lightweight machine-learning models.
You will build and program your own wearable step-counter, blending physics, data science, and coding into one practical project. This workshop demystifies the AI inside fitness trackers and empowers learners to become creators of intelligent technology rather than just users.
Suitable for Year 7 to 10 students and/or teachers

Solving social justice issues with technology



Keysborough Gardens Primary School
Young people play a vital role in promoting social justice by being active agents of change through student-led initiatives and advocacy campaigns that address inequality and foster inclusivity.
In this hands-on session, you will explore how technologies like the Micro:bit can be powerful tools for solving real-world problems — from everyday challenges to global issues that matter. Through playful experimentation and rapid prototyping, you will discover how simple code and smart design can spark meaningful change.
Suitable for Year 4 to 6 students and/or teachers

Detecting the Unseen: Dark Matter

ARC Centre of Excellence for Dark Matter Particle Physics
Dark Matter is the mysterious material that scientists think makes up over 80% of our Universe but has not yet been directly detected. Australia is at the forefront of Dark Matter research. The science of dark matter involves everything from the largest structures in the Universe to the smallest known particles that make up the atom.
In this session, students and teachers will be guided through activities to understand how scientists learn about the 'invisible' with clues from the cosmos and to understand how scientific discoveries are building our understanding of matter in the universe. Teachers will receive lesson plans to bring these activities back to their classrooms.
Suitable for Year 7 to 10 students and/or teachers

You are our next CyberHero!

La Trobe University – School of Computing, Engineering and Mathematical Sciences
Cyber threats are on the rise, and Australia has become a frequent target of major cyberattacks—from the Optus data breach to the Medibank ransomware incident. But it's not just large organisations that are at risk. Everyday Australians, especially young people, are increasingly falling victim to phishing scams, online fraud, deepfakes, cyberbullying, and grooming.
In this hands-on workshop, you will explore the exciting and vital world of cybersecurity. You will learn about real-world cyber threats, how to protect yourselves online, and gain practical skills in areas like password security, open-source intelligence (OSINT), and cryptography. Through interactive activities and real-life scenarios, not only will you become more cyber-aware—you will also see how you could be Australia's next cyber hero.
Suitable for Year 7 to 10 students and/or teachers

Panel Discussion: Imagine a Better Tomorrow - AI and the Human Advantage

Real Time Learning
Artificial Intelligence is transforming how we learn, create and solve problems — and it raises an exciting challenge for all of us: what does it mean to be human in an AI-powered world? In this dynamic panel discussion, leaders from industry and education as well as students will share real stories of how AI is already improving learning, boosting creativity and opening new possibilities in classrooms and workplaces. Rather than framing AI as a competitor, the conversation highlights how humans and technology can work side-by-side to achieve more than either could alone.
Designed for students and teachers alike, this session invites you to think critically about the future while celebrating the qualities that make us uniquely human: curiosity, empathy, ethics, creativity and purpose. You will walk away with practical insights into how AI is being used today, a clearer sense of the skills and mindsets needed for tomorrow, and the confidence to engage with AI responsibly and creatively in your own learning, teaching and career pathways.
Suitable for Year 7 to 10 students and/or teachers

DigiDesign hands-on workshops - Student and/or Teacher cont'd...

Get ready to engineer with Robogals!

Robogals Melbourne
STEAM empowers engineers to apply scientific principles to analyze, design, invent, code, build, and create to solve all sorts of problems and make the world a better place. They rely on creativity and imagination to design unique solutions.
In this workshop you will be given the chance to become software engineers using SPIKE Prime robots to code your way through challenges that require knowledge of loops, events and coding with colour sensors. Once challenges are complete, you will design your own unique code to battle other attendees on a sumo mat, by knocking out other robots! Can you overcome all the challenges and demonstrate your Engineering prowess?
Suitable for Year 4 to 8 students and/or teachers

Zooming Bottle Rockets!

Monash High Powered Rocketry
The use of rockets dates back to at least 13th century China but significant scientific, interplanetary and industrial use did not occur until the 20th century with the advent of the Space age. We are again entering an exciting period of rocketry with space missions and rocket launches planned by many countries. In this exciting workshop the student team from Monash High Powered Rocketry will not only share with you what they are working on but give you the opportunity to construct bottle rockets to launch outside from a water pressure-powered launch pad. You will learn the strategic design choices that need to be made when building a rocket! Are you ready to be a high-powered rocketeer?
Suitable for Year 4 to 7 students and/or teachers

Hope Is a Thing with Feathers - Nature Writing Workshop - *Primary*

Naomi Woodward (Author/Director/Producer)
From zooplankton to the majestic whale, our planet is full of awe-inspiring creatures. To imagine a better world, STEM learners need to learn how to engage and communicate it to others. In this nature writing workshop you will tune into the world around you and form a greater appreciation of the wild through a variety of fun and sensory-based writing activities. Whether you have a passion for conservation or are a critter enthusiast, drawing inspiration from the natural world is as easy as looking in our own backyard!
Naomi is an ongoing writer/copywriter for the game Masterpieced with Apple Arcade, working in close partnership with artists and illustrators worldwide and the Van Gogh Museum in Amsterdam. She is a published Australian Children's author and the author of the young reader STEM series Wendy, Weather Watcher.
Suitable for Year 4 to 6 students and/or teachers

Hope Is a Thing with Feathers - Nature Writing Workshop - *Secondary*

Naomi Woodward (Author/Director/Producer)
From zooplankton to the majestic whale, our planet is full of awe-inspiring creatures. To imagine a better world, STEM learners need to learn how to engage and communicate it to others. In this nature writing workshop you will tune into the world around you and form a greater appreciation of the wild through a variety of fun and sensory-based writing activities. Whether you have a passion for conservation or are a critter enthusiast, drawing inspiration from the natural world is as easy as looking in our own backyard!
Naomi is an ongoing writer/copywriter for the game Masterpieced with Apple Arcade, working in close partnership with artists and illustrators worldwide and the Van Gogh Museum in Amsterdam. She is a published Australian Children's author and the author of the young reader STEM series Wendy, Weather Watcher.
Suitable for Year 7 to 10 students and/or teachers

Rolling into STEM - Empowering Future Innovators

McKinnon Primary School
Some of the most important skills for the future are being able to think carefully, solve problems, and keep trying even when things don't work the first time. Mistakes aren't failures — they're chances to learn and get better.
In this hands-on workshop, led by the students of McKinnon Primary, you will explore coding, robotics and problem solving through exciting challenges using Sphero Bolt robots! You'll work in teams to take on thrilling challenges, design clever solutions, test your ideas and improve them like real engineers. As you explore, you'll build resilience, teamwork, confidence and creativity — helping you think like the STEM innovators of the future.
Suitable for Year 4 to 6 students and/or teachers

Zombie Apocalypse

Students from Victory Lutheran College
After a technological disaster, most of the world's population is turned into zombies. The cities are in ruins, but a small percentage of people survived, and are now hiding in shelters. You and your partner are survivors.
In this workshop you will work in pairs and must choose 5 items that you will use to keep you safe and alive during the Zombie Apocalypse. You will evaluate the purpose, effectiveness and justify why those 5 items were chosen leaving the other items behind. You will then present your pitch to the community of why these items are the ones everyone needs.
This is a great way to learn how STEM empowers you to tackle complex challenges, make ethical decisions, and collaborate through interactive teamwork.
Suitable for Year 6 to 8 students and/or teachers

Designed by Nature: Innovating with Biomimicry

Students from Victory Lutheran College
What if there was a design guide with real-life examples that were sustainable, good for the planet and accessible to everyone? There is! It's called Nature! Biomimicry is the practice of observing what works in nature and copying it to solve problems, create and innovate.
In this workshop you will be introduced to Biomimicry and learn how to use it to solve a problem or improve an existing idea / design. You will then pitch your design to the community.
Suitable for Year 5 to 8 students and/or teachers

Energy Careers – Building a better tomorrow

WhyMaker
The global transition to renewable energy is projected to create 30 million new jobs by 2030. In Victoria alone, projections estimate that 68,000 full-time equivalent workers will be needed in the energy sector by 2040.
In this hands-on challenge, you will step into the shoes of a Solar PV Installer to discover how experts set up, evaluate, and fine-tune residential and commercial solar arrays to achieve peak electricity output. Attending teachers will receive lesson plans on how they can run this back in their schools.
Suitable for Year 7 to 10 students and/or teachers

Science You Can Wear: A Jewellery Design Workshop

Oh Pluto
Art and science are not separate entities but often intertwine, with each influencing and informing the other.
In this hands-on workshop, you become designers as you prototype your own science-inspired jewellery using simple craft materials. You will be introduced to the laser cutting techniques and will explore how scientific ideas like cells, planets, and molecules can be transformed into bold, wearable designs. Along the way, you will be introduced to creative pathways in science beyond traditional careers, including design, communication, and entrepreneurship. This session encourages confidence, creative thinking, and shows how science can be expressed in unexpected ways.
Suitable for Year 4 to 10 students and/or teachers

DigiDesign hands-on workshops - Student and/or Teacher cont'd...

Race Like an Engineer

Monash Motorsport
Monash Motorsport is a student-run team who compete in the largest formula style race car competition in the world. The team is composed of university students from a range of faculties, including engineering, commerce, science, design and law.
In this hands-on workshop, you will race remote control cars around four FSAE-style tracks - acceleration, autocross, endurance and skidpad. Like Monash Motorsport's vehicle performance engineers, you will be timing laps, mapping racing lines, reading MoTec telemetry and analysing sample data to discover what leads to the fastest lap times.
Suitable for Year 7 to 10 students and/or teachers

Speculative Design Sprint – Designing the Future of Learning

Victorian Academy of Teaching and Leadership
Speculative thinking asks us to imagine new possibilities and design the pathway to our preferred future.
In this hands-on design sprint, you will reimagine the future of education and learning. Will we have direct brain connections to digital tools? Will VR and AI drive our thinking and learning? Will it look like it does in Science Fiction movies or will there still be rows of desks? Both students and teachers will explore how speculative thinking can be used as inspiration for creativity and agency, investigating themes of technology, sustainability, and social inclusion.
Suitable for Year 4 to 10 students and/or teachers

Build your own Mini-BB Rovers!

Monash Nova Rover
Monash Nova Rover are a team of university students who are passionate about designing and building Mars and Lunar rovers. They compete in the world's most prestigious university robotics competitions which supports them to develop new skills, innovate and promote STEM-based courses and careers.
In this hands-on workshop, you will have the opportunity to build and race your own mini rovers using breadboards, 3D-printed parts, and electronics! Along the way you will learn about engineering, working in teams, and our dreams of building rovers for space.
Suitable for Year 5 to 10 students and/or teachers

Become the power behind Australia's sustainable energy future!

Snowy Hydro - Snowy STEM Academy
You might think it's magic that you can flick a switch and turn on a light at home. But where does that electricity actually come from? And how do we make sure it's enough to power Australia?
In this hands-on session you will be enchanted by an interactive, free online game that explores how the power of water generates electricity in the Snowy Mountains and leave spellbound by the opportunities to become a part of Australia's sustainable energy future. Teachers come along to play the game but also learn about the ready-to-go teaching resources you can use back in your school.
Suitable for Year 4 to 6 students and/or teachers

Design the Future: Build a Better Planet in VR

EdgedVR
With all the environmental challenges that our planet is facing, some individuals believe that we should leave Earth to build a better planet. We don't!
In this workshop, you will explore real-world sustainability challenges through short immersive VR scenes, then working in teams, you will create a 2–3 scene mini-VR solution that educates or inspires action, combining creativity, problem-solving, and emerging technology in a hands-on STEAM experience.
Suitable for Year 7 to 10 students and/or teachers

STEM Expo: hands-on activities area - Teacher and Student (running parallel to DigiDesign workshops)

AstroGarden

ARC Centre of Excellence for Plants for Space
On entering the Mars habitat, you will become the scientists needed to sustain life off-earth, plant biologists, engineers, psychologists, and food chemists. You will program vertical farms and harvesting robots, measure plant growth conditions, use DNA and imaging technologies, process plants and 3D print them into new Space-food products.

Throw, Track, Triumph: Exploring Chance with Micro:bit Motion Data

CSER STEM, Adelaide University
Wearable technology is increasingly being used in elite sport to support athletes to improve their capabilities.
In this activity, you will attach a Micro:bit to your arm and throw bean bags into a bucket. Throw strength is calculated by measuring acceleration along three axes. The Micro:bit plays a sound when the target throw strength is achieved. This is a wonderfully simple chance experiment teaching you about data logging and analysis using a Micro:bit.

Stars, Planets & Black Holes: A VR Exploration

OzGrav
The mission of the ARC Centre of Excellence for Gravitational Wave Discovery (OzGrav) is to capitalise on the historic first detections of gravitational waves to understand the extreme physics of black holes and warped spacetime, and to inspire the next generation of Australian scientists and engineers.
Step into the immersive universe with OzGrav's VR experience, where you will journey from familiar planets to the most extreme objects in space. The Expo activity highlights how astronomers explore stars, black holes, and cosmic evolution, building curiosity about the hidden forces that shape our universe.

Inspire Robotics: Shaping Future Innovators

Inspire Robotics
Ready to blast into the future of STEM with hands-on tech, wild creativity, and epic invention? Gear up and get in the ring with our Battle Bots—pre-built and ready to rumble. While you are there, check out our aerospace program, smart watches from our Wearable Tech program, or lock in with student-designed games and consoles that are pushing the boundaries of design and creativity.
Meet the trailblazing scientists from Inspire Robotics and dive into the programs that are making science exciting, inclusive, and fun. Whether you are a curious student or a passionate teacher, this is where STEM gets real—interactive, creative, and seriously cool.

Fly, Build, Design!

Bentley Systems
Bentley Systems creates software and digital twin solutions used to design, engineer, build, and operate major infrastructure assets such as bridges, roads, railways, and city networks. Starting around Melbourne's iconic West Gate Bridge, this Expo activity lets you explore a detailed digital twin using Bentley latest gaming visualising tool - iTwin Engage. With this tool users can immerse themselves in the environment and experience a 4D construction sequence simulation of the bridge, visualising how it is built over time alongside a 3D model of the city. You will have the opportunity to experiment with MicroStation and Python AI-assisted parametric modelling to generate and modify 3D structures, exploring how intelligent design workflows can rapidly create and adapt infrastructure models.

Learning from Nature: STEM for a Sustainable Future

Royal Botanic Gardens Victoria
Discover how nature inspires innovation in this hands-on expo
1. Explore Biomimicry, the practice of observing what works in nature and applying those principles to solve problems, create designs and drive innovation. Learn how plants inspire sustainable solutions by helping us identify and emulate functions found in nature.
2. Investigate "Growing Beyond Earth" - a citizen science program that engages young people in authentic plant research contributing to studies on growing food for future space missions.

Together, these programs demonstrate how plants can inspire innovation, sustainability and scientific discovery both on Earth and beyond.

Snowy STEM Academy - Thinking inside the box

Snowy Hydro - Snowy STEM Academy
Building one of Australia's biggest infrastructure projects to generate and store renewable energy is no small feat. Snowy 2.0 is like a giant battery for both storing and generating energy… but how? Stop by to investigate how a reservoir high in the Snowy Mountains is the key to harnessing Australia's natural renewable resources.
See if you have the problem solving and communication skills needed to build Snowy 2.0 - Australia's largest ever hydro project infrastructure the size of the Sydney Opera House that will be able to power three million homes!

Makers Empire: Learning by Design

Makers Empire
Makers Empire makes 3D design software that improves student spatial reasoning skills (a key indicator of future STEM success), interest in STEM, and reduces STEM anxiety.
In this hands-on expo activity, you will bring your creativity to life and use your 3D design skills in our 'Design Dash Challenge'. Dive into interactive puzzles and immersive 3D/AR student prototypes. You could take home a prize pack for your school. Teachers will learn how our in-app learning programs ignite real world design thinking, problem solving and critical and creative thinking skills.

Using Technology to Help Prevent Allergic Asthma

Deakin University
Asthma is a common long-term inflammatory disease of the airways caused by a combination of genetic and environmental factors. Symptoms typically include wheezing, coughing, chest tightness, and shortness of breath.
In this expo you will learn about asthma, some of the common medications & tools used to manage it, and discover some of the novel methods researchers are developing to help detect the environmental triggers of Allergic Asthma. You will also have the opportunity to go up against a real AI to see who is smartest at identifying allergen samples from real lab photos.

Binary Bracelets

Get into STEM
Binary code is the fundamental language of computer systems, consisting of a series of 0s and 1s that represent data and instructions.
In this expo activity you will explore how binary code is used to communicate information between computers, communication devices and other modern devices. The Get into STEM team will then give you the chance to use the binary system to make a beaded bracelet that encodes your initials that you can take away with you!

STEM Expo: hands-on activities area - Teacher and Student cont'd...

Engineering in Action!

Robogals Melbourne

Engineers apply scientific principles to analyze, design, invent, code, build, and create to solve all sorts of problems and make the world a better place. One of their most important tools is their own creativity.
In this Expo you will have the opportunity to meet current engineering students who are part of Robogals at the University of Melbourne. They will showcase Arduino microcontrollers, share about what Robogals do, and discuss the different Engineering disciplines and what they involve.

Seeds of Change: Inside Our Eco Warriors Organisation

St Columba's Primary School

Given the constant media barrage of climate and environmental challenges it can be quite easy for young people to be disempowered – feeling like they cannot make a difference.
In this expo area, St Columba's Year 4 students will lead an interactive sustainability expo showcasing how authentic student leadership can create positive environmental change. You will explore hands-on challenges including composting, biodiversity, recycling, engineering and environmental design while discovering how young people can use science, technology and creativity to grow a more sustainable future.

Meet an In2science STEM Mentor

In2science (La Trobe University)

Have you ever wanted a STEM expert at your fingertips to help you problem solve or think your way through challenges? In2science places university STEM students into classrooms as mentors within existing lessons.
In this Expo activity you will meet some of the university STEM students who mentor classes through In2science. A mentor will guide you through a short STEM challenge card, talking through your thinking as you go. Stick around and ask them anything about their own STEM journey, and where STEM could take you in the future.

Drone Flight Simulator Challenge

Monash Uncrewed Aerial Systems

Monash Uncrewed Aerial Systems (MUAS) is a student-led university engineering team at Monash University that designs, builds, and operates uncrewed aerial vehicles to demonstrate their humanitarian potential in civilian and emergency response scenarios.
In this expo, you will take the controls of a drone flight simulator, guided by an MUAS pilot through the basics of flight before trying VTOL, quad or fixed-wing aircraft. Each go takes about 4 minutes, giving a fast, hands-on taste of how uncrewed aerial systems actually fly.

Hack the Robot

Engineers Building Knowledge

One of the best ways to learn coding is to play around with existing coding and find out what changes in the output. By intentionally breaking code (hacking it) and analysing error messages, you build a deeper understanding of how programming languages function.
In this hands-on activity you will tweak pre-written Arduino code for EBK's pre-assembled robots, instantly seeing the cause-and-effect of your changes. Can you code changes that produce an interesting outcome? No setup or prior coding experience needed.

Exploring the Digestive system

Eltham Primary School

Did you know that it takes around 24 hours for food to wind its way through the nine-metre-long digestive tract? On its trip, it's mixed with acids and digestive juices, and squeezed and squelched until all the nutrients that the body needs are absorbed.
In this exciting expo, led by the students from Eltham Primary, you will learn about how the human digestive system works, participate in a "Did you know" quiz, assemble a digestive system, and check out the student-made models they designed to represent the human digestive system.

From Concept to Reality

Orchard Grove Primary School

The Year 6 students from Orchard Grove primary school have been developing their design thinking and problem-solving skills to create and build mechanisms using an electrical circuit and 3D printed components.
In this Expo showcase the students will demonstrate how their creation works, why they chose specific materials, the prototyping process they went through, and which components were candidates for 3D printing.

Turn a Device into a Movement Laboratory

Pose IQ

Biomechanics is about using the laws of mechanics to understand how forces and motion interact within the human body. Movement is the physical manifestation of these mechanics, governed by the interplay of muscles, bones, joints, and external forces like gravity.
In this hands-on expo activity, you will discover how artificial intelligence, biomechanics, computer vision, mathematics, and engineering can analyse movement, balance, posture, and coordination in real time. This is the future becoming real now.

Bringing Regenerative Farming to Life Farm my School

Farm my School

Regenerative farming is focused on restoring soil health, increasing biodiversity, and sequestering carbon by working in harmony with natural ecosystems. Farm My School brings regenerative farming to life through hands-on, place-based learning.
In this expo activity, you will "speed date" flowers with the native pollinators and pest controllers we want to encourage in the garden, then make biodegradable newspaper pots to grow your own flowers to take home and plant.

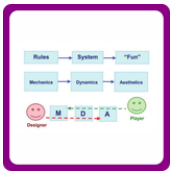
VR 360° Content Creation and VR Game Design

Flinders Christian Community College

Have you ever wanted to be a movie maker or a game creator? How about being someone who makes virtual reality movies or games?
Come along and take part in a hands-on VR experience by wearing headsets and viewing student-created 360° videos and interactive VR pick-a-path games. Grade 5 and Grade 6 students from Flinders Christian Community College will be on hand to guide you through the experiences, explain how the content was created, and answer questions about the storytelling and technology skills involved.

Problem Solvers Design Challenge - Student and/or Teacher

Each session has a different real life design or STEAM challenge to solve aimed at Year 4 to 10 students and teachers. You will be posed with a real life design challenge and lead through the design process to ideate and present possible solutions.



Learn to Design Games: Mechanics, Dynamics, Aesthetics

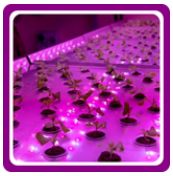
Monash University

Gaming and digital experiences are a booming industry around the world with more than 2.3 billion active gamers contributing over $190 billion to the global games market. Have you ever wanted to find out how to design a game – here is your chance!
In this problem solver workshop, you will play games to learn game design! You will have the opportunity to craft new games from old parts and learn how to use Mechanics to make a game, how players experience those mechanics (the Dynamics), and how we get to Aesthetics (the desired emotional outcomes). This is a great way for students and teachers on how to apply STEM in a real-world context!
Suitable for Year 6 to 10 students and/or teachers

A Better World Is Possible: Design Thinking & Futurism

Casey Tech School

It's human nature to dream about the future — to imagine what might be 10 years from now or even 1,000. How can we, as innovators or designers or educators, think differently—and more humanely—about shaping the future.
The "A Better World Is Possible" workshop blends design thinking and futurism. You will empathise with others, imagine futures across time horizons, build a shared narrative, and create an artefact from a future world—exploring how ideas evolve into lived realities rather than just solutions.
Suitable for Year 6 to 10 students and/or teachers



Moonbase – Designing to Survive and Thrive

ARC Centre of Excellence for Plants for Space

The ARC Centre of Excellence for Plants for Space aims to create on-demand, zero-waste, high-efficiency plants and plant products to address grand challenges in sustainability for Space and on Earth. If humanity is going to be exploring the universe, then we will need to reimagine plants, food, and farming.
In this design sprint session, you will explore the challenges of growing plants in space and come up with possible ways to grow plants to supply the foods, materials and medicines humans need to survive. Not just for survival but in ways that support happiness and mental health, and sustainable farming on Earth. **Suitable for Year 4 to 10 students and/or teachers**

Become a disease detective!

R-Ladies+ Melbourne

A mysterious disease is causing people to fall ill. What are the common characteristics of the people that are ill (e.g. did they all eat the same thing)? What are the common symptoms of infected people? How can we stop the epidemic before it spreads?
In this session you will learn about epidemiology and how medical teams use data to pinpoint the causes of a disease and come up with solutions to stop outbreaks. You will cover key concepts such as 'what is an outbreak' and 'what do epidemiologists do', as well as exploring concepts such as data visualisation and the importance of clear science communication.
Suitable for Year 7 to 10 students and/or teachers

Imagining a better transportation system

Scienceworks / Museums Victoria

Millions of people travel around Melbourne every day, by bus, train, bike, and boat. This transport system involves new and old technologies, individual and group behaviour, and fickle weather. With all this, can we find even better ways to help Melbournians travel?
In this design sprint you will investigate transport user needs, system thinking, and urban planning activities. This workshop has a focus on accessibility, sustainability, and human systems, and the techniques used are applicable to a range of topics.
Suitable for Year 5 to 8 students and/or teachers

Design it. Fold it. Show it off.

Get into STEM

In this hands-on workshop, you'll take on a real industrial design challenge: creating cardboard packaging that actually works.
Using measurement, geometry, and a bit of creative flair, you'll design and build your own net that folds into a box made to protect and display a decorated donut. Will your design be sturdy, stylish, or surprising? Test your ideas, refine your skills, and see your 2D thinking come to life in 3D.
Suitable for Year 5 to 8 students and/or teachers

Helix Basket Bot

Ai Cubed Academy

Engineers use problem-solving every single day — and so does everyone else! It's how people figure out what's going wrong, why it's happening, and what clever solution they can build to fix it. Whether you're designing a bridge, coding a robot, or just trying to stop your backpack zip from jamming, problem-solving is the skill that helps you understand the challenge and create the best possible solution.
In this hands-on workshop, you will work in teams to test Micro:bit controlled robots, draw designs, build attachments for robots, and compete against other teams in a basket bot tournament. The focus of this session is on identifying problems to solve, coming up with solutions, testing them and then improving. **Suitable for Year 4 to 6 students and/or teachers**

Tinker Tales: Inventor's Quest

Wonder Bitz

Tinker Tales is an immersive, cross-curricular educational experience that intertwines the fun of board games, puzzle rooms, and interactive pick-your-path narratives.
In this hands-on and fun workshop, you will enter a story world, uncover a challenge, and work in teams to design, build, test, and improve creative inventions using everyday materials. It's hands-on problem-solving with the energy of a game and the imagination of a story.
Suitable for Year 4 to 6 students and/or teachers

Tiny homes for the homeless

Victory Lutheran College

Over 122,000 people experience homelessness in Australia on any given night. The crisis is currently described as a national emergency, with frontline services overwhelmed by rising demand and a chronic shortage of affordable housing driving more families into couch surfing, tents, and rough sleeping.
In this workshop you will work in teams and use your ethical and creative thinking, and understanding of the needs of the homeless, to design a tiny home for different scenarios. This is a real-world issue that needs to be solved for our nation.
Suitable for Year 5 to 10 students and/or teachers

Powered by Possibility (and a Mousetrap)

Casey Tech School

Albert Einstein once said, "We cannot solve our problems with the same level of thinking that created them". To imagine a better tomorrow and to overcome complex challenges we must learn to be problem solvers, explore new ideas and design possible innovative solutions.
In this workshop you will use mousetrap racers to explore hands-on problem solving. You will design, build, test, and iterate a small-scale racer, learning through experimentation how simple materials, constraints, and teamwork can drive creativity, physics understanding, and engineering thinking.
Suitable for Year 8 to 10 students and/or teachers

Accessibility Challenge! 3D Printing for Good

Clifton Hill Primary School

3D printing is being used to create a better future in many environments around the world from producing prosthetics and water filters, to manufacturing umbilical cord clamps and temporary shelters, through to custom orthotics and hearing aid shells for refugees.
In this hands-on workshop you will work in pairs and use 3D printing software, Makers Empire, to design a solution to the question "Design something that makes life easier for someone". Learn how STEM can be used to make a difference in the world!
Suitable for Year 4 to 6 students and/or teachers

Empowering everyone's creativity

Yarra Ranges Tech School

No matter your abilities, background, or identity, you deserve the chance to learn, create, and shine alongside your peers. However, persistent stereotypes about people can be a barrier for some learners in STEM fields. Can we use design thinking and our creativity to break down these barriers for all learners?
In this hands-on workshop you will explore how to embed creative practices in STEM programs, with a focus on supporting the more neurodiverse learners. You will design a small fashion technology prototype inspired by innovative textile technologies. This session is about developing your design thinking skills and expanding ideas surrounding design in STEM.
Suitable for Year 5 to 10 students and/or teachers

Battle Bots & Mechanical Engineering

Inspire Robotics

Battle Bots is more than a head-to-head clash. It's real engineering in action.
In this hands-on workshop, you become the problem solvers, designing and building your own combat robots inspired by real-world robotics challenges. Learn how the strategy, mechanics, structural integrity, size and choice of defence and offence behind every bot connects to genuine engineering thinking. Discover how you could build, adapt and defeat the next bot that crosses your path!!
Suitable for Year 4 to 10 students and/or teachers

Inspired by Nature: Discovering design secrets from the natural world

Royal Botanic Gardens Victoria

What if there was a design guide with real-life examples that were sustainable, good for the planet and accessible to everyone? There is! It's called Nature! Biomimicry is the practise of observing what works in nature and copying it to solve problems, create and innovate.
This hands-on workshop will introduce you to, and learn the skills needed, for this modern design practise. You will also be inspired by some of the most weirdly wonderful plants to bring nature's ideas to an innovative and sustainable biomimetic design concept.
Suitable for Year 4 to 10 students and/or teachers

Exploring the Moon with Australia's Rover - Roover

Victorian Space Science Education Centre

Have you ever wondered how an Australian led lunar rover mission is planned?
In this hands-on workshop, you will step into the role of mission engineers preparing Australia's first lunar rover for exploration. After a quick dive into how real rover missions are planned, you will use computational thinking and mathematics to optimise a rover mission route through a lunar crater. Working like real engineers, you will analyse terrain, weigh risks, test strategies, and justify your final route. Get a taste of the real decision-making behind Australia's future in space.
Attending teachers will leave with practical strategies, ready-to-use resources, and a deeper understanding of how to design learning that mirrors genuine scientific and engineering practice.
Suitable for Year 7 to 10 students and/or teachers

The Logistics...

Further information

- In 2026 the It Takes a Spark STEM Conferences are being held in Queensland, Victoria and Western Australia.
- FAQ's, Impact, Media and News appearances can be found on our website.

Registration

- Early bird registration is recommended ends **11/09/2026 or sooner if sold out**
- Book Now or Hold places: **you can** hold early-bird places whilst you gain approval. Complete the Registration form and select 'hold place'.

Cost

- **Educator / Teacher:** Early bird $205.00 (Regular $245.00)
- Teacher presenter: complimentary*
- Pre-service, Aide/Support staff, Homeschool educator: Early bird $79.00 (Regular $99.00)
- **Student:** Early bird $30.00 (Regular $37.50)
- Student presenter: $27.50*

*>> Student Scholarship may be available upon application**

>> Morning tea and Lunch included for students and teachers.

Professional Development Certificate for Educators
Teachers can attend without students.
Students must attend with their teachers.
All attendees to register
Excursion pack available

Venue: The Knox School
220 Burwood Hwy, Wantirna South VIC 3152
Date: Thursday, 22 October 2026
Time: 8.15am open
8.45am start – 2.45pm finish

Thank you to our Sponsors & Supporters

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