

the DATTA Vic hands-on conference for teachers
3 december 2021 - banyule nillumbik tech school



Conference Welcome



DATTA Vic welcomes you to **Makerspace 2021** at Banyule Nillumbik Tech School – the second day of our annual conference. **Makerspace** will explore teaching applied STEM, creative problem-solving in the classroom and design-based learning, as well as celebrating the joy of making!

Delegates will discover best practice in new technologies, fresh approaches to teaching and learning and inspiring classroom projects through a range of hands-on up-skilling masterclasses.

There's also a chance to experience the latest tools, machinery, devices, and education resources in our Trade Exhibition, which will offer hands-on demonstrations and information sessions throughout the morning.

We are glad that you can join us at this very special end-of-year event, where you can upskill, discover, network, and share ideas and issues with your colleagues from across the state and beyond.

We hope our delegates also choose to attend the first day of the conference – *Preferred Futures* – which features an exciting keynote address from Celina Clarke, the Chair of the Premier's Design Awards, professional practice talks by designers and engineers and a series of hands-on workshops by expert educators.

Travis Burroughs, DATTA Vic President

Our Keynote Presentation



While the keynote presentation on day one of our conference features the Chair of the Premier's Design Awards, today, it celebrates the winners!

We're delighted to be joined by **Hannah Gough** (pictured above left), who took out the top prize in the VCE Student Design Category at the awards, and **Millicent Meldrum**, (Pictured above right) who was highly commended. Both young women were also chosen to exhibit at Top Designs 2020.

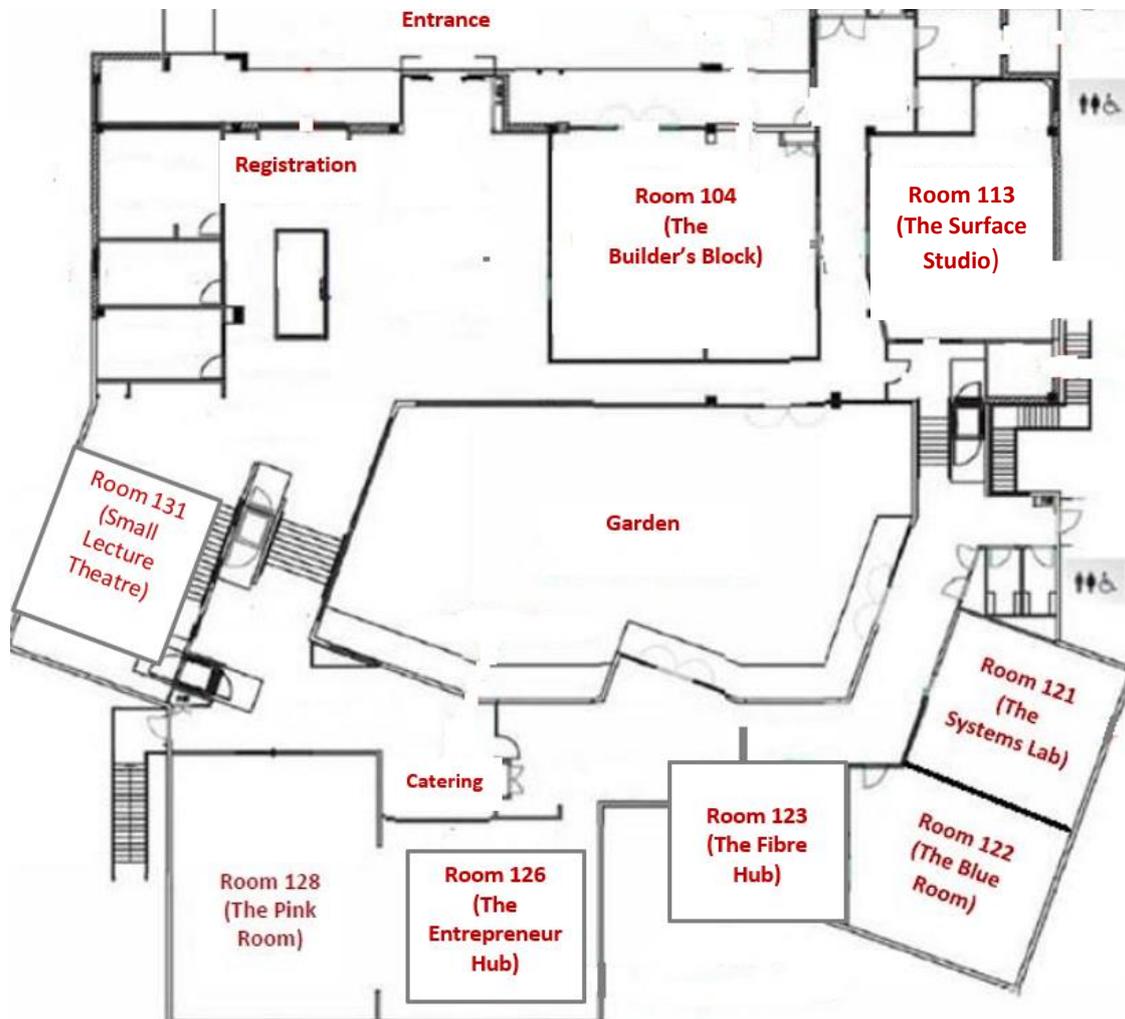
Hannah is an ex-Carey Grammar School student who produced the *Lotus Bag* for VCE Product Design & Technology in response to the ongoing challenge of homelessness and poverty-stricken populations. It aims to provide a means to generate income from waste materials. The Lotus Bag includes a bottle-cutting tool and a set of instructions that detail how to create a bag using woven recycled bottles, which can then be sold for a profit. Through encouraging the reuse of plastic Hannah also touches on the important issue of waste and pollution.

Millicent studied VCE PD&T at Toorak College, and created the *Beauty Brace* for her final year project. Her aim was to design a back brace for users with scoliosis that was both fashionable and comfortable, unlike most others available today.

Hannah and Millicent will discuss how they developed their own unique, creative solutions to real world problems, and explore their own journeys to success at VCE and beyond.

Conference Timetable

8am – 9.am	REGISTRATION AND TRADE EXHIBITION				
.9.am – 9.15am	PRESIDENT'S WELCOME FROM TRAVIS BURROUGHS				
9.15am – 10.15am	KEYNOTE PRESENTATION BY HANNAH GOUGH AND MILLICENT MELDRUM				
10.15am – 11.15am	TRADE DISPLAYS AND DEMONSTRATIONS				
11.15am – 11.45am	MORNING TEA				
11.45am – 1.15pm	MASTERCLASSES PART 1				
MASTERCLASS 1 STEM on the move with Colin Chapman Meet at Registration	MASTERCLASS 2 <i>Stories in Silver</i> jewellery making with Sarah Kellet Room 104	MASTERCLASS 3 TECHstyles wearable technology masterclass with Karen Wunsch Room 128	MASTERCLASS 4 Assistive Technology Makeathon for people living with disabilities with TOM: Melbourne Room 122	MASTERCLASS 5 Getting started with Arduino – the simple way with Pat McMahon Room 121	MASTERCLASS 6 Engineering drawing masterclass with Anthony Gasson Room 113
1.15pm – 2pm	LUNCH				
2pm – 3.30pm	MASTERCLASSES PART 2				



MASTERCLASS DESCRIPTIONS

Masterclass 1

STEM on the move with Colin Chapman Meet at the Registration Desk



We know that movement can be an effective cognitive strategy to strengthen learning, improve memory and retrieval, and enhance learner motivation and morale. Join Colin Chapman and discover how to run STEM and Systems Engineering programs that get students out from behind the desk and on the move! You'll participate in a range of activities that take place anywhere but the classroom, so come prepared with sturdy shoes and clothes for all weathers!

PLEASE BRING YOUR LAPTOP – ANY SOFTWARE WILL BE EMAILED TO PARTICIPANTS PRIOR TO THE SESSION

Colin Chapman was trained in Physics and has a keen interest in Physics, Mathematics, robotics, engineering, sport and sewing. He has taught Mathematics, Physics, Systems Engineering and Chemistry in both the International Baccalaureate Diploma Programme and VCE. After spending four years developing and teaching programmes in Switzerland where he won a Google RISE Award as the curricula and pedagogical leader of Robotics. He returned to Australia to teach and in 2020, was the recipient of the Foster Adem Leadership in Technologies Education Award.

Masterclass 2

Stories in Silver jewellery making with Sarah Kellet Room 104



In this hands-on workshop, you'll learn how to make a piece of silver jewellery, but through the process, you'll also explore your relationship with the environment and the different connections in your lives that shape you. You will learn how to use saw frames to cut and saw-pierce the sterling silver, hand files to add definition and add emery paper finishes to the metal. Participants will also use different pliers to turn-up rings and hand make a catch for the back of the pendants.

Sarah Kellett is a second-generation goldsmith learning the tried-and-true practices of handmaking timeless jewellery from her father Graeme Kellett. She is a member of 'The Gold and Silversmiths Guild of Australia' and has a Bachelor of Education (Visual Arts) from Melbourne University.

Photo credit: www.kellettmasterjewellers.com/about-us

Masterclass 3

TECHstyles wearable technology masterclass with Banyule Nillumbik Tech School Room 128



The wearable technology revolution is underway, and it's changing the way we interact with the world around us. From health and fitness to fashion, our lives are benefitting from advances in material fabrication for flexible electronics, coupled with the availability of smaller power sources. Join the Banyule Nillumbik Tech School (BNTS) STEM Communication Team in this hands-on masterclass exploring ideas for teaching wearable tech in the classroom. You'll try out digital design, sewing circuits and 3D printing with fabric.

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Karen Wunsch is a STEM Communication Officer at BNTS. She loves that her job at the Tech School allows her to use her experience as a Tiger Shark, Dugong & Turtle wrangler, Tropical Marine Biologist, and High school Science, Maths & Biology teacher, to connect people to the environment through technology. She is passionate about helping people acquire industry standard Tech skills, STEM careers and having fun whilst learning. Her superpower is learning technology through epic failure.

Before coming to work at the Tech School as a STEM Communication Officer, Emma Arnold worked as a Research and Development Chemist in the detergent industry. She studied chemistry at university and loves learning about new and upcoming technologies. She has an interest in all things fibre related as she has been knitting for over 10 years and sewing for the last 3 years. Being based at a fibre tech school has allowed her to experiment with fibre further and explore new areas.

After 'running away' with the Questacon Science Circus in 2019, Jen Squires came to the Tech School with a new found passion for engaging people in STEM using fun, hands on, ways. She loves combining her unique career experiences - including medicinal chemistry research, fitness and dance instruction, science communication and my own custom dance costume business – with new technologies and new ways of getting others involved and excited about all the things the Tech School offers.

MASTERCLASS DESCRIPTIONS

Masterclass 4

Assistive Technology Makeathon for people living with disabilities with TOM: Melbourne Room 122

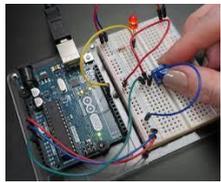


Participate in TOM@Schools makeathon, a custom-built, user-centred design workshop for Years 5-10 classes which explores disability awareness and prototyping. You'll discover how to engage a more diverse cohort of students in STEM by raising awareness of the real-world applications of Design & Technologies to solve challenges for people with a disability. The session builds empathy, team working and communication skills as well as design thinking and hands-on prototyping abilities – all essential skills for the future of work in Australia.

TOM: Melbourne create and build products that improve the lives of people with a disability, where there is no obvious or current solution in the market. They work with people with a disability who have a specific need and connect them with a diverse group of professionals, including engineers, industrial designers, health professionals and tradespeople. Together, they design and build products that solve a complex problem and improve the everyday life of the user. Recent prototypes include robotic arms, powered crutches, wheelchair wheel cleaners and bespoke exercise machines.

Masterclass 5

Getting started with Arduino, the simple way with Pat McMahon Room 121



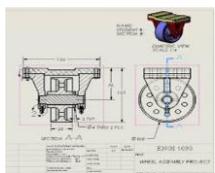
This masterclass will introduce participants to Arduino – an open-source electronics platform, where single-board microcontrollers and kits are used to build digital devices. Pat McMahon will take you through a range of projects, including LEDs, push-button switches, sounders, potentiometers, and ultra-sonic sensors. You'll discuss the applications for this technology in the classroom, and identify new ways to engage your students in STEM. For more information on this session, download the [information sheet](#).

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After 50 years of teaching, Pat McMahon has retired, but remains committed to helping Technologies teachers achieve excellence in the classroom. Throughout his career, he has helped over 3,000 students build microcontroller projects, and has run workshops for over 700 teachers Pat has been fortunate to have shown his students work overseas and has received various International, Australian State and Territory awards. In 2018, he was awarded an Honorary Lifetime Membership of DATTA Vic in recognition for his outstanding service to the Technologies learning area.

Masterclass 6

Engineering drawing masterclass with Anthony Gasson Room 113



Join Anthony Gasson from the Banyule Nillumbik Tech School for this hands-on masterclass on Engineering Drawing. You will explore international standards for technical drawing, first learning to create an orthographic drawing using traditional methods, then using CAD software SolidWorks learn to create an orthographic drawing based on a digital 3D model. This is an invaluable session for teachers of VCE Systems Engineering.

Anthony is a Technologies Teacher who is passionate about engaging students with hands-on practical activities. From Automotive to Metalworking, and Robotics to Systems Engineering, he has worked with his classes to improve their confidence in problem-solving and encouraged them to push their skills to the next level. Anthony is currently the Learning Technologist with Banyule Nillumbik Tech School.

About the Conference

Register for the Conference at www.datta.vic.edu.au

Conference Venue

The DATTA Vic 2021 conference is being held at **Banyule Nillumbik Tech School**, 61 Civic Drive, Greensborough VIC 3088.



The Banyule Nillumbik Tech School is part of the Victorian government Tech Schools initiative to move school education into the future. They develop and run specialist STEAM programs and activities that help prepare local students for the challenges of the future and the changing nature of work. Their programs are designed in partnership with community, industry, and schools in response to key challenges facing the local community.

Teachers deliver their programs both within partner schools and at the Tech School alongside our staff, utilising our cutting-edge facilities, equipment, and expertise.

DATTA Vic wish to thank Marc Blanks, Anthony Gasson and the fantastic BNTS team for generously hosting our event and for their help in planning and running the conference.

Presenters

A huge thank you goes to all of our keynote and masterclass presenters for giving up their time and for sharing their skills and knowledge. We are so grateful for your contribution.

Trade Exhibitors

All trade exhibitors are located in the public areas throughout the Tech School. During the morning, they will be offering hands-on demonstration of their latest products and services. A *Conference Trader Listing* will be included in this program for further details of our sponsors, trade exhibitors and advertisers.

Masterclasses

All our Masterclass sessions have limited numbers – please book early to ensure your first choice. Also, please make sure you note if you are required to bring your own materials, laptops, or tablets.

Pricing for Makerspace 2021

DATTA Vic Member: \$290
Non-Member: \$390*
Student/CRT: \$90

If delegates are registering for both *Preferred Futures* on December 2 and *Makerspace 2021* on December 3, the prices are:

DATTA Vic Member: \$390
Non-Member: \$490*
Student/CRT: \$130

**Includes a DATTA Vic Individual Membership for 2022*

Cancellations

DATTA Vic will refund the full fee, less an administration cost, if you cancel 7 or more working days before a workshop, seminar, or conference and 50% of the fee if you cancel 1 to 7 days prior to the event. If you register but do not attend without cancelling prior to an event you will be charged the full fee unless a medical certificate is provided.

Disclaimer

Delegates must read our [Terms & Conditions](#) prior to registering. DATTA Vic will not accept liability for damage or loss of any nature sustained by participants, suppliers, agents, contractors, consultants, or their accompanying persons, to their personal property as a result of the DATTA Vic 2021 conference, Trade Show, or any related events.

This program is correct at the time of printing and subject to change without notice. Please accept our apologies for any inconvenience caused. Notice of cancelled sessions will be circulated to registered delegates as soon as practical.

Enquiries

Contact Laura at pl@datta.vic.edu.au if you have any questions about the DATTA Vic 2021 conference. For all invoicing enquiries, contact Emma on admin@datta.vic.edu.au.