



the DATTA Vic 2021 D&T Teachers Virtual Gathering

4pm – 5.30pm, 29 November – 3 December



Welcome



On behalf of DATTA Vic, I'm delighted to welcome you to the first virtual "Gathering" for teachers of Design & Technologies, STEAM, Product Design & Technology and Systems Engineering in Victoria. Everyone at DATTA Vic was devastated when we had to cancel our planned conference due to Covid-19. However, we knew we wanted to celebrate the end of a challenging period and thank our members who have supported us throughout this year. So we came up with the idea for our "Gathering" – a free, week-long series of virtual, after-school teach meets which allow educators to get together to share ideas and discuss issues with colleagues from throughout the state and beyond.

Each day, you can join a webinar which explores different ideas central to Technologies education, from teaching preferred futures in Design & Technologies education to how we can celebrate learning from failure in the classroom. We have a fantastic range of presenters from education and industry, and we thank them all for participating in this new venture!

If you can join us for our Gathering, we're certain you'll return to school in 2022 with novel ideas, new inspiration and fresh approaches to teaching.

Travis Burroughs, DATTA Vic President

The Schedule

MON 29 th NOV 4PM – 5.30PM	TUE 30 th NOV 4PM – 5.30PM	WED 1 st DEC 4PM – 5.30PM	THURS 2 nd DEC 4PM – 5.30PM	FRI 3 rd DEC 4PM – 5.30PM
KEYNOTES	SPOTLIGHT ON PROFESSIONAL PRACTICE	NEW APPROACHES TO STEAM	DIVERSITY IN DESIGN & ENGINEERING	PREFERRED FUTURES
Keynote by Celina Clarke, Chair of the Premier's Design Awards	Professional Practice Spotlight – Emma Luke from RMIT on wearable technologies	Community Action STEM Projects at Footscray High School by Tim Beare	Encourage failure as success in Systems Engineering by Chris Simpson	Peer-to-peer model for building agency and capacity in young people by Claire Farrugia & Vhairi Mackintosh
Keynote by Hannah Gough & Millicent Meldrum, Winners of the 2021 Premiers Award for VCE Student Design	Professional Practice Spotlight – Dr Scott Wordley from Monash University on engineering makerspaces	First nations food & fibre at the Royal Botanic Gardens Vic by Lenka Vanderboom	Engaging girls in Industrial Design & Engineering by Dr. Caroline Francis	Teaching preferred futures in Design & Technologies by Peter Murphy
Panel discussion	Desiree Riny on the benefits to students of working with designers	Panel discussion	Panel discussion	Panel discussion / drinks!

Webinar Descriptions

Day 1 – Keynote Presentations
4pm – 5.30pm, Monday 29th November

Generously supported by Prytec Solutions and Designability Group



We are delighted to welcome **Celina Clarke** to deliver the keynote presentation at our Gathering. Celina is the Chair of the Premier's Design Awards, which in 2021 are celebrating 25 years of honouring the very best of design and innovation in the state of Victoria.

The design sector is a significant contributor to our economy, employing over 85,000 people and generating revenues of over \$5 billion each year. But beyond the money, these awards recognise that design is about finding solutions, practical innovations, and making improvements that address problems or open up possibilities for a better life.

Celina will share the work of the 2021 winners, which include a world-first medical instrument that creates 3D digital images of the human eye to help specialists treat vision impairment, a sustainable fashion initiative which transforms garments destined for landfill into desirable one-off pieces, and hospital PPE made from marine weeds.

The Victorian Premier's Design Awards also recognise design at a senior school level with a special VCE Student Category, which DATTA Vic help to administer. Celina will celebrate the creativity of the winners, whose designs seek to engage purposefully in the process of creating preferred futures for us all.



We will also be joined by **Hannah Gough** (pictured above left), who took out the top prize in the 2021 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.

Webinar Descriptions

Day 2 – Spotlight on Professional Practice 4pm – 5.30pm, Tuesday 30th November

In this session, we welcome design and engineering practitioners from the worlds of industry and tertiary education to discuss their work practices. Our presenters Emma Luke, Dr. Scott Wordley and Desiree Riny will share their approaches to creativity and innovation and discuss their use of new and emerging technologies. Participants will also discover opportunities for your school to partner with industry professionals and offer your students the chance to work on real creative projects.

Wearable technology with Emma Luke, RMIT



Emma Luke is a designer and researcher currently completing a PHD focused on aesthetics and wearable technology. Passionate about elegant interventions that challenge digital obsolescence, she has an extensive design background traversing watches, bags, jewellery and wearables. She is currently involved in a series of multifaceted wearable technology research projects, focused on intuitive IOT interventions for health and wellbeing.

Engineering makerspaces and student teams with Dr. Scott Wordley, Monash University



Dr Scott Wordley will explore the maker capabilities that are becoming available to engineering students at university. He'll share the types of super-curricular projects and competitions where young people develop hands-on skills and the ability to solve real world problems. He'll share a variety of parts that his students have manufactured for their projects and class assessments.

The benefits to students of working with designers with Desiree Riny



Partnerships between schools and practitioners offer students the unique opportunity to experience the world of professional design in the classroom. In this session, you'll hear from Desiree Riny, an industrial designer who took part in the Regional Arts Victoria *Creative Workers in Schools* program. Desiree worked with Year 10 students at Homestead Senior Secondary College on a real furniture design project.

Webinar Descriptions

Day 3 – New Approaches to STEAM

4pm – 5.30pm, Wednesday 1st December

Community Action STEM Projects at Footscray High School with Tim Beare

With many more young people becoming concerned about Climate Change, Community Action STEAM Projects can provide real world experiences for students to address some of the climate change issues we all face in the future. At Footscray High School, Year 9 students select from 3 themed **Community Action programs**. The programs run all day on a Friday for one semester and they each address some of the Capabilities from the Vic curriculum – Civics & Citizenship, Sustainability and STEAM. Projects include a wind farm, a sustainable tiny house, a Precious Plastic plant, a chicken coop and bee hive chimneys. Presenter Tim Beare initially trained as an electrician, but then studied a B.Ed in Industrial Arts. He recently completed a Post Graduate Certificate in STEM Education at Deakin University. Tim has vast teaching experience in the Design & Tech and STEAM fields in a variety of settings including the UK, NSW, ACT & Victoria. Tim is currently the STEAM Learning Specialist at Footscray High School, teaching 7 - 10 STEAM programs as well as VCE Product Design & Technology.

First Nations food & fibre with Lenka Vanderboom

Victoria boasts our Nation's most diverse collection of landscapes and ecosystems, many of them originally cared for by First Peoples using ancient knowledge systems and practices. Join Royal Botanic Gardens Victoria Indigenous Learning Facilitator Lenka Vanderboom as she explores Traditional Owners' design and technologies in the maintenance of food systems and the sustainable production of fibre, medicine, and tools. She will also share the wide range of education experiences offered by RBGV suitable for Design & Technologies classes. Lenka grew up on her Yawuru homelands in the Kimberley and is now based in Victoria where, among a range of creative positions, she works at the RBGV specialising in engaging Victorian students, and the public in general, in nature-based learning experiences through First Nations' content, history and culture.

Day 4 – Diversity in Design & Engineering

4pm – 5.30pm, Thursday 2nd December

Encourage failure as success in Systems Engineering with Chris Simpson

Join Chris Simpson as he explores the design process within Systems Engineering as a means to get students to accept failure as part of their design and how it can be used to for stronger concepts to develop. Chris moved to Australia in 1999 and began a career in Medical Instrumentation and research, which re-invigorated his passion for electronics and design. Following this, he moved into education, working in various support roles before undertaking his DipEd and becoming a Design & Technologies & Systems Engineering teacher. He now works at Braemar College. He feels very passionate about all of the things that Design and Technologies can offer students that are not available anywhere else in school, with a really strong pull into Engineering.

Engaging girls in industrial design and engineering by Dr. Caroline Francis

Dr Caroline Francis is the Industrial Design Program Manager at RMIT. She is an established Consumer Product Design professional with over 20 years of industry experience and over 8 years of academic education. She has supported industrial design development projects for Australian, American and Asian markets. She has managed, some of Australia's leading design consultancies including successfully leading the establishment of a design office in Hong Kong. Caroline is a strong advocate for engaging women in the industrial design sector.

Webinar Descriptions

Day 5 – Preferred Futures
4pm – 5.30pm, Thursday 2nd December



Generously supported by Prytec Solutions

**Peer-to-peer model for building agency and capacity in young people
with Claire Faruggia and Dr. Vhairi Mackintosh**

Science Gallery Melbourne is a new innovative space for young people to explore issues important to them through science and art. Part exhibition and part experiment, Science Gallery Melbourne engages young people in cutting-edge research and future-focused technologies through participatory and transdisciplinary STEAM collaborations. In this session, hear from the Science Gallery Melbourne Learning Team about their approach to STEAM learning experiences, and how the peer-to-peer model of program development and delivery is fundamental for developing agency and general capabilities in student learners. Claire Faruggia is their Learning and Outreach Manager and works to provide opportunities for young people to think creatively about science, technology, engineering and maths. After completing her honours in genetics, Claire has worked in education and STEM outreach at the Australian Museum, Questacon, RMIT University, and is particularly passionate about increasing participation and engagement in underrepresented groups in STEM. Claire is on the National Science Week Victorian organising committee, and you can catch her weekly talking science on 3CR community radio. Claire is joined by Dr Vhairi Mackintosh, the Learning Coordinator for the Museums & Collections Department at the University of Melbourne, which includes Science Gallery Melbourne. She is an experienced educator and coordinator who has co-designed STEAM learning experiences for school and university students in Scotland, Canada and Australia. Vhairi is an Earth Scientist by trade who has published research unravelling Earth's deep history. She is deeply committed to creating more equitable opportunities for all young people and passionate about celebrating the diversity of the communities we live in.

Teaching preferred futures in Design & Technologies with Peter Murphy

What does “preferred futures” mean and why is it the key concept for progressive Design and Technologies education? Discover new approaches that are particularly relevant for out of field teachers and those looking to develop the creative problem solvers of the future. Presenter Peter Murphy is a former president of the Design and Technologies Teacher’s Association of Australia (DATTA Australia) and DATTA Vic and has been a leader in Design and Technologies education for over 10 years. He has worked in Technologies and STEM leadership roles in the Catholic and Government education sectors and now lectures in Technologies education at La Trobe and Southern Cross Universities. He also lectures in Industrial Design at RMIT University. Peter has also worked extensively with VCAA and ACARA over the years on state and national curriculum including as a writer of the current VCE Product Design and Technology study design. Peter founded Design and Technologies Week in Australia and national competitions “So You Think You Can Design” and “TECx” (Technologies Education Challenge). He also helped to establish the Victorian Premier's Design award for VCE Product Design and Technologies and was a judge for the Prime Minister's Prizes for Science.

After these presentations, we invite you all to stay online and join us in a celebratory glass of wine, bottle of beer or cup of tea to bring the Gathering to a close!