**Saturday Morning Workshops**

1. **Using Virtual Reality (VR) and Augmented Reality (AR) in Technology Education**

Brenden Davidson

Target audience: Stage 4 - 6

Technology-based subjects continually evolve as new technologies emerge. Two such new and emerging technologies are Virtual Reality (VR) and Augmented Reality (AR). Research is showing that the use of VR and AR can increase student motivation, enhance visual and spatial awareness, support different learning styles, accelerate the design process, foster creativity and allows students to communicate their ideas in new and improved ways. This workshop will provide hands-on demonstrations of how to use VR and AR in Technology Subjects. Demonstrations will focus on how to create immersive experiences, how to use AR and VR as an aid in the design process and as a tool to display and interact with designs.

1. **e=STEM2**

**Getting Industrial Technology - Electronics up and running at your school**

Nikolai Liu

Target audience: Stage 4 and 5

A hands-on workshop, building a circuit on baseboards/breadboards for beginners or intermediate level, or a 555 timer IC circuit for advanced

Workshop:

* + Beginners: Build a simple transistor circuit using a Jaycar baseboard. Use a DMM to calculate the transistor gain using a simple formula.
  + Intermediate: Build a simple transistor circuit using a breadboard. Use a DMM to calculate the transistor gain using a simple formula.
  + Advanced: Build a 555 timer IC circuit to make a LED flash at 1Hz. Use a formula to select the correct resistors and capacitor

Maximum number of participants: 20

1. **Industry Study for Stage 6 Industrial Technology**

Joe Agostino

Target audience: Stage 6

Tips and advice to help your students approach the Industry Study and take them up a band.

1. **Coding and Artificial Intelligence with Unity 3D**

Jeff and Jamie Ayling – Game Training.

Target audience: Stage 4 - 6

This is a hands-on workshop for participants of all experience levels.

1. **Creative Controllers: Fun design with purpose**

Questacon Smart Skills Initiative

Target audience: stage 3 - 5

This hands-on workshop will engage your creativity and get you actively playing a computer game in a unique way. Using a Makey Makey and everyday materials, participants will prototype a physical controller for an interactive Samsung tablet app. Participants are prompted to explore control of the tablet using multiple persons, buttons and body parts. The presenters will then discuss how this might be applied to different classrooms and showcase real world applications for this technology that can help others.

1. **A STEM approach to making ‘Rube Goldberg’ Machines**

Leanne Cameron

Target audience: stage 3 - 5

In this hands-on session, delegates will explore an incredibly adaptable STEM project that suits any age, skill level or time frame – the Rube Goldberg Machine: the perfect open-ended project. For those new to the concept, a Rube Goldberg Machine is: “a device or apparatus that is deliberately over-engineered to perform a simple task in a complicated fashion, generally including a chain reaction.” – Wikipedia.  In this session delegates will be introduced to a variety of ways it can be implemented to fit most STEM classes. In a typical project, students are supplied with a limited number of resources and the team with the most innovative solution to the problem wins. Resources supplied can be as simple as basic building blocks and craft supplies, or as complex as micro-controllers, robotics kits and STELR sets. Delegates will get to experience hands-on how much fun you can have building and learning.

1. **Useful Timber Projects for Technology Mandatory – Material Technology**

Martin Naughton

Target audience: Stage 4

Be inspired with some ideas for timber-based projects for the new Technology Mandatory syllabus.

1. **Spend more time in the Industry Show**