

# CreativITy 2019

Griffith University, Gold Coast

June 29 & 30

Supporting all teachers of Digital Technologies, ICT, and Digital Solutions

Run by Educators, for Educators

Educators of Today, Creating Tomorrow



Digital Technologies



Creativity



Robotics



Digital Solutions 1&2



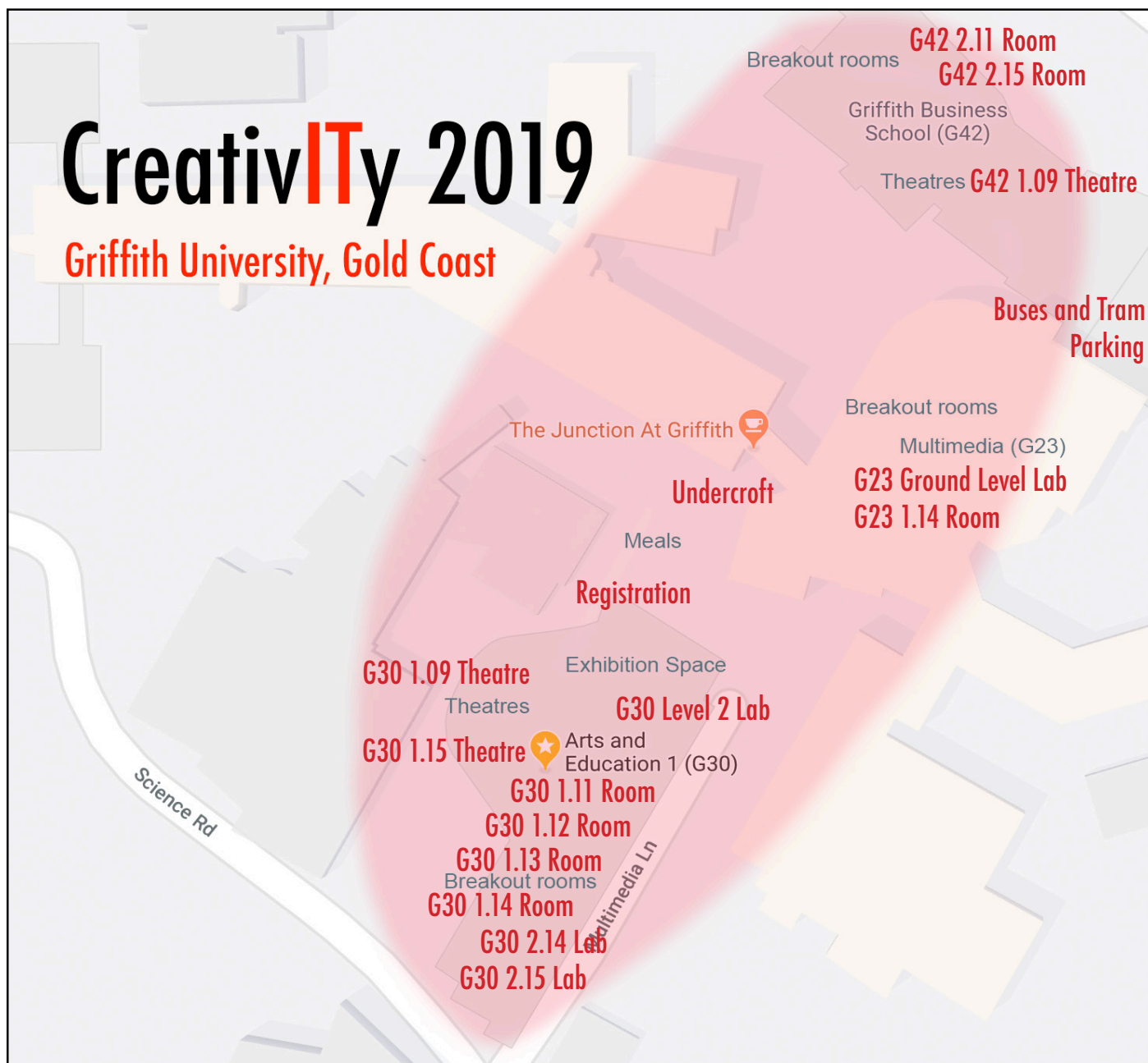
Virtual Reality



Digital Solutions 3&4

[www.creativity2019.com](http://www.creativity2019.com)





## Wifi

Login: [creativity@guest.griffith.edu.au](mailto:creativity@guest.griffith.edu.au)

Password: D!g!talTech19

Configure your devices <https://www.griffith.edu.au/wifi>

## Lab Computers

Login: creativity

Password: D!g!talTech19

Internet Access <https://ias.griffith.edu.au/griffith/portal/login>

## Dinner

7pm-9:30pm



### Entree

Trio of Dips  
Seafood Tart  
Garlic Prawns  
Galaxy Lamb

### Main

Barramundi  
Lamb Skewers  
Apricot or Mango Chicken  
Steak of the Day

### Dessert

Mud Cake  
Creme Brulee

# Keynotes

## James Gilmour Gilmour Space Industries



James' lasting childhood memory was watching the stars with his grandfather in country New South Wales and reading The Young Scientist Book of Space Flight. His dream job was working in aerospace, and as last year's winner of the 'Young Entrepreneurs Trailblazer of the Year Award' on the Gold Coast, James is living his dream at Gilmour Space Technologies. Since co-founding the company with his brother Adam in 2013, James has been the driving force behind Gilmour Space's Australian operations and their ongoing engagement with universities, research and defence organisations. With his extensive experience in business and relationship management within the IT&T sectors, James was well placed to promote Gilmour's arrival into the booming space technology industry. To further Australia's contributions in space, James is also an active member of the Advisory Council for the Space Industry Association of Australia, a Director at the National Space Society of Australia (NSSA), and Chairperson for the Queensland Space Frontier Society.

Bruce Dell is CEO of Euclidean Holographics. He is a self-taught programmer and one of Australia's most publicised inventors with over 3000 media articles worldwide. Bruce is the creator of the world's fastest 3d graphics algorithm, this technology is now used by the French railway, the Tokyo traffic authority and Leica. His company found a new way to make multiuser hologram equipment for a fraction of the cost, with holograms that look like solid objects but made of laser light. Euclidean Holographics recently won second place at the world's largest entrepreneurship technology competition in 2019, (Shenzhen innovation and entrepreneurship competition).

## Bruce Dell Euclidean Holographics



## Dr Tim Kitchen Adobe



With about thirty years of teaching and education leadership experience, Dr Tim Kitchen is Adobe's Senior Education Specialist for Asia Pacific. Tim regularly liaises with schools & universities focusing on enhancing creativity in education. He also manages the Adobe Education leadership and active use programs throughout Australasia and helps lead the Adobe Education Exchange (<https://edex.adobe.com>) which now has well over half a million members. A passionate advocate for creativity in education, and a well-recognised education thought leader in Australia, Tim is a regular presenter for a wide range of national and international education events. According to the World Economic Forum, creativity is one of the most important skills required to thrive in the next 20 years. Are schools and universities encouraging creativity or hindering it? Just how important is it to encourage creativity in a world where some say nearly half of all current jobs will be automated in the future? This talk by Dr Tim Kitchen from Adobe will look at some of the research as well as share some practical tips to enhance creativity throughout the curriculum in K12 & Higher Education.

Nao is an autonomous, programmable humanoid robot lecturer and researcher at Griffith University where he works with Dr Jason Zagami exploring the potential of robotics in education. Nao has conducted two undergraduate teacher education courses on Technologies and challenges students to consider what aspects of teaching can be easily automated and where they can provide human capacities that robots currently have difficulty. Nao will be opening the 2019 round of research into the Australian Educational Technologies Trends (AETT) report.

## Nao Griffith University





# Excursions

## John Cox Creature Workshop & Ernest Junction Tunnel Creativity Theme (Sat 11:20-2:40)

John Cox has developed animatronics for films such as Babe, Alien Covenant, Aquaman, Peter Pan, and dozens of others. He also creates most of the iconic public sculptures around the Gold Coast. We will be visiting his studio and seeing the technologies he uses for his artworks, and then visit the historic Ernest Junction Railway Tunnel to take photos to be used in the afternoon workshop.



## Gilmour Space Centre Robotics & Digital Solutions Themes (Sat 11:20-2:40)

Gilmour Space Technologies is an Australian company launching low-cost hybrid rockets to place small satellites in orbit. We will be visiting their centre in Helensvale, seeing the rockets, software they have developed to manage, launch and track rockets, and the Space Experience activities they are developing to educate children about spaceflight and opportunities in the space industries.



## Holoverse All Themes (Sat 6pm - 7pm)

On Saturday evening on the way to dinner, we will be visiting Holoverse - the first hologram arcade in the world, where you can be transported to the African savannah or the moons of Jupiter, swim with fish in holographic water and experience artificial gravity. All content and hardware at Holoverse has been developed locally and you will have a chance to speak to some of the developers and see their workspace.



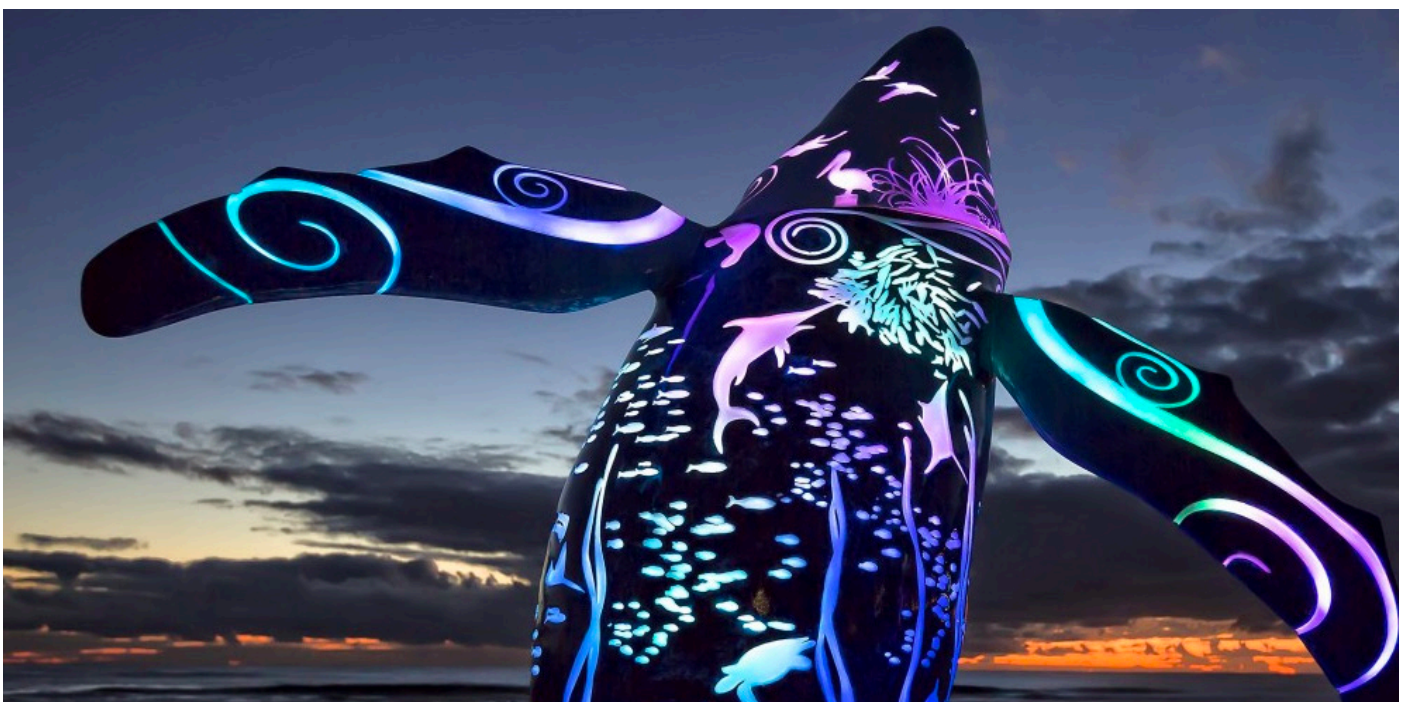
# Creativity Theme

Day 1 Saturday 29 June 2019



|               |  |
|---------------|--|
| 08:00 - 08:30 | Registration   |
| 08:30 - 09:15 | Conference Opening   |
| 09:15 - 10:00 | James Gilmore (Gilmour Space Technologies) - To the Stars  |
| 10:00 - 10:20 | Creative Teaching - Amanda Rablin  |
| 10:20 - 10:40 | Option 1: HTML programming with Adobe MUZE - Hadleigh Benson<br>Option 2: STEM Coding - Adam Juang                           |
| 10:40 - 11:00 | Option 1: Artificial Intelligence in the classroom - Karsten Schulz<br>Option 2: Scratch 3.0 and the Micro:bit - Linda Clark |
| 11:00 - 11:20 | First Lunch  |
| 11:20 - 2:40  | Excursion to John Cox Creature Workshop and the Ernest Junction Tunnel   |
| 2:40 - 3:30   | Second Lunch   |
| 3:30 - 4:30   | Making Photoshop Puppets come alive with Adobe Character Animator  |
| 4:30 - 5:00   | Bruce Dell (CTO) (Euclidean) - Queensland Gaming Industry  |
| 5:00 - 5:50   | Celebration of Day 1   |
| 5:50 - 6:00   | Tram to Holoverse  |
| 6:00 - 7:00   | Holoverse  |
| 7:00 - 9:30   | Galaxy Seafood and Mediterranean Restaurant  |
| 9:30 - 9:40   | Tram to university   |

G30 Level 1  
G42 2.17 Theatre  
G42 2.17 Theatre  
G30 1.09 Theatre  
G30 1.11 Room  
G30 1.12 Room  
G30 1.11 Room  
G30 1.12 Room  
Undercroft  
Off Campus  
Undercroft  
G30 2.14 Lab  
G42 2.17 Theatre  
G42 2.17 Theatre  
Tram Stop  
Holoverse  
Restaurant  
Tram Stop





# Presenters

**Amanda Rablin**

**St Peters Lutheran College**

Amanda has almost 20 years of experience working within the area of educational technologies. She has worked within schools, school systems, corporate and government positions. Her career has focused on the meaningful use of online and digital technologies to support learning and contemporary pedagogies. She has presented at numerous conferences and has been recognised with state and international awards for her contributions in the field, including significant contributions to QSITE and ACCE initiatives. At St Peters, she predominately works with teachers to extend the use of ICT and online tools in the classroom, she teaches Year 7 students Digital Technologies and has been instrumental to whole school initiatives for BYOT, eSmart and the selection and implementation of the College's Learning Management System.

## **FutureWe framework**

Amanda will use the FutureWe framework to provoke discussion and reflection about the future literacies students will need for their learning and work. She will share how an overview of a recent unit with Year 7 Digital Technologies where the students proposed a digital product to solve an ethical issue and then pitched the idea to an panel of experts. During the unit the FutureWe Framework was used along with a range of creative/brainstorming processes to help the groups of students with their ideation, product design and pitch. Drawing on contributions from colleagues, she will invite participants to ponder the far reaching impact of creative mindsets for the future challenges faced by learners and perhaps have a little fun along the way.



**Hadleigh Benson**

**Park Ridge State High School**

Hadleigh has over 15 years hands-on experience in teaching students from Year 4 through to Year 12 within Australia and New Zealand. He has been a deputy principal, team leader, classroom teacher, digital technology specialist teacher, STEM teacher and Robotics specialist. His passion is for 21st Century learning, one that engages and motivates students to achieve and prepare for the future workplace. His focus is now how ACARA can be implemented successfully in the classroom for all year groups.

## **HTML programming with Adobe MUSE - Hadleigh Benson**

Adobe Muse is an application for creating quality websites. Moreover, HTML code can be used to create a website for student inquiry learning. In this workshop, you will learn how to input basic html coding and see the outcomes for learning within the classroom. Alongside this, see the basic format for using Muse without any need to teach html coding.



**Adam Juang**

**St Patrick's College Townsville**



Adam Juang is an experienced secondary school leader and teacher passionate about integrated pedagogical approaches to the education of Science, Technology, Engineering and Mathematics (STEM). As Head of Faculty leading both Mathematics and Digital Technologies departments, Adam has been a driving force in the development and implementation of an innovative STEM Coding course that features the use of Digital Technologies to transform teaching and learning. Besides his full-time teaching duties, Adam is also a Doctor of Education student at the Queensland University of Technology, conducting research on using computational modelling for STEM integration to support in-depth disciplinary knowledge construction.

### **STEM Coding**

Developed for STEM integration in alignment with the Australian Curriculum, STEM Coding has been implemented in junior secondary school settings. The STEM Coding course aims to integrate Digital Technologies with Mathematics and Science through a series of software-design projects in which students express their creativity in making interactive digital art, animations and/or games. In particular, students utilise and apply computational thinking and text-based programming as well as mathematical and scientific knowledge.

## **A/Prof. Karsten Schulz** **Digital Technologies Institute**

A/Prof. Karsten Schulz (PhD) embodies STEM as an engineer, scientist, and educator. Karsten holds a PhD in Computer Science and a Bachelor in Electrical Engineering with a focus on Software Engineering. In 2010, Karsten created the Young ICT Explorers Competition and, in 2014, whilst working for NICTA, he founded the Bebras Australia Computational Thinking Challenge, which is part of the International Bebras Challenge. Karsten has been working in the Australian ICT and Digital Technologies space since 1999 in an international R&D leadership position. He has designed a computer processor, builds artificial neural networks, has 18 patents in his name and has a passion for making the invisible visible.



### **Artificial Intelligence in the classroom**

Machine learning is a hot topic. It is a subset of artificial intelligence and is about teaching a computer, rather than programming it. One of the approaches in machine learning are artificial neural networks (ANNs) that mimic the function of our brains. Though much simpler than their biological counterparts, they are impressive in what they can do, especially when it comes to image processing. In this session, we look into an actual ANN made specifically for students and teachers and observe how it learns and thinks. We then explore its capabilities in recognising letters, numbers and symbols. But could it also, let's say, convert decimal numbers into binary? Once we understand an ANN we can reflect back on our own biological learning. We explore what it means to forget something and why revision is important when learning.

## **Linda Clarke** **Mount Alvernia College**

Linda Clark has 25 years teaching experience. Linda is passionate about computing and getting girls interested in technology careers. She is acknowledged as a teacher of excellence by the Queensland College of Teachers. Her personal philosophy is; that learning is best achieved when students are actively involved in the process and that learning to solve a problem is a process, not a product.



### **Scratch 3.0 and the micro:bit**

WASD no longer required. Find out how to interact with Scratch 3.0 using a microcontroller. Learn to code in the new version of Scratch (launched 2nd January 2019), how to connect your micro:bit using blue tooth and how to use the accelerometer and buttons to interact with Scratch. Devices for this session will be provided.

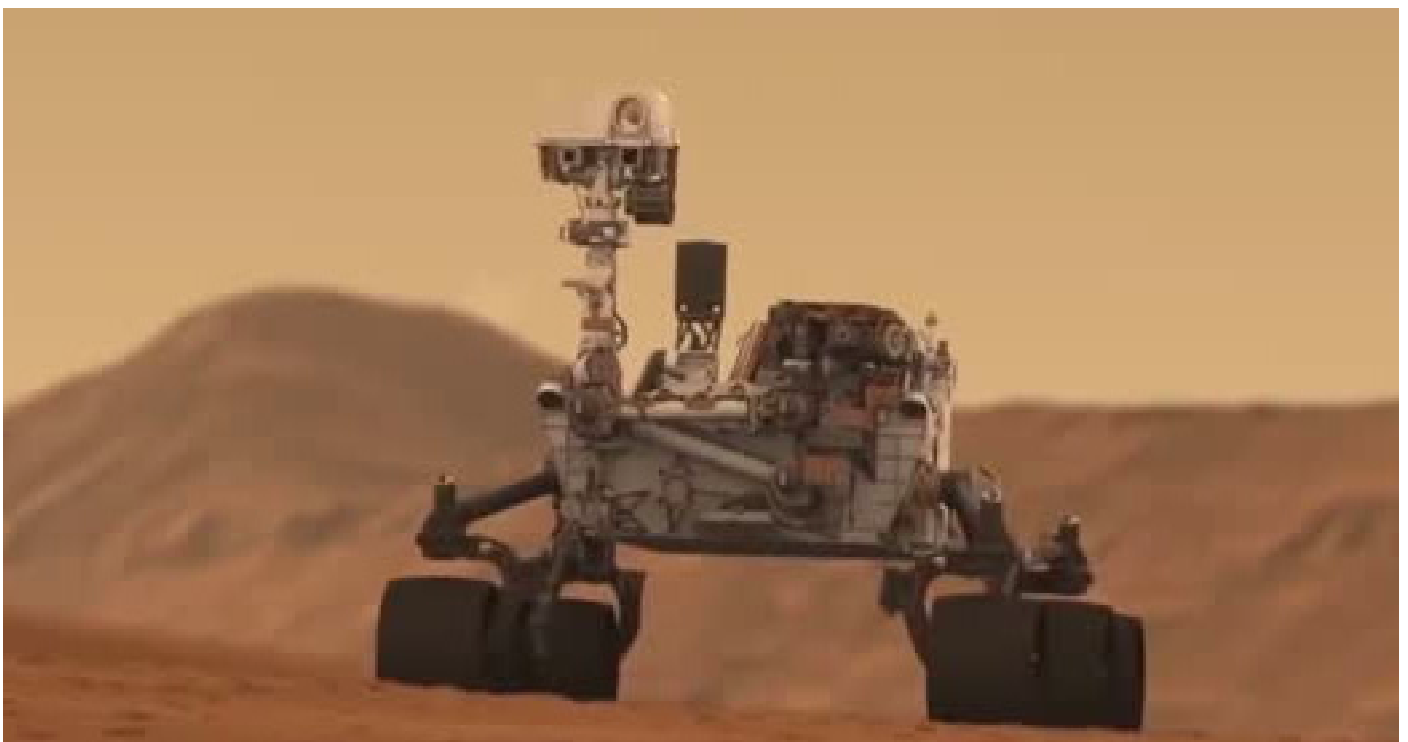
# Robotics Theme

Day 1 Saturday 29 June 2019



|               |   |
|---------------|---|
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| 08:30 - 09:15 | Conference Opening  |
| 09:15 - 10:00 | James Gilmore (Gilmour Space Technologies) - To the Stars |
| 10:00 - 10:20 | Tools not Toys - Damien Kee                               |
| 10:20 - 11:00 | Transformers: Rise of the VEXBots - Roland Gesthuizen     |
| 11:00 - 11:20 | First Lunch   |
| 11:20 - 2:40  | Excursion to Gilmour Space Centre                         |
| 2:40 - 3:30   | Second Lunch  |
| 3:30 - 4:00   | BBC Micro:Bit workshop                                    |
| 4:00 - 4:30   | BBC Micro:Bit hackathon                                   |
| 4:30 - 5:00   | Bruce Dell (CTO) (Euclidean) - Queensland Gaming Industry |
| 5:00 - 5:50   | Celebration of Day 1                                      |
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| 7:00 - 9:30   | Galaxy Seafood and Mediterranean Restaurant               |
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| G30 Level 1      |
| G42 2.17 Theatre |
| G42 2.17 Theatre |
| G30 1.15 Theatre |
| G30 1.15 Theatre |
| Undercroft       |
| Off Campus       |
| Undercroft       |
| G30 Level 2 Lab  |
| G30 Level 2 Lab  |
| G42 2.17 Theatre |
| G42 2.17 Theatre |
| Tram Stop        |
| Holoverse        |
| Restaurant       |
| Tram Stop        |





# Presenters

## Damien Kee Domabotics

Dr Damien Kee is a passionate Educational Technologies advocate, who specialises in bringing technology concepts to teachers and educators around the world. With a focus in Robotics, Programming and Electronics, he works to educate teachers on the benefits and relative ease with which technology can be embedded into their daily classroom activities.



### **'Tools, not Toys'**

Robots are fun, robots are engaging, robots look amazing. However..... while there is a significant push to incorporate robotics into our educational environment, it is important highlight that robots should be considered first and foremost as tools for teaching curriculum, not as content in their own right. 'Tools, not toys' is a concept that seeks to ensure educators are using Technology in educationally relevant ways, not just to follow the latest fad of the time. This talk will touch on how this can be achieved, as well as providing suggestions on how to choose an appropriate Educational Robotics platform to suit curriculum requirements.

## Roland Gesthuizen Monash University

Roland Gesthuizen is a STEM Method Lecturer at Monash University, and DLTV Journal editor. His teaching interests span Science, Digitech and STEM Education. Roland has grounded his teaching practice in his professional experience as a research scientist with ICI Australia (Orica). As an Internet pioneer, he was the first to help design and build an Australian public utility website and EarthDial used with the NASA Mars Rovers for the Planetary Society. Roland's work has been recognised with an ACCE Educator of the Year Award and ISTE Making IT happen award. As a PhD candidate, his current research is exploring inspiration and the conative domain within STEM Education.



This session will explore the challenge faced at the AJ2019 Scout jamboree, to develop an engaging robotics activity for 8000 youth in the South Australian Desert. We will have some hands-on experience to reproduce and mirror the final solution developed by the the youth leaders and preservice teachers who started with little background experience using Robots. Along the way, we will explore how they solved this problem by rebuilding the robots to spontaneously create an engineering competition and with a novel gaming element.

# Digital Solutions Theme

Day 1 Saturday 29 June 2019



|               |   |                  |
|---------------|---|------------------|
| 08:00 - 08:30 | Registration  | G30 Level 1      |
| 08:30 - 09:15 | Conference Opening  | G42 2.17 Theatre |
| 09:15 - 10:00 | James Gilmore (Gilmour Space Technologies) - To the Stars                 | G42 2.17 Theatre |
| 10:00 - 10:20 | Digital Solutions (QCAA) - Kay York and Russell Sky                       | G42 2.17 Theatre |
| 10:20 - 11:00 | Option 1: Technical Proposals for UX Design Prototypes - Paul Herring     | G42 2.17 Theatre |
|               | Option 2: Uni programming and databases vs year 12 - Morwenna Fisher      | G42 2.11 Seminar |
|               | Option 3: Teaching App Development with Swift - Linda Pitt                | G42 2.15 Seminar |
| 11:00 - 11:20 | First Lunch   | Undercroft       |
| 11:20 - 2:40  | Excursion to Gilmour Space Centre   | Off Campus       |
| 2:40 - 3:30   | Second Lunch  | Undercroft       |
| 3:30 - 4:30   | Option 1: Web development using JavaScript, PHP and MySQL - Richard Kelly | G23 Computer Lab |
|               | Option 2: Python, GUIs and SQLite - Bryson Stansfield                     | G23 Computer Lab |
| 4:30 - 5:00   | Bruce Dell (CTO) (Euclidean) - Holograms in education                     | G42 2.17 Theatre |
| 5:00 - 5:50   | Celebration of Day 1  | G42 2.17 Theatre |
| 5:50 - 6:00   | Tram to Holoverse   | Tram Stop        |
| 6:00 - 7:00   | Holoverse   | Holoverse        |
| 7:00 - 9:30   | Galaxy Seafood and Mediterranean Restaurant                               | Restaurant       |
| 9:30 - 9:40   | Tram to university  | Tram Stop        |



# Presenters

## Kay York and Russell Sky

### QCAA

Kay York is the Learning Area Manager for the HPE and Technologies learning area unit. She has worked with the QCAA for 18 months. Kay was the Head of Department Home Economics and Business at Park Ridge SHS prior to working at the QCAA. Kay will be hosting HOD forums across the state during July and August to facilitate information about the implementation of the HPE and Technologies syllabuses. Russell Sky is Principal Education Officer for Digital Solutions at the QCAA. He has worked in the HPE and Technologies unit since its inception. Prior to this he was Senior Education Officer for IPT, ITS, ICT, Graphics and Aerospace in the QCAA quality assurance unit. He was a teacher of IT and Biology for 15 years. Having worked in research at UQ and in pathology he has a long history in the science and technology area.

### Quality assuring internal assessment and QCAA update

Hints and tips on how to construct Digital Solutions assessment and applying the quality assurance tool for internal assessment to ensure your tasks will be able to be endorsed. The session will focus on IA2, but the information is applicable to all IAs. Mock external assessments release and information will also be provided.



## Paul Herring

### Somerville House

Paul has always had a passion for innovation and strategic development in education, and in particular innovation that utilizes the strengths of IT. This has included work in implementing team teaching; introducing new subjects into the curriculum; introducing new technologies and new approaches to their use; and he is currently involved in State level advocacy for a new approach to Senior Schooling.



### Technical Proposals for UX Design Prototypes

Demonstration of technical proposal tasks, student responses, and a discussion of both.

## Morwenna Fisher

### University of Queensland

Morwenna is currently a first year student in IT at UQ, and in high school she studied Japanese, IPT, ITS, English, Maths B and Health. She achieved highly in all of her technology subjects which fuelled her desire to study technology at University. At the end of last year Morwenna accepted an early round offer to study a Bachelor of Computer Science at the University of Queensland. 2017 was the first year that this degree was offered by the university. The bachelor of computer science appealed to Morwenna as she wanted to further her skills in programming to work in the field of cyber security which is the major she will be starting in the second semester of this year.



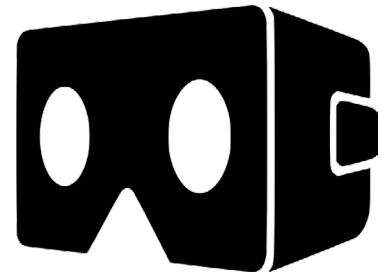
### Uni programming and databases vs year 12

Progressing from high school to university can be a difficult process for students who weren't taught relevant topics at school. This presentation will cover what needs to be changed in the high school syllabus to better prepare those students seeking a career in technology.



# Virtual Reality Theme

Day 2 Sunday 30 June 2019



|               |   |
|---------------|---|
| 09:00 - 09:15 | Day 2 Welcome   |
| 09:15 - 10:00 | Tim Kitchen (Adobe) - Creativity is not an option, it's a necessity         |
| 10:00 - 10:20 | Songlines Indigenous VR - Brett Leavy                                       |
| 10:20 - 11:00 | CoSpaces VR with Blockly code - Hadleigh Benson                             |
| 11:00 - 11:20 | First Lunch   |
| 11:20 - 2:40  | CoSpaces VR Workshop  |
| 2:40 - 3:30   | Second Lunch  |
| 3:30 - 4:00   | Google Expeditions Workshop   |
| 4:00 - 4:30   | CoSpaces VR Hackathon   |
| 4:30 - 5:00   | Nao (Griffith Uni) - Australian Educational Technologies Trends 2019 Report |
| 5:00 - 5:30   | Celebration of Day 2, giveaways and conference close                        |

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| G42 2.17 Theatre |
| G42 2.17 Theatre |
| G30 1.09 Theatre |
| G30 1.09 Theatre |
| Undercroft       |
| G30 2.14 Lab     |
| Undercroft       |
| G30 2.14 Lab     |
| G30 2.14 Lab     |
| G42 2.17 Theatre |
| G42 2.17 Theatre |



# Presenters

## Brett Leavy

### Bilbie Virtual Labs

Brett Leavy is a First Nations, Digital Aboriginal and descends from the Kooma people whose traditional country is bordered by St George in the east, Cunnamulla in the west, north by the town of Mitchell and south to the QLD/NSW border. Brett's dedicated his working life to cultural knowledge recording and the industry of communications. His digital work seeks to represent the arts, cultural stories, heritage, traditional knowledge and histories of First Nation people using new, immersive and interactive technologies.

#### **Virtual Songlines**

Immersive virtual environments as unique experiences for Australia's capital cities, and regional towns, and Cultural Survival Games for multiple platforms. Each serious game immerses the user in the local heritage of First Nations and they must learn to survive by learning cultural practices.



## Hadleigh Benson

### Park Ridge State High School

Hadleigh has over 15 years hands-on experience in teaching students from Year 4 through to Year 12 within Australia and New Zealand. He has been a deputy principal, team leader, classroom teacher, digital technology specialist teacher, STEM teacher and Robotics specialist. His passion is for 21st Century learning, one that engages and motivates students to achieve and prepare for the future workplace. His focus is now how ACARA can be implemented successfully in the classroom for all year groups. He has presented internationally at various conferences such as Learning@School, ULearn, TUANZ and Professional Development workshops across schools. With computational thinking at the foreground he believes in creating lifelong learners for students and teachers by providing professional learning development and support for emerging trends in education. He also meshes current teaching pedagogy such as AfoL into modern learning lessons.



#### **CoSpaces – Using code to create your own Virtual Reality World**

Tired of the same student projects? Using Virtual Reality in the classroom is the outcome, but what about the process? Let's demystify the process of using VR in your classroom. Learn the basics of Blockly coding and understand how to successfully navigate the cospaces web application. See some tips and tricks that will enable you to get started in the classroom and prepare to engage and emerge your students in the digital world.

#### **Google Expeditions – Virtual field trips without permission slips or flight tickets**

If you were able to take your students anywhere on the planet—where would you take them? From Mount Everest to the artworks of La Louvre, there are over 900 VR Expeditions available for you and your class to explore. Google Expeditions is an immersive education app that allows teachers and students to explore the world. You can visit outer space without leaving the classroom. Expeditions explore history, science, the arts, and the natural world. There's something amazing to explore for every subject. By helping your students visualise information in a new way, you can positively impact their ability to retain information. This workshop will demonstrate how you can get started.

# Robotics Theme

Day 2 Sunday 30 June 2019



|               |   |                  |
|---------------|---|------------------|
| 09:00 - 09:15 | Day 2 Welcome   | G42 2.17 Theatre |
| 09:15 - 10:00 | Tim Kitchen (Adobe) - Creativity is not an option, it's a necessity         | G42 2.17 Theatre |
| 10:00 - 10:20 | Scout STEM Robotics - Roland Gesthuizen                                     | G30 1.15 Theatre |
| 10:20 - 11:00 | Option 1: Prep-Year 2 Robotics and Coding - Nikki Muller                    | G30 1.13 Room    |
|               | Option 2: Airblock programmable drones - Jay Burmeister                     | G30 1.14 Room    |
| 11:00 - 11:20 | First Lunch   | Undercroft       |
| 11:20 - 12:20 | Build Code Learn with WeDo 2.0  | G30 Computer Lab |
| 12:20 - 12:40 | Lego Education SPIKE Prime  | G30 Computer Lab |
| 12:40 - 2:40  | Get your Crew Ready with EV3 Robotics                                       | G30 Computer Lab |
| 2:40 - 3:30   | Second Lunch  | Undercroft       |
| 3:30 - 4:00   | Classroom Robotics panel  | G30 Computer Lab |
| 4:00 - 4:30   | Classroom Robotics hands-on   | G30 Computer Lab |
| 4:30 - 5:00   | Nao (Griffith Uni) - Australian Educational Technologies Trends 2019 Report | G42 2.17 Theatre |
| 5:00 - 5:30   | Celebration of Day 2, giveaways and conference close                        | G42 2.17 Theatre |





# Presenters

**Roland Gesthuizen**

**Monash University**

Roland Gesthuizen is a STEM Method Lecturer at Monash University, and DLTV Journal editor. His teaching interests span Science, Digitech and STEM Education. Roland has grounded his teaching practice in his professional experience as a research scientist with ICI Australia (Orica). As an Internet pioneer, he was the first to help design and build an Australian public utility website and EarthDial used with the NASA Mars Rovers for the Planetary Society. Roland's work has been recognised with an ACCE Educator of the Year Award and ISTE Making IT happen award. As a PhD candidate, his current research is exploring inspiration and the conative domain within STEM Education.



**Dr Jay Burmeister**

**St Patrick's College, Townsville**

Before becoming a high school teacher 13 years ago, Dr Jay Burmeister lectured IT at the University of Queensland and at Griffith University. His teaching and research interests included Human Computer Interaction. At his current school, Jay is Head of Department – Digital Literacy, and teaches junior technology subjects and also runs an extra-curricular Coding Club. Jay is currently the Vice-Chair of the Townsville QSITE chapter and delivers professional development to local teachers.

## **Airblock programmable drones**

Makeblock have produced the Airblock, a programmable drone that can operate as a standard drone or a hovercraft. The physical structure of the drone is modular and can be configured by students which enables students to engage in both programming and designing. Programming is via a visual blocks-based programming app available for iOS and Android devices. This presentation will demonstrate how the Airblock can be easily programmed as a standard drone and then reconfigured and programmed as a hovercraft.



**Nikki Muller**

**Coomera Rivers State School**

Nikki has worked for Education Queensland for 8 years, the last three as a Technologies Specialist Teacher. She is passionate about developing STEM skills in both adults and students (in particular our youngest learners) and continues to source opportunities for collaboration with like-minded people, sharing her experiences and knowledge around implementation of these skills in the classroom. As the team leader of a successful Technologies program at Coomera Rivers State School, she has led the development and implementation of materials and resources, specific to the program, to improve student outcomes and student interest in the subject areas of Digital Technologies and Design & Technologies. Coding and robotics have been at the forefront of this program.



## **Prep-Year 2 Robotics and Coding**

In this session, Nikki will share unit and lesson ideas incorporating Bee-Bots, Blue-Bots, Dash and Sphero robots and ScratchJr to cover content descriptors within the Digital Technologies and Design & Technologies curriculum. This hands on workshop will provide practical ideas that can be taken back and used in the classroom with very little prep time.

# Digital Solutions Theme

Day 2 Sunday 30 June 2019



|               |   |
|---------------|---|
| 09:00 - 09:15 | Day 2 Welcome   |
| 09:15 - 10:00 | Tim Kitchen (Adobe) - Creativity is not an option, it's a necessity   |
| 10:00 - 10:20 | The Journey to Digital Solutions, or There and Back Again - Richard Kelly   |
| 10:20 - 11:00 | Option 1: Using VEX EDR V5 for IA3 - Dianne Tahuaroa-Watson<br>Option 2: Restoring the Gender Balance in AI - Karolyn Gainfort<br>Option 3: Mobile Applications (Swift) - Oliver Baumeister |
| 11:00 - 11:20 | First Lunch   |
| 11:20 - 2:40  | Extended Workshop - Developing assessment for Unit 3 and 4  |
| 2:40 - 3:30   | Second Lunch  |
| 3:30 - 4:30   | Confirmation workshop: I'll Show You Mine if You Show me Yours  |
| 4:30 - 5:00   | Nao (Griffith Uni) - Australian Educational Technologies Trends 2019 Report   |
| 5:00 - 5:30   | Celebration of Day 2, giveaways and conference close  |

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| Undercroft       |
| G23 1.14 Seminar |
| Undercroft       |
| G23 Computer Lab |
| G42 2.17 Theatre |
| G42 2.17 Theatre |



# Presenters

## Dianne Tahuaroa-Watson

### Peace Lutheran College, Cairns

Dianne Tahuaroa-Watson has been a teacher in High Schools for nearly 20 years, in that time developing a love of all things digital. Dianne's inquisitive nature and drive has seen her develop skills either by qualification or self-taught, which of course is the nature of this subject. During her teaching career she has had a variety of roles and enjoys levels of responsibility as they allow the freedom to make decisions and adopt new ways of doing and thinking. Dianne is a tinkerer, a programmer, a hacker and an innovator who is a passionate early adopter. First or foremost she will say "I am a teacher by trade."

#### Using VEX EDR V5 for IA3

This presentation on the VEX EDR V5 is about exploring building and coding Robots to investigate coding examples. It looks at IA3 data and how that could be interpreted as a leading-edge innovative task in Digital Solutions using an API.



## Karolyn Gainfort

### Principal Consultant, KJR

Karolyn is a "Tech Veteran" who works as a consultant for a software quality assurance and digital advisory strategy company (owned by Kelvin Ross - KJR) in Brisbane. Her technology career started 25++ years ago - "my mother wanted me to be a ballet dancer" and she had no other vocation skills outside of that, so when Karolyn found herself in London, with a strong curiosity and desire to try anything, she was able to merge her performing arts training and her interest in technology and business, she took a role at a film producing company and the rest, they say, is history. Karolyn's role ranges from embedding quality in social impact startups to enterprise applications and building frameworks for AI assurance. Her passion is to mentor young women as part of the Young Women Leaders in AI program.

#### Restoring the Gender Balance in AI

The dangers of bias in AI, and how to restore the gender balance. Artificial intelligence (AI) is a technology that is pervading everyday lives and conversations. It's a technology that's earmarked to change the future of work, how data is interpreted and understood, and even how people interact with day to day objects (such as fridges and speakers). But many are concerned about the impact it will have on jobs, the ethics behind the technology and the biases it can learn.



## Oliver Baumeister

### St Augustine's College

Oliver Baumeister is a Digital Solutions, ICT, IPT and ITS teacher in south east Queensland who is excited about new technology options the QCAA Digital Solutions syllabus puts on offer. His background in technology and industry experience supports his motivation and enthusiasm as curriculum assets and programs are developed. Oliver is one of three expert teacher group leaders for Digital Solutions within BCE's support of new curriculum, however also offers support of teaching and learning from 9 - 12 digital technology.

#### Mobile Applications (Swift)

Considering creating mobile applications within the new Digital Solutions syllabus? No idea where to get started? This presentation will include what a mobile application looks like, how simple they are to create, what assessment tasks look like, how these tasks link to the QCAA Digital Solutions curriculum, and what lesson plans might look like.





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