

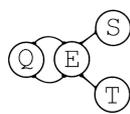


CONNECTED TO  
**SCIENCE**

**CON  
QUEST**

**23**

**JUNE 26 + JUNE 27**



QUEENSLAND EDUCATION  
**SCIENCE TECHNICIANS**

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## ABOUT QEST

QEST is the professional association of Queensland Education Science Technicians. The association has membership across the state in both metropolitan and rural areas, with diverse experience and needs. With few laboratory support staff in each school, staff filling these roles often feel isolated and challenged. QEST aims to connect laboratory staff through encouraging regional and state networks to share ideas, information and experiences.

QEST produces a quarterly newsletter, maintains a website with relevant links and downloadable resources, facilitates training through other organisations and organises an annual conference focused on professional development, specific to members' roles in schools.

Become a member of QEST today by visiting our website <https://qest.org.au/join-qest/>. Any new membership applications received from 1 February have automatic renewal into the following financial year May-April, giving new members up to three months membership FREE! Current Fees:

- Individual membership: \$40
- Corporate membership (up to 4 members): \$80

Find QEST at our website, on YouTube, on Instagram and on Facebook to join the conversation with colleagues across the state. Volunteers for QEST are always welcome, email [qest@qest.org.au](mailto:qest@qest.org.au) to find out more.

## ABOUT CONQUEST

As an Australian not for profit professional organisation, QEST aims to support science laboratory staff in Queensland schools, through the facilitation of networking and provision of job specific professional development.

The ConQEST 2023 theme, "Connected to Science" encourages participants to explore the unique and dynamic interconnectivity that inextricable links science, education and the community.

The conference provides invaluable opportunities for Science Technicians to participate in practical workshops, presentations and discussions, with a focus on:

- Preparation for V9 of the Australian Curriculum;
- Exploring student investigation options in the Australian senior science curriculum;
- Inclusion of Aboriginal and Torres Strait Islander science elaborations, and sustainable practices across the science curriculum;
- Exposure to latest laboratory management practices, science curriculum inclusions and current technologies;
- Building relationships with industry professionals, to maximise resource efficiency and improve equipment expertise.

## ABOUT THE VENUE

Located in the heart of the Brisbane Valley at 585 Saint Pauls Terrace, Fortitude Valley State Secondary College is a relatively new multilevel school. Be prepared to get your steps up as we move from the Junior building's Auditorium to the Senior Science facilities. Lifts are available for those with mobility impediments. In the sound proofed climate controlled rooms with a view of the oval, you may soon forget that you are in the city. Priding themselves on wellness and sustainability, there are breakaway hubs attached to each room and drinking water stations throughout the school. Bring your refillable drink bottle and add to the school's count of single use plastic bottles reduced!

## GETTING THERE - PUBLIC TRANSPORT & PARKING

Information about getting to Fortitude Valley State Secondary College can be found at <https://fortitudevalleyssc.eq.edu.au/our-school/maps-and-transport>

As there is no parking on the conference site, we recommend delegates use public transport where possible. The Fortitude Valley train station is a mere 10 minute walk from the venue.

The RNA Brisbane Show Grounds are extending the Fortitude Valley Secondary College staff discount parking rates of \$13 for the day to delegates and presenters. Participants wishing to take up this discount offer must park in the open air carpark where the attendant is present and show their ConQUEST23 ticket. <https://www.brisbaneshowgrounds.com.au/home/visit/parking/>

## ACCOMMODATION

The following discounted accommodation has been organised by ConQUEST23 for delegate convenience.

- Rydges Fortitude Valley - use link <https://www.rydges.com/private-page/royal-icc-event-partnership-rates/> (10%)
- Alex Perry Hotel and Apartments - use code "WORK" on website or over phone <https://alexperryhotelandapartments.com.au/>
- The Constance - use link <https://www.theconstancehotelfortitudevalley.com.au/> and code "LOYAL" (10% discount, snackpack, late checkout)
- Ovolo the Valley - use link <https://ovolohotels.com/ovolo/thevalley/> and Code "QEST"
- Fortitude Valley Apartments - use link <https://www.clix.com/> and code "QEST" (12% discount)
- FV Brisbane by Peppers - use link <http://www.mghotels.com.au/> And follow the below steps:
  1. Select the Region and Property, your Travel Dates and the Number of People travelling – hit SEARCH
  2. Select Change Search – at the top of the page
  3. Input Promo Code QEST2023 (case sensitive) in the Promo Box – hit SEARCH again. You will see discount applied to the BAR Rate.
  4. Select the room type you wish to book and hit BOOK NOW to proceed to payment screen
  5. Fill in all required details to confirm your booking and hit COMPLETE BOOKING
  6. You will receive an email confirmation once all details have been processed.

## CONFERENCE GALA DINNER

Monday night's conference Gala dinner, with special guest speaker, is being held at the beautiful Cloudland's Rose Room - 641 Ann Street, Fortitude Valley. The cost of dinner is included in your conference ticket. Please indicate your intention to attend and any personal dietary requirements when you register for conference via Eventbrite. Cash bar available.

DAY 1	MONDAY 26TH JUNE	LOCATION
7:45 - 8:20 AM	Registration	The Hub - side entry off St Paul's Terrace
8:30 - 9:00 AM	Conference Open	Auditorium
9:00 - 10:30 AM	Keynote Address <b>Science Curriculum V9:</b> Cath Menzler, QCAA	Auditorium
10:30 - 11:00 AM	MORNING TEA	Senior Building
11:00 AM - 12N	<b>Workshop Electives - Session A</b>	Senior Building
12N - 1:00 PM	LUNCH	Senior Building
1:00 - 3:00 PM	Science Technician Forum: <b>Embedding Inclusion &amp; Diversity into Contemporary Science Education</b> GUEST PANELISTS followed by QEST Workshop	Auditorium
3:00 - 3:15 PM	Brain Break	Auditorium
3:15 - 4:00 PM	QEST Annual General Meeting	Auditorium
6:00 - 10:00PM	Conference Dinner <b>Guest speaker: Professor James Hudson,</b> QIMR Berghofer	Rose Room Cloudland 641 Ann St, Fortitude Valley



DAY 2	TUESDAY 27TH JUNE	LOCATION
8:15 AM	Registration	The Hub - side entry off St Paul's Terrace
8:45 - 9:00 AM	Day 2 Welcome & Housekeeping	Auditorium
9:00 - 10:00 AM	Keynote Address <b>Science Technician Wellbeing:</b> Sara Ellis, Education Queensland	Auditorium
10:00 - 10:30 AM	MORNING TEA	Senior Building
10:30 AM - 12N	<b>Workshop Electives - Session B</b>	Senior Building
12N - 1:00 PM	LUNCH	Senior Building
1:00 - 2:30 PM	Keynote Address <b>Imposter Syndrome:</b> Hugh Kearns, Flinders University, Adelaide	Auditorium
3:00 - 4:00 PM	Conference Close	Auditorium



**WORKSHOP ELECTIVES - SESSION A MONDAY:**

Delegates will choose one elective from the following workshops - continued over page

**A1****Inventory Management with Quartzzy  
Dana Hallett, Laidley SHS**

Dana has worked across an number of industries and contract positions across QLD science departments taking with her lessons from each preparatory space to develop systems for successful inventory management.

This workshop explores inventory management using Quartzzy. From managing purchases, storage locations, printable barcodes, stocktake and disposal, explore the various functions and benefits of this online system to help keep track of your Science Department's extensive items.

**Delegates - BYO Device**

**A2****Round we go!  
Ways to measure Centripetal forces  
Hilary Maloney, Proserpine SHS**

Hilary works as a Science Technician at Proserpine State High School, specialising in supporting senior science subjects for yrs 10 -12. In addition to 10 years work experience, Hilary holds a Diploma in Applied Science Chemistry.

Looking at Unit 3 Physics, QCAA suggested practical "Conduct an experiment to investigate the net forces acting on an object undergoing horizontal circular motion on a string." A series of experiments to measure the forces involved in the circular motion of an object. From basic equipment set ups to using sensors and datalogging programs.

**Delegates - BYO Safety Glasses**

**A3****Understanding & Troubleshooting pH sensors  
Ben McColl, TPS Precision Measurement**

Ben McColl provides support and service to technicians around the country in relation to lab and field water quality equipment. He works to break down confusion around types of sensors and options for equipment.

This workshop will address the following

- The basic science of measuring pH in liquids
- Tips for troubleshooting a faulty pH sensor
- The advantages of Intermediate Junction sensors for difficult samples

**Delegates - nil requirements**

**A4****STEM Approaches using Dataloggers  
Stuart Lewis, Scientrific**

Stuart is a Science Communicator for Scientrific. He presents content that focus on Science literacy outcomes through innovative and engaging activities that involve the integration of new technologies. He has also developed and conducted outreach programs for QUESTACON, NRMA and the Australian Trucking Association.

"STEM is science where you think with your hands" Are you looking for ways of imbedding STEM activities into the Australian Curriculum? Are you looking for a way to revive and extend your existing science equipment. This workshop will use Vernier dataloggers to explore different STEM experiments. Topics will include:

- A reimagining of the classic Egg Drop experiment to include data and tie it to the Curriculum;
- Using Vernier probes with Arduino and Scratch;
- A look at how to build the Microsoft robotic hand challenge.

**Delegates - BYO Safety Glasses**

**WORKSHOP ELECTIVES - SESSION A MONDAY continued:****A5****Hands on Investigation of Energy Transfers  
Doug Bail & Megan Simkin, CiderhouseTech**

Both Megan and Doug have extensive real world experience of classrooms and science departments, Megan as a lab technician for more than 15 years and Doug as a teacher, Head of Science and curriculum co-ordinator. They bring ideas and expertise from not only their own experiences but also from visiting schools and Universities In Queensland, around Australia and overseas.

With a focus on the outcomes of the new V9 Junior curriculum, this session will explore ways of measuring energy transfers through heat, electricity and light. The workshop will utilise dataloggers as a means of electronic measure, to provide data rich, engaging outcomes for students. Delegates will be presented with examples of implementing investigations for a hands-on, investigative approach.

**Delegates - BYO Labcoat & Safety Glasses****A6****Introduction to RiskAssess  
James Crisp, Ecosolve Australia**

James co-founded RiskAssess 15 years ago and looks after the technical side of things. He designs and writes all the software and servers that make up RiskAssess, and works out new features to build based on suggestions and feedback from lab techs and teachers. He can answer any questions you may have about the software.

See how easy it is to carry out mandatory risk assessments of science experiments using RiskAssess!

RiskAssess leads you through the identification, assessment and control of risks, documenting the process, and providing safety information on chemicals, equipment and biologicals to help you understand risks and thereby reduce the chance of injury. A prac ordering and scheduling system is included in RiskAssess to save you time. You can also create GHS labels in seconds. RiskAssess is used by over 80% of schools in Queensland, and over 2,000 schools in Australia.

**A7****Engaging Science with Origami Models - Fracking  
Daniella Migliorati, Science Supply Australia**

Daniella has more than 18 years experience in the Education and Industrial sector, in particular offering teaching solutions to secondary, primary and early learning teachers. Daniela works at Science Supply Australia, an Australian owned and managed family business which has been operating for over 37 years! Daniella in STEAM integration in the classroom and product development workshops. She is passionate about learning through fun and offering innovative and diverse products to assist with 21st century learning.

In this hands-on workshop we will explore how the mining of ores and minerals impacts on local environments (V9 Year 8 Earth Science). Fracking (hydraulic fracturing) has vastly increased the availability of natural gas all over the world. However, this has come at an environmental cost. We will show how fracking is carried out with our hands on paper origami models. Learning through fun will teach students in a simple way to ensure students retain information and understand this complex topic. All material will be provided in the session.

**WORKSHOP ELECTIVES - SESSION B TUESDAY:**

Delegates will choose one elective from the following workshops - continued over page

**B1****Using Enzymes in the Senior Biology Curriculum  
Natalii Paczkowski, Assumption College**

Natalii has been working as a solo school lab technician for 7 years. It's important to her that practical activities give reliable results for students, and that pracs are easy to prepare and run. Natalii holds a science degree (BSc Hons with majors in pharmacology and physiology) and worked in drug discovery research and educating General Practitioners about Quality Use of Medicines. Natalii believes hands-on activities with meaningful data analysis is essential in science education.

Participants will conduct an enzyme activity investigation using catalase from different sources with simple and routine laboratory equipment. We will discuss how these initial experiments can be modified by students and consider tips and tricks to increase the likelihood of success. A demonstration of the Vernier Gas Pressure Sensor for this experiment will be conducted. There are many different enzymes that can be used to investigate enzyme activity within senior biology and we will discuss some of these.

**Delegates - BYO Labcoat & Safety Glasses**

**B2****Fun with Physics****Jacinta Hodnett, Redcliffe SHS**

With a background in scientific research and education Jacinta joined the Department of Education in 2015. When looking at professional development Jacinta realized that there was a shortage on workshops that engage and inspire interest in physics. This is the workshop that addresses that shortage.

A fast-paced look at some fun physics for the curriculum and open day activities. Demonstrations in

- Electromagnetism – plasma ball demonstration
- Electrostatic repulsion- fun fly stick
- Electricity and circuits – brainbox Conservation of energy – potential and kinetic energy simplified using a ruler and marble
- Laser lights with prisms and mirrors Ripple tank - wave motion

**Delegates - BYO safety glasses**

**B3****Skills for the Queensland Titration Competition  
Elaine Bergmann, Royal Australian Chemical Institute**

Elaine is a retired Science and Chemistry teacher who has coordinated the National Titration Competition since 2013. During the last 3 years, she has initiated and managed changes to the Queensland competition that allow students from any school in the State to compete without the need to travel to a university venue. This has led to a significant increase in student participation.

Participants will be given tips to improve performance in the new analysis, including preparation of a standard solution of potassium hydrogen phthalate (KHP), and the actual titration. This analysis requires a greater level of skill than the previous one using 0.1 mol/L solutions of HCl, NaOH and acetic acid, as students must make their own 0.02 mol/L KHP solutions. Titration of these more dilute solutions is more challenging than with 0.1 mol/L. The focus will be on the finer detail needed to obtain accurate results.

**Delegates - BYO Labcoat & Safety Glasses**

**B4****Measuring the environment with Vernier dataloggers****Stuart Lewis, Scientrific**

Stuart is a Science Communicator for Scientrific. He presents content that focus on Science literacy outcomes through innovative and engaging activities that involve the integration of new technologies. He has also developed and conducted outreach programs for QUESTACON, NRMA and the Australian Trucking Association.

The natural world is made-up of many complex systems that connect together.

This workshop will look at using datalogging to measure various environmental conditions in plants, the soil and water.

- Looking at chlorophyll in plants
- Investigating plant photosynthesis
- Investigating respiration
- Abiotic conditions
- Water & Soil analysis

**Delegates - BYO Labcoat & Safety Glasses**

**WORKSHOP ELECTIVES - SESSION B TUESDAY continued:****B5****Virtual & Hands-on Investigation of Body Systems  
Doug Bail & Megan Simkin, CiderhouseTech**

Both Megan and Doug have extensive real world experience of classrooms and science departments, Megan as a lab technician for more than 15 years and Doug as a teacher, Head of Science and curriculum co-ordinator. They bring ideas and expertise from not only their own experiences but also from visiting schools and Universities In Queensland, around Australia and overseas.

In this session delegates will explore a combination of real and virtual experiments that can be used to engage students and provide better, deeper understanding, real data and virtual experiences for investigating V9 Junior Curriculum biological systems. "ROQED science" virtual dissections and animations will be used to explore body systems and data collection to demonstrate how a unit can be developed, implemented and resourced.

**Delegates - BYO Labcoat & Safety Glasses****B6****RiskAssess for experienced users:  
latest features, tips, and tricks****James Crisp, Ecosolve Australia**

James co-founded RiskAssess 15 years ago and looks after the technical side of things. He designs and writes all the software and servers that make up RiskAssess, and works out new features to build based on suggestions and feedback from lab techs and teachers. He can answer any questions you may have about the software.

Get the most out of RiskAssess with the latest features, and save time with tips and tricks. We will cover the brand new booking warning system for short notice pracs, new number of groups box, disposal advice for all of the 3,000 chemicals and solutions in the database, BEST / Starred risk assessments, scheduling search and more. A multiple prac management system has also been added to Student RiskAssess to make it easier to handle large numbers of student risk assessments. And a new version for Food Tech is now available! There will be time for questions/discussion.

**B7****Microbiology basics and Bacterial Transformation,  
hands on workshop for beginners:****Marina Kezilas, Assisi Catholic College**

Marina is the Science technician at Assisi Catholic College in Upper Coomera and she also works after hours as a science tutor for high school and university students specialising in Chemistry and Biology. Marina has completed a Bachelor in Health Science (Honours) (major in Nutrition), and two graduate diplomas, one in Molecular Biology and one in Education. She has a soft spot for research (medical or laboratory) and loves helping students develop confidence in science.

Tips on how to prepare, run and clean up microbiology experiments. In this particular experiment we will investigate how to conduct a bacterial transformation. During this demonstration we will look at how to set up this experiments, but also some basic techniques and rules of microbiology, with more emphasis on how to work with low-risk microorganisms and how to create bacterial lawns, isolate bacterial cultures, biological waste management, and aseptic technique.

**Delegates - BYO Labcoat & Safety Glasses**

THANKYOU TO THE TRADEHALL PARTICIPANTS



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## THANK YOU TO THE CONQUEST23 ORGANISING COMMITTEE

**QEST President & Keynote Liaison:** Sam Godwin, Gordonvale SHS

**ConQUEST23 Interim Coordinator & Social Media:** Nikki Bradford, Pittsworth SHS

**Graphic Designer:** Christine Forrestal, Springfield Central SHS

**Corporate Workshop Liaison:** Naomi Ranke, Calamvale Community College

**Peer Workshop Liaison:** Cheryl Tsan, Redeemer Lutheran College

**Tradehall Coordinator:** Margot Lloyd, St Teresa's Catholic College

**Venue & Catering Liaison:** Sharon O'Keeffe, Lockyer District SHS

**Welcome Desk Leader:** Paul Evan, Kawana SHS

**FVSSC Science Technician:** Gulumser Mutluoglu, Fortitude Valley SSC

**Merchandise and Electronic aids:** Dana Hallett, Laidley SHS

**Committee Volunteers:** Kym Hunt & Olivia Frost, Caloundra SHS; Sandra Lewis, Bell Park SSC; Megan Seymour, Bremer SHS; Jacqui Burton, Cavendish SHS.