

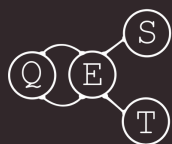
CONQUEST24

JUNE 24 - JUNE 26



Conference Booklet

BRISBANE SOUTH
STATE SECONDARY COLLEGE



QUEENSLAND EDUCATION
SCIENCE TECHNICIANS

PLATINUM SPONSORED BY



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CONQUEST24



QUEENSLAND EDUCATION
SCIENCE TECHNICIANS

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CONFERENCE AT A GLANCE

Monday, 24th June

16:00 18:30 Registration, Welcome & Trade Hall Exhibition

Tuesday, 25th June

7:45 8:20 Registration

8:30 8:50 Welcome

8:50 9:30 Opening Address

9:30 10:15 Keynote

10:15 11:00 Coffee Break

11:00 11:30 QEST Annual General Meeting

11:30 12:30 Union Breakout Session

12:30 13:30 Lunch

13:30 14:30 Workshop Electives - Session A

14:30 14:45 Brain Break

14:45 16:00 Workshop Electives - Session B

17:00 20:00 Networking Evening, The Plough Inn

Wednesday, 26th June

8:15 8:30 Registration

8:30 9:00 Welcome & Housekeeping

9:00 9:30 Keynote

9:30 10:15 Keynote

10:15 11:00 Coffee Break

11:00 12:00 Workshop Electives - Session C

12:00 13:00 Lunch

13:00 13:45 Keynote

13:45 14:00 Brain Break

14:00 15:30 Keynote

15:30 16:00 Conference Close

WELCOME FROM CONQEST24 COORDINATOR**DR KIMBERLEY MILLERS, QEST PRESIDENT & CONQEST24 COORDINATOR**

Welcome to Brisbane South State Secondary College for ConQEST24! We are delighted to have your participation at our annual QEST conference. ConQEST has a strong tradition of bringing together Queensland's school science technicians to support and share the exciting interdisciplinary areas of science education. We are looking forward to a vibrant and engaging conference for our delegates. We welcome QEST supporters from academic, industry and government sectors to our annual conference this year.

The conference theme for ConQEST24 celebrates Local Legends. The theme is inspired by the STEM champions we find all around us. If we look around our local area, we find science education happening all around us. To those who contribute to strengthening and growing our state's science capacity – thank you! It's time to recognise and celebrate those who contribute to Queensland's great reputation as a science state.

The conference is a success because of the help of many people, and we would like to acknowledge their contributions. First, I would like to express many thanks to the ConQEST24 conference committee members for their support and efforts. A special thank you to our special guests; Hon Corrine McMillan MP, Assistant Minister for Education and Professor Kerrie Wilson, Queensland Chief Scientist. Thank you to our outstanding keynotes and workshop presenters for your contribution to ConQEST24! Many thanks to our host technicians Jessica La and Alex Wheare and our host school, Brisbane South State Secondary College for their active role in conference organisation and logistical support. Finally, we are especially grateful to our sponsors and various organisations for their contribution as exhibitors and financial support. We look forward to welcoming you back to ConQEST25!



MEET OUR OPENING ADDRESS PRESENTERS - TUESDAY AM
HON CORRINE MCMILLAN MP, ASSISTANT MINISTER FOR EDUCATION

Corrine McMillan was first elected to State Parliament in 2017 as the Member for Mansfield. She was appointed as the Assistant Minister for Education and Youth Justice in December 2023. Corrine has an extensive and luminous career in educational leadership and public administration. Corrine began her career with the Department of Education, Training and Employment in 1995. Prior to being elected to Parliament, she was the Principal of Cavendish Road State High School. Corrine also performed a number of teaching and non-teaching roles in the Department of Education. With a Master of Business Administration from the University of South Australia, a Master of Educational Studies from the University of Queensland, and a Bachelor of Education from the University of Newcastle, her educational journey is impressive. Corrine, a political agitator and Australian Labor Party member since 2010, has been actively involved as a member of the Queensland Teachers' Union for 28 years. Her 2015 Churchill

Fellowship research on global education systems and educational leadership, showcased in many publications, highlights her commitment to education reform. She has an unwavering commitment to school improvement and maximising the educational outcomes of Queensland children.


PROFESSOR KERRIE WILSON, QUEENSLAND CHIEF SCIENTIST

Professor Kerrie Wilson commenced in the role of the Queensland Chief Scientist on 1 November 2023. Her distinguished career encompasses roles at QUT, including Pro Vice-Chancellor (Sustainability and Research Integrity), and her tenure as the Executive Director of the QUT Institute for Future Environments. Previous leadership roles include Director of Conservation for The Nature Conservancy Australia and is currently a natural sciences expert for the Australian Heritage Council. One of Australia's leading researchers into the science, strategy and policy of conservation, she holds a Bachelor in Environmental Science (First Class Honours) from The University of Queensland and a PhD from The University of Melbourne, undertaken in collaboration with the UN Environment Programme's World Conservation

Monitoring Centre, based in Cambridge. Kerrie is passionate about encouraging more students to consider studying and working in STEM, and outside the office she enjoys visiting Queensland national parks with her family.



MEET OUR KEYNOTE PRESENTERS - TUESDAY AM**ASSOCIATE PROFESSOR STEVEN SALISBURY, UQ DINOSAUR LAB**

Dr Steve Salisbury is an Associate Professor in the School of the Environment at The University of Queensland, where he is head of the UQ Dinosaur Lab and Chair of First Nations Engagement. He is also Research Associate at the Carnegie Museum of Natural History, Pittsburgh, Pennsylvania, USA, Associate Editor for the Journal of Vertebrate Paleontology, and a Scientific Board member of the Jurassic Foundation. Steve holds a PhD from the University of New South Wales (UNSW).

For over a decade, Steve has partnered with First Nations communities in the Saltwater Country of the West Kimberley to better understand the scientific and cultural significance of the region's natural heritage, in particular its dinosaur tracks. His work has highlighted the benefits of knowledge sharing on equal terms and how meaningful partnerships with First Nations peoples can provide exciting new avenues for research and teaching. He is now overseeing the implementation of teaching and research practices at The University of Queensland that ethically braid First Nations perspectives in research and parts of the science curriculum. His work is inspiring staff and students to explore ways to decolonise science and, in the process, create new pathways for reconciliation..



MEET OUR KEYNOTE PRESENTERS - WEDNESDAY AM**ASSOCIATE PROFESSOR RENEE DESMARCHELIER, UNIVERSITY OF SOUTHERN QUEENSLAND**

Dr Renee Desmarchelier is an Associate Professor with the University of Southern Queensland. Renee has been involved in leadership roles in learning and teaching in Higher Education at a school, faculty and university level. She has a diverse academic background that spans Humanities (sociology, Indigenous studies), Education (sociology of education, multicultural education and critical pedagogy) and Science (Horticulture). Her research interests span microcredentialing in Higher Education and the inclusion of Indigenous Knowledges in Science Education.

**PAUL CARMODY, UNIVERSITY OF SOUTHERN QUEENSLAND**

I'm First Australian through my father, our fellas via Grandma are Bunjalung-southern Gold Coast, Northern Rivers of NSW, Byron Bay, Lismore, Casino areas. Through Grandad our fellas are Lama Lama of Cape York and Mum was a Migaloo from the Toowoomba, Western Downs area. I grew up on the Condamine plains, Toowoomba and the Moonie River.

I've been a lecturer at the College for First Nations at the University of Southern Queensland since December 2022 and spent the previous 11 years in Environmental Education and 10 years before that on class in the State, Catholic and Independent education systems.



MEET OUR KEYNOTE PRESENTERS - WEDNESDAY AM**DR RICHARD WALDING, GRIFFITH UNIVERSITY**

Richard is a physics and chemistry teacher who has been teaching in public and private schools for the past 40 years, most recently at Moreton Bay College where he was HOD for 25 years. He has also taught at Villanova, Our Lady's College Annerley, Wynnum North State High and lectured in science education at Griffith. Richard is also a research fellow at Griffith University where he completed his PhD into gender differences in science problem solving. Prior to becoming a teacher, he was an industrial chemist in the stockfeed and surface coatings industry. He brings a wealth of experience in laboratory work and maintains webpages in Physics, Chemistry and Biology with practical hints in doing experiments particularly those used for assessment. Richard demonstrates these experiments at the annual teacher and science technician PD courses at UQ and Griffith University. Lastly, he is author of the award winning OUP Queensland Physics text and recipient of the Peter Doherty Award for Excellence in STEM.



MEET OUR KEYNOTE PRESENTERS - WEDNESDAY PM**MICHELLE IMHOFF, QUEENSLAND CURRICULUM AND ASSESSMENT AUTHORITY**

Michelle Imhoff has been teaching for over 25 years and, as a teacher and Head of Department understands the challenges of working in a multi-disciplinary team supporting staff and students to achieve success. She is currently working as Principal Education Officer (Science) for Biology, Marine Science and Science in Practice with the Queensland Curriculum and Assessment Authority. In this session she will discuss current curriculum changes and explore ways to adapt science practicals under a changing environment.

**STEVE FRANCIS, HAPPY SCHOOL PROGRAM**

Steve Francis works with staff in schools across Australia and New Zealand. As well as having been the Principal of a number of Queensland schools from a one-teacher school through to a large metropolitan school, he was Principal of an international school in Hong Kong. He understands the challenges and demands of working in schools. Steve completed his Masters on stress in schools. This led him to develop the Happy School program. Almost 700 schools subscribe to receive Steve's weekly articles and use them to improve staff well-being. For the past five years Steve has been recognised by Educator magazine as one of the top 50 most influential educators in Australia. Steve is passionate about keeping things simple and helping staff in schools get work – life satisfaction.



	MONDAY 24TH JUNE	LOCATION
4:00 – 6:30 PM	Welcome Reception	Learning Hub, BSSSC
DAY 1	TUESDAY 25TH JUNE	LOCATION
7:45 – 8:20 AM	Registration	Welcome Desk – Entrance via Maldon Street
8:30 – 8:50 AM	Conference Welcome Dr Kimberley Millers, ConQEST24 Chair	Auditorium
8:50 – 9:10 AM	Conference Opening Address Hon Corrine McMillan MP, Assistant Minister for Education	Auditorium
9:10 – 9:30 AM	Conference Opening Address Professor Kerrie Wilson, Queensland Chief Scientist	Auditorium
9:30 – 10:15 AM	Keynote Address Lessons from the Past Assoc. Prof. Steve Salisbury, UQ	Auditorium
10:15 – 11:00 AM	MORNING TEA	Learning Hub, BSSSC
11:00 – 11:30 AM	QEST Annual General Meeting	Auditorium

DAY 1	TUESDAY 25TH JUNE	LOCATION
11:30AM – 12:30 PM	Union Forum Breakout Sessions Groups will Forum local issues and local solutions	Auditorium
12:30 – 13:30 PM	LUNCH	Learning Hub, BSSSC
13:30 – 14:30 PM	Workshop Electives - Session A	Various
14:30 – 14:45 PM	Brain Break	Learning Hub, BSSSC
14:45 – 16:00 PM	Workshop Electives - Session B	Auditorium
17:00 – 20:00PM	Networking Evening	Plough Inn, South Brisbane

DAY 2	WEDNESDAY 26TH JUNE	LOCATION
8:15 AM	Registration	Welcome Desk - Entry via Maldon Street
8:30 - 9:00 AM	Day Two Welcome and Housekeeping Dr Kimberley Millers, ConQUEST24 Chair	Auditorium
9:00 - 9:30 AM	Keynote Address Inclusion of Indigenous Knowledge in Science Education Assoc. Prof. Renee Desmarchelier, UniSQ & Paul Carmody, UniSQ	Auditorium
9:30 - 10:15 AM	Keynote Address Physics and Chemistry in the Classroom Dr Richard Walding, Griffith University	Auditorium
10:15 - 11:00 AM	MORNING TEA	Learning Hub, BSSSC
11:00 AM - 12N	Workshop Electives - Session C	Various
12N - 13:00 PM	LUNCH	Learning Hub, BSSSC
13:00 - 13:45 PM	Keynote Address Looking at the Curriculum v9.0 Michelle Imhoff, QCAA	Auditorium
13:45PM-14:00PM	Brain Break	Learning Hub, BSSSC
14:00PM-15:30PM	Keynote Address Happy School, Happy Life Steve Francis, Happy School Program	Auditorium
15:30 - 16:00 PM	Conference Close	Auditorium

WORKSHOP SESSION A

TUESDAY 13:30 - 14:30PM

SESSION CODE	WORKSHOP TITLE	LOCATION
A1	Aquaponics and Hydroponics - Who Needs Dirt? Linda Adamson, Toowoomba Grammar School	Learning Hub, Level 5, JH513
A2	Taming the Pink Beast - Foolproof Phenolphthalein Agar Zoe Ebert and Jennie Findlay, Pine Rivers SHS	Learning Hub, Level 5, JH512
A3	Catholic School Officer Classification System Annette Gregory and Aaron Watson, Independent Education Union QLD and NT	Learning Hub, Level 4, JH407
A4	Gram Staining Bacteria Slides To Identify What Microorganism Is Present Chumno Kim, Springwood SHS	Learning Hub, Level 5, JH506
A5	The Science of Us - Measuring Humans Using Veneer Data Loggers Stuart Lewis, Scientrific	Learning Hub, Level 5, JH504
A6	The Best Tool for Measuring pH Since Litmus Paper! - Wireless pH sensor Doug Bail and Megan Simkin, Ciderhouse Tech	Learning Hub, Level 4, JH418
A7	Chemwatch for Beginners Naomi Radke, Stretton SC	Learning Hub, Level 5, JH511
A8	Maintaining Microscopes Malcolm Eames, Optical Repairs	Learning Hub, Level 4, JH406

WORKSHOP SESSION B

TUESDAY 14:45 - 16:00 PM

SESSION CODE	WORKSHOP TITLE	LOCATION
B1	Microscaled Precipitation Reactions Roselyn Steele, St Joseph's College, Gregory Terrace	Learning Hub, Level 5, JH512
B2	Interactive Activities for Primary School Engagement Liam Hegarty, Albany Creek SHS	Learning Hub, Level 5, JH506
B3	Origami Models - Engaging Hands-on Learning Done differently! Daniela Migliorati, Science Supply Australia	Learning Hub, Level 4, JH407
B4	STEM approaches using Data Loggers Stuart Lewis, Scientrific	Learning Hub, Level 5, JH504
B5	Welcome to the Australian Curriculum: Science v9 Charlotte Pezaro, Dialogic Education	Learning Hub, Level 4, JH418
B6	Maintaining Microscopes Malcolm Eames, Optical Repairs	Learning Hub, Level 4, JH406
B7	Conductivity Measurements in Liquids Benjamin Mccoll, TPS	Learning Hub, Level 5, JH511
B8	Gel Electrophoresis for Beginners Steve Garrett, Biotek	Learning Hub, Level 5, JH513

WORKSHOP SESSION C

WEDNESDAY 11:00 AM - 12:00PM

SESSION CODE	WORKSHOP TITLE	LOCATION
C1	Exploring PASCO Wireless Calourimeter and Turbidity Sensors Gulumser Mutluoglu, Fortitude Valley SSC	Learning Hub, Level 5, JH506
C2	Hands-on Active Learning in the Science Classroom Dr Steve Griffiths, Cavendish Road SHS	Learning Hub, Level 4, JH407
C3	Tips for Tips - Root Tip Mitosis Made Easy Zoe Ebert and Jennie Findlay, Pine Rivers SHS	Learning Hub, Level 5, JH513
C4	A Healthy Land - Measuring the Environment with Vernier Cataloguers Stuart Lewis, Scientrific	Learning Hub, Level 5, JH504
C5	Micro-scaled Displacement Reactions Roselyn Steele, St Joseph's College, Gregory Terrace	Learning Hub, Level 5, JH512
C6	STEM Activities for Open Days and Science Week Jacinta Hodnett, Redcliffe SHS	Learning Hub, Level 4, JH406
C7	Investigating Environmental Radiation Doug Bail and Megan Simkin, Ciderhouse Tech	Learning Hub, Level 5, JH511
C8	Key Ideas in the Australian Curriculum: Science v9 Charlotte Pezaro, Dialogic Education	Learning Hub, Level 4, JH418

WORKSHOP ELECTIVES - SESSION A TUESDAY:

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

A1: Aquaponics and Hydroponics - who needs dirt?

Linda Adamson, Toowoomba Grammar School

In this session you will see how we set up our aquaponics and hydroponics systems at Toowoomba Grammar School. You will learn how to build it yourself, learn how to avoid the mistakes we have made and get some tips and tricks to make things run smoothly. We will also discuss designs and ideas gleaned from other places.

Delegates - No PPE required

A2: Taming the Pink Beast - Foolproof

Phenolphthalein Agar

Zoe Ebert & Jennie Findlay, Pine Rivers SHS

Come along to an interactive demonstration and learn how to make our foolproof Phenolphthalein agar. We use a simple recipe and technique which works first time every time. The result is phenolphthalein agar blocks that are sturdy enough to be handled and cut by students, and that retain good colour for up to a week.

Delegates - Bring Lab coat and goggles

A3: Catholic School Officer Classification System

Annette Gregory & Aaron Watson, Independent Education Union Qld & NT

This session is for Catholic school Lab Technicians – a major change to the new EB was that by 31st Dec 2024 employers will move Lab Techs and other specialist staff to a new classification system. Delegates will hear about the process of how to record your duties, write a correct position description, score the description against the classification factors, and what to do if the score means you're on the wrong level. You don't have to be a union member to attend.

Anglican members are welcome to join as the EB is being negotiated currently and may move to this system.

Delegates - No PPE required

A4: Gram staining bacteria slides to identify what microorganism is present

Chumno Kim, Springwood SHS

Gram staining is a fundamental technique used in microbiology to differentiate bacteria into two groups based on their cell wall composition. Participants will gain practical experience in this fundamental microbiology technique, learning the principles and procedures of Gram staining. Through hands-on activities, attendees will perform Gram staining on bacteria provided, observe differential staining, interpret results under a microscope, and discuss the technique's importance in clinical diagnostics and research. This workshop offers a valuable opportunity for hands-on learning and skill development in microbiology.

Delegates - Bring Lab coat and goggles

A5: The Science of Us - Measuring humans using Vernier Data Loggers

Stuart Lewis, Scientrific Pty Ltd

Humans are not simple. We are a series of complex systems streamed through a conscious brain. This means that there is a lot that can be measured, from bioelectric impulses required to move muscles to an analysis of touch. This workshop will use Vernier datalogging equipment to explore topics such as:

- EKG and heart analysis
- Muscle analysis and strength
- Wavelengths of light that fool the eye
- How to tell if a room is well ventilated
- Which feels warmer? tactile illusions
- How much dye is in foods?

Delegates - No PPE required

WORKSHOP ELECTIVES - SESSION A TUESDAY:**A6: The Best Tool for Measuring pH Since Litmus Paper! - Wireless pH Sensor****Doug Bail & Megan Simkin, Ciderhouse Tech**

A hands on introduction to the PASCO Wireless pH Sensor, demonstrating its ease of use, large range of applications, storage and troubleshooting. The Wireless pH Sensor is a must-have for any chemistry, biology, or environmental science course and enhances countless activities (in both the lab & field), including acid-base titrations, investigations into household chemicals, analyses of chemical reactions, water quality studies, and much more.

Delegates - No PPE required**A7: Chemwatch for Beginners****Naomi Radke, Stretton State College**

This workshop aims to offer a foundational understanding of Chemwatch. It will be tailored especially for new technicians. The presenter will share insights gained from her own experience, within an informal setting, fostering an environment where attendees are encouraged to ask questions and learn collaboratively.

Delegates - No PPE required**A8: Maintaining Microscopes****Malcolm Eames, Optical Repairs**

Microscopes are indispensable tools in the laboratory, yet their optimal performance relies heavily on correct handling and maintenance. This workshop provides participants with comprehensive guidance on the proper use, care, and maintenance of microscopes, ensuring longevity and accurate results. Through interactive demonstrations, participants will leave the workshop equipped with the knowledge and skills necessary to use, care for, and maintain microscopes effectively in their laboratory settings. Topics covered: 1.Purpose and Scope, 2.Supplies, Materials and Equipment, 3. Procedure, 4.Daily Maintenance, 5.Storage, 6.Repairs, 7.Procedure Notes, 8.Cause of Errors and Common Issues, 9. Q/A.

Delegates - No PPE required

WORKSHOP ELECTIVES - SESSION B TUESDAY:

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

B1: Micro-scaled Precipitation Reactions

Rosalyn Steele, St Joseph's College, Gregory Terrace

The participants in the short workshop will have a hands-on experience of chemistry practicals.

Tried and tested by the young men of St Joseph's College, Gregory Terrace are the practicals - Mandatory practical 5 Precipitation reactions.

Delegates - Bring Lab coat and goggles

B2: Interactive Activities for Primary School Engagement

Liam Hegarty, Albany Creek SHS

This session will be a hands on session going through low risk, low cost science practicals which can be used to engage with primary schools in your area to help foster a passion for science from a young age.

Delegates - Bring Lab coat and goggles

B3: Origami Models - Engaging Hands-on Learning done differently!

Daniela Migliorati, Science Supply Australia

In this hands-on workshop we will discover the inner world of a plant cell and animal cell! Cells are the basis of life, we will give you the tools to show students the key organelles and structure of cells! Learning through fun is the key to students retaining information, all students learn differently. Origami models are a diverse way to teach topics in the classroom. These simple origami models are a fun way to introduce the topic of cell structure and the foundations of Biology. All material will be provided in the session.

Delegates - No PPE required

B4: STEM Approaches Using Data Loggers

Stuart Lewis, Scientrific Pty Ltd

"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 - No PPE required

B5: Welcome to the Australian Curriculum: Science v9

Charlotte Pezaro, Dialogic Education

The revised Australian Curriculum: Science is here. In this workshop, you'll meet one of the curriculum designers to unpack the revisions and the implications for supporting teachers and students to learn science. We will review the design and intent of the curriculum, including the 3-dimensional structure of the curriculum; unpack the rationale for teaching science; identify changes in content across years 6-10; identify opportunities and strengths of this curriculum; and address YOUR questions about the curriculum.

Delegates - No PPE required

WORKSHOP ELECTIVES - SESSION B TUESDAY:**B6: Maintaining Microscopes****Malcolm Eames, Optical Repairs**

Microscopes are indispensable tools in the laboratory, yet their optimal performance relies heavily on correct handling and maintenance. This workshop provides participants with comprehensive guidance on the proper use, care, and maintenance of microscopes, ensuring longevity and accurate results. Through interactive demonstrations, participants will leave the workshop equipped with the knowledge and skills necessary to use, care for, and maintain microscopes effectively in their laboratory settings. Topics covered: 1.Purpose and Scope, 2.Supplies, Materials and Equipment, 3.Procedure, 4.Daily Maintenance, 5.Storage, 6.Repairs, 7.Procedure Notes, 8.Cause of Errors and Common Issues, 9. Q/A.

Delegates - No PPE required**B7 Conductivity Measurements in Liquids****Ben McColl, TPS**

In this session we will dive into the Principles of Electrical Conductivity (including salinity and dissolved solids). We will get an understanding of how Sensor Technology works for us. We will also touch on understanding what Accuracy is and isn't and finish with some Maintenance tips and of course get hands-on with some Practical testing.

Delegates - Bring Lab coat and goggles**B8: Gel Electrophoresis for Beginners****Steve Garrett, BioTek**

Gel Electrophoresis practical is achievable to whatever your science budget may be. This workshop will help beginning Science Technicians use both everyday items and sophisticated equipment to learn how to use electricity to separate coloured dyes.

Delegates - Bring Lab coat and goggles

WORKSHOP ELECTIVES - SESSION C WEDNESDAY:

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

C1: Exploring PASCO Wireless Sensors

Gulumser Mutluoglu, Fortitude Valley SSC

In this hands-on session, we will explore PASCO wireless sensors, focusing on the Wireless Colorimeter and Turbidity Sensor. This versatile sensor can be used to measure absorbance and transmittance, study Beer's Law, water quality analysis, and other experiments. In this interactive workshop, you will learn about the calibration of the equipment and have the opportunity to try a few experiments. After this interactive session, you will walk away with an understanding of how to implement PASCO sensors across different year levels of the Australian Curriculum V9.

Delegates - Bring Lab coat and goggles

C2: Hands-on Active Learning in the Science Classroom: Drawbots and Wind Generators

Dr Steve Griffiths, Cavendish Road SHS

This workshop will provide participants with hands-on activities that can be used in junior high school science lessons to actively explore curriculum concepts. Specifically, you will be making drawbots and wind generators. In addition, Dr Steve will have working models of other active learning ideas to explore. He will also explain how he created a maker trolley at his school and how he use it to support delivery of the Australian Science Curriculum

Delegates - No PPE required

C3: Tips for Tips - Root tip Mitosis Made Easy

Zoe Ebert & Jennie Findlay, Pine Rivers SHS

Come to our hands on lab workshop where you'll get to explore some tips and tricks to making root tip mitosis practicals easier. We will show you our "cheats" version using alfalfa sprouts; as well as some basic slide and microscopy techniques.

Delegates - Bring Lab coat and goggles

C4: A Healthy Land - Measuring the environment with Vernier dataloggers

Stuart Lewis, Scientrific Pty Ltd

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 analysis

Delegates - No PPE required

C5: Micro-scaled Precipitation Reactions

Rosalyn Steele, St Joseph's College, Gregory Terrace

The participants in the short workshop will have a hands-on experience of chemistry practicals. Tried and tested by the young men of St Joseph's College, Gregory Terrace are the practicals - Mandatory practical 2 Displacement Reactions.

Delegates - Bring Lab coat and goggles

C6: STEM activities for Open Days and Science Week

Jacinta Hodnett, Redcliffe SHS

A STEM based workshop focused on open days and science week. By providing hands on opportunities that provide fun science engagement students can gain a greater appreciation for science. Science technicians can add depth to their knowledge by participating and can bring back ideas to help teachers bring engagement to students through hands on learning experience.

- Electromagnetism - plasma ball demonstration
- Electricity and circuits - brainbox
- Conservation of energy - potential and kinetic energy simplified using a ruler and marble
- Catapults
- Stress ball
- Ripple tank on the cheap
- Fun Fly Stick

Delegates - Bring Lab coat and goggles

WORKSHOP ELECTIVES - SESSION C WEDNESDAY:**C7: Investigating Environmental Radiation****Doug Bail and Megan Simkin, Ciderhouse Tech**

Working with radiation poses potential problems. Either the sources are not suitable or safe for use in a school (get rid of that yellowcake sample right now!) or the commercial, licenced for school source is too expensive. There are some great options that make the study of radiation and nuclear physics both safe and real. We'll be using a geiger counter to investigate radiation counts looking at things from food to balloons. Bring your own G-M counter if you have one - we can check its all working - and we'll have our own to suggest some real world, engaging practical activities suitable for a range of year levels.

Delegates - No PPE required**C8: Key Ideas in the Australian Curriculum: Science v9****Charlotte Pezaro, Dialogic Education**

Six key ideas underpin all the content descriptions outlined in the Australian Curriculum: Science: Patterns, order and organisation; Form and function; Stability and change; Scale and measurement; Matter and energy; and Systems. The last key idea, Systems, underpins science inquiry, and is essential to developing students' understanding of the nature of science. In this workshop, we will unpack these ideas and identify links across the Australian Curriculum: Science v9, so that we are better able to support teachers and students in making connections across the curriculum.

Delegates - No PPE required

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. 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: \$50
- Corporate membership (up to 4 members): \$120

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 to find out more.

ABOUT CONQUEST24

CONQUEST is the annual conference for Queensland Education Science Technicians, held during the mid-year school holidays.

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 CONQUEST24 theme, "Local Legends," is inspired by the STEM champions we find all around us; in our workplaces, our communities and our institutions. The theme will encourage participants to think local when they think about science.

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

- STEM opportunities and futures for our students;
- Wellbeing and career support for science laboratory staff;
- Exploring student investigation options in the national senior science curriculum;
- Preparation for V9 of the Australian Curriculum;
- Inclusion of Aboriginal and Torres Strait Islander science elaborations, and sustainable practises across the science curriculum;
- Exposure to latest laboratory management practises, science curriculum inclusions and current technologies;
- Building relationships with industry professionals, to maximise resource efficiency and improve equipment expertise.

ACKNOWLEDGMENT TO COUNTRY

In the spirit of reconciliation, QEST acknowledges the Yuggera Ugarapul people, the Traditional Custodians of the land on which CONQUEST24 is held. We honour and celebrate their connections to country, to the health of the land, water and community, and encourage the inclusion of their culture in science education.

We pay our respect to their Elders past, present and emerging, and extend that respect to all Aboriginal and Torres Strait Islander peoples attending and contributing to CONQUEST24.

QEST ANNUAL GENERAL MEETING

All delegates are invited and encouraged to attend the QEST AGM, held as part of the conference program on Tuesday. The success of our association is directly related to the active contributions of the membership. All positions will be declared vacant to allow for new goals and new direction from the membership. Nominations close 4 weeks prior to the AGM – the nomination form is available at qest.org.au. It is expected that discussions from the preceding FORUM and WORKSHOP, will inspire motions to be put forward for consideration, to promote the growth of our association in line with a positive and contemporary Australian culture.

WELCOME TO CONQUEST24 - MONDAY 24th

This year, we have also included a networking Welcome Reception. We look forward to welcoming delegates and participants to Brisbane South State Secondary College (BSSSC). Join us on Monday 24th June 2024 (4pm-6:30pm) for an opportunity connect with science technicians, corporate partners and industry supporters. Light refreshments will be available.

CONFERENCE NETWORKING EVENING - TUESDAY 25th

Tuesday night's conference networking evening, is being held at one of Brisbane's local legends – **The Plough Inn, 29 Stanley St Plaza, South Bank**. The cost of entry is included in the delegate conference ticket. We will be located upstairs (no lift available) on the deck. Please come along for a night of trivia and meeting fellow science technicians from around your region and beyond. Please indicate your intention to attend and any personal dietary requirements when you register for the conference via Eventbrite. Cash bar available. Dress code – smart casual.



NORTH QUEENSLAND



FAR NORTH QUEENSLAND



CENTRAL QUEENSLAND



DARLING DOWNS SOUTH WEST



NORTH COAST



METRO SOUTH



SOUTH EAST



METRO NORTH

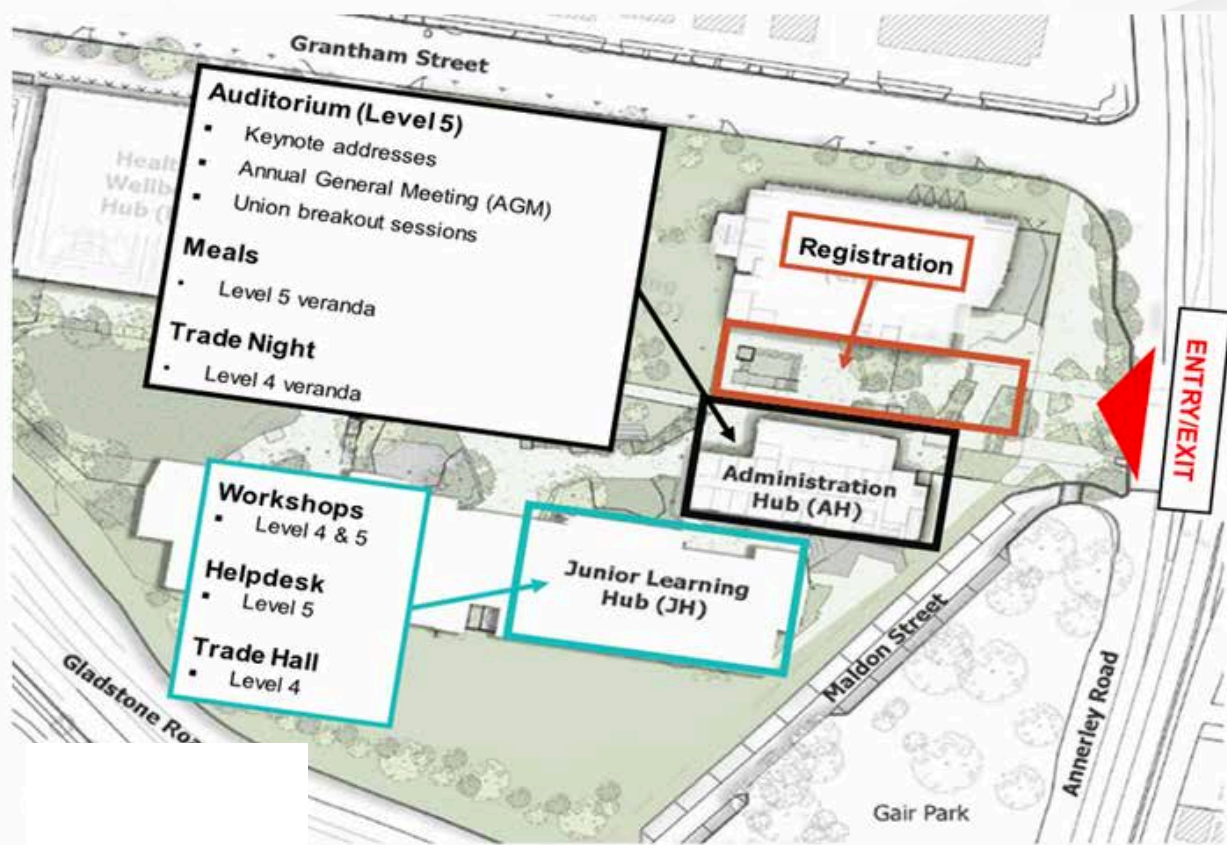
Do you know your region?

In 2024-2025 QEST Management Committee is committed to hosting more activities in your region. If you are interested in help please contact your QEST Regional Representative or email us at qest@qest.org.au.

VENUE DETAILS

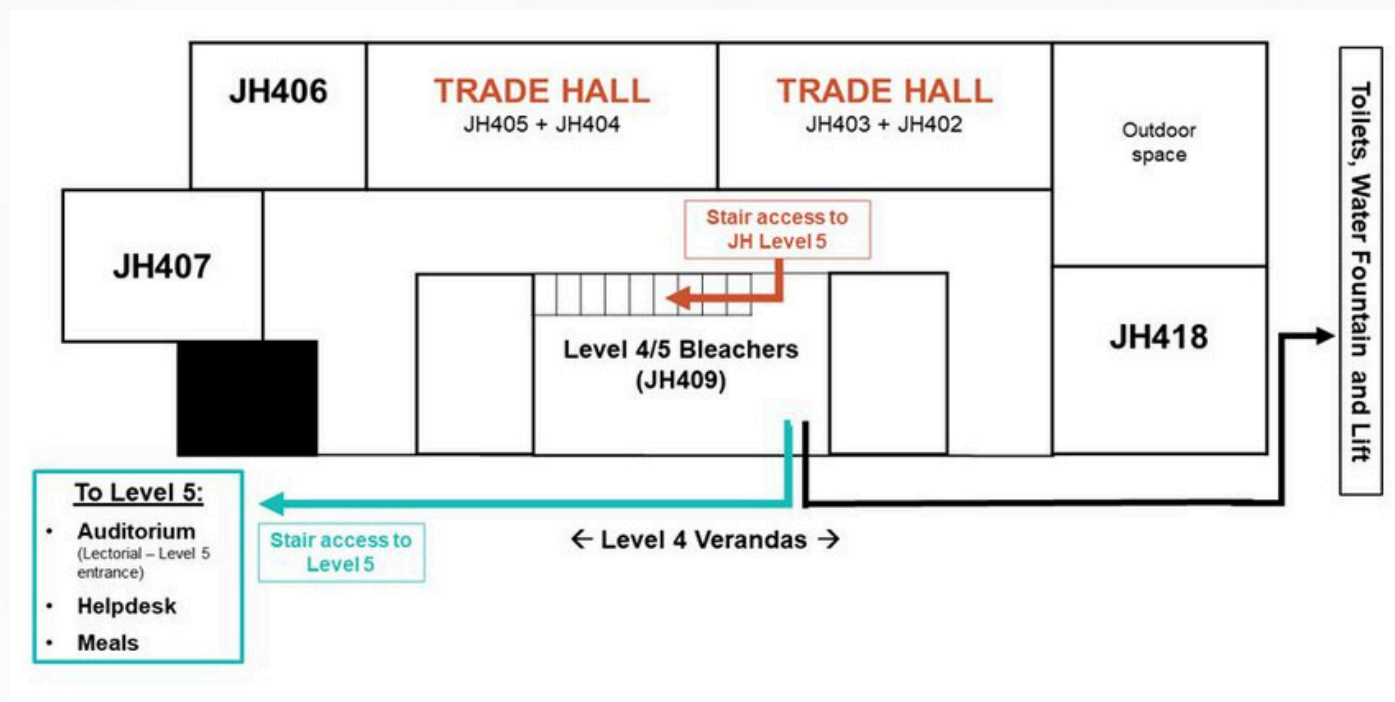
The **Brisbane South State Secondary College** is located at the heart of Brisbane's Knowledge Corridor, surrounded and supported by some of the best and most respected research facilities and institutions in Australia. They are a proud community of leaders and educators in science, technology, engineering, mathematics, medicine – STEM(M), and the arts and research.

Entry to the school will be accessed at the main entrance off Annerley Road. Registration will occur on the ground level at the entry of the school. Workshops will occur on Level 4 & 5 of the **Learning Hub (Building 5)**. Keynotes and our AGM will occur in the Auditorium on Level 5 of the **Administration Hub (Building 4)**.

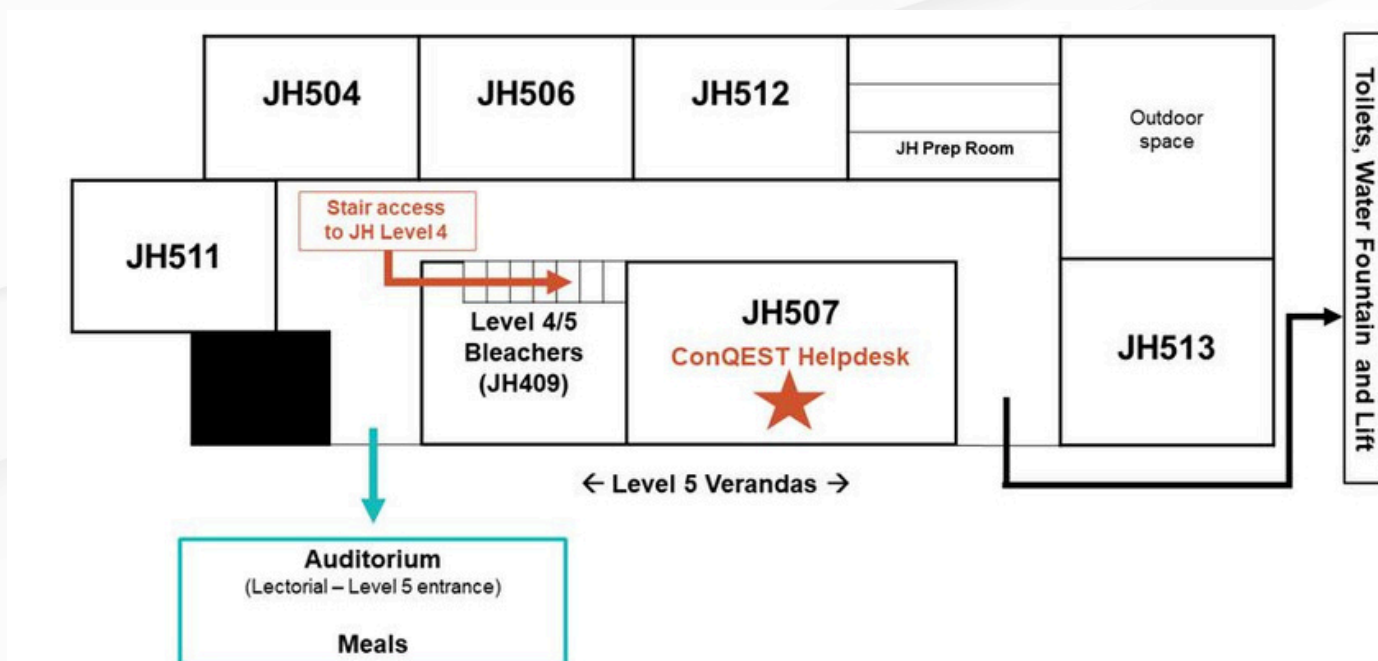


VENUE DETAILS

Learning Hub - Level 4



Learning Hub - Level 5



TRANSPORT AND PARKING

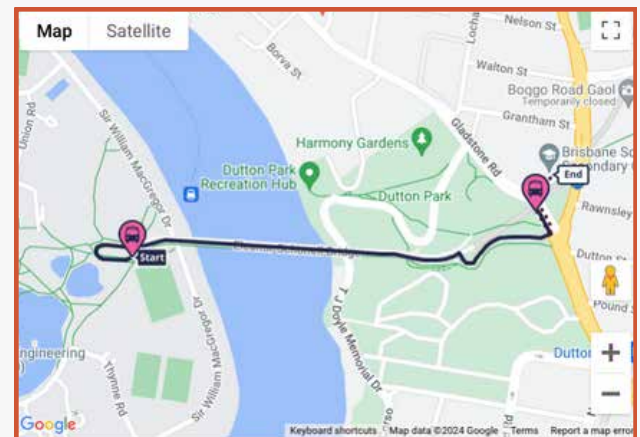
Being central to the city there is **no onsite parking available**. Trains and buses are nearby and run frequently.

Option 1: All Day Parking

Paid parking at UQ (all day parking) (Use Cellopark App to pay for parking) (Blue Zone = \$6.50 per day)

Option A. Walk 1.1 km walk (hilly)

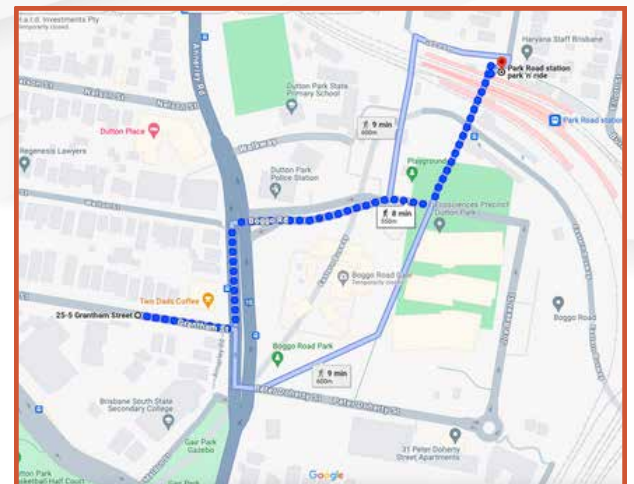
Option B. Bus over via UQ Lakes Bus interchange, Stop F (Route 192)



Option 2: Train

Park Road Station is on the **Cleveland**, **Beenleigh** and **Gold Coast** lines and is located off Quarry Street and Burke Street on the eastern side of the station. The station has four platforms which are connected by a bridge with lifts and stairs.

550m 8min walk to Grantham St entrance



Option 3: Buses

Boggo Road Bus Station is on multiple lines (28, 29, 66, 104, 105, 107, 108, 109, 139, 169, 192, 209, P332, R581, R584, R585, R588, R590, R591).

500m 7min walk to Grantham St entrance

SUSTAINABILITY STATEMENT

Queensland Education Science Technicians (QEST) and the ConQEST24 Organising Committee are committed to minimising the environmental footprint of ConQEST24. We are committed to keep waste and carbon emissions to a minimum. We aim to minimise packaging and where possible utilise compostable materials.

We will not be printing conference programmes and printing in general will be kept to a minimum.

We would encourage participants to bring a **reusable water bottle** and **cup** to reduce the use of single use plastics.



CONFERENCE QR CODE

Through out the conference - delegates will have live access to conference information by using our QR code

- Full Program
- Monday Timetable
- Tuesday Timetable
- Wednesday Timetable
- School Map & Directions
- Evacuation Information
- Networking Evening
- What's on in Brisbane
- Emergency contact



ACCOMMODATION

The following discounted accommodation has been organised by the ConQEST24 for delegate convenience.

Rydges, South Brisbane



Address: 9 Glenelg Street, South Brisbane, QLD 4101

Distance to BSSSC: 3Km

Check-in: 3 PM **Check-out:** 11 AM

Buffet Breakfast: \$39

Star Rating: 4 ½

Parking: Valet parking charge of \$55 per vehicle per night will apply. Please note that self-parking is not available.

Wi-Fi: Complimentary

Room Rate: From \$310 per night

How to book: Access the link below to book accommodation with a 10% discount off current rate.

www.rydges.com/private-page/local-delegate-direct-booking-page

Mantra, South Brisbane



Address: 161 Grey Street, South Bank 4101

Distance to BSSSC: 3.1 Km

Check-in: 2 PM **Check-out:** 10 AM

Buffet Breakfast: Not available, instead a la carte menu is offered.

Star Rating: 4

Parking: Valet parking charge of \$40 per vehicle per night will apply. Please note that self-parking is not available.

Wi-Fi: Complimentary

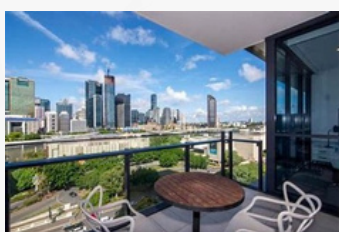
Room Rate: From \$218 per night.

How to book: **PROMO CODE: ConQEST24**

1. Visit: all.com
2. Enter stay details including Hotel Name or Destination, Check in & Check out dates and Room/Guest details
3. Click on "More Options" drop down
4. Under "Other special rates and promo code" select "promo code" and enter the code as above (case sensitive) and hit "search"
5. Discounted rates will be indicated by the red "Special Offer" banner
6. Select the hotel and room type you wish to book and hit Continue to proceed to payment screen
7. Fill in all required details to confirm your booking and hit Confirm
8. You will receive an email confirmation once all details have been processed

ACCOMMODATION continued

Cllix, South Bank Parklands



Address: various

Distance to BSSSC: various

Check-in: 2 PM

Check-out: 10 AM

Buffet Breakfast: There are no restaurants on the property but many nearby restaurants.

Star Rating: 4 (self-rated)

Parking: One complimentary car parking if you booked directly on our website except Studio rooms at Brisbane One Apartments by CLLIX.

Wi-Fi: Complimentary

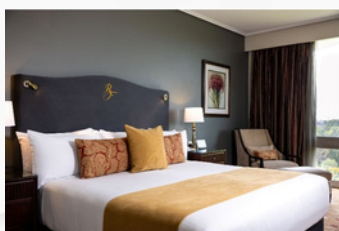
Room Rate: From \$303per night.

How to book:

PROMO CODE: conquest24

You can use this discount code on our direct website, <https://www.cllix.com/> and enter the group code for 12% off any of our advertised website rates.

Royal on the Park, Brisbane



Address: 152 Alice Street Brisbane, QLD 4000

Distance to BSSSC: 4 Km

Check-in: 2 PM

Check-out: 10 AM

Buffet Breakfast: \$37pp – if pre-booked on check in \$29.50

Star Rating: 4.5

Parking: \$20per day

Wi-Fi: Complimentary

Room Rate: From \$181.90 per night.

How to book:

PROMO CODE: QEST24

Guests must book via their website on www.royalonthepark.com.au

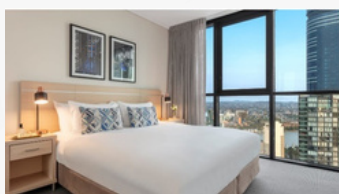
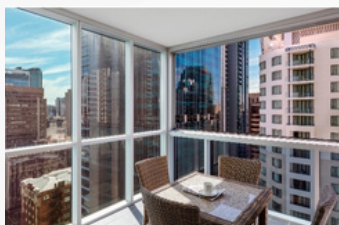
- log onto our website www.royalonthepark.com.au
- Add dates of stay and add the promo code - QEST24 in the box as below- hit make a reservation.

**This will then provide you with discounted rates applicable to any room type available.

This is live and bookable now. They have added some pre- and post-dates- so code is available to book for the below stay dates 23/06/24 to 27/06/24.

ACCOMMODATION continued

Oaks Charlotte & Oaks Festival, Brisbane



Address: 128 Charlotte Street, Brisbane QLD 4000 & 108 Albert Street, Brisbane QLD 4000

Distance to BSSSC: 3.6 Km (both)

Check-in: 2PM

Check-out: 10AM

Buffet Breakfast: not available

Star Rating: Not officially star rated

Parking: \$39 per vehicle per night (limited spaces, 2.1m clearance)

Wi-Fi: Complimentary

Room Rate: From \$215 per night (early bird rate)

How to book:

PROMO CODE: CONQUEST24

Click on link provided below and information will be pre-filled, simply alter dates of stay (discount will apply within the date range specified in table above), or use Booking Code: CONQUEST24 when on either of the property websites.

Charlotte - [https://be.synxis.com/?](https://be.synxis.com/?Chain=18336&themecode=OAKS&configcode=OAKS&brand=Oaks¤cy=aud&hotel=70512&Arrive=2024-06-24&nights=3&Promo=CONQUEST24)

[Chain=18336&themecode=OAKS&configcode=OAKS&brand=Oaks¤cy=aud&hotel=70512&Arrive=2024-06-24&nights=3&Promo=CONQUEST24](https://be.synxis.com/?Chain=18336&themecode=OAKS&configcode=OAKS&brand=Oaks¤cy=aud&hotel=70512&Arrive=2024-06-24&nights=3&Promo=CONQUEST24)

Festival - [https://be.synxis.com/?](https://be.synxis.com/?Chain=18336&themecode=OAKS&configcode=OAKS&brand=Oaks¤cy=aud&hotel=70534&Arrive=2024-06-24&nights=3&Promo=CONQUEST24)

[Chain=18336&themecode=OAKS&configcode=OAKS&brand=Oaks¤cy=aud&hotel=70534&Arrive=2024-06-24&nights=3&Promo=CONQUEST24](https://be.synxis.com/?Chain=18336&themecode=OAKS&configcode=OAKS&brand=Oaks¤cy=aud&hotel=70534&Arrive=2024-06-24&nights=3&Promo=CONQUEST24)

Cancellation Policy: Free cancellation up to 2:00 PM 1 day before arrival.

THANKYOU TO THE TRADEHALL PARTICIPANTS



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THANK YOU TO THE CONQUEST24 ORGANISING COMMITTEE

CONQUEST23 Coordinator & Keynote Liaison: Kimberley Millers, Bremer SHS

Peer Workshop Liaison: Cheryl Tsan, Redeemer Lutheran College

Corporate Workshop Liaison: Naomi Radke, Stretton State College

Social Media: Nikki Bradford, Pittsworth SHS

Graphic Designer: Christine Forrestal, Springfield Central SHS

Trade Hall Coordinator: Jacqui Burton, Cavendish SHS; Sharon O'Keeffe, Lockyer District SHS

Venue & Catering Liaison: Megan Seymour, Bremer SHS

BSSSC Science Technician: Jessica La , Brisbane South SSC; Alex Wheare, Brisbane South SSC

Accommodation: Tereza Santiago; Indooroopilly SHS

Merchandise: Dana Hallett, Laidley SHS; Hilary Maloney, Proserpine SHS

Electronic aids: Gulumser Mutluoglu, Fortitude Valley SSC

Welcome Desk Leaders: Paul Evans, Kawana SHS; Olivia Frost, Caloundra SHS; Kirsty Small, Noosa District SHS

Committee Volunteers: Belinda Stumer, Craigslea SHS ;Theresa Gayle, Corinda SHS; Sylvia Kalaut, (Balmoral SHS)

