

CBT CONFERENCE PROGRAM 2022

THURSDAY 10 NOVEMBER 2022 | QUT Kelvin Grove Function Centre (E Block Level 5)

8.30-9.00 **Registration & Arrival**

9.00-9.10  **Welcome to Country | Gregory Egert (Uncle Cheg)**
QUT Elder-In-Residence

9.10-9.25  **Conference Welcome | D/Prof Christopher Barner-Kowollik**
QUT Senior Deputy Vice-Chancellor and Vice President (Research)

9.25-9.40  **Overview of CBT | Prof Travis Klein**
QUT Director of Centre for Biomedical Technologies

9.40-10.30 **Keynote Speech** **Dr Dinesh Palipana OAM**
Dr Dinesh Palipana OAM, a doctor, lawyer, disability advocate, and researcher, is the only quadriplegic to graduate medical school in Queensland and the second person from Australia to have quadriplegia graduate from medical school. Dinesh works at the Gold Coast University Hospital's emergency department.
He is a senior lecturer at Griffith University and an adjunct research fellow at the Menzies Health Institute of Queensland, a research fellow at the Jamieson Trauma Institute, a spinal cord injury researcher, and is involved in a range of other organisations. Dinesh was named the 2021 Queensland Australian of the Year, has been awarded Junior Doctor of the Year at the Gold Coast Hospital and Health Service, and in 2019, was awarded the Medal of the Order of Australia.



10.30 - 11.00 **MORNING TEA**

11.00-12.40 **Centre for Biomedical Technologies Programs – Chaired by Prof Travis Klein**

Stem Cells & Tissue Engineering - Program Overview – Dr Indira Prasadam

Dr Nathalie Bock | Gelatin & bioprinted polyethylene glycol-based hydrogels as *ex vivo* drug testing platforms for patient-derived breast cancer organoids

Eamonn McKenna | Rapid spray nebulization fabrication of polycaprolactone nanofibre scaffolds for dermal tissue engineering

Medical Imaging, Biomechanics & Robotic Technologies - Program Overview – A/Prof Davide Fontanarosa

Dr Jessica Benitez | Novel mesh morphing method for numerical simulation of intracranial aneurysms based on 4DCT

Lionel Rayward | Engineering the perfect mattress: An FEM to predict the effect of mattress mechanics, age and anthropometry on biomechanical parameters in supine lying

Medical Device Design & Manufacturing - Program Overview – Prof Prasad Yarlagadda

Chijioke Raphael Onyeagba | Surface Engineering of Thin Film Metallic Glasses for Biomedicals

Lekshmi Appukuttan Kurup | Low-pressure sensors using graphene porous foams

Australia-China Centre for Tissue Engineering & Regenerative Medicine - Overview – Prof Zhiyong Li

Prof Zhiyong Li | Translating Biomechanics to Risk Stratification of Cardiovascular Diseases


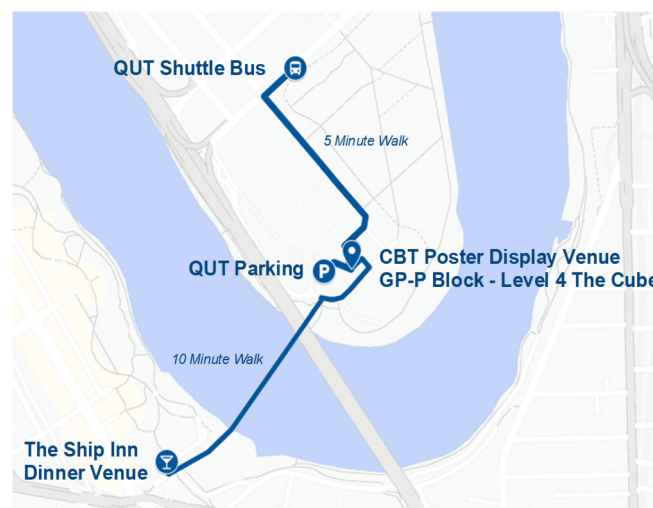
Dr Wendong Gao | Targeting hematoma regulation via platelet membrane coating for advanced clot-immunomodulation

1240 – 1.30	LUNCH
1.30-3.00	<p>CBT 2021 Grant Winner Presentations – Chaired by Prof Travis Klein</p> <p>Prof Mia Woodruff Implants and prosthetics for ear reconstruction</p> <p>A/Prof Paige Little Does body shape, size, and form influence how we lie when sleeping: A personalisation tool using statistical modelling</p> <p>Dr Alka Jaggessar Titanium dioxide nanostructures that deactivate respiratory syncytial virus</p> <p>Dr Edmund Pickering Numerical techniques for melt-electrowritten scaffolds</p> <p>Dr Maria Antico AI-based tomographic ultrasound image formation from a novel wearable ultrasound device</p>
3.00-3.30	AFTERNOON TEA
3.30-4.35	<p>HDR Student & ECR Presentations – Chaired by Dr Anjali Jaiprakash</p> <p>Xiwei Fan Advanced mass spectrometry imaging technique provides novel approaches to understanding the lipid fingerprinting of osteoarthritis progression</p> <p>Jacqueline Roots Difference in stiffness of short & long head of bicep muscle measured with shear wave elastography with influence of elbow angle</p> <p>Dr Laith Alzubaidi Deep Transfer Learning for Shoulder Abnormalities Detection Using X-ray Images</p> <p>Dr Jiaqiu Wang A performance evaluation of optical coherence elastography (OCE) method</p> <p>Dr Ashish Wadhawan Fracture classification using deep learning algorithms</p> <p>Dr Andrew Foster The Burden of Fracture Related Infection: a 10-Year Population-Based Epidemiological and Health Economic Study</p>
4.35-4.40	PROF TRAVIS KLEIN TO CLOSE DAY
4.40-5.15	TRAVEL TO QUT GARDENS POINT
5.15-6.15	<p>Poster Session The Cube, QUT Gardens Point (P Block Level 4)</p> <p>Scientific research poster viewing session at the Cube at QUT Gardens Point Campus.</p>
6.30 – Late	<p>CBT Conference Dinner Ship Inn, Southbank</p> <p>Join us for a fully catered evening of dinner and drinks at the lovely Ship Inn restaurant located just a short walk across the river (via Goodwill Bridge) from QUT Gardens Point Campus.</p>

People’s Choice Awards

Best Oral Presentation
Best Poster

Access Code is: cbt2022

Conference Brochure

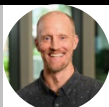
The download includes full Oral and Poster Abstracts.



FRIDAY 11 NOVEMBER 2022 | QUT Kelvin Grove Function Centre (E Block Level 5)

8.30-9.00 **Registration & Arrival**

9.00-9.05 **Conference Welcome | Prof Travis Klein**
QUT Director of Centre for Biomedical Technologies



9.05-9.35 **Keynote Speech | Dr Cherrell Hirst AO**

Dr Hirst practised medicine for 30 years with a focus breast cancer diagnosis and support. Dr Hirst has held multiple positions as chair or director at various private companies, government agencies and not-for-profit organisations across health, education, insurance, and biotechnology. In 1994, she was appointed QUT Chancellor, the first woman appointed to such a role in QLD, leading the university through 10 years of growth. Her interest in life science research was a catalyst for a long career in Queensland's biotech industry, with one of her most notable successes coming through her leadership at Peplin Biotech, a company sold for over \$300 million.

Dr Hirst has been awarded multiple honorary doctorates, an Australian Government Centenary Medal, the title of Officer of the Order of Australia, is a former Queenslanders of the Year, a Fellow of the Australian Institute of Company Directors, and is a recent inductee to the Queensland Business Leaders Hall of Fame.



9.35-10.30 **HDR Student Rapid Fire Presentations – Chaired by Jordan Davern**

Alexander Terrill | Continuous functionally graded gyroid metamaterials using fused filament fabrication 3D printing

Laura Milton | Tissue-specific hydrogels for local niche generation in multi-tissue platforms

Jonathan Gospos | Advanced imaging techniques provide an insight into the destructive nature of osteosarcoma in a tissue engineered rat model for research

Shital Ashok Wakale | Comparison of young & old BMSC-derived extracellular vesicles in osteoarthritis treatment

Angus Weekes | Engineering mechanical compliance in small diameter tissue-engineered vascular grafts (TEVGs)

Haveena Anbananthan | The association between intracranial aneurysm wall thickness and rupture risk

Norman Ilich | Comparing erosion mechanisms between two distinct bioresorbable polymers to design a single-dose delayed release vaccine implant

Rachel Chalmers | Current progress on 3D-printing spine orthoses for adolescent idiopathic scoliosis

Zizhen Ding | Rationally-designed self-shaped ceramics through heterogeneous green body compositions

Roshan Gurung | Influence of callus stiffness on the mechanical performance of the Biphasic Plate

10.30-11.00 **MORNING TEA**

REMEMBRANCE DAY – 1 MINUTE SILENCE

11.01-12.10 **HDR Student & ECR Presentations – Chaired by Prof Prasad Yarlagadda**

Julien Taylor Clegg | Validating StarPEG-heparin hydrogels as an *ex vivo* drug testing system for breast cancer

Silvia Cometta | Melimine-modified 3D printed PCL scaffolds for the prevention of biofilm-related biomaterial infections

Jorge Amaya | 3D biofabrication of miniaturized hydrogel cellularized patient-specific vessels

Dr Lan Xiao | Modulating macrophage energy metabolism via autophagy activation in T2 diabetes mellitus (T2DM) for tissue healing improvement

Dr Anna Jaeschke | Dissecting the role of the tissue microenvironment in ovarian ageing and infertility

12.10-1.10 **LUNCH**

1.10-2.15

ARC Training Centres Session – Chaired by Prof Travis Klein

ARC Training Centre for Cell & Tissue Engineering Technologies

Prof Laurence Meagher

ARC Training Centre for M3D Innovation

D/Prof Dietmar Hutmacher

ARC Training Centre for Joint Biomechanics

Prof Peter Pivonka & Dr Wolbert van den Hoorn

Australian Robotics Centre

Prof Jonathan Roberts & A/Prof Markus Rittenbruch

2.15-2.30

AWARDS – THANKS TO OUR SPONSORS



2.30-3.00

AFTERNOON TEA

INDUSTRY TRADE DISPLAYS (THURSDAY & FRIDAY)



BIOMEDICAL INDUSTRY NETWORKING EVENT

3.00-3.05



Welcome | Prof Travis Klein
Director, Centre for Biomedical Technologies,
QUT

3.05-3.15



Introduction | Prof Mark Harvey
Vice-President, Business Development,
QUT

3.15-4.15

Industry & Academic Panel – ‘Success for future innovation’



Dr Anjali Jaiprakash | Moderator
Deputy Director, Centre for Biomedical
Technologies
QUT



Dr Michael Wagels
Clinical Director – Herston Biofabrication Institute
Director – Australian Centre for Complex
Integration Surgical Solutions



Ms Jenna Lyon
Enabling Technologies Manager – R&D
Stryker



Dr Kym Baker
General Manager
Patheon, by Thermo Fisher Scientific



Dr Sha Pather
Chief Operating Officer,
Akunah



Dr Erin Evans
Executive Director
Life Sciences Queensland

4.15-5.30

Industry Networking | Pop-up Speakers | Canapes & Drinks

Join us in concluding the CBT conference with a networking afternoon. Throughout the session, enjoy networking with colleagues and guests, interspersed with brief presentations from pop-up speakers with industry backgrounds.



Dr Anjali Jaiprakash
Deputy Director, Centre for Biomedical
Technologies QUT



Anton Ruckman
Founder & Director of Product Design
Wowme Design Solutions



Mr Paddy Lynch
Chief Technology Officer
De Motu Cordis



Ms Lisa Cavallaro
Senior Manager – Business Growth
Brisbane Economic Development Agency



A/Prof Tony Parker
Chief Scientific Officer
Surgical Biofix



Dr Sean Powell
Chief Technologist
aptium3D



Dr Sha Pather
Chief Operating Officer
Akunah



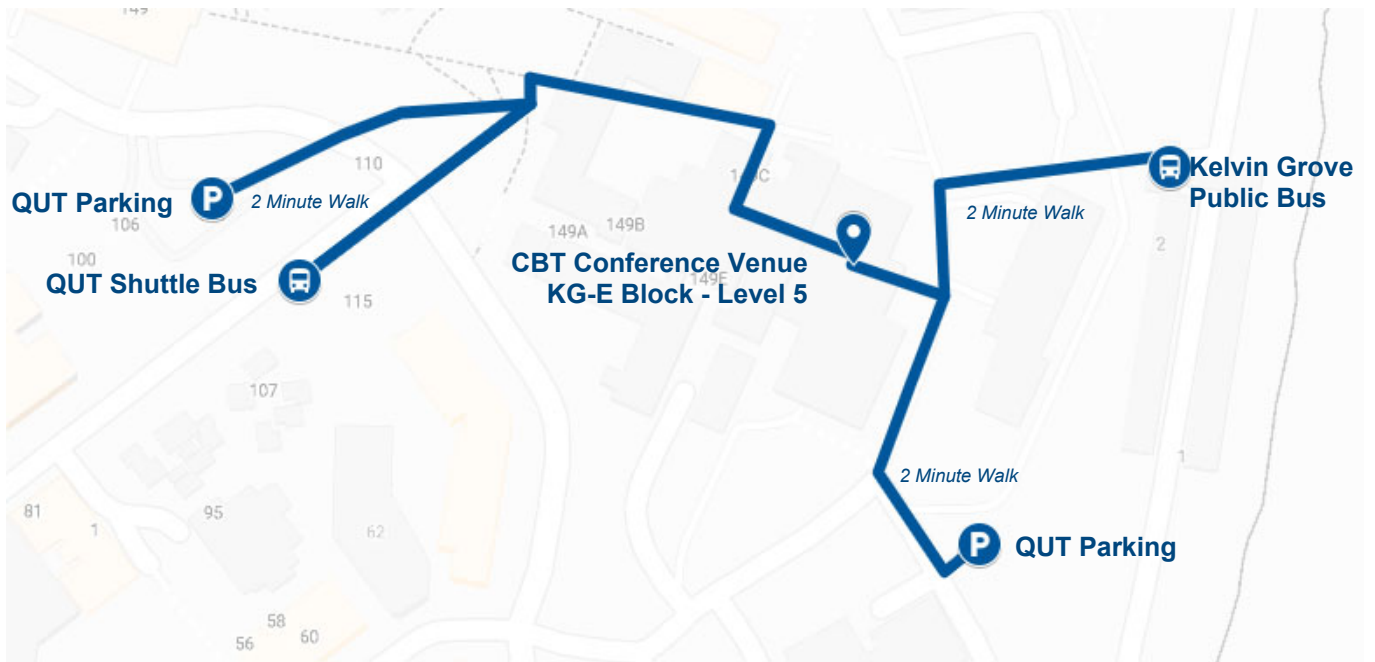
Dr Erin Evans
Executive Director
Life Sciences Queensland

QUT CBT Conference Venue Maps

<https://www.google.com/maps/d/u/0/edit?mid=1-i27snir0wRYDyC2Cu6uJdqYoE--MxM&usp=sharing>

QUT Kelvin Grove Campus – Main Venue (Thursday & Friday)

QUT KG-E Block (Education Precinct) Function Centre - Level 5 (via Lifts)



QUT CBT Conference Venues Overview

Kelvin Grove Campus & Gardens Point Campus

