

QUT CBT CONFERENCE NETWORKING EVENING

WEDNESDAY 8TH NOVEMBER 2023 | QUT Gardens Point P Block – The Cube

4.30–5.00 CBT Poster Showcase – The Cube (P block)

Join us at QUT Gardens Point for our networking evening showcasing the diverse range of research projects underway within the Centre for Biomedical Technologies at QUT.

5.00–6.30

CBT and Bionics Gamechangers Australia-QUT Networking Event

Guest Speaker: Dr Navid Toosi Saidy, CEO and Founder, Propel Health AI (P Block)

www.bionicsgamechangers.com

Together with our partners in leading Australian universities, hospitals and the medtech sector, Bionics Gamechangers is creating a LivingLab community without borders. Bionics innovation is local and global, sharing and exchanging ideas to transform lives.














***CBT Research Poster Presentations**

- Dr Antonia Sun | Impact of Iron Overload on Osteoarthritis Development: Insights from In vitro, Ex vivo, and In vivo Studies
- Dr Louis Ong Jun Ye | Unibody 3D Printing of Microfluidic Devices for Cell Culture Applications
- Dr Sugandha Bhatia | Interrogation of an *in vivo* vascularized bone model: synergizing osteogenesis with vascular development
- Dr Naomi Paxton | Bioinspired scaffolds to control plant growth for applications architectural and agricultural bioengineering
- Dr Edmund Pickering | Towards smarter surgical robots: a sensor enabled smart end effector for bone cutting
- Dr Erika Morera | Establishment of Patient-Derived Organoid cultures from breast ER+ cancer tumors: Joys and Sorrows
- Rocio Jimenez-Martinez (*In Vitro Technologies*) | In vitro 3D tissue culture model of fibrotic live
- Dr Surasak Kasetsirikul | Integration of Electrochemical Aptamer-based Biosensors in Organ-on-a-chip for Simultaneous Monitoring Cell Viability
- Lin Mei | Effects of Extracellular Vesicles (EVs) Derived from Different Mesenchymal Stem Cells on Chondrocytes
- Xiwei Fan | Functional mass spectrometry imaging maps phospholipase-A2 enzyme activity during osteoarthritis progression
- Hiba Al Lawati | Identification and characterization of genes associated with liver fibrosis in 2D and 3D cultures
- Haveena Anbananthan | Understanding Sensitivity of Intracranial Aneurysm to Variation in Blood Flow
- Jonathan Gospos | Humanised bone supports osteosarcoma tumour growth and lung metastasis: from bone remodelling at the orthotopic site to seeding within the lung microenvironment
- Alexander Lee-Medland | Developing & validating a novel Micro-CT based technique for measuring bone mineral density distribution
- Hamid Reza Jarrah | A Finite Element Modeling for Evaluating Graft Stability in Latarjet Surgery Under Varied Fixation Techniques
- Matthias Eames | Validation of custom dynamic culture bioreactor designed for bone tissue engineering
- Vaibhav Mahajan | Monitoring biophysical changes of tumor cells in confining 3D microenvironments
- Lin Li | Enhancing Decellularization for Improved Cartilage Tissue Regeneration: A Comprehensive Optimization Approach
- Ronja Finze | Scaffold-guided breast tissue reconstruction for large-volume defects using medical grade PCL – a pilot study
- Elham Seifi | Optimization of calcium phosphate deposition on PCL pellets by immersion in simulated body fluid
- Renee Nightingale | An economic advanced manufacturing pipeline for personalised ear prostheses for patients with microtia
- Luke Hipwood | Engineering metastatic osteosarcoma tumour microenvironments for personalised medicine
- Neelabh Gupta | Engineering Anatomically Relevant Airway Respiratory Models
- Brooke Lundon | Developing a 3-Dimensional in vitro model of the prostate tumour microenvironment
- Rachel Tilley | Optimised design of 3D printed wheelchair cushions for pressure distribution
- Theda Hinrichs | Functional organisation and biophysical properties of cartilaginous tissues in shallow-water chondrichthyans
- Annabelle Stubbs | Smartphone based photogrammetry for the assessment of cosmesis in spinal deformities from patient-specific full body 3D models

*Final posters to be confirmed

QUT CBT CONFERENCE 2023 – *DAY 1 PROGRAM

THURSDAY 9TH NOVEMBER 2023 QUT Kelvin Grove Education Precinct (E Block Level 5)	
8.30–9.00	Registration & Arrival
9.00–9.15	 Conference Welcome Prof Yi-Chin Toh QUT Director of Centre for Biomedical Technologies
9.15–10.00	Prof Lim Chwee Teck Director, Institute of Health Innovation & Technology (iHealthTech), National University of Singapore <p>Professor Lim is the inaugural NUSS chair Professor at the Department of Biomedical Engineering & Founding Principal Investigator at the Mechanobiology Institute. He is also the Director of the Institute for Health Innovation & Technology (iHealthtech) & Founding Director of the Singapore Health Technologies Consortium. Prof Lim's research interests are interdisciplinary & include human disease mechanobiology, microfluidic biomedical technologies for human disease diagnosis & precision medicine & soft wearable technologies for healthcare applications. He has authored over 400 peer-reviewed journal papers & delivered more than 390 plenary/keynote/invited talks.</p> 
10.00-10.45	MORNING TEA
10.45–12.30	SCIENTIFIC SESSION 1 (Biomechanics / Computational Engineering)
	 Prof YuanTong Gu CBT Speaker QUT Centre for Biomedical Technologies QUT ARC Training Centre for Joint Biomechanics School of Mechanical, Medical & Process Engineering QUT Faculty of Engineering
	 A/Prof Paige Little CBT Speaker QUT Centre for Biomedical Technologies QUT ARC Training Centre in Multiscale 3D Imaging, Modelling and Manufacturing Innovation. School of Mechanical, Medical & Process Engineering QUT Faculty of Engineering
	 Prof Peter Pivonka CBT Speaker QUT Centre for Biomedical Technologies QUT ARC Training Centre for Joint Biomechanics School of Mechanical, Medical & Process Engineering QUT Faculty of Engineering
	 Dr Natalie Collins Invited Speaker The University of Queensland Faculty of Health and Behavioural Sciences School of Health and Rehabilitation Sciences
12.30–1.30	LUNCH
INDUSTRY TRADE DISPLAYS	
    	
1.30–3.15	SCIENTIFIC SESSION 2 (Tissue Engineering)



Prof James Hudson | Invited Speaker

QIMR Berghofer Cardiac Bioengineering Laboratory | Dynamics Inc



A/Prof Laura Bray | CBT Speaker

QUT Centre for Biomedical Technologies | ARC Training Centre for Cell & Tissue Engineering Technologies | School of Mechanical, Medical & Process Engineering | QUT Faculty of Engineering



Dr Jiao Jiao Li | Invited Speaker

University of Technology Sydney | School of Biomedical Engineering | ARC Training Centre for Innovative BioEngineering



A/Prof Tony Parker | CBT Speaker

QUT Centre for Biomedical Technologies | QUT Tissue Repair & Translational Physiology | Surgical BioFix Ltd | QUT Faculty of Health

3.15–3.45

AFTERNOON TEA

3.45–4.45

WORKSHOP SESSION – MEDTECH COMMERCIALISATION



Makenzie Thomas | MedTech Actuator

Makenzie has a diverse background with international experience in project management, marketing, business innovation, research & entrepreneurship. As Portfolio Manager at MedTech Actuator, Makenzie leads the portfolio of almost 70 startups, supporting founders through the startup journey & helping them to move their medical innovations closer to market.

4.45–5.30

COMMERCIALISATION & TRANSLATION PANEL



Andrew Bowskill | Director of Stakeholder Engagement QLD MTPConnect

As Director of Stakeholder Engagement QLD at MTPConnect, Andrew engages with a broad cross section of stakeholders including consumer groups, companies, peak bodies & Government. Andrew possess a deep understanding of industry & regulatory policy covering R&D, IP & trade agreements.



Liz Gillies | CEO Menzies Foundation

Liz has over 25 years' experience in a range of fields focused on initiatives for social impact. She has held roles in multiple sectors & academia. In 2018, Liz was appointed CEO of the Menzies Foundation which aspires to build a movement that supports Australians to build leadership capability.



Dr Erin Rayment | Executive Director QUT Industry Engagement

As Executive Director of Industry Engagement at QUT, Dr Rayment leads the team responsible for QUT's engagement, partnerships & commercialisation. Erin began her career as a biomedical scientist with a PhD in tissue engineering, is a Graduate of the AICD, & is passionate about science & commercialisation.



Prof Chwee Teck Lim | Professor & Chair Biomedical Engineering NUSS

Prof Lim is the inaugural Chair & Professor at the NUSS Department of Biomedical Engineering & Founding Investigator of the Mechanobiology Institute. He is also Director of the Institute for Health Innovation & Technology (iHealthtech) & Founding Director of Singapore Health Tech Consortium.

6.00–Late

CBT Conference Dinner | QUT Kevlin Grove

Special Guest Speaker: Liz Gillies CEO Menzies Foundation

QUT CBT CONFERENCE 2023 – *DAY 2 PROGRAM

FRIDAY 10 TH NOVEMBER 2023 QUT Kelvin Grove Education Precinct (E Block Level 5)	
8.45–9.00	Registration & Arrival
9.00–9.05	 Conference Welcome Prof Yi-Chin Toh QUT Director of Centre for Biomedical Technologies
9.05–9.55	QUT CBT Early Career Researcher Presentations Dr Sinduja Suresh Assessment of accuracy reliability, sensitivity & specificity of a semi-automated digital scoliosimeter Dr Laith Alzubaidi Towards Trustworthy Artificial Intelligence: Significance and Requirements Dr Ryan Huang Development and application of a high-fidelity fluid-structure interaction solver for simulating cardiovascular diseases Dr Silvia Cometta Bioengineering in vitro Biofilm Models Dr Dermot O'Rourke Failure of inlay & onlay humeral components in reverse shoulder arthroplasty: A mCT analysis
9.55–11.00	QUT CBT PhD Student Presentations Natali Uribe Acosta Bone shape, density distribution, and microstructural organization in adult people Laura Milton A 3D-printed well-insert microfluidic device for the generation of multiple local hydrogel niches in traditional well-plates Dilpreet Singh Developing a low-cost smart face model with pressure sensing capabilities for assessment of facial pressure distribution Hoai My Tran Fundamental differences in hematoma properties between small defect and large defect Rachel Chalmers Optimising print parameters of low-cost filament for the application of 3D-printing spinal orthoses Brenna L Devlin A MEW toolbox for automated g-code generation & toolpath correction of flat & tubular constructs
11.00–11.30	MORNING TEA
11.30–12.00	A/Prof Arnold Lining Ju University of Sydney, School of Biomedical Engineering A/Prof Ju received his PhD in Biomedical Engineering at Georgia Institute of Technology & Emory University, USA. In early 2020, Dr Ju joined the University of Sydney (USYD)'s new BME school as a senior lecturer & started the Mechanobiology & Biomechanics Laboratory (MBL). By linking the mechanical forces behind blood flow & their effects on haematological proteins & blood clotting cells, Dr Ju has established a new field called 'mechanobiology'. His work finds better solutions to help diagnose, treat, & control blood clotting diseases. 
12.00–1.00	QUT CBT Rapid Fire Research Student Presentations Hiba Al Lawati Identification and characterization of genes associated with liver fibrosis in 2D and 3D cultures Shuya Tian Bridging the Gap: ISO 14155 as a Vital Link from Lab to Reality for Researchers Hoang Son Pham Application of <i>in vitro</i> 3D models to study the effect of a FAST-Forward radiotherapy trial on breast cancer Lucy-May Young A compartmentalised microfluidic device for screening dynamic immune responses of the respiratory airways Minne Dekker Tissue-specific ECMs for patient-derived osteosarcoma organoid culture and personalised medicine Komal Chhikara Comparative assessment of commercially available scanners for foot orthosis design Shahak Kuba Mathematical model for tissue growth in complex geometries Shital Wakale Comparative analysis of the therapeutic potential of Extracellular Vesicles from aged and young bone marrow-derived mesenchymal stem cells in osteoarthritis pathogenesis Francois Bruyer-Monteleone Shoulder morphologic variation: statistical shape and pose estimates Sheikh Adilina Including temporal information in the longitudinal analysis of brain MR images using Deep Learning
1.00–2.00	LUNCH

2.00-3.45

SCIENTIFIC SESSION 3 (Robotics / Manufacturing)



A/Prof Paul Dalton | Invited Speaker

University of Oregon | Department of Chemistry & Biochemistry



A/Prof Devakar Epari | CBT Speaker

QUT Centre for Biomedical Technologies | School of Mechanical, Medical & Process Engineering | QUT Faculty of Engineering



Dr Marie-Luise Wille | CBT Speaker

QUT Centre for Biomedical Technologies | ARC Training Centre for Multiscale 3D Imaging, Modelling & Manufacturing Innovation | QUT Faculty of Engineering



A/Prof Ajay Pandey | CBT Speaker

QUT Centre for Biomedical Technologies | School of Electrical Engineering and Robotics | QUT Faculty of Engineering

3.45-4.00

AWARDS – SUPPORTED BY THE MENZIES FOUNDATION

Best ECR & PhD Oral Presentations

Best HDR Rapid Fire Presentations

Best ECR & HDR Posters

People's Choice Awards



4.00-4.30

AFTERNOON TEA AND NETWORKING

***Conference program may be subject to last minute changes**