

QUT

School of Biomedical Science Faculty of Health

Masters (MPhil), PhD and Honours Research Student Projects 2021



the university
for the real world

Research in Biomedical Science at QUT

Our internationally renowned biomedical science research is addressing global health issues - from designing tests and methods to prevent the spread of the COVID-19 virus, to developing biomarkers and treatments for cancer, understanding debilitating diseases such as migraines and Alzheimer's disease and understanding gut health.

Join the next generation of scientific leaders and entrepreneurs in biotechnology, pharmaceutical and healthcare sectors. Our career-ready research graduates are actively sought by industry, government and research organisations to improve healthcare outcomes for individuals and communities globally.

Take on a research project that will make a difference, in areas including:

- Precision cancer research and treatment
- Immunology and infection control
- Genomics and molecular medicine
- The microbiome in human health

How to apply for a research degree

Read our guide to applying for a research degree at QUT, including scholarship information and faculty-specific steps you'll need to take as part of your application:

[How to apply for a research degree](#)

Have questions about applying?

Our Higher Degree Research support team can answer your questions about applying for a research degree at QUT:

- Call: 3138 7200
- Email: hdr@qut.edu.au

Support for our research students

Our Graduate Research Education and Development (GRE+D) program is here to support your learning and skills development at all stages of your research degree.

[Find out more about GRE+D](#)

Research in Biomedical Science at QUT

Read about some of our School's researchers, their research interests and research projects for honours, Masters (MPhil) or PhD projects that will be available in 2021.

OUR STUDENTS AND GRADUATES 4

OUR RESEARCHERS AND RESEARCH INTERESTS

Cancer research 5

Genomics, Biomarkers and Molecular medicine 14

The Microbiome and human health 20

Immunity and Infection control 22

Anatomical science and Reproductive health 28

Vision science and Cardiovascular disease 29

**For more detail about individual projects visit the QUT
START database <http://start.health.qut.edu.au/>**

OUR STUDENTS

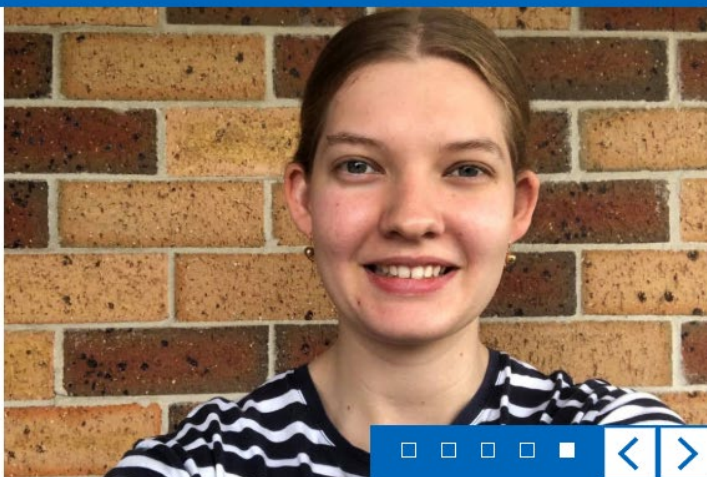
Find real-world health solutions

'My PhD research explored ways to stop the release of an enzyme in the body that prevents wound healing.

I chose to do my PhD at QUT because I completed a placement in their biomedical labs as an undergraduate student and found my love for research there.

Outside the lab I found many career development courses, leadership opportunities and social activities through QUT'.

Zoe West, QUT PhD researcher (Biomedical science)



'My PhD project is investigating immune responses to probiotics, and whether probiotics can be used to protect us against respiratory viral infections.

QUT has really helped me to thrive in my research degree. I conduct my work in world-class biomedical research facilities and my supervisor is an inspiring and active mentor.

I'm also given the autonomy I need to follow my own research interests'.

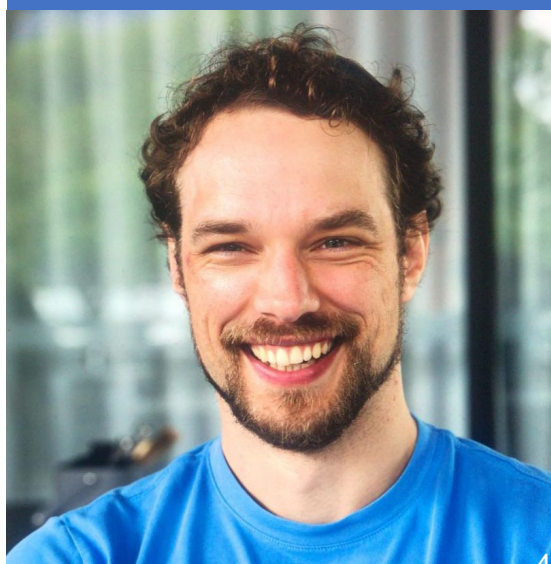
Teja Yarlagadda QUT PhD researcher (biomedical science)

OUR GRADUATES

During my PhD I used statistics and machine learning to discover biological markers capable of detecting soft tissue damage due to over exertion. Now I live in Seattle and lead a team of talented bioinformaticians and data scientists who develop diagnostic tests to detect a range of severe infections associated with sepsis

While QUT has great facilities and a great track record for the research in my area of interest, the primary reason I chose to do my post-grad studies at QUT was because of the people and the rapport I had with my supervisor.

People make or break a PhD program. Surround yourself with the right people and no matter what challenges you face, you will be well supported. QUT offers precisely that.





DR MARK ADAMS

CONTACT

PHONE: +61 7 3443 7324

EMAIL: mn.adams@qut.edu.au

OFFICE: Level 6 West,
Translational Research Institute



DR NATHALIE BOCK

CONTACT

PHONE: +61 7 3443 7343

EMAIL: n.bock@qut.edu.au

OFFICE: 3102, Level 3, Translational
Research Institute

POSITION

IHBI Strategic Research Fellow

Group Leader – Cancer & Ageing Research Program

RESEARCH

Our group seeks to exploit cellular pathways that regulate cell growth and division to improve chemotherapy response in lung and breast cancers. These key pathways regulate cell proliferation, cell fate and the fidelity of genomic information during and post cell division. We study several molecular candidates that function at the interface between these cellular pathways. Our work has identified strategies to target these candidates to sensitise tumours to therapy.

Research student projects available 2021:

- Exploiting regulation of mTOR to improve performance of targeted agents in lung cancer (BSc. Hons)(Masters).
- Improving response of hormone receptor positive breast cancers to therapy (BSc. Hons)(Masters).

QUT STAFF PROFILE:

<https://www.carp.org.au>

POSITION

AQIRF MCR – Principal Research Fellow

Bioengineering Models – Research Group Leader

RESEARCH

Our research lab addresses the shortcoming of 2D cell culture models by developing 3D bioengineered human cell culture models which better mimic natural human tissue microenvironments. Our current focus is on bone metastasis from breast and prostate cancers and we seek to recreate the human bone metastatic niche both *in vitro* in 3D and in humanised mouse models. Specifically, we use advanced tissue engineering technologies that combine human cells and 3D scaffolding biomaterials, to engineer 3D bone tumour microtissues for the study of the bone tumour microenvironment and to effectively assess current and novel therapies. Our interdisciplinary research is at the frontiers of bio-inspired materials science, tissue engineering and cancer biology.

Research student projects available 2021:

- The role of bone marrow fat in advance prostate cancer using 3D *in vitro* and *in vivo* bioengineered humanised models (Funded project 2020-2022)
- Bioengineered 3D platforms for therapy guidance in primary and bone metastatic breast cancer (Funded project 2020-2023)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/n.bock>



DR EMMA BOLDERSON

CONTACT

PHONE: +61 7 3443 7322

EMAIL: emma.bolderson@qut.edu.au

OFFICE: Level 6, Translational
Research Institute.



DR JOSHUA BURGESS

CONTACT

PHONE: +61 7 3443 7330

EMAIL: j6.burgess@qut.edu.au

OFFICE: Translational Research
Institute

POSITION

Molecular Biology of Ageing Group Leader - Cancer and Ageing
Research Program.

RESEARCH

My research group aims to determine the cellular mechanisms that drive the ageing process and ageing-related diseases, such as cancer. We study the processes by which our cells detect and repair DNA damage in normal cells and progeria syndromes. We are also interested in the interactions between DNA repair pathways, cellular metabolism and tumour response to cancer therapy. Understanding how our cells degenerate as we get older will enable us to identify pathways that can be targeted to prevent or alleviate the diseases that are prevalent in ageing humans.

Bolderson et al, Barrier-to-Autointegration Factor 1 (Banf1) regulates Poly [ADP-ribose] Polymerase 1 (PARP1) activity following oxidative DNA damage. Nature Communications, 10, 5501 (2019).

Research student projects available 2021:

- Characterising the role of PARPs in DNA repair and cancer therapy (BSc. Hons – 2 projects)

QUT STAFF PROFILE:

<https://www.carp.org.au>

POSITION

Postdoctoral fellow, Cancer and Ageing Research Program
(CARP)

RESEARCH

Our cellular DNA is constantly under threat from both exogenous and endogenous factors. DNA repair pathways function to maintain genomic stability, preventing deleterious mutations that may ultimately lead to cancer initiation. Once a tumour does form it will evolve to become even more genetically unstable, allowing environmental adaptation. In terms of cancer treatment, synthetic lethality can exploit tumour-driven mutations and protein expression alterations to induce cancer-specific cell death. One of the best examples is the discovery several years ago that cells deficient in homologous recombination are sensitive to PARP inhibitors. My research focuses on improving the efficiency of this new treatment.

Research student projects available 2021:

- Determining the response to PARP inhibitor treatment of ovarian cancer in mouse xenograft model (BSc Hons)
- Characterise a novel DNA repair protein as a target for cancer therapies (BSc Hons)

QUT STAFF PROFILE: <https://www.carp.org.au/>



DR JENNI GUNTER

CONTACT

PHONE: +61 7 34437337

EMAIL: jennifer.gunter@qut.edu.au

OFFICE: Translational Research Institute Level, 3



DR ARUTHA KULASINGHE

CONTACT

EMAIL: arutha.kulasinghe@qut.edu.au

OFFICE: Translational Research Institute

POSITION

Senior Research Associate, Cancer Metabolism Group
Australian Prostate Cancer Research Centre – Qld

RESEARCH

Jenni leads a research team studying the metabolic pathways that are adopted by cancer cells to evade therapy with the aim of identifying therapeutic opportunities to target these pathways. Her lab is currently testing drugs that target the unique metabolism of cancer in cell lines and in mouse models of prostate cancer.

Research student projects available 2021:

We have 2 cell-based research projects available which both aim to identify metabolic rewiring in response to novel and repurposed therapies.

- Re-purposing metabolic inhibitors to prevent therapy resistance in advanced prostate cancer .
- Development of novel therapeutics from nature for advanced prostate cancer.

QUT STAFF PROFILE:

<http://www.australianprostatecentre.org/about-us/our-people/dr-jenni-gunter>

POSITION

NHMRC Early Career Research Fellow @IHBI/TRI

RESEARCH

My Research aims to profile liquid biopsy and the spatially map the tumour microenvironment to identify predictive biomarkers of response to immune checkpoint therapy.

Research student projects available 2021:

- Spatial Profiling of the tumour microenvironment in head and neck and lung cancers

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/arutha.kulasinghe>



PROF COLLEEN NELSON

CONTACT

PHONE: +61 7 3176 7443
EMAIL: colleen.nelson@qut.edu.au
OFFICE: PAH APCRC-Q office
Level 1 Building 1



DR LISA PHILP

CONTACT

PHONE: +61 7 3443 7283
EMAIL: lisa.philp@qut.edu.au
OFFICE: Level 3, Translational
Research Institute (TRI)

Professor and Chair of Prostate Cancer
School of Biomedical Sciences
Director Australian Prostate Cancer Research Centre- QLD

RESEARCH

Prof Nelson's research in prostate cancer over 28 years has spanned the spectrum of discovery of new therapeutic targets and their preclinical and clinical evaluation of targeted novel and repurposed drugs. Her primary focus has been on the function of androgens in prostate cancer, the molecular, cellular and systemic effect of androgen deprivation therapy and androgen targeted therapies and mechanisms underlying progression to treatment resistant prostate cancer. Critical insights from this research are derived from large scale transcriptomic analyses from treatment effects and phenotypic changes in prostate cancer progression.

Research student projects available 2021:

- Computational biology related to novel drug treatments and treatment resistance
- Analyses of coding and non-coding transcripts and transcript isoforms in prostate cancer
- Data integration and visualisation of multi-omics data sets

POSITION

Adipokine Research Group Leader, Australian Prostate Cancer Research Centre – Queensland

RESEARCH

Adipokines are fat-secreted hormones most known for their role in obesity & metabolism. However, through signalling crosstalk with tissues throughout the body, adipokines play critical roles in multiple diseases, including prostate cancer. My research is focused on modulating adipokine signalling using novel drugs to prevent disease progression. Our vibrant research group, based at TRI, uses state-of-the-art technologies to understand the treatment efficacy of these drugs in preclinical animal & cell-based models. Our critical industry-partnered & grant funded research strives to develop these new drugs to clinical application to prevent & treat life-threatening disease.

Research student projects available 2021:

- Restoring adiponectin signalling to prevent prostate cancer progression (PhD/Masters/BSc Hons)
- Targeting leptin's signalling axis to prevent treatment resistance in prostate cancer (PhD/Masters/BSc Hons)
- Exploring the ying-yang of leptin and adiponectin in human disease (PhD/Masters/BSc Hons)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/lisa.philp>



DR JOAN ROHL

CONTACT

PHONE: +61 7 3138 2576
EMAIL: joan.rohl@qut.edu.au
OFFICE: Q Block Level 9

POSITION

Lecturer
Faculty of Health
School - Biomedical Sciences

RESEARCH

Advanced prostate cancer is treated using systemic androgen deprivation therapy (ADT). This strategy attempts to block the effects of androgen signalling in malignant cells located either within the prostate gland or in metastatic lesions located principally within the skeleton of patients. Our research has identified that use of androgen signalling inhibitors such as enzalutamide not only affects the viability of prostate cancer cells but also has profound effects on the viability of vascular endothelial cells. Consequently, the administration of ADT results in a significant and profound hypoxia which we propose underpins a novel mode of therapeutic resistance.

Research student projects available 2021:

- Evaluating critical nodes of therapy resistance in advanced prostate cancer (Hons/ Masters/ PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/joan.rohl>



DR KARSTEN SCHROBBACK

CONTACT

PHONE: +61 7 3443 7314
EMAIL: k.schrobback@qut.edu.au
OFFICE: Translational Research
Institute

POSITION

Lecturer and postdoctoral fellow, Cancer and Ageing Research Program (CARP)

RESEARCH

When we age the DNA repair systems of our cells become down-regulated. This results in reduced DNA repair capacity, enhanced mutation load and may lead to the development of chronic aging-associated diseases including osteoporosis, Alzheimer's and cancer. Unfortunately, we still lack a clear understanding on how the decrease in DNA repair fidelity affects adult stem cells and their ability to contribute to tissue maintenance and regeneration. My research is therefore aimed at characterising DNA damage responses in young and aged skeletal progenitor cells and how the DNA repair mechanism are affected by cell cycle exit and differentiation.

Research student projects available 2021:

- Investigating DNA repair mechanisms in aging adult stem cells

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/k.schrobback>



DR SRILAKSHMI SRINIVASAN

CONTACT

PHONE: +61 734437253

EMAIL: s1.srinivasan@qut.edu.au

OFFICE: Translational Research Institute.

POSITION

Postdoctoral Research Fellow, Institute of Health and Biomedical Innovation

RESEARCH

Prostate cancer is the second most common cancer in men worldwide. Currently there is no accurate diagnostic test to identify individuals who are more likely to develop aggressive cancer at an early stage. My research is aimed at detailed characterization of the splice variants that are found predominantly in tumours and have a clear diagnostic value. My research group is also interested in profiling immune prognostic signature that can help in discriminating indolent and aggressive prostate cancer..

Research student projects available 2021:

- Investigating the diagnostic and prognostic potential of KLK3/PSA splice variants in prostate cancer (Hons/ Masters/ PhD)
- Profiling immune signature to detect lethal prostate cancer (Hons/ Masters/ PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/s1.srinivasan>



A/PROF SALLY STEPHENSON

CONTACT

PHONE: +61 7 3443 7340

EMAIL: s.stephenson@qut.edu.au

OFFICE: Translational Research Institute

POSITION

Associate Professor School of Biomedical Sciences, Unit coordinator LQB186 and LQB601, Leader PACT group TRI.

RESEARCH

The focus of the research in the PACT group is in identifying, exploring and manipulating post-translational modifications that influence and control the function of proteins in cancer cells.

Research student projects available 2021:

- Various projects exploring post-translational modifications of proteins important in cancers
- Projects are cell and molecular biology focussed and will develop skills in this discipline.
- Projects suitable for Honours, Masters and PhD projects can be designed.

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/s.stephenson>



PROF RIK THOMPSON

CONTACT

PHONE: +61 7 3443 7365
EMAIL: e2.thompson@qut.edu.au
OFFICE: TRI Rm. 7031



A/PROF ELIZABETH WILLIAMS

CONTACT

PHONE: +61 7 3138
EMAIL: ed.williams@qut.edu.au
OFFICE: Translational Research Institute (TRI), Rm 3097

POSITION

Professor of Breast Cancer Research and Associate Director IHBI @ TRI

RESEARCH

My laboratory has interests in identifying translational opportunities, primarily in breast cancer, but also in other cancers such as pancreatic. We have particular interests in epithelial mesenchymal plasticity (EMP), personalised medicine approaches with patient-derived tumouroids, and the potential use of Plasma Medicine as a cancer therapy.

Williams ED, Gao D, Redfern A, Thompson EW: Controversies around epithelial-mesenchymal plasticity in cancer metastasis. *Nat Rev Cancer* 2019, 19(12):716-732.

Research student projects available 2021:

- EMP and therapy resistance in cancers; Can EMP-modulating therapy schedules enhance outcomes
- Novel targets in pancreatic cancer therapy
- Selective inhibition of triple-negative breast cancers with Plasma Medicine

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/e2.thompson/>

POSITION

Principal Research Fellow
co-Head Prostate and Bladder Cancer Research Program
Research Director, Centre for the Personalised Analysis of Cancers (CPAC)

RESEARCH

A/Prof Williams is an experienced Honours/HDR supervisor who has studied the cellular and molecular mechanisms of prostate and bladder cancer metastasis for many years. Her projects involve close collaboration with clinical colleagues and across disciplines. The use of clinical material is central to each project, to ensure clinical relevance.

Research student projects available 2021:

- Functional assays using clinical cancer specimens to identify personalised molecular targets in prostate and bladder cancer (Hons/ Masters/ PhD)
- Define the relationship between prostate cancer progression and *Neisseria gonorrhoeae* (Hons/Masters/PhD)
- Identification of the molecular mediators of prostate cancer – induced bone formation (Hons/Masters/PhD)

QUT STAFF PROFILE: <https://staff.qut.edu.au/staff/ed.williams>





DR PATRICK THOMAS

CONTACT

PHONE: +61 7 3443 7257

EMAIL: pb.thomas@qut.edu.au

OFFICE: Translational Research
Institute.



DR MARIANNA VOLPERT

CONTACT

PHONE: +61 7 3443 7356

EMAIL: marianna.volpert@qut.edu.au

OFFICE: Translational Research
Institute

POSITION

- Postdoctoral Research Fellow, Queensland Bladder Cancer Initiative (QBCI)
- Unit coordinator (LQB382), School of Biomedical Sciences

RESEARCH

Prostate and Bladder cancer are common urological cancers in Australia. Both typically require ongoing clinical care which leads to significant pressure on Australian health care. My research aims to explore the biology of tumour derived spheroids and ultimately develop personalised pre-clinical screening tools to support the clinical management of patients with prostate and bladder cancer. Within this research stream, our multidisciplinary team is also researching the consequence of the sexually transmitted bacteria, *Neisseria gonorrhoeae*, in the progression of prostate cancer. All projects are cell and molecular biology focused and will help develop skills and knowledge in this area.

Research student projects available 2021:

- Investigation of molecular targets in 3D models of prostate and bladder cancer (Hons/ Masters/ PhD)
- Determining the relationship between prostate cancer progression and *Neisseria gonorrhoeae* (Hons/ Masters/ PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/pb.thomas>

POSITION

Postdoctoral Research Fellow, Australian Prostate Cancer Research Centre - QLD

RESEARCH

Advanced prostate cancer is treated by therapeutic inhibition of androgen signalling. Despite initial remission, all patients eventually become resistant to androgen-targeted therapies. My research aims to identify the molecular determinants enabling prostate cancers to activate alternate growth pathways that lead to therapy resistance and treatment failure.

I have a separate research program focused on testing novel therapies for breast cancer, which is a heterogenous disease with multiple aggressive subtypes that currently lack targeted therapies. This work aims to identify and therapeutically exploit the unique molecular and immunological features of these tumours.

Research student projects available 2021:

- Inhibiting bypass survival pathways that drive resistance to androgen-targeted therapies in prostate cancer (PhD/Masters/Hons)
- Developing a novel treatment strategy for an aggressive subtype of triple-negative breast cancer (PhD/Masters/Hons)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/marianna.volpert>



PROF DAVID WAUGH

CONTACT

PHONE: +61 7 3138 5144
EMAIL: d6.waugh@qut.edu.au
OFFICE: Q Block Level 9 912.

POSITION

Head of School
Faculty of Health,
School - Biomedical Sciences

RESEARCH

Advanced prostate cancer is treated using systemic androgen deprivation therapy (ADT). This strategy attempts to block the effects of androgen signalling in malignant cells located either within the prostate gland or in metastatic lesions located principally within the skeleton of patients. Our research has identified that use of androgen signalling inhibitors such as enzalutamide not only affects the viability of prostate cancer cells but also has profound effects on the viability of vascular endothelial cells. Consequently, the administration of ADT results in a significant and profound hypoxia which we propose underpins a novel mode of therapeutic resistance.

Research student projects available 2021:

- Evaluating critical nodes of therapy resistance in advanced prostate cancer (Hons/ Masters/ PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/d6.waugh>

For more detail about individual projects visit the QUT
START database <http://start.health.qut.edu.au/>

OUR RESEARCHERS – GENOMICS, BIOMARKERS, MOLECULAR MEDICINE



DR DAN BROSZCZAK

CONTACT

PHONE: +61 7 3138 6174

EMAIL: daniel.broszczak@qut.edu.au

OFFICE: KG, IHBI, Level 6, Rm Q617

POSITION

Senior Lecturer, School of Biomedical Sciences

RESEARCH

My research encompasses tissue repair and biomarker discovery, with a focus on the application of proteomics to study and measure proteins in chronic wounds and other skin injuries, musculoskeletal disorders, and disease states. My work utilises targeted and untargeted mass spectrometry and bioinformatics to unravel complex biological systems. We are currently investigating changes in the wound fluid proteome from non-healing wounds that correlate with key clinical measures and patient outcomes.

Research student projects available 2021:

- Investigating protein changes and regulation of metabolites in chronic wounds (Honours) (MPhil) (PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/daniel.broszczak>



A/PROF LEILA CUTTLE

CONTACT

PHONE: +61 7 3069 7208

EMAIL: Leila.Cuttle@qut.edu.au

OFFICE: CCHR, Level 8, Rm 805.

POSITION

Associate Professor, School of Biomedical Sciences

RESEARCH

I study skin and the process of tissue repair - particularly for burn injuries. I am passionate about preventing burns, limiting the pathological damage caused by heat and developing new treatments to help burn wounds heal faster. I work with the burn units at the Queensland Children's Hospital and the Royal Brisbane and Women's adult Hospital, and we investigate burn patient data and biological samples. It is rewarding to work with the clinical teams to help develop new therapies for burn patients.

Research student projects available 2021:

- Identifying protein and DNA markers of burn injury and trauma (Honours) (MPhil) (PhD)
- Providing legal evidence for non-accidental burn injury (Honours) (MPhil)
- Preventing bacterial infection of skin replacement scaffolds (MPhil) (PhD)
- Developing evidence-based burn prevention information for distribution through social media (MPhil) (PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/leila.cuttle>



PROF LYN GRIFFITHS

CONTACT

PHONE: +61 7 3138 6102

EMAIL: lyn.griffiths@qut.edu.au

OFFICE: KG, Q Block, Level 7, Rm 715

POSITION

Professor and Executive Director, Institute of Health and Biomedical Innovation, Director, Genomics Research Centre

RESEARCH

I am Director of the Genomics Research Centre (GRC) laboratory and my research is in the fields of human gene mapping and molecular genetics. We use modern genomic technologies to investigate genetic factors involved in human traits and diseases using our significant bank of population genomic resources, including case-control, multigenerational pedigree and genetic isolate cohorts. I also run a NATA accredited lab which undertakes regular diagnostic testing for migraine and migraine related disorders, through which we can translate the outcomes of our genetic studies.

Research student projects available 2021:

- Investigation of genetic factors that contribute to concussion and its outcomes. (Honours) (MPhil) (PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/lyn.griffiths>



A/PROF LARISA HAUPT

CONTACT

PHONE: +61 7 3138 0801

EMAIL: larisa.haupt@qut.edu.au

OFFICE: KG, Q Block, Rm.7.04A

POSITION: Principal Research Fellow, Neurogenesis and Stem Cell Group Leader, Genomics Research Centre, IHBI

RESEARCH

A/Prof Haupt and her research team have a particular interest in the role of the extracellular matrix, with a focus on the proteoglycans, in the regulation and dysregulation of cell behaviour including lineage specification and cancer. To do this, they utilise molecular and cell biological in two- and three-dimensional culture models in conjunction with next generation sequencing platforms to unravel these complex mechanisms in humans. Models used for this work currently include: primary human mesenchymal stem cells (hMSC); human embryonic stem cell derived neural stem cells (hNSC H9 and ENStem-A); primary cortex derived normal human progenitor cells (nhNPC); human immortalised frontal cortex-derived cells (ReNcell CX); patient-derived Alzheimer's Disease iPSC-NSCs (AD-iPSC-NSCs); human primary normal human mammary epithelial cells (HMECs); and human breast cancer (HBC).

Research student projects available 2021:

- Renewal and differentiation in human neural stem cells and their application to understanding neurological disorders
- Proteoglycan profiling in human neurodegeneration and human neurogenesis models
- Honours; MPhil; PhD

QUT STAFF PROFILE:

Link: <https://staff.qut.edu.au/staff/larisa.haupt>



DR RACHAEL MURRAY

CONTACT

PHONE: +61 7 3138 6081

EMAIL: rachael.murray@qut.edu.au

OFFICE: IHBI, KG, level 6 Rm6.04a

POSITION: Head Tissue Repair and Inflammation Group, Senior Lecturer, School of Biomedical Sciences.

RESEARCH

My research group focuses on the roles of immune cells and inflammation in tissue repair. Inflammation regulated by macrophages contributes to scar formation and, in some, it can hinder wound healing, such as seen with chronic wounds. We look for ways to alter the number of macrophages in wounds and reduce inflammation to improve the repair process. We also look at ways to determine who will acquire these chronic wounds and other complications of diabetes.

Research student projects available 2021:

- Reducing macrophage migration into wounds and improving wound healing.
- Identifying biomarkers for the onset of complications of diabetes, such as chronic wounds.

QUT STAFF PROFILE:

Link: <https://staff.qut.edu.au/staff/rachael.murray>



PROF DALE NYHOLT

CONTACT

PHONE: +61 7 3138 0067

EMAIL: d.nyholt@qut.edu.au

OFFICE: KG, Q Block, Rm 612.

POSITION

Professor, School of Biomedical Sciences

RESEARCH

My expertise spans statistical genetic and genomic analysis, epidemiology and bioinformatics. My [Statistical and Genomic Epidemiology Laboratory \(SGEL\)](#) studies the role of genetics in the development and mechanism of human traits, with particular emphasis on migraine, and the specific goal of identifying genetic risk factors, understanding their biological consequences, and detecting common genetic links with other disorders; including depression, endometriosis, and epilepsy. The identification of such causal genetic factors will provide a deeper understanding of the aetiology of migraine and our ability to prevent and treat attacks and facilitate the discovery of novel pathways and thus identify new targets for drug therapy. SGEL also develops novel statistical bioinformatics programs used by researchers worldwide.

Research student projects available 2021:

- Developing a method to detect the presence of allelic heterogeneity in loci of complex traits

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/d.nyholt>



A/PROF TONY PARKER

CONTACT

PHONE: +61 7 3138 6187
EMAIL: a.parker@qut.edu.au
OFFICE: IHBI Rm: 603E.

POSITION

Associate Professor, School of Biomedical Science

RESEARCH

I study the biochemical implications of tissue injury and recovery processes using cutting edge analytical technologies and 3D *in vitro* experimental skin wound models in order to develop new approaches to tissue repair. I am also passionate about the role of exercise in the systemic release of neuroprotective proteins for stroke prevention and rehabilitation. We work closely with leading Australian burns researchers at the Centre for Children's Health Research; Queensland Children's Hospital; Children's Hospital Westmead, Sydney; and Fiona Stanley Hospital, Perth. I also collaborate with leading researchers at A*STAR Singapore; Tulane University, New Orleans and University of Kentucky, USA.

Research student projects available 2021:

- Circulating exercise induced neuroprotective peptides for stroke prevention and rehabilitation (Honours) (MPhil) (PhD)
- Characterisation of burn wound fluid extracellular vesicles (Honours) (MPhil) (PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/a.parker>



DR JONATHAN PEAKE

CONTACT

PHONE: +61 7 3138 6140
EMAIL: jonathan.peake@qut.edu.au
OFFICE: IHBI, Rm 618

POSITION

Senior Lecturer, School of Biomedical Sciences

RESEARCH

I teach human physiology to undergraduate students in biomedical science, and exercise and nutrition science. My research is focused on regulatory and comparative physiology, and includes the following specific areas of interest:

1. tissue injury and inflammation, with a particular focus on skeletal muscle
2. biomarkers and wearable technology for monitoring stress and recovery during exercise
3. how physiological systems return to normal after exercise, and strategies to promote post-exercise recovery (e.g., cold and hot water immersion, massage etc)
4. exercise and nutritional interventions to counteract inflammation associated with aging and chronic disease.

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/jonathan.peake/>



PROF NATHAN SUBRAMANIAM

CONTACT

PHONE: +61 7 3138 2980

EMAIL: nathan.subramaniam@qut.edu.au

OFFICE: KG, Q Block, Rm. 603G



DR HEIDI SUTHERLAND

CONTACT

PHONE: +61 7 3138 0971

EMAIL: heidi.sutherland@qut.edu.au

OFFICE: KG, Q Block, Rm. 4.13

POSITION

Professor, School of Biomedical Sciences

RESEARCH

Liver disease is a significant burden on society and claims more than 7,000 Australian lives each year. Disturbed iron metabolism is associated with many disorders and diseases; the liver plays a central role in the regulation of iron homeostasis. These two inter-related research themes are the focus of research in my group. We hope to advance our understanding of these disorders at a molecular level with the ultimate objective being the development of diagnostics and therapeutic interventions. Projects in the laboratory are thus focused on defining the molecules and mechanisms that mediate liver injury and iron-related disease.

Research student (Honours, MPhil, PhD) projects available 2021:

- Targeting Fibrosis: Identification of novel natural compounds to modulate collagen expression
- MicroRNAs in progression and development of liver disease
- Role of peroxisome dysfunction in fatty liver disease
- Understanding the role of TGF-beta signalling intermediates in liver and iron-related disease
- Identification and functional characterisation of genetic modifiers of iron overload
- Developing in vitro 3D cell models to understand liver disease

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/nathan.subramaniam>

POSITION

Senior Research Fellow, School of Biomedical Sciences, Institute of Health and Biomedical Innovation

RESEARCH

I am a Senior Research Fellow, working in the laboratory of Prof Lyn Griffiths in the Genomics Research Centre, with experience in the fields of gene expression, epigenetics, nuclear structure and function, mouse development and human genetics. My current research focus is investigating genetic and epigenetic factors involved in complex human diseases and traits, including cardiovascular disease risk factors and memory, and with a particular interest in genes that contribute to migraine and related neurogenetic disorders. I am a lab-based scientist; my work is conducted via a range of methods, including genomic sequencing and high-throughput array and genotyping technologies.

Research student projects available 2021:

- Investigation of genetic factors that contribute to concussion and its outcomes. (Honours) (MPhil) (PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/heidi.sutherland>



DR JOANNE VOISEY

CONTACT

PHONE: +61 7 31386261
EMAIL: j.voisey@qut.edu.au
OFFICE: IHBI, KG, Level 5 528C

POSITION

Senior Research Fellow, School of Biomedical Sciences, Institute of Health and Biomedical Innovation

RESEARCH

My research is focused on identifying markers for diagnosis of mental illness and treatment response. My group was the first world-wide to identify epigenetic marks across the whole genome in schizophrenia brain samples. Epigenetics is perfect for studying mental illness as it looks at both your genetics and how your lived experiences can place marks on your DNA influencing the way your genes work. My current research is identifying why some people don't respond to treatment for depression and PTSD.

Research student projects available 2021:

- Epigenetics of PTSD and depression

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/j.voisey>



A/PROF CHAMINDIE PUNYADEERA

CONTACT

PHONE: +61 7 3138 0830
EMAIL: chamindie.punyadeera@qut.edu.au
OFFICE: IHBI, QUT

POSITION

Leader, Saliva Translational Research Group

RESEARCH

Human saliva contains a large number of circulating proteins that can serve as indicators of the body's health and wellbeing. Head and neck squamous cell carcinoma (HNSCC) is the 6th most common cancer globally with less than 40% survival beyond 5 years. A subset of HNSCC is caused by human papilloma virus (HPV) and known as oropharyngeal cancer (OPC). We have published that we can detect HPV DNA in saliva samples collected from patients with 93% sensitivity and 100% specificity. It is interesting to understand the HPV-16 driven changes at the cellular level (miRNA and telomere) during the development of OPC.

Previous studies suggested circulating peptide biomarkers are secreted into the saliva in a manner that might enable highly specific detection of heart failure. However, the mechanism of how these biomarkers are transported to saliva is still uncertain. Recent studies suggested that exosomes, a cell derived vesicle, may be the key component of biomarker transportation between saliva and the circulation.

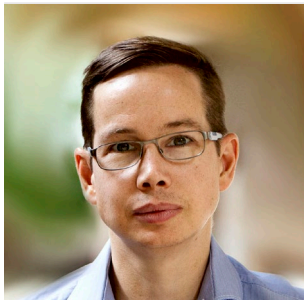
Research student projects available 2021:

- Human papilloma virus associated non-invasive biomarkers in oropharyngeal cancers (Honours/Masters)
- The development of salivary exosomes are biomarkers for heart failure (Honours/Masters)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/chamindie.punyadeera>

OUR RESEARCHERS- THE MICROBIOME IN HUMAN HEALTH



GENE TYSON

CONTACT

PHONE: +61 7 3443 7338

EMAIL: gene.tyson@qut.edu.au

OFFICE: TRI, Level 3, Room 3017

POSITION

Professor of Microbial Genomics
Centre for Microbiome Research (CMR)
School of Biomedical Sciences

RESEARCH

My group applies culture-independent molecular approaches (metagenomics, metatranscriptomics and metabolomics) and novel bioinformatics to investigate microbial communities in a wide range of different engineered, natural and host-associated ecosystems. My research is primarily focused on exploring these communities to uncover novel metabolic and phylogenetic diversity. My team actively develops new open-source informatic tools for the analysis of high-throughput sequence and metabolomic data in order to drive scientific discovery.

Research student projects available 2021:

- Exploring the human microbiome and its link to disease (BSc Honours; PhD)
- Illuminating the microbial world using genome-based fluorescence microscopy (BSc Honours; PhD)
- Melting permafrost - dissecting methane flux at the leading edge of global change (BSc Honours; PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/gene.tyson>



BENJAMIN WOODCROFT

CONTACT

PHONE: +61 7 3443 7338

EMAIL: b.woodcroft@qut.edu.au

OFFICE: TRI, Level 3, Room 3111

POSITION

Informatics Team Leader
Centre for Microbiome Research (CMR)
School of Biomedical Sciences

RESEARCH

The microorganisms that live inside us and fill our planet drive many important processes, including maintaining human health, nutrient cycling and climate change. Investigating microbial communities is currently a wonderfully rewarding task given how much data is available relative to the small amount we know about these systems. We study microbial communities (microbiomes) using metagenomic, metatranscriptomic and metabolomic techniques to help us gain insight into how these systems function. My team's expertise is in the bioinformatic treatment of these data that is integral to modern analysis of microbial systems everywhere.

Research student projects available 2021:

- Giant viruses and large plasmids in the human gut (BSc Honours; PhD)
- Large scale analysis of co-evolution and co-abundance in Bacteria and Archaea (BSc Honours; PhD)
- The effect of climate-driven thaw on permafrost-associated microbial communities (BSc Honours; PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/b.woodcroft>



SIMON MCILROY

CONTACT

PHONE: +61 7 3443 7338

EMAIL: simon.mcilroy@qut.edu.au

OFFICE: TRI, Level 3, Room 3111

POSITION

ARC Future Fellow

Centre for Microbiome Research (CMR)

School of Biomedical Sciences

RESEARCH

Microorganisms are the most diverse and abundant life-forms on Earth and drive key processes relevant to human health, agriculture and the environment. I specialise in the development and application of methods for the visualisation and characterisation of microorganisms within their natural environment, where they often form complex organised biofilm structures consisting of thousands of co-existing species. My primary research focus is on a group of methane consuming microorganisms that live in anaerobic freshwater sediments - where their use of the potent greenhouse gas makes them important to global carbon cycling and climate change.

Research student projects available 2021:

- Genome-based strain level visualisation of microorganisms within mixed communities (BSc Honours; PhD)
- Characterisation of the metabolic diversity of anaerobic methane oxidising archaea (BSc Honours; PhD)

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/simon.mcilroy>

For more detail about individual projects visit the QUT
START database <http://start.health.qut.edu.au/>



PROF KEN BEAGLEY

CONTACT

PHONE: +61 7 3138 6195

EMAIL: k2.beagley@qut.edu.au

OFFICE: QIMR-B, L11

POSITION

Professor of Immunology

RESEARCH

I am the leader of the Chlamydia Vaccine Group. My research focuses on how STIs (mainly *Chlamydia*) negatively affect male and female fertility. Our research shows that prophylactic and therapeutic vaccines and potentially other novel therapeutics may protect the upper reproductive tract, particularly the testes of men, and fertility. To develop the most effective vaccines and therapies, we need to understand the immune response to both chlamydial infection and the treatments. This will inform how treatments are composed and implemented. The projects we have available are centred on this concept.

Research student projects available 2021:

- Testing of novel antibiotic-loaded nanoparticles for treatment of *Chlamydia* infection.
- Infection kinetic changes that occur within macrophage-adapted *Chlamydia*.
- Detection of anti-*Chlamydia* antibodies in serum as a marker of testicular infection.

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/k2.beagley>



DR EMILY BRYAN

CONTACT

PHONE: +61 7 3138 6260

EMAIL: er.bryan@qut.edu.au

OFFICE: QIMR-B, L11.

POSITION

Post-doctoral Researcher

RESEARCH

I am part of the Chlamydia Vaccine Group. My research focuses on host-pathogen interactions in the context of the impact of STIs (mainly *Chlamydia*) on male fertility. I am working to understand how *Chlamydia* gains access to the testes in the upper reproductive tract, where it causes extensive damage and adversely affects fertility. Our preliminary data shows that a vaccine may protect the testes and fertility but to fine-tune this strategy, we also need to understand the immune response to both chlamydial infection and the vaccine. The projects we have available are centred on this concept.

Research student projects available 2021:

- Testing of novel antibiotic-loaded nanoparticles for treatment of *Chlamydia* infection.
- Infection kinetic changes that occur within macrophage-adapted *Chlamydia*.
- Detection of anti-*Chlamydia* antibodies in serum as a marker of testicular infection.

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/er.bryan>



DR ALISON CAREY

CONTACT

PHONE: +61 7 31386259

EMAIL: alison.carey@qut.edu.au

OFFICE: QIMR-B, Bancroft Building

POSITION

Research Group Leader

Lecturer

RESEARCH

I am the leader of the Streptococcal Research Group, and a senior member of the *Chlamydia* Research Group. My research focuses on the host-pathogen interactions in the female and male genital tracts. We are working to understand how *Chlamydia* causes such severe damage and infertility and develop vaccines to prevent this. I also work on understanding the maternal immune responses and vaginal microbiome in response to vaginal Group B Streptococcal colonisation during pregnancy.

Research student projects available 2021:

- Testing of novel antibiotic-loaded nanoparticles for treatment of *Chlamydia* infection.
- Infection kinetic changes that occur within macrophage-adapted *Chlamydia*.
- Detection of anti-*Chlamydia* antibodies in serum as a marker of testicular infection.

QUT STAFF PROFILE:

<https://research.qut.edu.au/infectionandimmunity/projects/reproductive-infection-and-immunity-research/>



DR SAM DANDO

CONTACT

PHONE: +61 7 3138 6282

EMAIL:

samantha.dando@qut.edu.au

OFFICE: QIMR Berghofer, Herston

POSITION

Lecturer

Head – Neuroimmunology and Infections Research Group

RESEARCH

I lead the Neuroimmunology and Infections Research Group at QIMR Berghofer. Our research group aims to understand the highly specialised immunological niches within the brain and eye, and to determine how infection and immunity within these niches contributes to neurological and ocular diseases. We are also interested in understanding how some pathogens (such as *Toxoplasma gondii*) can invade the central nervous system and persist as chronic infections.

Research student projects available 2021:

- Chronic *Toxoplasma gondii* infection and degenerative diseases of the brain and retina

QUT STAFF PROFILE:

<https://research.qut.edu.au/infectionandimmunity/projects/neuroimmunology-and-infection-research/>



PROF JANET DAVIES

CONTACT

PHONE: +61 7 3138 3751
EMAIL: j36.davies@qut.edu.au
OFFICE: QIMR Berghofer Labs,
Herston.



DR FRANCESCA FRENTIU

CONTACT

PHONE: +61 7 31386185
EMAIL: francesca.frentiu@qut.edu.au
OFFICE: QIMR Berghofer, Herston

POSITION

Head of QUT Allergy Research Group

RESEARCH

The QUT Allergy Research Group is a multidisciplinary team focused on pollen allergy. The scope of research encompasses molecular allergen characterisation, studies of patient immunity to allergens, and environmental health. Janet is the Principal Investigator of the NHMRC AusPollen Partnership establishing Australia's national standardized pollen monitoring and innovative forecast network. The team's research underpins more specific immunodiagnosis and treatment for subtropical grass pollen allergy. The group is well supported by National Health and Medical Research Council, ARC Discovery grants and other grants and industry engagements to enable both discovery and applied translational research which helps people better manage their hayfever and allergic asthma.

Research student projects available 2021:

- *Characterisation of grass pollen allergen extracts for diagnosis and therapy of patients with allergic rhinitis and asthma*

QUT STAFF PROFILE:

<https://research.qut.edu.au/arg/>

POSITION

Research Group Leader and Lecturer

RESEARCH

I lead the Arbovirus Transmission and Evolution group based at QUT@QIMRB. Our research focus is understanding the environmental and host factors that drive transmission of Zika, dengue and chikungunya viruses. We are also interested in how RNA viruses evolve, and in particular the microevolutionary processes leading to adaptation to new hosts and virus emergence. Our work is multidisciplinary, with applications in public health and development of strategies to counter antiviral resistance.

Research student projects available 2021:

- Climate change and the emergence of mosquito-borne viruses
- RNA virus evolution and adaptation to new hosts

QUT STAFF PROFILE:

<https://research.qut.edu.au/infectionandimmunity/projects/arboviruses-transmission-research/>



DR DANICA HICKEY

CONTACT

PHONE: +61 7 3138 6239

EMAIL: danica.hickey@qut.edu.au

OFFICE: QIMR Berghofer Labs, Herston

POSITION

Head of Reproductive Tract Immunology and Endometriosis Research

RESEARCH

Dr Danica Hickey is a reproductive tract immunologist seeking to understand the genetic and immunological drivers of endometriosis and infertility. Dr Hickey specialises in hormone regulated immunity in the female reproductive tract regulating inflammation. Her work examines the multifactorial drivers of endometriosis and immune responses driving inflammation and chronic disease with a focus on the relationship between genes, hormone regulation and the body's immune response.

Research student projects available 2021:

- Identifying the hormonal microenvironment and cytotoxic immune cells phenotypes that maintain deep infiltrating endometriotic pelvic lesions

QUT STAFF PROFILE:

<https://research.qut.edu.au/infectionandimmunity/projects/endometriosis-research/>



A/PROF TONY KENNA

CONTACT

PHONE: +61 7 3138

EMAIL: Tony.kenna@qut.edu.au

OFFICE: QIMR-B

POSITION

Associate Professor, School of Biomedical Sciences
Lead – Experimental Rheumatology

RESEARCH

Group overview

I lead the Experimental Rheumatology group based at QIMRB. We are interested in understanding how the immune system is changed in patients with rheumatic diseases. To achieve this, we use a combination of immunological and genomic studies of patient samples and models of disease. We then try to apply what we learn about immune function in disease to design new treatments. We're also interested in how the immune system interacts with microbiomes and how microbiomes can influence development of rheumatic diseases.

Research student projects available 2021:

- Understanding immune function in the autoimmune disease Scleroderma
- A role for the gut microbiome in autoimmune diseases
- Functional dissection of genetic signals for the rheumatic disease ankylosing spondylitis

QUT STAFF PROFILE:

<https://research.qut.edu.au/translationalgenomicsgroup/people/tony-kenna/>

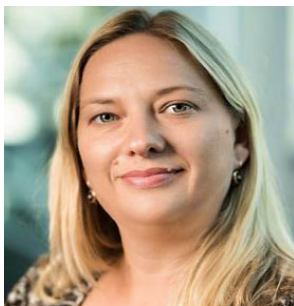


A/PROF BRENDAN O'SULLIVAN

CONTACT

PHONE: +61 7 3139 4332
EMAIL: b5.osullivan@qut.edu.au
b5.osullivan@qut.edu.au

OFFICE: Rm 518, Clinical Sciences, TPCH



PROF KIRSTEN SPANN

CONTACT

PHONE: +61 7 3138 6298
EMAIL: Kirsten.Spann@qut.edu.au
OFFICE: QIMRBerghofer MRI
Bancroft level 11

POSITION

Chief Scientist Lung Transplant Research TPCH

RESEARCH

Lung transplantation is a complex medical procedure for advanced lung disease. Average survival following lung transplantation is only 8 years due to immune rejection and fibrosis leading to organ failure. Interventions before lung injury becomes irreversible may delay or prevent the development of lung failure and improve lung transplant outcomes. The aim of my research is to use single cell sequencing to characterise cells mediating damage in common lung diseases. Then to identify pathways associated with disease and develop new treatments.

Research student projects available 2021:

- Bioinformatic analysis of single cell RNA datasets from patients with lung disease

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/b5.osullivan>

POSITION

Deputy Head of School
Leader of the Respiratory Virology Research Laboratory

RESEARCH

Respiratory viruses have caused some of the largest pandemics of our lifetime and yet we still do not understand them well enough to have vaccines and antivirals, effective control measures, or even understand the pathology of disease. Our research covers a broad range of topics: the role of viruses in asthma and chronic obstructive pulmonary disease, the potential for probiotics to protect against viral infections, with SEF collaborators we are looking at the survival of viruses as aerosols and on metal surfaces and how we can then stop environmental transmission of respiratory viruses including SARS-CoV-2

Research student projects available 2021:

- To be advised based on interest

QUT STAFF PROFILE:

Link: <http://research.qut.edu.au/infectionandimmunity/>



A/PROF MAKRINA TOSIKA

CONTACT

PHONE: +61 7 3138 4010

EMAIL: makrina.totsika@qut.edu.au

OFFICE: QIMR-B, L11

POSITION

Principal Research Fellow

RESEARCH

I lead the Bacterial Pathogenesis (BacPath) research group that studies how bacterial pathogens, now resistant to most available antibiotics, cause disease. The pathogens we study, such as *E. coli*, *Klebsiella* and *Salmonella*, commonly cause intestinal and urinary tract infections and are listed by the WHO as critical priority for new drug development. By studying their virulence at the genomic, molecular and cellular level, we have identified novel bacterial targets that can be exploited in developing new antimicrobial drugs. Our work is at the forefront of novel anti-virulence drug research and development; drugs that can disarm pathogens and replace or revive currently failing antibiotics. Offered projects provide unique multi-disciplinary training opportunities in molecular and cellular microbiology, as well as new antimicrobial drug discovery and development.

Research student projects available 2021:

- Developing and testing new anti-virulence drugs against biofilm infections by multidrug resistant pathogens
- Emerging multidrug resistant Gram-negative pathogens: genomics, virulence and antimicrobial resistance
- Molecular mechanisms of bacterial proteins involved in host recognition and defense

QUT STAFF PROFILE:

<https://research.qut.edu.au/infectionandimmunity/projects/bacterial-pathogenesis-research/>



LAURA GREGORY

CONTACT

PHONE: +61 7 3138 1281

EMAIL: l.gregory@qut.edu.au

OFFICE: KG, Block, O-Dwing Rm. 711b

POSITION

Associate Professor in Anatomical Sciences

Clinical Anatomy and Paediatric Imaging Group Leader

School of Biomedical Sciences, Faculty of Health, QUT

Director of Digital Teaching, Learning and Innovation, Faculty of Health, QUT

RESEARCH

The anatomy of the human body drives how the body functions in health, yet contemporary research into the relationship between anatomical variation and disease presentation is limited. Through manipulating digital imaging capabilities, we are able to qualitatively and quantitatively investigate the presentation and pattern of variation of major organs to determine the effect of sex and age on anatomical presentation. Our aim is to investigate paediatric anatomy and development, and clinically relevant anatomical variation in the body to provide personalised patient care to all individuals and improved patient outcomes.

Research student projects available 2021:

- Ossification of the paediatric skeleton
- Mapping anatomical variation
- Sex determination in the paediatric skull

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/l.gregory>

REPRODUCTIVE HEALTH

POSITION

Professor in Child and Reproductive Health

Child and Reproductive Health Research Group Leader

School of Biomedical Sciences-Faculty of Health-QUT

RESEARCH

Complications of pregnancy, e.g. preeclampsia, preterm birth) represent the major causes of fetal and neonatal morbidity and mortality and potentially affect childhood and adult susceptibility to both cardiac and metabolic diseases. These complications of pregnancy are often not diagnosed until late in pregnancy. Early detection of these disorders is, therefore, essential to improve health outcomes for mother and baby.

Our goal is to elucidate the molecular mechanisms leading to the development of pregnancy complications and to develop diagnostic tests for the early detection of abnormalities in e.g. fertility, pregnancy and childhood development.

Research student projects available 2021:

- Early detection of complications in human pregnancy.
- Uses of exosomes as therapeutic delivery systems.
- Early diagnosis of pregnancy complications using exosomes.
- Improving cow fertility: targeting exosome-responsive pathways.

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/murray.mitchell>



MURRAY MITCHELL

CONTACT

PHONE: + 61 7 3069 7438

EMAIL: : murray.mitchell@qut.edu.au

OFFICE: CCHR, 62 Graham Street, South Brisbane .



A/PROF BEATRIX FEIGL

CONTACT

PHONE: +61 7 3138 6147
EMAIL: b.feigl@qut.edu.au
OFFICE: KG, IHBI

POSITION

Associate Professor
School of Biomedical Sciences

RESEARCH

I am a vision scientist and ophthalmologist who leads the QUT Medical Retina Research Group. We study the effects of eye disease (macular degeneration, glaucoma, diabetic retinopathy) and neurodegenerative disease (Parkinson's disease) on human melanopsin photopigment function and retinal signalling, sleep and circadian rhythms. This multidisciplinary research involves collaborations with neuroscientists, ophthalmologists and engineers, with research support from the Australian Research Council (ARC), NHMRC and industry.

Research student projects available 2021:

Lighting and circadian health, Parkinson's disease and non-motor symptoms, retinal disease and melanopsin photoreceptors, big data and artificial intelligence

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/b.feigl>



DAMIEN HARKIN

CONTACT

PHONE: 0402 593975
EMAIL: d.harkin@qut.edu.au
OFFICE: GP, Q Block, Level 9
KG, Q Block, Rm 528L

POSITION

Professor
School of Biomedical Sciences

RESEARCH

I primarily apply my skills as an experienced cell biologist and histologist to the treatment of patients afflicted with common and/or severe eye diseases. My research program is located within the Institute of Health and Biomedical Innovation (Kelvin Grove), but I also work with researchers based at the Queensland Eye Institute, the Australian Red Cross Lifeblood, the Centre for Children's Health Research (Burns & Trauma Group), the Herston Biofabrication Institute, QIMR-B (Neuroimmunology and Infection Team) and the CSIRO (Biomedical Manufacturing Program, Clayton, Victoria).

Research student projects available 2021:

We are currently seeking students with an interest in biomaterials and/or stem cell biology, to help us develop a bioengineered tissue for the treatment of Meibomian gland dysfunction.

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/d.harkin>



DR NATALIE PECHENIUK

CONTACT

PHONE: +61 7 3138 6184

EMAIL: n.pecheniuk@qut.edu.au

OFFICE: KG, Q Block, Rm 528C.

POSITION

Senior Lecturer

School of Biomedical Sciences

RESEARCH

Blood clots are the leading cause of death in Australia and are associated with stroke, deep vein thrombosis (DVT), pulmonary embolism (PE) and coronary heart disease. Approximately 30,000 Australians are hospitalised each year due to DVT and/or PE. Haemostasis is the biological process that occurs in response to vascular trauma to prevent blood loss from the body. Biochemical, genetic and circumstantial factors contribute to altered procoagulant, anticoagulant and fibrinolytic pathways and processes and can lead to predisposing blood clotting and thrombosis. It is a complex balanced process of endothelium, platelets and clotting proteins that enable our blood to keep flowing. The research interests of the lab are focused on mechanisms and translational research settings of blood clotting.

Research student projects available 2021:

- Role of Histones in procoagulant activity

QUT STAFF PROFILE:

<https://staff.qut.edu.au/staff/n.pecheniuk>

For more detail about individual projects visit the QUT
START database <http://start.health.qut.edu.au/>



the university
for the real world