This year, our pursuit of best practice and clinical research excellence focuses on our emerging early and mid-career researchers, who are the vanguards of our next generation clinical research breakthroughs.

Professor David L. Paterson
2015 Acting Director
Significant growth and development has marked my term as Acting Director this year. It has proved to be a productive and highly rewarding year, thanks are due to my predecessor Professor Murray Mitchell for his previous stewardship of this high performing centre of medical and health innovation.

I am proud to present this report on our successes throughout 2015 at The UQ Centre for Clinical Research (UQCCR). The enduring support of generous donors, funders, supporters, collaborators and cooperative ventures, make this a reality.

As you read about the people and projects making a contribution to human wellness and health along the age continuum, you will notice a common theme emerging: research excellence supporting health and lifetime well-being. This year, our pursuit of best practice and clinical research excellence focuses on our emerging early and mid-career researchers, who are the vanguards of our next generation clinical research breakthroughs.

Our researchers have been spurred on by having their work validated through receiving more than $15.6 million from the National Health and Medical Research Council (NHMRC). Their efforts continue to be acknowledged through support from new and current collaborators and cooperative partners. This year saw twenty five of our research higher degree students complete their study, within a cohort of one hundred and fifteen students.

Researchers within our four themes of Brain and Mental Health, Cancer, Infection and Immunity, and Mother, Babies and Lifelong Health published three hundred and thirty four papers in key journals of international regard. We welcomed fourteen international visiting scientists in 2015.

Congratulations are extended to UQCCR individual staff members whose efforts have been celebrated at the highest levels. Professor Sunil Lakhani was awarded a Distinguished Pathologist Award at the Asia Pacific International Academy of Pathology Congress; Professor Pam McCambe received an ANZAN medal from the Australian and New Zealand Association of Neurologists; Professor Murray Mitchell received a Fellow of the Royal College of Obstetricians and Gynaecologists ad eundem; Dr Peter Simpson was awarded a Fellow of the Faculty of Science by the Royal College of Pathologists of Australasia and Dr Minyon Avent was credentialed as an Advanced Practice Pharmacist by the Australian Pharmacy Council (APC).

The much anticipated Herston Imaging Research Facility (HIRF) was officially opened by Queensland Premier Annastacia Palaszczuk. This venture is the culmination of astute collaboration between The University of Queensland, the Metro North Hospital and Health Service, QUT and the QIMR Berghofer Medical Research Institute, with Siemens as an industry partner and the generous support of The Queensland Government. HIRF combines state-of-the-art medical imaging equipment with world-class research and clinical expertise, right here in Herston. It is set to be one of the most exciting clinical imaging ventures in the Asia Pacific.

We celebrated outstanding research contributions at the UQCCR Annual Awards – Professor David Copland, Dr Nadeeka Dissanayaka, Dr Carlos Salaman-Gallo, Ms. Hanna Thomas and Dr Patrick Harris.

These awards present an opportunity to showcase and recognise research excellence of our world class researchers, early career researchers and research higher degree students.

Importantly, I would like to thank and recognise all UQCCR staff – academic, clinical, professional and research for their dedication, spirit of achievement and teamwork. Their pursuit of research excellence and deep commitment to health and lifetime well-being, supports our many milestones and accomplishments.

Professor David L. Paterson
2015 Acting Director
Research Themes

**Mothers, Babies and Lifelong Health**

A healthy start to life is vital for lifelong health and preventing susceptibility to chronic disease. This research area focuses on the links between pregnancy, the fetus and newborn, and lifelong health. The goal is to improve health outcomes for mothers and babies from complications of pregnancy, fetal growth restriction, and brain injury.

**Research areas include:**
- Pregnancy
- High-risk pregnancy
- Early diagnosis of complications of pregnancy
- Metabolism in pregnancy
- Gestational diabetes
- Preterm labour
- Neonatal
- Cardiovascular function in neonates
- Sudden Infant Death Syndromes (SIDS)
- Cerebral palsy
- Wound healing
- Ischemic brain injury in the neonate

**Group Leaders:**
- Professor Nicholas Fisk, Stem cell biology
- Associate Professor Kiarash Khosrotehrani, Stem cell biology
- Professor Leone Callaway, Complications of pregnancy
- Dr Marloes Dekker, Microbiomes in pregnancy
- Professor Greg Rice, Exosome Biology Laboratory
- Dr Carlos Salomon Gallo, Exosome Biology Laboratory
- Professor Haydan Homer, Christopher Chen Chair in Reproductive Medicine, Oocyte Biology Laboratory
- Professor Paul Colditz, Perinatal Research Centre
- Dr Barbara Lingwood, Perinatal Research Centre
- Dr Tracey Bjorkman, Perinatal Research Centre

**Cancer**

This research is paving the way for the development of new or improved diagnostic technologies, as well as better methods of treatment.

**Researchers are investigating:**
- Breast cancer
- Prostate cancer
- Skin cancer
- Lung Cancer
- Gynaecological cancers, including ovarian cancer

**Researchers are studying the biology and behaviour of these cancer types to:**
- Better understand how cancers develop, progress and ultimately spread to other sites in the body (a process known as metastasis);
- Develop new or improved diagnostic technologies (biomarkers) for the early detection of disease, for predicting outcomes or for monitoring patients at risk of disease progression; and
- To identify better therapeutic opportunities for patients.

Our researchers access world-class onsite facilities such as the Centre for Clinical Diagnostics and Herston Imaging Research Facility, and collaborate widely within and beyond UQCCR, to improve the life quality, and life expectancy, of patients living with cancer.

**Group Leaders:**
- Professor Sunil Liehani, Molecular Breast Pathology
- Dr Peter Simpson, Molecular Breast Pathology
- Professor Martin Lavin, Cancer and Neuroscience
- Professor Frank Gardiner, Prostate Cancer

**Brain and Mental Health**

This program is developing a better understanding of brain disorders, mental illness, movement disorders, demyelinating diseases and brain injury.

**Researchers are currently investigating:**
- Dementia
- Brain injury in adults and babies
- Addiction
- Genetics of ataxia telangiectasia
- Speech difficulties and altered immune function in patients with stroke
- Language, cognition and neuropsychiatric issues in Parkinson’s disease
- Pathogenesis of and new treatment strategies for multiple sclerosis
- Autism spectrum disorder
- Neuroethics
- Child and youth mental health, including intervention studies for early psychosis, prevention of bullying in schools, and the immunological basis of mental health problems

**Group Leaders:**
- Professor Pamela McCombe, Neuroimmunology
- Associate Professor Judith Green, Neuroimmunology
- Associate Professor James Scott, Youth mental health
- Professor David Copland, Language and neuroscience laboratory
- Associate Professor Marcus Meinzer, Language and neuroscience laboratory
- Dr Nadeeka Dissanyake, Neuro mental health

**Infection and Immunity**

This research program links basic research on bacterial genetics with new approaches to investigating risks and treatments for infections with antibiotic resistant organisms.

**Research areas focus on:**
- Prevention and treatment of infections with antibiotic resistant bacteria
- Developing rapid diagnostic tools to aid infection control precautions and early treatment
- Collaborations on the development of new antibiotics to treat current threats
- Optimisation of antibiotic treatment (antimicrobial stewardship)
- Development of metric tools for assessing patient outcomes
- Surveillance of clinical microbiological and economic costs of treatment for antibiotic resistance bacteria
- Molecular diagnostics and characterisation of organisms important to public health
- Molecular epidemiology of antibiotic resistant bacteria
- Molecular assay development for the surveillance of antibiotic resistance

**Group Leaders:**
- Professor David Paterson, Antibiotic resistance, clinical trials and stewardship
- Associate Professor David Whiley, Microbial diagnostics and characterisation
- Professor Anders Cervin, Chronic Airway Disease: microbiome and novel treatment options
Highlights from 2015

2015 UQCCR Awards

The annual UQCCR Awards presents an opportunity to recognise significant research contributions and to showcase the work of our Research Higher Degree students, Early Career researchers and world-class researchers. This was held on 17th December 2015. Professor David Paterson, UQCCR's current Acting Director presided over the awards and incoming Acting Director Professor Greg Rice congratulated our winners.

Professor David Copland received the UQCCR Researcher of the Year award, Dr Nadeeka Dissanayaka and Dr Carlos Salomon-Gallo were both awarded the UQCCR Early Career Researcher Awards; followed by Ms Hanna Thomas and Dr Patrick Harris who received UQCCR's Outstanding Scholar Awards respectively.

Throughout the 2015 year, UQCCR also presented its researchers with a publication of the month award. These eight outstanding students and early career researchers are Dr Jodi Saunus, Dr Amanda Kijas, Mr Alexander Wailan, Miss Elizabeth Torbey, Professor Frank Gardiner, Mr Hosam Zowawi, Miss Stephanie Miller and Dr Nadeeka Dissanayaka.

UQCCR is grateful to Shimadzu Corporation, Mrs Mark M Goodman, the Director of Radiology, Siemens Healthcare, our generous donors, who made these awards possible.

Funding Success

Postdoctoral Fellow Dr David Whiteley received a NHMRC Career Development Fellowship and Associate Professor James Scott received a NHMRC Practitioner Fellowship Award respectively. Led by Professor Greg Rice and Dr Carlos Salomon-Gallo, UQCCR also received an NHMRC Development grant worth nearly $600,000. Dr Hosam Zowawi starts his three year Postdoctoral Research Fellowship from Merchant Charitable Foundation.

Professor Judith Greer received over $100,000 to advance her research in Multiple Sclerosis and Professor David Copland was successful in receiving two Australian Research Council Discovery project grants for language neuroscience on top of a grant of over $700,000 from NHMRC (read more, page 48), A continuation of a $6.5 million NHMRC funded program that is set to change the future of breast cancer diagnosis, prevention and treatment was led by Professor Sunil Lakhani.

Visits to UQCCR

In December, Queensland Premier Annastacia Palaszczuk and University of Queensland Vice-Chancellor and President Professor Peter Høj opened the $24 million Herston Imaging Research Facility (HIRF). The state-of-the-art imaging centre, located in Herston is Australia’s largest hospital precinct and the only one in the nation focused on clinical research. HIRF is a collaboration between The University of Queensland, the Metro North Hospital and Health Service, QUT and the QIMR Berghofer Medical Research Institute, with Siemens as an industry supporter. The Premier was joined by Minister for Health Cameron Dick, Minister for Innovation, Science and the Digital Economy Leanne Enoch, and Minister for Employment and Industrial Relations Grace Grace.

Collaboration between UQCCR and the University of California in the area of alcohol-exposed pregnancy research was further enhanced by the visit of Dr Amrika Montag from University of California, San Diego in July.

Associate Professor Ken Herrmann from University of California Los Angeles (UCLA) visited in September and presented a seminar on ‘An update to recent advances in novel theranostics in the area of nuclear medicine’. Bench to bedside translation of Fluclidolive for positron emission tomography (PET) imaging in metastatic brain tumours and prostate cancer was discussed by Prof Mark M Goodman, the Director of Radiology and Imaging Sciences Radiopharmaceutical Discovery Laboratory from Atlanta USA.
Career Highlights

Professor Pam McCombe, a neurologist heading the Brain and Mental Health research theme, received an Australian and New Zealand Association of Neurologists (ANZAN) medal for her significant contribution to the field of neurology.

At the Asia Pacific International Academy of Pathology Congress, Professor Sunil Lakhani was awarded the prestigious Distinguished Pathologist Award for 2015 (read more, page 18).

Professor David Paterson was named on the Thomson Reuters Highly Cited Researchers 2015 list. This annual prestigious list captures researchers who rank in the top one per cent by citations for their field in the Web of Science.

The Royal College of Obstetricians and Gynaecologists (RCOG) made Professor Murray Mitchell a Fellow ad eundem of the Royal College of Obstetricians and Gynaecologists for his lifetime research contribution.

Dr Peter Simpson was awarded a Fellow of the Faculty of Science (FFSc RCPA) by the Royal College of Pathologists of Australasia and Dr Myron Avant was credited as an Advanced Practice Pharmacists (Adv. Prac. Pharm.) by the Australian Pharmacy Council.

Hot Publications

UQCCR’s world class researchers have multiple entries in prestigious publications during 2015, in journals such as The Lancet, Nature and Journal of Clinical Oncology.

Associate Professor James Scott published ‘Global, regional, and national disability-adjusted life years (DALYs) for 306 diseases and injuries and healthy life expectancy (HALE) for 188 countries, 1990-2013: quantifying the epidemiological transition’, ‘Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 188 countries, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013’ and ‘Addressing the burden of mental, neurological, and substance use disorders: key messages from Disease Control Priorities, 3rd edition’ in The Lancet respectively.


In Lanced Psychiatry, Dr Cynthia Forfini, the Australian Research Council’s Discovery Early Career Researcher, published ‘Brain disease model of addiction: misplaced priorities?’

Having dedicated their careers to protecting the world from the threat of antibiotic resistance, Professor David Paterson and Dr Patrick Harris published ‘β-lactam and β-lactamase inhibitor combinations in the treatment of extended-spectrum β-lactamase producing Enterobacteriaceae: Time for a reappraisal in the era of few antibiotic options?’ and ‘Colistin resistance: a major breach in our last line of defence’ in The Lancet Infectious Diseases.

Separately, Professor David Paterson also published ‘Framework for optimisation of the clinical use of colistin and polymyxin B: the Prato polymyxin consensus’ in Lancet Infectious Diseases.

Professor Martin Lawin, an internationally recognised authority and researcher in the human genetic disorder ataxia-telangiectasia (A-T) with particular emphasis on cancer predisposition and neurodegeneration, published ‘Senataxin suppresses the antiviral transcriptional response and controls viral biogenesis’ in Nature Immunology.

Distinguished Pathologist Professor Sunil Lakhani and Dr Jodi Sausus published ‘VAP1-25[CC]-PC by exosomal microRNA primes brain metastasis outgrowth’ in Nature.

Media Highlights

Associate Professor James Scott starts the year with a popular article on how to manage stress levels, in The Conversation. In March, during the National Day of Action against Bullying and Violence Associate, Associate Professor James Scott and Dr Hannah Thomas discuss the prevalence of bullying in schools.

Dr Jodi Sausus was interviewed by The Sunday Telegraph, Sydney for the possibility of new cancer treatment options for incurable metastatic brain tumours in August.

Premature babies and the challenges posed when they arrive early was discussed via audio by Professor Paul Colditz from The Perinatal Research Centre at UQCCR in October.

Professor David Paterson was interviewed by a number of international media like the BBC World Service and New England Journal of Medicine for his publication in The Lancet Infectious Diseases on the last line of antibiotic defense. Also from UQCCR’s infection and Immunity Research theme, Dr Patrick Harris featured in Channel 10 ‘The Project’, the Melbourne Age, Bloomberg View and vice.com on the topic of ‘Superbugs’.

Centre for Clinical Diagnostics

UQCCR’s Centre for Clinical Diagnostics (CCD) forms part of the Queensland Node of the Therapeutic Innovation Australia – established in 2012 to allow life sciences researchers to translate their discoveries into commercial products faster.

Additional NCRIS funds enabled the appointment of a highly-experienced Mass Spectroscopist, Dr Sarah Reid to lead the facility. In 2015, the CCD continues to progress early stage research for the development of In Vitro Devices within our NATA accredited (ISO 17025 (R&D)) Centre.

Breast Tissue Bank

Based at UQCCR, the Brisbane Breast Bank facilitates research into breast cancer. The bio banking of fresh frozen tissue for the last ten years has yielded a valuable resource for breast cancer research, both in Australia and abroad.

Its collaborative research model enables efficient and internationally stimulate further translationally-focused research in breast cancer long term.

This year UQCCR’s Dr Jodi Sausus and Professor Sunil Lakhani led a global effort to discover new genetic information linked to the development of metastatic brain cancer. This unique world’s first research using whole-exome sequencing of secondary brain tumours deepens researcher’s understanding of secondary brain tumours and highlights opportunities for new drug targets.
Breast Cancer

Dr Jodi Saunus presented a community talk ‘Breast Cancer Research and the Brisbane Breast Bank’ at the Zonta Club of Redcliffe. She spoke again at the Perioperative Nurses Association Qld (PNAQ) meeting 2015 on the topic. Supporting breast cancer public education, the Lakhani Group welcomed the community to its Breast Cancer Community Engagement day at UQCCR in October and hosted the National Breast Cancer Foundation Morning Tea. At the Kenneth G. Jamieson Department of Neurosurgery, Royal Brisbane Women’s Hospital (RBWH), Professor Sunil Lakhani and Dr Jodi Saunus gave a presentation on ‘Metastatic brain tumours, tissue collection and research’. Engaging Students in Science

Maclean High School students were given a practical demonstration of deep brain stimulation in action with a motion sensor by Dr Peter Poortvliet and Dr Hari Subramanian in March. UQCCR researchers Dr Hassandriini Periris, Dr Jatin Patel, Dr Cynthia Fortin, Dr Rehan Villani, Dr Jacki Liddle and Dr Hari Subramanian engaged with high performing high school students in the University of Queensland’s Young Scholars Program – a residential camp where students were introduced to the diverse tertiary study options within the University of Queensland. In July, UQCCR hosted seven students from the National University of Singapore who learnt about deep brain stimulation with Dr Hari Subramanian and explored exosomes in the context of pregnancy and ovarian cancer with Dr Carlos Salomon-Gallo. The Brisbane Boys College Student Scientist Partnership Program continued in 2015. Professor Murray Mitchell and Dr Tracey Bjorkman hosted four students, giving them a total immersion opportunity within UQCCR’s cutting-edge research facilities.

Perinatal Research

The Harcourts Foundation 2015 Butterfly Ball fundraiser was again a night to remember with proceeds to support perinatal research into conditions such as stillbirth, prematurity and birth-related injury. The internationally recognised Perinatal Research Centre at UQCCR is a collaborative effort between the Royal Brisbane Women’s Hospital (RBWH) and UQCCR. The Colditz Group team of researchers both supported and played an active part in assisting the RBWH and Harcourts organise this ball. The Perinatal Research Centre also receives research funds raised by the Lions Medical Research Foundation (LMRF). Dr Tracey Bjorkman is one of the current Lions Research Fellows. This year Prof Colditz and Dr Bjorkman addressed the annual LMRF Personality Quest candidates who commit to raise funds to make a difference to health outcomes. Candidates gain concrete insights to real life events impacting perinatal clinical care during their visit to the neonatal intensive care unit and the maternity ward at RBWH. Dr Tracey Bjorkman was an invited speaker to the Lions International Annual Convention District 201Q3, Brisbane. Chinese Lions Fundraiser and the Bundaberg Lions International Women’s Day. Furthermore, she was featured in the Brisbane Chinese Lions Club and LMRF promotional video, discussing her research on hypoxic brain injury in newborns.

Asia-Pacific Centre for Neuromodulation (APCN)


In a Parkinson’s Disease project focusing on language, memory, learning and emotion processing, Dr Christina Atay visited, spoke and danced ballet at Dance for Parkinson’s, with an aim to educate and connect with the community of people living with Parkinson’s Disease.

Dr Nadeeka Dissayayaka presented at a Gold Coast community talk aimed at patients, their families, carers and professionals involved with treating Parkinson’s disease titled ‘Anxiety and depression in Parkinson’s disease’. Putting their fundraising hat on, the APCN team of researchers participated in ‘A Walk in the Park for Parkinson’s disease’ and organised a lunch to fundraise for Young@Park Parkinson’s Disease support group.

National Science Week

To celebrate National Science Week, Dr Marloes Dekker and Dr Amy McCart Reed, were invited to present their research at Somerville House School. Marloes and Amy were greeted by the year 11 Science Ambassadors and delivered their seminars; ‘Clinical science: from the bedside to the bench and back again’ and ‘Breast Cancer Research’. It was a rewarding and enjoyable experience, and both Marloes and Amy hope to have inspired a future generation of women in science. Dr Jacki Liddle who has advanced social media engagement skills, curated the ‘We Brisbane’ Twitter account during National Science Week. Asia-Pacific Centre for Neuromodulation (APCN) held a Brisbane public symposium ‘Secrets of your brain revealed: a research update’ which was a series of seminars by key researchers designed for the layperson. This event received excellent public interest and all tickets were taken.

Community engagement

Dr Marloes Dekker (left) and Dr Amy McCart Reed (right) at Somerville House School

Dr Nadeeka Dissayayaka at a Gold Coast community talk aimed at patients, their families, carers and professionals involved with treating Parkinson’s disease titled ‘Anxiety and depression in Parkinson’s disease’.

Dave Behrens; Miss Annice Kong (front) at the Harcourts Foundation 2015 Butterfly Ball
Superbugs

Professor David Paterson discussed ‘Ethical dilemmas in antimicrobial prescribing: The Dallas Buyers Club comes to Brisbane’ at the 24th Annual Healthcare Symposium. At the joint Metro North Hospital and Health Service and the Centre for Advancement of Clinical Research’s Health Professionals course, Professor Paterson spoke on the topic of ‘Grant Applications to Competitively Awarded Funding Schemes’. He addressed the Superbugs Solutions Scientific Symposium, Queensland Forum on Antimicrobial Resistance with ‘The escalating arms race between superbugs and antibiotics: Implications for Patients and Public Health’ in November.

PhD scholar Hosam Zowawi has been actively promoting the message of antibiotic resistance through public seminars, by visiting shopping centres in Saudi Arabia, by involving and inspiring primary school children from Salisbury State School in Brisbane. Through his twitter @HZowawi social media platform he has employed creative artwork to explain the issue of antibiotic resistance, disseminate key antibiotic awareness messages and promote community antibiotic awareness seminars and events.

The Paterson Group was behind the Superbug Slayers Polo initiative, co-organized with the Carder Polo Cup 2015 in Queensland. The Superbug Slayers played polo, raised funds and mingled with the polo community to raise awareness on antibiotic resistance. Professor Paterson, Hosam Zowawi and Dr Patrick Harris were on hand to engage in discussions and to raise awareness on the issue of superbugs and their impact on our communities. This successful initiative was then repeated in the Czech Republic, with the Superbug Slayers partnering with the Czech Snow Polo Masters championship in February.

Mental Health

Associate Professor James Scott presented a community lecture; ‘Psychosis – What is it and how is it treated?’ at the Unravelling Psychosis Consumer and Carer Conference in Brisbane. He was invited to speak on the topic of ‘Preventing Mental Disorders in Children and Adolescents’ by the Queensland Mental Health and Drug Advisory Council. In October, he was invited to speak at a workshop on ‘Optimising recovery in persons with serious mental illness’ by PsyAcademy II in Sydney.

The topic of bullying was addressed by Dr Hannah Thomas with a public seminar titled ‘The problem with bullying: What are the risks and what is needed next?’ in August 2015.

Communal and public involvement

Professor Greg Rice and Dr Carlos Salomon-Gallo were invited and attended NAIDOC (National Aboriginal and Islander Day Observance Committee) week celebrations in July. This was celebrated in Herston and presented an opportunity to engage with Aboriginal and Torres Strait Islander (ATSI) primary health care networks in Brisbane, with a view to recruiting ATSI women for pre-conception health and well-being research.

The Anti-Discrimination Commission Queensland invited Dr Jacki Liddle as a panellist to a workshop on Inclusive Design in Brisbane. Dr Liddle brought a background as an occupational therapist combined with her research involving the needs of older people and their quality of life, participation and life transition perspectives.

ABOVE: PhD scholar Ms Hosam Zowawi

ABOVE: NAIDOC (National Aboriginal and Islander Day Observance Committee) week celebrations
For the last forty years, the Australasian Division of the International Academy of Pathology has organised annual scientific meetings for trainee and consultant pathologists, researchers and scientists. The 2015 Annual Meeting, held in Brisbane, assembled pathology leaders from around the world to share their knowledge and expertise, and to highlight the latest advances in this challenging field. The jewel in the crown of the meeting was the award of the highest honour in surgical pathology in Australasia, the ‘Distinguished Pathologist’ medal. Professor Sunil Lakhani received this medal for his outstanding contribution to diagnostic and academic pathology.

Professor Lakhani trained in Medicine, Pathology and Molecular Pathology in London, UK and was Professor of Pathology at The Institute of Cancer Research and The Royal Marsden Hospital, London, UK prior to his move to Brisbane in October 2004. He is currently the Head of the Discipline of Molecular and Cellular Pathology in the School of Medicine, University of Queensland, Head of the Breast Group at the Princess Alexandra Hospital Campus. He plays a significant role in postdoctoral, PhD student and registrar research training.

From the beginning of his career, the focus of Professor Lakhani’s research has been to translate basic mechanisms of disease into useful and effective methods to diagnose, classify and treat disease. He said: “I see myself first and foremost as a doctor – my other skills as a pathologist and scientist augment my primary objective, which is to integrate scientific understanding to make a difference to patients. The designation of pathologist or oncologist or scientist is artificial and while providing specific knowledge and skills, should not become a prison that prevents a broad, cross-disciplinary approach to improving patient care.”

“Early in my professional life, whilst working with Professors John Sloane and Sir Michael Stratton at The Royal Marsden Hospital and The Institute of Cancer Research, I was given the opportunity to make a contribution to understanding the early development and progression of breast cancer – a complex, multifaceted disease, with the goal of translating this research into better risk management and treatment” said Professor Lakhani.

“My links with Professor Sir Michael Stratton continue as part of the International Cancer Genome Consortium (ICGC) and my research group at UQCCR has made an important contribution to the largest dataset of whole genome sequencing of breast cancers led by the Sanger Institute, UK. We collaborate extensively, and rely upon the knowledge and experience of many other researchers including those involved in genomics of cancer development, DNA repair and the mechanisms that cause some tumours to spread (metastasis), particularly to the brain.”

The current interests of the Lakhani Research Group include lobular breast cancer and its variants, tumours with a basal-like phenotype/triple negative breast cancers, mechanisms underpinning brain and other distant metastases and familial breast cancer.

This research has been underpinned by continuous NHMRC Program grant funding (2007-2021) to a multidisciplinary collaborative research team including Professors Georgia Chenevix-Trench and KumKum Khanna from the QIMR-Berghofer, Brisbane.

Professor Lakhani’s published works exceed 250 original studies that have been collectively cited more than 19,000 times.

He has published seminal studies on both pre-invasive lesions and the pathology of familial breast cancer, which have been translated to routine clinical practise for patients. Prof Lakhani has a distinguished reputation among his peers internationally; he has presented 27 keynote and named lectures at national and international congresses and is a regular invite and speaker at national and international symposia. He is series editor of the World Health Organisation (WHO) ‘Tumour Classification ‘blue books’ and editor of the WHO Classification Tumours of the Breast 4th Ed (2012).

Professor Lakhani’s service contributions span local, national and international arenas. He continues to make a significant contribution to medical and undergraduate teaching, and has built a unique teaching faculty – The Integrated Pathology Learning centre (IPLC) that forms part of the core teaching space on The Royal Brisbane Hospital Campus with a satellite centre on the Princess Alexandra Hospital Campus.

He plays a significant role in postdoctoral, PhD student and registrar research training. Internationally, he is currently one of the lead pathologists on the international Olympiak clinical trial and an active member of the ANZ Breast Cancer Trials group (ANZBCTG) and the ICGC.

He has presented seminar studies on both pre-invasive lesions and the pathology of familial breast cancer, which have been translated to routine clinical practise for patients. Prof Lakhani has a distinguished reputation among his peers internationally; he has presented 27 keynote and named lectures at national and international congresses and is a regular invite and speaker at national and international symposia. He is series editor of the World Health Organisation (WHO) ‘Tumour Classification ‘blue books’ and editor of the WHO Classification Tumours of the Breast 4th Ed (2012).

Professor Lakhani’s service contributions span local, national and international arenas. He continues to make a significant contribution to medical and undergraduate teaching, and has built a unique teaching faculty – The Integrated Pathology Learning centre (IPLC) that forms part of the core teaching space on The Royal Brisbane Hospital Campus with a satellite centre on the Princess Alexandra Hospital Campus.

He plays a significant role in postdoctoral, PhD student and registrar research training. Internationally, he is currently one of the lead pathologists on the international Olympiak clinical trial and an active member of the ANZ Breast Cancer Trials group (ANZBCTG) and the ICGC.

He is also Chair of Cancer Australia’s “Clinical guidance for the management of lobular carcinoma in situ”, NPAAC committee member – ‘Guidelines for Digital Pathology’ and has recently been invited as one of four ‘capability experts’ to advise the 2016 National Research Infrastructure Roadmap headed by the Chief Scientist Dr Alan Finkel AO.

With significant contributions at national and international level in clinical diagnostic pathology, teaching, research and professional service, it is not difficult to see why he is a worthy recipient of the ‘Distinguished Pathologist’ medal.

TEAM MEMBERS
Dr Peter Simpson, Dr Jodi Sannus, Dr Amy McClart Reed, Mr Katlin Ferguson, Ms Colleen Niland, Dr Priyakashi Kaila-da Croft, Dr Andrew Dalley, Dr Julie Johnson, Mrs Lynne Reid, Mr Samir Lal, Mr Malcolm Lim, Ms Renique Males, Mr Alex Simmons, Ms Korline Northwood, Associate Professor Margaret Cummings, Dr Kowsi Murugappan, Ms Shari Bowker

UQCCR RESEARCHER
Professor Sunil Lakhani
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To support Professor Sunil Lakhani’s research into breast cancer, please donate at www.uqccr.edu.au
Every ten minutes in Australia, someone has a stroke. Around a third of stroke patients will experience aphasia – a loss of the ability to communicate. While some people with aphasia recover, many continue to experience problems in communication that can have a devastating effect on their personal lives and impact the carers, family and friends around them.

Unfortunately, there is currently no accurate way to predict who will recover from aphasia, how quickly they will improve or what language therapy they should undertake in order to optimise their recovery. Professor David Copland hopes to identify predictors for aphasia recovery and help guide treatment response.

“Our current use of behavioural language measures does not provide us with the critical information patients and their families want regarding their future ability to communicate,” he said.

Professor Copland and collaborators have received more than AU$1 million in funding across three research projects into aphasia, the impact of exercise on brain activity and how white noise may improve language processing.

Research into aphasia will be led by Professor Copland using state-of-the-art brain imaging combined with clinically useful language tests and examining who responds to aphasia therapy. He will be collaborating with colleagues Associate Professor Kate McMahon (UQ Centre for Advanced Imaging), Professor Greig de Zubicaray (QUT) and Associate Professor Marcus Meinzer (UQCCR) on this $710,000 NHMRC research grant to search for answers for 40 percent of stroke survivors who suffer from aphasia.

Professor Copland was recently awarded two Australian Research Council (ARC) Discovery research grants focused on factors that may enhance language learning.

“One of the ARC research grants will examine the relationship between exercise and language learning in healthy older adults with colleagues from UQ (Associate Professor Kate McMahon and Professor Jeff Coombes), Emory University, Georgia, Atlanta (Dr Amy Rodriguez) and Pittsburgh, University Pennsylvania (Assistant Professor Kirk Ericsson).

The second ARC research grant, working in collaboration with Dr Anthony Angwin, Associate Professor Wayne Wilson (UQ) and Professor Robert Barry (University of Wollongong), will explore how noise and dopamine influence language processing and learning in healthy adults.

This research has the potential to change the prevailing view that noise is always detrimental to language processing. It may support the development of methods to improve educational participation and outcomes for children and adults, particularly those with attention difficulties.

Focusing their research on gaining a better understanding of the neural basis of the human language and identifying ways to improve language function after neurological injury or disease, Professor Copland and his colleagues hope to find answers to longstanding and important questions about the brain and its impact on language.
EARLY CAREER RESEARCHERS
Early detection of pregnancy complications

For the majority of Australian expectant mothers, their pregnancies will be smooth running with happy outcomes, but for the 10 per cent who experience complicated pregnancies this is not the case. World-wide 15 million babies are born preterm (before 37 weeks gestation) and of these 1.1 million die each year. In Australia this amounts to approximately 20,000 births. In addition to preterm birth, other complications can include elevated blood pressure (preeclampsia), blood glucose (diabetes; gestational diabetes) and growth restriction of the baby in the womb. These place both the mother and baby at a higher risk of poor health at the time of delivery (including death) and then later in their lives, when diseases such as diabetes and heart disease may develop. Presently, most of these complications are picked up too late in pregnancy to make any significant difference to the health of the developing baby. Early detection of pregnancy complications before health consequences are irreversible, could support new methods to treat complicated pregnancies that would be significantly beneficial to both the mother and baby. Having a healthy pregnancy and delivery is essential to good health throughout life.

Hassendrini “Nel” started her PhD investigating levels and functions of the protein myostatin in the placenta. While known to negatively affect muscle development (more myostatin less muscle), the exact role of myostatin in the placenta and in pregnancy was previously unknown. Nel’s research has identified that myostatin is altered in the placenta of complicated pregnancies including preterm birth. Within the placenta the protein acts inversely to muscle growth. Her work has recently been acknowledged with the award of a prestigious postdoctoral fellowship by The Lalor Foundation (Boston, Massachusetts, USA). To date, only 209 foreign scientists have been awarded a fellowship to conduct their research outside of the USA.

Nel’s research identified a flaw in methods previously used to identify myostatin, and she subsequently developed a mass spectrometry (MS) method to accurately identify the presence of myostatin in all its forms. Through advanced MS methods Nel has identified other substances present in pregnancy that may have bearing on whether complications will be encountered. The MS methods developed have the potential to be useful as early diagnostic tools for pregnancy complications. The early warning may provide more time for intervention, which could make a significant difference to the lives of both mother and baby. Nel intends to pursue the next stage of her research career by developing new methods initiated from her PhD and postdoctoral research, to facilitate translation of her methodologies into clinical and public health practices. Her interest and know-how, combined with the state-of-the-art translational research NATA (National Association of Testing Authorities) accredited laboratory at UQCCR enables the best possible translation outcome. Located within one of Australia’s largest hospital precincts, Nel has access to leading experts in the field of maternal and reproductive health at the University of Queensland and the Royal Brisbane and Women’s Hospital.

To support Dr Hassendrini Peiris and the Mitchell Group’s research into the establishment, maintenance of pregnancy and the process of labour and delivery, please donate at www.uqccr.edu.au
To support Dr Julie Wixey and the Colditz Group’s Perinatal Research Centre, please donate at perinatal-research.centre.uq.edu.au

Understanding the mechanisms of newborn brain development and injury is vital to improving treatment options

The birth process can be stressful for a newborn baby, especially if you are born too early or the birth doesn’t go smoothly. During gestation a baby’s brain is particularly vulnerable to a lack of oxygen. If blood flow (and oxygen) is disrupted, then brain injury can result and contribute to long-term disability and death.

Mounting evidence suggests that inflammation is a major contributor to brain injury in the neonate. Inflammation initiates a number of processes including increased numbers of specialised brain cells called activated microglia that can have both beneficial and detrimental effects.

Julie’s research focuses on inflammation in the neonatal brain, particularly the actions of proinflammatory cytokines. Developing therapies that reduce inflammation offer neuroprotection to a baby’s brain and prevent outcomes such as Cerebral Palsy (CP), which is the most common serious neurodevelopmental childhood disorder.

Julie’s interest in neonatal brain inflammation was piqued by her stint as a research assistant at the Perinatal Research Centre (PRC) led by Professor Paul Colditz following the birth of her daughter. She had previously completed a Bachelor of Science with Honours at James Cook University, Townsville, then worked at the Institute of Cancer Research, London.

These beginnings planted the seed for Julie’s interest in neuroscience and she realised the potential to make a positive difference to vulnerable infant lives. She completed her PhD in 2013 at the PRC after her second child was born and is continuing her passion for neonatal research as a postdoctoral researcher.

Julie intends to pursue the next stage of her research career by contributing to the PRC’s bench to bedside focus through translation of her PhD research. Her expertise of perinatal neuro-inflammation will be used to study babies whose growth is restricted during gestation (intrauterine growth restriction) impacting brain function. Having had the experience of healthy children of her own motivates her to help babies at risk of poor outcomes. The PRC at UQCCR provides excellent facilities and support for her continuing research career and aspirations. Professor Paul Colditz, the Director of the PRC and mentor to Julie, is an internationally recognised leader in translational perinatal research. Julie believes having a mentor of this calibre fosters her research strengths and allows her to become aware of and take advantage of international collaborative opportunities in her chosen field of research. The PRC maintains state of the art research equipment and a strong working relationship with Queensland Health, so facilitating involvement in clinical trials at RBWH and other hospitals around Australia.
Antibiotic-resistant bacteria is a serious global concern, creating new challenges in the management of infectious diseases. Development of new antibiotics is infrequent. Gonorrhoea is a good example of a previously eradicated infectious disease now re-emerging as a formidable disease. Gonorrhoea infection rates continue to increase and there are now an estimated 100 million cases worldwide each year. Coincidentally, antibiotic resistance has now reached a critical point, with the possibility that untreatable or difficult-to-treat gonorrhoea will soon become a reality. Multi-drug-resistant bacteria strains are now common globally and there have been recent sporadic reports of extensively drug-resistant gonococci in Japan, Europe and more recently, Australia. This has led to the United States Centers for Disease Control and Prevention to implement molecular surveillance approaches to establish gonococcal resistance and represent an important milestone in fighting the gonorrhoea ‘superbug’. The World Health Organization has broad interest in this technology.

Ella started her PhD investigating how to improve gonorrhoea resistance surveillance in Australia and to inform new antibiotic stewardship approaches.

Under the supervision of group leader Associate Professor David Whiley, the research group has embarked on the Gonorrhoea Resistance Assessment by Nucleic Acid Detection (GRAND) project, a nationwide study aimed at systematic development and implementation of new techniques to detect resistance to gonorrhoea. This extensive study had two key phases running in parallel, (1) arriving at key genetic determinants of gonorrhoea resistance in the Australian population, and (2) development of simple and rapid tests for improved detection of gonococcal resistance.

Ella intends to pursue the next stage of her research career by being able to develop new methods initiated from her PhD and facilitate their translation into clinical and public health practice. Her interest in using cutting-edge genomics and spatial epidemiology tools combined with the state-of-the-art translational research NATA accredited laboratory at UQCCR enables the best possible translation opportunity.

Ella’s PhD research has led to new advances in the field of gonorrhoea diagnostics, antibiotic-resistance and understanding patterns and effects for specific communities. Her achievements include: (i) the development and validation of a novel, high throughput and cost effective molecular method to profile gonorrhoea resistance (ii) having conducted the largest national quality assurance program of gonorrhoea testing which has informed current testing practices, in parallel with the largest national study of gonorrhoea resistance.

(iii) a novel rapid diagnostic molecular test to detect gonorrhoea resistance directly from clinical samples, these tests are now part of clinical practice in both Western Australia and the Northern Territory.

Collaborative work with the National Neisseria Network and other leading Australian researchers, has contributed to Australia being the first country in the world to implement molecular surveillance approaches to establish gonococcal resistance and represents an important milestone in fighting the gonorrhoea ‘superbug’. The World Health Organization has broad interest in this technology.

Ella’s research focuses on gonorrhoea and sexual health, the methods and techniques can be widely translatable to combat a range of public health superbugs.
Ataxia and rare disease – a researcher’s labour of love

Ataxia telangiectasia (A-T; also known as Louis-Bar syndrome) is a rare genetic disorder of childhood occurring in one out of 100,000 to 300,000 live births. This devastating and fatal disease is a complex disorder affecting many organ systems in the human body. It is characterised by progressive neurologic impairments, brain degeneration, immunodeficiency, susceptibility to respiratory infections, hypersensitivity to ionising radiation, sterility and a predisposition to a variety of cancers, particularly those of the blood. A-T patients are commonly wheelchair-bound by the age of ten and with the disease becoming fatal by the time patients reach their early twenties.

Abrey was first drawn to molecular and cell research due to its diversity and dynamism. She received several scholarships from the Australian Federal Government, UQ, QIMR Berghofer Medical Research Institute and the BrAshA-T Foundation to undertake her PhD research in several rare neurological disorders, amongst them ataxia oculomotor apraxia type 2 (AOA2).

Abrey has made significant contributions to research on AOA2 which includes the generation and characterization of the first AOA2 laboratory model. Under the supervision of group leader Professor Martin Lavin, she has produced consistent research output demonstrated by her publication to Cell Discovery from the Nature Publishing Group. The group has also discovered a novel role for senataxin in germ cell development and fertility and have been featured in the journal, Biology of Reproduction. Abrey’s research output has enabled her to present her research findings at several international conferences and win the 2015 Outstanding Presentation prize at the Genomic Integrity Conference.

Abrey intends to pursue the next stage of her research career by facilitating the translation of her PhD into clinical research and contributing to patient treatment. Recently, Abrey obtained postdoctoral fellowships from the A-T Children’s Project, USA and the BrAshA-T Foundation to undertake A-T research in Australia. Her current research focus is on identifying the different types of bacteria present in the respiratory tracts of A-T patients and what leads to lung damage. Diseases of the respiratory system can kill with up to 70% of A-T patients suffering from recurrent, chronic respiratory tract infections and up to 40% of deaths due to lung complications.

Hence, Abrey’s research will be fundamental in improving clinical approaches used to treat these infections and in designing alternative therapies.

Rare diseases like A-T are often underfunded but are a likely source of major scientific breakthroughs. Studying rare diseases can provide key insights into more common disorders. Additionally, rare diseases also allow the study human physiology and biomedical science from a unique perspective.

Professor Lavin, with whom Abrey works, is a leading researcher in genetic instability, increased risk of cancer and neurodegeneration. They work closely in collaboration with the Ataxia telangiectasia (A-T) Clinic at Lady Cilento Children’s Hospital to investigate lung function and brain disorders. They are also developing a commercial blood collection tube for analyte determination and better patient care.

Abrey is part of Professor Martin Lavin’s research group. The Lavin Group carries out research on rare genetic disorders characterised by chromosomal instability, increased risk of cancer and neurodegeneration. They work closely in collaboration with the Ataxia telangiectasia (A-T) Clinic at Lady Cilento Children’s Hospital to investigate lung function and brain disorders. They are also developing a commercial blood collection tube for analyte determination and better patient care.

TEAM MEMBERS
Professor Martin Lavin, Dr Abrey Yeo, Ms Aine Farrell, Dr Amanda Kijas, Ms Hazel Quck, Mr John Luß, Dr Magtouf Hnaidi Gatei, Dr Olivier Becherel, Mr Romal Stewart, Dr Sergei Kozlov, Mr Steven Dingwall

Abrey Yeo BSc (Hons), PhD

To support Dr Abrey Yeo and the Lavin Group’s research into Ataxia telangiectasia (A-T) and rare diseases, please donate at www.uqccr.edu.au
Patrick Harris
BSc MBBS MRCP FRACP FRCPA

To support Dr Patrick Harris and the Paterson Group’s superbug research, please donate at www.uqccr.uq.edu.au

Dr Patrick Harris is PhD scholar and researcher with Professor David Paterson. Professor Paterson researches the molecular and clinical epidemiology of infections with antibiotic resistant organisms within the Infection and Immunity theme at UQCCR. The Paterson Group carries out research linking basic research on bacterial genetics with new approaches to investigating risks for infections with antibiotic resistant organisms.

TEAM MEMBERS
Professor David Paterson, Dr Patrick Harris, Dr Elisa PIGNI, Dr Hosam Zowawi, Dr Hanna Sidjabat, Dr Charlotte Huber, Dr Mimiyon Avent, Dr John McNamara, Dr Sanmarie Schellbach, Dr Anna Maria Parisi, Dr Andrew Henderson, Dr Nahid Choudhury, Ms Nicole Gawn, Dr Diletta Pezzani, Dr Kate Brown, Dr Hanna Sidjabat, Dr Charlotte Huber, Dr Mimiyon Avent, Dr John McNamara, Dr Sanmarie Schellbach, Dr Anna Maria Parisi, Dr Andrew Henderson, Dr Nahid Choudhury, Ms Nicole Gawn, Dr Diletta Pezzani, Dr Kate Brown.

UQCCR RESEARCHER
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Antibiotic resistance has emerged in recent years as one of the most prominent threats to public health. Modern medicine would be impossible without the modern ‘miracle’ of antibiotics. Antibiotic resistance is thought to account for around 50,000 excess annual deaths in Europe and the USA alone. Many millions are infected every year, and by most measures these problems are increasing inexorably. In the USA alone, it is estimated that at least $20 billion in excess healthcare costs are directly attributable to antibiotic resistance. According to a recent UK government report, if current trends continue, by 2050 antimicrobial resistance is estimated to account for approximately 10 million deaths globally, more than are currently slain from cancer, with the greatest burden falling on developing countries in Africa or Asia. Furthermore, this would lead to $60–100 trillion dollars in total lost global GDP.

The fight against antibiotic resistance is a multi-disciplinary and complex one, requiring the hybrid specialist knowledge of pathology and clinical medicine. This symbiotic relationship between the science of pathology and the art of medicine in treating patients with infectious diseases is increasingly needed as resistance increases at an alarming rate and fewer new antibiotics become available.

Patrick is both an infectious disease clinician as well as a medical microbiologist. This background has allowed him to inhabit the different ecosystems of the laboratory and the hospital. Ably bridging these boundaries has helped inform Patrick’s approach to research. His PhD addresses the emerging global challenge of antibiotic resistance and his ongoing research is focused upon a class of resistance genes called “extended-spectrum” beta-lactamases (or ESBLs) seen in common bacteria such as E.coli or Klebsiella species. These are of importance because they are now increasingly encountered in clinical infections, and in some parts of the world have become alarmingly commonplace. ESBLs facilitate resistance to many of our most useful antibiotics – those based on penicillin and its derivatives.

Resistant superbugs force clinicians to increasingly employ broader-spectrum antibiotics to treat patients (for instance, the carbapenem group of antibiotics). This, in turn, may create the unwanted side effect of increasing resistance in the next generation of superbugs. As superbugs know no borders, arise the world loses the efficiency of the broad spectrum carbapenem group of antibiotics, there are usually very few effective options available. For patients in intensive care, or those undergoing complex procedures such as major surgery, organ transplantation or chemotherapy, antibiotic resistant infections can be devastating and are associated with considerable excess mortality.

The most reliable method to determine which treatment is the best option for individual patients is to compare available options in a randomised trial. It is remarkable that there have been almost no such trials conducted to help clinicians determine how to treat serious infections with ESBL-producing bacteria. At present, most of our knowledge relies upon laboratory findings, expert opinion or limited observational studies.

Under the leadership of Professor David Paterson, Patrick and his colleagues are undertaking multi-centre international randomised controlled trials to help answer important clinical questions, such as “Which antibiotics are most effective for treating infections caused by antibiotic resistant organisms?” or “Which antibiotics are more or less likely to be overcome by superbugs?” The MERINO trial is one such clinical trial which aims to test whether alternative antibiotics to carbapenams may be just as effective and facilitate less antibiotic resistance.

The collaborative efforts on fighting antibiotic resistance would not be possible without the support of numerous researchers across Australia and the world, who lend their time to recruit patients, collect clinical data and provide bacterial isolates. The Royal Brisbane and Women’s Hospital Foundation, Pathology Queensland, the Australian Society for Antimicrobials (ASA) and the International Society for Chemotherapy and The National University Hospital Singapore all provide critical support to the Paterson Group.
The last ten years has seen an extraordinary amount of research interest generated in the field of exosomes. A wide range of biological fluids such as blood contain exosomes which are microscopic envelopes called exosomes to microscopic envelopes called exosomes which carry specific information about a certain cell, can tell us exactly what is happening within the cells of our bodies. This can potentially mean that in the future, a simple blood test might be able to be used to diagnose disease. If a patient has ovarian cancer and replace the current practice of an invasive biopsy of the tumour mass.

Carlos is the head of the Exosome Biology Laboratory within the Centre for Clinical Diagnostics (CCD) at UQCCR. This laboratory conforms to the ISO standards (ISO17025 and 13185) where human exosomes can be isolated, characterised and their role clarified to understand their clinical utility as biomarkers of disease and therapeutic interventions.

Carlos is recognised as a national and international researcher working with extracellular vesicles and exosomes focused on reproductive biology (in particular, pregnancy and its complications). He has been a regular invited speaker at Australian and International meetings, e.g., Australia Extracellular Vesicles Society, Society of Reproductive Investigation and International Society for Prenatal Diagnosis. Carlos also has an appointment at Ochsner Medical Center (New Orleans, USA) as Senior Clinical Research scientist.

One of the areas that Carlos’ research group is focused on is Ovarian Cancer. Ovarian Cancer is the sixth most commonly reported cancer and the fifth leading cause of cancer-related deaths. In the last five years they have identified the presence of some exosomes capable of transporting their contents comprising cancer cells elsewhere within the bodies of ovarian cancer patients. The identification of these exosomes as a diagnostic tool in early stage Ovarian Cancer can well offer an option to develop therapeutic exosome envelopes to deliver the treatment to the cancer source.

Ovarian Cancer is commonly acknowledged as a “silent killer” because of difficulties associated with early diagnosis and consequently has a low survival rate. As well as operating as biomarkers for early detection, Carlos hopes that the insight of exosomes in their current role of communicating with other organs, to promote the spread of cancer as they transport molecular signals between cells, can in the future, be used instead as anti-metastatic agents to halt its spread. Presently in Ovarian Cancer patients, some experience resistance to chemotherapy. Carlos will use this novel exosomes insight to understand how patients with ovarian cancer respond to chemotherapy. By uncovering these reasons, it is hoped that from the time of their initial diagnosis, patients who are not expected to respond to chemotherapy can receive alternative and, for them, more effective treatments.

In addition to researching ovarian cancer, he has a track record in researching the effect of obesity in the development of Gestational Diabetes Mellitus (GDM). GDM is a serious public health issue affecting 15 to 20 per cent of all pregnancies worldwide and Australia is no exception; it has inter-generational impact with the female offspring from a GDM pregnancy going on to experience GDM in her own pregnancy. Failure to provide the best possible start to life because of complications remains the single most important modifiable risk factor in pregnancy, contributing not only to acute adverse health effects for both mother and baby, but also to the lifelong disease susceptibility of the new-born. Again exosomes may offer the possibility of early detection, here in relation to women at risk of developing GDM during their pregnancies. Exosomes are biomarker “fingerprints” of the releasing cells, in this instance cells from the placenta. Exosomes may enable the tracking of cellular metabolic rate and early identification of a placental imbalance which could subsequently fail to fully meet the growing baby’s needs.

Carlos’s research seeks to establish the role of exosomes present in maternal circulation on the metabolic changes during normal and GDM pregnancies. Identification of the mechanisms associated with exosomes signaling during pregnancy might open doors to new treatment and approaches for GDM. Finally, Carlos and his group will evaluate the use of exosomes for early identification (<18 weeks) of pregnant women who are at risk of developing GDM. A third strand of Carlos’ research is targeted towards pancreatic cysts, currently a condition without clear biomarkers or imaging methods to accurately diagnose, classify and distinguish between the status of benign, premalignant and malignant cysts. He intends to research tumor-derived exosomes and examine the molecular content of these exosomes, which represent the tumour’s fingerprint and status, to aid in the diagnosis and prognosis of malignant pancreatic tumours.

Carlos would like to thank his mentor Professor Gregory Rice and fellow collaborators Associate Professor Gregory Duncombe, Dr Shari Longo, Dr Steve Fortunato, Dr Richard Klein, Dr Vierenda Joshi, Associate Professor Pam Manon and Professor Hayden Homer. Importantly, the research projects are funded and supported by the MHNRC, the Royal Brisbane Women’s Hospital Foundation, Diabetes Australia, The University of Queensland and the Ochsner Medical Centre (New Orleans, USA).

Carlos is the head of the Exosome Biology Laboratory team. The Exosome Biology Laboratory team comprises Associate Professor Gregory Rice, Mr Andrew Lai, Ms Miharu Kobayashi, Mrs Mona Alharbi, Rushanda Blakely, Mr Dominic Guanzon, Mr Omar Elfeky, Mr Mohammad Zubaidi, Ms Shayna Sharma, Ms Vyjayanthi Kinhal, Ms Stefan Adams, Miss Zarin Nuzhat, Miss Christina Chang.

To support Dr Carlos Salomon’s research into exosomes, please donate at www.uqCCR.uq.edu.au.
A healthy baby is every mother’s wish

**MID CAREER RESEARCHERS**

**A healthy baby is every mother’s wish**

Dr Marloes Dekker
MSC, Med. Lic, PhD, Grad Cert (clinical trials)

The aim of SPRING is to test if gestational diabetes can be prevented using an intervention of oral probiotic supplements during pregnancy while assessing its impact on metabolism, gene expression and hereditary traits. Probiotics are “good-bugs” bacteria that have a known beneficial health effect. For this trial, a large number of women volunteers contributed stool, placenta, mouth-swab and blood samples to increase our understanding of how probiotics may actually work. In the research laboratory, Marloes is investigating if the microbiome (the composition of bacteria in a specific location—of the gut, the mouth and the placenta) is related to pregnancy complications and if oral probiotic supplements could possibly alter the microbiome, and therefore contribute to a lower risk of complications in pregnancy and beyond. Concurrently, her research group is also involved in investigating what effects gestational diabetes and pre-eclampsia have on metabolism in this placenta. Ultimately, Marloes and her research group aim to discover prevention methods that are easy to implement and affordable so every baby can have a healthy start to life.

Human health and disease has fascinated Marloes since she was at high school. Questions like “How does the human body work?” and “Why and how does the system break down and cause disease?” have driven her choice to study medical biology initially at the University of Amsterdam in the Netherlands. Marloes’ exposure to research projects in laboratories in The Netherlands, the USA, the UK and Sweden while an undergraduate made her realise the deep satisfaction she experienced while carrying out research and working with like-minded researchers.

She then pursued a PhD in Sweden studying metabolism and its key role in many aspects of health and diseases. Her first post-doctoral research was on the role of epigenetics in type 2 diabetes. This led her to realise what critical importance a baby’s gestational period in its mother’s womb was to its future health.

Research into the role of the microbiome in pregnancy is expanding rapidly and Marloes’ interest is to pursue and explore the benefits of probiotics to help give all babies a healthy start to life. Marloes and her research group expect the results from SPRING to be the starting point for developing different interventions that can help achieve a healthy pregnancy for all women. A further research study combining oral probiotics with myo-inositol supplements and investigating its role in preventing gestational diabetes in high-risk pregnant women is planned.

Marloes’ research is a made a reality because pregnant mothers freely volunteer their time for the research at the Royal Brisbane and Women’s Hospital (RBWH), the Mater Mothers’ Hospital and Redcliffe Hospital; and due to the dedication of clinical research midwives and staff at these hospitals. Importantly, the research projects are funded and supported by the NHMRC, the RBWH Foundation, Queensland Health and Pfizer Australia. The Danish probiotics company Chr. Hansen A/S has been generous in their donation of oral probiotics and placebo capsules for the SPRING study. Support has also been received from the Skip Martin Fellowship from the Australian Diabetes Association and Colosiencias in Colombia.

Dr Marloes Dekker is Senior Research Fellow in Metabolism, Microbiome and Epigenetics within the Mothers, Babies and Lifelong Health theme at UQCCR. These researchers seek to understand complications of pregnancy in order to find ways of preventing them. They are conducting a randomised controlled trial involving 436 overweight and obese women in collaboration with Royal Brisbane and Women’s Hospital and the Mater Mothers Hospital. The group also closely collaborates with the UQ School of Biomedical Sciences, Pathology Queensland, QIMR Berghofer and Lund University in Sweden.

**TEAM MEMBERS**

Dr Marloes Dekker
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**Marloes**

**Dr Marloes Dekker**

Dr Marloes Dekker
MSC, Med. Lic, PhD, Grad Cert (clinical trials)

A healthy start to life for a little baby begins with a healthy woman having an uncomplicated pregnancy. We know that the time spent in a mother’s womb continues to affect the baby throughout his or her lifetime. In Australia, just over 40 percent of all pregnant women are overweight or obese; the number of people who are overweight or obese has increased dramatically in the last few decades. These women unfortunately face a higher chance of developing pregnancy complications including gestational diabetes and pre-eclampsia. Their babies often weigh more and have higher fat mass at birth and generally are more likely to spend time in the special care nursery. Furthermore, both mother and child face higher risks of developing type 2 diabetes and cardiovascular disease in the future.

Marloes’ research aims to prevent the development of gestational diabetes especially in overweight and obese women. Her research group is conducting a large randomised clinical trial which is called the Study of PRobiotics IN Gestational diabetes or SPRING.

**Dr Marloes Dekker**

Dr Marloes Dekker
MSc, Med. Lic, PhD, Grad Cert (clinical trials)

 Marloes Dekker

Marloes Dekker
MSc, Med. Lic, PhD, Grad Cert (clinical trials)

To support Dr Marloes Dekker’s research into helping fulfill every mother’s wish for a healthy baby, donate on www.uqccr.uq.edu.au
A cancer diagnosis can bring about significant fear and uncertainty into the lives of patients and their loved ones. In Australia, as many as one in eight Australian women will be diagnosed with breast cancer by the time they are 85 years old. Breast cancer, like other cancers, is challenging to diagnose and manage because we are still trying to understand the different causes of what is a very complex disease. Hence, the ongoing goals of research is to increase our understanding of how it develops in the first place and then to figure out how it progresses or spreads to other parts of the body (metastasis). This knowledge will help translate into the development of better treatment for patients so that we can make breast cancer either a curable or more manageable disease.

Cancer develops largely due to alterations (mutations) that happen within the genetic code (DNA) of our cells. Using the analogy that the genetic code is like a book of about three billion letters (the human genome), then there are more than 20,000 chapters (genes) that code for the functional units of our cells – the proteins. Errors in our genetic code commonly occur throughout our lifetime. Normally our cells can sense and repair these errors, but occasionally this protective mechanism fails and a mutation occurs in a gene that may remain. This may inactivate a critical protein and hence represent the initial cause of a cancer to develop.

Peter has made significant discoveries covering different stages of breast tumour development and progression (early disease, invasive cancer and metastatic disease), which have helped shaped how breast cancer is treated. Using the lessons learnt from these studies, Peter is also involved in research into other types of cancer like lung and thyroid cancer. Overall, his research gives insight not only into the causes and progression of cancer but will also identify better ways to treat the disease.

After being touched by the loss of a family friend to breast cancer, Peter embarked on a PhD studying the disease at the University of Liverpool (UK). Subsequently, he secured his first postdoctoral position with the Breakthrough Breast Cancer Research Centre in London. While there Pete frequently engaged with the community, explaining his research to patients, families and fundraisers. This highlighted to him the importance of distilling research into accessible language so the community can be informed. This experience left a permanent impression on Pete and today at UQCCR, he and his team members engage with the community to make their research relevant to patients with the disease.

After relocating his family to Brisbane, following his mentor Professor Sunil Lakhani, Peter helped establish UQCCR’s cutting-edge Molecular Breast Cancer Pathology research lab and the Brisbane Breast Bank. Subsequently, Peter received a four year Early Career Fellowship from the National Breast Cancer Foundation to further his research into ILC. On top of his crucial research, he is now also a senior lecturer within the Department of Pathology at the UQ School of Medicine. In this role Peter teaches medical students about the underlying processes that cause disease, a fundamental component of education for the next generation of clinicians.

Given the complexity of cancer research, Peter collaborates extensively with researchers and clinicians from Pathology Queensland, the Royal Brisbane & Women’s Hospital, UQ Institute of Molecular Biosciences, QIMR Berghofer, The International Cancer Genome Consortium and iCorFab (Kathleen Cunningham Foundation Consortium for research into Familial breast cancer). Biomedical research like Peter’s is only made possible by patients generously donating their tissue samples to tissue banks such as the Brisbane Breast Bank, the Australian Breast Cancer Tissue Bank and iCorFab. Crucial financial support for his research has come from the NHMRC, the National Breast Cancer Foundation, the Cancer Council of Australia, Cancer Australia and Pathology Queensland.

MID CAREER RESEARCHERS

Shedding light on the causes of breast cancer development and progression

Dr Peter Simpson is a senior lecturer in the UQ School of Medicine and a research group leader in the cancer theme at UQCCR. He is also a member of the International Cancer Genome Consortium Breast Cancer Group. The Simpson Group works in tandem with the Lakhani Group (see page 16) carrying out research focused on understanding the mechanisms of breast cancer development and progression. The groups collaborate closely with researchers and clinicians locally at the UQ Institute of Molecular Biosciences, Pathology Queensland, The Royal Brisbane & Women’s Hospital, the Wesley Breast Clinic and QIMR Berghofer, as well as other national and international institutes.

TEAM MEMBERS

Dr Andrew Dalley, Dr Julie Johnson, Dr Dilganesh Srinivasa (based at the IMB), Mr Samir Lal, Ms Renique Males and Dr Jamie Kutosevic

UQCCR RESEARCHER

Dr Peter Simpson

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To help maintain the Brisbane Breast Bank and support Dr Peter Simpson’s research, please donate at www.uqccr.uq.edu.au

Peter Simpson

BSc (Hons) PhD FRCPath
Parkinson’s disease (Parkinson’s) is a progressive brain disease. Unfortunately it affects people in the later stages of life and is a relatively common neurological disease. At face value, Parkinson’s is characterised by changes in a person’s ability to move and hence termed a movement disorder. The noticeable changes are due to tremor, stiffness, slowness in movement, difficulties in walking and balance problems. However, deeper non-movement related issues like anxiety, depression and dementia frequently dominate the clinical picture. Given that in Australia, one in every 245 people live with Parkinsons, this can have an adverse impact on their quality of life, often to a greater extent than the movement disability.

Nadeeka is a research fellow at UQCCR, and an adjunct fellow at Department of Neurology, Royal Brisbane & Women’s Hospital and the UQ School of Psychology. She leads the Neuro Mental Health (NMH) group at UQCCR. Her multidisciplinary research spans across basic science (like pharmacology, physiology and genetics), clinical science and medicine (like epidemiology, psychology, psychiatry, neurology, neurosurgery, cognitive neuroscience, neuromaging and addiction). Nadeeka’s primary research interest is on the neuropsychiatric complications associated with Parkinsons including anxiety, depression, dementia and medication induced impulse control disorders (ICDs).

These complications frequently dominate the clinical picture and often impact negatively on a patient’s quality of life, more so than the visibly noticeable motor disability. She is the principal investigator of the IDATA-PD study initiated to Improve Diagnosis And Treatment of Anxiety in Parkinson’s Disease. Anxiety is common, affecting one in every two people. It significantly impairs activities of daily living for both patients and their carers. While two thirds of anxious patients do not receive any treatment for their anxiety, of those who do receive medication, only 20 per cent respond positively. To complicate matters, anxiety in Parkinsons presents with unique and complex symptoms, which must be understood and addressed if psychological treatment is to be effective.

The NMH clinical research group have led a comprehensive investigation into current anxiety assessment methods for Parkinsons. The IDATA-PD study led them to extensively profile anxiety symptoms which has now contributed to a better understanding of anxiety related uniquely to the disease. This includes anxiety relating to motor disability and motor fluctuations. Nadeeka’s commitment to improving the daily lives of Parkinson’s patients has led her to develop a new Parkinsons specific anxiety questionnaire. This measures the change to anxiety levels in response to tailored psychotherapy treatment. The IDATA-PD study was the first to pilot Cognitive Behaviour Therapy (CBT) for anxiety in Parkinsons patients.

The pilot has demonstrated significant immediate and persistent reductions in anxiety related to Parkinsons and considerably lowered care burden. In addition to developing evidence-based targeted treatments to combat anxiety, Nadeeka and her IDATA-PD study researchers are working to increase access to psychological care for urban, rural and mobility impaired patients. Nadeeka and her NMH group hope to trial CBT for anxiety in Parkinsons using telehealth video conferencing technologies.

CBT delivered via telehealth could assist in getting much-needed treatment to a wider community. Telehealth minimises the travel burden and cost for patients. Nadeeka’s other projects are focussed on identifying damaged brain networks in patients with depression and dementia (IBN-PD study), and developing new treatment for drug-induced impulse control disorders (ICD-PD study). The IBN-PD study uses non-invasive high density electroencephalography (EEG) brain imaging techniques, to identify differences between patients with high and low depression rates. It has implications for the early detection and treatment of depression as it provides clues to damaged brain wiring linked to emotional processing known in depression.

Furthermore, the NMH group is conducting functional magnetic resonance brain imaging (fMRI) at the new state-of-the-art Harvard Imaging Research Facility (HHRF) next to UQCCR. In a study seeking to identify early markers that indicate the onset of dementia, About 80 per cent of Parkinsons patients develop dementia. Researchers are examining patients at risk of developing dementia, to further refine early detection methods in order to inform the developing of new therapies that can prevent or delay the onset of dementia.

The ICD-PD project is a large national collaborative study. Impulse control disorders (ICDs) are experienced by one in five Parkinsons patients treated with medication that increases dopamine activity within their brains. These include pathological gambling, compulsive shopping and hyper sexuality, which often impact negatively on social functioning.

This can result in bankruptcy, arrest and marital family break downs. The project involves interviews with patients, carers and clinicians. It aims to develop a method to identify patients at risk of developing ICDs, and to develop new treatments to manage these devastating medication-induced side effects.

Nadeeka’s collaborative research work at the NMH group, UQCCR would not be possible without the support of the Royal Brisbane and Women’s Hospital and Foundation, Parkinson’s Queensland Inc, Lions Medical Research Foundation, UQ and the NHMRC. These funds facilitate the continuing evidence-based development of innovative treatment and technology methods to provide targeted therapies for Parkinson’s disease patients suffering from mental dysfunction. Nadeeka and her group of researchers are committed to improving the quality of life of patients for this progressive incurable brain disease.
Placental tissue gives gift of life a second time around

The human body has an amazing capacity to regenerate and heal to maintain normal function, but what exactly are the processes involved that allow for this to occur? And how can medicine assist in maintaining normal function, for example during illness or after injury?

The placenta is an organ that has a duty to protect and supply the developing baby with nutrients during pregnancy. It can be preserved to give life again since it is an abundant reservoir of highly potent blood vessel progenitors (EPCs). These EPC stem cells, extracted from placental tissue (usually discarded after birth) can now be used to develop treatments for patients with diabetes or chronic cardiovascular disease, preventing devastating health outcomes like amputation. Until now, it has not been possible to extract EPCs in sufficient quantities for use in treatments.

Prior to Jatin’s postdoctoral research at UQCCR, he completed his PhD at the QMRI Berghofer facility investigating the cellular transport processes across the placenta from the pregnant mother to the developing baby. This process is enabled by the formation of a complex network of blood vessels throughout the placenta, which progressively expand due to the function of EPCs during pregnancy to keep up with the increasing demand for nutrients from the growing baby.

Through the research and experiments conducted by Jatin and his colleagues within the Khosrotehrani Group, they discovered that isolated EPCs formed new blood vessels when injected into models of leg ischemia in mice. Associate Professor Kiarash Khosrotehrani, Jatin’s mentor and Head of the Experimental Dermatology Group at UQCCR, led the research to determine that when injected EPCs spur blood vessel growth and improve blood flow by up to 30 to 40 percent in three weeks.

This was a real breakthrough and could potentially provide additional therapy options for patients with conditions such as type two diabetes or ischemia, where blood flow is restricted resulting in severe debilitating pain or persistent wounds that just won’t heal. For patients whose blood flow is so restricted as to require an amputation of their affected limb, this is good news indeed.

Jatin’s postdoctoral research has led to an innovative new technique to harvest large quantities of EPCs from the placenta, enabling both the respectful re-use of the placenta, and a sustainable translation of research to clinical ready-to-use quantities of EPCs for patients. This innovative isolation technique was patented in 2014 and in 2015, a licensing agreement with a US biotechnology company was completed, which will allow for the development of a clinical trial in the near future.

The research arena of tissue regeneration is expanding rapidly and Jatin’s interest is to pursue and explore the benefit of adding EPCs onto the surface of medical devices, such as stents and further research into the benefits of infusing stem cells intravenously. His interest in tissue regeneration and cancer research has led to successful research on studying endogenous stem cell populations of the skin and vasculature to understand the role in tissue regeneration and cancer formation. They work closely with collaborators at the IMB, QUT-IHBI and TRI research facilities using numerous model to study their hypothesis. They are also working directly with their US partners to begin a clinical trial using EPC isolated from the placenta using the licenced technology that was developed here at UQCCR. It is hoped that a clinical trial will begin in early 2017.

Dr Jatin Patel is a Postdoctoral Research Fellow in Associate Professor Kiarash Khosrotehrani’s research group.

This Khosrotehrani Group carries out research on studying endogenous stem cell populations of the skin and vasculature to understand their role in tissue regeneration and cancer formation. They work closely with collaborators at the IMB, QUT-IHBI and TRI research facilities using numerous model to study their hypothesis. They are also working directly with their US partners to begin a clinical trial using EPC isolated from the placenta using the licenced technology that was developed here at UQCCR. It is hoped that a clinical trial will begin in early 2017.
APPENDIX 1

Research Grants

New grants awarded in 2015 with a UQCCR lead investigator totalling $7,828,703. UQCCR researchers are indicated in bold.

<table>
<thead>
<tr>
<th>GRANTING BODY</th>
<th>INVESTIGATORS (CI’S ONLY, NOT A/Is)</th>
<th>PROJECT TITLE</th>
<th>DATES</th>
<th>TOTAL GRANT AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queensland Institute of Medical Research Project Foundation</td>
<td>Khorostanechaki K, Waiker G</td>
<td>Systems analysis of epidemiology biology and cancer (NHMRC Project Grant administered by CMRI)</td>
<td>2015-2018</td>
<td>$144,718</td>
</tr>
<tr>
<td>Australian National University</td>
<td>Paterson D, Clements A, Riley T</td>
<td>Clotrimost: offsite: assessing the risks to Australia of an emerging healthcare related pathogen (NHMRC Project Grant administered by AMRI)</td>
<td>2014-2015</td>
<td>$125,427</td>
</tr>
<tr>
<td>Rebecca Lee Bloor Copper Medical Research Foundation Limited</td>
<td>Patel J, Khorostanechaki K</td>
<td>Laser doppler perfusion imaging (LDPI): revascularisation sites following vascular stem cell therapy</td>
<td>2015-2015</td>
<td>$32,000</td>
</tr>
<tr>
<td>LRBH Foundation</td>
<td>Dissanayaka N, Byrne G, O'Sullivan J, Marsh R, Pachana N</td>
<td>Mindfulness therapy for depression, anxiety, motor and cognitive dysfunction in Parkinson's disease</td>
<td>2015-2016</td>
<td>$40,000</td>
</tr>
<tr>
<td>LRBH Foundation</td>
<td>Cervin A, Tamashov J, Marmion S</td>
<td>The role of the bacterial, fungal and viral sinus microbiome in chronic rhinosinusitis patients</td>
<td>2015-2015</td>
<td>$30,000</td>
</tr>
<tr>
<td>UQ Ochsner seed fund for collaborative research</td>
<td>Salomon C, Leng S, Rice G, Mitchell M</td>
<td>Placenta-derived exosomes: a biomarker for early detection of complication of pregnancies.</td>
<td>2015-2015</td>
<td>$30,000</td>
</tr>
<tr>
<td>Lior Foundation</td>
<td>Pitera H</td>
<td>Regulation of myosin production and actions of myosin in normal and cancerous placenta</td>
<td>2015-2015</td>
<td>$52,364</td>
</tr>
<tr>
<td>The Garvan Institute &amp; Rodney Williams Memorial Foundation</td>
<td>Cervin A, Rokavecowski S</td>
<td>Microbiota of the human uterine. Its role in health and disease</td>
<td>2015-2015</td>
<td>$375,000</td>
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<tr>
<td>HVI Foundation Queensland</td>
<td>Whitney D, Lang C, Lambert S, Smith R, Ternavski E</td>
<td>New molecular tools to identify groups of individuals at increased risk of human immunodeficiency virus (HIV) acquisition</td>
<td>2015-2016</td>
<td>$56,956</td>
</tr>
<tr>
<td>Monash University</td>
<td>Rose S</td>
<td>Gloma Imaging - Brain Cancer Discovery Collaborative</td>
<td>2015-2016</td>
<td>$300,000</td>
</tr>
<tr>
<td>LED Foundation</td>
<td>Khorostanechaki K, Roy E</td>
<td>The natural history of skin cancer formation: from normal skin to cancer</td>
<td>2015-2016</td>
<td>$265,290</td>
</tr>
<tr>
<td>RMBH Foundation</td>
<td>Henderson R, McCombe P</td>
<td>Mass spectrometry to search for biomarkers in motor neuron disease</td>
<td>2015-2015</td>
<td>$40,000</td>
</tr>
<tr>
<td>University of Melbourne</td>
<td>Lalithkumari S, Anderson S, Swadron A, Johnstone R, Chua B, Goh A, Khanna K, Lu S, O'Toole S, Saunders L, C, Lim E</td>
<td>NBCD repository of primary tumours and metastases from breast cancer patients (National Breast Cancer Foundation grant led by The University of Melbourne)</td>
<td>2015-2019</td>
<td>$172,000</td>
</tr>
<tr>
<td>UQ Vice-Chancellor’s Research and Teaching Fellowship</td>
<td>Capelletti D</td>
<td>Improving aphasia outcomes through research enrichment and enriched clinical training</td>
<td>2016-2019</td>
<td>$722,616</td>
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<tr>
<td>UQ NIVHS Emerging Leaders Grant</td>
<td>Salomon C</td>
<td>Host-tumor derived exosomes interactions in the progression of ovarian cancer</td>
<td>2015-2015</td>
<td>$10,000</td>
</tr>
<tr>
<td>UQ NIVHS Emerging Leaders Grant</td>
<td>Pitera H</td>
<td>Evaluating the differential expression and functional role of myosin in placenta of pregnancies complicated with gestational diabetes</td>
<td>2015-2015</td>
<td>$10,000</td>
</tr>
<tr>
<td>UQ NIVHS Emerging Leaders Grant</td>
<td>Wishy J</td>
<td>Enhancing brain outcomes in growth restricted neonates</td>
<td>2015-2015</td>
<td>$10,000</td>
</tr>
<tr>
<td>Ochterline seed fund for collaborative research</td>
<td>Rose G, Longo S, Salomon C</td>
<td>Phospho-BNIP1: macromolecular interaction and validation of maternal placental biomarkers in pregnancies diagnosed with pre-eclampsia</td>
<td>2016-2018</td>
<td>$30,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRANTING BODY</th>
<th>INVESTIGATORS (CI’S ONLY, NOT A/Is)</th>
<th>PROJECT TITLE</th>
<th>DATES</th>
<th>TOTAL GRANT AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple Sciences Research Australia</td>
<td>Greer J</td>
<td>Developing a xenograft mouse model for multiple sclerosis</td>
<td>2015-2016</td>
<td>$20,000</td>
</tr>
<tr>
<td>Pathology Queensland</td>
<td>Paterson D, Whity D</td>
<td>Combining the new antitumoralresistance threat developpment and implementation of cost-effective molecular surveillance tools</td>
<td>2015-2015</td>
<td>$20,195</td>
</tr>
<tr>
<td>University of Auckland</td>
<td>Lest K, Groen K</td>
<td>STRIDER (NZDA): A randomised controlled trial of abalbepin therapy in dismal progosis early-onset intracranial growth restriction (New Zealand and Australia) (led by the University of Auckland)</td>
<td>2015-2017</td>
<td>$6,310</td>
</tr>
<tr>
<td>REPAIR Foundation</td>
<td>Dissanayaka N, Byrne G, O'Sullivan J, Marsh R, Pachana N</td>
<td>Cognitive behaviour therapy for anxiety in Parkinson's disease outcomes for patients and caregivers</td>
<td>2016-2016</td>
<td>$40,000</td>
</tr>
<tr>
<td>University of Sydney</td>
<td>Lest K, Gorko P, Tenoriz - Mord W</td>
<td>Does Lactoferrin improve survival from mortidity in very low birth weight infants? Lactoferrin Feeding Trial: a randomised controlled trial.</td>
<td>2015-2017</td>
<td>$30,000</td>
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<tr>
<td>NHMRC Practitioner Fellowship</td>
<td>Scott J</td>
<td>Prevention and Management of Youth Mental Illness</td>
<td>2016-2013</td>
<td>$333,258</td>
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<tr>
<td>Cancer Bequest Fund (Cancer Research Fund)</td>
<td>Lahtani S</td>
<td>Repurposing HUR3 antibodies for treatment of brain metastases from breast cancer</td>
<td>2015-2016</td>
<td>$90,468</td>
</tr>
<tr>
<td>Motor Neuron Disease Research Institute of Australia</td>
<td>Steyn F, McCombe R, Ng S</td>
<td>Metabolic and gut dopamine in MND: identifying novel targets to meet energy needs in patients</td>
<td>2015-2016</td>
<td>$100,000</td>
</tr>
<tr>
<td>Motor Neuron Disease Research Institute of Australia</td>
<td>Henderson R, McCombe R, F, Veg S</td>
<td>Using biomarkers to explore heterogeneity of motor neuron disease</td>
<td>2015-2016</td>
<td>$100,000</td>
</tr>
<tr>
<td>NHMRC Career Development Fellowship</td>
<td>Whity D</td>
<td>Genitourinary: detection, antimicrobial resistance and treatment</td>
<td>2015-2016</td>
<td>$463,652</td>
</tr>
<tr>
<td>NHMRC Project Grant</td>
<td>Greer J, Bryan M, Scott J, David B, Wolters J</td>
<td>Investigating the antiepithelial role of autocrine treatment of the M1 mircnaicous acetylcholine receptor in patients with first episode of schizophrenia</td>
<td>2016-2019</td>
<td>$930,985</td>
</tr>
<tr>
<td>NHMRC Development Grant</td>
<td>Rice S, Salomon C, Ilanese S</td>
<td>In vivo diagnostic tool for transient risk assignment of gestational diabetes</td>
<td>2015-2016</td>
<td>$580,983</td>
</tr>
<tr>
<td>UQ Fellowship</td>
<td>Khosrotehrani K, Gyer P, Paterson D</td>
<td>Translational dermatology in skin and skin cancer research</td>
<td>2015-2016</td>
<td>$217,349</td>
</tr>
<tr>
<td>Royal Brisbane and Women's Hospital Foundation</td>
<td>Collett S, White J, Sullivan S, Liu M</td>
<td>Predicting growth reduced newborns by reducing inflammation</td>
<td>2016-2016</td>
<td>$44,000</td>
</tr>
<tr>
<td>National Heart Foundation of Australia</td>
<td>Patel J</td>
<td>National Heart Foundation Collaboraton and Exchange Award - The impact of vessel resident stem cells during atherogenesis</td>
<td>2015-2016</td>
<td>$5,000</td>
</tr>
<tr>
<td>The A-Tr Children's Project</td>
<td>Rose S, Sinclair K, Lavin M</td>
<td>Ultra-short echo time (UTE) magnetic resonance imaging (MRI) for automatic analysis of paediatric ataxia telangiectasia progression and treatment response</td>
<td>2015-2016</td>
<td>$19,033</td>
</tr>
<tr>
<td>Vice-Chancellor's Research Foundation Fellowship</td>
<td>Paterson D</td>
<td>Epilepsy, and treatment of multidrug resistant Gram negative bacteria</td>
<td>2015-2015</td>
<td>$887,353</td>
</tr>
<tr>
<td>RMBH Foundation</td>
<td>Scott J</td>
<td>Anti-Neuronal Antibodies in patients with treatment refractory psychics disorders</td>
<td>2016-2016</td>
<td>$57,100</td>
</tr>
</tbody>
</table>

New grants awarded in 2015 with a UQCCR lead investigator totalling $7,828,703. UQCCR researchers are indicated in bold.
UQCCR researchers are indicated in bold. New grants awarded in 2015 where a UQCCR investigator is part of the research team totalled $7,856,336. **Grant Title**

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**APPENDIX 2**

**UQCCR Publications**

**Books Chapters 2015**


**APPENDIX 3**

**Awards**

<table>
<thead>
<tr>
<th>NAME</th>
<th>AWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Professor James Scott</td>
<td>Best Clinical Education or Health Services Oral Presentation 24th Annual RBWH Health Care Symposium, Brisbane, Australia (November)</td>
</tr>
<tr>
<td>Professor David Paterson</td>
<td>2015 Thomson Reuters Highly Cited Researcher</td>
</tr>
<tr>
<td>Professor David Paterson</td>
<td>Faculty of Medicine and Biomedical Science Research Excellence Award</td>
</tr>
<tr>
<td>Dr Peter Simpson</td>
<td>Fellow of Faculty of Science of the Royal College of Pathologists of Australia</td>
</tr>
<tr>
<td>Professor Sunil Lakhani</td>
<td>Distinguished Pathologist, awarded by the International Academy of Pathology (Australian Division)</td>
</tr>
<tr>
<td>Dr Minyon Avent</td>
<td>Advanced Practice Pharmacist awarded by Australian Pharmacy Council</td>
</tr>
<tr>
<td>Professor Murray Mitchell</td>
<td>Fellow ad eundem of the Royal College of Obstetricians and Gynaecologists</td>
</tr>
<tr>
<td>Professor Pamela McCoombe</td>
<td>Australian and New Zealand Association of Neurologists (ANZAN) medal</td>
</tr>
</tbody>
</table>

**Student Awards**

<table>
<thead>
<tr>
<th>NAME</th>
<th>AWARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr Deloit Bax</td>
<td>Graduate School International Travel Award</td>
</tr>
<tr>
<td>Mr Matthew Roberts</td>
<td>UQ 3 Minute Thesis Runner-Up 2015</td>
</tr>
<tr>
<td>Mr Matthew Roberts</td>
<td>CARI PhD Publication 2015 Round 1 Winner</td>
</tr>
<tr>
<td>Mr Matthew Roberts</td>
<td>UQCCR representative for the Selection for Global Young Scientists Summit (GYSS), Singapore, 2016</td>
</tr>
<tr>
<td>Mr Alexander Wallen</td>
<td>Travel Award for the 25th European Congress of Clinical Microbiology, and Infectious Diseases, Copenhagen, Denmark</td>
</tr>
<tr>
<td>Mr Alexander Wallen</td>
<td>UQCCR Publication of the Month Award (September)</td>
</tr>
</tbody>
</table>

**APPENDIX 4**

**Conference Presentations**

<table>
<thead>
<tr>
<th>INVITED SPEAKERS</th>
<th>Speaker:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Minyon Avent</td>
<td>&quot;Antimicrobial Stewardship in Primary Care&quot;, Queensland Forum on Antimicrobial Resistance, Brisbane, Australia (November)</td>
</tr>
<tr>
<td>Professor Sunil Lakhani</td>
<td>&quot;Heterogeneity in primary and metastatic breast cancer: impact on diagnostic pathology&quot;, 9th Asia Pacific International Academy of Pathology (APACP) Congress, Brisbane, Australia (June)</td>
</tr>
<tr>
<td>Dr Peter Simpson</td>
<td>&quot;Tumour heterogeneity in primary and metastatic breast cancer: impact on diagnostic pathology&quot;, 9th Asia Pacific International Academy of Pathology (APACP) Congress, Brisbane, Australia (June)</td>
</tr>
<tr>
<td>Dr Simun Finner</td>
<td>&quot;Non-invasive EEG activity in acute ischemic stroke&quot;, Royal Brisbane Women’s Hospital Neurology Research Centre meeting, Brisbane, Australia (October)</td>
</tr>
<tr>
<td>Dr Hema Sibabu</td>
<td>&quot;Enzyme-substrate interactions: diurnal and genetic expression differences&quot;, Royal Brisbane Women’s Hospital Neurology Research Centre meeting, Brisbane, Australia (October)</td>
</tr>
<tr>
<td>Dr Janet Xie</td>
<td>&quot;Smartphone-based remote monitoring system for Parkinson’s disease&quot;, Royal Brisbane Women’s Hospital Neurology Research Centre meeting, Brisbane, Australia (October)</td>
</tr>
<tr>
<td>Professor Peter Silburn</td>
<td>&quot;Surfing Brain-Waves in Disorders of Movement&quot;, Sarcopenia Control Meeting 2015, University of Queensland, Brisbane, Australia (February)</td>
</tr>
<tr>
<td>Dr Emma Low</td>
<td>&quot;PPH stimulation for treating and falling patients&quot;, British Neuroscience Association 50th Festival of Neuroscience, Edinburgh International Conference Centre, Edinburgh, Scotland (April)</td>
</tr>
<tr>
<td>Dr Hari Subramaniam</td>
<td>&quot;Neuromodulation of the motor cortex: an opportunity for translation&quot;, Asian Pacific Summer School on Brain-Body Systems and Prosthetic Devices, National Dong Hwa University, Taichung, Taiwan (August)</td>
</tr>
<tr>
<td>Dr Christina Ayas (nee Knupfer)</td>
<td>&quot;Remote patient monitoring via smartphones&quot;, Eskander Laboratory for Stereotactic and Functional Neurosurgery, Massachusetts General Hospital, Boston, USA (November)</td>
</tr>
<tr>
<td>Professor Helen Cheney</td>
<td>&quot;Early detection of early signs of depression in Parkinson's disease&quot;, International Deep Brain Stimulation Workshop, First World Congress on Tourette Syndrome and Tic Disorders, London, UK (June)</td>
</tr>
<tr>
<td>Dr Ella Trembula</td>
<td>&quot;Molecular approaches to enhance testing for Neisseria gonorrhoeae antimicrobial resistance&quot;, National Reference Laboratory Symposium, Sydney, Australia (July)</td>
</tr>
</tbody>
</table>
**INVITED SPEAKERS**

**Associate Professor David White**

Invited Speaker: "Molecular approaches to enhance testing for Neisseria gonorrhoeae antimicrobial resistance", National reference laboratory symposium, Sydney, Australia (July)

"Rapid assay: Development for Novel Infections", Viruses in May Meeting Royal College of Pathologists of Australia (RCPA), Kalgoorlie, WA (May)

"Real-time PCR detection of N. gonorrhoeae: where are we now?", 2015 World STI & HIV Congress, Brisbane, Australia (September)

"Innovation in diagnostic methods for antimicrobial resistance of Neisseria gonorrhoeae: findings from the GRAND project", Northern Territory Department of Health, Centre for Disease Control Conference 2015, Darwin, Australia (September)

"Molecular surveillance of Neisseria gonorrhoeae" RCPA Pathology Update 2015, Melbourne, Australia (February)

"So what’s happening with gonorrhoeae?" Australian Institute of Medical Scientists: Tropical Disease Scientific Meeting, Townsville, Australia (June)

**Professor Murray Mitchell**

Invited workshop "Transplacental transfer of endocrine disruptors", International Federation of Placenta Association: Xenobiotics and endocrine disruptors and pregnancy-workshop 7, Brisbane, Australia (need month)

**Dr Patrick Hanks**

Invited Speaker: "Clinical management of bloodstream infections caused by ESBL-producers", Interscience Conference on Antimicrobial Agents and Chemotherapy, San Diego, USA (September)

**Professor Paul Colditz**

Invited Speaker: "Brain development in the NICU", Gold Coast University Hospital Research Seminar Series, Gold Coast, Australia (June)

"Subgaleal haemorrhage: Don’t treat it lightly!", New South Wales Pregnancy and Neonatal Services Network, NeoPad Conference, Sydney, Australia (September)

"Parenting preterm infants: how to optimise outcomes!", New South Wales Pregnancy and Neonatal Services Network, NeoPad Conference, Sydney, Australia (September)

"Subgaleal haemorrhage", Neonatal Intensive Care Unit, Royal Brisbane and Women’s Hospital, Brisbane, Australia (November)

**Professor James Scott**

Invited Speaker: "Barriers and Options in the Treatment of Sepsis in Australia", World Psychiatric Association International Congress, Taipei, Taiwan (November)

"Psychotic like experiences in the general community", Australasian Schizophrenia Research Conference, Melbourne, Australia (October)

Keynote Speaker: "Causes and Care of Anxiety in Adolescents", Association of Counsellors of Catholic Secondary Schools of Queensland (ACCSSQ) Annual Conference, Brisbane, Australia (November)

"Preventing mental illness in Australian Children and Youth!", Australasian Society for Mental Health Research, Brisbane, Australia (December)

"Bullying in Australia: Prevention and Intervention!", Victorian State Branch Conference of the Royal Australian and New Zealand College of Psychiatrists, Lakers, Victoria, Australia (October)

"Causes and Care of Anxiety in Adolescents", Association of Counsellors of Catholic Secondary Schools of Queensland Annual Conference, Brisbane, Australia (June)

"From consulting rooms to global research: Clinical psychiatrists who research!", Royal Australian and New Zealand College of Psychiatrists 2015 Congress, Brisbane Australia (May)

**Professor Murray Mitchell**

Invited workshop "Transplacental transfer of endocrine disruptors", International Federation of Placenta Association: Xenobiotics and endocrine disruptors and pregnancy-workshop 7, Brisbane, Australia (need month)

**Invited Speaker:** "Epidemiology, exosomes and dairy cow fertility", University of Queensland Veterinary School seminar series, Gatton, Queensland (August)

"Epidemiology, exosomes and dairy cow fertility and the transition cow", University of Florida, Gainesville, Florida, USA (June)

"Exosomal analyses: brief overview and recent progress", MBIE Pillars Programme International Workshop, Townsville, Australia (September)

"Epigenetics, exosomes and dairy cow fertility: lessons from medical research!", DairyNZ Forum, Hamilton, New Zealand (September)

"Application of epigenetics in reproductive management: now and the future!", DMF Reproduction Steering Group Forum, Dairy Australia, Melbourne Australia (March)

**Associate Professor Judith Greer**

Invited Speaker: "Autoantibodies and their potential roles in diseases of the nervous system!", Asia-Pacific School of Neuroimmunology, Tokyo, Japan (August)

"The escalating arms race between superbugs and antibiotics: implications for patients and public health.", Queensland Forum on Antimicrobial Resistance, REWRY Education Centre, Brisbane, Australia (November)

**Professor Greg Rice**

Invited Speaker: "Exosomal biomarker of pregnancy!", The 47th International Congress of Pathophysiology of Pregnancy, Tbilisi, Georgia (November)

Guest Lecturer: "Research Quality and Translation (Eight lectures), University of the Andes, Santiago, Chile (June)

**Professor Nicholas Rick**

Guest Lecturer: "Seaspigosis as a unique form of hemming: non-invasive umbilical diagnosis & frequency determination in a large WGS twin cohort!", International Fetal Medicine and Surgery Society Annual Scientific Meeting, Greece (June)

**Professor David Paterson**

Invited Speaker: "Is this the end of the antibiotic era?" Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Melbourne, Australia (October)

"Gram-negative problem: Polymyxins in an age of new antibiotics", 2nd international Conference on Polymyxins, San Diego, California, USA (September)

"The end of the antibiotic era", University of Pittsburgh, Pittsburgh, USA (September)

**Associate Professor Judith Greer**

Invited Speaker: "Autoantibodies and their potential roles in diseases of the nervous system!", Asia-Pacific School of Neuroimmunology, Tokyo, Japan (August)
### APPENDIX 5

**Seminars held at UQCCR**

<table>
<thead>
<tr>
<th>DATE</th>
<th>NAME OF SPEAKER</th>
<th>TITLE OF TALK</th>
</tr>
</thead>
<tbody>
<tr>
<td>19/02/15</td>
<td>Associate Professor Adrian Barnett</td>
<td>Peering inside the black box of research funding</td>
</tr>
<tr>
<td>26/02/15</td>
<td>Professor David Palenik and Mr Harvey Kramer</td>
<td>How to perform bad research</td>
</tr>
<tr>
<td>23/04/15</td>
<td>Dr Steven Lane</td>
<td>Improving patient outcomes by targeting leukocyte stem cells</td>
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<tr>
<td>26/04/15</td>
<td>Dr Genevieve Huke</td>
<td>Reducing sitting in the office workplace: Why? What works?</td>
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<td>30/04/15</td>
<td>Ms Jamie Kubenovic</td>
<td>Breast Cancer metastasis to gynaecological organs impacting young women diagnosed with a luminal tumour subtype</td>
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<td>11/06/15</td>
<td>Dr Hari Subramanian</td>
<td>Neonurmodulation of brainstem circuits for autonomic control – A therapeutic opportunity</td>
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<td>18/06/15</td>
<td>Dr Hari Subramanian</td>
<td>The neural bases of sound and speech</td>
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<td>11/08/15</td>
<td>Dr Helen Barnett</td>
<td>Treating maternal lipids in complicated pregnancy</td>
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<td>15/10/15</td>
<td>Dr Cynthia Forlin</td>
<td>Whose mind is it, anyway? Balancing the individual responsibilities &amp; collective benefits</td>
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<td>10/11/15</td>
<td>Professor Vicki Clifton</td>
<td>Queensland families cohort</td>
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<td>Dr Genevieve Healey</td>
<td>Reducing sitting in the office workplace: Why? What works?</td>
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<td>Dr Hari Subramanian</td>
<td>Myostatin in the human placenta: expression and potential functions</td>
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<td>23/07/15</td>
<td>Dr Marloes Dekker</td>
<td>Probiotics in Pregnancy – the (s) and pitfalls</td>
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<td>Dr Annika Mongat</td>
<td>Alcohol-exposed pregnancy research: Building an Australia-USA collaboration</td>
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<td>Dr Tracey Baldwin</td>
<td>Neonatal seizures – How should we be treating them?</td>
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<td>27/08/15</td>
<td>Dr Barbara Lingwood and Dr Yvonne Elbye</td>
<td>Cardiorespiratory function in preterm pigeons: Effects of Esparmine and Dolutefarnine and reduced preload</td>
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<td>03/09/15</td>
<td>Dr Carlos Salomon</td>
<td>Endocannabinoid signalling in complications of pregnancy and ovarian cancer progression</td>
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<td>17/09/15</td>
<td>Associate Professor Ken Hermann</td>
<td>Theranostics - recent advances and new challenges</td>
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<td>24/09/15</td>
<td>Dr Jian Patel</td>
<td>Vascular stem cells and their role in treating ischaemic disease</td>
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<td>06/10/15</td>
<td>Professor Mark Goodman</td>
<td>Bench to bedside translation of fluidotherapy for imaging cancer</td>
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<td>Dr Cynthia Farlie</td>
<td>Whose mind is it, anyway? Balancing the individual responsibilities &amp; collective benefits of healthy ageing cognition</td>
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<td>22/10/15</td>
<td>Associate Professor James Scott</td>
<td>Child and adolescent mental health and early psychosis: Prevention and treatment options</td>
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<td>11/12/15</td>
<td>Professor Voki Dibton</td>
<td>Queensland families cohort</td>
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<td>Dr Patrick Harris</td>
<td>Tackle Grim-negative 'Superbug' – Climbing the north face of the existence pyramid</td>
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<tr>
<td>03/12/15</td>
<td>Mr Homer Zoumi</td>
<td>War on superbug-Fighting the known unknown through multidisciplinary approach</td>
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<tr>
<td>10/12/15</td>
<td>Dr Hassanderni Petala</td>
<td>Regulation and actions of myostatin in the human placenta</td>
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### APPENDIX 6

**Research Higher Degree Students**

**Completions in 2015**

UQCCR supervisors are shown in bold.

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<tr>
<th>STUDENT</th>
<th>DEGREE</th>
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<tr>
<td>Gillea, Jen</td>
<td>PhD</td>
<td>Professor P Hodgess, Dr J Miles</td>
<td>Physiology and pathophysiology of low back pain in ballet dancers</td>
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<td>Hemsley, Gayle</td>
<td>PhD</td>
<td>Professor B Dodd, Dr K Stott</td>
<td>Language Difference and Disorder in Early Sequential Biligual Children</td>
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<td>Jones, Megan</td>
<td>PhD</td>
<td>Associate Professor C Farah, Dr A Dalley</td>
<td>DNA damage repair pathways in oral mucosal lesions</td>
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<td>Kimball, Witheruda</td>
<td>PhD</td>
<td>Professor D Paterson, Dr H Sidjabat</td>
<td>Molecular Epidemiology and insights into the Genomes of Acinetobacter calcoaceticus-Acinetobacter baumannii complex</td>
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<td>Legrand, Julien</td>
<td>PhD</td>
<td>Associate Professor K Khosroshahrani, Professor N Fok, Dr A Brooks</td>
<td>Mesenchymal-Endothelial interactions in skin wound regeneration</td>
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<td>Cline, Nancy</td>
<td>PhD</td>
<td>Associate Professor J Green, Professor M Peeler</td>
<td>Amyloid variants of myelin proteolipid protein: potential indicators of multiple sclerosis or potential means to a cure?</td>
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<td>Murphy, Jenifer</td>
<td>PhD</td>
<td>Professor G Byrne, Professor N Pachana</td>
<td>Chronic and treatment-resistant depression</td>
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<td>Park, Hannah</td>
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<td>Professor M Mitchell</td>
<td>Myostatin in the human placenta: expression and potential functions</td>
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<td>Rogers, Benjamin</td>
<td>PhD</td>
<td>Professor D Paterson, Professor T Walsh, Dr H Sidjabat</td>
<td>Antimicrobial Resistant Escherichia coli: Clinical, Epidemiological and Molecular Characterisation in Our Region</td>
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<td>Momney, Majid</td>
<td>PhD</td>
<td>Professor S Lakhanwal, Professor G Rico, Dr J Szamos, Dr G Chenoweth-Trench</td>
<td>Metastatic HER2 signaling increases invasive behaviour of HER2-positive breast cancer cells</td>
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<tr>
<td>Odabae, Maryam</td>
<td>PhD</td>
<td>Professor P Colditz, Dr B Koshash, Dr Sampsa Vanhatalo, Dr Glaeser Assent</td>
<td>Neonatal EUG source localisation</td>
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<td>Iyer, Karthik</td>
<td>PhD</td>
<td>Professor M Speaks, Dr Sampsa Vanhatalo, Dr S Finigan</td>
<td>Novel methods for predicting clinical outcome in neonates from electrophysiology recordings</td>
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<td>Tseng, Hsu-Wen</td>
<td>PhD</td>
<td>Dr H Thomas, Dr A Pettiti, Professor M Brown</td>
<td>Inflammation-driven bone formation in ankylosing spondylitis: Characterisation of the proteoglycan-induced ankylosis mouse model</td>
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<tr>
<td>Haral, Michael</td>
<td>PhD</td>
<td>Dr H Whitington, Professor R Boyd, Professor P Colditz, Professor M Sanders</td>
<td>A randomised controlled trial to determine the efficacy of Baby Triple P with parents of very preterm infants on infants with irritability, child behaviour and parenting style</td>
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<tr>
<td>Minas, Prudence</td>
<td>MPhil</td>
<td>Dr A Mudgil, Professor P Walker, Dr N Patel</td>
<td>Understanding the occurrence of genetic syndromes in older surgical patients</td>
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<td>Yes, An Abroy</td>
<td>MPhil</td>
<td>Professor M Lavis, Dr O Becherel, Dr S Kozlov</td>
<td>Sarcoma in CEA repair and Meiotic Siblinging</td>
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<tr>
<td>Evans, Tracey</td>
<td>PhD</td>
<td>Dr H Whitington, Professor R Boyd, Professor P Colditz, Professor M Sanders</td>
<td>Preventing Relationship Difficulties Between a Mother and her Very Preterm Infant: Implementation and Evaluation of Baby Triple P for Parents of a Very Preterm Infant</td>
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<td>Vanbray, Scott Martin Johannes</td>
<td>PhD</td>
<td>Associate Professor T Coulson, Associate Professor S Rose</td>
<td>Imaging basal forebrain dysfunction in Alzheimer's disease</td>
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<td>Brandenburg, Caldin</td>
<td>PhD</td>
<td>Professor L Worrall, Professor D Copland, Dr A Rodriguez</td>
<td>Performance-based measurement of participation for people with aphasia: Using an iPhone application to measure talking time in everyday life</td>
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<tr>
<td>Yu, An</td>
<td>MPhil</td>
<td>Associate Professor C Farah, Dr M Matas</td>
<td>Narco Band Imaging in the identification and monitoring of oral potentially malignant diseases and oral cancer</td>
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<td>Sardesai, Varda</td>
<td>MPhil</td>
<td>Professor K Khosroshahrani, Professor N Fok</td>
<td>Isolation, separation and validation of fatal-derived microorganisms from oral cancer samples from the plaque</td>
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<td>Dutta, Suchandra</td>
<td>MPhil</td>
<td>Dr C Saksom, Professor G Rico, Professor M Mitchell</td>
<td>First trimester plasma-derived exosomal protein: Tumour biomarker for early detection of pathological pregnancies</td>
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<td>Boynton, Luka</td>
<td>MPhil</td>
<td>Associate Professor K Khosroshahrani, Professor A Green</td>
<td>Influence of pregnancy on prognosis of melanoma</td>
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<tr>
<td>John, Kathah</td>
<td>MPhil</td>
<td>Professor C Farah, Dr A Dalley</td>
<td>Surgical margins in oral cancer: The translational potential of Narrow Band Imaging and VELscope, based on an analysis of molecular changes in malignant and premalignant tissues</td>
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<tr>
<td>Wellsoro, John</td>
<td>MPhil</td>
<td>Associate Professor C Farah, Dr M Matas</td>
<td>Opportunities for achieving early diagnosis of oral cancer within the medical profession in Australia</td>
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**Enrolments in 2015**

UQCCR supervisors are shown in bold.

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<tr>
<td>Beasley, Shannon</td>
<td>PhD</td>
<td>Associate Professor J Green, Professor D Wang</td>
<td>Development of a simple in vivo white matter model to investigate differential expression of cell markers on glial cells and their potential as targets in multiple sclerosis</td>
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<td>Jardine, Luke</td>
<td>PhD</td>
<td>Professor P Collett, Dr D Marks</td>
<td>Development of early predictors of long term neurodevelopmental outcome for preterm infants</td>
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<td>Yang, Ji Hyun</td>
<td>PhD</td>
<td>Professor G Byrne, Dr T Fallows, Professor D Copland</td>
<td>Markers and mechanisms of mild cognitive impairment MCI in Parkinson’s disease PD</td>
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<td>Diwi, Aakanksha</td>
<td>PhD</td>
<td>Associate Professor J Green, Dr Sheila Connolly</td>
<td>Triple knockout mice with human immune systems: a novel method for testing therapeutic agents involved in NIS</td>
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<td>Ioannides, Zara</td>
<td>PhD</td>
<td>Professor P Collett, Dr P Symons, Dr S Nips, Associate Professor R Henderson</td>
<td>Energy metabolism and storage in motor neuron disease</td>
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<td>Robinson, Helen</td>
<td>PhD</td>
<td>Dr M Dekker, Professor L Callaway, Dr H Bennett</td>
<td>Assessing the effect of carbohydrate intake in overweight and obese pregnant women and women with gestational diabetes mellitus</td>
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<td>Bedick, Thy Anh</td>
<td>PhD</td>
<td>Professor J Najman, Associate Professor J Scott</td>
<td>Exploring family mental health as predictors of children’s education and vocational outcomes across the lifespan</td>
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<td>Bell, Alexander</td>
<td>MPhil</td>
<td>Professor D Paterson, Professor A Clements, Dr Y. Yakob, Dr R Robinson</td>
<td>A qualitative and quantitative risk assessment of the reintroduction of the epidemic strains of Clostridium difficile into Australia</td>
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<td>Kim, Ji Yeon</td>
<td>PhD</td>
<td>Professor P Collett, Professor J Scott</td>
<td>Understanding how remote application of near infrared light induces neuroprotection</td>
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<td>Koh, Yong Ge</td>
<td>PhD</td>
<td>Professor M Mitchell, Professor G Rix, Dr G Salomon</td>
<td>Patterning in dairy cows</td>
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<td>Romanakis, Madeline</td>
<td>MPhil</td>
<td>Dr S Finigan</td>
<td>Investigating the neurological impact of post-traumatic stress disorder through MRI and diffusion MRI in a sample of Vietnam veterans</td>
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<td>Guiseau, Kate</td>
<td>PhD</td>
<td>Dr T Bjorkman</td>
<td>A novel therapy for neonatal seizures 01.07.2015</td>
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<td>Oussaid, Elhennane, Salsy, Mers</td>
<td>PhD</td>
<td>Dr S R, Dr K Klein, Professor G Rice</td>
<td>Evaluation of the identity paranoia in diabetes is a longitudinal case study 07.04.2015</td>
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<td>Reese, Glennis Wilm</td>
<td>MPhil</td>
<td>Dr J Yan, Associate Professor J Green, Dr G Webster</td>
<td>To examine the activation of Nf-kB in PSCG isolated from patients with progressive Multiple Sclerosis before and during long-term treatment with MS961 29.07.2015</td>
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<td>Suzuki, Shuichi</td>
<td>PhD</td>
<td>Professor J Higuchi, Associate Professor J Scott</td>
<td>Physical activity and people with psychosis 28.07.2015</td>
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<td>O’Byrne, Leanne</td>
<td>PhD</td>
<td>Dr A Heil, Dr A Rodriguez</td>
<td>Technology enabled self management of aphasia: when, how and what works 14.01.2015</td>
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<td>Alies, Joque</td>
<td>MPhil</td>
<td>Associate Professor K Khosrotehrani, Associate Professor N Saunders</td>
<td>To understand differences between basal cell carcinoma and squamous cell carcinoma subtypes of the genitopic. Transcriptomic profiling and proteomic level 01.04.2015</td>
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<td>Shen, Timothy</td>
<td>PhD</td>
<td>Professor P Collett</td>
<td>Identification of brain events via electroencephalogram eeg through blind source separation 26.10.2015</td>
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<td>Chakravorty, Ayesha</td>
<td>PhD</td>
<td>Professor G Mitchell, Dr J Nilkes</td>
<td>Role of m1-m3 in studies in a developing country: Ethiopian scenario 01.07.2015</td>
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<td>Gillman, Ashley Grace</td>
<td>PhD</td>
<td>Professor S Ross, Dr N Dickson, Dr D Best, Dr R Cowieson, Dr J Smith</td>
<td>Developing novel algorithms to correct non-rigid motion during Fraction Emission Tomography (PET) imaging to improve diagnostic accuracy 29.10.2010</td>
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<td>Moring, James Jacob</td>
<td>MPhil</td>
<td>Professor P Collett</td>
<td>A comparative study of in-hospital maternal mortality ratio (MMR) between the United States of America and Australia 08.10.2015</td>
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**Ongoing Students**

UQCCR supervisors are shown in bold.

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<tr>
<td>Francis, Glen</td>
<td>PhD</td>
<td>Associate Professor C Farah, Dr G Sisask</td>
<td>Protein expression and molecular profiling using tissue microarrays to predict lymph node status in breast cancer 01.07.2015</td>
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<td>McCarthy, Kale</td>
<td>PhD</td>
<td>Professor D Paterson, Dr T Hall</td>
<td>Positron emissions angiography blood-flow infections: Clinical and molecular epidemiology, and risk prediction of bacterial infections, treatment and outcome 01.07.2015</td>
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<td>Miller, Stephen</td>
<td>PhD</td>
<td>Dr T Bjorkman, Associate Professor P Notakis</td>
<td>Examining the maturation of the GABA system in the neuronal brain and its role in hypo-activated. Hypo-activity</td>
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<td>Readings, Alexia</td>
<td>PhD</td>
<td>Associate Professor D Copland, Associate Professor K McMeniman</td>
<td>The modulation of adult-nnuro-axonic learning by dopamine 01.07.2015</td>
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<td>Robbly, Tracy</td>
<td>PhD</td>
<td>Associate Professor D Copland, Associate Professor K McMeniman</td>
<td>Neurophysiological markers of language recovery in acute stroke 01.07.2015</td>
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<td>Stewart, Flora</td>
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<td>Professor M Levin, Dr S Kato</td>
<td>A cellular model to investigate the role of ATP in the nervous system 01.07.2015</td>
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<td>Subhan, Syed</td>
<td>PhD</td>
<td>Professor D Paterson, Dr H Siddiqua</td>
<td>The prevalence of metallo-beta-lactams producing enterobacteriaceae: Fluoroquinolones, Aminoglycoside, etoposide and tec grossary and hyperacetylated phenols in Saudi Arabia 01.07.2015</td>
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<td>Sheikh, Nabil</td>
<td>PhD</td>
<td>Dr S Finigan, Principal Dr A Wong, Dr S Reid</td>
<td>Role of quantitative EEG in diagnosis, prognostication and management of acute stroke 01.07.2015</td>
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<td>Sam, Sonia</td>
<td>PhD</td>
<td>Dr B Lingwood, Professor P Collett</td>
<td>Cardiovascular factors associated with poor outcome in preterm infants 01.07.2015</td>
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<td>Schrump, Ishani</td>
<td>PhD</td>
<td>Associate Professor S Ross, Professor M Levin</td>
<td>Investigating connectivity and neurostimulation of corticospinal networks in animals: a longitudinal case study 01.07.2015</td>
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<td>Thomas, Georgia</td>
<td>PhD</td>
<td>Professor D Paterson</td>
<td>Immunological context of staphylococcus aureus infections in Queensland. Improving our understanding of the clinical phenotype 01.07.2015</td>
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<td>Stockill, Sigrid</td>
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<td>Associate Professor D Copland, Dr A Rodriguez</td>
<td>Investigating the effect of intensity of aphasia therapy on language outcomes in people with aphasia 01.07.2015</td>
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<td>Rajaghavendra, Ashwini</td>
<td>PhD</td>
<td>Professor S Lakhanr, Dr G Chennion, Dr J Sivasan, Dr P Simpson</td>
<td>Studying brain localization and integration of language in patients with language disorders 01.07.2015</td>
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<td>Katsaros, Jamie Rose</td>
<td>PhD</td>
<td>Dr S Simpson, Professor S Lakhanr, Dr A Reid, Dr G Chennion</td>
<td>Trenching the role of G-carboxyld in breast cancer treatment and process of metastasis 01.07.2015</td>
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<td>Larane, Sindy</td>
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<td>Professor P Ducan, Dr A Pettit, Dr A Zarni, Professor P Brown</td>
<td>Gene mapping in skeletal dysplasia 01.07.2015</td>
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<td>Yeates, Sarah</td>
<td>PhD</td>
<td>Associate Professor J Leach, Professor W Hall</td>
<td>Addiction neuroscience meets alcohol policy: emergent meaning in the fluid interface between brain and behaviour and their implications for ethical communication and evidence based policy 01.07.2015</td>
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<td>Schuck, Simon</td>
<td>PhD</td>
<td>Associate Professor S Ross, Professor P Frith</td>
<td>Motor, Sensory and visual brain networks in children with unilateral Cerebral Palsy 01.07.2015</td>
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<td>Walker, Alexander</td>
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<td>The Genetic Analysis of NDM harbouring plasmids in Gram-negative bacteria and an insight into their mechanism of acquisition and spread 01.07.2015</td>
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<td>Morphett, Kyle</td>
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<td>Professor W Hall, Dr A Carter, Dr G Garber</td>
<td>A disease of the brain: How do neurobiological explanations of addiction influence the attitudes and behaviour of patients? 01.07.2015</td>
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<td>Langyay, Saimak</td>
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<td>Professor P Collett, Professor B Bhattacharyya, Dr G Azami</td>
<td>Feasible detection and classification of 01.07.2015</td>
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<td>Schlaeg, Emma</td>
<td>PhD</td>
<td>Dr S Finigan, Dr A Wong, Dr S Reid</td>
<td>Assessing functional deficits in neurological conditions via monitoring and targeting brain electrophysiological signals 01.07.2015</td>
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<td>Ahlawat, Ashwag</td>
<td>PhD</td>
<td>Professor P McCombe, Dr R Henderson</td>
<td>The CMAP select in Motor Neuron Disease and Peripheral Neuropathy as a marker of early diseases and disease progression 01.07.2015</td>
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<td>Quek, Hazel</td>
<td>PhD</td>
<td>Dr T Roberts, Professor M Levin, Dr J Harris, Dr P Brown</td>
<td>Characterization of novel pathways involved in the cellular responses to cytosolic DNA 01.07.2015</td>
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<td>George, Joanne</td>
<td>PhD</td>
<td>Professor R Boyd, Professor P Collett, Associate Professor S Ross</td>
<td>Prediction of morbid outcomes based on early brain structure 01.07.2015</td>
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<td>Professor J Lisk, Dr G HtH, Dr T Roberts, Professor E Knibbs</td>
<td>Generation of induced pluripotent stem cells from aliasa-leiagonaeides patients</td>
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<td>Bao, Betsul</td>
<td>PhD</td>
<td>Associate Professor K Khosrohtehrani, Professor G Rice, Dr J Patel</td>
<td>Statistical modeling of datasets for delineation of abnormalities</td>
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<td>Anchong, Naomi</td>
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<td>Professor L Callaway, Professor E Duncan, Professor M McIntyre</td>
<td>Intraoperative nerve monitoring in spine surgery patients</td>
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<td>Northwood, Konnie</td>
<td>PhD</td>
<td>Professor M Brown, Professor S Lakha</td>
<td>Detection of therapeutic targets in breast cancer using a systems biology approach</td>
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<td>Dhakal, Nishita</td>
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<td>Professor L Whittaker, Associate Professor G Beyne, Professor H Martin</td>
<td>Investigation of the role of cytokines in depression and cognition in adolescents</td>
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<td>Saito, Shinhli</td>
<td>PhD</td>
<td>Professor M Whittaker, Shinya Miura, Associate Professor J Scott</td>
<td>Early detection of glioblastoma using machine learning approaches</td>
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<td>Nair, Lekshmi</td>
<td>MPhil</td>
<td>Professor L Callaway, Dr M Dukker</td>
<td>Prediction of long-term outcomes in breast cancer patients</td>
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<td>Thomas, Hannah</td>
<td>PhD</td>
<td>Associate Professor J Scott, Associate Professor J Connor</td>
<td>Beyond the classroom and into the cyber world, next generation research into adolescent bullying</td>
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<td>Asael, Abdul</td>
<td>PhD</td>
<td>Professor P Golditz, Professor B Buxton</td>
<td>Classification and localisation of neonatal EEG abnormalities using time-frequency image processing and support vector machine</td>
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<td>Devine, Matthew</td>
<td>MPhil</td>
<td>Dr R Henderson, Professor P McCombe</td>
<td>LmB-Dominance and cortical features of Amyotrophic Lateral Sclerosis (ALS)</td>
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<td>Pagnonzi, Alex</td>
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<td>Professor S Rose, Professor A Bradley, Dr N Evans</td>
<td>Automatic construction of normal and abnormal tissue models from MRI datasets for delineation of abnormalities</td>
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<td>Wall, Kyle Janie</td>
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<td>Associate Professor D Copland, Dr T Cumming</td>
<td>Prognostic factors of MRI in recovery of cognition and language post-stroke</td>
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<td>Melchior, Natalie</td>
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<td>Dr R Barnett, Dr D Harken, Professor T Cheetham</td>
<td>Characterisation of inflammatory pathways associated with preterm birth</td>
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<td>Jensen, Chaimane</td>
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<td>Professor M Hall, Dr B Partridge, Professor J Luckie</td>
<td>Non-medical use of prescription stimulants by Australian University students: Prevalence of use and motivation</td>
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<td>Issac, Megan</td>
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<td>Professor D Copland, Dr A-Anguin, Associate Professor K McMahon</td>
<td>Control of language production and its neural substrates</td>
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<td>Liu, Melissa</td>
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<td>Molecular Imaging: New technologies for patients care</td>
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<td>Odenthal, Caren</td>
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<td>Professor AGoldthard, Professor L Callaway, Associate Professor S Rose</td>
<td>Can MRI at 3 and 5 years after first demyelinating event detect reduction in brain volume in patients who progress to clinically definite MS compared to those who do not?</td>
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<td>Reid, Lee Bremner</td>
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<td>Associate Professor S Rose, Professor R Boyd, Associate Professor R Cunningham</td>
<td>Measuring neuropsychiatric indices in children with acquired brain injury using diffusion and functional MRI</td>
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<td>Roberts, Matthew</td>
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<td>Professor F Gardiner, Dr H Schum</td>
<td>Palletive biomarkers for early detection of Prostate Cancer</td>
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<td>Forbes, Elizabeth</td>
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<td>Dr D Lingwood</td>
<td>Changes in cardiac structure and biochemistry during transition to extra uterine life in preterm and term pigs</td>
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<td>Al-Theyab, Nada</td>
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<td>Dr D Lingwood, Professor P Golditz, Associate Professor T Dovenon</td>
<td>Determination of Vitamin D status and intake of adolescent school girls in central region, Saudi Arabia</td>
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<td>Van Eke, Julie</td>
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<td>Professor G Rice, Professor S Stanley, Professor M Mitchell, Professor M Choolani</td>
<td>The role of cytokines in depression and cognition in adolescents</td>
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<td>Harris, Patrick</td>
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<td>Professor D Paterson</td>
<td>Defining an evidence based approach for the optimal management of Gram-negative infections in the era of emerging antimicrobial resistance</td>
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<td>Gomaa, Amrigo, Luka</td>
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<td>Professor L Callaway, Dr M Dukker</td>
<td>The gut microbiota in pregnancy in response to prebiotics</td>
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<td>Pau, Michael</td>
<td>Associate Professor S Rose</td>
<td>Incorporating advanced imaging into the treatment of brain tumours</td>
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<td>Percival, Aaron</td>
<td>PhD</td>
<td>Associate Professor M Melzner, Associate Professor D Copland</td>
<td>Long-term effects of non-invasive electrical brain stimulation in cognition and neuroplasticity in healthy, ageing and mild cognitive impairment</td>
</tr>
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</table>
Clinical Trials

UQCCR is actively involved in investigator driven clinical research. These are the clinical trials we hosted:

**CLINICAL TRIAL**

**Early intervention centred on infant massage performed by the mother in preterm infants: effects on neurodevelopment at the clinical, electrophysiological and neurodevelopmental level.**

**Clinical Investigator:**

Professor Paul Collidti, Dr Simon Pengen, Associate Professor Stephen Rose, Dr Andrea Guzzetta, Dr M Gaia A’Couto, Ms Naomi Agenda, Ms Senta Sam, Dr Koa Whittingham, Ms Jayne Oostenbroek and Ms Penny Low.

**NEST: A study of the impact of treating electrographic seizures in term or near-term infants with neuroendophathy.**

**Clinical Investigator:**

Dr Roll Hunt, Professor Paul Collidti, Dr Tinni Idler, Dr Nadia Badawi, Dr Karen Smit, Dr Helen Lilly, Associate Professor Professor David O’Connor, Dr Janine Chong, Professor Ian Wright.

**PREFMC: Prediction of preterm early motor and neurodevelopmental outcomes using advanced brain imaging and an early assessment toolbox.**

**Clinical Investigator:**

Professor Raslin Boyd, Professor Paul Collidti, Ms Joanne George, Associate Professor Stephen Rose.

**PREMP: Prediction of preterm neurodevelopmental outcomes using advanced brain imaging and dense array EEG.**

**Clinical Investigator:**

Professor Paul Collidti, Professor Raslin Boyd, Dr Ali Malikhi, Associate Professor Stephen Rose, Professor Rosalba Ballester, Michael O’Callaghan, Dr Geoffrey Conigrave, Professor Michael Fahey, Dr Kristen Panneke, Dr Randal Meldrich.

**Randomised Study of Robotic and Open Prostatectomy.**

**Clinical Investigator:**

Professor Robert Frank Gardner.

**A Double-Blind, Placebo-controlled study to evaluate New or Worsening Lens Opacifications delivered by a health worker to improve physical activity in patients with blocked leg arteries.**

**Clinical Investigator:**

Dr Geoff Coughlin, Dr John Yaxley.

**Prem Triple P Parenting Study: Enhanced parenting capacity to improve developmental outcomes in preterm infants.**

**Clinical Investigator:**

Professor Paul Collidti, Professor Matthew Sanders, Professor Raslin Boyd, Professor Marko Pritchard, Dr Peter Gray, Dr Michael O’Callaghan, Professor Virginia Slaughter, Dr Koa Whittingham.

**PREMO: Prediction of preterm neurodevelopmental outcomes using advanced brain imaging and dense array EEG.**

**Clinical Investigator:**

Professor Paul Collidti, Professor Raslin Boyd, Dr Ali Malikhi, Associate Professor Stephen Rose, Professor Rosalba Ballester, Michael O’Callaghan, Dr Geoffrey Conigrave, Professor Michael Fahey, Dr Kristen Panneke, Dr Randal Meldrich.

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**Randomised Study of Robotic and Open Prostatectomy.**

**Clinical Investigator:**

Professor Robert Frank Gardner.

**A Double-Blind, Placebo-controlled study to evaluate New or Worsening Lens Opacifications in subjects with non-metastatic Cancer Reassessing Dormatoma for bone loss due to Androgen-Depression Therapy.**

**Clinical Investigator:**

Dr Geoff Coughlin, Dr John Yaxley.

**Preval: "A Multinational/Phase 3, Randomised, Double-Blind (placebo)-controlled efficacy and safety study of once/MDV 100 in Chemotherapy", Non-Patients with Progressive Metastatic Prostate Cancer who have failed Androgen Deprivation therapy.**

**Clinical Investigator:**

Professor Robert Frank Gardner.

**Early Detection Study: Developing a biomarker test for Prostate Cancer detection.**

**Clinical Investigator:**

Researchers have employed PCR, ELISA, MALDI-TOF and metabolomic spectroscopy to discriminate cancer from non-cancer.

**A Randomised Controlled Trial of Melatonin and Atenolol/ with treatment commenced following prostate biopsy and ceasing just before radical prostatectomy to guide subsequent patient management.**

**Clinical Investigator:**

Professor Robert Frank Gardner, Dr Geoff Coughlin, Dr John Yaxley, Dr Troy Grantzoo.

**Janerens’ Phase 3 Prostate Study: HEB013-D5:PAH95 -/jUL 55232/H92 in combination with Abiraterone Acetate and Prednisone versus Abiraterone Acetate and Prednisone for patients with mCRPC.**

**Clinical Investigator:**

Professor Robert Frank Gardner.

**Protocol No X13-D3P & HEB013-D5PAH95 – X12DDP100: A Randomised phase 3 trial of enzalutamide in first line androgen deprivation therapy for metastatic prostate cancer (ENZALEM)”.**

**Clinical Investigator:**

Professor Robert Frank Gardner.

**Brief Behavioural Counselling Intervention for Prophylactic Adenomyosis (BP)”.**

**Clinical Investigator:**

This study is being done to evaluate the effectiveness of a brief behavioural counselling session delivered by a health worker to improve physical activity in patients with blocked leg arteries. The results of this study might help us understand if the presentation of physical activity recommendations to patients with blocked leg arteries can be improved.

**Deep Brain Stimulation (DBS) for Patients with Treatment-Resistant Obsessive Compulsive Disorder (OCD): targeting electrophysiological biomarkers.**

**Clinical Investigator:**

Professor Peter Silburn, Associate Professor Tony Cregan, Professor Panag Gah, Professor Perninder Satchell, Dr Adith Mohan, Dr Philip Mooney, Dr Rodney Marsh, Dr Mark Brench, Ms Lisa McKeown.

**THE ARIA PACTIC Centre for Neurourology (APC) St Andrews War Memorial Hospital.**

**Clinical Investigator:**

To evaluate the clinical effectiveness and safety of DBS therapy in a restricted sample of patients with treatment-resistant OCD.

**This research project will utilise a new device, which is identical to the implantable DBS electrodes currently utilised over the past 10 years for movement disorder but as well be used as a passive recording device of brain electrical activity.**
Perspectives and experiences of Parkinson’s disease patients with drug induced impulse control disorders and dopamine dysregulation syndrome (DDDS) 

This qualitative study aims to identify the phenomenology of DDDS-induced impulse control disorders, patients’ understanding of their condition and their ability to control their behaviors, and patients’ moral identity and beliefs about their personal responsibility.

Mindfulness for Parkinson’s disease

This project aims to design and implement a mindfulness cognitive behavior therapy for Parkinson’s disease patients.

Cognitive-behavioural therapy to treat anxiety and depression in Parkinson’s disease

This qualitative study aims to identify the phenomenology of DDDS-induced impulse control disorders, patients’ understanding of their condition and their ability to control their behaviors, and patients’ moral identity and beliefs about their personal responsibility.

Anti-N-Methyl-D-Aspartate Receptor Encephalitis: An Australian Case Series Examining Patterns and Predictors of Cognitive Outcomes

This study aims to investigate the course of recovery from a recently described autoimmune neurological disorder: anti-N-methyl-D-aspartate receptor encephalitis. We are seeking to describe the quality of life, pattern of cognitive performance and outcome predictors associated with recovery from this disorder.

Perilesional and Motor Cortex (M1) Transcranial Direct Current Stimulation (tDCS) Effects on Brain Language Processing in Ageing and Post-stroke Aphasia

Uses inhibitory high-definition intrascanner tDCS to assess the neural mechanisms underlying superior language learning in healthy young and older individuals using a novel type of focal brain stimulation.

High-definition tDCS effect on theory of mind

Assesses potential positive effects of tDCS on prefrontal brain function in healthy young and older individuals using a novel type of focal brain stimulation.

High-definition tDCS effects on social cognition in healthy young and older individuals investigating the role of the right hemisphere in language production in ageing and post-stroke aphasia

Investigates whether tDCS can improve motor function in healthy young and older individuals using a novel type of focal brain stimulation.

ICSS effects on postural balance

Investigates whether tDCS can improve motor function in healthy young and older individuals

ICCS effects on learning ability in ageing and mild cognitive impairment (MCI)

Investigates long-term effects of multisection ICSS on learning and cognition in ageing and MCI

ICCS effects on brain language function in post-stroke aphasia

Investigates the neural mechanisms of two stimulation sites in aphasia using intracranial ICSS and functional magnetic resonance imaging

Professional and Motor Cortex (M1) Transcranial Direct Current Stimulation (tDCS) Effects on Brain Function in Patients with Multiple Sclerosis

Investigates the benefits of mindfulness group therapy to alleviate depression, anxiety, cognitive dysfunction and parkinsonism symptoms in Parkinson’s disease.

This project aims to investigate the benefits of mindfulness group therapy to alleviate depression, anxiety, cognitive dysfunction and parkinsonism symptoms in Parkinson’s disease.

Leucomethylthioninium Bis(hydromethanesulfonate) in Subjects with Mild to Moderate Alzheimer’s Disease or Behavioral Variant Frontotemporal Dementia

Perilesional and Motor Cortex (M1) Transcranial Direct Current Stimulation (tDCS) Effects on Brain Language Processing in Ageing and Post-stroke Aphasia

Uses inhibitory high-definition intrascanner tDCS to clarify the role of the right hemisphere in language learning and production in ageing and post-stroke aphasia.

Anti-N-Methyl-D-Aspartate Receptor Encephalitis: An Australian Case Series Examining Patterns and Predictors of Cognitive Outcomes

This study aims to investigate the course of recovery from a recently described autoimmune neurological disorder: anti-N-methyl-D-aspartate receptor encephalitis. We are seeking to describe the quality of life, pattern of cognitive performance and outcome predictors associated with recovery from this disorder.

Randomised, Double-Blind, Placebo-Controlled, Parallel Group, 12-Month Trial of Leucymethylthioninium Bis(hydromethanesulfonate) in Subjects with Mild to Moderate Alzheimer’s Disease

Randomised, Double-Blind, Placebo-Controlled, Parallel Group, 18-Month Safety and Efficacy Study of Leucymethylthioninium Bis(hydromethanesulfonate) in Subjects with Mild to Moderate Alzheimer’s Disease

An Open-Label, Extension Study of the Efficacy of Leucymethylthioninium Bis(hydromethanesulfonate) in Subjects with Alzheimer’s Disease or Behavioral Variant Frontotemporal Dementia

Applicability and Experience of a Novel Multisession Intervention to Treat Drug Induced Impulse Control Disorders in Parkinson’s Disease Patients

This study aims to investigate the course of recovery from a recently described autoimmune neurological disorder: anti-N-methyl-D-aspartate receptor encephalitis. We are seeking to describe the quality of life, pattern of cognitive performance and outcome predictors associated with recovery from this disorder.

This project investigates the benefits of mindfulness group therapy to alleviate depression, anxiety, cognitive dysfunction and parkinsonism symptoms in Parkinson’s disease.

This project investigates the benefits of mindfulness group therapy to alleviate depression, anxiety, cognitive dysfunction and parkinsonism symptoms in Parkinson’s disease.

CLINICAL TRIAL

CHIEF INVESTIGATOR/S

Dr Alfred R. Schon, Dr Nadina Dissanayake, Dr Louise Mitchell, Professor Gerard Byrne, Professor Peter Sillam, Associate Professor John O’Sullivan, Dr Rodney Manh

Dr Alfred R. Schon, Dr Nadina Dissanayake, Dr Paul Hamlin, Professor Nancy Phatnara, Mr Faizul Ismail, Associate Professor John O’Sullivan, Professor Peter Sillam, Dr Rodney Manh, Associate Professor Gerard Byrne, Associate Professor George Melick.

Dr Zara Imanieh, Dr Federik Stein, Dr Shuyao Ngu, Professor Pamela McCorbie, Dr Robert Henderson

Associate Professor Marcus Meinzer, Professor David Copland, Associate Professor Katie McMahon, Professor Gern de Zubicaray

Associate Professor Marcus Meinzer, Dr Peter Poczot, Druse, Professor Andy Christiansen

Associate Professor Marcus Meinzer, Dr Andrew Martin, Mr Garon Perrin.

Associate Professor Marcus Meinzer, Dr Andrew Martin, Mr Garon Perrin.

Associate Professor Marcus Meinzer, Professor David Copland, Dr Andrew Martin, Mr Garon Perrin, Associate Professor Katie McMahon.

Professor Elkesa Davis, Dr Peter Poczot, Druse, Associate Professor Katie McMahon.

Associate Professor Marcus Meinzer, Dr Nickolas Flas, Associate Professor Hanah Khooshnorian, Professor Martin Larch, Associate Professor Marcus Meinzer, Associate Professor James Scott, Associate Professor David Whiteley, Dr Ignacio Avend, Dr Oliver Bechel, Dr Nigel Bemell, Dr Tracey Blinkman, Dr Andrew Selley, Dr Marissa Sekler, Dr Nadia Gracia, Dr Ylime Ely, Dr Cynthia Forini, Dr Simon Finnegan, Dr Magdal Hradil-Gable, Dr Judith Green, Dr Julie Johnson, Dr Piriprit Kabbal, Dr Mohammed Kifit, Dr Amanda Kipas, Dr Sergei Kudov, Dr Arun Law, Dr Barbara Lingessow, Dr Leah Marion-Lastee, Dr Jane Nikke, Dr Jayes Patel, Dr Rebecca Paielinos, Dr Rahmah Matril, Dr Charlotte Preston, Dr Amy McCall Reed, Dr Renee Richards, Dr Amy Rodriguez, Dr Edgreda Roy, Dr Richard Henderson, Dr Jean-Christo Kaya, Dr Gillian Lack, Dr Melissa Liu, Dr Susan Mills, Dr Flordal Moldrich, Dr Jh-Yen Nien, Dr Shuyao Ngu, Dr Anna Pert, Dr Maria Pizzoni, Dr Jeremy Pocque, Dr Margit Pritchard, Dr Jacqualine Robinson, Dr Tara Roberts, Dr Alexander Ryan, Dr Oliver Salvador, Dr Sonia Sam, Dr Richard Simpson.
The University of Queensland Centre for Clinical Research acknowledge with thanks our sponsors and supporters in 2015.

With thanks
Merchant Charitable Foundation | Australian and New Zealand Association of Neurologists (ANZAN)  
King Abdullah International Medical Research Center | American Society of Microbiology  
All the academic and professional staff who have contributed to the production of the 2015 Annual Report.
Our world-renowned biomedical researchers and clinicians use new approaches and research technologies to improve health and wellbeing.