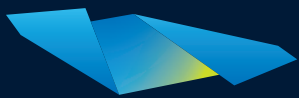


# RESEARCH HIGHLIGHTS

# 2016



Ingham Institute  
Applied Medical Research

“The medical research work we do here not only benefits my local community in South West Sydney, but because of the mix of people we have here, it has real benefits for everyone.”

**BOB INGHAM AM**  
FOUNDING BENEFACTOR

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# Our Mission

At the Ingham Institute, our Mission is to challenge the understanding and treatment of existing medical conditions and processes and, by doing so, radically transform community health outcomes for the better.

## About the Ingham Institute

The Ingham Institute for Applied Medical Research conducts world-class community-driven medical research. Founded by the community for the community, our award-winning researchers are dedicated to finding better ways to improve health and eradicate diseases.

The Institute's research teams are focused on exploring new medical approaches across its research streams: Cancer, Clinical Science (comprising Cardiovascular Disease, Diabetes and Infectious and Inflammatory Diseases), Population & Health Services, Injury and Rehabilitation and Mental Health. The Institute is at the forefront of the most advanced medical breakthroughs and clinical discoveries and are committed to saving and improving lives.

The Institute's medical research programs have a translational focus. This means that results from the laboratory are transformed into direct health benefits in the form of new treatments and standards of care for local, national and international communities.

The Ingham Institute operates as a unique partnership between the South Western Sydney Local Health District (SWSLHD), UNSW Australia and Western Sydney University. It was founded by one of Australia's most respected philanthropists Bob Ingham AO and is further supported by Lady Mary Fairfax AC, OBE.

As a charitable organisation, the Institute is reliant on public donations and bequests to enable the researchers to continue their vital work.

100% of funds raised for the Institute go directly to support medical research.





# Terry Goldacre

Welcome to the 2016 Ingham Institute Research Highlights, a review of the research programs of the Institute and, most importantly, an acknowledgement of our researchers driving these translational medical research programs.

Much has been achieved by our researchers and this is a reflection of the both the calibre and volume of Awards and tributes our researchers have achieved over the years. Professor Ian Harris, head of the Whitlam Orthopaedic Research Centre and leader of our Injury & Rehabilitation stream of research was named a Member (AM) in the General Division of Order of Australia in 2015 for significant services to medicine, particularly in the field of orthopaedics as a clinician, to education and research and to professional bodies. Ingham Institute Director and Dean of Medicine at Western Sydney University Professor Annemarie Hennessey was also named a Member (AM) in the General Division of the Order of Australia in 2015 for significant service to tertiary education, and to medical research, particularly in the area of clinical hypertension and maternal health. It was also pleasing to learn that Professor Ken Hillman, head of the Simpson Centre for Health Services Research, was appointed as an Officer of the General Division of the Order of Australia (AO) in 2015 for distinguished service to intensive care medicine.

The other Directors and I have been elated with the local community's flourishing support over the period. This is evident through their participation in our fundraising events and donations received, both of which directly support all of the research programs conducted at the Institute.

I am very pleased to report that our inaugural Ingham Institute Ball held in March 2015 was a resounding success. We were extremely honoured to have the Minister of Foreign Affairs, the Hon Julie Bishop MP, join us as our special guest for this event.

Along with the Board, I am most humbled by the generosity of our Ball sponsors for their patronage and thank them for their significant support. Our Founding Benefactor, Mr Bob Ingham AO, pledged a further \$1 million dollars towards his namesake Institute with his children; John, Robby, Lyn and Debbie Kepitis in attendance.

In 2015 we farewelled Professor Peter Smith from our Board of Directors and thank him for his contributions to developing and fostering a strong training culture and commitment to supporting our next-generation talent. Peter was the Dean of Medicine at UNSW Australia and has worked with the Board since 2008. Since our last report we also welcomed four new members to the Board including; Adjunct Professor Robynne Cooke (General Manager of Liverpool Hospital), Professor Michael Barton (Research Director for the South Western Sydney Local Health District and the Ingham Institute), Professor Jeremy Wilson (Clinical Associate Dean of the UNSW – South Western Sydney Clinical School) and Professor Rodney Phillips (Dean of Medicine, UNSW Australia). I would like to acknowledge the allegiance of our Board members as we endeavour to further grow the Ingham Institute and advocate excellence, multidisciplinary research collaborations and the training of Australia's next-generation research talent.

The Ingham Institute works in close partnership with the South Western Sydney Local Health District, UNSW Australia, Western Sydney University and the community and we thank all of our partners for the support and contributions, which have led to the achievements of our researchers in this report.

**Terry Goldacre**  
Chairman

The Ingham Institute is pioneering some of the most advanced research technologies and has developed internationally renowned programs that are firmly positioning the Institute as a leader in innovation. Our flagship project, the MRI-Linac, is a testament to this and is the first prototype of its kind in Australia. This precise and smart technology will revolutionise cancer treatment. With programs from more than 10 research groups, our Cancer portfolio is a multi-disciplinary team effort aligned with one of the largest hospitals in Australia, Liverpool Hospital.

2014 saw the inauguration of the Research Directors PhD Scholarship program, an initiative funded by the Institute's core funds, dedicated to supporting the Institute's PhD students through training and mentoring with leaders from the student's respective research fields. David Lynch was the Institute's inaugural Scholar and is working closely with Associate Professor Therese Becker to identify Circulating Tumour Cells (CTCs) and Circulating Tumour RNA in patients with brain tumours. CTCs are cells that have split from the main body of a cancerous mass into the bloodstream and increasing evidence is mounting around the usefulness of using these cells in patients as an indicator for the outcome of cancer.

Other big news in 2014 was the establishment of the Centre for Oncology Education and Research Translation (CONCERT), an initiative that will develop new drugs and treatments for Australian cancer patients. CONCERT was born as a result of a significant \$6.5 million grant from the Cancer Institute NSW and is a multi-institutional consortium that brings together 200+ professional members spanning all aspects of cancer research, diagnosis, treatment and care.

In 2015, Associate Professor Meera Agar, one of Australia's leading palliative care

researchers and the Institute's Clinical Trials Director, received much media attention following an announcement from the NSW Government to fund the first-ever medical cannabis trial for terminally ill cancer patients. The basis of the trial is to evaluate the effectiveness of cannabis products to improve the quality of life for adults with terminal cancer in NSW. The new trial will commence in 2016 and represents a huge leap forward in terms of the treatments options available to terminally ill cancer patients in this country.

A/Prof Agar is just one example of our highly talented team of female researchers working across many research groups at the Ingham Institute. It was very exciting to see three of these extremely talented researchers named as finalists for the 2015 NSW Woman of the Year Awards which included the Director of the Pancreatic Cancer Research Group Professor Minoti Apte, the Director of the Institute's Translational Research and Social Innovation Group Professor Lynn Kemp and Grace Micali from the Institute's Antibiotic Resistance and Mobile Elements Group. Professor Minoti Apte took the crown of the 2015 NSW Premier's Woman of the Year for her outstanding achievements in pancreatic cancer research. It was extremely pleasing to see the significant response from our partners and community members as a result of Minoti's well-deserved win.

Over the period the Institute's main building at Liverpool has been filled with diverse research groups and in 2015 we opened level five and welcomed the Immune Tolerance group. Soon we will outgrow our current facilities, leading us to start planning the next phase of the Ingham Institute's expansion over the coming decade. This will include further building at Liverpool and a new facility at Campbelltown.

## Professor Michael Barton OAM



I am proud to report on our many successful milestones and highlight the important work our researchers are conducting and, most importantly, the real difference Ingham Institute support has been able to bring to our translational research programs in the South Western Sydney region and beyond.

With the generosity of our corporate sponsors, the Ingham Institute has been able to allocate additional \$80,000 towards competitive research grants scheme was established in 2014 to support new pioneering studies of our doctors, researchers and the new generation of students. This funding is in addition to nearly \$85,000 that the Ingham Institute annually provides in direct funding to critical research projects conducted by the Institute. In 2015 new grants with a total value of \$50,000 were awarded to support projects in Breast Cancer and Diabetes research, only made possible by targeted donations from our corporate supporters. A further \$20,000 was awarded to Mental Health research and \$50,000 went towards research in Oesophageal Cancer and Diabetes. I would like to acknowledge all of our corporate sponsors including; Calibre Consulting, Dart West Developments, Douglas Partners, MainVue Homes, the Mark Grundy Oesophageal Cancer Awareness Group Inc. (OCAGI), Dylam Development, Nepean Engineering and Perich Group.

The Ingham Institute's community focused work will not be possible without support of many volunteers and we are thankful to each and every one of you. Here I want to specifically mention Leanne McNamara who for the last three years has been spending on average two days per week at the Institute working on community engagement.

Our researchers have continued to receive award winning results and have achieved many prestigious national and international wins. Our Research Director, Professor Michael Barton OAM was awarded the 2014 Royal Australian and New Zealand College of Radiologists (RANZCR) Rouse Travelling Fellowship and was also awarded the 2015 Gold Medal by the Royal Australasian and New Zealand College of Radiologists.

We have continued to develop with respect to the volume and spread of research, programs and facilities with the Institute now being home to more than 300 researchers from more than 40 research groups across the disciplines of Cancer, Clinical Sciences, Population & Health Services, Injury & Rehabilitation and Mental Health.

Clinical academics and research group leaders at our Institute are instrumental to the mentoring of our next generation of medical and research talent with 63 students enrolled in post and undergraduate Degree studies. We have developed & will continue to boost our student portfolio allowing students access to the latest technologies and training with some of Australia's leading researchers. In one example, the Medical Physics group are currently supervising 23 students and will have one Masters and up to five PhDs completed by the end of 2016.

The Ingham Institute works closely with local schools on delivery of our Pathway to Success program aimed at bringing careers in health services and medical research to the interest and

attention of year 10 and 11 high school students. This program is specifically developed by the Ingham Institute to address needs of our diverse communities living in South Western Sydney. In 2015 the Pathway to Success program received a boost with a \$20,000 donation from Campbelltown Wests Leagues Club.



## A/Professor Greg Kaplan



## Terry Goldacre, Chairman

Terry Goldacre joined the Institute Board in 2008. He is currently the Managing Director of Harrington Estates (NSW) Pty Ltd, which since 1993 has been responsible for the development of the leading residential estate Harrington Park. Prior to this, he held executive positions in the civil engineering and land development industries. He is past president of the Urban Development Institute of Australia (NSW Division) and is a founding trustee of the Harrington Park Foundation.



## Professor Rodney Phillips

Professor Rodney Phillips is the current Dean of Medicine at UNSW Australia and joined the Ingham Institute Board in 2015. He is an immunologist whose research has impacted the world's understanding of HIV/AIDS and other infectious diseases. He is best known for describing, for the first time, how the HIV virus evades the body's immune defences. Professor Phillips has conducted many years of bedside research in communities across Asia and Africa and has an enduring interest in the significant health challenges of the third world, such as malaria, tuberculosis and AIDS.



## Dr Teresa Anderson

Dr Teresa Anderson is the Chief Executive of the Sydney Local Health District. Teresa was previously Director of Clinical Operations of the Sydney South West Area Health Service until she took up her current position in January 2011.



## Professor Michael Barton OAM

Professor Michael Barton is the Professor of Radiation Oncology, Faculty of Medicine, UNSW Australia; Conjoint Professor of Medicine, School of Medicine, Faculty of Health Sciences, University of Western Sydney; Research Director, Collaboration for Cancer Outcomes Research and Evaluation (CCORE), Liverpool Hospital; Senior Staff Specialist, Radiation Oncology, Liverpool Cancer Therapy Centre.



## Tim Bryan

Tim Bryan is a Chartered Accountant; he is a Senior Client Director and Managing Partner of Kelly+Partners South West Sydney, a financial advisory group based at Campbelltown. Tim is a Founding Director and Chairman of the Finance Committee, Kids of Macarthur Health Foundation; and Chairman of St Gregory's College Finance Advisory Committee.





## Professor Annemarie Hennessy AM

Professor Annemarie Hennessy AM is the Dean and Foundation Chair of Medicine at the Western Sydney University. She was the Director of the Hypertensive Disorders of Pregnancy (HDP) Unit at the Royal Prince Alfred Women and Babies (RPAWB) from 1998 until October 2006 and continues in an honorary capacity within the unit. Annemarie has a commitment to medical research in her capacities as Dean of the School of Medicine at Western Sydney University.



## John Ingham

John Ingham worked at Inghams Enterprises for over 10 years in various positions and was the National Sales and Marketing Manager for a number of years. He is the Managing Director of Upstart Marketing, a Marketing Consultancy focusing on designing and managing web sites for companies large and small for over 15 years. He was Vice Chairman on the Australian Jockey Club Board and a Board Member until the merger that created the Australian Turf Club. John also served as Chairman of the Australian Stud Book, a Director of Racingcorp Pty Ltd and Australian Genetics Testing Pty Ltd.



## Debbie Killian

Debbie Killian has 25 years' experience working in health, education, community welfare and local government in greater western Sydney - much of it in the South West. This has included senior roles in managing community health services; inpatient & outpatient allied health services; and community development programs among a range of other service types.



## Adjunct Professor Robynne Cooke

Adjunct Professor Robynne Cooke is currently the General Manager of Liverpool Hospital. Robynne commenced her role as General Manager in April 2014 and has worked previously as the Executive Director of Medical and Continuing Care Services and as the Chief Nursing Officer for Northern Health in Melbourne.



## David Hazlett

David Hazlett has lived and worked in the Macarthur area all of his life and is managing director of Cameron Brae Pty Limited a successful family business based in Sydney's South West. Cameron Brae is currently involved in importing and distribution along with property investment and development. David was President of the Liverpool Rotary 1993-1994 and was made a Paul Harris Fellow in 1997.



## John Hexton

John Hexton was the Director Corporate Services at Inghams Enterprises Pty Limited from 1987 to 2013 and has more than 30 years' experience in a wide range of areas within the business including direct responsibility for all financial and legal matters, HR, IT, WHS and property.



## Professor Peter Smith

Professor Peter Smith was the Dean of Medicine at UNSW Australia up until 2015. He specialised in paediatric clinical oncology and research following study in Australia, USA and Germany. He has held senior hospital management posts in Brisbane and Melbourne and senior academic appointments at the Universities of Queensland, Melbourne and Auckland. Professor Smith resigned from the Ingham Institute Board in 2015.



## Arnold Vitocco

Arnold Vitocco is a local Macarthur resident & licensed builder. His families development company, D. Vitocco Constructions Pty Ltd has been building and developing in the Liverpool and Macarthur region since the late 1950s. Notable developments by his family company include the Narellan Town Centre and Gregory Hills, a 2,500-lot subdivision and 43 hectares of employment zone. Arnold is a member of Narellan Chamber of Commerce and is a committee member of the St Gregory's College, Campbelltown.



## Tony Perich AM

Tony Perich AM is the Joint Managing Director of Leppington Pastoral Company, Organic Fertilisers [Leppington], the Greenfields Development Company, Arrowvest, Narellan Town Centre and Dart West Development Ltd. Tony has an outstanding record of service within the local community and is an ongoing member of the Urban Taskforce, the Property Council of Australia and the Urban Development Institute of Australia.



## Amanda Larkin

Amanda Larkin is the Chief Executive of South Western Sydney Local Health District. Previously Amanda worked as the General Manager of Camden and Campbelltown Hospitals and the Queen Victoria Memorial Home. Ms Larkin has a Bachelor of Social Work, Associate Diploma in Environmental Service and is working towards a Masters in Public Health.



## Jim Marsden OAM

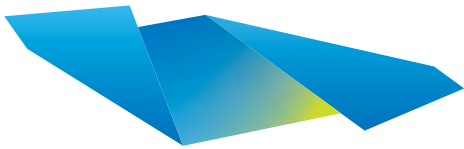
Jim Marsden OAM is the Senior Partner at Marsdens Law Group. His firm is based primarily at Campbelltown with offices at Liverpool, Camden and the City of Sydney. Jim has a long history in a number of areas of community involvement and actively encourages his staff to play a role in the local community.



## Professor Jeremy Wilson

Professor Jeremy Wilson is the Clinical Associate Dean of the South Western Sydney Clinical School in the Faculty of Medicine at UNSW Australia and the Director and Professor of Medicine at Liverpool Hospital. He is also the current Secretary-General of the International Association of Pancreatology and holds a number of leadership appointments within the NSW health system including as Chair of the South Western Sydney Local Health District Human Research Ethics Committee and the Co-Chair of the Agency for Clinical Innovation Acute Care Taskforce. Professor Wilson acted as an Alternative Director until the end of 2015.

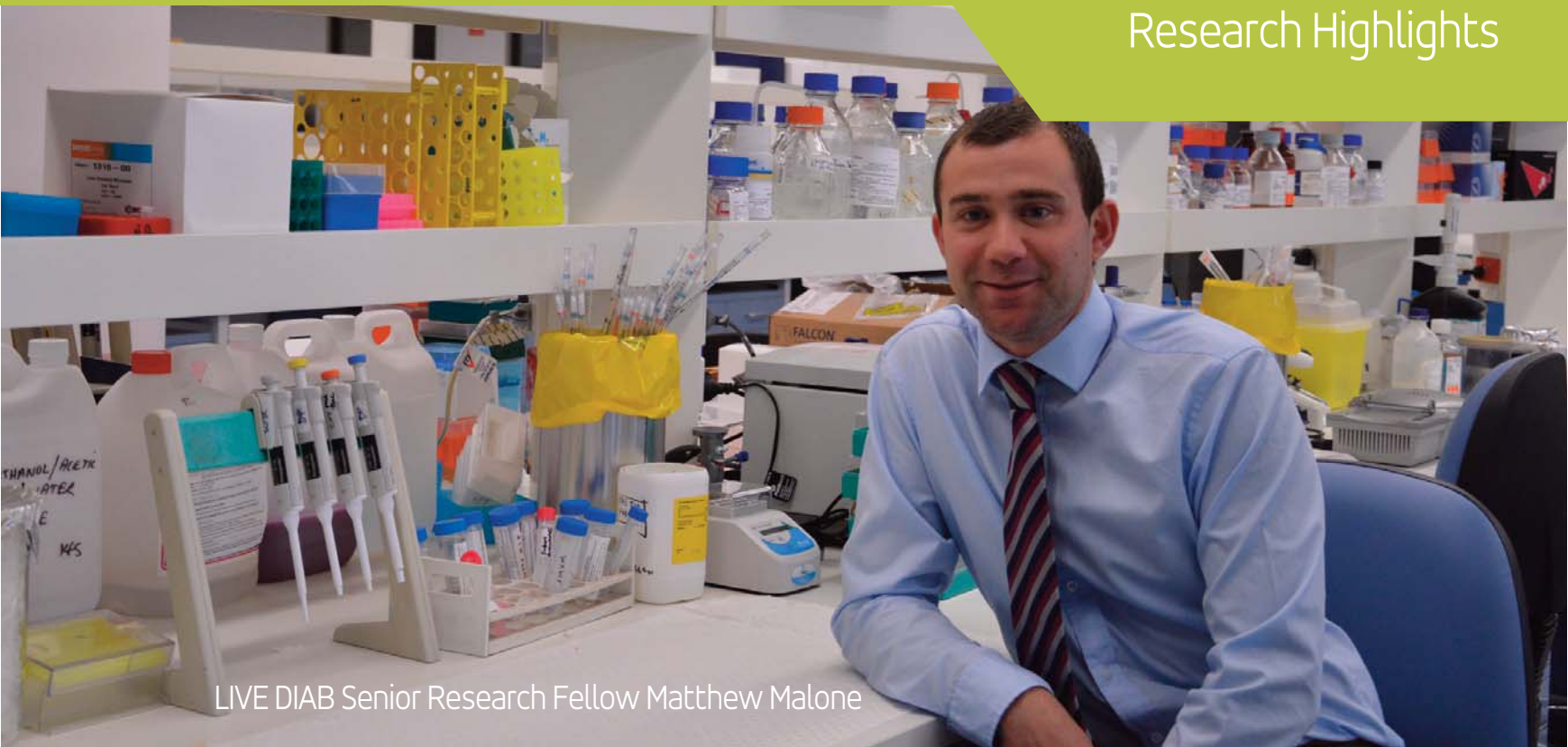




Ingham Institute  
Applied Medical Research

Research Highlights





LIVE DIAB Senior Research Fellow Matthew Malone

## 2014 NEW STUDY VALIDATES EARLY START DENVER MODEL AS AN EFFECTIVE TREATMENT FOR PROBLEM BEHAVIOUR LINKED WITH AUTISM

A study from the Academic Unit of Child Psychiatry led by Professor Valsa Eapen was published in May 2014 in the highly acclaimed *Frontiers in Paediatrics* journal showing that an early intervention technique called the Early Start Denver Model (ESDM) may be effective in decreasing maladaptive or problem behaviours linked with Autism Spectrum Disorder (ASD).

ESDM teaching principles are embedded in play with a strong focus on teaching imitation; developing awareness of social interactions and the power of communication. This involves teaching more flexible; conventional and creative play skills to bring the social world and the world of objects together so that they can adapt these skills in normal, everyday life.

### MATTHEW MALONE WINS PRESTIGIOUS PODIATRIC MEDICINE FELLOWSHIP

Liverpool Diabetes Collaborative Research Unit (LIVE DIAB) Senior Research Fellow and Liverpool Hospital Head of Department for Podiatric Medicine Matthew Malone achieved a prestigious Fellowship to the Faculty of Podiatric Medicine from the Royal College of Physicians and Surgeons in Glasgow in July 2014.

Fellowship to the faculty of Podiatric Medicine is highly competitive and only offered

to podiatrists who have made substantial contributions to their specialty in Podiatric Medicine with only a handful of Australians achieving the significant accolade prior to Matthew.

### INAUGURAL THOMAS ASHWORTH CTC SYMPOSIUM LAUNCHED

The Ingham Institute hosted the inaugural Thomas Ashworth Circulating Tumour Cell (CTC) Symposium on Thursday 7 August 2014 at the Hilton Hotel in Sydney. CTC research has significant potential to improve personalised medicine, by way of identifying cancer biomarkers, or indicators in the blood, which characterise the individual cancer of patients. This ability creates ample opportunity to improve decision making for cancer treatment on a patient by patient basis, translating into improved treatment and care for a broad range of cancers.

The Symposium headlined presentations from a range of international and Australian CTC key opinion leaders including Associate Professor Catherine Alix-Panabieres from the University Medical Centre of Montpellier, France who presented on the topic 'Detection and Characterisation of Viable Circulating Tumour Cells'. Other headline speakers included Professor Klaus Pantel from the Institute of Tumour Biology/University Medical Centre in Hamburg, Germany and Dr Sarah-Jane Dawson from the Peter MacCallum Cancer Centre in Melbourne.



## FIRST STAGE OF MRI-LINAC UNVEILED

The much-awaited MRI-Linac Cancer research technology was unveiled at a special event on Thursday 18 September 2014 at Liverpool Hospital.

The flagship project is a first for Australia and one of only three such technologies in the world. The Ingham Institute's MRI-Linac combines a MRI scanner with a Linear Accelerator for research into cancer therapy and treatment.

Leading developers Professor Paul Keall and Professor Michael Barton OAM shared first-hand information and developments about the MRI-Linac project which is set to improve the precision and accuracy of radiotherapy treatment.

## CANCER COMMUNITY RESEARCH REVIEW PANEL ESTABLISHED

In a bid to strengthen the Institute's Cancer research programs, the inaugural Cancer Research Community Panel meeting was held on 15 December 2014. The meeting was attended by patients touched by the disease who had come together to learn about programs underway at the Ingham Institute and provide feedback to scientists.

The Community Panel contains a mix of different patients that have undergone treatment as well as carers who play a focal role in the patient's treatment and recovery process, helping researchers to get a real picture of patient's health concerns and needs. This approach assists researchers to shape and build research programs that have the most relevance and need for Australian cancer patients.

## 2015 NEW STUDY CONFIRMS HPV and P53 AS DEFINITIVE MARKERS FOR THE DEVELOPMENT OF OESOPHAGEAL CANCER

The Ingham Institute's Gastro-Intestinal Viral Oncology Group gathered further evidence to strengthen the connection between Human Papillomavirus (HPV) & the development of Barrett's Oesophagus & oesophageal cancer following a study showing that HPV combined with p53, a protein used to detect cancer progression, are both associated with treatment failure after endoscopic treatment. The findings published in Clinical Gastroenterology and Hepatology follow a major discovery from the Ingham Institute's Gastro-Intestinal Viral Oncology Group in 2013 showing a significant association between increasing the viral load of HPV and disease severity in the pathway to developing Barrett's pre-malignancy and oesophageal cancer.

## GOLD-STAR QUALITY EARLY CHILDHOOD PROGRAM SPREADS ITS WINGS TO THE USA

The Ingham Institute's highly acclaimed Maternal Early Childhood Sustained Home Visiting Program (MECSH) set a new global benchmark by launching in Vermont USA.

Demonstrating the global reach of the Ingham Institute's research, the MECSH program was pioneered in South Western Sydney by the Institute's Translational Research and Social Innovation (TReSI) group and has accelerated onto the world stage following launches in the UK, Korea and now in the state of Vermont USA.



## ASSOCIATE PROFESSOR MEERA AGAR DRIVES AUSTRALIAN-FIRST MEDICAL CANNABIS CLINICAL TRIAL

It was announced in 2015 that Clinical Trials Director, Palliative Care Clinical Director at Fairfield's Braeside Hospital and UNSW Conjoint Associate Professor Meera Agar will act as the driving force of an Australian-first medical cannabis trial which aims to enhance the quality of life terminally ill cancer patients in NSW. The trial, led by A/Prof Agar and her research and clinical team, will evaluate the effectiveness of cannabis products to improve the quality of life for adults with terminal cancer in NSW.

## INGHAM INSTITUTE RESEARCH DIRECTOR PROFESSOR MICHAEL BARTON ACHIEVES RANZCR GOLD MEDAL

Research Director Professor Michael Barton OAM picked up a Gold Medal award from the Royal Australian and New Zealand College of Radiologists (RANZCR) at their Annual Ceremony at the Adelaide Convention Centre on Friday 30 October for his outstanding achievements in improving radiotherapy services and treatment for cancer patients. Professor Barton has achieved a long list of significant milestones in the field of radiation oncology in his roles as Research Director at the Ingham



Institute, Radiation Oncologist at the South Western Sydney Local Health District, Research Leader of the Collaboration for Cancer Outcomes Research and Evaluation (CCORE).

## 2016

### CANCER RESEARCHERS CONDUCT FIRST 'BEAM ON IMAGE' USING THE MRI-LINAC

Cancer researchers conducted the first-ever 'beam on image' test on the MRI-Linac in a high-tech Research Bunker on 20 January - representing major progression for the project. The 'beam on image' test represents the first image ever taken for research purposes using a piece of anatomy. Signifying the MRI-Linac's position as an Australian icon in the world of health and science, the first image taken was of a kangaroo steak.



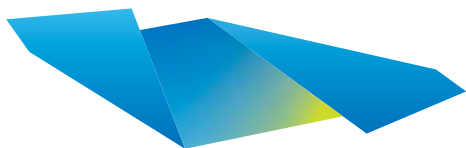
Cancer

Clinical Sciences

Community Health  
& Childhood Development

Injury & Rehabilitation

Mental Health



Ingham Institute  
Applied Medical Research

Research Programs



The Ingham Institute has a comprehensive portfolio of cancer research that includes some world leading discoveries that have had major impact on patient care and cure. Professor Geoff Delaney leads the Ingham Institute's Cancer stream which brings together over 100 researchers from across 10 research groups all working towards finding a cure for the disease and pioneering latest technologies to identify new and improved treatments.

The focus of Ingham Institute Cancer programs is translational, where results from the laboratory are transferred quickly and efficiently into our hospitals and clinics. Scientists at the Ingham Institute study cancer at a molecular level and develop strategies and better treatments for doctors and medical staff to introduce into our hospitals.

Partnering with Liverpool Hospital, the major referral and teaching hospital in Australia, Ingham institute researchers work closely with clinicians and patients to better target and improve treatments more efficiently and effectively.

Our Cancer research programs extend beyond biology and looking for a cure for the disease. Cancer patients and their carer's welfare and wellbeing are also high on the agenda with researchers from the Psycho-Oncology group implementing new aids and better communication tools for partners and carers.

The Ingham Institute's pioneer landmark project, the MRI-Linac is an Australian first

and one of only three in the world. The technology combines a MRI scanner with a Linear Accelerator for research into cancer therapy and treatment. The MRI-Linac enables clinicians to have real time imaging of patient anatomy during radiotherapy treatment and the potential of improved cancer targeting and reduction in treatment side effects and is being developed by some of the world's greatest cancer leaders including; Professors Paul Keall, Michael Barton, Stuart Crozier and their teams.

The Centre for Circulating Tumour Cells Diagnostics and Research (CCDR) was founded in 2014 following the successful introduction of the Circulating Tumour Cells facility in 2013. In its relatively short history, the Centre has pioneered the isolation and analysis of CTCs for a wide range of cancers including; Melanoma, Ovarian, Breast, Colorectal, Prostate, Gastric and Brain Cancers. With the generous support from the Cancer Institute NSW, Western Sydney University and the Ingham Institute, the Centre welcomed the ALS CellSelector, technology that can pick up individual cancer cells for in depth molecular analysis to detect cancer biomarkers.

The Pancreatic Cancer Research Group is investigating the biology of Pancreatic Stellate Cells (PSC) and the role these cells have in chronic pancreatitis and pancreatic cancer. With these results, researchers anticipate their findings will lead to the identification of specific pathways that can be targeted to inhibit PSC activation and thereby delay the progression of pancreatic fibrosis and pancreatic cancer.





Characterising the pathways responsible for PSC activation and those mediating the observed interactions between PSCs and cancer cells as well as endothelial cells will enable Ingham Institute researchers to develop therapeutic approaches to interrupt cross-talk.

The Palliative Care research group explores interventions which aim to support patients and their caregivers to live with the best quality of life and function, and achieve goals important to them at the end of life in the place of care of their choice. This has led to the establishment of the NSW Palliative Care Studies collaborative (ImPACCT – Improving Palliative Care through Clinical trials) exponentially increasing research capacity and their ability to undertake multisite trials. This includes the first medicinal cannabis trial to commence in 2016, supported by the NSW Government.

#### **Cancer Institute New South Wales Future Research Leader Fellowship**

Joining the Ingham Institute in 2014, Dr Tara Roberts was awarded the Cancer Institute NSW Future Research Leader Fellowship with a value of \$1.2 million over five years. Tara's work investigates the role of inflammation across a range of diseases. Generally inflammation is a good thing for people as it helps us fight infections. However, during ageing and in many diseases the processes controlling inflammation can fail. Dr Roberts' work particularly focusses on how dysregulated inflammation contributes to neurodegenerative diseases (such as Ataxia-Telangiectasia and Alzheimer's Disease) and cancer (concentrating on lymphomas/leukemias and lung cancer). In Non-Hodgkin's Lymphoma and Chronic Lymphocytic Leukemia, the Medical Oncology- Cancer and Inflammation group is examining biomarkers which may predict how patients' respond to therapies to try and personalise the treatment given to patients. They also aim to understand the cellular mechanisms that function to increase individuals' cancer risk and the risk of relapse following treatment in order to find new treatment options for patients.

Researchers in the Ingham institute's Haematology group are focused on the abnormalities in blood cancers using new technologies and studying how these affect the diagnosis, predict outcome and responsiveness to treatment as well as studying the causes of drug resistance, prediction of drug resistance and mechanisms to overcome drug resistance in Multiple Myeloma. Delayed diagnosis of Multiple Myeloma can lead to prolonged hospital stay, morbidity and mortality. Acute Myeloid Leukemia is an aggressive disease affecting a wide range of age groups. The group's findings show young and fit patients with genetic changes that are associated with poor outcome are best treated with intensive chemotherapy

followed by bone marrow transplantation, whereas elderly and frail patients with genetic abnormalities that predict a poor outcome are best treated with palliation. A timely provision of these genetic results allow doctors to make appropriate treatment decisions.

Researchers of the Gastro-Intestinal Viral Oncology group are studying the role of Human Papillomavirus in premalignant and cancerous lesions in the oesophagus, that is, Barrett's metaplasia-dysplasia-adenocarcinoma sequence. As the first group in the world to hypothesise and prove a strong association between high-risk Human Papillomavirus and Barrett's dysplasia /oesophageal adenocarcinoma (glandular cancer), researchers are now concentrating their efforts on translating their findings into daily clinical practice and eradication of the virus in an effort to prevent progression of pre-cancerous oesophageal lesions to frank malignancy. This world-first landmark discovery offers the possibility of a therapeutic vaccine for those patients with Barrett's oesophagus and adenocarcinoma in order to ultimately prevent the disease process.



Led by Dr Patsy Soon, the Ingham institute's Breast Cancer Group seeks to identify novel biomarkers and therapeutic targets in breast cancer patients with researchers involved in the study and identification of treatment targets against the supporting cells of breast cancer, known as cancer-associated fibroblasts, as these cells are known to increase the aggressiveness of the cancer cells. The Centre for Circulating Tumour Cells Diagnostics and Research (CCDR) and CTC program have successfully isolated Circulating Tumour Cells from early localised breast cancer patients.



## Our Groups

- The Collaboration for Cancer Outcomes, Research and Evaluation (CCORE) Professor Michael Barton OAM
- Cancer Pathology: Professor Soon Lee
- Gastro-Intestinal Viral Oncology: Professor Shan Rajendra
- Haematology: Dr Silvia Ling
- Medical Oncology: Professor Paul de Souza
- Medical Physics: A/Professor Lois Holloway
- Oncology Clinical Trials: Dr Michael Harvey
- Palliative Care: A/Professor Meera Agar
- Pancreatic Research Group: Professor Minoti Apte
- Psycho-Oncology Group: Professor Afaf Girgis
- MRI-Linac: Professor Paul Keall and Professor Michael Barton OAM
- Circulating Tumour Cells: Associate Professor Therese Becker and Associate Professor Kevin Spring





Clinical Science researchers encompass immunologists, cardiovascular surgeons, neurosurgeons, diabetic and endocrine specialists, rheumatologists and scientists who work collaboratively to investigate the mysteries of the human brain and body. This stream of research is directed by A/Professor Iain Gosbell who received the Ingham Institute's Excellence in Teaching Award in 2014.

Researchers from the clinical sciences portfolio have a special expertise in various autoimmune diseases and hope to identify prevention methods and better treatments for diseases such as arthritis, parkinson's disease, cardiovascular disease and diabetes.

The Antibiotic Resistance and Mobile Elements Group (ARMEG) have special interest in Staphylococcus Aureus; a methicillin resistant disease which is the cause of major hospital-acquired infections around the world and is an emerging cause of infections in the wider community, with the group working on one of the world's largest-ever genomic studies to help eradicate the superbug, Golden Staph. Scientists are currently employing whole genome sequencing to identify genes, mutations and novel genetic elements that contribute to the success of these bacteria in our hospitals, particularly within an outbreak setting.

Parkinson's Disease (PD) is a multi-centred neurodegenerative disorder characterised by the accumulation and aggregation of alpha-synuclein (-syn) in several parts of the central nervous system. However, it is well established that PD can generate symptoms of constipation and other gastrointestinal problems and -syn containing lesions have been identified in intestinal nerve cells. In 2014, the Ingham Institute's Neuroscience and Molecular Biology group was the first to show that -syn can be taken up and accumulate in primary human foetal enteric neurons from the gastrointestinal tract and can be transferred between foetal enteric neurons.

Scientists of the Correlative Microscopy group are developing new techniques based on cryogenic fixation which are new fluorescent dyes and nanoparticle probes to identify key structures in cells of cancer and renal patients. In August 2015, researchers received a \$500,000 grant from the Cancer Institute NSW towards the

purchase of cutting edge fluorescence imaging and electron microscopy, set to arrive in 2016. With this new program, scientists will have a super defined 3D view of cancer cells using real human tissue in order to develop new treatments.

There is enormous unmet need in the management of patients with Arthritis and autoimmune disease. Researchers from the Arthritis Research Unit are involved in the discovery and evaluation of various biomarkers, patient reported outcome measures and large descriptive cohorts. These approaches are aimed at improving the clinical assessment of patients with connective tissue diseases.

Diabetes mellitus is the sixth leading cause of death in Australia, with complications from the disease significantly impacting the quality of life for sufferers. South Western Sydney has one of the highest prevalence rates of diabetes in NSW, with scientists targeting diabetic foot disease, in-patient management, diabetic cardiomyopathy, diabetes in pregnancy and diabetic retinopathy.

The Liverpool Diabetic Collaborative Research Unit at the Ingham Institute are evaluating patient care in people with diabetic foot ulcers through trialling different diagnostic techniques and was the first Unit in Australia to purchase and use a 3D wound imaging camera.

The cardiology and diabetic groups have worked together to explore ways in managing diabetic cardiomyopathy with a clinical study of the impact of tight glycaemic control on the progress of cardiomyopathy recently completed. A clinical trial is also being conducted to assess the benefits of eplerenone on left ventricular function in patients with type 2 diabetes.

## Our Groups

- **Antibiotic Resistance and Mobile Elements Group (ARMEG)**  
Professor Iain Gosbell & A/Professor Slade Jensen
- **Arthritis Research:** Dr Sean O'Neill
- **Cardiology Centre:** Professor John French
- **Correlative Microscopy Group:** Professor Murray Killingsworth
- **Liverpool Diabetes Collaborative Research Unit:** Professor Vincent Wong
- **Heart & Brain Collaboration:** A/Professor John Worthington
- **Respiratory Medicine:** Professor Guy Marks





The Ingham Institute is recognised as a global leader in population health and is one of Australia's leading centres of excellence. The Community, Population Health and Childhood Development centres based at the Ingham Institute take clinical research from the laboratories and evaluating how it can best help the community through improving public policy and the healthcare system.

This stream also feeds back to the ongoing work of other Ingham Institute researchers, by conducting epidemiological research studies to understand the health needs of the local population and using this information to focus new services and new areas of possible intervention.

Researchers from the Simpson Centre for Health Services Research are focused on examining the impact of systems to reduce serious adverse events in acute hospitals while increasing the throughput of patients in the Emergency Department and developing and evaluating new and innovative ways of improving healthcare.

Professor Ken Hillman is the pioneer behind the introduction of the Medical Emergency Team (MET) which recognises and responds to seriously ill hospital patients early in their deterioration. The MET system has been adopted in the majority of hospitals across the UK, USA and several European countries. He is working closely with the Clinical Excellence Commission on rolling out the Medical Emergency Team to every hospital in New South Wales through its 'Between the Flags' Program. As with most health systems around the world, patients in public hospitals can deteriorate unrecognised and without an adequate response. Between the Flags addresses this problem by acknowledging that early recognition of deterioration can reduce harm to patients and the earlier the better. Professor Ken Hillman's research has resulted in dramatic reductions in mortality and cardiac arrests in acute hospitals.

Professor Hillman's studies have been the launch pad for a \$10.8 million program

grant awarded in 2014 which Professor Ken Hillman is an investigator. The Create Safe, Effective Systems of Care is a translational program in response to the highly variable, frequently inappropriate, and all too often, unsafe care patients receive. Professor Ken Hillman together with senior researcher Dr Magnolia Cardona-Morrell, is leading one stream which aims to reduce prognostic uncertainty for doctors and improve the end-of-life experience for patients, families, carers and health professionals. At the centre is the validation of CriSTAL (Criteria for Screening and Triaging to Appropriate alternative care), a screening tool based on objective risk factors to predict health in the short-term.

In collaboration with the Emergency Care Institute, the prospective validation has completed recruitment of 1200 older patients in five Sydney hospitals via Emergency Departments. Five European hospitals have also joined in the multi-centre study, recruiting over 800 participants so far in Denmark and Ireland. Data analysis for the Australian component is expected to start in June 2016.

The Centre for Applied Nursing Research is focussed on local, state and national priorities, developing evidence based guidelines and translating such research into policy and practice. Women and Children's health has been one of the key areas of interest for researchers who successfully developed and rolled out the Midwifery Initiated Oral Health Dental Service Program. Further, a DVD on oral health care during pregnancy was endorsed by NSW Kids and Families for distribution worldwide.



Adverse events and circumstances during pregnancy and early infancy can have profound detrimental effects on the health, development and welfare of a child. A/Professor John Eastwood from the stream was awarded a tender from the NSW Ministry of Health Integrated Care Planning and Innovation Fund for the SLHD Department of Community Paediatrics to implement the 'Healthy Homes and Neighbourhoods Integrated Care Initiative' which commenced in 2015.

Researchers from the Centre for Health Equity Training Research and Evaluation (CHETRE) are continuing to be involved in a number of projects aimed to develop effective interventions for vulnerable families, communities and populations in order to address health inequalities. Developed in the outskirts of Campbelltown, the gold star Maternal Early Childhood Sustained Home Visiting Program (MECSH) program is a globally recognised program with successful implementation in sites across NSW, Victoria, Tasmania, South Korea, and United Kingdom and most recently in the USA. MECSH has provided quality, evidence-based home visiting to more than 10,000 vulnerable families worldwide.

Researchers at the General Practice Unit are focused on systematic and integrated care of high prevalence chronic illnesses, Cancer and Mental Health, including preventive interventions on clinical risk factors for these diseases and health systems research to support integration. Patients who present to Emergency Departments frequently tend to be older and have chronic conditions such as neurosis or heart failure, many of which are ambulatory care sensitive conditions that could be managed elsewhere. The groups work with Emergency Departments show that they can be supported to better manage chronic conditions and reduce their use of hospital services appropriate to their levels of risk.

Environmental health and air pollution epidemiology, social epidemiology, neighbourhoods and health, health services for diabetes and stroke are some of the focus areas of Professor Bin Jalaludin and the Epidemiological group. The outcomes of the group's air pollution research are being used in the current review of the national air quality standards. Changes to the national air quality standards will have wide ranging impacts on governments, the private sector and communities. Prof Jalaludin is an investigator in the Centre for Air Quality and Health Research and evaluation (CAR), an NHMRC funded centre of research excellence.

## Our Groups

- **Aged Care Research Unit: Dr Chris Shanley**
- **The Centre for Health Equity Training Research and Evaluation (CHETRE): Professor Evelyne de Leeuw**
- **Centre for Applied Nursing Research (CANR): Professor Deb Parker**
- **COHORTE (Collaboration for Oral Health Outcomes, Research, Translation & Evaluation): Dr Ajesh George**
- **Early Years Research Group: Professor John Eastwood**
- **Epidemiology Research: Professor Bin Jalaludin**
- **General Practice Unit: Professor Siaw-Teng Liaw**
- **Simpson Centre for Health Service Research: Professor Ken Hillman**
- **Translational Research and Social Innovation Group (TReSI): Professor Lynn Kemp**





Researchers from the Ingham Institute's Injury and Rehabilitation stream are investigating the aspects of a patient's journey from injury to recovery and reintegration and constantly working towards developing new and improved treatments for patients.

Working together with various departments from the front line including the Emergency Department, Intensive Care and Surgical Specialties, Ingham Institute research groups are equipped to translate findings from the Institute into our hospitals and rehabilitation centres.

The Whitlam Orthopaedic Research Centre is internationally recognised for its work into hip and knee surgeries and taking one step further to study the implications of such surgery. Findings from the group have resulted in the change to practice in the field of joint replacement surgery (from peri-operative and post-operative care) and fracture care to lead to a reduction in practice variation and a corresponding improvement in clinical outcomes.

With an ageing population, orthopaedic researchers are closely monitoring the performance of artificial limbs particularly knee and hip replacements and giving the general public better and realistic information about procedures.

In 2012, almost 70,000 primary total hip and knee replacements were undertaken in Australia with the vast majority of these surgeries undertaken in Australia's older population. The National Hip Fracture Database in the UK has led to improvements in the processes and outcomes of care for elderly patients with hip fractures. Professor Ian Harris Co-Chairs the ANZ Hip Fracture Registry which has been established to measure outcomes of care in all hospitals in Australia and New Zealand that treat hip fractures. The registry aims to improve care incrementally, and to document that improvement, by feeding back the outcomes to the

institutions and the general public. The registry developed NHMRC approved guidelines for hip fracture care and is currently assisting the Australian Commission on Quality and Safety in Health Care to develop national Standards of Care.

The Brain Injury Rehabilitation Research Group (BIRRG) facilitates a clinical research portfolio with the broad aim of alleviating the impact of traumatic brain injury. The research participants are predominately adults who have sustained a severe traumatic brain injury. The research is conducted in collaboration with international, national, state and local research partners to undertake treatment studies (multicentre randomised controlled trials, clinical controlled trials and single case experimental trials), instrument development/validation, health services and observational studies.

Researchers from the BIRRG are currently working on 34 projects with particular emphasis on the Family Resilience Project, development of the Strategy Use Measure, and the most recently funded Vocational Intervention Program.

Funded through a \$1.2 million grant from the NSW Government Safety, Return to Work & Support (Motor Accidents Authority, WorkCover & Lifetime Care & Support Agency), researchers from the BIRRG are developing a program to assist patients after a traumatic brain injury to return to employment, with two strategies to be implemented: Fast Track (those employed at the time of injury, assist them to return to pre-injury duties) and New Track (no previous employment, provision of unpaid work trials and work placements).

## Our Groups

- **Brain Injury Rehabilitation Research Group:**  
A/Professor Grahame Simpson
- **Whitlam Orthopaedic Research Centre:**  
Professor Ian Harris & A/Professor Justine Naylor

Researchers from the Mental Health discipline are interested in multidisciplinary facets of the various illnesses with expertise in post-traumatic stress disorder, schizophrenia, refugee health and neurobehavioral issues such as Autism.

Mental Health researchers at the Ingham Institute hope to understand what causes psychiatric and neurodegenerative illnesses and to identify better treatments for patients affected by such conditions. Research programs are translational in nature with work closely aligned with one of the largest mental health facilities in NSW, the Liverpool Hospital Mental Health Centre.

The Schizophrenia Research Unit uses the latest methods of cognitive neuroscience and neuropsychology to better understand the key deficits that characterise patients living with serious mental illness including; schizophrenia, bipolar disorder, depression and first-episode psychosis.

This group has continued to develop its translational research interests via research on interventions to enhance aspects of cognition and methods to mitigate the negative physical health effects associated with antipsychotic medications in first-episode psychosis and in people with established illness.

The Schizophrenia team have identified that lifestyle and life-skills training can reduce antipsychotic-induced weight gain in young people commenced on antipsychotic medication for up to 12 months following a 12-week intervention. With these findings, new clinical teams made up of metabolic nurses, dieticians, exercise physiologists and peer wellness coaches have been funded to deliver lifestyle interventions to mental health facilities through the work of Professor Philip Ward and his team.

Researchers from the Academic Unit of Child Psychiatry under the leadership of Professor Valsa Eapen are undertaking research projects and service delivery in the areas of child mental health disorders, particularly involving neurodevelopmental disorders. One of the group's core research interests is Tourette's syndrome; genetic and phenotypic characteristics as well as early identification and intervention in developmental disorders including autism. Other areas of interest include biological underpinnings including the role of oxytocin in attachment and separation anxiety, maternal distress and mental health in the perinatal period as well as metabolic syndrome following antipsychotic use in young mentally ill patients.

Professor Eapen's recent studies in the field of autism through the Liverpool Autism Specific Early Learning and Care Centre (ASELCC) have led to the publication of the

world first study on group delivery of the Early Start Denver Model in the community setting for autism and behavioural symptoms.

Professor Derrick Silove leads the Psychiatry Research and Teaching Unit to improve the quality of life for those affected directly or indirectly with mental health. Professor Silove was awarded the Lady Mary Fairfax Distinguished Researcher Award in 2013 for his lifelong contributions to the field of refugee and post-conflict mental health.

Professors Silove and Eapen have longstanding interests in the relationship between childhood experiences and risk of later psychiatric disorders, particularly anxiety. They are involved in a series of studies examining the impact of attachment styles and separation anxiety on maternal oxytocin levels and infant development.

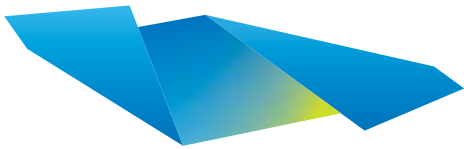
With support from the National Health and Medical Research Council (NHMRC), Professor Silove is a Chief Investigator on a \$10.6 million grant 'Translating Knowledge in Traumatic Stress into Practice'; a program dedicated to developing better public health interventions for Post Traumatic Mental Health problems. Trauma contributes to a broad spectrum of mental health conditions, including PTSD, depression, schizophrenia and substance abuse. Trauma-related disorders are among the largest burdens of disease worldwide. Despite this, there are urgent gaps about how to best assist those affected by trauma. The field is at an impasse in terms of understanding how to enhance treatment of those who do engage treatment services, and how to effectively deliver effective interventions to those who are most in need. The program will integrate fundamental scientific research with translational intervention studies to fill the gap of evidence-based interventions that meet the public health needs of those not receiving care.

## Our Groups

- **Academic Unit of Child Psychiatry: Professor Valsa Eapen**
- **Psychiatry Research & Teaching: Professor Derrick Silove**
- **Schizophrenia Research: A/Professor Philip Ward**







Ingham Institute  
Applied Medical Research

International Links  
& Collaborations

The Ingham Institute's research has a significant global impact, with many international links and collaborations around the world. Our global collaborative links help to translate our research into new treatments and models of care both in Australia and the world-over.

**University of British Columbia**

**Stanford University**

**Harvard Medical School**

**University of Oxford**

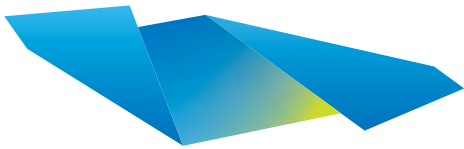
**Wellcome Trust Sanger Institute**

**International Atomic Energy Agency, Vienna**

**Union for International Cancer Control, Geneva**

**National Institute for Radiological Science, Japan**

**Hong Kong University**



Ingham Institute  
Applied Medical Research

Facilities & Latest  
Technologies



## **MRI-Linac**

Our flagship project the MRI-Linac is an Australian first and one of only three such prototypes in the world. The MRI-Linac combines an MRI scanner with a Linear Accelerator for research into cancer therapy and treatment. This MRI-Linac program is designed to advance the science and clinical practice of real-time anatomical and physiological adaptive cancer therapy. The MRI-Linac cancer research technology was first unveiled in September 2014 and is housed in a purpose-built Research Bunker at Liverpool Hospital.

This smart new technology is set to improve the precision and accuracy of radiotherapy as half of all cancer patients will need radiotherapy at least once as part of their treatment program.

Current radiotherapy practices are limited in their ability to account for changes that occur to the location and shape for tumours. The combination of the MRI with a Linac Accelerator will enable improved view of a tumour ensuring more precise and accurate treatment for cancer patients. As changes can occur to the location and shape of tumours resulting from breathing, swallowing and normal body changes, the MRI Linac will be able to target the tumour much more accurately in real-time with greater control over the radiation dose.

Momentum continues to build on the MRI-Linac cancer research project, with the first test of the equipment occurring in January, 2016. Next steps for the project include further testing of the Phase 2 MRI magnet which arrived in April 2016.

## **Centre for Circulating Tumour Cell Diagnostics & Research (CCDR)**

In 2013, the Ingham Institute became the home to NSW first-ever Circulating Tumour Cells (CTC) Facility, specialised cancer scanning technology that measures single Cancer cells in the small blood sample of a Cancer patient.

In 2014, the Centre for Circulating Tumour Cells Diagnostics & Research (CCDR) was established to pioneer the isolation and analysis of CTCs in NSW and isolate and analyse CTCs for a wide range of cancers including; melanoma, ovarian, breast, colorectal, prostate, gastric and brain cancers.

With the support from the Cancer Institute NSW, Western Sydney University and the Ingham Institute, the Centre for Circulating Tumour Cells Diagnostics & Research now has a high-tech instrument; the ALS CellSelector which allows researchers to select individual Cancer cells for further in-depth molecular analysis to detect Cancer biomarkers.

The resulting cancer biomarker findings collected from the ALS CellSelector

technology allow clinicians to make direct and real-time changes to personalised cancer treatments for patients. The rapid results from the device indicate the responsiveness of treatment regimens and can identify biomarkers that predict responsiveness to alternate therapies.

By studying the genetics of cancer cells from a blood sample, Ingham Institute researchers can identify why some cancer cells spread. CTC research also provide doctors with an early warning system that allows them to start immediate treatment to stop the further growth and spread of the cancer.

This smart and emerging technology is making waves as a real time methodology for cancer research in Australia and across the globe. By eradicating the need for cancer patients to undergo painful biopsies the CTC technology can easily monitor the performance of cancer cells through a routine blood test as investigation material.

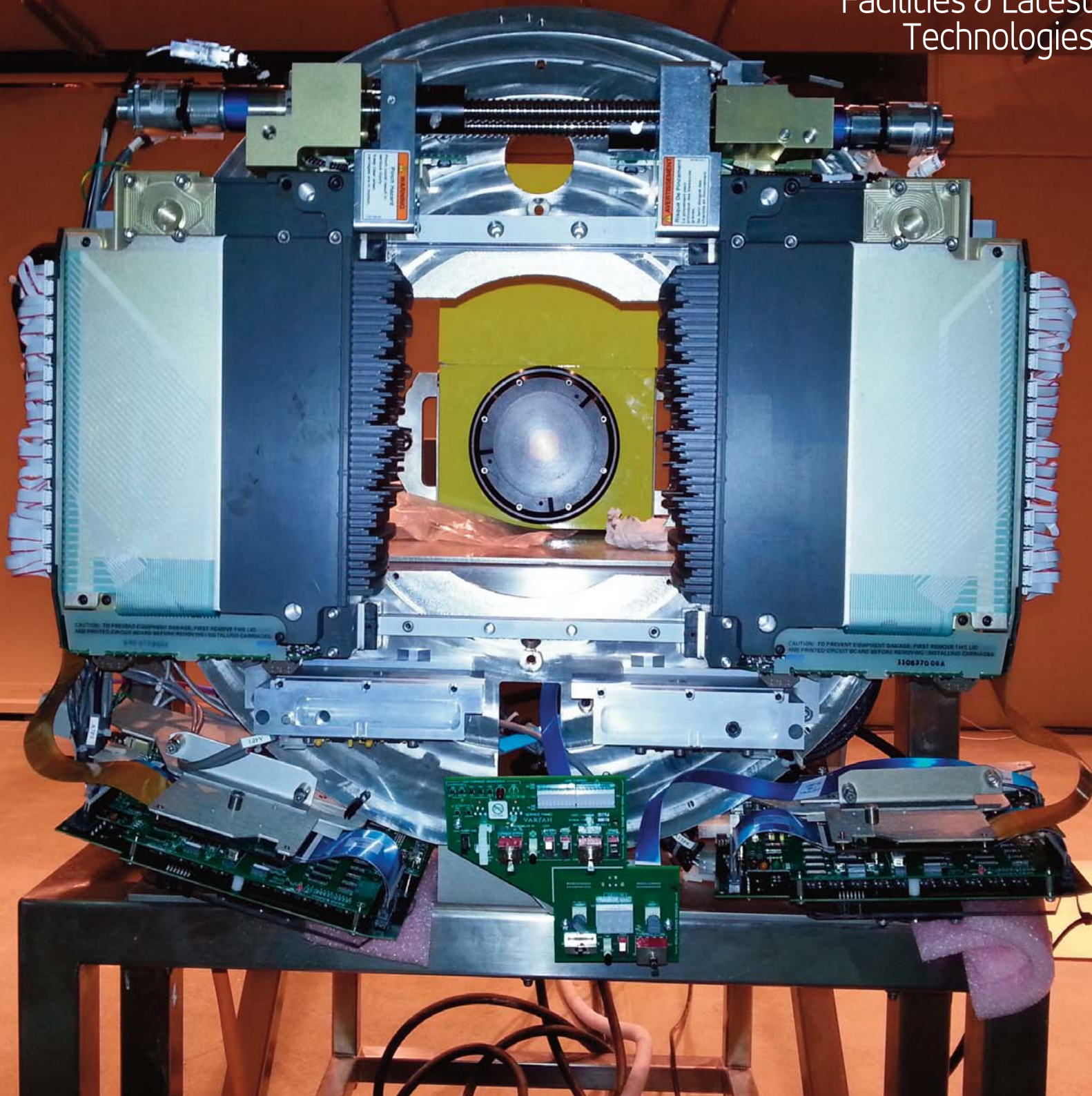
## **Centre for Oncology Education and Research Translation (CONCERT)**

The Ingham Institute's Translational Cancer Research Group is the driving leader of one of the largest Cancer research collaborations in NSW, the Centre for Oncology Education Research Translation (CONCERT). This collaboration is a result of a \$6.5 million grant over five years from the Cancer Institute NSW and an additional leveraged \$1.6 million from partners.

The CONCERT Translational Cancer Research Centre (TCRC) brings together a diverse consortium of more than 200 professional members spanning all aspects of cancer research, diagnosis, treatment and care and integrates institutional stakeholders from the University of NSW, Western Sydney University, University of Wollongong, the Ingham Institute for Applied Medical Research, Illawarra Health and Medical Research Institute, Illawarra Shoalhaven and the South Western Sydney Local Health District, as well as collaborating partner institutions in the ACT.

The Centre was formally opened by the Minister for Health, The Hon Jillian Skinner MP at a special ceremony at Liverpool Hospital on Friday 1 August 2014. Demonstrating the significance of the collaboration, CONCERT's geographical footprint spreads over a quarter of NSW and serves more than 5500 new cancer patients each year (equivalent to 16 per cent of Cancer incidence in NSW), including culturally and linguistically diverse (CALD) communities and people living in rural or remote areas.

Led by Professor Paul De Souza, an internationally recognised medical oncologist, the new Centre will develop new treatment technologies to better target cancers, improve cure rates, and reduce undesired side effects.





CONCERT's key facilities and expertise include Cancer Tissue Biobanking, advanced imaging facilities, Clinical Registry and Cancer Services, Clinical Trial capacity, Psycho-Oncology and Palliative Care.

## Clinical Skills & Simulation Centre

The Ingham Institute's Clinical Skills and Simulation Centre is a state of the art simulation centre opened for students, clinicians, nurses and researchers and is conveniently located on the grounds of one of Australia's leading teaching hospitals, Liverpool Hospital.

Historically, on-the-job training was performed on humans. However with the Ingham Institute's medical training facility serving as the education hub for South Western Sydney; junior doctors, medical students, nurses, clinicians and medical researchers use the latest technologies to help them train and build successful careers in health care and medical research.

The Centre, operated by UNSW Australia, features some of the most high-tech simulation equipment including a high-fidelity robotic patient mannequin SimMan and NSW's first purpose operating theatre to enable 'mock' operations. The facilities provide students, trainees and practitioners with a world-class simulated learning environment.

The Centre promotes a strong culture of collaboration, bringing clinicians and medical researchers together in the one place to exchange ideas in order to create more medical breakthroughs that can be transferred and applied in day-to-day clinical and health practices.

In 2013, the Centre welcomed a 3D digital dissection table better known as the Anatomage table, providing a unique opportunity for teaching students, junior doctors and nurses anatomy in a digital and interactive format.

## Arthroplasty Clinical Outcomes Registry (ACORN)

Researchers from the Ingham Institute's Whitlam Orthopaedic Research Centre, Professor Ian Harris and A/Professor Justine Naylor, are pioneering Australia's first Arthroplasty Registry, Arthroplasty Clinical Outcomes Registry (ACORN); aimed to improve the quality and safety of arthroplasty (joint replacement) surgery by monitoring, evaluating and reporting clinical outcomes.

By producing reports on the effectiveness of this common and resource-intensive procedure and making them available to patients, surgeons and hospital departments, the Registry aims to inform future decision-making in order to improve patient-relevant outcomes after hip and knee arthroplasty surgery.

ACORN covers all hip and knee arthroplasty (replacement) surgery done as an elective procedure at participating hospitals throughout Australia. The outcomes measured include health-related quality of life and region-specific (hip or knee) scores of pain and function. The registry also reports on complications (such as re-admission, re-operation, infection and blood clot), patient satisfaction and patient-rated recovery.

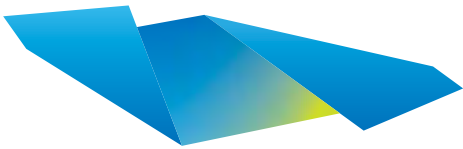
ACORN is unique in Australia, as it is the first multi-site registry of arthroplasty surgery that focuses on the patient experience. At its core is the aim to improve patient-relevant outcomes of these common procedures.







The MRI-Linac cancer research project is a major global research collaboration that involves leading researchers and scientists spanning across seven universities. This includes UNSW Australia, the University of Sydney, University of Queensland, University of Wollongong, University of Newcastle, Western Sydney University and Stanford University.



Ingham Institute  
Applied Medical Research

Outstanding Talent



The Ingham Institute hosted its Annual Awards Night event in 2014 and 2015 at the Liverpool Catholic Club. The event is dedicated to celebrating the achievements of Ingham Institute researchers with the presentation of various Awards. The top ranking Awards were all proudly sponsored and accompanied with \$5000 prize money and featured the presentation of the following Awards; the Lady Mary Fairfax Distinguished Researcher Award, Excellence in Teaching Award (proudly sponsored by South Western Sydney Local Health District), the Early Career Researcher Award (proudly sponsored by Liverpool City Council) and a new category for 2014, the Best Community Paper (proudly sponsored by Liverpool Catholic Club).

In addition to these Awards, the spotlight did not miss the Institute's PhD students with the presentation of the inaugural Research Directors PhD Scholarship program. Dedicated to supporting the Institute's PhD students, the Scholarship totals \$35,000 for three years and encompasses training and mentoring with medical leaders in their respective chosen field of study. Launched in 2014, the Research Directors program continues to support the Ingham Institute's emerging research talent.



## 2015 Awards Night Winners

- **Lady Mary Fairfax Distinguished Researcher Award:** Professor Afaf Girgis (Psycho-Oncology Group Leader)
- **Excellence in Teaching Award:** Associate Professor Therese Becker (Circulating Tumour Cell Program Leader)
- **Early Career Researcher Award:** Dr Sankar Arumugam (Medical Physics)
- **Research Director's PhD Scholarship:** Dr Zeljka Calic (Heart & Brain Collaboration)
- **Best Community Paper:** Dr Slewa-Younan. (Mental Health)  
Awarded for the research paper 'Mental Health literacy of resettled Iraqi refugees in Australia: knowledge about Post Traumatic Stress Disorder and beliefs about helpfulness of interventions'.

## 2014 Award Winners

- **Lady Mary Fairfax Distinguished Researcher Award:** Professor Guy Marks (Respiratory & Sleep Medicine Group Director)
- **Excellence in Teaching:** Professor Iain Gosbell (Antibiotic Resistance and Mobile Elements Group Leader)
- **Research Director's PhD Scholarship:** David Lynch (Circulating Tumour Cells Research)
- **Early Career Researcher:** Dr Bjorn Espedido (Antibiotic Resistance and Mobile Elements Group)
- **Best Community Paper:** Centre for Health Equity Training Research and Evaluation (CHETRE) Awarded for the paper on 'Sudden Infant Death Syndrome in an Urban Aboriginal Community', published in Journal of Paediatrics and Child Health.



Order of Australia Awards & NSW Premiers Awards

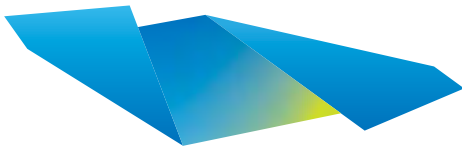
International Awards

National Awards

Local Awards

Conference Presentations

Paper Awards



Ingham Institute  
Applied Medical Research

Research Achievements

## International Awards

- The SWSLHD and Ingham Institute's Research Director, Professor Michael Barton OAM was awarded the 2014 Royal Australian and New Zealand College of Radiologists (RANZCR) Rouse Travelling Fellowship. Professor Barton visited a number of centres in New Zealand – Auckland, Wellington, Christchurch and Dunedin to give various presentations including a talk in relation to the Ingham Institute's flagship cancer research project the MRI Linac.
- Professor Michael Barton received the 2015 Gold Medal from the Royal Australasian and New Zealand College of Radiologists at their Annual Meeting in October.
- Professor Valsamma Eapen collected the Indian Global Psychiatric Initiative (IGPI) 2015 Award for outstanding contribution to this initiative.
- Psycho-Oncology researcher Dr Sylvie Lambert collected the Rosemary Wedderburn Brown Prize from the Faculty of Medicine at the McGill University. The Award recognises individuals with outstanding scholarly potential and demonstrated research excellence in the early stage of their career.
- The IPOS Hiroomi Kawano New Investigator Award was also won by Dr Sylvie Lambert in October 2014 in recognition of her outstanding contribution to education, research and leadership in the field of Psycho-Oncology.
- Leader of the Gastro-Intestinal Viral Oncology group, Professor Shan Rajendra, was announced one of the winners of the 2014 National Scholar Award presented at the United European Gastroenterology conference held in Vienna for his paper 'Persistent Human Papillomavirus Infection and P53 Overexpression are Associated with Treatment Failure After Endoscopic Ablation of Barrett's Oesophagus'.
- PhD students Jeremy Deive and Linh Tran with the Centre for Medical Radiation Physics received the Phelps Education Award at IEEE for their work into solid state dosimetry in space and heavy ion therapy respectively NSREC in Paris, July 2014.

## Order of Australia Awards & NSW Premiers Awards

- Professor Minoti Apte OAM, Director of the Pancreatic Cancer Research Group, was awarded with the Order of Australia Medal in June 2014 for services to medical research, tertiary education and the Indian community.
- Professor Minoti Apte was also named the 2015 NSW Woman of the Year recognising her achievements in Pancreatic Cancer research.
- Professor Ken Hillman AO, head of the Simpson Centre for Health Services Research, was appointed as an Officer of the General Division of the Order of Australia (AO) in 2015. He was awarded an AO for distinguished service to intensive

care medicine as a clinician, educator and researcher. Other credentials for the award was his introduction of the Medical Emergency Team (MET) system, a revolutionary hospital patient care protocol which has been implemented in hospitals worldwide.

- Professor Ian Harris AM, the head of the Whitlam Orthopaedic Research Centre and leader of Ingham Institute's Injury stream of research, was named a Member (AM) in the General Division of the Order of Australia in June 2015 for significant service to medicine, particularly in the field of orthopaedics as a clinician, to education and research and to professional bodies.
- Professor Annemarie Hennessey AM was named a Member (AM) in the General Division of the Order of Australia in June 2015 as part of the Queen's Birthday Honours list for significant service to tertiary education, and to medical research, particularly in the area of clinical hypertension and maternal health. Professor Hennessey is a Director of the Ingham Institute Board and Dean and Foundation Chair of Medicine at Western Sydney University.

## National Awards

- The Gudaga Research Program, an initiative of the Centre for Health Equity Training Research and Evaluation (CHETRE) group, won the NSW Aboriginal Health Award for work into Building Research & Evidence, an Award proudly supported by the NSW Ministry of Health in 2014.



- Professor Anatoly Rozenfeld received the University of Wollongong 2014 Vice-Chancellors Excellence Award for Researcher of the Year and Outstanding Achievements in Research Commercialisation Award.

- PhD student Linh Tran received the prestigious Jak Kelly award from Australian Institute of Physics (AIP) and Royal Society NSW for research on her PhD thesis 'Microdosimetry in Heavy Ion Therapy' in December 2014.

- PhD students Anthony Espinoza and David Bolst won awards at the MedPhys 2014 for presentations on Smart Phantom for HDR Brachytherapy QA and Monte Carlo simulations on microdosimetry in C-12 ion therapy respectively.

## Local Awards

- Professor Michael Barton collected the 2015 Australia Day Health Research Award as part of Liverpool City Council's Australia Day celebrations in recognition of his efforts in establishing the Ingham Institute as well as for being the driving force behind the Institute's MRI Linac cancer research project.

- Prof Geoff Delaney won the inaugural Australia Day Health Research Award in 2014. The Award recognised his long time commitments to cancer therapy services.

- Diabetes group researcher Matthew Malone was the recipient of the

SWSLHD Early Career Researcher Award for 2014.

- Annie Walsh won the SWSLHD and Ingham Institute Research Award in 2015.

- Dr Namson Lau, with the Diabetes group, collected the 2014 SWSLHD Young Investigator – Mentor Award.

- Professor Iain Gosbell won the 2014 Ingham Institute Goldstar Award.

- Dr Ajesh George with the Centre for Applied Nursing Research (CANR) achieved the Western Sydney University Vice Chancellor's Excellence Award in 2014 for outstanding research undertaken by an early career researcher.



## Conference Presentations/ Paper Awards

- In 2013 the Psycho-Oncology group won the UNSW South Western Sydney Clinical School Paper of the Year in the Health Services and Epidemiological category for paper 'Some things change, some things stay the same: A longitudinal analysis of cancer caregivers' unmet supportive care needs' published in . Psycho-Oncology, 2013, 22(7), 1557-1564.

- The Pancreatic Cancer Research Group's PhD students Sri Pothula and Zhihong Xu received Travel Awards from the International Association of Pancreatology in 2014 to present their work at the combined meeting of the European Pancreas Club and International Association of Pancreatology held in Southampton UK.

- In 2014 Kirsten Duggan from the Clinical Cancer Registry collected the 'Best of the Best Award for Oral Presentations- Lung Cancer' at COSA for her presentation and research into the Patterns of Palliative and Psychosocial Care in Metastatic Non-Small Cell Lung Cancer in South Western Sydney.

- Dr Mei Ling Yap was awarded the 2014 RANZCR FRO Chris Atkinson Prize for her presentation 'Estimating the Global Need for Radiotherapy: A Study as Part of the Global Task Force in Radiotherapy for Cancer Control (GTRFCC)'

- Members of the Medical Physics group won the Best Presentation award for "Radiotherapy Planning as a Tool to Quantify the Impact of using MR as Imaging Choice for Breast Cancer Radiotherapy" at the 2014 NSW Radiation Therapists Research Meeting held in Sydney.

- In 2013, the Medical Physics group collected the Best Submitted Abstract to the Cancer Institute NSW Innovations conference for 'Mining Routine Radiation Oncology Clinical Datasets Within a Distributed Rapid Learning Framework: the Potential for Supporting Optimised Clinical Decisions'.

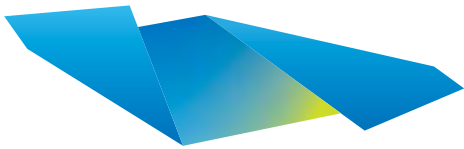
- Centre for Medical Radiation Physics Kaiyang Li, Mathew Newall, Sally McKinnon, Saree Alnaghy and Zhangbo Han received travel and Phelps Education Award at IEEE NSS MIC, Seattle in November 2014 for the quality of their research.

- In 2013 PhD student with the Centre for Medical Radiation Physics, Sally McKinnon was awarded a prestigious travel grant by COST "Nano-Insight in Heavy Ion Therapy" for three months research on nano-dosimetry simulations at Frankfurt Institute for Advanced Studies, Goethe University, Germany and Instituto de Física Fundamental (IFF), Madrid, Spain.





2015 Inaugural  
Ingham Institute Ball



Ingham Institute  
Applied Medical Research

Major Events



## 2016 Ingham Institute Luncheon

The iconic 2016 Ingham Institute Luncheon was held on Friday 4 March at the newly refurbished Camden Lakeside Golf & Country Club.

Attended by over 250 community members, doctors and scientists, the day was a huge success with the South Western Sydney community getting behind the Ingham Institute's mission to fight the most prevalent diseases affecting the community. The event also honoured International Women's Day and recognised the contribution of the extraordinary women working at the Ingham Institute.

Led by the fabulous Natalie Barr, Channel 7 Sunrise Newsreader, the focus of the event was Diabetes – in response to the epidemic in South Western Sydney which now has the highest rate of diabetes in NSW.

The Luncheon raised in excess of \$50,000 which will support all research programs at the Institute. Ingham Institute Luncheon Patron Lyn Ingham, daughter of the Ingham Institute's Founding Benefactor Bob Ingham AO, praised the efforts of all event sponsors and supporters, with special note given to major donor Narellan Pools.

Ingham Institute Luncheon Ambassador Irene Vitocco also thanked the event and prize supporters of the raffle and the famous Champagne Stampede.



## 2015 Ingham Institute Luncheon

The 2015 Ingham Institute Luncheon was held on Friday March 6 at Camden Lakeside Golf Club ahead of International Women's Day, an afternoon dedicated to celebrating the Institute's extraordinary 'Women in Science'.

Australian legendary TV icon Denise Drysdale entertained the crowd as the Master of Ceremonies with the lovely Channel 7 Weekend Sunrise Co-Host Monique Wright attending as special guest speaker; and locally founded internationally successful Narellan Pools kindly returned for a consecutive year as the major Hope sponsor.

With the kindness and generosity of supporters and donors and more than 300 guests, the Luncheon raised almost \$50,000 dedicated to the Institute's medical research programs.

Ingham Institute Luncheon Patron Lyn Ingham, daughter of the Ingham Institute's Founding Benefactor Bob Ingham AO, praised the efforts of all event sponsors and supporters, with special note given to major 'Hope' sponsor - Narellan Pools.

The Luncheon event also included the announcement of the 2015 NSW Women of the Year finalists; three extremely talented and admiring researchers based at the Ingham Institute. All three were nominated for their research efforts which have resulted in improved treatments and services for the people of South Western Sydney and Australia, with Professor Minoti Apte OAM crowned the 2015 NSW Premiers Award Winner.





# Woman of the Year

### Professor Minoti Apte – 2015 NSW Woman of the Year

Professor Minoti Apte leads the Pancreatic Cancer Research Group at the Ingham Institute. She is nationally and internationally acclaimed in the field of pancreatic cancer research and received an Order of Australia Medal (OAM) in 2014.

Professor Apte's work investigates pancreatic cancer at a cellular level to find out how and why the cancer is so aggressive and spreads so quickly. She was the first in the world to develop a method to isolate and culture Pancreatic Stellate Cells (PSCs), a technique which provided a much needed research tool for studying the pathogenesis of pancreatic fibrosis.



### Professor Lynn Kemp – 2015 NSW Premiers Award Finalist

Professor Lynn Kemp leads Australian-first research programs in the areas of integrated primary health care provision in early childhood and home visiting services which benefit communities in South Western Sydney as well as Australian and international communities.

Lynn has worked tirelessly to implement the Maternal Early Childhood Sustained Home-visiting (MECSH) program, which was developed as a response to a critical need to improve services for disadvantaged families with young children in South Western Sydney. This locally led research program has now been implemented globally across the UK, South Korea and in Vermont, USA.

### Grace Micali – 2015 NSW Harvey Norman Young Woman of the Year Award Finalist

Grace Micali has been working as a volunteer with the Antibiotic Resistance Mobile Elements Group (ARMEG) since 2012. As part of her role she conducts important, life-saving work with the team to investigate multi-resistant bacteria with the ultimate aim to eradicate the superbug 'Golden Staph'. This is an important health issue impacting greater Western Sydney in NSW and Australia at large.

### Annie Walsh – 2016 NSW Harvey Norman Young Woman of the Year Award Finalist

Annie is a researcher within the LIVE DIAB CRU and is also a senior podiatrist at Liverpool Hospital. Annie conducts diabetes research specifically targeting diabetic foot disease, a serious complication that is the number one cause for hospital admission in people with diabetes. Around 280 Australians develop diabetes every day & South Western Sydney now has the highest rate of diabetes in the whole of NSW.

A key highlight of Annie's career is her involvement in a world-first clinical trial of denosumab for charcot foot, a condition suffered by diabetes patients.

## 2015 Inaugural Ingham Institute Ball

The Ingham Institute Ball sparkled and dazzled with more than 340 guests flowing into the ballroom of Doltone House, Hyde Park on Saturday 28 March, 2015 for the inaugural event.

The evening celebrated the Ingham Institute's monumental achievements in health and medical research and headlined with a special presentation from the Minister for Foreign Affairs, the Hon Julie Bishop MP. The 340-strong crowd included Platinum, Gold and Silver sponsors who together raised a phenomenal \$1.23 million for medical research.

Guests were entertained by high profile celebrity Kerri-Anne Kennerley, who acted as the Master of Ceremonies, and legendary Australian artist David Campbell and his band. Delivering a significant philanthropic investment that will improve the health of all Australians, Mr Bob Ingham AO and his family donated a further \$1 million to their namesake Institute.

John Ingham, son of Mr Bob Ingham AO and Director of the Ingham Institute, said that Bob was proud to see the Institute standing tall and delivering better ways of treating and eradicating diseases such as cancer, cardiovascular disease and mental health.

#### Thank you to our Sponsors

##### Platinum



Lady (Mary) Fairfax AC OBE

##### Gold



The Lopresti Family

##### Silver



Max & Nola Tegel



"Dad is so proud to see his vision come to life and now operating as a world class medical research facility that is making a difference to the health and wellbeing of Australia," said Mr John Ingham.

"The pledges made at the Ingham Institute Ball will contribute to helping the Institute develop more medical breakthroughs to improve healthcare and, ultimately, save and improve lives."











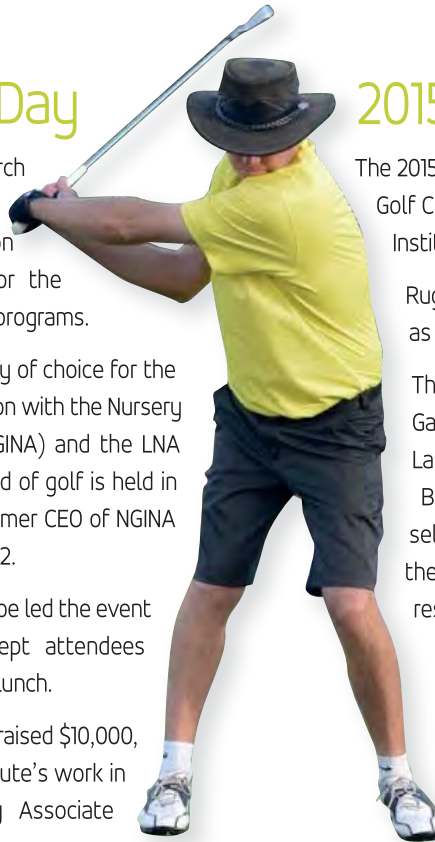
## 2016 Green Industries Golf Day

The 4th Green Industries Charity Golf Day was held on 18 March 2016 at Camden Lakeside Golf & Country Club. The event saw over 100 keen golfers battle it out on the green to raise vital funds for the Institute's prostate cancer research programs.

The Ingham Institute was the charity of choice for the fourth year running held in association with the Nursery & Garden Industry NSW & ACT (NGINA) and the LNA Master Landscaper (LNA). The round of golf is held in memory of the late Mike Skegg, former CEO of NGINA who lost his battle with cancer in 2012.

Enthusiastic cricket legend Len Pascoe led the event as Master of Ceremonies and kept attendees entertained at the presentation and lunch.

The event was a huge success and raised \$10,000, making a big difference to the Institute's work in prostate cancer research led by Associate Professor Kieran Scott.



## 2015 Green Industries Golf Day

The 2015 event was held on Friday 20 March at Stonecutter's Ridge Golf Club, Colebee with proceeds from the event supporting the Institute's cancer research programs.

Rugby legends Peter 'Zorba' Peters and Braith Anasta attended as celebrity guests, helping to raise \$10,000 for cancer research.

The event was organised and supported by the Nursery & Garden Industry NSW & Act (NGINA) and the LNA Master Landscapers Association. According to 2015 event organiser Bob Wynyard, from the NGINA, the Ingham Institute was selected as the beneficiary for the third year in a row due to the highly specialised and unique work it is doing in cancer research.



## 2015 Christmas in July

Local philanthropist and long-running supporter of the Ingham Institute, Mr Harry Hunt OAM hosted a special Christmas in July event for the Institute at the newly refurbished Comfort Hunts Liverpool on Friday 17 July.



More than 200 guests enjoyed the early Christmas festivities indulging in delicious Christmas fare and secret Santa surprises on the night. The event raised \$10,000 with 100% of the proceeds injected into medical research.

"Researchers at the Ingham Institute are working on some cutting-edge research projects and need our support to continue their vital work for the people of South Western Sydney," said Mr Harry Hunt OAM.

"Although the Ingham Institute is relatively young its already leading some of Australia's greatest innovations such as the MRI-Linac, which is set to improve cancer treatment in Australia and will be available right here at Liverpool Hospital."



## 2015 Research & Teaching Showcase

One of the most revolutionary hospital patient care protocols in medical history, the Medical Emergency Team (MET), was put in the spotlight as the theme of the Ingham Institute and South Western Sydney Local Health District (SWSLHD) 10th Annual Research & Teaching Showcase on Friday 27 November at Liverpool Hospital.

The MET system was born out of Liverpool Hospital 25 years ago and is now the global mandate for nurses and hospital staff to respond to patients experiencing specific warning signs that lead to their rapid deterioration such as, elevated heart rates and low blood pressures. The brainchild of MET Professor Ken Hillman AO, Director of the Simpson Centre for Health Services Research at the Ingham Institute, headlined the event as the major speaker.

Presentations were also given by Dr Kerry Chant, the Deputy Director-General for Population Health and Chief Health Officer Nursing and James Butler, a consumer representative and advocate for cancer community forums.

To encourage more active participation by young researchers and students, the Showcase gave Higher Degree students their moment to shine with the 'Three Minute Thesis Competition' skills development activity. The hugely popular 'Closing Debate' concluded the day's proceedings, which saw some of the Institute's top researchers and SWSLHD clinicians battle it out on the highly topical and competitive subject 'Placebo treatments should be funded'.

## 2014 Research & Teaching Showcase

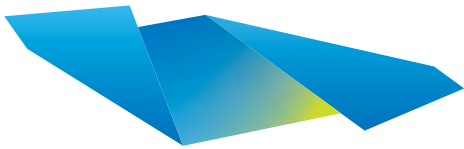
The 2014 Research & Teaching Showcase was held at Liverpool Hospital on Friday November 26.

Nursing and Midwifery was the theme of the 2014 event, an area of research that heavily influences nursing practices and patient care, making it vital for the future of Australia's health. More than 300 research delegates attended the event which showcased the District's ground-breaking research programs.

The Ingham Institute's Nursing and Midwifery research group the Centre for Applied Nursing Research (CANR) claimed centre stage at the event. The group conducts broad-reaching work to maximise patient safety with a special focus on women and children's health. Researchers from CANR have played a leading role in developing a unique midwifery initiated oral health dental service that trains midwives to promote maternal oral health to disadvantaged expectant mothers and incorporates oral health guidelines into midwifery practice. The service was initially developed in Campbelltown and, due to its overwhelming success, is now rolled out in Victoria and looks set to be adopted as a national healthcare standard.

The Showcase featured an impressive line-up of speakers including leading cancer specialist from Toronto, Canada, Professor Michael Milosevic, a Radiation Oncologist at the Princess Margaret Cancer Centre. Prof. Milosevic presented his research which focuses on the translational biology studies specifically in tumours relating to cervical and prostate cancers.





Ingham Institute  
Applied Medical Research

Community Partnerships  
& Programs





## Cancer Research Community Panel

The Ingham Cancer Research Community Panel was established in 2014 to provide an opportunity for community members to learn about and provide active input into the cancer research projects being developed at the Ingham Institute. Our panel members are members of the local and wider community with first-hand experience of the cancer journey as either patients or carers. Each of our panel members has received training on the core processes involved in cancer research and how they can best support our research. This training is based on material provided by the NSW Cancer Council.

Community members have provided critical guidance to our researchers in a number of areas. The panel helps researchers in establishing key research priorities and ensures that these priorities are in-line with aspects that are important to our community. In particular, our panel members understand the patient and carer perspective and how to communicate research study designs to study participants. For instance our community members gave valuable advice regarding how many extra imaging scans it may be reasonable to ask patients to undergo, they provided a patient perspective on when the best time might be to talk to patients about involvement in clinical trials, they pointed out where information to patients needed to be improved and provided general guidance on patient information sheets and consent forms to provide the information patients and carers need without being too complicated.

Our panel meets twice per year with a number of research projects presented at each meeting. Researchers present their project ideas to the Community Panel for input and working relationships of interested panel members with the leading researchers are established. In these relationships panel members are involved in

study designs and development, are kept in the loop as the projects progress and finally help with guidance on how results are presented to the community. Panel members can also play provide a key role in informing other members from our community about research studies and results from the various Ingham Institute Cancer research teams.

The Ingham Institute would welcome hearing from anyone in the community who may be willing to provide support for our research through involvement in our panel. To find out more on how you can get involved please contact the Cancer Research Community Panel Convenor A/Professor Lois Holloway on 1300 66 55 41 or [lois.holloway@sswahs.nsw.gov.au](mailto:lois.holloway@sswahs.nsw.gov.au)

## South Western Sydney Research

The Ingham Institute is an active member of the recently established South Western Sydney Research Hub. This initiative of the NSW Office for Health and Medical Research is designed to make NSW more competitive nationally and internationally by bringing expertise within the state together to support research infrastructure and governance.

The Hub brings together health, research and health education entities in South Western Sydney, with the vision for the South West to be internationally recognised as a leader in health and medical research that improves health outcomes.



Members of the South Western Sydney Research include the: South Western Sydney Local Health District, Ingham Institute, Medicare Local, Startts, Western Sydney University, Tharawal Aboriginal Corporation, Karitane, NSW Refugee Health Service, Gandangara, UNSW Australia, University of Wollongong, University of Sydney, Hammondcare, Southern Highlands Private Hospital & Cancer Care and Ramsay Mental Health.

## Save Sight & Lions Club: Diabetes Grant

With the generous \$30,000 donation from the Liverpool City Lions Club and the NSW ACT Save Sight and Public Health Care Foundation, the Liverpool Diabetes Collaborative Research Unit have appointed a Research Assistant to assist clinicians combining their heavy clinical workload with the group's research portfolio to improve the health of people living with Type 2 diabetes.

Diabetes is the sixth leading cause of death in Australia, with complications from the disease significantly impacting the quality of life for sufferers. South Western Sydney has one of the highest prevalence rates of the disease in NSW.

The group is working on important projects including the In-Patient and Blood Glucose projects, which explore the impact of hospitalisation on people with diabetes and whether we can better manage elevated blood glucose levels; the Diabetic Foot Projects, that examine the organisms causing infection in the feet of people with diabetes. Further, the Diabetic Eye Project looks at the impact of diabetes control on rates of vision threatening diabetes complications.

With the combined support from Liverpool Lions Club & Save Sight, there has been an improvement in the streamlining of research program flows; ultimately improving the timeliness of results to improve patient treatment.

## West's Campbelltown Equipment Sponsorship

With the generous support from the West Campbelltown Leagues Club, the Ingham Institute is now the proud owner of a Cytotoxic Biosafety Cabinet, a vital piece of equipment that is used by cancer researchers to conduct pre-clinical research on potential new therapeutical agents or drugs for cancer.

West's Campbelltown generously donated \$20,000 towards the purchase of the Cytotoxic Biosafety Cabinet as part of the 2014 ClubGrants program. Based in the Biological Resource Unit, the Cabinet will help to fast-track the development of new therapeutical agents for cancer treatment, particularly with respect to pancreatic cancer and prostate cancer. The equipment aids cancer research performed in biological models of human cancers which are treated with experimental drugs that can be toxic. The safety cabinet helps to create a safe and sterile environment for researchers to conduct this potentially life-saving work, while also protecting researchers from any potentially toxic impacts from experimental drugs.

Board members and the Executive Team from West's Campbelltown participated in a special tour on Tuesday 11 November 2014 for the first official viewing of the Cytotoxic Biosafety Cabinet which was made possible with their generous support.

CEO of West's Campbelltown, Tony Mathew, said that the Club was happy they could provide funding for the purchase of this piece of equipment. "It was great to finally see this important piece of equipment that will play a focal role in improving the health and wellbeing of Cancer patients in Campbelltown and beyond. Further, it will meet the Ingham Institute researchers' needs who are conducting this life-saving work."







## OCAGI: Oesophageal Cancer Grant

Oesophageal cancer is the eighth most-common Cancer in the world by prevalence and sixth most-common cause of Cancer-related deaths globally. In recent decades, the incidence of Oesophageal Adenocarcinoma (OAC) has increased dramatically in Western countries. In Australia, OAC is the fastest rising cancer with about 700 Australians diagnosed each year.

The Gastro-intestinal Viral Oncology Group is the first research team in the world to hypothesise and prove that high risk Human Papillomavirus is strongly associated with Oesophageal Pre-Cancer & Oesophageal Glandular Tumour (Adenocarcinoma).

This landmark discovery is regarded by many world experts as a game-changer in the field of oesophageal cancer research as evidenced by the numerous international invitations to speak on this topic.

Furthermore, the group is the first to demonstrate a significant association between increasing viral quantity (load) and disease severity.

A \$10,000 donation from the Mark Grundy Oesophageal Cancer Awareness Group Inc. (OCAGI) has supported the group's investigations into the mechanism as to how HPV causes oesophageal cancer and therefore, provide diagnostic aids and treatment targets. It will be a great leap forward in risk assessment and improved and modified treatment protocols.

Most importantly, the research outcome will impact significantly on public health as identification of the high-risk group of progressors to oesophageal cancer by endoscopic surveillance and development of effective preventive strategies including vaccination.

## Dart West Developments: Breast Cancer Grant

Despite the 89.4% five year survival rate, a breast cancer diagnosis still represents a threat to life and confronts patients and carers with a wide range of complex physical, psychosocial, and healthcare challenges. These stresses may be exacerbated for CALD patients and carers by unfamiliarity with the Australian health system, lack of culturally and linguistically appropriate information and communication barriers with the treating team (even with the help of interpreters), which in turn can lead to patients feeling misunderstood, isolated, and overwhelmed.

With the generosity of a grant made available by Dart West Developments, Dr Janelle Leveque and Professor Afaf Girgis with the Psycho-Oncology group are undertaking a qualitative study to inform the development of a culturally appropriate illness self-management resource for Chinese women diagnosed with breast cancer and their primary carer.

With the study now underway, data is being collected from interviews and focus groups with patients and their family caregivers. These interviews explore the challenges and unmet needs experienced by Chinese women with breast cancer and their carers while also gaining insight into the coping strategies these women and their employers to mitigate their cancer-related challenges.

With the support of Dart West Developments, bilingual research staff have been recruited and trained in interviewing technique and a partnership formed with Can Revive, a Chinese-specific support organisation operating in the Sydney region, and recruitment partnerships with the Liverpool Cancer Therapy Centre and local doctors.



## Douglas Partners: Breast Cancer Grant

With the support a \$10,000 grant kindly donated by Douglas Partners, researchers from the Ingham institute's Radiotherapy and Medical Physics Group have commenced a feasibility study to determine the ability of Cardiac MRI to detect Cardiac Dysfunction in Breast Cancer patients after exposure to chemotherapy and/or radiotherapy.

Researchers are studying the early changes associated with cardiac dysfunction after exposure to chemotherapy and/or radiotherapy and evaluate the changes seen in normal cardiac structures on cardiac MRI scans pre and post chemotherapy and/or radiotherapy, and correlate this with clinical toxicity outcomes.

To date, three volunteer patients have been successfully scanned, which resulted in the study's MRI scanning protocol being refined. Further scans have been performed to finalise the scanning protocol following an MRI software upgrade. With this in place, patient recruitment complete with cardiac biomarker blood tests is expected to commence shortly.

With Douglas Partners support, Ingham Institute researchers are now exploring and developing innovative technologies in breast cancer where there has been limited research in this field to date. Another goal of this study is enhanced inter-disciplinary collaborations to increase breast cancer survival rates.

## Perich Group: Diabetes Grant

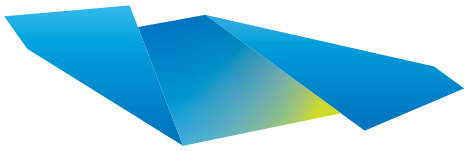
The Liverpool Diabetes Collaborative Research Unit is a relatively new and growing multi-disciplinary research group based at the Ingham Institute conducting clinical research in different aspects of diabetes with the overall aim of improving the healthcare of people living with diabetes in South Western Sydney. In 2014, the group was the proud recipient of a \$20,000 donation made by the Perich Group to fund diabetes research.

The generous funding has increased the group's research capacity by employing its first dedicated Research Assistant. The Research Assistant is working on research projects linked to measuring the impact on hospitalisation on blood glucose levels of people with diabetes; reviewing the implementation of a new way to prescribe insulin in hospital; and make sure that a standardised method of managing elevated glucose levels for hospitalised people is better than what happened previously.

The Perich Group funding has also assisted one of the groups researchers to purchase necessary equipment to finish the practical coursework of a Master of Science degree; supported another researcher in presenting her work in a leading national Diabetic Foot scientific conference and allowed a third researcher to fast-track the lab component of his PhD studies.

With the generous support from the Perich Group, Ingham Institute researchers are improving the health and lives of people living with diabetes in South Western Sydney and beyond.





Ingham Institute  
Applied Medical Research

Emerging  
Student Talent





The Ingham Institute is committed to supporting and advancing the skills of Higher Degree students with leaders, clinicians, academics and researchers in full support for the training of our future medical leaders, fostering a strong research and teaching culture.

Over the period of 2014/2015 the Ingham Institute mentored 117 students from various universities across the Institute's five disciplines of research including; Cancer, Clinical Sciences, Community and Childhood Health, Injury and Mental Health.

Meet some of our upcoming and rising PhD student stars:



Student	Sunil Adusumilli
Title of PhD	Study of Impact of Alcohol Policy Changes on Injury Prevention
University	UNSW Australia
Year Commenced	2013
Supervisors	A/Prof John Eastwood (Ingham Institute), Prof Bin Jalaludin (Ingham Institute)

Sunil Adusumilli is a part-time PhD candidate with the Community Paediatrics Group at the Ingham Institute. He is working on a project that involves quantitatively assessing the effectiveness of the NSW Liquor Act 2007 by comparing the alcohol related injuries before and after the implementation of the Act (July 2008) over the time period 2004 to 2012.

Following a policy development process that spanned several years, the NSW Parliament enacted new liquor legislation in 2007, simplifying the liquor licensing system and regulatory framework and enhancing liquor harm minimisation measures. The NSW Liquor Act 2007 includes changes to sentencing practices for individuals convicted of alcohol-related offences, as well as imposing special alcohol service restrictions in licensed premises with high numbers of alcohol related incidents. However only limited details of how the implementation of this Act has impacted on alcohol related injuries are available and even less is known about the relationship between the distance of where the injury occurred and where the alcohol was consumed.

In order to reduce the burden of alcohol related injuries there is a need to fully understand the nature and causal factors underlying the problem. This can be

achieved with good quality data describing the injuries sustained by victims, nature of crimes and the environmental/person factors leading to alcohol related crime in the first place. This information can rarely be obtained from a single data source due to limitations of individual datasets and as such data linkage is required in order to understand the 'big picture'.

The crime data is rich in information about the circumstances of crimes and contains very little information about injury outcomes. The opposite is true for the ambulance data, which contains information on injury severity but limited information on the circumstances of injury.

Sunil's project involves linking NSW crime data and NSW ambulance data in order to minimise the limitations of both datasets and provide a more complete picture of the circumstances leading to, as well as the nature and outcomes of, alcohol-related injuries. These efforts will help us better understand the scale of the problem, where it is occurring, and who is most affected, thereby providing additional information to develop prioritised programs and policy interventions that will have an overall positive impact on public health.



Mark Buhagiar

Issues Concerning Inpatient Rehabilitation after Total Knee Replacement

UNSW Australia

2012

A/Professor Justine Naylor (Ingham Institute), Professor Ian Harris (Ingham Institute) and Dr Wei Xuan (Ingham Institute)

Many Australians suffer from osteoarthritis, which wears away knee joints, causing bone to rub on bone. To solve this issue people often have a total knee replacement, where their worn joints are replaced with shiny new metal parts. But surgery is only the beginning of a journey. Within the public health system a person would usually go to the orthopaedic ward after their surgery to begin rehabilitation. They may stay there for four or five days and then go home with exercises to do and an outpatient appointment to continue therapy in the following weeks.

If the person was a privately insured patient in NSW, it is likely that they would have had 12 days of inpatient rehabilitation before being discharged. This extra time in hospital would have cost the health service around \$8700 more. With 45,000 knee replacements done each year in Australia, the majority done privately, \$2.6 billion being put into the private health system each year by the government, and an ageing population, the dollars start adding up. The question is whether this extra cost can be justified.

Here is where Mark Buhagiar's research comes in. To date there had been no rigorous study done which established whether inpatient rehabilitation yielded better results after a knee replacement when compared to a home-based program. With this in mind, Mark has co-ordinated a large randomised, controlled trial as part of a PhD at

UNSW Australia, for which he is supervised by A/Professor Justine Naylor, Professor Ian Harris and Dr Wei Xuan. People were recruited to the study from two centres and, once cleared for discharge from the acute hospital after their surgery, were randomly allocated to either 10 days of inpatient rehabilitation followed by usual care (a six week hybrid home program) or usual care alone. A third group of people, who weren't randomly allocated, received usual care in an observational group. To compare the groups Mark looked at timed walking tests over short and longer distances along with a number of questionnaires, and compared results between the groups gathered at 10, 26 and 52 weeks after surgery. Other factors like age, sex, education and other medical conditions were also taken into account.

In total 165 participants were randomised during the trial, and another 80 formed the observational group. No significant differences between the groups were shown when the data collected was analysed. This high-level evidence shows that inpatient rehabilitation may not provide participants with a superior level of recovery across a range of outcomes following a total knee replacement when compared to a home-based program.



Rafic Hussein

Clinical Supervision of New Graduate Nurses in the Acute Care Setting

Western Sydney University

2012

A/Professor Yenna Salamonson (WSU/CANR), Professor Wendy Hu (WSU), Associate Professor Bronwyn Everett (Ingham Institute)

Rafic is a part-time PhD student with the Centre for Applied Nursing Research (CANR) and is a Nurse Unit Manager in the Intensive Care Unit at Liverpool Hospital. Rafic is undertaking a mixed methods study to evaluate the effectiveness of clinical supervision practices in a New Graduate Nurse (NGN) transitional support program, and to explore the experiences of new graduate nurses.

The term 'reality shock' has been used to describe the discrepancy between the expectations of new graduate nurses and the reality of clinical practice. Failure to adjust to the clinical environment is associated with preventable clinical incidents and high turnover rates in the first year of employment. It is well-recognised that support is essential for the safe and successful integration of new graduate nurses into the acute care setting, with clinical supervision being one process of providing professional support. Rafic is seeking to understand the link between supervision and how well new graduate nurses integrate into clinical practice, including its impacts on work performance, professional development and job satisfaction.

Transitional support programs are widely used to provide professional support for new graduates transitioning to practice. However, little is known about whether personal characteristics and situational factors influence their satisfaction with the

practice environment. Rafic's project includes a cross-sectional survey and semi-structured interviews with new graduate nurses, and semi-structured interviews with clinical supervisors.

To date, study findings have identified modifiable situational factors (Unit Satisfaction, Satisfaction with Clinical Supervision and assigned unit - Critical Care / Non Critical Care areas) that influence new graduate nurses' satisfaction within the practice environment. Important findings from the first phase of Rafic's study include the need to avoid allocating new graduates to critical care areas on their first rotation.

For the second part of his studies, Rafic investigated the change in new graduate nurses' perceptions over the 12-month transitional support program in order to identify the elements of clinical supervision that influence intention to stay in a clinical specialty. Findings indicate that satisfaction with the practice environment and older age are predictors of NGNs' intention to stay in an assigned specialty.

Rafic has published selected quantitative findings in the Journal of Nursing Management and he is currently writing his second manuscript.





David Lynch

Identification of Circulating Tumour Cells and Circulating Tumour RNA in Patients with Brain Cancer

Western Sydney University

2015

A/Prof Therese Becker (Ingham Institute),  
 Prof Paul de Souza (Ingham Institute),  
 Prof Anna DeFazio (Westmead Millennium Institute).

David Lynch is a first year PhD Student with the Medical Oncology group who is working on a project that involves the isolation, and subsequent analysis of rare cells and genetic materials that are released by Brain Cancers into the bloodstream.

The most common type of cancer, Glioblastoma Multiforme (GBM), has a poor prognosis because it tends to recur in the brain despite modern therapies. There is a great deal of difficulty in performing surgery on brain tumours, and so modern tailored therapy often lacks the tumour tissue required to properly determine the best course of treatment.

A recent development in cancer research is the 'liquid biopsy' that could use tumour material in the bloodstream for prognostic purposes, superseding the need for surgery. Due to the existence of the 'blood-brain-barrier' and the almost non-existent spread of brain tumours to other organs, it was believed that this was impossible for brain tumours.

However, ground-breaking research last year found Circulating Tumour Cells (CTCs) in the bloodstream of brain cancer patients that were proven to be GBM cells. In addition, the existence of genetic material from GBM was also confirmed (Circulating Tumour DNA or ctDNA).

David's project will involve refining methods for the isolation of CTCs, and then determining whether these cells and ctDNA molecules are released into the bloodstream by all GBM, or only by the more aggressive tumours. In brain cancer, the ability to detect CTCs and ctDNA would be particularly useful since it would spare the patients further biopsies. David has currently identified two target molecules that might be used for isolating CTCs.

This work is part of the CTC research program at the Ingham Institute lead by David's mentor A/Professor Therese Becker, and is likely to change the management of Brain Cancer patients in the future, thus facilitating the Institute's translational research programs from the bench to bedside to the community.

David was the recipient of the Ingham Institute's Research Directors PhD Scholarship to support this project. His other supervisors include Professor Paul de Souza, Professor of Medical Oncology at Liverpool Hospital, who treats multiple Brain Cancer patients a year and the Cancer Institute NSW Fellow, Dr Tara Roberts, both of whom have strong expertise in this field.



Joseph Po

Analysis of Ovarian Cancer Circulating Tumour Cells (CTCs) to Monitor How Well Patients Will Respond to Therapy

Western Sydney University

2014

A/Prof Therese Becker (Ingham Institute),  
 Prof Paul de Souza (Ingham Institute),  
 Prof Anna DeFazio (Westmead Millennium Institute)

Joseph Po studies involve the detection and analysis of Circulating Tumour Cells (CTCs) in ovarian cancer patients.

Ovarian cancer treatment has made little headway in the last two decades. Consequently, patients face a mortality rate of over 80% within five years, due to late diagnosis of the often already advanced disease, and because drugs that initially may work eventually lose control of the disease as the cancer makes them resistant.

It is currently not possible to predict how well a patient will do on chemotherapy, although knowing this would allow an early change of the treatment regimen if there are subtle signs that the cancer is becoming resistant to treatment.

CTCs are Cancer cells which are released by a tumour into the bloodstream and can be detected. Joseph's project investigates whether regular detection and analysis of CTCs from ovarian cancer patients will predict if the patient's cancer becomes unresponsive to treatment. In particular, he is interested in the changes of ovarian cancer CTCs over time, as it is known that these cells, during disease progression, look less and less like the ovarian tissue cells they from which they originated. This

process is called "EMT", and Joseph has now optimised a method that allows him to isolate ovarian cancer CTCs before and after they have undergone EMT as they become more aggressive.

This has not been done previously, making it potentially a vital discovery for the management of other cancers as well. He will now use his new method to see whether it can distinguish patients that do well on chemotherapy from those that do not in the remainder of his PhD.

Joseph was a recipient of the 2014 Gynaecological Oncology Scholarship from the Rotary Club Liverpool West and his supervisors are A/Professor Therese Becker, the leader of the Centre for Circulating Tumour Cell Diagnostics & Research (CCDR) at the Ingham Institute, Professor Paul de Souza and Professor Anna DeFazio of Westmead Millennium Institute, all three experienced Cancer researchers. Joseph has also presented his unique CTC isolation method at the 2015 Australian Lorne Cancer Conference. Currently he is writing a research manuscript for publication in an international journal.

Student	Sri Pothula
Title of PhD	Targeting the HGF-c- MET Pathway in Pancreatic Cancer
University	UNSW Australia
Year Commenced	2012
Supervisors	Prof Minoti Apte (Ingham Institute), Prof Jeremy Wilson (Ingham Institute).

Sri Pothula is a final year PhD candidate with the Pancreatic Research Group (PRG), supported by a Translational Cancer Research Unit scholarship from the Cancer Institute of New South Wales. Sri's studies are focussed on developing a novel therapeutic approach for Pancreatic Cancer.

Pancreatic cancer is one of the most devastating diseases with less than 5% patients surviving over a period of five years after diagnosis. The striking feature of this cancer is the amount of scar tissue that is produced around the cancer cells which enables cancer progression. The PRG at the Ingham Institute discovered that the cells responsible to produce this scar tissue (stroma) are called stellate cells.

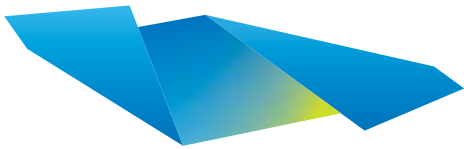
Sri's project is involved in understanding the role of stellate cells in pancreatic cancer. Specifically, his work targets a potential candidate pathway that regulates the cross-talk between stellate cells and Cancer cells during progression of Cancer. This pathway is known as the HGF-c-Met pathway. Using a mouse model that closely replicates human pancreatic cancer (unlike previous mouse models), and cells in culture, Sri has demonstrated that blocking this pathway using specific drugs stops the cross-talk between these cells and reduces cancer, just as effectively as standard chemotherapy. More importantly, this approach was even better in

controlling the spread of cancer to other sites. In recent studies, his experiments have shown that combining this novel approach targeting the cross-talk with standard chemotherapy resulted in the virtual elimination of cancer spread.

As the cells used in Sri's studies are isolated from patients with pancreatic cancer, the results from these studies have the potential to translate effectively to clinics. The findings from this project are aimed at developing a novel approach that blocks critical pathways mediating stromal-tumour interactions in pancreatic cancer. The group believes that such a targeted approach, alone or in combination with chemotherapy, is the key to improving patient outcome in this disease.

Sri has been awarded several travel grants to present the above work at several prestigious national and international meetings. A manuscript comprising part of this work is currently under review by an international journal. He is currently writing up his thesis and preparing other manuscripts for publications.





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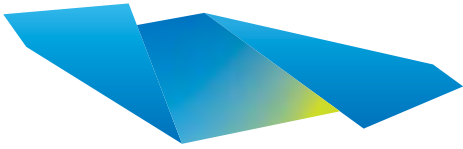
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We need the community's help to spread the word and increase public support so that we continue to make a difference in our community. We need people to tell their friends and colleagues about the great work that the Ingham Institute is doing so that we can continue to develop and improve treatments for all Australians.



Ingham Institute  
Applied Medical Research

How You Can Help

We are dedicated to translating our discoveries from the bench to the bedside and straight into the community in order to develop new and improved treatments for various diseases and improve health for all from South Western Sydney and beyond.

However a medical research facility cannot operate and achieve breakthroughs without support and funding from the community. We need donations to continue our important work to maintain and speed up results.

Donations can be made by post, online or by phoning the Ingham Institute on 1300 66 55 41.

Businesses and individuals can also participate in a variety of sponsorship and partnership programs with 100% of all funds raised going directly to support medical research programs.

### Regular Giving

By scheduling a regular donation to the Ingham Institute you can help provide researchers with a sense of funding certainty allowing them to focus more of their time on their work rather than searching for funds. Even a small amount given regularly can add up to a significant contribution over time and every bit counts.

### Scholarships and Fellowships Funding Opportunities

Our next generation are the lifeblood of medical research, and the Ingham Institute has a strong commitment to foster the development of young medical researchers to encourage the broader thinking and new insights that are needed to support research innovation.

Individuals and organisations can help Australia's next generation of medical research talent by funding Scholarships and Fellowships for students to help them grow and establish successful careers at the Ingham Institute.

### Host Your Own Event and Fundraise for the Ingham Institute

There are many different and fun ways you can fundraise for the Ingham Institute to help us in our mission to save and improve lives. We encourage individuals, community groups, organisations and companies to support our vital work by hosting events to raise funds for our medical research programs. You can select the disease area or program you wish to support and fund us on "Go Fundraise" to quickly to easily get started.

### Include Us in Your Will

A gift in your Will is a great way to support the Ingham Institute to conduct medical research into critical disease areas which one day will improve the health and wellbeing of all Australians.

There are different types of ways in which you can elect the Ingham Institute in your Will and these include:

- Residuary Bequest : a percentage of your estate
- Pecuniary Bequest: a specific monetary amount
- Specific Bequest: specific item of value such as car, jewellery or artwork.

### Workplace Giving

Workplace Giving deductions are made through your payroll account so it is likely you won't notice the difference to your pay. With your ongoing support through Workplace Giving, together we can improve the health and wellbeing of all Australians. Your donation will change and improve the lives of so many people living with and affected with disease while you go about your daily work.

### In Celebration

Add distinct meaning to your special occasion by asking guests to donate to the Ingham Institute in place of giving gifts. This donation is a great idea for Christmas, Weddings, Mother's Day, Father's Day and birthdays, where together you can honour someone special in your life who has been affected by cancer, disease or injury.

### In Memory

In honour of losing a loved one who has passed, you can request friends and relatives to make a gift to the Ingham Institute in their memory. In lieu of flowers, mourners can commemorate the passing of a loved one by making a donation to Medical Research at the Ingham Institute. Donations received will improve the health and wellbeing of all Australians by creating hope through our medical research programs and make our world a healthier place.

### Corporate Engagement

The Ingham Institute welcomes the support of the business community, whether you're a small or large business entity.

To facilitate and maintain our world class research centre, support from the corporate community is vital. We strive to create a mutually beneficial relationship for all our corporate partners. In fact, we regard them as much more than partners, we refer to them as our friends. As a result of partnering with the Ingham Institute, you will receive prominent recognition of your sponsorship via a number of marketing, branding and media opportunities.

**For further information about the various ways that you or your organisation can partner with the Ingham Institute to improve the health of all Australian communities, please call 1300 66 55 41 or [email support@inghaminstitute.org.au](mailto:support@inghaminstitute.org.au)**





“And, while medical research is a long term project that requires hard work and dedication, Ingham Institute researchers are, right now, at the forefront of discovering new treatments and methods of care for common health conditions to help save lives and improve life.”

**PROF. MICHAEL BARTON OAM**  
RESEARCH DIRECTOR



This electron tree produced by our cancer researchers  
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