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Collaboration for a cause

IHMRI supports inaugural translational cancer research workshop in Wollongong.

The inaugural Clinical and Translational Research Interest Workshop was held at City Beach Function Centre Wollongong in September 2016. The event brought together some of the greatest minds in cancer research and care from the Illawarra, Sydney and the ACT, including clinicians, research academics, allied health professionals and community members.

Members of the organising committee Professor Marie Ranson (IHMRI) and Associate Professor Mori Aghmesheh (Illawarra Shoalhaven Local Health District) opened the event, which was sponsored by the Centre for Oncology Education and Research Translation (CONCERT), in collaboration with IHMRI.

Presentations included a plenary on immunotherapy in solid cancers by Associate Professor Catriona McNeil from Chris O’Brien Lifehouse, a question and answer session hosted by Dr Bruce Ashford, Surgeon and PhD candidate, and closing remarks by Dr Daniel Brungs, medical oncologist and PhD candidate from the Illawarra Cancer Care Centre. The event covered a range of topics including data mining, tissue banking, patient expectations from research, biomarkers of metastasis, integrating magnetic resonance imaging with proton therapy, nutritional management and borderline resectable pancreatic cancer.

With nearly 100 people in attendance, it is hoped this lively event will continue to grow and provide an annual forum for collaboration and discussion of cancer research in the Illawarra.
Motor neurone diseases (MND) are caused by the breakdown of nerve cells in the brain and spinal cord that control movement and bodily functions. The most common form of MND is amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig’s disease. ALS can strike anyone, at any age, and it can progress very quickly. Eventually, all muscles under voluntary control are affected, and individuals lose their strength and the ability to move their arms, legs, and body.

Most people with ALS die from respiratory failure within three to five years from the onset of symptoms. However, about 10 per cent of those with ALS survive for 10 or more years. With the incidence of MND in Australia increasing over the past decade, there is a renewed push to find a cure, and new ways to halt its progression to improve quality of life for sufferers.

IHMRI researcher Associate Professor Ronald Sluyter from the University of Wollongong’s School of Biological Sciences is an internationally recognised expert on the P2X7 receptor ion channel and is striving to uncover new treatments for ALS.

He has been awarded a grant-in-aid from the Motor Neurone Disease Research Institute of Australia of $99,868 for a new study on the P2X7 receptor ion channel in the brain. His co-investigator on the project is UOW Principal Research Fellow Dr Justin Yerbury, an internationally recognised expert on ALS.

“ALS remains incurable, with clinical drug management limited to the only approved drug, riluzole. However, this drug has modest improvement on survival. There is an urgent need for new therapeutics in ALS,” states Associate Professor Sluyter.

The project will provide more insights into two crucial questions: whether the P2X7 communication pathway between motor neurons and other cells of the central nervous system contributes to ALS progression, and secondly, whether a pharmacological blockade of the P2X7 receptor channel with an antagonist, JNJ-47965567, enhances survival and improved motor performance.

“JNJ-47965567 is a potent antagonist which can cross the blood brain barrier. Other studies have shown its potential for treating epilepsy and neuropathic pain. In our preclinical trial we want to see whether it can halt the progression of ALS,” explains Associate Professor Sluyter.

This vital research will provide further insight into the mechanisms in MND and assist in planning possible drug trials in people with MND.

The MND Research Institute of Australia is the national body for people living with MND. The organisation promotes optimal care outcomes for people living with MND and enables research to identify the cause of MND and ultimately find a cure. The MND Research Institute of Australia has awarded $3.75 million to support research in 2017.
IHMRI researchers awarded more than $3.8M in NHMRC grants

Five IHMRI researchers at the University of Wollongong (UOW) have been awarded highly-competitive and prestigious grants from the National Health and Medical Research Council (NHMRC) 2016 funding round for their vital research into major health challenges in Australia.

**Omega-3 and aggressive behaviour**

Professor Barbara Meyer from UOW’s School of Medicine has been awarded a partnership grant of $1.8M to lead a landmark study to test whether omega-3s can reduce aggression in prisons.

Working in partnership with researchers from the University of Newcastle and the University of NSW, the study will span five years and include a 16 week randomised control trial in six prisons in NSW and South Australia (SA).

“Nutrition is emerging as a significant yet under recognised contributor to mental health and behaviour, and omega-3s in particular have pivotal roles in brain function. In fact, we already know that low omega-3 status is associated with increased mental health issues such as attention deficit disorder (ADD), poor impulse control and depression,” states Professor Meyer.

The research builds on a UOW-funded pilot study, which identified that prison inmates who are low in omega-3s are more aggressive and more likely to exhibit ADD behaviours. This project has also received funding and support from both the NSW and SA Corrective Services Departments and Norwegian seafood company Rimfrost.

**Cannabis use and dependence**

Professor Nadia Solowij, from UOW’s School of Psychology, has received $731,571 in funding to lead a four-year project on long-term cannabis use and dependence, together with partners at Monash University and the University of NSW National Drug and Alcohol Research Centre.

“Previous work has focused more on just the levels of cannabis use, whereas this study acknowledges that some people can use cannabis frequently without significant impairment while others develop addiction and a range of poor functional outcomes,” Professor Solowij states.

The project will test the models of addiction used in neuroscience that have been applied to other drugs but never examined in cannabis users.

“We will characterise, for the first time, the brain alterations associated with cannabis dependence relative to regular recreational use via advanced imaging techniques and examine links between neural alterations and quality of life,” explains Professor Solowij.

It is hoped the knowledge gained from the study will lead to the development of practical treatments for people with cannabis use disorders.
**Clostridium difficile infections**

Professors Stephen Pyne and Paul Keller, from UOW’s School of Chemistry, have been awarded $523,460 for a three-year project to develop drugs to treat *Clostridium difficile* infections (CDI).

CDI is an antibiotic resistant bacteria found in the intestines. An imbalance in the bacteria releases toxins that inflame the intestine lining, leading to diarrhoea, abdominal pain, nausea and fever.

“It is an increasing problem for hospitalised patients in developed countries, including Australia. It is estimated that infections in the US alone costs $3 billion a year and challenges staph as the most common healthcare-related infection,” Professor Pyne states.

“A previous NHMRC-funded project established drug leads against CDI and we now require continued studies to develop our drug leads towards marketable therapeutics.”

**Antipsychotic drugs and young people**

Dr Jiamei Lian from the Antipsychotic Research Laboratory in UOW’s School of Medicine was awarded the prestigious NHMRC Peter Doherty Biomedical Fellowship worth $318,768 to further investigate the risks of young people taking antipsychotic drugs.

The Fellowship is awarded to an Australian-based early career researcher of outstanding ability to help them continue their research in the field of biomedical science.

"Under this Fellowship, I will further examine how early antipsychotic exposure influences cognitive functions, and whether early drug exposure in developing brains alters their response to antipsychotic treatment in adulthood using animal models."

Dr Lian’s timely work will provide important information for psychiatrists, paediatricians and doctors to balance the risk/benefit ratio when treating young people.

“Childhood and adolescence is a critical period of brain development that is sensitive to drug exposure. Preliminary results in our research lab have shown that antipsychotic treatment in the developing brain will cause long-lasting alterations in adult behaviours and brain functions,” states Dr Lian.

IHMRI will also contribute $5,000 per annum for the duration of the Fellowship to further assist Dr Lian’s research.

**Radiation therapy for cancer patients**

Distinguished Professor Anatoly Rozenfeld, who leads UOW’s Centre for Medical Radiation Physics, has been awarded a $501,265 project grant over three years to develop an instrument for 3D dose verification of radiation treatment delivered to organs, such as the lungs, that have large variation of shape and position due to respiration.

“The continued progress of radiation therapy for cancer patients has been driven by technology developments that have increased the complexity of radiation delivery, but has come at the cost of increased potential for errors in radiation planning and delivery,” Distinguished Professor Rozenfeld explains.

Complex robotic treatment machines can deliver very precise doses to tumours with one-millimetre accuracy and have the ability to track moving tumours, such as in the lung, during the treatment as they move with respiratory or other biological changes.

“Development of an innovative 3D dose quality assurance instrument called the Magic Cube and demonstrating the potential for error-free complex radiotherapy delivery in a clinical setting will enhance treatment outcomes and patient quality of life.”
New insights into the cause of multiple sclerosis

IHMRI researchers track the breakdown of myelin in the brain.

Multiple sclerosis (MS) is an autoimmune disease where the body attacks its own nerves. Symptoms include muscular spasms and problems with weakness, coordination, balance and functioning of the arms and legs, as well as visual disturbances.

MS affects over 23,000 people in Australia and more than two million worldwide. There is no cure and the drugs available typically target the inflammatory response and not the cause of MS.

To understand the causes of MS, IHMRI researchers Dr Michael Friedrich and Professor Roger Truscott have been studying key structural proteins of myelin. Myelin coats axons (axons are the ‘wiring cables’ of nerve cells) and acts as an electrical insulator allowing much greater speed in the conduction of nerve impulses.

Their findings have been published in the international peer-reviewed journal *Acta Neuropathologica Communications* (2016) 4:83. Read the full article at https://goo.gl/10Uj4e

The researchers tracked the decomposition of myelin basic protein (MBP) in the brain of individuals with and without MS. They focussed on the cerebellum, a part of the brain that is particularly affected by MS and known to be important for cognition, balance and regulating motor movements.

They found that MBP is long-lasting and breaks down as part of the ageing process. What is remarkable is that this decomposition does not affect the ability of myelin to function as an insulator of electrical signalling in the brain.

Explains Professor Truscott: “If MBP breaks down in this way, it forms novel protein structures. What is perhaps surprising is that all adults don’t make antibodies to this new antigen; that is, to degraded MBP.”

However the researchers found that MBP breaks down differently in people with MS, which may trigger an autoimmune response.

Professor Truscott states: “We can distinguish MBP in MS patients from people who do not have MS.

The structure of the MBP from MS patients had two regions where specific changes have accumulated. We hypothesize that these two regions may provoke an immune response.”

States Professor Truscott: “It is important to emphasise that this is not a cure for MS, however for the first time we have a target. In the future, drugs could be designed to bind specifically to these two regions on MBP and thus potentially stop the autoimmune response. Of course these important results need to be repeated by another group and it is possible that other proteins in myelin could break down in a similar way and also become sites for immune attack.”

This research was partly funded by the National Health and Medical Research Council.

**Figure:** A model of MBP highlighting the residues that differ significantly in multiple sclerosis. The amino acid residues in blue correspond to the unmodified conformation. Those in magenta illustrate the changes in conformation in multiple sclerosis.
Spinning a clever yarn

Artificial muscles no longer the realm of science fiction.

Since 2013 IHMRI researcher Dr Javad Foroughi has been developing a new class of smart textile—one that not only senses movement from a muscle or joint, but can move in response.

This exciting development has been a long sought-after goal in the field of materials science and has the potential for use in a wide range of health and medical applications. The breakthrough came three years into Dr Foroughi’s Discovery Early Career Research Award Fellowship from the Australian Research Council. His findings have been published in the high-ranking international journal, ACS Nano (2016, 10 (10), pp 9129–9135).

A Senior Research Fellow and Associate Investigator from UOW’s ARC Centre of Excellence for Electromaterials Science (ACES), Dr Foroughi worked with an international team of experts to develop the smart textile, including UOW colleagues Distinguished Professor Gordon Wallace and Professor Spinks, plus Professor Ray Baughman from the University of Texas.

“Our recent work allowed us to develop smart clothing that simultaneously monitors the wearer’s movements, senses strain, and adjusts the garment to support or correct the movement,” explains Dr Foroughi.

The first generation 3D smart textile is made from multi-walled carbon nanotubes (CNT) and spandex fibres. The researchers use a circulating knitting machine which continuously feeds spandex fibres and CNT aerogel sheets drawn from an aligned forest of tubes to fabricate the yarn. The textile created from the yarn is very stretchy and capable of conducting electricity.

When a voltage is applied to the stretched yarn, it heats up and contracts by up to 33%. As a consequence, it generates a mechanical work capacity of up to 0.64 kJ/kg and a maximum specific power output of 1.28 kW/kg, which is much higher than that produced by skeletal muscles.

The easily fabricated knitted textile has been integrated into a knee sleeve. This device is currently being tested by researchers at St Vincent’s Hospital in Melbourne.

“We have already demonstrated a knee sleeve prototype using our technology, and such a device might be used to help repair injury after an accident by monitoring and manipulating knee movement,” explains team member Professor Ray Baughman from the University of Texas.

The team is now working on using the CNT knitted textile as a wearable antenna, as well as in biomedical applications, like lymph sleeves. Dr Foroughi is currently working with researchers at The Wollongong Hospital to establish a new class of smart textiles for smart drug-delivery systems.

“The lymph sleeve, for example, will be developed using lightweight actuating fabric that will detect swelling and then respond by ‘squeezing’ the arm to enhance lymph flow,” explains Dr Foroughi. “We are also investigating the possibility of employing it in artificial heart muscles for positive support of the right ventricle.”

The prototype knee sleeve device
IHMRI researchers at the University of Wollongong (UOW) were awarded more than $1.3 million in research grants from the Australia Research Council (ARC).

Distinguished Professor Anatoly Rozenfeld from UOW's Centre for Medical Radiation Physics received a Discovery Project Grant of $357,000 to develop a heavy ion therapy research and treatment centre in Australia. The research team working on this project includes Professor Tomas Kron, Dr Marco Petasecca, Associate Professor Michael Lerch, Associate Professor Michael Jackson, Adjunct Professor Naruhiro Matsufuji and Dr Dale Prokopovich.

Dr Susanna Guatelli from UOW's School of Physics received a $363,000 Discovery Project Grant for a project to develop a better understanding of physics interactions of particles in compounds with sub-micron size. The research team working on this project includes Dr Dimitris Emfietzoglou, Dr Ioanna Kyriakou, Dr Sebastien Incerti and Dr Stephen McMahon.

Professor Jun Chen from UOW's Intelligent Polymer Research Institute (with Dr Leigh Aldous) received a $296,500 Discovery Project Grant for a project to synthesise flexible redox gel-electrolyte interpenetrated electrodes for an eco-friendly prototype wearable thermo-electrochemical cell that can power body-worn low-power wearable electronics.

Dr Bridget Kelly from UOW's School of Health and Society, and Early Start Research Institute, received a Discovery Early Career Research Award of $337,000 for her project which aims to quantify children's exposure to unhealthy food marketing online and identify how online and TV food marketing influences food consumption.

The Centre for Medical Radiation Physics will be holding the Innovation in Radiation Applications 2017 conference at the University of Wollongong, 20 – 22 April 2017.

The conference will bring together diverse scientific communities working with radiation. The themed sessions will focus on health and medical research. Several internationally renowned speakers will be invited to present their work in each of these sessions.

Early career researchers will be given opportunities to present their work in front of international experts in a friendly and supportive environment. Awards will be distributed for best oral and poster presentations.

There will also be social events to promote networking and future collaboration.


Innovation in Radiation Applications 2017

My research exchange at University College London

By PhD candidate, Rebecca San Gil

In February 2016 I set off for London to begin a six-month Endeavour Research Fellowship at the Institute of Neurology, University College London. I am a researcher of heat shock response so I was incredibly excited by the opportunity to work under the supervision of Professor Linda Greensmith and Dr Bernadett Kalmár, two leading researchers in the fields of motor neurone disease and the heat shock response.

Puzzled by propensity of spinal cord motor neurons to degenerate in motor neurone diseases over neurons in other regions of the central nervous system, we collaborated on a project that compared the stress responses in cells comprising spinal cord and cortical cellular support networks—astroglia and microglia. Using primary glial cultures derived from wild type mice, we found that there was a higher percentage of astroglia in the spinal cord that expressed Hsp27, an important cytoprotective heat shock protein, compared to cortical astroglia under basal conditions.

Spinal cord astroglia were also capable of inducing a heat shock response after heat shock, whereas cortical astroglia were not. These findings suggest that under basal conditions the spinal cord possesses more astroglia both 'pre-loaded' with, and ready to up-regulate this pro-survival protein to support their surrounding motor neurons.

It would therefore be very interesting to investigate whether this is also the case in the cortices and spinal cords derived from mouse models of motor neurone disease.

I have valued the opportunity to learn new research skills, experience a different laboratory environment, and share a pint (or two) with an exceptional adopted lab group. I have even struck up an unlikely conversation with one of the 2014 Nobel Prize winners in Physiology and Medicine on a RyanAir flight! I would highly recommend that first and second year PhD students consider including a research exchange within their projects.
Project Air Strategy for Schools breaking new ground

Unique and collaborative program helps schools respond to young people with complex mental health problems.

With one in five adolescents experiencing a mental health disorder, schools are at the front line in supporting Australian young people. A new program co-developed by IHMRI researcher Dr Michelle Townsend, from the University of Wollongong’s (UOW) School of Psychology, is helping to address this challenging issue.

Project Air Strategy for Schools is a unique program that provides teachers, school counsellors and health staff with new skills to help young people with complex mental health problems, including self-harm, suicide, trauma and emerging borderline personality disorder. The program provides a suite of tools including guidelines, fact sheets, training resources and a short film Chloe’s Story.

“Project Air Strategy for Schools aims to provide NSW public schools with information, training and resources to better support students with complex mental health needs, to engage in school life and complete their education,” states Dr Townsend.

Project Air Strategy for Schools is a collaborative project between UOW, IHMRI, clinicians from the Ministry of Health, as well as teachers and school counsellors from the NSW Department of Education. It is part of the Project Air Strategy training currently being implemented throughout local health districts and schools across NSW, led by Professor Brin Grenyer.

Professor Grenyer states: “This new program includes a short film Chloe’s Story which shows how a young person’s life is turned around when a teacher notices her falling behind and steps up to rally teachers, psychologists, the family and students. With the right support and treatment Chloe learns to stop her suicidal and self-harming behaviour and is able to stay at school to focus on her studies. We can all play a positive role in young peoples’ lives if we have the tools to understand what is effective.”

Project Air Strategy for Schools was launched by NSW Minister for Mental Health, The Honourable Pru Goward at the 10th Annual Conference on the Treatment of Personality Disorders, New Research Frontiers and Discoveries, held at UOW in November 2016.

The conference is the only research-focused conference on personality disorders of its kind in Australia. It attracted over 280 local, interstate and international health practitioners, academics, families, carers and consumers.

The resources for Project Air Strategy for Schools, including the film, are available at www.projectairstrategy.org.
Three IHMRI researchers have been awarded Translational Research Grants from the NSW Department of Health. Translational Research Grants (TRG) encourage research and evaluation projects that translate into better patient outcomes, improve the delivery of health services and increase population health and wellbeing.

Using SMS text messages to prevent self-harm

Professor Alison Jones, Pro Vice-Chancellor (Health Strategy) and Executive Dean of the Faculty of Science, Medicine and Health at the University of Wollongong (UOW) and Clinical Toxicologist at Blacktown Hospital, will lead a project team of clinicians and researchers across three hospitals and three universities.

Deliberate self-harm (DSH) injury is a national health priority, accounting for $4 billion in health care expenditure each year. Repeated DSH is also a major issue for public hospitals, with approximately 15% of those presenting with self-harm making a further presentation within the next 12 months.

There is emerging evidence that DSH re-presentations can be reduced when patients feel connected and cared for in the months following their hospital contact. SMS messaging has also been used successfully in other health intervention settings and found to be beneficial in changing health behaviours.

“Our previous research showed that a series of supportive mail-out ‘postcards’ did significantly reduce re-presentations to hospital and associated hospital costs. SMS text messaging is well placed to now replace postcards—providing more immediate communication and a more effective intervention,” explains Professor Jones.

The TRG Scheme funding will be invested in a study conducted across Blacktown/Mount Druitt, Westmead and the Nepean/Blue Mountains Hospitals during 2016-17. The study will examine the number and timing of DSH re-presentations among individuals receiving standard hospital follow-up care, compared to those receiving standard follow-up plus supportive SMS messages every 1-2 months for 12 months following their initial hospital presentation.

“Should an SMS follow-up intervention prove to be effective in reducing DSH re-presentations, it would allow for a significantly more flexible, low-cost and deliverable medical follow-up system,” states Professor Jones.
Reducing dependence on opioids
Clinical Associate Professor Geoffrey Murray from the Illawarra Shoalhaven Local Health District has received funding to study two methods of reducing or ceasing high dose opioid use in patients with non-cancer pain.

Patients with non-cancer pain are increasingly prescribed high dose opioid medications. This has raised concerns about the efficacy of such treatment and the long-term risks to patients.

There is evidence that these medications do not provide effective pain relief in the long-term or improve quality of life, and may cause a decline in physical, social and emotional functioning.

“Many patients want to reduce their dependence on opioids but feel constrained by fear of more pain and experiencing withdrawal symptoms when the dose is reduced. Currently there are few guidelines on reducing or ceasing high dose opioids,” explains Clinical Associate Professor Murray.

Clinical Associate Professor Murray will compare the effectiveness of two methods of achieving abstinence from prescribed opioids, or maintenance at a moderate dose, six months after completion of treatment.

The first method will involve infusions of low doses of ketamine (an anaesthetic drug) under the skin over five days in hospital while the patients’ opioid medications are stopped. The second method will involve slowly tapering high dose opioids in outpatient clinics, and using other medications to help manage pain and withdrawal symptoms.

The project will also examine the relative costs of each approach. Participants in the study will be recruited from patients referred from pain clinics at Port Kembla and Shoalhaven District Hospitals, and Aboriginal Health Centres. The TRG Scheme funding will assist with data collection, entry, analysis and ethics.

Can text message intervention help manage diabetes?
Dr Susan Furber from the Health Promotion Service, Illawarra Shoalhaven Local Health District, has received funding to study the effectiveness of a text message intervention (DTEXT) for improving the health of people with type 2 diabetes living in the Illawarra and Shoalhaven.

In the next 20 years, the number of people in Australia with type 2 diabetes is estimated to increase from 870,000 to over 2.5 million, due to factors such as high rates of overweight, obesity and poor lifestyle behaviours.

Research shows that lifestyle modification, such as physical activity and healthy eating and self-management can improve glycaemic control and reduce complications in people with type 2 diabetes.

As the Chief Investigator of this collaborative study, Dr Furber will analyse whether people who receive mobile phone text messages for six months with information about physical activity, nutrition, weight, smoking cessation and diabetes management have improved their health.

She will also explore the integration of DTEXT for type 2 diabetes into the NSW Get Healthy Information and Coaching Service.

“There are many potential benefits of DTEXT intervention, including a reduction in lifestyle risk behaviours and the ease of reaching large numbers of people for minimal cost. By reducing type 2 diabetes related complications, there would be a significant reduction in hospitalisations and the associated economic burden on the health care system,” states Dr Furber.
A partnership between Grand Pacific Health and IHMRI researchers at the University of Wollongong (UOW) focuses on community-based interventions.

Malnutrition often remains undetected and untreated in older people because it is not considered a clinical priority. Yet it can have serious consequences. Older people who are malnourished experience increased surgical complications, greater morbidity, increased length of hospital stay, higher rates of mortality and reduced quality of life.

To address this alarming health problem, Coordinare, the South Eastern NSW Primary Health Network (PHN), recently issued a tender for expert advice and a plan of action. A partnership between IHMRI researchers at UOW and Grand Pacific Health won the tender.

Over the next 18 months, the research team, led by Associate Professor Karen Charlton from UOW’s School of Medicine, will develop a model for routine screening for malnutrition in older adults and an accompanying care plan. She will be assisted by Associate Professor Karen Walton and Professor Andrew Bonney from the School of Medicine, and Professor Liz Halcomb from the School of Nursing.

“Treatment for malnutrition often focuses on in-hospital oral supplementation, which has limited success over the longer term. There are few sustainable community-based interventions that help people get back into the community,” states Associate Professor Karen Charlton.

“This project aims to develop and integrate malnutrition screening and nutrition care plans across primary care, independent-living villages of residential aged care facilities and community-based services to allow older people to maintain independence and functionality for as long as possible.”

The research team has previously demonstrated feasibility that within the community setting, early identification of malnutrition could be included as part of annual health assessments for older adults (75+HA) in general practice, which are currently included on the Medicare Benefits Schedule.

Over a decade ago, as part of the Enhanced Primary Care program, this item was introduced for all Australians aged 75 years or older. Despite being applauded as a major policy innovation in preventive health care, its uptake has been disappointingly low.

This project will integrate strategies within general practices to encourage greater uptake of the 75+HA, in which a validated malnutrition screening instrument, the Mini Nutritional Assessment – Short Form (MNA-SF), will be incorporated.

“An important component of the project will be to upskill General Practice staff to conduct the 75+HA, with special attention to the results of the MNA-SF,” concludes Professor Charlton.
Representatives from the Black Dog Institute attended the December 2016 meeting of the Illawarra Shoalhaven Suicide Prevention Collaborative (ISSPC), held at Kiama Pavilion.

The meeting focussed on the upcoming trial of LifeSpan, an integrated suicide prevention system developed by the Mental Health Commission of NSW, the National Health and Medical Research Council’s Centre of Research Excellence in Suicide Prevention (CRESP) and the Black Dog Institute.

Thanks to the support of the Paul Ramsay Foundation, LifeSpan will be delivered and scientifically assessed in four areas of NSW. Following a rigorous selection process, the Illawarra Shoalhaven has been selected as one of the trial sites. The project will commence in February 2017.

Based on the most up-to-date evidence available and drawing from positive results of similar, large scale suicide prevention programs overseas, it is expected LifeSpan will prevent 21 per cent of suicide deaths and 30 per cent of suicide attempts.

National Meal Guidelines now available

Fifty thousand Australians benefit from the subsided meals delivered by Meals on Wheels. With the responsibility of producing 10 million meals a year, the Australian Meals on Wheels Association (AMOWA) wanted to ensure nutritious and healthy dishes.

AMOWA turned to a team of IHMRI researchers at the University of Wollongong’s Smart Foods Centre for expert advice.

Led by Associate Professor Karen Walton, the team (Dr Anne McMahon, Associate Professor Karen Charlton, Professor Linda Tapsell and Professor Peter Williams) developed the National Meal Guidelines for the Commonwealth Home Support Programme (CHSP).

The Guidelines represent the first nationally consistent approach to nutrition, menu planning and meal presentation for organisations providing delivered meals and centre based meals for older Australians.

The Guidelines are also an excellent resource for other services providing meals for older people—in community centres, the consumer’s own kitchen, or in residential care settings.

The Guidelines were funded through a contract from the AMOWA, with funding from the Australian Government Department of Social Services (now the Department of Health).

The National Meal Guidelines can be downloaded at goo.gl/x6qGhu.
Philosopher Arthur Schopenhauer once said, “One should use common words to say uncommon things.”

This phrase is a great test for many researchers. It can be incredibly difficult to distil complex ideas and scientific terminology into information that can be understood by audiences without medical or scientific training.

As a scientist who regularly engages with the media, IHMRI researcher Dr Kara Perrow from the University of Wollongong’s (UOW) School of Biological Sciences, is interested in science communication and helping other researchers explain their work.

“In this post-truth political age, effective science communication is becoming increasingly important to accurately educate the broader community about medical breakthroughs, raise awareness and justify public funding of scientific research,” Dr Perrow states.

Determined to make a difference, she organised the inaugural IHMRI Science Communication Competition so that PhD students, post-docs and researchers could improve their presentation skills for a community audience.

“Their challenge was to create a three-minute piece of work in any medium to communicate their research in an exciting and understandable way,” explains Dr Perrow.

Eleven researchers from UOW’s Cancer Drug Discovery Research Group competed at the event, held at IHMRI in December 2016. Community representatives from the Keira Probus Group kindly volunteered to judge the presentations.

Hidden talents were revealed during the creative and high-quality presentations. There were videos, passionate speeches and even a rapping guitarist.

After intense deliberations the three judges named IHMRI PhD candidate Benjamin Buckley from UOW’s School of Chemistry as the winner for his presentation on drug design, *Rethink—Reduce, Recycle and Reuse*.

Benjamin’s work focusses on developing new anti-cancer drugs based on the diuretic, Amiloride. His supervisors are IHMRI researchers Professor Marie Ranson (School of Biological Sciences) and Professor Michael Kelso (School of Chemistry).

The Science Communication Competition looks set to be a regular part of IHMRI’s event calendar.

“We’re hoping to make it even bigger and better next year,” asserts Dr Perrow.
IHMRI was very proud to host the Sydney Protein Group’s 24th Annual Thompson Prize Talks in November 2016. The event brings together PhD students from the Sydney and Wollongong areas to showcase their protein-based research and hone their presentation skills.

Congratulations to Emma Dawson from the University of Technology Sydney for winning the Thompson Prize for best presentation. IHMRI PhD student Claudia Kielkopf won a Lorne Travel Award to attend the 42nd Lorne Conference on Protein Structure and Function.

IHMRI proudly sponsored the 8th Annual NSW-ACT Joint Branch Meeting of the Australasian Society for Immunology in November 2016, held at the Novotel Northbeach Wollongong.

Over 80 people attended the two-day event to hear outstanding presentations from students and researchers on a broad range of immunological topics.

IHMRI researcher, Associate Professor Ronald Sluyter from the University of Wollongong’s School of Biological Sciences led a symposium on T cell biology. He was joined by Dr Debbie Watson and Nicholas Geraghty who led a Symposium on tumour immunology and transplantation, with a presentation by Sam Adhikary on P2RX7 polymorphisms.

This year the event was hosted by Associate Professor Heath Ecroyd and Principal Research Fellow Dr Justin Yerbury.
CONGRATULATIONS

Winners of The Sessions

Throughout the year IHMRI organises The Sessions, a weekly seminar series presented by IHMRI PhD students and Post Docs to promote research collaboration and translation. The winning presentations of The Sessions were announced at IHMRI’s End-of-Year Celebration at City Beach Function Centre in December 2016.

The ThermoFisher Scientific Prize was awarded to PhD Candidate Kelly Lambert, from The Wollongong Hospital’s Renal Unit and Research Central, for her presentation entitled Making sense of complex treatment info for kidney disease: an exploration of dietary information. Kelly’s supervisors are Associate Professor Judy Mullan and Dr Kylie Mansfield

PhD candidate Alexander Stamenkovic, received the Interpath Services Prize for his presentation entitled Muscular and segmental coordination during movement preparation: Understanding the role of the eye, head and trunk in reaching. Alexander’s supervisor is Associate Professor Paul Stapley.

Professor Barbara Meyer wins Nutrition Society of Australia Medal

Professor Barbara Meyer, Director of the Lipid Research Centre at the University of Wollongong’s School of Medicine, was awarded the 2016 annual Nutrition Society of Australia (NSA) Medal.

The prestigious NSA Medal is awarded to an Australian nutrition scientist with an outstanding track record in the field of animal or human nutrition who is currently highly active in his or her field of endeavour.

“This award has really recognised a lot of the work I have done with regard to Australian intakes of omega-3s and their relation to health,” she said. “My research on the Australian intakes of omega-3s has informed the National Health and Medical Research Council on suggested dietary targets for optimal health.”

One of Professor Meyer’s PhD students, Lauren Roach, also won the best student oral presentation award at the NSA Conference.

Psychology researchers recognised

IHMRI researchers Associate Professor Peter Kelly, and Professor Frank Deane, were part of a group of researchers from the University of Wollongong’s Illawarra Institute for Mental Health recently recognised for their contribution to community-based health services.

The team received the Excellence in Research and Evaluation: Therapeutic Community Research award from the Australasian Therapeutic Communities Association for their ongoing research partnership with the Salvation Army and their Recovery Services.

The group accepted the award with The Salvation Army. To date there have been 32 honours, masters or PhD students who have completed work on this ongoing project and they now have over 25 peer reviewed journal articles from this work.

The team also received the Excellence in Research and Evaluation Award at the NSW Non Government Alcohol and other Drugs Awards (NADA).