Year in Review: 2011 marks another year of IHMRI milestones

By Executive Director, Professor Don Iverson

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And what a year it has been. As IHMRI becomes an increasingly well-known "brand" more potential partners, donors and individual researchers are seeking out collaborations, particularly after visiting the new research facility. Indeed, it is not uncommon for visitors to express their delight at finding such state-of-the-art facilities in the Illawarra and offering whatever support they can to ensure that IHMRI continues on its trajectory of delivering research outcomes that benefit the local community as well as the wider scientific community.

Our relationships with partners and collaborators continued to be a source of ideas and inspiration throughout 2011. The University of Wollongong executive team and researchers have been extremely supportive of IHMRI's further development, as has the NSW Government and the leadership team of our other key partner, the Illawarra Shoalhaven Local Health District (ISLHD).

IHMRI's Chief Operating Officer, Sue Baker-Finch, is now on the ISLHD board and three ISLHD executives are on the IHMRI board, creating healthy debate on research priorities and a much stronger engagement by clinicians and GPs in research activities. It is expected that the Clinical Research and Trials Unit will also benefit from the implementation of Illawarra Shoalhaven Medicare Local when it becomes effective on 1 January 2012.

IHMRI's achievements of the past 12 months have been significant, and it is a direct reflection of the Institute's dedicated operations team that we have reached these milestones. Here are just a few of those achievements:

- over 100 scientists are now based at IHMRI, and a further 180 are using the facilities on a regular basis.
in 2011, IHMRI provided over $120,000 (in three separate programs) in research grants to support pilot projects and new collaborations

• the new Clinical Research and Trials Unit is performing strongly, with several clinical trial contracts brokered, a volunteer recruitment program attracting more than 90 volunteers and global studies well underway

• increased number and diversity of donors

• as of December 2011, Research Network Membership stands at 719, up from 525 at the end of 2010

• opinion pieces have been published in the Illawarra Mercury every month and there has been strong growth in website visitation

• several major pieces of equipment have been procured and installed, including a Zetasizer Auto Plate Sampler, Roche LightCycler and others

• a system of annual review of laboratory usage and allocation has been established and implemented

• proposals for the Illawarra Population Health flagship project reviewed, with the expectation that the research program will commence in early 2012.

Clearly there is a lot to celebrate and many other people to thank. I would like to take this opportunity to thank one of IHMRI’s strongest advocates, UOW Vice-Chancellor, Professor Gerard Sutton, who retires in December after almost 17 years in the role.

Simply stated, IHMRI would not have been developed without his initial interest and support. As NSW Governor, Professor Marie Bashir AC, CVO described him, he is one of the “jewels of the Illawarra”. Professor Sutton will maintain connections with IHMRI in 2012 and beyond.

Professor Sutton was a guest at the summer networking evening in November (see pictures on page 11), held at the Wollongong Town Hall. Also in attendance were a number of clinical trial volunteers – our Health Research Heroes – who are making an enormous contribution to the health of the Illawarra through their participation in clinical trials. These people are among our most valued partners.

To them, our collaborators, staff and extended IHMRI family, I offer my sincere wishes for a safe and relaxing festive season.

CRTU ramps up research

For the first time, IHMRI’s Clinical Research and Trials Unit (CRTU) will offer general support for the conduct of clinical trials in 2012. The support will be limited to space and provision of basic clinical procedures by nursing staff. However, there are plans to grow these services over time, pending demand.

Calls for applications for clinical support will be made three times per year and will run in conjunction with the IHMRI grant application process in order to reduce the administrative burdens on researchers.

Applications will be assessed and ranked by a panel alongside IHMRI grant applications and allocations. As per other IHMRI research support, priority will be given to collaborative projects which:

• are innovative/collaborative

• are new concepts/types of trials deemed to be of strategic importance to IHMRI, with little opportunity to be competitive in external funding rounds

• are projects that have strong potential to make tangible advances in medical science.

For more information, phone: +61 2 4221 4333 or email: E: ihmri-crtu@uow.edu.au
Following a research review workshop held in March 2011, the IHMRI Scientific Advisory Committee provided feedback to the Executive and Board of Directors on the Institute’s current research program. The Committee took the view that the core resource IHMRI must draw upon is its ability to link with its community. This is not readily feasible for institutes in metropolitan settings, where populations are less stable; it provides IHMRI with its point of difference and a capacity to do things other research institutes are unable to do.

The Committee identified that, while the range of research is impressive and the collaborative approach effective, the “story” it is trying to tell is too complex and it recommended consolidation of the research themes into broad, easily communicable areas of research.

Following extensive consultation, the four core research themes identified in the diagram on the left will now form the basis of IHMRI’s research program, with Population Health as its flagship program.

The new theme structure will be rolled out in early 2012 and Research Network members will be consulted if it is not immediately obvious where their area of research interest lies.

Watch for more updates on the revised research strategy in January.

IHMRI’s Centre of Translational Neuroscience (CTN) has also had a very successful 2011, attracting significant funding and researchers who have published several high-quality research papers. The centre has also been involved in training post graduate students.

With over 30 CTN researchers based at IHMRI and using its state-of-the-art facilities, in 2011 the group took steps to extend basic scientific research into more applied clinical research, expanding the research network to include specialists working in fields such as molecular biology, clinical medicine, medical imaging, chemistry, drug delivery and material science.

Working in collaboration with clinicians and dieticians, the researchers are studying altered genes, proteins and organs in a diseased state.

The centre received 13 internal and external grants in 2011. It currently holds five active NHMRC grants, a Diabetes Australia grant, and several research fellows have received their own funds.

The continued support of NHMRC, UOW, the Schizophrenia Research Institute, Australian Nuclear Science and Technology Organisation, Clover Company of Australia and IHMRI, have helped with several centre initiatives, including advancing techniques in the molecular pathology laboratory.

“Our vision is to find the means to prevent and treat schizophrenia, obesity and obesity-related diseases, such as diabetes and colon cancer,” says the centre’s scientific director, Professor Xu-Feng Huang.

“These new findings can then be translated into novel pharmacological and dietary interventions for human trials.

“We are very pleased at the progress we are making and look forward to a productive 2012.”
Thai’s hungry for information on dietetics

A delegation of dietetics professionals from Thailand’s leading university, Mahidol University, were welcomed to Wollongong Hospital on 12 December by the Acting Head of the Department of Nutrition, Alison Ferguson (third right) and Professor Linda Tapsell (second right), Director of the Nutrition Theme at IHMRI.

Here to learn about dietetic practice in Australian hospitals, the delegation was led by the president of the Thai Dietetic Association, Dr Sunard Taechangam (far right) and vice president, Dr Chanida Pachotikarn (far left). Both teach at the Institute of Nutrition at Mahidol University.

Professor Tapsell says that dietetics is a rapidly emerging field of study and practice in Thailand across all clinical areas. She was eager to meet the delegation to foster exchange and encourage participation in the 16th International Congress of Dietetics, to be held in Sydney from 5-8 September, 2012.

German anxiety expert delivers lecture

On 8 December, IHMRI and UOW researchers had the opportunity to hear from one of the world’s leading experts on behavioural neuroendocrinology. Rainer Landgraf, Professor of Neurobiology at the Max Planck Institute of Psychiatry in Germany, presented a seminar entitled: Genetic and epigenetic determinants of anxiety at the IHMRI headquarters.

Professor Landgraf is pictured here (right) with Professor Xu-Feng Huang and Research Fellow, Elisabeth Frank.

Learn more about his research here: http://www.mpipsykl.mpg.de/en/research/groups/landgraf/index.html

Technical officers demonstrate creativity

Who do I see about...? What happens when...? Where do I find...? How do I dispose of? Why isn't the ... working?

IHMRI’s technical officers field all sorts of curious questions, but perhaps the most puzzling is, “How do I use a mop?”

To illustrate the fact that technical officers wear many different hats and juggle many competing demands, IHMRI’s own technical officers recently created an interactive poster to display at Technet, an annual conference that brings technical staff from tertiary institutions across Australia, New Zealand and Fiji together to build networks, raise their profile, offer support and stimulate debate.

Four IHMRI technical staff - Linda Deitch, Clare Atkinson, Katie Hall and Tanya Levchenko - attended the three-day conference at Charles Sturt University and presented the poster, which consists of a series of portals into which information on “the many roles of a scientific research technical officer” are revealed.

The objective was to explain, in visual form, the range of skills required to keep laboratories running smoothly, including (but not limited to): providing information on OHS, delivering lab inductions and education, managing and cleaning labs, provide repair and maintenance services “on the fly”, performing administration ... the list goes on.

However, more needs to be done to educate lab users about how to use their own mops!
IHMRI on track with planning

The IHMRI operations team recently took time out of their busy schedules to participate in a strategic planning day. IHMRI Chief Operating Officer, Sue Baker-Finch, took the team, which includes several new faces, through the foundation of IHMRI, how it has consistently met its milestones, what 2012 is likely to hold for the team and the importance of KPIs.

Individual team leaders also gave presentations on the work going on within their areas, and what their plans for 2012 involve.

The planning day motivated the strong team and provided another opportunity to gain valuable insights into work practices and objectives of each division.

Social innovation in aged health

Reducing the negative impacts of Australia’s ageing population on the public health system is an area of great interest to politicians and researchers, with the University of Wollongong’s Social Innovation Network (SInet) recently hosting a seminar entitled, “Ageing Population Research @ UoW”.

Held at the Australian Health Services Research Institute, guest speakers included IHMRI Research Fellow, Dr Francesca Fernandez, who discussed her work investigating the mix of genes involved in Alzheimer’s disease, the development of a reliable genetic diagnostic method and the causes and risk factors of this devastating disease.

Attendees heard from a compelling list of guest speakers including Dr Judy Mullan, from the Graduate School of Medicine, who discussed the impact of poor health literacy on senior citizens and how increased literacy could decrease the likelihood of suffering from preventable health problems.

Dr Peter McLean from the School of Management and Marketing, presented a new project entitled, Transitioning people with intellectual disabilities into aged care, while Dr Lois Burgess, from the Marketing Research Innovation Centre, talked about the benefits of using information technologies to build online communities and reduce isolation for senior citizens.

Lyn Phillipson from the Centre of Health Initiatives (CHI), highlighted CHI initiatives such as Dementia Online Illawarra, promoting healthy lifestyles in the IRT and community blood pressure checking stations, among other things.

The presentations can be found on SInet website: http://research.uow.edu.au/sinet/UOW115973.html
Nutrition Research Day engages students in research

Q: What’s the best way to prepare nutrition and dietetics students for a future in research?
A: Get them used to presenting the findings of critical research.

Nutrition Research Day is an entry-level program for dieticians about to enter the workforce. It is designed to give them experience working in an evidence-based environment and to engender an ongoing commitment to research in practice.

Forty-six students presented the outcomes of research conducted in 2011 by the Illawarra and Shoalhaven Local Health District, St George, Prince of Wales and St Vincent’s hospitals, Albion Street Centre and the Healthy School Canteens network. A further group presented research by the Food and Health Strategic Research Initiative within the School of Health Sciences at the University of Wollongong.

Under the theme, Research and Evaluation in Nutrition and Dietetics Practice, students presented novel research on dietician perspectives of working in hospitals, while in Research in Nutrition and Dietetics, studies on the iodine status of pregnant women, dietary methodology and food security were outlined.

The research subject was coordinated by Professor Linda Tapsell, Director of the Nutrition Theme at IHMRI, and served to link the substantial research effort conducted by dietitians in the ISLHD; in particular with the student experience.

“It is an excellent example of how the university and the ISLHD work together in research with shared strategic goals of building research capacity,” says Professor Tapsell.

Ethics – no dilemma for Bridget and Kate

In May this year, IHMRI called for expressions of interest for two network members to attend a Human and Animal Research Ethics Course at the University of Sydney.

Kate Lewis and Bridget Dijkmans-Hadley were the successful candidates, spending three days learning about research ethics in a social context and exploring the philosophical foundations of research endeavours, including the reasons for engaging in research, research priorities and research integrity.

“The course has caused me to reflect upon the research projects that the Illawarra and Southern Practice Research Network [my area] supports and the ethical issues involved in public health research. It has also provided me with in-depth knowledge and understanding of the animal and human ethics committees’ responsibilities within university and community settings. It was also interesting to discuss current areas of controversy and unethical research that impacts on research today,” says Bridget. Bridget and Kate are happy to share their knowledge of ethics. Email: bdh@uow.edu.au

News just in

In mid December, IHMRI announced the results of its 2011 small grants program. Congratulations to the following researchers:

- Michael Lerch, Moeava Tehei, Konstantin Konstantinov, Stephanie Corde, Susanna Guatelli and Anatoly Rozenfeld. Title: “Application of bio-compatible nanoceramics containing high atomic number elements for the treatment of radio-resistant tumours”.
- Kelly Newell, Elisabeth Frank, Chao Deng and Jenny Wong. Title: “Investigation of metabotropic glutamate receptor 5 alterations in psychiatric disorders”.
- Vidia Ramachandran, Jason McArthur, Martina Sanderson-Smith and Ronald Sluyter. Title: “Development of an inducible animal model for acute post-streptococcal glomerulonephritis (APSGN)”.
- Zhixiang Wu, Elise Stewart, Yinghua Yu and Robert Kapsa. Title: “Designing a conducting polymer-based device to control Schizophrenia-related neuronal development”.

The next round of IHMRI project grants will open in March 2012 – please visit the website for updates.
The Clinical Research and Trials Unit (CRTU) at IHMRI participates in multicentre international clinical trials. The CRTU team is currently recruiting for a cold sores study, which is being conducted to assess the effectiveness of an abalone-based mouthwash in preventing or treating cold sores.

The team has also recently commenced recruitment for a gout study. This is a study of allopurinol in gout patients with hyperuricemia that will evaluate the safety and serum urate (sUA) lowering capability of allopurinol.

Further studies commencing in 2012 include safety and efficacy studies for asthma and osteoporosis treatments and, mid 2012, a study assessing the relief of sore throat with an oral spray.

Marion Penman
A resident of the Illawarra for over 40 years, Marion Penman worked at David Jones in Wollongong for over 20 years and retains an elegant fashion sense.

Originally from a village near Edinburgh in Scotland, Marion’s husband was offered a job in the booming Illawarra mining industry so, with their three young children, the family moved to Australia in 1970, “with just five suitcases holding all our possessions”.

Marion says that, while it was traumatic to move away from her parents and start a new life, her life motto is, “never look back”.

After raising her three children, Marion took an active role in the lives of her six grandchildren, and today keeps active by playing golf, going to the gym and participating in the University of the Third Age, where she heard about an investigational study for a shingles vaccine and the need for volunteers.

Her motivation to participate in the study was two-fold; firstly a close friend had suffered shingles - a painful skin rash which is caused by the same virus that causes chickenpox – so acutely that she had to be hospitalised.

Secondly, Marion herself spent five years in and out of a sanatorium as a teenager, suffering TB, highly prevalent in Scotland at the time.

“When I was 13 I was told that I had six weeks to live. It wasn’t until 1946, with the development of the antibiotic streptomycin – initially only given to returned soldiers – that I regained my health; having said that, the doctors warned that I may not be able to have children.

“So, to me the work of medical research is very personal – and with regard to the shingles study, I thought anything that can prevent the kind of suffering my friend experienced is really worth doing.”

Marion says that people considering volunteering need to consider how it may affect their day-to-day lives.

“I am no longer looking after children or grandchildren, so if I did happen to feel unwell, it wouldn’t affect them. It is a good time to get involved and give back to the community.”

The physical experience of visiting IHMRI’s Clinical Research and Trials Unit for the vaccine was, “very easy, with very nice facilities and very lovely people”.

The shingles study is investigating a vaccine that may help prevent shingles in older adults. The study is being conducted in 18 countries and aims to recruit some 31,000 people. IHMRI is the only site in the Illawarra hosting the study.

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Radiation therapy is a major oncology modality for cancer treatment and it is estimated that over 50 per cent of cancer patients could benefit from radiotherapy at some stage of their disease.

The increased use of radiotherapy is mirrored by a dramatic rise in the complexity of technology used. Developments include Intensity Modulated Radiation Therapy (IMRT), Stereotactic Radiosurgery (SRS), Image Guided Radiotherapy (IGRT) and, more recently, Volumetric Modulated Arc Therapy (VMAT). The Gamma-Knife and Tomotherapy can also be added to the list of complex radiation machines treating patients in Australia.

The advantage of these technologies is that they deliver a highly spatially conformed radiation dose to the tumour by directing radiation beams at it from multiple angles and by delivering several sub-beams or ‘beam segments’ through different shaped apertures at each treatment angle, allowing accurate 3D “dose painting” of the tumour target.

A consequence of this conformal dose distribution is that very steep dose gradients are generated. As radiotherapy becomes more precise, the margin for error is reduced and becomes more critical.

Another emerging trend in radiation oncology is motion adaptive radiotherapy, in which imaging systems determine the tumour position and the radiation beam is adapted to the dynamically-changing tumour position. This technique requires specific dosimetry solutions with high spatial resolution, in real time. Given the complexity of real-time radiotherapy, the reduced timescales to detect errors (sub-second), more complex quality assurance (QA) techniques are essential. Radiotherapy without appropriate QA can, and has been, fatal (as described in a series of recent New York Times articles).

The Centre for Medical Radiation Physics (CMRP), led by Professor Anatoly Rozenfeld, is an internationally-recognised leader in the development of QA for radiation therapy based on semiconductor radiation detection sensors instrumentation.

The CMRP has recently developed innovative QA tools for IMRT and SRS, including Magic Plate (MP) and Dose Magnifying Glass (DMG), both of which were investigated and tested in close collaboration with the CMRP’s clinical partner, Illawarra Cancer Care Centre (ICCC), where the medical physics department is led by Associate Professor, Martin Carolan (a former graduate of UOW).

Physicists at the ICCC have had a strong research and teaching partnership with their colleagues at UOW since the ICCC was opened in 1991. The MP and DMG are recognised by the international radiation oncology community as emerging QA technologies suitable for application in many contemporary radiation oncology modalities.

New motion adaptive radiation therapies have created new QA challenges; particularly around delivering accurate doses to movable tumours; for example, the motion of a lung when treating small lung tumours.

To address this problem, CMRP has proposed the development of a new dosimetry system that will mimic tumour motion and measure how accurately the dose can be delivered to a moving target. This will be the basis for QA of adaptive radiation therapy.

It is an innovative, elegant and inexpensive solution that opens new horizons in QA and enables precision targeting of cancer.

To bring this idea from the university laboratory bench to the clinical, Professor Rozenfeld has assembled an outstanding team of chief investigators from the CMRP, ICCC, St George Cancer Care Centre, Prince of Wales Hospital, Liverpool Hospital, Ingham Institute for Cancer Research, Peter MacCallum Cancer Centre, University of Sydney, University of NSW and the Wisconsin University Hospital, where a former CMRP PhD graduate is currently working.

“It was necessary to put together a multidisciplinary team because, in reality, the proposed QA tool is very complicated and demands sophisticated radiation detectors, fast readout electronics and software development,” explains Professor Rozenfeld.

The team were successful in receiving almost $530,000 in National Health and Medical Research Council funding to pursue the project in 2012.

The ICCC will continue to provide clinical advice and testing of the new QA tools, as well as co-mentoring research students.

The CMRP and ICCC are recognised centres of excellence in medical radiation physics and key collaborators in IHMRI’s cancer research theme.
In good company

Four IHMRI researchers were among 12 early and mid-career University of Wollongong researchers to be awarded Future Fellowships and Discovery Early Career Researcher Awards recently.

Dr Heath Ecroyd was awarded a science fellowship worth $654,528 (over four years) to continue research into, “Small heat shock proteins: front-line defenders and therapeutic targets”.

Dr Nadia Solowij, whose internationally-recognised research is in understanding the short and long-term effects of cannabis on the brain and its role in triggering psychosis in vulnerable individuals, won a psychology fellowship valued at $818,576.

Dr Todd Mitchell was also successful in securing a fellowship to investigate what happens to the membrane lipids in our lens as we age and how this contributes to the development of cataract and presbyopia (the inability to focus on near objects when we reach middle age).

Dr Mitchell thanked his team of hard-working students and post-docs for helping him prepare the submission and cited “luck, long hours and the excellent guidance of colleagues and mentors” in helping him secure the fellowship (his team has been awarded 6 ARC grants this year).

He is now hoping to publish “a couple more of the half-written manuscripts piling up on my desk” and is grateful for the support of IHMRI and excited about the opportunities IHMRI provides “for cross-disciplinary collaboration”.

Dr Justin Yerbury won an inaugural Discovery Early Career Researcher Award (DECRA) in science to investigate: “Are proteostasis defects responsible for amyotrophic lateral sclerosis?”

“This was the first round of DECRA fellowships and it was very competitive,” says Dr Yerbury whose long-term goal is to understand motor neurone disease “so that we can find a candidate drug target”.

The combined value of the Future Fellowships and DECRA awards to UOW was over $6 million – with the Federal Government’s investing more than $248 million in Australian universities under the Australian Research Council (ARC) schemes.

NHMRC grants for IHMRI researchers

Congratulations also to the UOW-led research teams who were successful in applying for National Health and Medical Research Council funding for projects commencing in 2012. The Minister for Mental Health and Ageing, the Hon Mark Butler MP, announced a total of $2.05 million in funding for UOW researchers in total.

The IHMRI-based team of Professor Xu-Feng Huang, Dr Chao Deng and Dr Francesca Fernandez received almost $600,000 over three years for their project: “Schizophrenia: Reversal of atypical antipsychotic drug-induced obesity and its related metabolic disorders”.

Professor Xu-Feng said that the funding would enable the team “to develop better antipsychotic treatment with reduced metabolic disorders for mental health patients”. (Also see story page 2).

Other successful IHMRI collaborations include Professor Anatoly Rozenfeld (UOW) and Dr Martin Carolan (Illawarra Cancer Care Centre, ISLHD) – see full story page 8.

Professor Nicholas Dixon also received significant funding to investigate, “Targeting nucleic acid synthesis and cell division in Gram-negative bacterial pathogens”.

Stay tuned for news about these project as they progress.

Scholarships for dementia students

Thanks to a generous donation, four university students have been granted 2011/2012 IHMRI Summer Scholarships for dementia research. They are:

- Daniel Whiten (Bachelor of Biotechnology (Advanced) Hons). Title: “Elucidating the roles of neuroserpin in Alzheimer’s disease”.
- Katherine Caldwell (MSc. Research, Population Health and Nutrition). Title: “Determining dose response variations in absorption of flavonoids from cherry juice using a novel gas chromatography-mass spectrometry technique, in young, healthy adults and older adults with and without mild to moderate dementia”.
- Hannah Elizabeth Taylor (Bachelor of Psychology). Title: “Understanding the physical environment: the development of an audit tool-based educational package to inform an understanding of the use of the physical environment in the care of people with dementia”.
- Jeremy Granger (MBBS - year 3).
Meet a Network Member

David St. Quintin and his partner, Kristy Wandmaker

David St. Quintin
Psychologist with Illawarra Drug and Alcohol Services, Illawarra Shoalhaven Local Health District

Describe your work
We are a community-based counselling and outreach service based in Wollongong. We work with young people aged 12 to 24 years of age, their families and significant others.

How did you end up in health?
I trained as a psychologist through the University of Wollongong’s Clinical Psychology Program [David is currently on the list of field supervisors for the program]. I worked with the community mental health team and switched to the drug and alcohol service five years ago. I have a strong commitment to public health and believe that high-quality, universally accessible, community-based health services are essential to the long-term health of any community. Thankfully, I am still idealistic enough to believe that quality public health services are possible.

What does your day-to-day work involve?
Most of my work consists of face-to-face, one-to-one assessment, counselling and case management with young people and their families. We are a small service however, so we often find ourselves multi-tasking and it is not unusual to find me delivering education on drug and alcohol issues to health and welfare professionals, schools or community groups. We also have a role in consulting with other health professionals around these issues.

In your opinion, what kind of research is needed in your field?
Further research is needed on the psychological (non-medical) aspects of drug and alcohol treatment. Specific questions of interest to me concern what methods of engaging people in counselling and retaining them in treatment work, and for whom?

Related to this is the need for research into the true total costs of alcohol and other drug use to the community (ie, related health costs, costs of drug-related crime and violence and costs of incarceration) and the ways that alcohol and other drug treatment services can reduce these costs.

Are you currently involved in research?
I have only recently finished my PhD in clinical psychology, so I am taking a break from direct involvement in research (for the sake of my own sanity).

What motivated you to join the IHMRI Research Network?
I am interested in finding out how our service can partner with IHMRI to benefit our clients and the community. I also think that being a member of the IHMRI Research Network is a good way for me to keep up-to-date with current research findings and information that can help me in my work.

Is IHMRI recognised within your own networks?
I notice that awareness of IHMRI and its role within the community is growing. I know that I am keen to talk and share information I get through my association with IHMRI with my colleagues and networks.

Equipment in focus - Tissue processing and paraffin embedding station

Health and medical researchers across campus will soon be taking advantage of a new facility for preparing and processing paraffin embedded tissue samples for the microscopic analysis of diseased cells and tissues.

With the support of 10 group leaders within the School of Biological Sciences, School of Health Sciences and the Intelligent Polymer Research Institute, NHMRC CDA fellow and lecturer in the School of Biological Sciences, Dr Martina Sanderson-Smith, recently secured funding for tissue processing and paraffin embedding station to be integrated into IHMRI’s laboratories on level 3. Commonly found in hospitals, pathology units and medical research laboratories, sampling stations enable medical researchers to embed tissues in paraffin wax, a technique that helps to preserve the cell structure following sectioning and enables long-term sample storage, among other things. The technique has applications in a multitude of research areas, including microbiology, cell biology, immunology, clinical and diagnostic research.

Until now, UOW researchers have outsourced their wax sampling needs at great expense.

In this way we can start to properly value the role of alcohol and other drug treatment services. Additionally, given the growing literature on neuroplasticity, there is a definite place for further research into the effects of alcohol and other drugs on brain development in adulthood and especially in childhood and adolescents.

“Having the facilities for the preparation and study of paraffin embedded tissues in IHMRI expands our capacity for histopathology in-house and will reduce financial and time burdens on researchers,” says Dr Sanderson-Smith.

The new Leica ASP300S Automated Vacuum Tissue Processor is a fully enclosed, automated system with chemicals stored in individual tanks to reduce safety risks. The ASP300S is supported by a Leica modular EG1150C/H embedding station.

The equipment will be used to develop anti-cancer drugs and to study motor neurone disease, streptococcal infection, immune response and cataracts, among other things.
Event celebrates good will of trial participants and donors

IHMRI took the opportunity at its final networking event for the year to thank volunteers and donors for their generous support by hosting a special event at the recently refurbished Wollongong Town Hall. The evening also provided an opportunity to hear from retiring UOW Vice-Chancellor.

Professor Gerard Sutton and IHMRI Executive Director, Professor Don Iverson, who talked about IHMRI’s journey so far. Keith Wilson, from Illawarra Cancer Carers, also delivered a moving account of how important medical research is in providing a source of hope to cancer sufferers.

IHMRI has announced its 2012 event schedule (see below), with first Network Seminar to be held on Tuesday, 21 February.

Entitled, The maternal brain: how nature prepares motherhood, it will be presented by Professor Inga Neumann, Chair of Neurobiology and Animal Physiology at the University of Regensburg, Germany. To RSVP, go to http://ihmri.uow.edu.au/events/index.html.

Keep the following dates free

Seminars
- Wednesday 7 March 2012
- Wednesday 13 June 2012
- Wednesday 19 September 2012
- Wednesday 5 December 2012

Networking events
- Tuesday 21 February 2012
- Tuesday 1 May 2012
- Tuesday 21 August 2012
- Tuesday 23 October 2012
Focus on: Research in Practice

Project Air has wings

Hundreds of regional hospital staff in the Illawarra, Shoalhaven and Sutherland have a much better understanding of personality disorders – and how to treat them – thanks to the Project Air Strategy, an innovative treatment program based at IHMRI that recently celebrated its first anniversary.

Led by Professor Brin Grenyer, research staff and a committee made up of eminent psychiatrists and advisors, the Project Air Strategy began late 2010 with funding from NSW Health in partnership with South Eastern and Illawarra Shoalhaven Local Health Districts, Justice Health, and Orygen Youth Health, Australia’s largest youth-focused mental health organisation.

“The over-arching aim of the Project Air Strategy is to improve the capacity of mainstream mental health services to manage and treat personality disorders,” explains Professor Grenyer.

People with personality disorders tend to present to emergency departments. Their condition is characterised by challenging interpersonal coping, chaotic personal circumstances, ambivalence toward engagement and a poor response to many traditional mental health interventions. Personality disorders affect between five and 13 per cent of the adult population and an estimated 40 to 50 per cent of psychiatric patients.

While hospitals within the NSW health network have a good understanding of the condition, the research team found that each service had a different philosophy on how to treat patients and there was a tendency for inpatient management and medications, as opposed to practical solutions, such as psychological therapy. It was clear that a coordinated approach was needed – which ultimately led to the creation of the Project Air Strategy.

The project’s objectives include improved access to services and better engagement in a broader range of treatment, better clinical management, better coordination between service providers and skills development.

Part of the strategy has been to increase the availability of brief interventions and rapid follow up for clients in crisis by using a specific psychological-based treatment within Gold Card Clinics. More than 50 adults and young people have already received services in the Illawarra and Shoalhaven since the clinics were established, with another clinic opening in Sutherland on 28 November.

Project Air has chalked up some significant milestones in its first year, including new clinical guidelines, training for almost 400 local health staff and a new website/social media platform for patients and families, which has attracted almost 1,000 visits. Carer support has also been initiated.

A key part of the success of the strategy has been to build upon the pre-existing programs being offered within the services and the strong partnership between the university and mental health services; a key feature of IHMRI research.

Community outreach is one of the core objectives of the project. A Borderline Personality Disorder Awareness Day was hosted at both UOW and Canberra in October 2011, and was strongly supported by students and staff. The Association of Relatives and Friends of the Mentally Ill, Headspace and the Students Health Alliance for Rural Populations also supported the day.

Project Air scientific and research goals have been advanced through presenting an invited symposium at the 12th International Society for the Study of Personality Disorders Congress, and by hosting the 5th Annual Personality Disorders Conference in November under the theme: Engaging carers and services.

Having achieved so much over the past 12 months, Project Air is now moving into another phase involving expert consultation teams being made available to hospitals to provide timely advice and support on complex clinical issues associated with personality disorders.

For more information visit http://www.projectairstrategy.org

If you have a colleague who may be interested in joining the IHMRI Research Network, please forward this newsletter on and invite them to learn more about the benefits by visiting the website: www.ihmri.uow.edu.au.