



Alchemy

Faculty magazine issue 19, summer 2010

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East meets west



Peter Cook awarded University Fellowship

Peter Cook (BPharm 1969, MPharm 1977) has been presented with a Monash University Fellowship in recognition of his significant contribution to the community through professional distinction and outstanding service.

Peter is Managing Director of Biota Holdings Limited, one of Australia's leading biotech companies. Biota was responsible for development of the world's first neuraminidase inhibitor, zanamivir, mankind's first effective influenza antiviral.

Peter has had extensive experience in innovation and innovation commercialisation with technology-based companies and has a strong manufacturing background. He has worked extensively within Australia and has more than 10 years of international commercial experience in Europe, the USA and Asia.

Holding a Master of Pharmacy and postgraduate qualifications in management, Peter is a Chartered Chemist, a member of the Pharmaceutical Society of Australia and a member of the Australian Institute of Company Directors.

His current business interests include supply of composite aircraft components for the Joint Strike Fighter program by Quickstep Holdings, where he was foundation chairman and is currently a non-executive director.

Peter's past appointments include Managing Director of Orbital Corporation Limited, a powertrain engineering company with unique technologies in direct injection of internal combustion engines, Chief Executive Officer of Faulding Pharmaceuticals, President of Ansell's Protective Products Division, Deputy Managing Director of Invetech, and Director of Research and Development for Nicholas Kiwi. Earlier in his career he also held positions with the Ford Motor Company and Drug Houses of Australia.



Professor Val Stella inducted into Lawrence Business Hall of Fame



Prominent alumnus Professor Val Stella (BPharm 1968, HonLLD 1997) has been inducted into the Lawrence Business Hall of Fame in Kansas, USA. A renowned researcher and educator, Professor Stella is a University Distinguished Professor of Pharmaceutical Chemistry at the University of Kansas.

Through its Hall of Fame, Lawrence honours prominent business leaders who demonstrate business excellence, are courageous thinkers, have vision, are innovative and inspiring, and are community minded.

"This is an important recognition," said Professor Stella. "It shows that the university is not just an academic institution, but a part of the business of Lawrence."

Professor Stella's research focuses on the application of chemistry to the study of factors affecting drug delivery. He invented or co-invented drugs for the treatment of epilepsy, AIDS and anaesthesia. He also invented a new agent, Captisol, which is used to dissolve drugs for injection and is in five commercial products.

He has 37 patents, and many publications and awards to his name. During his tenure as director of the University of Kansas Centre for Drug Delivery Research (1989 to 1999), Professor Stella initiated three spin-off companies.

From the dean

Our world-class graduates and internationally respected researchers make a real difference to global healthcare and quality of life.

In this edition of *Alchemy* you can read about some of the many ways the faculty's perspective on pharmacy and pharmaceutical science is making a significant contribution, here in Australia and around the world.

To advance healthcare, universities have a responsibility to provide a well rounded education that provides students an understanding of current best practice and emerging practice opportunities, and prepares them for lifelong learning. This education experience must be informed by the latest research in science and professional practice.

We believe education is much more than a 'transaction' based on fees charged for a degree. At Monash, we offer challenging, engaging and innovative courses that provide graduates with the knowledge and skills they need to become leaders of the profession. In 2011, our new Bachelor of Pharmacy curriculum will be delivered across all four years of the degree.

I encourage you to read more on page 7 about how our graduates are well prepared for the national and global workforce of the future.

In the postgraduate sector, the National Alliance for Pharmacy Education recently announced the accreditation of its Pharmacy Intern Training Program, to be delivered by three leading pharmacy schools – University of South Australia, the University of Sydney and Monash University. This program uniquely combines the best aspects of an academic award with a contemporary practice focus and delivery by experienced practitioners.

At the recent International Pharmaceutical Federation (FIP) World Congress in Lisbon, we presented aspects of our state-of-the-art advances in education technology and curriculum design to educators and industry leaders from around the world. The FIP Congress presented us with an opportunity to discuss and explore new collaborative opportunities with global partners.

The meeting was a terrific forum for us to further refine the pedagogy-driven learning experiences we have been developing within the faculty.



Professor Bill Charman
(BPharm 1981)

The legacy of giving

Introducing alumni, students and staff to philanthropy and the joy of giving is an important but often challenging task.

Since the last edition of *Alchemy*, the Victorian College of Pharmacy Foundation has hosted its annual Student Leaders evening and an occasion celebrating the Cyril Tonkin Scholarship. Both events brought together outstanding men and women who have benefited from the generosity of others, highlighting the impact of philanthropy and the lasting power of giving back.

For people who donate so that students can share their knowledge in developing countries, or who support the candidature of a research student advancing the profession's knowledge, the legacy they offer is both meaningful and enduring.

Examples of the direct benefits of philanthropy can be found in this edition of *Alchemy*, where Cyril Tonkin Scholarship recipients Professor Arthur Christopoulos (BPharm 1990, PhD 1999) and John Jackson (BPharm 1974, GradDipHospPharm 1981), as well as Mathew Peck Travelling Scholarship recipient Michael Nunan (BPharm 2006, GradCertPharmPrac 2008), describe the impact these opportunities have made on their lives and careers (see pages 16 and 21 respectively).

All gifts are valuable. If you would like to find out more about gifting time and good will, donations, pledges or bequests contact Anne Gribbin, Director of the Victorian College of Pharmacy Foundation, tel: +61 3 9903 9507.



Designing and building an artificial stomach

Dr Ben Boyd and his colleagues at the Monash Institute of Pharmaceutical Sciences (MIPS) are using an 'artificial stomach' (or in vitro digestion model) and other methods to examine what happens when lipid-based drug products undergo digestion in the human gut.



"When lipids and fats are digested, they form particles and other structures with nanometre-scale dimensions," said Dr Boyd. "Our aim is to learn which structures provide the right environment for maximum drug absorption and find ways to manipulate these structures by 'tuning' the lipids."

The pharmaceutical industry is taking a keen interest in this area because an estimated 25 to 40 per cent of drug candidates can fail to lead to successful drug products due to solubility limitations.

Dr Boyd and his colleagues Dr Dallas Warren and Mette Anby recently set up their artificial stomach at the Australian Synchrotron, where they used the small angle x-ray scattering beamline to follow what happens when lipids are exposed to conditions similar to those found in the human stomach.

"Our initial synchrotron findings show that unstructured lipid systems definitely form nano-scale structures during digestion, including lamellar, inverse hexagonal and cubic phases," explained Dr Boyd. "The types, proportions and timing of the structures formed depend largely on the original lipid. We can also detect drug precipitation."

Dr Boyd says this new information about the link between nano-structure and how well drugs remain in a dissolved state will help researchers to reverse-engineer the best formulations for keeping drugs dissolved longer during digestion.

"We believe these promising findings will eventually lead to more rational drug design principles, less reliance on animal studies and more efficient development of products," he added.

"While we could have conducted these studies at a synchrotron overseas, why would we? The Australian Synchrotron is a state-of-the-art facility with a great team of beamline scientists helping us out, we can dash back to our lab in Parkville at a moment's notice to get materials for an 'off-the-cuff' experiment that might arise from a new result, we don't need to package up and risk damage to our own equipment (in both directions) and the opportunity to crash on your own pillow is highly attractive!"

The next stage for Dr Boyd and his colleagues will involve more extensive studies into the evolution of structure with different lipids, using different drug types to get to the heart of the problem. He also plans to extend the studies into an in vivo model to see how well the 'artificial stomach' results relate to the in vivo reality.

This article first appeared in the Australian Synchrotron's Lightspeed newsletter, visit www.synchrotron.org.au.



Drug absorptions in the stomach

Drugs work best when our digestive system can absorb them completely so they can pass into the bloodstream and reach the area of the body where they are of most use. However, the majority of drugs are only partly soluble in the watery environments inside our bodies. Drugs that have low solubility in water are often highly active, but are not well absorbed by the body when taken as a tablet or capsule.

The presence of lipids (usually from food) often helps drugs to dissolve, resulting in better

absorption. This is often one of the reasons for the instruction to take a medicine with food. Yet different meals have different levels of lipids (fat or oil), for example a salad will obviously have fewer lipids than a steak, which affects the amount of drug absorbed. In the case of life threatening conditions, this variability could have serious consequences if insufficient amounts of the drug are absorbed.

New drug products are increasingly using oil-based 'softgel' formulations that keep the active ingredient in a dissolved form. Soft gelatin

capsules also remove the problem of variability in absorption, as they can be used to control the amount of lipid available.

The best quantity and type of lipid to administer with the drug to obtain optimal absorption is not yet fully understood. Studies such as the 'artificial stomach' are important for optimising drug solubility and absorption via lipid based drug formulations.



Photo: Nancy Mills, Australian Synchrotron.

Outstanding faculty educators recognised

Monash recognises the achievements of its outstanding educators through the Faculty of Pharmacy and Pharmaceutical Sciences and Vice-Chancellor's Awards for Teaching Excellence.

Dr Ian Larson was recently recognised for his contribution to quality learning and teaching with the Vice-Chancellor's Award for Teaching Excellence. Faced with large classes and aware of the need to engage students in developing higher-order thinking and analysis skills, Dr Larson employs an actively student centred approach to teaching. He describes the approach as activity based learning, in which the teacher plays the role of facilitator rather than authority, and students have the opportunity to discover knowledge. Dr Larson was nominated for the Vice-Chancellor's Award by the faculty after receiving the faculty's 2010 teaching excellence award.

Dr Larson was recognised for two particular aspects of his active learning approach: substituting traditional lectures with feedback sessions and student centred learning activities, and the development of Pharmatopia, the Second Life island used for teaching through simulation. The effectiveness of these approaches was evident in measurably improved academic outcomes and attendance rates of students.

"Ian presented an outstanding application in terms of the range of approaches used and the strong underlying pedagogy for each approach," said Dr Paul White (PhD 1997), Alternate Associate Dean of Education and chair of the faculty's selection panel. "Clearly, Ian's teaching motivates students and enhances their learning."



Dr Ian Larson teaching with Pharmatopia.

The award includes two \$5000 prizes, one from the faculty and the other from the University, to be used to further his teaching interests.

Dr Sab Ventura received a \$1000 faculty prize as the recipient of the faculty's citation for outstanding contribution to student learning. The award acknowledges Dr Ventura's strategy for improving student attention and concentration in lectures through the integration of brief audio visual components.

"The 2003 movie *Something's Gotta Give*, starring Jack Nicholson, has little to do with pharmacology but contains a short scene that brilliantly illustrates the dangerous drug interaction that can occur between Viagra and the nitrovasodilators," explains Dr Ventura. "Similarly, the 2001 movie *Zoolander*, starring Ben Stiller, contains a short scene that demonstrates the urinary symptoms

typical of prostate disease, which is common in ageing men."

Addressing different learning style needs and limits on attention span, Dr Ventura's approach has resulted in noticeably increased student attendance. A survey showed that 95 per cent of students thought the carefully selected video clips helped maintain concentration during a lecture.

Dr Ventura has published his approach in a peer reviewed journal and at the Satellite Meeting on Pharmacological Teaching at the 15th World Congress of Pharmacology.

The faculty acknowledges the significant contributions made by Dr Larson and Dr Ventura to student learning and congratulates both of them on their awards.

NAPE

National Alliance for
Pharmacy Education

Pharmacy Intern Training Program approved

The Australian Pharmacy Council has accredited the National Alliance for Pharmacy Education's (NAPE) Pharmacy Intern Training Program (ITP).

Formed earlier this year by Monash University and the Universities of Queensland, South Australia and Sydney, NAPE supports the ongoing advancement of the pharmacy profession and the pharmacist as a key contributor to the healthcare team.

Within the NAPE Pharmacy ITP, experienced practitioners from a variety of settings will assist students to become competent pharmacists. The program is flexibly delivered and utilises online, face-to-face and self-directed modes of education. This allows interns to study wherever they are, and to balance study with their work and personal life.

The introduction of national registration for pharmacists was an important driver in the development of the ITP, as interns can now undertake their training anywhere in Australia and after registering can practise across the country.

A significant advantage of the NAPE Pharmacy ITP is the potential for it to lead to a Graduate Certificate of Pharmacy Practice, if students choose to complete an additional year of part-time study. With the workforce market becoming more competitive, a postgraduate qualification can help pharmacists to further their careers.

"We believe that ready access to cutting-edge postgraduate award courses, including intern training, is crucial for pharmacists as they contribute to healthcare delivery," says Professor Bill Charman, Chair of NAPE. "Our program uniquely combines the best aspects of an academic award with a contemporary practice focus and delivery by experienced practising pharmacists."

In 2011, the ITP will be delivered by University of South Australia, The University of Sydney and Monash University.

For more information on the NAPE Pharmacy ITP visit www.pharm.monash.edu.au/courses.

Pharmacy students need a quality education. Without it, the future of the profession is at risk.



As the number of pharmacy graduates increases the job market is becoming more competitive. This situation is exacerbated by the fact that more universities are now entering the pharmacy education market.

Deputy Dean of the faculty, Professor Peter Stewart, recently commented on these workforce challenges facing the pharmacy profession in a *Journal of Pharmacy Practice and Research* editorial.

According to Professor Stewart, people who are assessing the quality of a degree need to ask if the institution has the ability to provide future-proofed graduates – young people taught by world-class specialists who prepare them with the range of skills and attitudes they need to contribute to and advance the profession.

“I’m amazed that the accreditation standards for a pharmacy course set by the Australian Pharmacy Council require just three academic staff who, between them, have expertise in the pharmaceutical sciences and pharmacy practice,” he said.

“It’s difficult to imagine how a contemporary course could be run effectively on a core of three people. To provide students with the skills they need today, academic staff should have qualifications and experience in both education and research, and their performance should be judged on international best practice.”

Professor Stewart put forward an alternative response to current concerns about the job market for pharmacists tightening.

“I actually see it as a positive, as it means that employers will hire the cream of the crop,” he explained. “The best people will get the jobs and this means our Monash graduates have an excellent chance of securing employment.”

Professor Stewart added that academic capacity is critical to training the pharmacists of the future. Universities must be able to adequately resource educational activities and facilities, invest in quality staff and contribute to the development of the profession through research activities and postgraduate education.

“At Monash, we’ve spent significant funds developing world best practice innovative teaching tools such as Pharmville, Pharmatopia and virtual practice environments – all designed specifically for pharmacy and pharmaceutical sciences students,” he said.

“Recruitment of high quality academic and professional staff is also crucial to a university’s academic capacity. A robust and progressive degree program is the basis on which our profession is built, so it’s essential that industry and prospective students look for an undergraduate course that is globally respected, proven and forward thinking.”

Monash pharmacy graduates are very employable because they:

- graduate from the only fully-accredited Bachelor of Pharmacy course in Melbourne
- undertake comprehensive undergraduate and postgraduate courses that are regularly reviewed and updated in line with industry input, with each unit purpose-designed for the course (not ‘borrowed’ from other degree programs)
- are taught by academics with advanced knowledge in their respective fields who are able to impart insight and innovation into degree programs; in 2010, MIPS and the Centre for Medicine Use and Safety (CMUS) together attracted more than \$11 million in research funding
- participate in 12 weeks of professional experience placements in hospital, community and rural settings, with opportunities for international placement
- can choose to participate in overseas exchange programs, develop research capabilities and gain leadership training and experience as part of their degree
- can select a double degree with commerce.

If you know a student who is considering studying pharmacy, encourage them to visit www.pharm.monash.edu.au/futurestudents/.

East meets west



L-R: Christoph Radke (USA), Diana Sandulache, Helene Retrouvey (Canada), Malle Carrasco (USA), Ben Maddock (USA).

Third year Bachelor of Pharmacy and Bachelor of Commerce student Diana Sandulache recently travelled to China as part of an International Scholar Laureate Program delegation on medicine. Here she describes a life-changing experience that exposed her to a new culture and a very different medical system.

"The delegation was a whirlwind two-week adventure through China, from Beijing to Xi'an and finally Shanghai, with 86 like-minded students. Together we experienced the amazing sights of China and discovered similarities and differences between our healthcare systems.

Our trip started with a visit to Beijing's Peking University, where we met health sciences students. This presented an opportunity to understand how tertiary education operates in China. The cost of university studies there is much lower than it is in Australia. But it's also more competitive, as a lot of value is placed on academic achievement in Chinese society.

We also attended the Beijing Autism Clinic, where we were told about the difficulties children with autism face in China. The country has only

recently recognised autism as a valid medical diagnosis and families of patients offered financial assistance. Even so, this assistance is minimal and far from enough. The Autism Clinic does its best to help affected families and, even with its limited resources, it seems to do a better job than we do. Each child has an individual mentor and parents are involved in the program. The most amazing aspect of the clinic is that it receives no government funding and operates solely on donations and the goodwill of volunteers.

One of the main areas we were exposed to during the program was traditional Chinese medicine (TCM). This started with a talk from the director of the Guang An Men Traditional Chinese Medicine Hospital in Beijing. TCM is based on creating a balance between yin and yang, which can be explained as a balance between cold and

hot respectively. For example, too much yang causes a fever, while too much yin can cause the flu. At the hospital we were also exposed to reflexology, acupuncture and cupping, all part of TCM.

Pharmacy as a profession is not as important in China, as medical students do a lot of the TCM work. And pharmacologically speaking, TCM practitioners don't know much about the medicines. There's no documented mode of action, no pharmacokinetic information and no consumer medicine information leaflets. At the moment, there are two schools of thought in China about this lack of understanding of how TCM medicines work. At Guang An Men, the medical team is slowly trying to discover the mode of action of different traditional medicines. But most TCM practitioners, as well as the



Monash Golden Key

The Golden Key International Honour Society, one of the largest student organisations in the world, recognises and encourages scholastic achievement and excellence among university students from all disciplines. It also offers a host of international networking and study opportunities. The Monash University Chapter of Golden Key is one of 350 chapters operating throughout Australia, Canada, Malaysia, New Zealand, South Africa and the USA.

International Scholar Laureate Program

The International Scholar Laureate Program provides students with the opportunity to further their career development, strengthen their leadership skills and engage in a culturally enriching experience based on a specific career field.



general population, don't want to know about the mode of action. As one TCM student explained to me, "We don't need to know how it works. All we know is that it does. What else matters?"

As a group, the delegation was privileged to visit a traditional herb market in Xi'an and learn about the different ingredients used in TCM. It was quite an experience, navigating lanes of unlabelled powders and mixtures in hemp sacks. The market stocked everything from ground-up flowers and berries to dead preserved reptiles and shark teeth. Most of these are to be boiled in a large pot of water, together with other herbs, and the patient drinks the mixture. We also had our own TCM experience when we sampled some 'snake wine'.

Although TCM has been around for lifetimes, Western medicine now dominates the medical system in China. However, rural areas are still very reliant on TCM, as we saw when we visited a hospital in Xi'an. This was probably the most confronting of all our visits, as it really highlighted some of the services we take for granted here in Australia. Walking through the hospital we encountered countless rows of patients on IVs in tiny rooms, minor surgeries performed in

unhygienic conditions and no air-conditioning or heating. But the staff and villagers were the friendliest community we had the privilege of meeting. They performed traditional Chinese shows for us and invited us to a delicious home-cooked meal.

In terms of our sightseeing, we visited Beijing's Tian'anmen Square, Forbidden City and Summer Palace, while learning about the country's great dynasties. The most breathtaking sight of all was the Great Wall of China. We then took an overnight train journey to Xi'an, where we marvelled at the Terracotta Warriors. And finally we reached Shanghai, where we spent a day at the Shanghai World Expo.

The students in the delegation were mostly from the USA, but also from South Africa, Puerto Rico, Canada and, of course, Australia. It was very exciting to connect with people from different countries who had a genuine interest in health sciences and medicine, and we formed lifelong friendships.

The International Scholar Laureate Program experience was made available to me through the Monash Chapter of Golden Key and would

not have been possible without generous support from the Faculty of Pharmacy and Pharmaceutical Sciences and the Monash Vice-Chancellor's Office.

It was a wonderful opportunity to learn about how medicine works in other countries, and how it made me really appreciate our own health system while understanding that we can still learn from others. It also made me more certain that I've chosen the right profession!"

Near-miss dispensing incidents – why all the fuss?

CMUS researchers hope to reduce dispensing errors in community pharmacy by sharing lessons pharmacists have learned from near misses.



A research consortium from Monash University, The University of Sydney and University of South Australia recently undertook a pilot study identifying the type of dispensing mistakes that are picked up before they reach the patient – known as near misses.

The research, funded by Pharmaceutical Defence Limited, worked on the premise that it is best to prevent errors from occurring in the first place. The factors that lead to near misses are similar to those that can lead to harm, so a lot can be learned from them.

Identifying and reporting a near miss enables analysis of the factors that contribute to dispensing errors by identifying vulnerabilities in systems, equipment and processes. Results can contribute to systematic changes that support patient safety and reduce the risk of future errors. Identifying contributing factors can also provide feedback to other stakeholders whose actions may play a part in dispensing incidents, such as pharmaceutical companies and other healthcare professionals.

Australian community pharmacies dispense approximately 200 million prescriptions annually, yet no national system is available in Australia for them to report and share the lessons learned from near-miss dispensing incidents. As a result, the number and type of dispensing errors and near

misses is unknown. Importantly the opportunity for community pharmacists in other practices to learn from what has occurred, and implement changes to improve dispensing procedures and systems, is lost.

“For our research, 31 pharmacies across three states volunteered to share details of their near-miss incidents during a three month trial via an anonymous online reporting system,” says Dr Jill Beattie, project manager with CMUS. “We modified and implemented the iSOFT Patient Safety incident management system to record near-miss incidents.”

The researchers also developed and disseminated various tools and newsletters to assist pharmacists in implementing safer dispensing procedures.

During the evaluation of the new reporting and learning system, a total of 321 near-miss incidents were recorded by the 31 participating pharmacies. The results showed that the majority of incidents occurred during computer input (44.5 per cent), followed by product selection (18.4 per cent).

Where to from here?

The reporting and learning system provided a mechanism for identifying the stages of the dispensing process where near misses occurred and were detected, and the factors contributing to dispensing near-miss incidents. The findings indicate that the reporting and learning system had an influence on the risk management culture and practices of the participating pharmacies.

The study is the first of its kind in community pharmacy in Australia that addresses risk management and patient safety in the dispensing process. This innovative work has led to the development of processes for collecting and analysing near-miss dispensing incident reports from community pharmacies and the development and dissemination of tools and other resources to support safe dispensing practices. The researchers hope to be able to roll out the reporting and learning system to more pharmacies nationally to share the lessons learned from dispensing near-miss incidents.

The faculty team comprised Professor Roger Nation, Professor Michael Dooley (BPharm 1987, GradDipHospPharm 1993), Dr David Kong (BPharm 1990, MPharm 1994, PHD 1998), Dr Jill Beattie and Barbara Dixon (BPharm(Hons) 2003).

Lessons learned and shared

Dr Beattie explained that data from participating pharmacies identified several risk factors and ways to improve dispensing procedures.

Lessons learnt were shared and feedback from participants indicates that the program is encouraging change in the workplace and that the majority of participating pharmacies would continue to use the system if it was rolled out across Australia. For example, one pharmacist

commented "My staff are taking more initiative and allowing me time to dispense, telling patients that I'll call them back." Another indicated "I used to pride myself on being able to multi-task. But now I realise the danger of multi-tasking and the absolute importance of that final check."

What's in a name?

Factors external to the pharmacy, such as similarity between medicine names and packaging (so-called 'look-a-like sound-a-like' medicines), contributed to more than 14 per cent of near-miss incidents. One method of reducing this risk is the use of 'tall man' letters, which are uppercase letters within the medicine name that highlight differences from other similar names. Placing 'tall man' labels on medication on the dispensing shelf decreases the confusion between medicine products and helps reduce errors.



Scanning

The research identified incorrect product selection as a risk when dispensing, not only for 'look-a-like sound-a-like' medicines, and reinforced the need for effective use of bar code scanners. While scanning reduces risk, its successful adoption into the dispensing routine may require workflow changes. For example, a screen and scanner must be available at all times for scanning without interrupting another dispensing process, the workbench needs to be free of clutter and there must be enough room for the scanning to take place. Scanning is especially important at busy times, as it is easier to make mistakes when interrupted or multi-tasking. And scanning should occur when the label is stuck to the container to prevent the label being placed on the wrong product.



Multi-tasking: what's safe and what's not?

Staff in community pharmacies perform a varied range of tasks and, during busy periods, their attention is often diverted. Practical solutions that can help avoid distractions include using an answering service, managing patient expectations about the time required to dispense in busy periods, and providing chairs, drinking water and reading materials for patients who are waiting. Some high risk tasks such as methadone or paediatric dose calculations should always be completed without any competing distractions.



Where are they now?

**What are you doing now?
We'd love to hear your story.**

**If you would like to be included here,
email vcp.foundation@monash.edu with
your name and a short description of
what you've done since graduating.**

40s

Arthur Portbury (PhC 1947) was awarded four medals, including a gold medal, and a scholarship during his three year course at the Victorian College of Pharmacy, which was then located on Swanston Street. He commenced his first job in North Essendon in 1946 before buying a pharmacy at the corner of Bell Street and Sydney Road in Coburg the next year. In 1961, he became a charter member of the Lions Club of Coburg. Arthur sold the pharmacy in the late 1970s and went on to be the relief pharmacist in the northern suburbs of Melbourne and on the Mornington Peninsula until 1993. Arthur left the profession to look after his mother when she was widowed and, on reflection, said that his internship was the happiest time of his working life.

50s

Alan Hibberd (PhC 1953) worked in retail pharmacy after completing his studies in 1952. From 1959 to 1974 he was director of a medico-dental ethical manufacturer, also lecturing for the Dental Association and consulting in dental pharmacology and therapeutics. Moving to the UK in 1974, he completed a Postgraduate Diploma in Biopharmacy, following which he was appointed a Research Fellow and in 1979 received a PhD, all at the University of London. Alan then took up a joint appointment between Northwick Park Hospital and the School of Pharmacy, University of London to establish a master of science in clinical pharmacy. Later he was director of a pharmacology consultancy before setting up his own private referral practice in clinical ecology/toxicology. He conducted business in London for 24 years prior to returning to Australia in 2009, where he continues as a consultant in his field. He was made a fellow of the UK Royal Society of Medicine in 2003, is a member (scientific) of the British Society for Ecological Medicine and life-fellow of the Pharmaceutical Society of Australia.

60s

Elizabeth Ollquist (nee Page) (PhC 1967) married Ross Ollquist (PhC 1964) in 1966 and they took an extended break to relieve Queensland pharmacists. On their return they started the first pharmacy in Churchill, Gippsland, which was difficult because there was no full-time doctor in the small community. The Ollquists' pharmacy grew to employ about 20 people as the town expanded. Elizabeth served as a councillor of the City of Morwell for over five years, was a member of many community organisations and raised four children. In 2000, she was awarded a Centenary Medal for her contributions to Australian society. Elizabeth and Ross, who were members of the Pharmaceutical Society of Australia, sold their shop in 2002. Elizabeth is still registered and does the odd day in the pharmacy.

After graduating Helen Exarchos-Jacobs (nee Exarchos) (PhC 1969) undertook her traineeship with Martin and Pleasance in Northland Shopping Centre. In 1974 she moved to the Royal Children's Hospital (RCH). She studied for a Diploma in Hospital Administration and later became Senior Pharmacist in charge of outpatients at the RCH. During her time at the hospital, Helen also became a partner in a retail pharmacy at the RCH complex before retiring from pharmacy in 1993. She is a member of many organisations including the Soroptimist International Society, National Gallery Society, Australian Society of Decorative and Fine Arts, The Johnson Collection and the National Trust. She retains an interest in the ballet and opera. In conjunction with the University of Melbourne, Helen has set up the Stanley Jacobs Trust for Orthodontic Research in memory of her late husband.

70s

After completing his traineeship at Frankston Hospital, Roger Kilpatrick (BPharm 1977) worked for four years at the Latrobe Valley Regional Hospital in Moe. He commenced work at Wonthaggi Hospital in 1983. In 1986, Roger went into a community pharmacy at Wonthaggi and has been there ever since. The Wonthaggi Amcal is a franchise in partnership with fellow graduates Everett (BPharm 2002) and Louise O'Keeffe (nee Munnnink) (BPharm 2002) from Melbourne. Roger and his wife, who live in Wonthaggi, have three adult daughters. Roger is a member of many pharmacy peak bodies, including the Pharmacy Guild of Australia, and is also a member of the Australian Chemists' Golf Club.

80s

Mark Hutchings (BPharm 1981, MPharm 1987) began his career as a trainee at The Alfred, then tutored in pharmaceuticals, microbiology and computing at the Victorian College of Pharmacy while completing a Master of Pharmacy. He helped roll out the first computer system in Victorian pharmacies, with the Pharmacy Guild and Foundation Medical Systems, while completing his thesis. Mark moved to Sydney in 1988 to work for Bayer in Regulatory Affairs, later becoming Regulatory Affairs Manager for Roussel Uclaf, Scientific Affairs Director for Hoechst Marion Roussel and Health Economics/Regulatory Affairs Director for Aventis. In 2002, Mark was Regulatory and Business Development Manager for Douglas Pharmaceuticals (generics) before becoming New Product Development Manager for iNova, where he is responsible for building the company's pipeline in Australia, New Zealand, Asia and South Africa.

90s

Emily Roberts (BPharm 1999) moved to Bendigo in 2002 in response to a perceived shortage of pharmacists, and found her future husband there. She bought a pharmacy three years ago and finds being a solo owner challenging but satisfying. Emily has maintained friendships she made while studying at the faculty, and she values this professional support. As a pharmacy owner her challenges have been learning to manage staff, financial aspects, and continuing to ensure all patients are provided with quality service and advice. Emily has implemented Residential Medication Management Reviews and Home Medicines Reviews, services which she hopes will grow. She has also begun compounding medications – the only pharmacy in Bendigo that does.

00s

At Western General Hospital, **Rita Wardan** (BPharm(Hons) 2007, GradCertPharmPrac 2009) completed her internship before spending another year as a clinical pharmacist there. She was employed at St Vincent's Hospital for six months in correctional health, and completed a Graduate Certificate in Pharmacy Practice specialising in geriatrics. In August 2009, Rita began working at the Royal Women's Hospital, specialising in women's health. Currently she is getting Home Medicines Reviews accreditation and is considering undertaking a PhD in clinical pharmacy. Rita is a member of the Society of Hospital Pharmacists of Australia and presented a poster at the Society's conference in Melbourne in November.

Researching how natural remedies affect rat prostates was the focus for **Howard Heng** (BPharmSci 2009, BPharmSci(Hons) 2010) during his honours year. The research delivered good results in a search for a treatment of benign prostatic hyperplasia using natural medicines. He presented his research at the Annual Scientific Meeting of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists in Sydney in November last year. Howard now works for Baxter Laboratories as a formulation chemist in charge of stability programs and process validation, making sure that whatever is created in the lab converts well to manufacturing. He is considering doing a PhD in the future.

Jane Love (BPharmSci 2007, PharmSci(Hons) 2010) completed honours at the top of her class. She spent a year travelling overseas, before being employed as a research assistant in 2008 with BakerIDI Heart and Diabetes Research Institute. There she participated in heart research, performing cell isolations as well as cellular, biochemical and in vivo experiments to assess the actions of potential heart failure drugs. Her honours year project resulted in discovery of a protein, naturally created in response to exercise, that protects the mouse heart from developing diabetic cardiomyopathy (severe cardiac injury resulting from diabetes mellitus). In 2010, Jane went back into heart research with BakerIDI, where she performs in vivo, biochemical and cellular experimental techniques.

An end to the dreaded injection

Researchers from MIPS and Monash's Faculty of Engineering are investigating new ways to administer vaccines, which could spell the end of common vaccine jabs.

The collaboration is investigating the application of surface acoustic wave (SAW) technology to drug delivery via the airway. The SAW is a small battery powered device, which early concept manifestations show as handheld, with changeable cartridges for medication such as vaccines and insulin.

SAW offers greater control over the delivery of drugs via the airway, giving it the potential to be developed into delivery devices that can be tailored to individual patients and their medications.

MIPS researcher Dr Michelle McIntosh (BPharm 1995, BPharm(Hons)1996, PhD 2000) is one of the investigators working with a two year, \$480,000 grant that was awarded in April by the National Health and Medical Research Council (NHMRC) to develop the intellectual property over a system that nebulises liquid medicines in a hand-held device.

"A lot of people choose not to be vaccinated because they just don't want a needle, even if they aren't opposed to being vaccinated," said Dr McIntosh. "Every parent hates to take their child for vaccinations and see them cry."

Associate Professor Dr Leslie Yeo and Professor James Friend from Monash's Faculty of Engineering developed the SAW. They are working with Professor Els Meeusen in the Faculty of Medicine, Nursing and Health Sciences, and MIPS investigators Dr McIntosh and Dr David

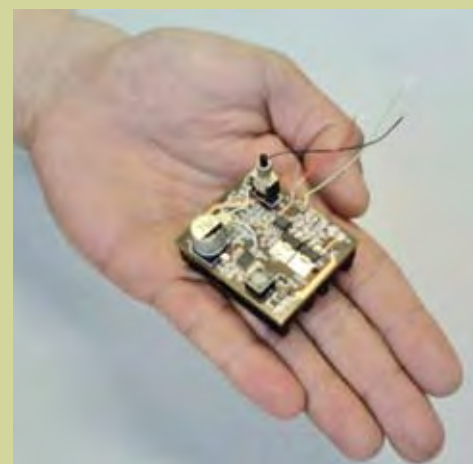
Morton, to develop the device to be used in delivering medicine to the lungs.

While needles are not popular, current nebuliser technology can be cumbersome and house-bound, and the size of the droplets they create for drug delivery cannot be controlled. That's where the SAW device has an advantage. It can be programmed to create a fine mist, with evenly sized droplets at the right size for penetration deep in the lungs.

It is hoped that the SAW can be developed to allow common medication such as insulin or vaccines to be inhaled, eliminating the need for injections. Antibiotics may also be delivered directly in to the lungs, which are the site of action in the case of respiratory infections.

Asthma medication delivered by pressurised metered dose inhalers could have its effectiveness increased, as up to 70 per cent of the dose is wasted when taken through the lungs using current technologies. But with their proposed system that figure would be switched around to just 30 per cent wasted. Also, the new portable nebuliser is less cumbersome and more easily used, especially by the elderly or by people with special needs.

"Rather than a puffer, which involves some sort of manual action and coordination, this technology controls itself," said Dr McIntosh. "You just switch it on, an aerosol is formed and the patient breathes it in."



Leading drug discovery group joins MIPS

Internationally recognised researcher Professor Ray Norton and his research group joined MIPS in July this year, bringing with them a high level of expertise and experience.

Professor Norton, in conjunction with Associate Professor Martin Scanlon, will lead the development of a new fragment-based drug design research initiative within the Medicinal Chemistry and Drug Action theme that will uniquely position MIPS to collaborate with leading drug discovery biologists and medicinal chemists.

Professor Ray Norton BSc(Hons) (1971), PhD (1974)

Professor Norton is internationally recognised for his research in the field of biomolecular NMR, protein structure and drug design. His current drug targets include pharmacologically active peptide and protein toxins, malaria proteins as vaccine candidates and drug targets, and regulators of cytokine and growth factor signalling. One of the peptide toxins he is working on is active in multiple sclerosis and others treat chronic pain. His research program is well aligned with the drug discovery focus and therapeutic areas now being explored within MIPS.

Professor Norton currently holds a Principal Research Fellowship funded by the NHMRC, one NHMRC project grant, one NHMRC program grant and two Australian Research Council (ARC) discovery grants. He was awarded the

Sir Rutherford Robertson Medal of the Australian Society for Biophysics in 2008, the Australian and New Zealand Society for Magnetic Resonance Medal in 2006, and the Amersham Pharmacia Biotech Medal of the Australian Society for Biochemistry and Molecular Biology in 1998. He joined MIPS following nearly 10 years at the Walter and Eliza Hall Institute, where he was Deputy Head of the Structural Biology Division. Prior to that he was Head of the NMR Laboratory, Assistant Director of the Biomolecular Research Institute and member of the School of Biochemistry at the University of New South Wales.

Professor Norton is a member of a range of advisory boards and conference organising committees. He has published over 210 papers in peer-reviewed journals, 15 book chapters and 22 invited reviews. His h-index is 41.

Hospital pharmacists make patient discharge safer

As a result of a recent CMUS research project, hospital pharmacists are now playing a key role in reducing risk for patients who transfer from hospital to residential care facilities.

Almost 9 per cent of hospital discharges involving patients aged over 65 are to residential care. An audit undertaken over a three month period by researcher Rohan Elliott (BPharm 1991, BPharm(Hons) 2000, GradDipClinPharm 1999, MClinPharm 2005) and his team revealed that one in five of these patients experienced a medication error following handover. In most cases these errors involved missed doses, usually because there was no medication chart available at the residential care facility.

Patients in these facilities take an average of nine medications and, when they return from hospital to their care facility, they normally need to start receiving medication within three to four hours. But this usually cannot happen until they have a medication chart written by their GP. With busy schedules, GPs find it difficult to visit facilities on demand. Usually the delay is around six hours but it can be as long as two to three days. CMUS research found that, for one in three patients, a locum medical practitioner attended the facility within 24 hours of hospital discharge to write a medication chart.

To address these long-standing issues, CMUS researchers and their partners worked on a new process.

"We wanted to develop and evaluate a new model that would improve continuity of care on discharge," said Rohan. "The main goal was to reduce the number of missed doses by providing facilities with an interim medication administration chart on discharge."

"A secondary objective was to lessen pressure on residential care staff by reducing the need for urgent medical attendance at facilities just to provide a medication chart."



To ensure that provision of the chart was sustainable and reliable, and that the chart was consistent with the medications supplied on discharge, it was prepared by hospital pharmacists based on the discharge prescription. This occurred once the prescription had been reviewed and reconciled with pre-admission and inpatient medications by the ward pharmacist.

The chart was developed with input from stakeholders including the Department of Health, the Aged Care Standards and Accreditation Agency and the Australian Nursing Federation to ensure it would meet all legal and professional requirements.

Following implementation of the chart, a three-month evaluation found that medication errors fell to just 2 per cent and locum GP attendances fell to 11 per cent. Feedback on the new system from facility staff and GPs was overwhelmingly positive, with GPs indicating that the chart should be standard practice across all hospitals.

Interim residential care medication administration charts are now standard practice at Austin Health and the Bundoora Extended Care Centre, and several other hospitals are planning to implement the system. The federal Department of Health and Ageing and the Commission for Safety and Quality in Health Care have expressed interest in a national rollout.

This project was a collaboration between CMUS, Austin Health, Northern Health and North East Valley Division of General Practice, with funding from the JO and JR Wicking Trust. The project team included Tim Tran (BPharm 2004, GradCertPharmPrac 2005, MClinPharm 2009) and Dr Simone Taylor (BPharm 1993) from Austin Health, Dr Penny Harvey, Marion Cincotta and Rhonda Jennings from Northern Health, Dr Mary Belfrage from North East Valley Division of General Practice, and Associate Professor Jennifer Marriott (BPharm 1971) and Rohan Elliott from the faculty.

Emergency contraceptive pill awareness

Faculty researchers from CMUS are working with Sexual Health and Family Planning Australia on a community awareness campaign to promote clarity on issues surrounding the emergency contraceptive pill (ECP).

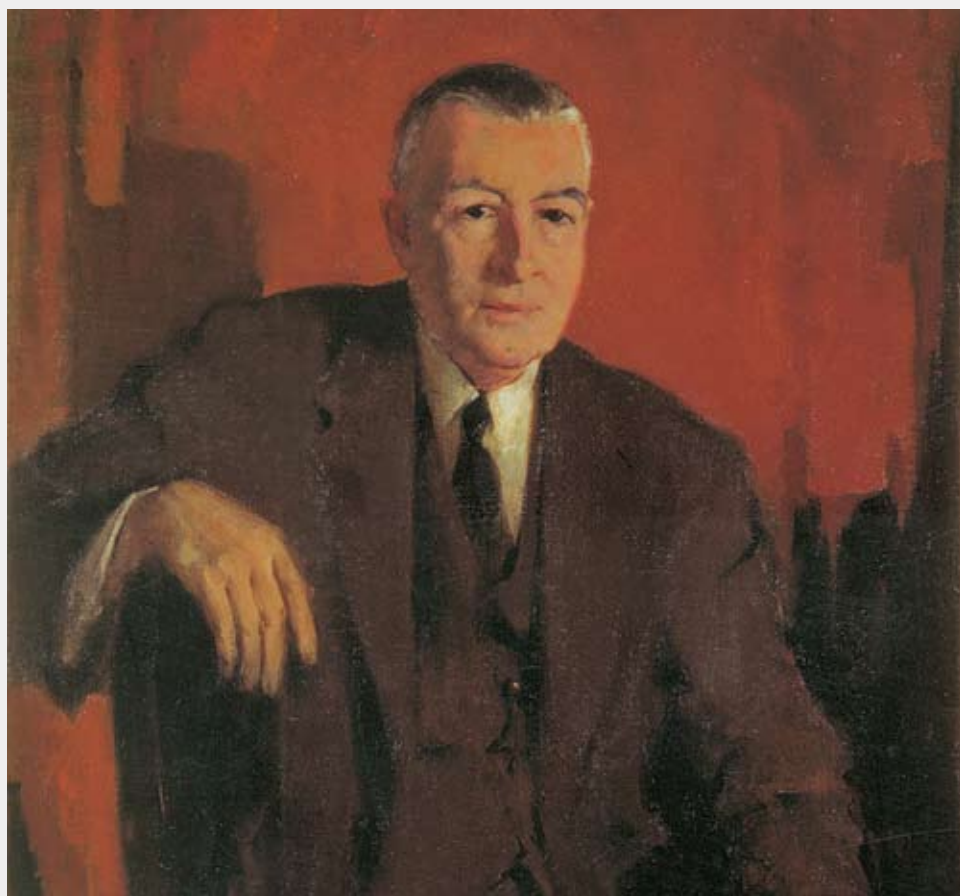
The campaign is the result of recent research into women's knowledge and attitudes about obtaining the ECP over the counter from pharmacies. This research was undertaken by CMUS researchers Dr Safeera Hussainy (BPharm(Hons) 2002, PhD 2006), Associate Professor Kay Stewart and Professor Colin Chapman (BPharm 1970), in conjunction with collaborators from La Trobe University and Deakin University.

The team aims to improve awareness of the over the counter availability of the ECP and address the concerns that Australian women have about its safety. Importantly, they are keen to stop the use of the title 'morning-after pill', as this propagates a key misunderstanding – the EPC can actually be used for up to 120 hours after unprotected intercourse.

The research also explored community pharmacists' knowledge, attitudes and practices around provision of the EPC and the Pharmaceutical Society of Australia is currently facilitating discussion on the protocols that pharmacists should use when the EPC is supplied.

Celebrating the Cyril Tonkin Scholarship

The Pharmaceutical Society of Victoria Ltd recently transferred trusteeship of the Cyril Tonkin Scholarship fund to the Victorian College of Pharmacy Foundation.



The Cyril Tonkin Scholarship was endowed in 1975 through the estate of Sarah Amy Lloyd in recognition of Dr Cyril Tonkin OBE's lifetime of selfless service to his fellows. The fund, which aims to promote leadership and innovation in the profession, has supported 41 PhD scholarships and four fellowships since its establishment. It remains one of the most significant bequests in support of the advancement of the pharmacy profession in Victoria.

The Pharmaceutical Society of Victoria was originally appointed trustee and administrator of the scholarship. Mark Feldschuh (BPharm 1971), Chairman of the Pharmaceutical Society of Victorian Ltd, explains the change.

"I believe that future beneficiaries will be advantaged by this new arrangement," said Mark. "Over the past 35 years, the scholarship has been proudly managed by the Society. We have had the privilege to meet and work with

many outstanding candidates. These talented individuals truly have made an impact on the professional and educational landscape of pharmacy."

Speaking on behalf of the faculty, Professor Bill Charman highlighted how the Tonkin scholars are leaders in their fields and individuals with vision, passion and a desire to give – to the profession, to education, to research, to the community and to the world, just like Cyril Tonkin.

"The scholarship and fellowship have allowed recipients to have a significant impact on the face and practice of pharmacy in Australia and overseas," said Professor Charman. "Among other things, it has enabled them to conduct ground-breaking research into drug discovery and delivery, transform pharmacy education and set the pace for improved standards in pharmacy practice."

Dr Cyril Tonkin excelled in his dual careers as a pharmacist and as a doctor. Graduating from the college in 1910, he earned both the Intermediate Gold Medal in 1908 and the Final Examination Gold Medal in 1910. His early education was made possible by several scholarships, testament to how crucial such support can be.

He first became apprenticed to fellow graduate David Cossar in 1906. In 1909, Dr Tonkin worked as an assistant demonstrator to medical students and as a demonstrator at the college from 1910 to 1912. He enrolled as a medical student at the University of Melbourne but his studies were interrupted by World War I, when he enlisted in the medical corps. Completing his medical studies in 1921, he was a lecturer in botany at the college from 1920 to 1945 and examiner in material medica for the Pharmacy Board of Victoria for 30 years until 1953.

Always a strong supporter of scholarship and research, Dr Tonkin was awarded a fellowship by examination of the Pharmaceutical Society of Victoria in 1932. He became an honorary life member of the Society in 1964. In 1959, he was made an Officer of the Order of the British Empire for his services to pharmacy, medicine and the community.

Miss Lloyd believed that the profession of pharmacy would benefit if young pharmacists with leadership potential could be given an opportunity early in their careers to advance their studies and/or to travel. In endowing the scholarship, Miss Lloyd expressed the wish that the selected scholars should be informed of the selfless service rendered by Dr Tonkin during his lifetime. Each recipient is asked to regard Dr Tonkin's service as an inspiration to aspire to the highest professional standards in their own service to humanity.

The Cyril Tonkin Scholarship is typically awarded every three years to a pharmacy graduate from Monash University undertaking a higher degree by research. The Cyril Tonkin Fellowship is offered on an occasional basis and is open to all Monash pharmacy graduates wishing to conduct research or acquire knowledge and expertise in emerging and/or prioritised areas of pharmacy practice.

For further information on the Cyril Tonkin Scholarship and Fellowship visit www.pharm.monash.edu.au/alumnifoundation/cyril-tonkin-fund.

Tonkin recipients make significant impact

Professor Arthur Christopoulos and John Jackson explain the impact the Tonkin Scholarship had on their careers and professions.

Professor Arthur Christopoulos (BPharm 1990, PhD 1999)

For Professor Arthur Christopoulos, receiving the Cyril Tonkin Scholarship represented a fork in the road and led to a research career responsible for a paradigm shift in current drug discovery approaches. The scholarship funded his living expenses, making full-time postgraduate study possible and allowing him to focus on his research.

"The rate of modern drug discovery is in freefall, and much of this has to do with inappropriate screening methods or failure to appreciate and capture novel paradigms of drug action," said Professor Christopoulos. "When coupled with the limited effectiveness of many current medications, which I noted regularly during my time as a pharmacist, I was inspired to address ways in which more selective and efficacious drug targeting could be achieved."

His research has led to Professor Christopoulos becoming one of the world's leading authorities on the study of small molecule, G protein-coupled receptors (GPCRs) 'allosteric modulators', as novel pharmacological probes and potential drug candidates.

GPCRs are the largest class of therapeutic drug targets in the human genome and are found on the surface of every cell in the human body. Professor Christopoulos and his team in the Drug

Discovery Biology theme at MIPS are investigating how GPCRs selectively transmit messages from the outside to the inside of the cell.

However, rather than looking at conventional small molecule drugs, whose actions involve either a simple turning on or turning off of transmitted chemical messages, Professor Christopoulos is investigating novel allosteric drugs that act at different sites on the GPCR to modulate chemical transmission in either a positive or negative direction. The net result of this type of drug action is a more natural 'fine-tuning' of physiological signalling rather than the blunt on/off switching effects of conventional drugs.

"The whole point of these types of drugs is that they're theoretically safer because they're more selective for their sites of action and have a more subtle mechanism of action than conventional activators or blockers," explained Professor Christopoulos.

"Because of their novel mode of action, as well as the fact that their chemical structures can be more divergent than current drug scaffolds, enormous gains can be achieved in terms of opening up chemical space for novel drug discovery. This really represents the tip of a potentially huge iceberg."



John Jackson (BPharm 1974, GradDipHospPharm1981)

John Jackson's Tonkin story begins with a very big question – namely, what is the future of the pharmacy profession? John was awarded a Cyril Tonkin Fellowship in 2009 to study the methodologies and outcomes of major reviews of pharmacy policy in Canada, the USA, the UK and New Zealand.

With the Australian health system changing significantly, the pharmacy profession facing internal issues and the absence of a coordinated, all-of-profession response to these matters, John's aim was to apply his learnings to developing a future vision for Australian pharmacy.

"We have to be proactive, understand the changes that are occurring and argue the case for further development of the role for pharmacists in the changing health system – and that's where the vision comes in," said John, explaining why he took on the challenge. "It's very hard for the profession to argue its case unless it has a vision of what it's trying to achieve."

John found that issues within the health systems and pharmacy profession overseas were similar to those in Australia. Visions developed by the other countries included common roles for pharmacists

in primary care, public health and medication management – roles of particular interest to Australian pharmacists. The Canadian Blueprint for Pharmacy, with a focus on optimal drug therapy outcomes through patient-centred care, was seen as the most applicable to the Australian setting. This model, which was professionally driven, engaged all sectors and stakeholders and used a proven change-management methodology. John's research has contributed to the Future of Pharmacy Project, which is sponsored by the Pharmaceutical Society of Australia and engages 11 major pharmacy organisations. The project team has utilised the knowledge gained from John's experience and will have a vision statement ready for internal and external consultation in 2011.

"By enabling me to undertake my research, the Cyril Tonkin Fellowship helped stimulate the development of a new vision for the future role and functions of pharmacists within the changing health system, at a greatly accelerated rate," said John.



Research grant success



The Monash Institute of Pharmaceutical Sciences (MIPS) attracted in excess of \$5 million in Commonwealth competitive grants, its best ever result. This funding will support research activities within the institute over the next three years and generate significant new research findings and collaborative opportunities.

In November, the Minister for Mental Health and Ageing the Hon. Mark Butler, announced \$447.5 million for medical research, though the National Health and Medical Research Council (NHMRC) project grant scheme, of which MIPS attracted in excess of \$3 million. This followed \$2.3 million awarded to MIPS in October through the prestigious Australian Research Council's (ARC) Discovery and Linkage Grant funding schemes.

Both ARC and NHMRC grants are awarded via competitive peer review by Australian and international experts.

"NHMRC and ARC grant success is a clear indication of the quality of research being undertaken within MIPS," said Professor Bill Charman, Director of MIPS. "This is a fantastic result and the best ever for MIPS."

These outstanding NHMRC and ARC results mean that MIPS has been successful in gaining 14 new Commonwealth competitive grants, with MIPS investigators being involved in a further three externally.

"MIPS is home to some of the finest pharmaceutical scientists in Australia, and is the largest and best equipped research group of its kind. What gives me great confidence in the future is that some of these are 'first time' project grant holders who are early career researchers," said Professor Charman.

The success experienced by MIPS has contributed to Monash University's outstanding Commonwealth competitive grant success. Nationally, Monash is positioned as a leading research institution. In NHMRC terms it ranked as the third most successful research institution in 2010 and in ARC grant funding it has had its best ever year, ranking second nationally.

"Health and medical research is a key to the improved quality of life and life expectancy experienced by most Australians," said the Minister when announcing the NHMRC grants. "It is also essential in attracting and retaining some of the brightest research minds to Australia."

MIPS grant recipients will conduct studies into the development of drugs for:

- lymph resident diseases such as leukaemia, lymphoma, HIV, transplant rejection and autoimmune diseases
- Chagas disease
- heart failure
- solid tumours, which make up 85 per cent of human cancers
- antibiotic resistance, specifically gram-negative bacteria
- cognitive disorders
- type 2 diabetes and obesity
- schizophrenia.

For more information on the grants and their recipients visit www.pharm.monash.edu.au/research.

Monash– Nottingham research alliance grants

Two projects have been funded under the faculty's collaboration agreement with the University of Nottingham, UK. This jointly-funded scheme supports pharmacy practice and pharmaceutical sciences research projects.

The most recent grants are:

Application of the active site pressurisation modelling technique to drug design

Dr David Manallack (BPharm 1982, MPharm 1985) and Dr Philip Thompson (MIPS), and Associate Professor Charlie Laughton and Professor Stephen Doughty (Nottingham)

The grant will enable Associate Professor Laughton to visit MIPS to apply his Active Site Pressurisation techniques, and faculty PhD candidate Brittany Howard (BMedChem 2009, BMedChem(Hons) 2009) to travel to the UK on a related research placement.

Women pharmacy consumers' experience with weight loss treatment

Dr Safeera Hussainy (BPharm(Hons) 2002, PhD 2006) and Associate Professor Jennifer Marriott (BPharm 1971) (CMUS), and Dr Helen Boardman and Professor Claire Anderson (Nottingham)

PhD candidate Souhiela Fakhri (BPharm 2009) will travel to the UK on a research placement to survey women's experiences with weight loss treatments. Results will be compared to those from Melbourne and will inform the development of weight management guidelines that could be used by pharmacists to provide evidence-based advice.



Community pharmacy and mental health



Nga Tran has been working for over 13 years to improve psychiatric medication use in the community. As part of her commitment to education in mental health and pharmacy, she has been involved in developing a mental health elective for the faculty's postgraduate courses.

Negative attitudes and misconceptions about mental health problems can lead to stigma for patients and issues for healthcare professionals. So when Nga took on a part-time role as a pharmacist at St Vincent's Mental Health (SVMH) in 1997, colleagues commented that she must be desperate for a job!

Now Senior Mental Health Pharmacist at SVMH, Nga found as a student that mental health pharmacy lectures could be difficult and complex but exposure to the workplace made all the difference.

"Working at SVMH with such a supportive multidisciplinary team and considerate leadership has been very rewarding," she said. "And it's clear to see the difference it makes in a patient's life to engage with mental health professionals when discussion around their medication is taking place."

Mental illness is common and up to 45.5 per cent of Australians will experience mental illness at some time. According to the World Health Organization, depression will be one of the biggest health problems worldwide by 2020. The impact on those affected, their families and carers, and the Australian community can be profound. Yet most mental illnesses can be effectively treated, especially if diagnosis is made early.

"Models of patient care have moved increasingly towards treatment in the community," explained Nga. "So community pharmacists have to know much more about psychiatric medicines and consumer needs."

Nga's role at SVMH has provided her with opportunities to address stigma and increase awareness, including involvement with SVMH medication information forums for consumers and carers. Delivered by Nga and her colleague Professor David Castle, Chair of Psychiatry SVMH, these forums are designed to improve the supply of psychiatric medication information given to consumers and carers and enable consumers to participate in the decision making around their own mental health management. The forums started in 2003 as a monthly service but are now held weekly and include extended engagement with consumers once they return to the community.

Nga also co-authored the award-winning *Psychiatric Medication Information: A guide for patient and carer*, a user-friendly booklet that has been translated into six languages. It addresses the findings of a medicine awareness research project which found most consumers had never received consumer medicines information with their medication.

This collaborative program, which involved mental health clinicians from SVMH and other non-government organisations, received a Silver Achievement Award at last year's 19th ANZ Mental Health Service Awards and was also a Gold Winner at the 2009 Victorian Public Healthcare Awards.

"A lack of knowledge about medications and side effects can influence lapses in medication adherence, which is a key factor contributing to relapse," said Nga.

"As medicine experts, we can develop rapport with the consumers over time and contribute significantly to patient care. The faculty's new mental health program will lead to more pharmacists with specialist mental health knowledge and that will benefit the whole community."

Introduction to Mental Health

Unit code: VCP5017

Unit coordinator: Nga Tran

This unit provides specialist mental health knowledge with a focus on medication-related issues and the pharmacist's role in managing conditions in a variety of settings. As well as an understanding of major psychiatric diseases and syndromes, and the medications used in their treatment, an overview of the Australian mental health system is provided.

This unit is delivered online via distance education as part of the Graduate Certificate in Pharmacy Practice and Master in Pharmacy Practice.

For more information visit www.pharm.monash.edu.au/courses.

Defining leadership

Three exceptional young people challenged students to think about what leaders can give to the community at this year's Victorian College of Pharmacy Foundation Student Leaders night.

The three speakers, all students or alumni of Monash University, shared their experience of volunteering in an international setting as students. Bachelor of Pharmacy graduate Michael Nunan (BPharm 2006, GradCertPharmPrac 2008), Bachelor of Arts and Bachelor of Commerce student Darrell Hawkins and Bachelor of Medicine and Bachelor of Surgery student David Humphreys added their perspective on how their international volunteering experience confirmed their chosen career directions and how rewarding it was to improve the lives of others by sharing their knowledge and skills.

Michael Nunan was the inaugural recipient of the Mathew Peck Travelling Scholarship, established in memory of Mathew Peck who passed away tragically while studying pharmacy. It provides students with the opportunity to assist with an aid program abroad and aims to continue Mathew's commitment to international health issues. The scholarship funded Michael to travel to Vanuatu. This opened his eyes to a different field of pharmacy, and gave him the chance to see first hand how medicines can improve health.

"When I came back I knew that was what I wanted to do and that's what I've been trying to do ever since," said Michael, who challenged students to define how and where they could use their specialist pharmacy skills. "Experience is what

gives life meaning, and what better experience than to share in the life of someone else?"

Darrell Hawkins and David Humphreys were both recipients of the Monash Oxfam South Africa Internship Program. This program provides a travel scholarship for students to spend six weeks in a South African community volunteering in various not-for-profit community organisations.

Darrell, pictured below, worked in a remote village three hours from Durban on a project to help educate the community on women's and children's rights.

"The internship gave me an insight into what I'll be dealing with in the future. I learned as much about me as I suspect I did about how cultures work and how communities address their problems," said Darrell.

Fourth year medical student David Humphreys worked at the Hillcrest AIDS Centre near Durban, taking patients to apply for welfare, sitting by their beds when they passed away and experiencing first hand South African inequity. David had to overcome his own fears and concerns that his volunteering was a form of voyeuristic tourism.

"If we recognise our own limitations, are respectful of culture and circumstance, and contribute the knowledge and skills we have, experiences like

mine at Hillcrest are rewarding for ourselves, for the people whose lives we touch and for the broader community," he said.

Michael Nunan summed up the evening by saying that leadership is about exploring the world beyond our shores – not just the physical shores of our country, but the shores we create for ourselves. The scholarship and internship programs that Michael, Darrell and David were awarded gave them a unique opportunity to see a different kind of life and to share in the lives of people from other cultures.

To find out more about the Monash Oxfam South Africa Internship or the Mathew Peck Travelling Scholarship, visit www.pharm.monash.edu.au/students/undergrad/leadership.



2010 Mathew Peck Travelling Scholarship recipients named

The two 2010 Mathew Peck Travelling Scholarship winners have a lot to look forward to. Professor Bill Charman announced Alexander Bongers and Frances Cameron as the 2010 winners at the Foundation's Student Leaders night.

Alex will be travelling to the Tuvalu Islands and will be working under the supervision of the chief pharmacist there. Frances will be assisting with an aid project in Tonga at the hospital in Nuku'alofa.



In brief



Emeritus Professor Barry L. Reed Distinguished Lecture

The faculty welcomed leading biotechnology and pharmaceutical industry entrepreneur Dr Rodney Pearlman (BPharm 1973) to present this year's Emeritus Professor Barry L. Reed Distinguished Lecture.

Dr Pearlman gave an engaging presentation on the pharmaceuticals of the human growth hormone, problem solving, and smoking bell bottom pants (literally). His research expertise and interest centres on the clinical development of drugs for inflammatory diseases, agents to improve cognitive function, delivery of drugs to the brain, protein drug development, formulation and delivery, and gene therapeutics.

The talk focused on early research at Genentech, where he and his group developed novel formulations, processes and delivery systems for a number of recombinant human proteins. To listen to Dr Pearlman's lecture, visit www.pharm.monash.edu.au/news/2010/barry-reed-lecture-2010.



MIPS Research Fellow wins major awards

MIPS Research Fellow Dr Charlie Dong (BPharm(Hons) 2003, BPharmSci(Hons) 2006, PhD 2009) is the recent recipient of two major awards relating to his PhD thesis entitled *Investigation of nanostructured liquid crystal particles as novel agrochemical delivery agents*.

The 2009 Mollie Holman Doctoral Medal was awarded to Dr Dong for his strong publication record, impressive examiners' reports and general research excellence. The medal is awarded annually to an exceptional doctoral graduate from each Monash faculty.

Dr Dong was also awarded the prestigious Royal Australian Chemical Institute Cornforth Medal for 2009. This medal is awarded for the most outstanding PhD thesis submitted in a branch of chemistry, chemical science or chemical technology.

"I'm ecstatic that I've won these prizes but it's also humbling, because there are a lot of bright people who could have equally won them," said Dr Dong. "I just started my research, so it's a benchmark I will hopefully live up to in the future."

Retired Pharmacists group takes a trip back in history

The Retired Pharmacists group gathered in August to tour Melbourne University's Medical History Museum at Parkville.

Curator of the museum, Susie Shears, guided participants through *The Physick Gardener: Aspects of the Apothecary's World from the Collections of the University of Melbourne*. The exhibits bear witness to the botanical origins of medicine through the practice and tools of the apothecary.

For more information on the Retired Pharmacists group contact Iliana Findikakis, tel: +61 3 9903 9087.



Louis Roller gives APSA lecture

Associate Professor Louis Roller (PhC 1963, BPharm 1969) presented the Australasian Pharmaceutical Sciences Association lecture at the association's conference held in Hobart.

Professor Roller was told of his selection as lecturer of the year on April Fools' Day and was convinced it was a prank. But a few months later, there he was – giving a talk to a large audience on the evolution of pharmacy education.

"Pharmacists are the experts when it comes to medicines," he said, adding that in 20 years he would like to see pharmacists by the bedside with patients and prescribing medicines.

"The pharmacist is central to the healthcare team," he added. "We should all be working together."



Farewell to lab 316

The last-ever practical class was held in lab 316 on 2 November, as the space is to be redeveloped into a new professional practice suite. Future practical lessons will be delivered in the newly renovated lab 223 on the second floor of the Scott building.

If you are interested in visiting our campus and our new spaces contact the Victorian College of Pharmacy Foundation, tel: +61 3 9903 9087.



Pharmacy students plan for success

Four enterprising pharmacy students have taken out the top prize in the National Student Business Plan competition at the 2010 Pharmacy Women's Congress in Hobart.

Paul Tran, John Lam, Tim Ma and Raymond Ngo developed a comprehensive plan to purchase and manage a pharmacy.

Competition judge Patrick Reid was very impressed with the finalists' presentations and their business plans. "The proposed innovation and execution of their business plan gave Monash the advantage needed to win," he said.

The National Student Business Plan competition is run annually by the Pharmacy Guild of Australia.

Students win Audience Choice award

The Monash University team recently made the finals of the Oz HealthFusion Team Challenge, and were thrilled to come away with the Audience Choice Award.

This interprofessional challenge aims to build stronger, patient focused healthcare teams for the future.

Ten teams from universities around Australia were required to develop a plan to address a complex patient case study. Fourth year Bachelor of Pharmacy student Alice Yuen joined colleagues from the Faculty of Medicine, Nursing and Health Sciences to form the Monash University team, Team EQUIP.

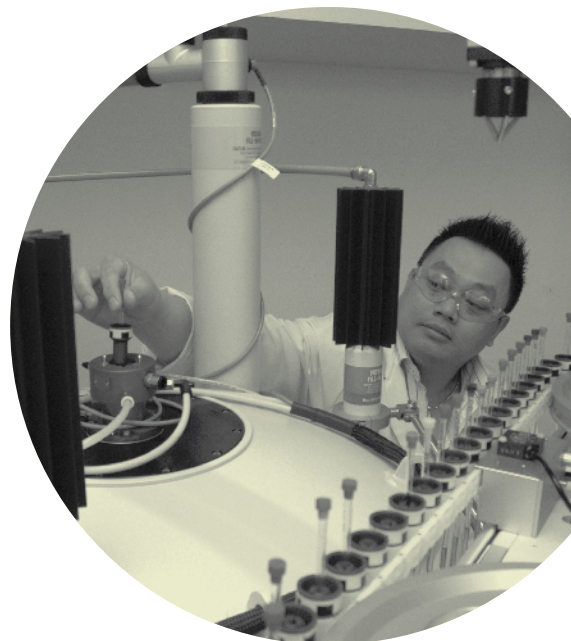
"The most important thing we learned was the positive impact a client-centred and united approach has on the wellbeing of a patient," said Alice.



2011 Pharmacy Education Symposium in Prato, Italy

The faculty will host a symposium, themed 'Pharmacy Curriculum: Teaching Today for Tomorrow's Practice', in 2011. As the only conference held specifically on pharmacy education, the symposium is renowned for vibrant discussion among its international attendees.

You are invited to attend, 11-13 July 2011 at the Monash University European Centre, Prato, Italy. Visit www.pharm.monash.edu.au/education/symposium2011 or email jennifer.marriott@monash.edu for more information.



New NMR spectrometer and automatic sample changers

A new Avance III 400 Nanobay NMR spectrometer installed in May will provide test results by email to students, research fellows and collaborators. It runs alongside the existing 600MHz NMR spectrometer. Alumni may remember the rigours of testing their samples by hand, but the process has been revolutionised with the installation of two new automatic sample changers. The sample changer (robotic arms) can be automated to acquire hundreds of samples sent to the faculty's NMR facility.

Electives that upskill

Good university graduates have more than just a degree – they should be prepared with a suitable knowledge base, professional aptitude and generic workplace skills such as teamwork, leadership and communication. Three new elective units in the Bachelor of Pharmacy will allow students to combine their academic learning with a host of opportunities for upskilling, enhancing their preparedness for the workplace and even providing opportunities to kick-start their careers before graduation.

The units

Applied research project

Opening up the world of pharmacy and pharmaceutical science research, this unit will enable students to participate in a hands-on research project within MIPS or CMUS under the supervision of an academic staff member.

Leadership

This unit gives students the chance to propose solutions to improve their pharmacy practice. They will be exposed to leadership theory in lectures and workshops, and apply it by developing detailed project plans to improve quality of care. The unit aims to realise students' leadership strengths.

International experience in pharmacy

Students taking this unit will have the chance to spend four weeks overseas learning about pharmacy in an international setting. Twelve students will travel to Singapore, Malaysia, the UK or USA to explore issues that influence pharmacy practice and underpin general healthcare provision.



Alchemy, the alumni magazine of the Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, is published twice a year. The next issue is due for publication in May 2011.

The magazine is published for the faculty community, which includes alumni (both pre and post the Monash amalgamation), current and former staff, students and their families, and friends of the faculty.

To contact *Alchemy*, tel: +61 3 9903 9635, email vcp.foundation@monash.edu or write to *Alchemy*, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, 381 Royal Parade, Parkville VIC 3052.



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