Faculty of Pharmacy and Pharmaceutical Sciences

Alchemy
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4 Major drug discovery collaboration between Monash and Servier Laboratories, France

10 Faculty graduate wins national business owner award
Major drug discovery collaboration between Monash and Servier Laboratories, France

In January, leading European pharmaceutical company Les Laboratoires Servier (Servier) and MIPS announced a collaborative agreement for drug discovery and research on G protein-coupled receptors (GPCRs). The collaboration will make use of MIPS’s acknowledged world-leading capability in the identification of novel GPCR targets, in the understanding of GPCR functional biology and in the design of new chemical entities to modulate GPCR activity. MIPS has developed GPCR expertise comprising technology, research facilities and world-leading scientists that enable it to conduct fundamental research, drug discovery and preclinical drug development activities on GPCR targets with therapeutic potential.

The collaboration will initially run for three years, with the research program including known and novel GPCR targets covering various potential therapeutic fields including metabolism, cardiology, neurology and psychiatry, rheumatology and oncology.

Under the terms of the agreement, MIPS will receive annual support from Servier for research activities undertaken as part of the collaboration and support for up to 15 (full-time equivalent) staff to work exclusively on collaborative projects. In addition, MIPS will receive progress milestone payments for each collaborative project and royalties for any product developed as a result of the collaboration. Servier will receive exclusive worldwide rights to any product resulting from the collaboration, as well as first right of negotiation for any GPCR targets not immediately selected as part of this collaboration.

“We are delighted to partner with Servier to advance our research and to translate our GPCR-based drug discovery insights to design new therapeutic agents for major human diseases,” said Professor Bill Charman, Director of MIPS and Dean.

“Servier is a company dedicated to the discovery and research of novel therapeutics for the treatment of human disease,” commented Emmanuel Canet, President of Servier Research and Development. “This alliance with MIPS, an acknowledged leader in the field of GPCR biology, will significantly enhance our capacity to identify and address original targets that may lead to therapies for untreated needs.”

Bernard Marchand, General Manager of the Institut de Recherche Servier, said that GPCRs have shown promise as the source of targets for human diseases.

“However, there is still a lot to learn about functional specificity,” he noted. “At Servier, as with other academic and industrial laboratories, substantial efforts have been made to modulate GPCRs for therapeutic use and we are now very excited to be working with leading experts in the field on a truly collaborative research program to extend our understanding of GPCR biology.”

Servier is the leading independent French pharmaceutical company. The Servier Group is established in 140 countries, with its main therapeutic products used to treat diabetes, cardiovascular diseases, central nervous system disorders, oncology and rheumatological diseases. More than 25 per cent of Servier’s revenue is invested in research and development.

Esteemed chemist joins MIPS

Professor Baell, who was recently awarded a National Health and Medical Research Council Senior Research Fellowship, will bring a number of well-funded drug discovery programs to MIPS.

“I have a range of research interests including the discovery of new anti-parasitic compounds for the treatment of malaria and neglected diseases, the design and synthesis of peptidomimetics and the development of selection criteria for quality high-throughput screening,” Professor Baell said.

Before his appointment to the University Professor Baell was based at the Walter and Eliza Hall Institute, where he played a central role in establishing and leading a first-class medicinal chemistry group.

Professor Peter Scammells, leader of the MIPS Medicinal Chemistry theme, said he was delighted to have a professor with such an outstanding track record of cutting-edge research join MIPS.

“This appointment will play a key role in establishing the Australian Translational Medicinal Chemistry Facility at our Parkville campus and make important contributions to the medicinal chemistry aspects of the recently announced drug discovery collaboration with Servier Laboratories,” Professor Scammells said.

“Professor Baell and his research team will further add to the critical mass of the MIPS Medicinal Chemistry theme, which will assist us in attracting the highest quality research fellows and postgraduate students.”

The Larkins Fellowship program aims to allow high-performing, early-to-mid career researchers to expand their research capabilities at the University.
Professional practice suites launched

Over 80 people gathered on 12 April for the official launch of the faculty’s professional practice suites. The event marked the conclusion of one of Australia’s most significant pharmacy education fundraising projects and acknowledged the contribution of donors, alumni and the profession to its success.

The professional practice suites complete a range of space, technology and curriculum initiatives implemented by the faculty that are set to transform pharmacy education in Australia.

Professor Bill Charman said the $1.8 million education and curriculum initiatives implemented by the faculty are set to transform pharmacy education in Australia.

The Victorian College of Pharmacy Foundation funded the development of the professional practice suites. The event marked the conclusion of one of Australia’s most significant pharmacy education fundraising projects and acknowledged the contribution of donors, alumni and the profession to its success.

The professional practice suites can accommodate up to 80 students and offer a combination of contemporary and purpose designed teaching spaces, computer enabled tutorial spaces, consulting rooms with video recording capability and social learning spaces. They incorporate MyDispense, a new program designed and developed by the faculty that will enable students to develop their dispensing skills in a paperless environment using virtual patients, barcodes, labels and products.

The Victorian College of Pharmacy Foundation funded the development of the professional practice suites, along with a number of major industry partners, alumni and other supporters.

Professor Charman thanked all donors and acknowledged the significant contribution of individuals and industry partners to the success of the project.

Consulting rooms with video recording capability.

The Quality Pharmacy Consortium, comprising the Quality Pharmacy Group, Rose Health, Wiltach, Abbott Pharmaceuticals, Ascent Pharmaceuticals and Rajan Pharmacies, was the first pharmaceutical industry partner to make a lead gift to the project, followed by pharmaceutical wholesaler Australian Pharmaceutical Industries (API).

Other significant contributors include the Pharmacy Guild of Australia (Victoria) and a number of individual alumni pharmacists who are leaders in their fields of practice, including Darcy Brennan (PhC 1960, GradDipCommPharm 1986, PGDip(Clinical Pharm) 2001), Irvine Newton OAM (BPharm 1970), Professor Bill Charman (BPharm 1981), David Notla (BPharm 1976) and Helen Kouzmin, Bill Scott (BPharm 1970) and Helen Scott (BPharm 1971), John Ware OAM (PhC 1990), Alistair Lloyd AO (PhC 1956) and Simon Yu (BPharm 1972) and Swe Chin Yu.

Speaking on behalf of the profession Charles Khatlouf (BPharm 1978), convenor of the Quality Pharmacy Consortium, said that supporting this educational initiative is an investment in the long term future of the profession.

“Historically, the role of pharmacists has been primarily the dispensing of prescriptions with some advice services," he noted. “There is now the opportunity to expand the pharmacists’ role to do much more. The professional practice suites will facilitate the development of a new breed of pharmacist trained to take responsibility for the overall health condition and deliver improved outcomes for their patients.”

Representing the student body, fourth year pharmacy student Vanessa Kleijn spoke of the value the suites will add to students’ skill sets as they prepare for a career in pharmacy.

“What we learn here is preparing us for placement in third and fourth year and everything beyond,” said Vanessa. “By the time we go on placement, we will have a grasp on the dispensing process so we can focus our energies on counselling our patients.”

Vanessa also thanked faculty staff and donors for their vision and philanthropy.

“As students our words of thanks are small, but our thoughts are big,” she said. “As is our commitment to you, and the profession, to be the best pharmacists we can be and to lead the profession to new futures.”

API has donated $300,000 to support Excellence in Pharmacy Education, an initiative of the Victorian College of Pharmacy Foundation. The 10-year commitment from API will support the Faculty’s innovative approach to teaching and learning.

This significant and generous contribution has been invested in the Faculty’s professional practice suites.

Stephen Roche, API CEO and Managing Director, said that in supporting Monash to develop future pharmacists’ professional practice skills, patients will receive more positive health outcomes.

“In a changing health and retail environment, we believe that investing in the skills of young and upcoming pharmacists is an important contribution to the future of the industry,” said Mr Roche.

Alistair Lloyd AO, Chair of the Victorian College of Pharmacy Foundation recognised the support of API and the many other donors that have allowed the faculty to develop this specialised teaching facility.

“We are delighted that a firm like API with such a big stake in the future of the pharmacy profession has seen great benefit in supporting this initiative.” The Faculty is grateful to our alumni and supporters for their generosity. It significantly contributed to helping us achieve our enviable international standing.”
An ambitious plan for the Centre for Medicine Use and Safety

In the last 12 months, the Centre for Medicine Use and Safety (CMUS) has mapped out an ambitious plan aimed at growing its contribution to the safe and effective use of medicines. CMUS is already delivering innovative research to optimise the health outcomes of individuals and the community, both nationally and internationally.

“To support our plan we have and will continue to attract highly skilled staff who are national and international leaders in their research area,” said CMUS co-director Professor Carl Kirkpatrick.

“Our researchers are experts in pharmacy practice, with the necessary research methodology and mathematical techniques to undertake high quality research. Their extensive links with the healthcare sector ensure that their research is modelled on best practice outcomes and their prime concern is to enhance outcomes for patients.”

As part of its plan, CMUS has identified expertise in five defined research areas. These include health services, pharmacoanalytics, pharmacotherapy, public health and education.

Using the above skill sets and multidisciplinary collaborations, CMUS is able to offer high quality, timely and context-specific pharmacotherapy, public health and education research areas. These include health services, pharmacoanalytics, pharmacotherapy, public health and education.

In the last 12 months, the Centre for Medicine Use and Safety has taken the following steps toward delivering this ambitious plan for the future.

Pharmacometrics – enhancing the translation of science to benefit patients

Dr Jurgen Bulitta

Dr Bulitta smiles when he says there’s no such thing as an average day. And why should there be, when alongside Dr Connie Landersdorfer and Dr Kashyap Patel he works in an exciting and dynamic area of pharmacology that formally emerged in the early 1980s.

Pharmacometrics is the quantitative science behind drug effects, disease and biological variability between patients. It is now an integral aspect of drug development and is used from pre-clinical through to phase IV. It is also integral to therapeutic and regulatory decision making. The strength of pharmacometrics is that it helps explain similarities and differences between in vitro and in vivo data in pre-clinical and translational drug development.

Pharmacometrics uses models based on pharmacology, physiology and disease for quantitative analysis of interactions between drugs and patients. It also uses disease models to describe the progression of disease over time, placebo effects and the relationships between biomarkers and clinical outcomes.

Dr Landersdorfer, Dr Bulitta and Dr Patel join CMUS as the newest senior researcher fellows in pharmacoanalytics. Each comes to the faculty with extensive experience, international recognition and track records for their pharmacoanalytics work. The pharmacoanalytics team is led by Professor Carl Kirkpatrick and the trio is a key part of CMUS’s ambitious plan for the future.

Dr Cornelia (Connie) Landersdorfer

It was while working in a hospital in London as part of her pharmacy internship that Dr Landersdorfer became interested in using modelling to optimise patient treatment therapies. She incorporated this interest into her PhD on pharmacokinetics/pharmacodynamics of antibiotics, where she utilised mathematical modelling in her clinical studies.

“One of the main outcomes of mathematical modelling is the ability to predict “what if” scenarios,” said Dr Landersdorfer. “By including patient characteristics (within models) we can make predictions of drug exposure and effect for specific patient groups, for example elderly patients or ICU patients.”

In recent years, among other things, Dr Landersdorfer has been investigating drug effects and disease progression in type 2 diabetes and is an internationally leading scientist in mechanism-based modelling of diabetes therapy.

“I have developed models on diabetes management that look at the biomarkers of glucose, insulin and GLP1 concentrations in patients. These models describe the underlying physiology of how these biomarkers relate and interact with each other. By then combining this with the effects of new and old anti-diabetic drugs, this model becomes a powerful tool designing optimal combination therapy for patients with diabetes.”

The outcomes of Dr Landersdorfer’s work will optimise the development of new diabetic medications. In fact by combining in vitro studies with mathematical modelling, the results can assist in the early stages of drug discovery or drug development.

Dr Kashyap Patel

Dr Patel undertook his PhD at the University of Auckland in New Zealand. His research investigated the pharmacology of a novel produg that is activated only at low oxygen concentrations in tumours. Dr Patel modelled the activity and diffusion of both the produg and its metabolites, in a representative tumour where the blood vessels were mapped in three dimensions.

“When a tumour develops the blood vessels are chaotically organised, thereby compromising drug and oxygen delivery to all cells,” explained Dr Patel. “My model suggested that the arrangement of blood vessels is important when using hypoxia-activated produgs in chemotherapy.

“You couldn’t see the significance in vitro or in an animal model alone. It only became clearer when exploring drug transport in a mathematical form.”

Dr Patel is currently working on building a mechanism based model for anti-malarial drugs.

“Murine models are useful for studying malaria infection, because all stages of the parasite’s life cycle can be measured. I have developed a model that describes the stage-specific growth of the malaria parasite, and the killing effect of anti-malarial drugs,” he added.

“I’m hoping to translate this animal model so that it may predict the data observed in humans. It can then be used to better optimise antimalarial treatment strategies in countries where the disease is prevalent.”

For more information

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Dr Pat, Dr Landersdorfer and Dr Bulitta.
Faculty graduate wins national business owner award

Cathie Reid (BPharm 1991), CEO at APHS, won the Commonwealth Bank Business Owner Award at the 2011 national Telstra Business Women’s Awards. APHS is a national supplier of pharmaceutical and clinical services for the hospital, oncology and aged care sectors.

As CEO, Cathie is responsible for delivering community pharmacies with an outsourced solution for their medication compliance packaging. This solution is offered at up to a third of the cost of manual packing, and increases safety and independence for tens of thousands of Australian self-medicating customers.

In her acceptance speech Cathie acknowledged the role APHS plays in meeting the needs of Australia’s ageing population.

“Medication compliance is a challenge for our nation. Our compliance sachet gives elderly Australians the ability to be safe and independent when dealing with medication,” said Cathie. “In an ageing society where the working population is also decreasing, being an innovator in healthcare is essential. This award is recognition for the entire APHS team and a reflection of the integral role pharmacists play in delivering quality healthcare to Australians. We are a sector that isn’t often recognised, but this award truly demonstrates the value of our contribution to society.”

Professor Bill Charman congratulated Cathie on her win.

When Beverley Snell OAM (PhC 1957) decided to leave community pharmacy to explore other ways that pharmacy could help people, she never imagined she was embarking on a long and distinguished career in international health. For her work in this area, Beverley was recognised in the 2012 Australia Day Honours with a Medal of the Order of Australia.

Where there are no pharmacists

Beverley Snell OAM (PhC 1957) decided to leave community pharmacy to explore other ways that pharmacy could help people, she never imagined she was embarking on a long and distinguished career in international health. For her work in this area, Beverley was recognised in the 2012 Australia Day Honours with a Medal of the Order of Australia.

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About the Medido Monitored Compliance Device

“After graduating, I worked in community pharmacy but found that my role was increasingly moving away from focusing on people, which I believe is the core of being a pharmacist,” she said. “In 1980 I was encouraged to apply for a position in a Community Aid Abroad project that implemented a primary healthcare approach to helping refugees in Somalia.

“At the time, there were 1.5 million refugees dying of malaria and other conditions, many of these preventable. It was the first time anywhere in the world that this approach had been implemented in a complex emergency setting and I saw the difference it made, I knew then which path I wanted to follow.”

Primary healthcare is essential healthcare based on scientifically sound and socially acceptable methods and technology, made universally accessible to individuals, families and communities. It includes education concerning disease theory and prevailing problems, and focuses on finding methods of prevention rather than emphasising cure.

Since her first encounter with health systems in developing countries, Beverley has worked in a variety of roles, training healthcare workers and working with local pharmacists to help strengthen systems to buy, store and dispense essential medicines.

Finding smart, cost-effective technologies to assist with optimum care is a vital step in keeping our elderly population safe and well. Currently around 90 per cent of seniors take medication, so the risk of adverse events and medication-related hospital admissions can be high.

The Medido device is tailored to each client’s needs by having their basic medication data uploaded to a web portal. This information concerning how many DAA sachets are to be ejected, at what time and on what day is sent to the machine via mobile phone technology. The Medido uses visual and audio alerts to alert a client to when they need to take their medication and is also able to monitor compliance.

The result is improved safety, less stress and increased independence for the elderly, •

Her work as a consultant with the World Health Organization, governments and other organisations has seen her undertake reviews of national drug policies in many countries including East Timor, Fiji, the Solomon Islands, Cambodia and Tuvalu. From 1990, Mrs Snell was involved with the development of national Standard Treatment Guidelines in the essential drugs sector in Eritrea.

Closer to home, Beverley has also worked as pharmacists advisor and a member of the primary healthcare team at the Victorian Aboriginal Health Service.

In 2010 she co authored Where There are No Pharmacists: A Guide to Managing Medicines for All Health Workers, which has a strong focus towards those working in developing countries or remote and rural areas.

Beverley is currently a Principal Fellow at the Centre for International Health at Macquarie Burnet Institute for Medical Research and Public Health, where she has been based since 1994.

“The Burnet Institute has given me a solid platform from which I can explore opportunities to work in various facets of public and international health, including the education and mentoring of pharmacists and other healthcare professionals,” she said.

She also teaches in the Master of Public Health course at Monash University, and mentors Australian volunteers in Pacific Island health ministries and recipients of the faculty’s Mathew Peck Traveling Scholarship.

“I’m really passionate about helping students and young professionals understand how they can contribute to sustainable development while becoming familiar with dimensions of pharmacy they had not known existed,” she said.

“Assisting them to gain practical experience in an international setting is key in enabling them to explore the breadth of the pharmacist’s role as researcher, educator, manager and administrator as well as medicine expert and an integral part of the primary healthcare team.”

Beverley’s nomination for an OAM was instigated by her colleagues at the Burnet Institute.

“It was a real surprise, but I’m delighted that the things I’ve been doing have been recognised in such a special way,” she added.

Professor Bill Charman noted that it is always a source of great pride to see faculty graduates being recognised for the vital role they and the profession play in improving lives.

“This is a most deserving recognition of Beverley’s professional skill, talent and work and a testament to the role pharmacy can play in addressing important healthcare issues in a national and international setting,” he said. •
Where are they now?

1950s
Sam Gandolfo (PhC 1951) was a relieving pharmacist in Melbourne before working at Gaar’s Pharmacy in Ballarat. In 1953 he joined RE Charles and Son Pharmacy in Richmond, which serviced Bethesda and Epworth hospitals. In 1954 he purchased his first pharmacy in Black Rock, followed by pharmacies in Glen Waverley, Blackburn North, Mulgrave, Waverley Gardens and Chimsdale Park. He retired in 1995. During his career, Sam chaired several shopping centre committees and served on the state branch of the Pharmacy Guild of Australia. He was a demonstrator at the Victorian College of Pharmacy in pharmaceutical dispensing and delivered lectures for the Asthma Foundation. After further studies, he developed and delivered a marketing lecture at RMIT. He was made an honorary life member of the Pharmaceutical Society of Australia in 2003.

After completing her apprenticeship at Hores Pharmacy in Melbourne, Glenis Ponsford (nee Turnour) (PhC 1954) undertook locum work in the country and worked at Coates Pharmacy in Collingwood before travelling overseas. She married Geoff Ponsford (PhC 1953) in 1957 and together they purchased Woodend Pharmacy and Gisborne Pharmacy. In 1979 they travelled to the UK for a year, where they worked as hospital pharmacists and travelled extensively. Geoff and Glenis sold the pharmacies in the 1980s and moved to Mullaway, NSW. Between 1994 and 2003 they worked in community and hospital pharmacy, as well as registering in Queensland and working in small mining towns there. Glenis also served as a Justice of the Peace. They returned to Melbourne in 2008.

1960s
Michael Jobling (PhC 1961) managed a Melbourne retail pharmacy before operating pharmacies in Ascot Vale and in Preston. He studied theology and was ordained an Anglican priest in 1970, maintaining his pharmacy registration and continuing to practise until 1981. He was a parish priest for seven years before joining an Anglican Family Services agency, establishing marriage education services throughout the Diocese of Melbourne. In 1973 he was involved in setting up the Maroondah Social Health Centre, the first community health centre in Victoria, and obtained his Bachelor of Social Work in 1986. He was executive director of the Victorian Marriage Guidance Council for five years before establishing a private practice in marriage and family therapy with his wife Heather in 1991 and obtaining further qualifications as an accredited mental health social worker.

1970s
Sally Dean (BPharm 1973) undertook her traineeship at the Queen Victoria Hospital and then worked at the Austin Hospital. In 1977 she travelled to Texas, where she volunteered as a hospital pharmacist and moved to the UK where she worked as a paid pharmacist. During her time abroad, Sally gained valuable insights into pharmacy practices overseas. She returned to Australia in 1980 and worked as a pharmacist, senior pharmacist and ultimately Deputy Director of Pharmacy at PANCH for 15 years, working closely with students and trainees. Sally subsequently worked in community pharmacy, where she enjoyed counselling and interacting with clients. She currently works as a pharmacist in St Vincent’s Private Hospital, a role she has been in for the past 11 years. After graduating, Grahame Beecroft (BPharm 1976) purchased pharmacies in Wentworth and Dandenong, VIC. Returning to Melbourne in 1985, he became a partner in Noble Park Pharmacy. He married Janette Bain (PhC 1976) in 1987. Grahame was a Director of Guardian Chemists Australia and Chairman for five years. In 2000 he left community pharmacy to work for an online health information business for two years. In 2005 he was appointed to the Victorian Pharmacy Board and later to the Victorian Pharmacy Authority, as Deputy Chair. He is a Fellow of the Australian Institute of Company Directors, a Fellow of the Australian College of Pharmacy Practice and has completed an MBA. Janette and Grahame are still partners in a number of pharmacies.

1980s
After training at the Austin, Robin Whyte (BPharm 1980) worked as a clinical pharmacist at the Western Hospital before travelling overseas. In the UK she worked as a formulation scientist, clinical trials manager and marketing manager in the pharmaceutical industry. After completing a Master of Business Administration at the London Business School, Robin returned to Australia to join Accenture Consulting, where she became a senior manager in the Health Care Strategy Practice. Robin has held roles as CEO of a number of health, aged care and community services organisations. Currently, she is CEO of the Frankston Mornington Peninsula Medicare Local, part of a nationwide network established under the Australian Government’s National Health Reform to address service improvements in primary healthcare.

1990s
Following completion of his internship at the Austin Hospital, Puneet (Sunny) Rewal (BPharm 1998) worked in Cairns before returning to Melbourne. For the next six years, he worked in community pharmacy before joining HPS Pharmacies at Melbourne Private Hospital. Subsequent to that, he was offered a partnership with HPS Pharmacies. He is the Chair of the Professional Services Group at HPS, a committee that benchmarks clinical standards in private hospital settings across the company’s sites around Australia. He is a member of the Australasian College of Health Services Managers and the Emerging Health Manager Special Interests Group, which provides a forum and networking opportunities for new managers in the sector. Sunny is also an observer for the Pharmacy Board of Australia and a consultant pharmacist with the Australian Association of Consultant Pharmacy.

2000s
As a student, Dani Li (BPharm 2007) worked at Quality Pharmacy and undertook her internship at the same company. She continued working at Quality Pharmacy Group for a year before becoming manager of Quality Pharmacy Werribee Medical. In this role she developed her leadership skills and is now the managing pharmacist at Quality Pharmacy Kellow Downs. Dani has always enjoyed being involved in the development of young pharmacists. She attends Careers Day at Monash and supervises numerous students for their three-week community pharmacy placements. A firm believer in the pharmacist’s role in community health and health promotion, she conducts monthly health information talks at local retirement villages and child care centres. Dani has completed a Diploma of Management through the Pharmaceutical Society of Australia.
Bringing health education to Nepal

Pharmacists Sharlina Lingam (BPharm(Hons) 2007, GradCertPharmPrac 2010) and Mahisha Thiruvasagan (BPharm2007, GradCertPharmPrac 2009) recently travelled to Nepal on a volunteer health education project. Here they describe their experiences.

"Health education has always been a huge passion for us and we were thrilled to be accepted for a five-month health education project with Volunteer Service in Nepal (VSN). Because the health education project was new, we could choose the areas we wanted to focus on. We selected schools, children’s homes, health posts and women’s health.

Our sessions were held in both public and private schools. Topics suggested by teachers included basic health and hygiene, sexual health, puberty, environmental concerns and the impact of population growth. After experiencing an earthquake first hand ourselves in Kathmandu (a new experience for both of us) we also included what to do in an earthquake and during a fire.

Curricula are taught in Nepalese in public schools and English in private schools. Without a doubt teaching at the public school was a greater challenge. Sometimes we had a teacher assist us with translations but mostly we were helped by students with superior English skills. Another difference between private and public schools was class size. The largest class in the private school was 20 students compared to 57 students in the public school. We tried to incorporate activities and games in our teaching to keep lessons as interesting as possible, and this also helped with the language barrier.

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Our women’s health topics included maternal health (pre and post pregnancy as well as care during pregnancy), sexual health, menstruation, menopause, cervical prolapse prevention, abortions, rape, sexual and physical abuse, home breast checks, pap smears and mammograms. In particular, cervical prolapses are extremely common throughout Nepal due to unsupervised childbirth, long periods of squatting and heavy lifting. Most of the women who came spoke little or no English and we were fortunate to have a Nepali doctor attend and present our work at these sessions. The confidence we saw in them when discussing women’s health as a group was a stark contrast to their usual conservative demeanour. At these sessions we identified proactive women who could keep the program going and we developed summary take-home sheets so they could spread the information.

During our stay we visited a health post within Kathmandu Valley that was manned by a single senior healthcare worker and nurse. Only medications on the Nepal Essential Medicines List were available and provided free of charge to patients. But this list hadn’t been updated for more than 15 years and the drugs didn’t meet people’s needs. We’d been asked to provide education on heart and respiratory disease, but we found most patients were of a much lower socioeconomic group than we had expected or previously met in Nepal. This was one of many confronting experiences. We left feeling that we hadn’t contributed anything but we intend to assist this health post now we’re back in Melbourne.

Being pharmacists, we were always going to be curious about Nepal pharmacies! Very little counselling is provided by pharmacists, dispensing doctors or healthcare workers. We assembled a list of drugs commonly dispensed in community pharmacies and made business card sized drug counselling cards that were well received by health professionals. Although these may not be useful for the literate population, many people may at least have a family member or friend who can read Nepali. We were fortunate to meet a senior Professor of Health Education at Teaching Hospital in Kathmandu (the largest tertiary hospital in Nepal). She was very encouraging and appreciative of all our material and ideas, and is hoping to implement the counselling cards in the hospital pharmacy.

We also created resource packs that included soft and hard copies of all our materials and teaching tools, including games, handouts and activities. Throughout our time in Kathmandu we’d identified proactive teachers and health professionals, and we distributed our resource packs to them.

Our placement was during Nepal’s main festival season and staying with a host family meant we could experience it all as locals. The entire atmosphere – the colour, vibrancy, enthusiasm and music – was simply amazing. Throughout our stay, we were blown away and humbled by the continuous hospitality of Nepali people and of VSN. We were frequently asked if we felt homesick, but Kathmandu became our home very quickly and our friends became family.

Words can never describe how amazing this entire experience was for us; the work we were involved with and the incredible people that we met have left a lifelong imprint. If you have ever had an interest in this type of work, don’t hesitate! Currently, all our materials are being translated into Nepali to be of maximum effectiveness. Our work has also been passed on to South India and Vietnam for translation into local languages.

For more Information
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Teaching at a children’s home.
Drug delivery advances that could lead to more effective administration of medicines and save patients from regular, painful injections have earned MPS researcher Associate Professor Ben Boyd peer recognition via the 2011 American Association of Pharmaceutical Scientists Lipid Based Drug Delivery Outstanding Research Award and an Australian Research Council Future Fellowship. Associate Professor Boyd is investigating novel light-responsive nanomaterials for application in the treatment of macular degeneration, cancer and other critical unmet therapeutic needs. Macular degeneration is the world’s leading cause of blindness, affecting 30 per cent of people over 70. Current treatments work only temporarily and must be directly injected into the eye. To maintain their vision, patients must endure repeated monthly injections into the eyeball.

However, Associate Professor Boyd’s team is developing a novel form of drug delivery that utilises light-sensitive materials which release a dose of drug only when ‘switched on’ by the use of an external laser. Using naturally occurring lipids (molecules such as fats that bond together to form cell membranes), Associate Professor Boyd’s group is developing new materials that contain and then deliver drugs where and when they are needed. This process would mean patients undergo a single injection to implant the material and report to their ophthalmologist only as symptoms appear for a simple laser activated dose of sight-restoring drug, instead of requiring multiple repeated injections.

Associate Professor Boyd’s team is also working on a targeted delivery system using the same materials. Broken down into smaller particles, these drug-carrying materials would be introduced to the body and travel dormant through the bloodstream until they are ‘switched on’ by a laser focused on the specific site where they are needed.

“While this research is still very much focused on understanding the materials at this stage, the fellowship will allow me the freedom to concentrate our efforts on translating our work into real prototype delivery systems to meet some proof of the challenges of on-demand drug delivery,” said Associate Professor Boyd.

“This is a fantastic achievement and one that serves to again confirm the quality and significance of Ben’s work,” said Professor Chris Porter, Associate Dean Research.

Triggerable nanomaterials is an exciting technology that has the potential to revolutionise drug delivery. We are thrilled that the award of this fellowship will allow Ben to expand and enrich his work here at Monash,” said Boyd.

Exhibitions and awards for academic merit 2011
Each year the faculty awards and celebrates its highest achievers.

### Bachelor of Pharmacy

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<td>Third year exhibition</td>
<td>Amy Scott</td>
<td>Society of Hospital Pharmacists of Australia (Victorian branch)</td>
</tr>
<tr>
<td>Fourth year exhibition</td>
<td>Yijun Pan</td>
<td>Guild Insurance</td>
</tr>
<tr>
<td>Neil Naismith award</td>
<td>Yijun Pan</td>
<td>Therapeutic Guidelines</td>
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### Bachelor of Pharmaceutical Science

<table>
<thead>
<tr>
<th>Recipient</th>
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<th>Prize</th>
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<tbody>
<tr>
<td>First year exhibition</td>
<td>Gracia</td>
<td>CSL</td>
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<tr>
<td>Second year exhibition</td>
<td>Prue Larrabosry</td>
<td>The Australian Society of Cosmetic Chemists</td>
</tr>
<tr>
<td>Third year exhibition</td>
<td>Xiang Ren</td>
<td>Monash Institute of Pharmaceutical Sciences</td>
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### Gold Medallists

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<tr>
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<td>Yijun Pan</td>
<td>Pharmaceutical Society of Australia (Victorian branch)</td>
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<tr>
<td>Bachelor of Pharmaceutical Science</td>
<td>Xiang Ren</td>
<td>GlaxoSmithKline</td>
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### Postgraduate

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<tr>
<td>Bachelor of PharmD</td>
<td>Neil Naismith</td>
<td>Monash Pharmacy Internship</td>
</tr>
<tr>
<td>Master of Pharmacy Practice</td>
<td>Namita Ahli Warrior</td>
<td>Pharmacy Guild of Australia</td>
</tr>
<tr>
<td>Master of Clinical Pharmacy</td>
<td>Choon Ean Ooi</td>
<td>Postgraduate Studies and Professional Development Unit</td>
</tr>
<tr>
<td>Faculty Honours prize</td>
<td>Michael Bong</td>
<td>FB Rice</td>
</tr>
<tr>
<td>Monash Vice-Chancellor’s Hons/PDN Scholarship</td>
<td>Lisa Babaro</td>
<td>Monash University Scholarship</td>
</tr>
<tr>
<td>Mullie Holman Doctoral Medal</td>
<td>Dr Mark Agostino</td>
<td>Monash University Medal</td>
</tr>
<tr>
<td>Dean’s Commendation for Doctoral Thesis Excellence</td>
<td>Dr Rachel Soon</td>
<td>Faculty of Pharmacy and Pharmaceutical Sciences Certificate</td>
</tr>
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The faculty would like to thank all donors who supported the 2011 academic prizes.

Stan Robson Rural Pharmacy Equity Scholarship recipient

Congratulations to Ashleigh Baird, who is the recipient of the 2012 Stan Robson Rural Pharmacy Equity Scholarship. Originally from Rosebery in Tasmania, Ashleigh moved to Melbourne earlier this year to commence her first year of a Bachelor of Pharmacy degree.

“I was inspired to pursue a career in pharmacy by my great aunt, also a pharmacist and graduate of the faculty. Leaving home, especially moving interstate, is a big step both emotionally and financially. I am grateful for the opportunity the scholarship has given me to pursue my dream of studying at the faculty,” she said.

The Stan Robson Rural Pharmacy Equity Scholarship is awarded annually to a first year pharmacy student from a rural or isolated area. It was generously established by Dr Grennie Robson in honour of his father, Stan Robson, a respected pharmacist from Gippsland.

Thea Pärnamäe Bursary

Pharmacy student Anne Bradman has been awarded the 2012 Thea Pärnamäe Rural Pharmacy Equity Bursary. A resident of Ballarat, Anne commutes to university daily. “The bursary has been a great help with managing the costs associated with attending university so far from home,” she said.

The bursary was established by Dr Kersti Nogeste in memory of her aunt, Swedish pharmacist Thea Pärnamäe. It supports female students from rural or isolated areas.
The Victorian Minister for Technology, Gordon Rich-Phillips, announced in February that GlaxoSmithKline (GSK) Australia will invest $60 million to expand its Boronia manufacturing site and create 36 new highly-skilled jobs by 2017.

“This investment by GSK is of major significance to Victoria’s pharmaceutical industry and the Victorian economy,” he said.

GSK’s manufacturing plant in Boronia is the company’s largest site globally for the production of sterile liquid products that utilise state-of-the-art ‘blow-fill-seal’ (BFS) technology. This technology, which is an advanced antiseptic process, produces a range of container sizes suitable for the delivery of unreserved, sterile products.

The Minister said the $60 million investment would allow GSK to potentially double its current BFS manufacturing capacity by installing new BFS production technology.

An additional benefit of the investment is the creation of a pilot scale industrialisation facility for the development of new powder and sterile liquid pharmaceutical products that will support the continuation of GSK’s successful research and development collaboration with MIPS. This collaboration was established in 2009 with $3.3 million initial funding from the Victorian Science Agenda (VSA) Investment Fund and GSK, and it leverages the unique skills MIPS has in pharmaceutical science and nanotechnology with the industrial know-how and world-class medicine development capabilities of GSK Australia.

“I applaud GSK’s commitment to expanding its state-of-the-art pharmaceutical manufacturing here in Victoria, and welcome the opportunities it offers for the next stage of our ongoing collaboration with GSK,” said Professor Bill Charman. “The initial VSA funding was the catalyst for this significant expansion in world-class pharmaceutical manufacturing and medicine development.”

GSK Boronia Site Director Troy Webb said this was a unique opportunity to put Victoria and Australia on the map when it comes to scientific innovation, particularly around respiratory, ophthalmic, biological and consumer healthcare products.

“With the Victorian Government as a key supporter, this investment will build a sustainable manufacturing capability within the local community while driving manufacturing technology,” he said.

GSK is a significant contributor to the Victorian economy in terms of employment, exports, manufacturing and local research and development investment, expanding on average more than $30 million a year on research and development in Victoria and consistently exporting more than $300 million a year in pharmaceutical products from the state.

We are all living longer. And as the number of elderly patients multiplies, the need for effective and ethical palliative care is becoming increasingly important.

Since the 1900s, life expectancy for Australians has increased by almost a quarter of a century. Eradication of infectious diseases, improvements in public hygiene and rising living standards have led to a worldwide surge in the number of people living well into their eighth decade, with the projected number of centenarians increasing every year at a rate of 5.5 per cent. Despite an obvious growth in demand, few health professionals are given the opportunity to specialise in their studies in the field of palliative care.

“Palliative care is an approach that looks at the physical, psychosocial and spiritual wellbeing of the patient and their family when faced with a terminal illness,” explained Laura Dean, coordinator of the new palliative care subject offered by the faculty’s Postgraduate Studies and Professional Development Unit (PSPDU).

“While it affirms life, it regards dying as a normal process and aims to provide a support system that allows the patient to live as actively as possible until death.”

Monash is currently one of the only universities in Australia providing postgraduate education in palliative care specifically for pharmacists. Offering the unit via distance education means it is accessible to students across Australia.

“Semester one this year we had 20 students enrolled from Victoria, New South Wales, Queensland and the Northern Territory,” says Laura.

Palliative care is usually associated with cancer. However, medical advancements that have prolonged our lives by eliminating many forms of sudden death have resulted in increasing deaths from non-malignant diseases such as heart, renal and respiratory failure. The complex nature of palliative care means it is best delivered by a multi-disciplinary team, and the pharmacist has an important role to play in this team – conducting medication reviews, identifying drug-related problems and making recommendations to optimise cost-effectiveness, patient outcomes and quality use of medicines.

To help students prepare for this professional collaboration, PSPDU has been working with Associate Professor Lyn Clearihan from the Clinical Education and Professional Development Unit at the School of Primary Health Care with a view to providing palliative care education jointly to a cohort of pharmacists and general practitioners.

Enhancing the competence and confidence of healthcare professionals working together in the community to provide quality palliative care will allow patients the choice to remain at home and minimise the need for hospital admissions. Effective symptom management and delivery of all aspects of palliative care will help support patients and their families at a significant time, and enable them to have some control over what is an intensely emotional experience.

Palliative care

Unit code: PGPS618
Unit Coordinator: Laura Dean
Credit points: 6
Offered: Semester one and semester two (off-campus)

This unit will focus on the pharmacist’s role in management of pain and other common symptoms associated with palliative care patients. When new symptoms develop, or the patient’s condition deteriorates, knowing how to adjust medication appropriately and source uncommon medicines is an important part of providing optimal care.

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

For more information
Visit: www.monash.edu/pharm

Also new this year: Infectious diseases pharmacotherapy

Unit code: PGIC6010
Unit Coordinator: Sharmila Khurma
Credit points: 6
Offered: Semester one and semester two (off-campus)

This unit will provide a broad overview or introduction to the treatment and management of infectious diseases. The focus will be on common infections seen in community and hospital settings, principles of microbiology and infectious diseases, antimicrobial use and antimicrobial stewardship.

The broad unit objectives are for students to develop and apply infectious diseases and antimicrobial use knowledge and skills in the care of patients, especially those with infections. These may be patients in the community or hospital settings.

The knowledge and skills developed will be at a general level rather than at the level required for a specialist infectious diseases pharmacist.

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

For more information
Visit: www.monash.edu/pharm
Pharmacy in the country

When Garrick Stevenson (BPharm 2006) and Mary Nguyen (BPharm 2006) were sent to Ararat on their fourth year rural placement in 2005, they felt right at home. Fast forward five years and the young couple, now married, have joined the town’s healthcare community as part of the Healthwise Pharmacy team.

Both Garrick and Mary started their careers in busy Melbourne pharmacies and, although enjoying the pace and energy, they soon realised that it wasn’t the work-life balance they wanted. “At least six days a week we were passing in the night,” said Garrick. “As one of us finished for the afternoon, the other left to start the night shift.”

They decided to pursue job opportunities in the country, knowing it would offer the lifestyle they were aiming for. “When we were here as students, we knew we wanted to return,” he added. “Ararat had shown us what rural pharmacy was like and what a positive experience rural life could be.”

While on placement, Garrick and Mary had worked at local pharmacies with preceptors who were open to teaching them and helping them develop skills. Best of all, they were made to feel very welcome.

“From recalling a patient’s regular medication as soon as they walked through the door to socialising outside work hours, our preceptors showed us that being someone’s pharmacist meant to be practised – serving people at a grass-roots level,” she said.

Ararat has a population of over 7000 people and, like all communities, faces a range of healthcare challenges including mental health, obesity and care for the aged. As pharmacists, Garrick and Mary are part of a team of professionals working to address some of the community’s most pressing healthcare needs.

“Ararat’s ageing population means our pharmacy has to be adaptable in providing services such as mobility aids and dose management aids, and efficient in our work with nursing homes and hostels. Our local residents are also catered for through our free delivery service,” said Garrick.

“In the country you don’t have the same level of technology in pharmacy as you do in the city,” Mary said.

As pharmacists, Garrick and Mary are part of a team of professionals working to address some of the community’s most pressing healthcare needs.

Both Garrick and Mary started their careers in busy Melbourne pharmacies and, although enjoying the pace and energy, they soon realised that it wasn’t the work-life balance they wanted.

According to Professor Carl Kirkpatrick, Head of the Department of Pharmacy Practice, the faculty works with the profession to identify rural preceptors committed to student learning and who can offer a broad learning and professional experience.

“We see rural placements in Victorian as an excellent opportunity for students to develop their skills and knowledge in the context of a rural community and the challenges that are associated with delivering health services in these settings,” he said. “And these placements would not be possible without the Pharmacy Guild of Australia providing significant financial support to offset the costs of rural placements for our pharmacy students.

The faculty places a strong emphasis on the practical elements of the Bachelor of Pharmacy degree, with all pharmacy students participating in a Professional Experience Placement program over third and fourth year. The program includes placements in hospital, community and rural pharmacy settings. It enables students to develop specific skills in clinical pharmacy, problem solving, medication history taking, patient counselling and therapeutic planning. They also gain an appreciation of the role of pharmacists in healthcare teams.

“The skills that the practical placements teach us really come to the fore in a rural setting,” said Mary. “Because this is a small community with fewer healthcare resources than you’ll find in a big city, pharmacies are often the place people go when they’re seeking healthcare. Customers are more likely to have time for everything you offer as a healthcare professional. Their visit to the pharmacy is an important part of their day. They’ll often want to know as much about you as you want to know about them. Add to that the familiarity of a close-knit community and you have the opportunity to practise pharmacy the way it’s meant to be practised – serving people at a grass-roots level,” she said.

Faculty Research Award and Young Investigator Award recipients

Professor Arthur Christopoulos

Professor Christopoulos was recognised for his outstanding contributions to the study of GPCRs. He is one of the world’s leading receptor pharmacologists, having made fundamental contributions to the application of analytical pharmacology in the study of allosteric modulation of GPCRs and functional selectivity (ligand-biased signalling).

Since relocating to MIPS in 2009, his interactions with the faculty’s medicinal chemists have grown to include new collaborations. In addition, his new links with pharmaceutical biology researchers at MIPS have already resulted in multiple publications and student co-supervision over the last two years, with more in the pipeline.

Professor Christopoulos’s research has made it into the textbooks and he has been cited multiple times in the latest editions of The Pharmaceutical Basis of Therapeutics and Rang and Dale’s Pharmacology. He is considered to be within the top 1% of pharmaceutical sciences and pharmacology scientists internationally.

Dr J. Robert Lane

Dr Lane was recognised for excellent progress as a young investigator and outstanding early career researcher with a developing international reputation in the molecular pharmacology of GPCRs, in particular in the study of ligand-biased signalling and functional selectivity.

He has made a significant impact in GPCR research, as evidenced by his authorship of 13 international peer-reviewed papers in leading discipline and generalist journals, including a breakthrough paper in Science. The outcomes of his research have led to a re-evaluation of how ligands are thought to interact with GPCRs. Dr Lane’s impact on the field is also highlighted by his many awards and other recognitions, including 11 invitations as a speaker at international and national scientific meetings, invitations to contribute review articles to international journals and editorship of a special edition of Drug Discovery Today: Technologies.

These awards to faculty members are in addition to the previously announced 2011 Early Career Research Award that went to Dr Erica Sloan, and to Professor Susan Charnam’s Faculty Annual Research for Excellence Innovation and Collaboration Award (she then went on to win the Vice-Chancellor’s Award for this category.)
Award-winning continuity of care
At last year’s Victorian Public Health Care Awards a combined team of CMUJS and hospital partners won the Excellence in Service Provision category for their program ‘MedGap: Improving continuity of medication management on discharge to residential care’.

The development of MedGap was led by Rohan Elliott (BPharm 1991, GradDip(Pharm) 1999, BPharm(Hons) 2000, M(ClinPharm) 2005) and Austin Health after an audit found one in five patients experienced a medication error when being transferred from hospital to residential care, and in one in three required a locum doctor attendance at the residential care facility.

“Patients were taking an average of 11 different medications and required a dose within four hours of arriving from hospital. Problems such as missed doses usually arose because there was no up-to-date medication chart available,” Rohan said.

MedGap addresses this problem by having the hospital pharmacist prepare detailed medication charts prior to discharge, allowing patients’ drug regimens to continue uninterrupted.

An evaluation of MedGap found medication errors had fallen to 2 per cent, and locum attendances to 11 per cent. It has now been rolled out across all Austin Health campuses and several hospitals in Victoria and Queensland.
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