

Alchemy

College Magazine Issue 08 Winter 2005

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A tribute to
our students'
achievements

The Victorian College of Pharmacy began life in 1881 as the School of the Pharmaceutical Society of Victoria. In 1992, it became a faculty of Monash University.

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Alchemy, the alumni magazine of the Victorian College of Pharmacy, a faculty of Monash University, is published twice a year. The next issue is due for publication in November 2005.

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

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Front cover photo: Second year pharmacy student, Clare Magree, on a cross-cultural experience (organised by Newman College) in the remote Aboriginal community of Warmun (Turkey Creek) in the Kimberley region.

From the dean

As we approach the college's 125th anniversary in 2006, it is appropriate to reflect on its many strengths – innovative teaching, world class research, and the staff, students, colleagues and friends who make up the college community.

Issue 8 of *Alchemy* highlights all these, but especially focuses on our students, whose enthusiasm for learning and leadership are an inspiration.

From our award winning YAA teams and our first Mathew Peck Scholarship winner who spent the summer in Vanuatu (at one time running a pharmacy on a remote island single handed), to our Remedy group raising funds to support the practice of pharmacy in developing nations and our students who volunteered in the Northern Territory and Western Australia on health and community programs – they are all great ambassadors for our college.

The many sponsors of student academic prizes and donors to the college's Foundation have recognised the importance of this upcoming generation of pharmacists and scientists. I am pleased to announce that over \$100,000 was donated to the college's Foundation in 2004. A list of donors and sponsors appears opposite and I thank all the companies and organisations, staff, graduates and colleagues who have supported the college's future growth.

As our college community continues to grow, we can look forward to the next 125 years being as strong as the first.



Professor Colin Chapman (1970)



Thank you to our donors

On behalf of the Board of the Victorian College of Pharmacy Foundation, I wish to thank every donor who has contributed to the Foundation since it was established in 2001, particularly those who have undertaken to make annual donations.

We are also grateful to those pharmacists who have advised us that they are making arrangements to leave a bequest to the Foundation in their wills. If their generosity and willingness to help is now matched by all pharmacists, we will quickly create a substantial Endowment Fund that will ensure the college will become one of the best schools of pharmacy in the world. To those who have not already supported the Foundation, I now strongly encourage your favourable consideration.



Alistair Lloyd AO RFD ED (1956)
Chair, Victorian College of Pharmacy Foundation

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In memorium:
Mrs Malike Gabriel
in memory of
Dr Manuch Gabriel

Mrs Val Constable
in memory of Mr Bob
Constable

The following have generously donated to the Foundation from 2001 to the present, including to the 2004 Annual Appeal. Their gifts range from \$25 to \$50,000. Annual pledges, marked with an *, range from two to five years.

Thank you to our student prize sponsors

The college is very grateful to all the companies and organisations who sponsored Exhibitions and Awards for Academic Merit 2004, presented at the 2005 Opening Ceremony.

- ACSPA (the Australian Consumer and Specialty Products Association)
- Australian Society of Cosmetic Chemists
- Biota Holdings Ltd
- CSL Ltd
- GlaxoSmithKline
- Guild Insurance Co Ltd
- Mayne Group
- Pharmaceutical Defence Ltd
- Pharmaceutical Society of Australia (Victorian branch)
- Pharmacy Guild of Australia
- Society of Hospital Pharmacists of Australia (Victorian branch)
- Therapeutic Guidelines Ltd

Amgen Australia, who in previous years has sponsored a student prize at the college's Opening Ceremony, chose to give their \$500 this year directly to the Medicinal Chemistry Society student group.

Mark Rowland, Associate Director Regulatory Affairs & Pharmacovigilance, Amgen Australia Pty Ltd, presenting a \$500 gift to the President of the Medicinal Chemistry Society, Ben Morgan.



Pharmacologist Dr Gertrude Elion patented the leukemia-fighting drug 6-mercaptopurine in 1954 and her research led to the drugs that facilitate kidney transplants. She was co-awarded the Nobel Prize in Medicine and in 1991 was the first woman inducted into the National Inventors Hall of Fame.

Looking back at a leader: Nigel Manning CBE

The buildings on the Parkville campus are named in honour of three great leaders who left their mark on the college and the profession – Scott, Sissons and Manning. In issue six of *Alchemy* we profiled A.T.S. Sissons, dean from 1920 to 1962. In issue seven we looked at the life and career of Sir Eric Scott, one of the founders and long time president of the Pharmacy Guild of Australia, and a president of the Pharmaceutical Society of Victoria. Here we celebrate the many achievements of Nigel Manning, Dean from 1963 to 1978.



Born in Sydney, Nigel Manning studied pharmacy for two years at the University of Sydney before moving to Melbourne to join his father as an apprentice and enrolling to finish his studies at the college.

His family had moved to Melbourne to open a pharmacy after a combination of the Great Depression and the building of the Harbour Bridge near their Sydney business made it unprofitable.

After graduating, he joined his father in the family's Melbourne pharmacy at the Flinders Street Station main concourse. Nigel spent the next 29 years working in, and eventually running the business. It was truly a family concern, as his wife Jean was even apprenticed to him in the business when she decided to enter pharmacy several years after they married in 1935.

Manning had amazing energy and focus. He became a fellow of the Pharmaceutical Society in 1941 and completed a Bachelor of Science at the University of Melbourne in 1948. He also joined the college staff as a part time lecturer in 1947, a position he held until 1961. During this period of working, studying and teaching, he also published 150 short papers on practical pharmacy matters in the *Australian Journal of Pharmacy* – a remarkable achievement.

In 1952, Manning was elected Chairman of Section O (Pharmaceutical Sciences) of the Australian and New Zealand Association for the Advancement of Science (ANZAAS) and to the Pharmacy Board of Victoria, a position he held until 1961, with three years as President from 1959 to 1961.

In the late 1950s, the college had outgrown its premises in Swanston Street and plans were underway to build a new campus on Royal Parade. Manning teamed up with his great friend Sir Eric Scott and raised over £1 million from Victorian pharmacists and the pharmaceutical industry to help fund the construction. He had great input into the design of the campus and took special interest in its artistic adornment, including the commissioning of the Sissons mural

and even posed for one of the figures in the mural. During this time he also participated in the planning of the new full time academic pharmacy course, which commenced in 1960.

Manning's involvement with the college ceased temporarily in 1961 when he moved with his family, his wife Jean and sons and daughter, to England. But in 1962 when dean A.T.S. Sissons retired after 42 years, he was called back to take over the position.

During his time as dean, Manning reorganised the college and increased the emphasis on research and academic rigour. He created three autonomous schools within the college and introduced a high quality baccalaureate, Masters and, in association with Kansas University, Doctorates of Philosophy, through the Intersearch Programme, now co-named in his honour. Additionally, he established a Doctor of Pharmacy research program in association with the Pharmaceutical Society of Victoria. This made the college the first non-university in Australia to be able to grant PhDs.

With the establishment of the Victoria Institute of Colleges, he succeeded in offering the first non-university Bachelor of Pharmacy and later the first non-university Masters Degrees in Australia.

In the late 1960s, Manning oversaw the construction of a third building on campus to house research laboratories and had further fundraising success with the 1967 Furnish and Equip Appeal to increase its size from three storeys to five and to cover its fit-out. The building was later named after him to honour these efforts and his great encouragement of research.

In 1970 he was appointed General Secretary of ANZAAS, a position he held for the next two years, during which he rewrote the constitution and reconstructed the organisation. His demand for high quality science

and research led him to create the then named Institute of Drug Technology and a system of industrial professorships, which, along with the Intersearch Programme, were the beginning of the college's outstanding research achievements.

Manning was awarded a CBE in 1974 for his contribution to academic and professional pharmacy.

He retired as dean in 1978. He is noted for being down to earth and he retired with a characteristic lack of fanfare and ceremony. During his time as dean he took the college from an apprenticeship to a science based course recognised worldwide. He worked tirelessly for the college and was a dedicated teacher, builder, patron of the arts and visionary, whose legacy was the modern college.

Calls for entries for college history book

What are your most vivid memories of your time at the college?

Dr Janette Bomford is writing the history of the college to mark its 125th anniversary in 2006. She is seeking your memories of student life and the lecturers and events that stand out.

Write as little or as much as you like but don't forget to include your contact details, years of attendance and a statement granting permission to quote from your letter in the book and to attribute the quote to you. All respondents' names will be included in the acknowledgements.

**Please write to:
Dr Janette Bomford, PO Box 160,
Newport Vic 3015.**

New Chair of Clinical Pharmacy

The college has created a new Chair of Clinical Pharmacy and appointed Professor Michael Dooley to the post.

The new Chair is a joint position with the Bayside Health network, and as such Professor Dooley is also the new director of pharmacy services at the Alfred, Caulfield and Sandringham hospitals. He was previously the Director of Pharmacy at the Peter MacCallum Cancer Centre.

“It is the first time a professor of clinical pharmacy has also retained such a hospital position,” said Professor Dooley, who took up his dual role in March.

As director of pharmacy services for Bayside Health, he is responsible for 80 staff and has an annual expenditure of around \$45 million.

In his university role, Professor Dooley is responsible for teaching, research and supervision of PhD students in this important and growing area of practice.

“The main advantage of my joint role is that it can link undergraduate and postgraduate teaching and research

with cutting edge practice in hospital pharmacy,” he said.

“We will be able to influence undergraduate teaching and effective development of clinical practitioners, and expand research as well.”

Professor Dooley brings extensive clinical experience to the role, plus a wide range of research projects focused on improvements in medication use and the quality of services associated with medication prescribing, dispensing and administration.

His contribution to clinical pharmacy has already been recognised with several awards. In November 2004 the Australian Council on Healthcare Standards (ACHS) awarded him its highest honour, the ACHS Gold Medal. The Medal is peer nominated to recognise an outstanding contribution to improving quality and safety in Australian health services.

He was also awarded the 2004 Australian Clinical Pharmacy Award from the Society of Hospital Pharmacists of Australia (SHPA) for his contribution to key initiatives

within the profession, including the SHPA Clinical Pharmacy Intervention Study that attracted widespread media attention and much community interest in the role of hospital pharmacists.

The study, driven by a group of researchers which included Professor Dooley, was published in the *British Journal of Clinical Pharmacology*. Its aim was to determine the cost savings of pharmacy-initiated changes to hospitalised patients’ drug therapy or management.

“Clinical pharmacists can save lives, improve patient care and reduce the length of stay for many people,” Professor Dooley said.

The report showed that, when annualised, the savings resulting from the interventions quantified at the eight hospitals involved was greater than \$4 million.

For further information contact Professor Michael Dooley, email M.Dooley@alfred.org.au



Professor Michael Dooley.

Essentials of Preclinical Drug Development Seminar

On 15 March, the college’s Foundation hosted its first Drug Development Seminar in conjunction with Ausbiotech. It was attended by 50 college researchers and members of the pharmaceutical industry.

Guest speaker was Dr Evan Siegel, CEO of Ground Zero Pharmaceuticals in the USA, a west coast based product discovery and development consultancy group specialising in strategic development plans for small market capitalisation (small cap) biopharmaceutical and medical device companies.

In his presentation, Dr Siegel took a lead compound from optimisation through the early stages of product development, with a focus on the regulatory and commercial essentials of any preclinical plan.

“Relationship building with a regulatory authority such as the Food & Drug

Administration (FDA) should be an important part of any biotech company’s drug development strategy to avoid costly delays in commercialisation,” said Dr Sandra Webb (1968), a previous CEO of Amrad and now at the college as a business advisor to the dean.

“FDA feedback on plans and progress can be sought at the key regulatory milestones – prior to phase 1 clinical trials approval (pre-IND), end of phase 1, end of phase 2 and marketing approval submission (pre-NDA) – as well as at ad hoc meetings for fast track and accelerated approval,” she added.

Members from the pharmaceutical industry were also impressed with the event. “The development and global commercialisation of new drugs is a costly and lengthy process. I applaud the Victorian College of

Pharmacy Foundation and Ausbiotech for hosting this seminar,” said Ken Windle, Chairman of Cerylid Bioscience and of Advent Pharmaceuticals Pty Ltd.

“The content was timely in terms of an integrated approach to pre-clinical development, especially regarding the time and cost penalties for poor planning and unnecessary studies (ranging from US \$0.5M - \$1.5M and 6-18 months),” added Ken.

“It also reminded us that any development strategy should keep in focus the end points of the program, label claims and comparability with what will be the competitors. The occasion provided another opportunity for the industry to further develop its knowledge base on best practice drug development.”



Dr Evan Siegel, CEO of Ground Zero Pharmaceuticals.

Opening of Academic Year 2005 and Presentation of Prizes 2004 ceremony

The college community came together on 16 March in its traditional ceremony to officially open the academic year and to honour the 2004 prize winning students. The guest speaker was Dr John McEwen, the Principal Medical Adviser to the Therapeutic Goods Administration (TGA).



Dr McEwen is an alumnus of the college, graduating with a Bachelor of Pharmacy in 1962 before going on to obtain a Master of Science in neurophysiology at Melbourne University. After a period as lecturer in physiology, he completed medical training and house positions at Royal Melbourne Hospital. From 1979 to 1989, he was Secretary of the Adverse Drug Reactions Advisory Committee and subsequently Head, Drug Evaluation Support Branch in the forerunner organisation to the TGA. He spent five years as Medical Director, CSL Limited, Melbourne, before returning to the TGA in August 1994. In the Queen's Birthday Honours Awards June 2003, he was awarded a Public Service Medal for outstanding public service in the promotion of the monitoring of adverse drug reactions.

Here is an excerpt of his address.

"I am deeply honoured that the college has invited me to return to give this address.

The college has been an integral part of my life. My late father, David McEwen, was a graduate of the college before me. I was in one of the last years of the apprenticeship training as a pharmacist in Victoria. For two years, I was released from shop work each week to attend lectures in the old college building in Swanston Street, opposite the Oxford Hotel. We moved to this Royal Parade site for the last two years of the course.

The staff developed in me a great curiosity – a wanting to better understand the sciences underlying pharmacy. I am grateful to Joe Cobcroft, Geoff Vaughan and Nigel Manning, amongst others, for sparking that curiosity.

It is now more than 45 years since I started my apprenticeship. When I started, there was still quite a proportion of each day spent in extemporaneous dispensing, including making up stock solutions, creams and the like. But we were also dispensing manufactured medicines. I had just sat my final exams when William McBride's letter alerting about thalidomide causing limb defects was published in December 1961. I remember dispensing ganglion blocking drugs like Ansolsen (the brand name for pentolinium) for severe high blood pressure. Its side effects were little better than hexamethonium, which are well described – among other things, the hexamethonium man wore a corset to avoid fainting when standing up.

We then had none of the modern drugs like SSRI antidepressants, statins, ACE inhibitors or the conjugated vaccines against pneumococcus and Haemophilus influenzae b, and certainly not the biological agents like infliximab.

My work as Principal Medical Adviser at the TGA involves many different tasks – checking the medical content of briefing papers for the Minister, reviewing decisions of the TGA and on occasions defending them at the Administrative Appeals Tribunal, being questioned at Senate Estimates Committee hearings, representing the TGA on radio and television and being involved in regional training about regulation of medicines.

As part of my work, I have been the Chair of the National Drugs and Poisons Schedule Committee (NDPSC), a committee of great relevance to pharmacy. Years ago, there were quite a number of differences in classifications of medicines and

poisons between the states and territories. Today there is a degree of uniformity, because the states and territories largely follow a national standard known as the SUSDP, or Standard for the Uniform Scheduling of Drugs and Poisons. The maintenance and amendment of the SUSDP are the principal roles of the NDPSC.

I mention the NDPSC because of the issue of rescheduling, or schedule 'switches' as they are called in the USA. There is a movement worldwide to down-schedule medicines into less restrictive categories. A recent paper in the British Medical Journal looked at the sources of requests to down-schedule medicines in the UK, USA and Sweden.

Essentially, there were two; manufacturers of products seeking to extend the life of a brand name product by moving it off prescription and various health service providers, including governments, hoping that getting a medicine into a pharmacy where it can be purchased will save them money, because they reimburse prescriptions but not non-prescription products.

In Australia, there are about 50 substances in the Pharmacist Medicine Schedule that are included in currently available products. A recent example of a medicine down-scheduled to Pharmacist Medicine is the weight-loss product Orlistat, marketed under the brand name Xenical. With Orlistat, there is a clear expectation that the pharmacist will, with the customer, calculate the Body Mass Index and ask about the individual's risk factors for such things as cardiovascular disease and diabetes before selling the product.

I believe it is very important that pharmacists are seen by the community to be exercising their responsibilities with Pharmacist Medicine products like Orlistat, because the community's perception of pharmacist performance will surely influence future decisions about down-scheduling. The Committee is likely to be less disposed to further down-scheduling of prescription medicines if there are reported instances of sales of products like Orlistat by pharmacy assistants, or sales to obviously underweight young women or men who may well be anorexic or bulimic.

In Australia, in recent times, neither the pharmacy profession nor the government has sought down-schedulings. The drive has been from the pharmaceutical companies.

As a member of the pharmacy profession, you will be able to influence the down-scheduling debate. In each instance, is there public health benefit in

availability from a pharmacist rather than on prescription? And what are the economic pluses and minuses for the profession if extensive down-scheduling from Prescription Medicine were to occur?

I would now like to turn to the monitoring of the safety of medicines after they are marketed. This is the activity that first attracted me to Canberra and has been my ongoing interest. I have already mentioned thalidomide. In the late 1950s it was used as a sedative and also by pregnant women to prevent birth defects and I am sure I dispensed prescriptions for it.

Unfortunately, it caused very serious birth defects, including major shortening of arms and legs. Dr William McBride in Sydney alerted the English-speaking world to this through a letter to *The Lancet*, published in December 1961.

If we think about the defects caused by thalidomide, they were obvious and unusual in that they occurred only very rarely in the absence of thalidomide. It took only small numbers of cases to be reported for the association with the drug to be recognised.

So part of the reaction in several countries, including Australia, was to set up schemes for health care professionals to report cases of suspected adverse reactions to medicines. That is the origin of our adverse drug reaction reporting scheme in Australia, often called the 'blue card' scheme because of the colour of the reply-paid report cards. The expert Adverse Drug Reactions Advisory Committee meets every six weeks and provides advice about the incoming reports.

Reporting individual cases is useful when the adverse effect is unusual, as with thalidomide. When, however, the report links a medicine with an adverse

event like a heart attack or a stroke, which we know occur in people not taking medicines, the case reports are not sufficient to determine the role of the medicine. In such cases, we need to use other techniques to investigate the suspicion raised by the case reports. Today, many suspicions are investigated by utilising the computerised medical records of large health maintenance organisations in the USA and Canada and a similar record system in the UK to follow the experience of very large numbers of people who have taken a medicine. This is bringing people with skills in epidemiology into the area of drug safety surveillance.

It is important, however, not to dismiss the ongoing importance of the case reporting scheme. On a Friday in January 2003, the Australian reporting scheme received a report of a man who had an acute psychotic reaction which included agitation, visual hallucinations and disorientation about one hour after taking two Travacalm travel sickness tablets. Travacalm is an over the counter (OTC) product containing dimenhydrinate, hyoscine hydrobromide and caffeine. In the first four days of the following week, a further five reports describing similar events were received from several parts of Australia, including effects in two children. This led to a very intensive investigation at the TGA. We obtained advice in a teleconference from two clinician members of our expert OTC-medicines advisory committee. The case reports pointed strongly to hyocine toxicity, but there was a matter we could not explain. Two of these six people had recently taken a prior dose of Travacalm and not had any reaction.

Our TGA laboratories worked over the weekend, analysing retention samples of the suspected batch obtained from the manufacturer and from a packet

of the same batch purchased at a local pharmacy. On the Monday, we had the answer.

Within single packets of this batch, the hyoscine content in individual tablets varied from zero to seven times the intended dose. The ingredients had not been mixed properly and this had then not been acted on by the quality control laboratory. As you may know, this triggered the investigation of Pan Laboratories.

I would like to focus on three things relevant to this audience:

- the importance of good manufacturing practice
- the importance of adequate quality control
- the importance of our scheme for reporting cases of adverse drug reactions.

In the Travacalm episode, two of the first six cases were reported by a community pharmacist. I hope that, in your professional practice, you will support the reporting scheme by sending reports of those events in patients you suspect were caused by a medicine – especially those that were serious and unexpected.

In conclusion, I would like to reiterate the enormous changes that will occur in pharmacy and the related sciences over the period of your professional lives. The great challenge for each of you will be to be as up-to-date in knowledge when you retire as you are today. I encourage you, as students and recent graduates, to develop your curiosity about knowledge and to maintain it throughout your careers – always be ready to ask "Why is it so?"



Gold Medal winners

Congratulations to Kathy Lee, winner of the Gold Medal in Formulation Science, presented by Bronwyn Capanna, President of the Australian Consumer and Speciality Products Association at the Opening Ceremony. This prize included a copy of the *CRC Handbook of Chemistry and Physics*

valued at \$300. Kathy also won the Third Year Exhibition award for formulation science, with a prize of \$500 donated by the college.

Congratulations also to Alexander Sarimichailidis, winner of the Gold Medal in Pharmacy 2004, presented by Joe Demarte (1973), President of the Pharmaceutical Society of Australia (Victorian branch), and the Neil Naismith Award, presented by Mary Hemming, Chief Executive Officer of

Therapeutic Guidelines Ltd. This Award is named in honour of Neil Naismith, AM (1958) in recognition of his untiring interest in pharmacy education, his involvement with the establishment of Therapeutic Guidelines and in particular the introduction of the concept of clinical pharmacy into Australian hospitals. The prize consists of a five-year subscription to *eTG complete* – a CD-Rom of all ten Therapeutic Guidelines titles.

The Gold Medals are awarded to the dux of each course on the basis of academic results over the four years of the pharmacy course and three years of the formulation science course.

Kathy is currently completing an honours year in the Department of Pharmaceutics, under the supervision of lecturer Dr Ben Boyd. The title of her project is 'Lipid-based liquid crystalline matrices for the sustained release of hydrophilic drugs'. Kathy is considering either moving into industry after completing her honours, or continuing her studies and completing a PhD.

Alexander is currently completing his pharmacy traineeship at Bell Street Pharmacy in Pascoe Vale. His goal for this year is to acquire enough experience to cope with the vast and varied professional demands of pharmacy. In the future he plans to focus on community practice, with long term plans of ownership.



Pharmacy Abroad student experiences

The Pharmacy Abroad program has been operating since the summer of 2000–01, when two students journeyed to Drake University in Des Moines, Iowa, USA for a short period of practical experience. Entry to the program is highly sought after by pharmacy students who wish to experience pharmacy in an international setting while developing their leadership skills.

So far, 24 students have been selected to travel to universities such as the National University of Singapore, the University of Kansas and Drake University in the USA, and the University of London in the UK.

These placements are a part of the practical experience program for students, which commences at the end of third year and continues in fourth year of the pharmacy course. Each placement is for a minimum of

three weeks and is partially funded by the Monash Abroad program.

Nine students have recently returned from summer placements, where they experienced hospital and community pharmacy in a variety of settings.

“My placement was in a community pharmacy located next to a health care centre. My preceptor was very welcoming and gave me plenty of opportunities to experience the normal routines undertaken by a pharmacist in the UK,” said Vivian Chua. “With my preceptor, I partook in a disease management group on diabetes at the health care centre and attended a drug company information night at the Hilton Hotel on the treatment of coronary heart disease – a real highlight with a sumptuous meal!”

“One of the best learning experiences for me was observing practical

Fourth year pharmacy students Dhineli Perera and Winnie Tan at Alexandra Hospital, Singapore.

dispensing classes conducted by my preceptor at King’s College,” she added. “It was a simulated situation of students picking up errors in prescriptions, then making contact with the doctor who wrote the script (played by a teacher). As a student working part time in a pharmacy, I sometimes get nervous when picking up the phone to communicate with a doctor regarding problems with a patient’s therapy or medication. I found this session to be very useful.”

Of her placement in a small hospital in Singapore, Dhineli Perera said she gained self-confidence, self-reliance, appreciation for the use of her clinical knowledge, fun and fond memories.

“Singaporeans work much longer hours than we do. Their health care system is nowhere near as generous as ours, which means that cost is a crucial consideration for compliance,” said Dhineli.

Winnie Tan, who also went to Singapore, found many differences too. “The main ones are in the scheduling of drugs, dispensing systems and ownership of retail pharmacies. In general, the hospital pharmacists in Singapore and Australia have similar roles, such as outpatient and inpatient counselling and therapeutic drug monitoring,” she said.

Winnie and Dhineli also spoke highly of their mentors. “Being in a small hospital had its advantages,” Dhineli said. “We got to know the pharmacists there on a personal level, which made asking questions a lot easier.”

“The experience working at National University Hospital (NUH) was just great, the pharmacists there were so nice and helpful, and I learned so much from each of them, especially my preceptor, who is the Chief Oncology Pharmacist at NUH,” said Winnie.

“She showed us around Singapore and took us to dinner at a French restaurant. She also took me to the Oncology Chinese New Year Dinner at the Cancer Centre,” she added.

Kansas	Julie Varghese Esther Koh
Drake Iowa	John Chau Andrew O'Brien
London	Vivian Chua Joanne Gross
Singapore	Dhineli Perera Winnie Tan Nathan Lum

For further information about Pharmacy Abroad, visit www.vcp.monash.edu/students/undergrad/pharmacyabroad.html

World’s Greatest Shave for a cure

Staff from the college, the Pharmaceutical Society of Australia (Victorian branch) and the Pharmacy Board of Victoria gathered in Cossar Hall on 10 March to lose their locks for charity.

A total of 15 willing volunteers either lost the lot or had their hair dyed, as the audience put in bids to raise money for the Leukaemia Foundation. Over \$2100 was raised from the event to help patients and families

living with leukaemias, lymphomas, myeloma and related blood disorders.

The event is one of Australia’s biggest fundraisers, with 90,000 people across the country shaving or colouring their hair. The college’s contribution was organised by the Victorian Pharmacy Students’ Association (VPSA) and administration staff Deborah Horne and Lindi Dutton.

The VPSA are planning further events for the year, including allied activities

with medicine, nursing, dentistry, optometry and physiotherapy students to encourage relationship building among the health profession courses.

“I’m really looking forward to these allied events, as they will get us all mingling before we eventually end up as colleagues,” said John Nguyen, President of the VPSA.



The college’s maintenance manager, Geoffrey Campbell, being shaved for charity.

Mal Hutson retires

Mal Hutson retired at the end of 2004 after almost 40 years at the college.

He obtained a Bachelor of Science degree, majoring in physiology and pharmacology, before joining the college in 1966 as a demonstrator

in the newly founded Department of Pharmacology. In 1969 he became laboratory manager and continued teaching until 2001. He obtained an MBA and in 2003 he took on the role of faculty infrastructure manager. Mal

also served on a variety of college and university committees.

A dinner was held on 7 December, at which staff and friends farewelled Mal in style.





Pharmacy students treat virtual patients

Students in the Clinical Pharmacy unit of the pharmacy course are using an innovative new computer program that allows them to work with and treat their own 'virtual patients'.

The case-based assessment method – developed by Dr Jennifer Marriott (1971), a senior lecturer in the Department of Pharmacy Practice – is being used by approximately 200 third year students and 175 fourth year students. Dr Marriott developed the assessment method as part of her Graduate Certificate of Higher Education studies. The program was converted to a computer based program using funds from a Monash University Unit Innovation Grant.

The program presents situations in a realistic way so that students can be assessed on their ability to deal with 'real-life' problem solving situations.

"In effect, the students are treating a virtual patient and need to deal with each scenario as they would if they were a practising pharmacist," Dr Marriott said.

Each student chooses a patient from a database of 200 'virtual' patients. Information including the patient's

age, gender, smoking and allergy history, up to four medical diagnoses and up to six medications plus test results (where appropriate) are supplied from a database that contains more than 150 medical diagnoses and more than 300 drugs – each with individualised dosage regimens.

"Once the student has chosen a patient, that patient is not available to any other student and forms the basis of a unique assignment that the student will complete over the final two years of the course," she said.

Using the program, Dr Marriott is able to randomly assign pre-prepared clinical 'scenarios' to the patients within assigned limits. In third year, the patients are assigned a respiratory scenario, such as hay fever or a cold, and in fourth year they are assigned a dermatological scenario, ranging from nappy rash to a pressure sore.

"To complete the assignment, the student has to diagnose and determine appropriate management of the symptoms presented in the scenario," she added.

The program was introduced into the pharmacy course in July last year and Dr Marriott said it has been extremely well received by the students.

"The students found the program easy to access," Dr Marriott said. "In fact, 149 of the students had logged on and chosen their patient on the first day the program was available."

Dr Marriott stated that the program would be suitable for use by other disciplines as well.

"Once you have the bank of standard patients, it would be simple to develop scenarios suitable for students in medicine, nursing and physiotherapy, as well as other areas," she said. "It is a flexible, easy to manage program that would certainly be attractive to other pharmacy schools."

The program was written by Michael Calagaz and Eric Goh from the Media Development Unit, Centre for Learning and Teaching Support, at Monash's Gippsland campus in line with specifications set out by Dr Marriott.

Last year was a busy year for Dr Marriott, as she was also appointed President-Elect, Academic Section, Federation Internationale Pharmaceutique (FIP).

For further information contact Dr Marriott, email jennifer.marriott@vcp.monash.edu.au

Third Pharmacy Education Symposium, Prato, Italy

The theme of the third Pharmacy Education Symposium, to be held from 11 to 13 July at Monash's centre in Prato, is Assessment.

The symposium is being conducted jointly with the School of Pharmacy, King's College, London. The series was developed to provide a collegial forum for the consideration and sharing of issues related to education

in pharmacy. Past symposia explored experiential teaching and learning in pharmacy and innovations in teaching and learning, with outcomes and resources freely available.

The 2005 symposium will explore issues related to assessment in the broad range of settings in which pharmacy education is provided.

The program focuses on Assessment in the Traditional Environment, in Practice Settings (Experiential Assessment) and in the Virtual Environment.

For further information, visit www.vcp.monash.edu.au/departments/pharmpract/symposium2005



The magnificent Palazzo Vaj, the Monash Italian centre, Prato, Italy.

Upgrade to a Master of Clinical Pharmacy

The Master of Clinical Pharmacy, which was a new course for 2003, recently graduated its first cohort of students. Course coordinator Kirstie Galbraith (1988) has now introduced a mechanism for holders of a Post Graduate Diploma in Clinical Pharmacy (PostGradDipClinPharm) to upgrade their qualification to a Master of Clinical Pharmacy (MClinPharm).

Holders of a PostGradDipClinPharm from the college may be eligible to upgrade to a MClinPharm by enrolling in and completing those MClinPharm

subjects for which Masters level criteria has not yet been met. For many recent PostGradDipClinPharm graduates, the main requirement to be fulfilled will be completion of a practice based research project. Students with earlier qualifications may be required to complete other Masters level subjects to satisfy MClinPharm requirements.

A small number of places will be available due to resource limitations, and applicants completing research projects will generally only be accepted

Nick Jones (1992), a speciality clinical placement preceptor and Deputy Director of Pharmacy at the Royal Melbourne Hospital (RMH) in the RMH's ICU teaching MClinPharm student Li-Fen Feng (1997), who is currently Senior Clinical Pharmacist at Western Hospital. When the photo was taken, Nick was a Senior Clinical Pharmacist and Clinical Teacher at the RMH. Nick has completed his PostGradDipClinPharm and is planning to enrol to upgrade to an MClinPharm.



in alternate years, when the main cohort of students are not completing their projects. Applicants will need to submit an expression of interest for the next intake.

For further information, visit www.vcp.monash.edu/courses/clinicalpharmacy/upgrade.html or contact Kirstie Galbraith, email kirstie.galbraith@vcp.monash.edu.au

A pharmacy student's experience in a developing nation

When we think of Vanuatu, most of us imagine white beaches and lush rainforests. But there is another side to these idyllic islands. Vanuatu relies heavily on tourism for its economy, but the vast majority of the population resides in rural areas, engaging in subsistence agriculture. The health care system is limited and struggles to meet the needs of its population of 173,000 spread over 68 islands.



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Fourth year pharmacy student Michael Nunan recently travelled to Vanuatu and spent six weeks at the main hospital in the capital Port Vila, where he worked in the pharmacy department and was mentored by the chief pharmacist Amanda Sanberg. He also spent two weeks at Norsup on the island of Malekula in the Malampa province, running the pharmacy in the major hospital for the province single-handedly.

Michael's trip to Vanuatu was funded by the inaugural Mathew Peck Travelling Scholarship. This scholarship was established to honour the life of Mathew Peck and to continue Mathew's ideals and commitment to international health issues. Each year, the scholarship will enable a pharmacy student to participate in an international health development program in a developing nation.

Michael found the experience to be eye-opening and life changing. "It really was inspiring to find myself among other volunteers who had made the decision to use their talents and time to help those who most needed it," Michael stated.

"Vanuatu is a country of many contrasts – which I'm sure would be an apt description of so many developing countries – and this sort of experience

makes you feel capable of doing something worthwhile with your degree and your life," Michael stated.

This first scholarship placement has inspired a new level of awareness and interest in international health issues at the college, and has given Michael a remarkable experience, meeting and working with health professionals in a developing nation with limited resources.

The winner of the second scholarship is fourth year student Jana Dostal. Jana is one of the co-founders of Remedy, the student group established in 2004 to share resources with pharmacy institutions in underdeveloped countries, and to educate the college and wider community on health and pharmacy practice issues in underprivileged areas. (See the next issue of *Alchemy* for news of Jana's chosen destination.)

For further information about the scholarship, upcoming fundraising events or to make a donation, visit www.vcp.monash.edu.au/students/mpeckscholar



3.

1. Michael speaking at the 2005 Opening Ceremony.
2. Michael in the pharmacy at Norsup on the island of Malekula.
3. Fourth year pharmacy student Jana Dostal, winner of the 2005 Mathew Peck Travelling Scholarship.

More student scholarships

To attract the brightest and best students, the college is providing a number of scholarships for undergraduate students.

In 2004 and 2005, undergraduate students from the pharmacy, formulation science and medicinal chemistry programs were supported with scholarships. Students receiving the scholarships came from rural backgrounds, metropolitan areas and from overseas.

The scholarships were granted to commencing domestic and international students with the highest ENTER scores (or equivalent), and where funding allowed, to full time continuing international and local students who had the highest aggregate scores in their year level or were the overall achiever for each degree course.

"I was very surprised and thrilled to be awarded a Monash scholarship. It will go a long way to easing financial pressures and ensure that I have the time required for my studies. It is a great reward for the hard work of Year 12."

Emma Simson, first year pharmacy/commerce student

"It was a big surprise for me when I was told that I had won a Monash International Scholarship. I want to thank Monash for giving me this prize. It is a 'stimulant' for me to achieve my goal."

Meng-Hui Tan, fourth year pharmacy student



2005 winners: (l-r) Chee Huong (Jessica) Ling, Jana Lee, Ching Yee (Sandy) Wong, Emma Simson, Elizabeth McBrearty. Hsiao-Chun (Sharon) Chen not present.



2004 winners: (l-r) Wei Keong Ong, Yan Yan Yeap, Berenice Sheridan (back), Kelly Lee Tet (front), Jean Casimir (back), Meng Hui Tan and Corrine Kluvers. Pharmacy Rural Scholarship winner Sarah Lum not present.

Second Pharmacy Rural Scholarship recipient

First year pharmacy student Elizabeth McBrearty, from Wendouree near Ballarat, is the second recipient of the Pharmacy Rural Scholarship, established to encourage more regional secondary students to consider pharmacy as a career, and to attract the best and brightest regional students to the college.

"I grew up in Ballarat and completed my secondary schooling at Loreto college. I was the second of three children, having an older brother and a younger sister. During my schooling I was an avid badminton player, competing in tournaments at a state and national level, and was also a member of the national development squad, which trained regularly in Melbourne.

I became interested in the profession of pharmacy after completing work experience in one of the local pharmacies (UFS Dispensaries) during Year 10. This interest was further nurtured when I gained a casual position as a pharmacy assistant, and since

that time I have had a desire to become involved in the field. The job prospects and the high demand for pharmacists worldwide was also a great incentive to study pharmacy.

The college attracted me because of its high reputation and its well established course. I had always wanted to study in Melbourne and loved the location of the college, so it was always my first preference for tertiary studies.

The other appeal of pharmacy was the great opportunities and flexibility within the profession. I would like to travel overseas and work but ultimately I would love to get involved in research. With my sporting background, the issue of drugs in sport has fascinated me and I have thought of being involved in the development of testing for illegal drugs in the sporting arena. However, saying this, I do enjoy the patient contact that pharmacy offers, so would like to do a bit of both the research aspect as well as the hospital and community pharmacy work."



Second year pharmacy student Clare Magree on her cross-cultural experience in the remote Aboriginal community of Warmun (Turkey Creek) in the Kimberley region, WA.

Maja worked with the Workforce Development Team updating the resources for the Sexual and Reproductive Health Certificate, a postgraduate qualification for nurses.

"This experience has given me the opportunity to meet some truly unique people whose inner strength, as well as the warmth and trust they offered, really astonished and moved me," said Ria.

"While volunteering at Family Planning, I came across a quote which made me realise why I wanted to do volunteering in the first place. A Murri woman, Lilla Watson said, "If you have come to help me, then you are wasting your time. If your liberation is bound up with mine, then let us work together," said Maja.

"Having pharmacy students visit us was of great interest because we mainly get requests from medical and nursing students. This is the first from another bio-medical discipline," said Mmaskepe Sejoe, Executive Director of the Association. "It is pleasing to see students with a strong sense of social responsibility."

The sisters funded their trip by fruit picking. They also work as volunteers throughout the year at the Royal Children's Hospital.

"Clare, Ria and Maja exhibit a great commitment to community involvement and a passion for making a difference," said Professor Colin Chapman, dean of the college.

"They are representative of the many students who are thinking about their roles as health professionals in the broader community and working hard to assist those less fortunate," he added. "They are wonderful ambassadors for our college and our profession."

NT and WA learning experiences

Three pharmacy students travelled to the Northern Territory and Western Australia over the past summer, volunteering on health and community programs to gain valuable experience and insight into Indigenous and youth health issues.

Clare Magree, a second year pharmacy student, was chosen to undertake a cross-cultural experience in the remote Aboriginal community of Warmun (Turkey Creek) in the Kimberley region. Over the 16-day program organised by Newman College, she lived by the community and worked in the local primary school.

"The members of the Turkey Creek community were incredibly open and welcoming. It was definitely an eye-opening experience, and the acceptance and gratitude that I was shown by the people has left me with a strong ambition to work in underprivileged regions," Clare said.

Clare, who grew up in Wangaratta and whose family comes from a farming background, plans to return to work in a rural area on graduation. She hopes to work again with Aboriginal communities

and also to travel overseas to work in developing countries. Clare is a member of the Newman College Community Service Committee, which in 2004 raised over \$10,000 at a dinner to aid Sudanese refugees living in Uganda.

Maja and Ria Bajraktarevic, third year pharmacy students, spent three weeks working at the Family Planning Welfare Association of NT Inc. The Association provides sexual and reproductive health care, education and training through clinics, workshops, courses and school sessions.

Maja and Ria spent their placement at the Association's offices in Darwin. Ria used her artistic abilities to create a new cover for their Indigenous community sexual health education videos and designed a poster for the young people's clinic.

In 1844, at the age of 16, the great Norwegian playwright Henrik Ibsen became an apprentice in a pharmacy. After his apprenticeship, Ibsen worked as an assistant pharmacist, leaving in 1850 to study in Christiania (now Oslo).

Grants success for college researchers

College researchers have again attracted a high level of research funding, recently receiving almost \$1.4 million in prestigious Australian Research Council (ARC) and National Health and Medical Research Council (NHMRC) grants.



Dr Helen Irving



Professor Peter Scammells



Professor Peter Stewart



Dr Betty Exintaris and Dr Sab Ventura



Dr Ossama El-Kabbani



Dr Bernie Flynn



Dr Ian Larson

ARC grants foster excellence, partnerships and the highest ethical standards in research and research training in all fields of science, social sciences and the humanities. ARC Linkage grants are designed to build links between research centres in Australia and overseas by funding collaborations.

NHMRC grants cover the spectrum of health and medical research, including biomedical, clinical and public health. The Council, which was established in 1937, awards grants on the basis of scientific quality as judged by rigorous peer review.

The projects receiving grants cover a variety of drug development and delivery breakthroughs to assist in the treatment of diabetes, benign prostatic hyperplasia and cardiovascular disease; other projects receiving grants will assist the agricultural, manufacturing and pharmaceutical industries.

NHMRC project grant

Lecturer Dr Betty Exintaris and senior lecturer Dr Sab Ventura from the Department of Pharmaceutical Biology, in association with Dr Rick Lang from the Department of Physiology

at Monash's faculty of Medicine, Nursing and Health Sciences, have been awarded \$228,500 over the next three years to investigate the role of pacemaker cells in the generation of slow wave activity in the prostate gland.

In recent years there has been a renewed interest in the pathophysiology and pharmacology of the prostate gland, as it is the only accessory genital organ that commonly undergoes hypertrophy such as benign prostatic hyperplasia (BPH) in ageing males. Current pharmacotherapy of this condition aims to reduce the size of the prostate by using 5 α reductase inhibitors such as finasteride or to reduce the smooth muscle tone of the prostate using adrenoceptor antagonists. However, surprisingly little attempt has been made to pursue different therapeutic agents for treating BPH, especially as current pharmacotherapy is associated with numerous disadvantages.

"Our study was the first to demonstrate the presence of spontaneous 'slow wave' activity arising from the smooth muscle stroma of the guinea pig prostate gland," stated Dr Exintaris.

"In addition, we were able to identify a population of morphologically-distinct interstitial cells that have also been recently identified in the human prostate.

"We believe that the interstitial cells are fundamental in initiating the electrical activity and ensuring smooth muscle tone in this organ, and may well be an alternative avenue of intervention in patients with prostatic disease," added Dr Exintaris.

"Therefore, the overall aim of this project is to elucidate, using an electrophysiological approach, the role of the interstitial cells in the generation of the spontaneous 'slow wave' activity in the prostate gland."

ARC Linkage project grant

Dr Ossama El-Kabbani, a senior lecturer in the Department of Medicinal Chemistry, and partner organisation Sanwa Kagaku Kenkyusho, were awarded \$85,814 over two years to research studies on the stereospecific interaction between aldose reductase and inhibitor.

"There is no therapy specific for treatment of diabetes complications accepted worldwide," said Dr El-Kabbani. "The enzyme aldose reductase has shown promising results as a drug target for preventing or delaying the onset of the complications."

The structures of human aldose reductase holoenzyme in complex with stereoisomers of the potent inhibitor Fidarestat will be determined at high resolution in order to elucidate the binding modes responsible for the differences in their inhibitory potencies.

"The results may lead to the design of better inhibitors of the enzyme for the treatment of diabetes sufferers, at least until better methods for maintaining metabolic control are developed," Dr El-Kabbani added.

ARC Discovery project grant

Dr Helen Irving, a senior lecturer in the Department of Pharmaceutical Biology, along with her colleagues Dr DM Cahill (Deakin University) and Dr CA Gehring from University of Western Cape (South Africa), has received \$215,000 over three years for a project entitled 'Plant protein signalling networks'.

"We will assess the functional role of PNP (novel plant protein hormones involved in water regulation) at a biochemical, molecular and cellular level. Importantly, as stresses from climatic extremes are increasing, this will lead to new insights and critical appreciation of the processes plants use to regulate their water status," explained Dr Irving.

Since water and solute status underpins the regulation of plant growth and development, these findings will have a major impact on both agriculture and horticulture in Australia.

"The new insights that we gain can be used to directly accelerate progress towards the development of plants with improved drought and salinity tolerance, which will lead to better crop and pasture productivity under harsh Australian conditions," added Dr Irving.

ARC Discovery project grant

Professor Peter Scammells, head of the Department of Medicinal Chemistry and Dr Bernie Flynn, a senior lecturer in the department, were awarded \$270,000 over three years to research 'Allosteric enhancers: Leads for the therapy of cardiovascular disease'.

Cardiovascular disease (CVD – heart, stroke and blood vessel disease) kills more people each year than cancer, AIDS and traffic accidents combined. Coronary heart disease (CHD), followed by stroke, is the largest single cause of death in Australia. Allosteric enhancers are particularly attractive drug targets for the prevention of CVD due to their ability to limit injury associated with ischaemic tissue trauma selectively in tissues where adenosine is elevated.

"While the development of drugs that protect against heart attack and stroke is a difficult and long term objective, any advances toward this goal would clearly be of great benefit to the community," said Professor Scammells.

ARC Discovery grant

Dr Ian Larson, a lecturer in the Department of Pharmaceuticals and Professor Bob Gilbert from the University of Sydney were awarded \$540,000 over three years to investigate 'Formation and stability of polymerically stabilised colloids'.

This project will bring economic, medical and environmental benefits, with improved product performance and manufacturing processes for everyday industrial items relevant to a large industrial sector with significant employment in Australia. These manufacturing areas include inks and paints (for example, surface coatings that can be applied more rapidly without clogging the jets); better means of preventing the fouling of industrial membranes; and improved materials for biomedical applications, with more desirable interactions between living cells and body fluids.

"These advances will also speed the replacement of solvent-based lacquer paints – detrimental to both environment and user – with water-based products of high quality," said Dr Larson.

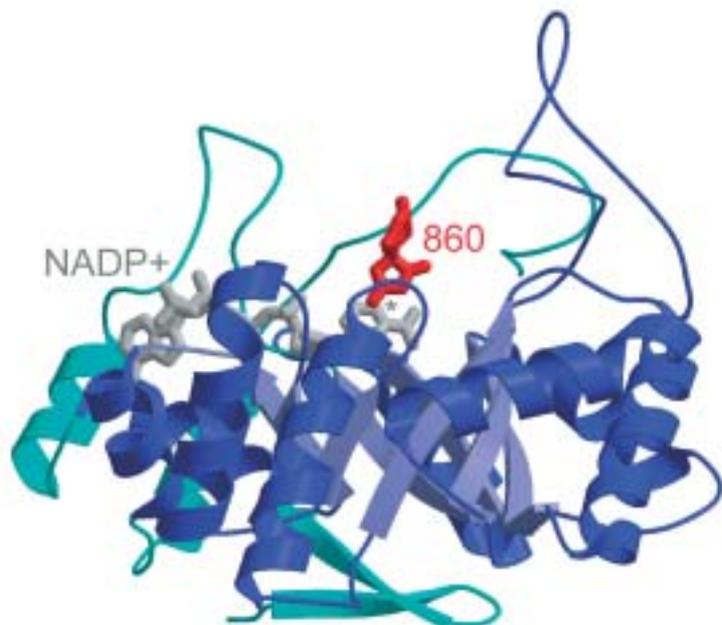
ARC Linkage grant – Infrastructure, Equipment and Facilities

Professor Peter Stewart, head of the Department of Pharmaceuticals, is part of a team that received \$245,300 to investigate 'Particulate characterisation for pharmaceutical and engineering applications'.

The aim of this proposal is to establish joint facilities between the University of Sydney, Monash University and the University of New South Wales for the characterisation of surface properties and particle sizes of pharmaceutical aerosols and industrial powders.

"Such knowledge is important for controlling aerosol production and delivery of drug particles to the lungs. It will have significant benefits to the pharmaceutical industry as a resource in the development of formulations for inhalation and to patients in providing more efficient respiratory delivery," said Professor Stewart.

"The proposed facilities will also enhance research in complex particulate systems and modelling, and functional excipient and nano-material development, keeping Australia at the forefront of pharmaceutical powder research."



Crystal structure of an enzyme in complex with a drug determined by Dr Ossama El-Kabbani and his group. The 3D ultra-high resolution structure of the enzyme-drug complex was solved using synchrotron data collected at the Swiss Light Source.

"The Nanolitre Protein Crystallisation Facility, which will be mainly located at CSIRO, will provide a suite of infrastructure that will collectively make a radical improvement to the process of protein crystallisation and the production of protein crystals that diffract to atomic resolution," Dr El-Kabbani said.

The capabilities to be provided by this facility include:

- robotic preparation and dispensing of crystallisation mother liquors
- robotic preparation of nano-volume sitting-drop crystallisation trials
- crystallisation trials performed in micro-fluidic chips
- robotic incubation and handling of sitting-drop crystallisation plates
- crystal humidity control experiments to optimise diffraction
- dynamic light scattering assessment of protein crystallisation potential
- web-based portal for users (protein couriered in – results emailed back).

For further information, email ossama.el-kabbani@vcp.monash.edu.au

\$1.754M grant for Nanolitre Protein Crystallisation Facility

The Ministers for Innovation and Health have approved \$1.754 million from the Bio21 STI funds for the establishment of the Nanolitre Protein Crystallisation Facility for Rational Drug Design and Therapeutic Development.

While Bio21 members have considerable resources for protein production and x-ray diffraction data collection and analysis, no single member institution

houses a state-of-the-art laboratory to deal with the crucial task of protein crystallisation.

The five member institutes of BIO21 – the college, CSIRO, WEHI (Walter and Eliza Hall Institute), St. Vincent's Institute of Medical Research (SVIMR) and the Austin Research Institute (ARI) – have joined together to establish such a facility collaboratively in Victoria.

Benedict Arnold is one of the most infamous figures in US history, a smart military tactician who fought for the colonists before he switched sides and fought for the British. Before the Revolutionary War, Arnold was the owner of his own apothecary shop in New Haven, Connecticut.

Cortical receives \$3.03M Start Grant

Cortical Pty Ltd, whose laboratories are based at the college, has been awarded a Federal Government R&D Start Grant to develop new drugs against inflammatory diseases such as arthritis, psoriasis, asthma, multiple sclerosis and colitis.

Cortical is a discovery research and development company founded in 2003 by Associate Professor Eric Morand, from Monash's faculty of Medicine, and Dr Magdy Iskander, a senior lecturer from the college's Department of Medicinal Chemistry. Cortical's mission is to produce small molecule solutions to therapeutic targets in inflammation and to commercialise these via strategic partnerships with pharmaceutical and biotechnology companies.

The \$3.03 million grant from AusIndustry will help conduct Phase I clinical trials on the company's small molecule macrophage migration

inhibitory factor (MIF) antagonist for treatment of inflammatory conditions.

Cortical's CEO, Dr Su-Peing Ng, is delighted that the company has been awarded the grant, and particularly pleased that AusIndustry has recognised the potential benefits of Cortical's R&D program.

"Current therapies for common inflammatory conditions like rheumatoid arthritis have many limitations, including significant side effects, high costs and a requirement for intravenous administration," Dr Ng explained.

"Cortical is developing and soon to commence the trial of potent oral MIF antagonist drugs that have the potential to provide a more effective solution for patients."

Cortical's small molecule cytokine antagonist has potential application in diseases characterised by inflammation. Treatment of inflammatory diseases in the past has been non-specific, based on broad-spectrum immunosuppressant drugs such as corticosteroids. Though beneficial, these drugs have universal side effects that limit their use.

"Small molecule cytokine antagonists have never previously been developed for therapeutic use, but may provide a valuable combination of effectiveness in treatment, potential oral administration and relatively low cost – which could allow more patients to receive the treatment," said Dr Iskander.

Cortical will work with scientists from Genzyme, a leading global biotechnology company, to focus on blocking the activity of MIF and to develop new oral drugs to fight inflammatory diseases such as rheumatoid arthritis, multiple sclerosis and colitis. Cortical entered into an agreement in October 2003 with Genzyme to work together to develop new treatments for inflammatory diseases.

Under the agreement, the two companies will collaborate on the research and development efforts through Phase II clinical trials. Genzyme will complete the development and commercialise any products that arise from the collaboration. Cortical retains rights to develop MIF antagonist products for localised uses.



For further information about Cortical, visit www.cortical.com.au

Facility for Anti-Infective Drug Development and Innovation

The Facility for Anti-Infective Drug Development and Innovation (FADDI) provides Australia with the 'missing link' in the anti-infective development process and enables an integrated platform for the discovery and preclinical and clinical development of anti-infective agents.

FADDI was established in 2004 through a Monash Research Fund – New Research Area grant to consolidate existing anti-infective research activities, including two prestigious NHMRC project grants in optimising the use of anti-infectives, awarded in 2003.

"There is an immediate need for anti-infective agents to combat the burgeoning problem of emergence of multi-drug resistance among bacteria, fungi, viruses and parasites," stated Professor Roger Nation, co-director of the facility and head of the Department of Pharmacy Practice.

"Opportunities for identifying effective antimicrobials arise from new drug development or improving the way 'old' antibiotics are used," he added.

Researchers, regulatory bodies including the US Food and Drug Administration, and the pharmaceutical industry acknowledge that pharmacokinetic (PK) / pharmacodynamic (PD) philosophies are a critical bridge between preclinical and clinical development pathways of anti-infectives.

Contemporary drug development approaches incorporating PK and PD allow greater certainty and efficiency throughout the development process, as well as the opportunity to identify novel dosing strategies that can expand indications of existing antimicrobials and even resurrect old antibiotics.

"FADDI is committed to incorporating PK and PD into anti-infective research to identify innovative approaches that can be applied to the development and optimisation of new and existing anti-infectives. FADDI is also committed to the discovery of novel therapeutics in the infectious diseases area," said Dr Craig Rayner, co-director of the facility and senior lecturer.



FADDI research activities cover the breadth of drug development, including aspects of discovery and preclinical investigations through to multinational clinical trials. Another integral member of the FADDI team is senior scientist Dr Jian Li. FADDI is also home currently to postgraduate students (PhD, Honours) as well as technical and administrative staff. Collectively, the FADDI group has internationally recognised expertise in bioanalytical methods, pre-clinical and clinical development of anti-infectives, and clinical use of anti-infectives.

A few of the members of the FADDI team. Back: Dr Jian Li, Professor Roger Nation, PhD student Lauren Boak and Dr Craig Rayner (1995). Front: PhD student Sreeja Sudhakaran (1998) and Dr David Kong (1990).

For further information about FADDI, visit www.vcp.monash.edu/departments/pharmpract/research/faddi/index.html



Acrux's spray-on testosterone for women

Improved sexual satisfaction for women could be just a spray on the skin away, according to the results of clinical trials led by Acrux Limited.

The unique testosterone spray, developed by the Melbourne-based company, significantly improved younger women's sexual enjoyment and satisfaction.

The spray was tested on 261 premenopausal women across Australia who had low libido and testosterone levels. The spray delivers testosterone and a substance to ensure the hormone is held in the skin and absorbed over 24 hours – similar to the way sunscreens remain on the skin.

Each woman kept a diary throughout the 16-week study – in which they were also given 'dummy' doses – to record all sexual events, along with the level of satisfaction.

Principal investigator Professor Susan Davis, Chair of Women's Health at Monash University, said previous research had focused on postmenopausal women known to have low testosterone levels.

"But many younger women also report having low sexual interest and enjoyment, and traditionally this has been explained away as being caused by relationship issues, depression or other life circumstances," she said. "But now we know for many women the underlying problem is biological."

The results of the study showed that, by restoring hormone levels to normal through the transdermal spray, women's sexual lives were also restored to a significant extent – and with very few side-effects.

"If further studies reconfirm the benefits we have seen, the spray could make an enormous difference to the quality of many women's lives," Professor Davis said. "This is not just about sex – it's about having a satisfying home and social life, and

having happier relationships and communities all round."

Acrux CEO and managing director Dr Igor Gonda said the clinical trial results were a significant step towards bringing a novel product to treat female low libido to global markets.

The study was part of the approval process for the US Food and Drug Administration. The next step will be Phase 3 studies to confirm the effectiveness and safety of the therapy over a longer period.

Acrux, a speciality pharmaceutical company, was established in 1998, after researchers at the college invented a method for delivering drugs through the skin. The inventors of the technology, which was patented by the college, were Professor Barry Reed (1963), Dr Barrie Finnin (1967) and Dr Tim Morgan (1992). Shares in Acrux were listed on the Australian Stock Exchange on 29 September.

For further information, visit www.acrux.com.au

\$20,000 for hospital discharge research

Dr Jennifer Marriott has been awarded a \$20,000 Abbott Australasia Hospital Pharmacy Research Grant from the Society of Hospital Pharmacists of Australia to investigate problems associated with patient discharge from hospital.

Dr Marriott will undertake the research project, titled 'Hospital discharge: the existing and potential

role of the pharmacist', with former PhD scholar and colleague at the college, Dr Tracey Bessell, who now holds an appointment at the Canberra Hospital.

Dr Marriott said the project would take about 12 months to complete.

"The grant will give us the opportunity to further investigate the problems related to discharge of patients from hospital and the effect this can have on the workload of pharmacists," Dr Marriott said.

"Both pharmacists and hospital staff will be surveyed to determine what kind of problems exist, how extensive these problems are and what possible solutions would be workable," she added.

For further information contact Dr Marriott, email jennifer.marriott@vcp.monash.edu.au



Slashing nursing home wound care costs by half

A college study has revealed nursing homes could cut wound care costs, reduce nursing time for wound management and slash the amount of waste produced by 75% by simply using modern wound management practices.

Geoff Sussman, a senior lecturer in the Department of Pharmacy Practice and director of the Wound Education and Research Group based at the college, said the findings could have massive implications for residential aged care facilities, where one in every four patients presented with a wound at any given time – saving government and private providers millions of dollars each year.

According to Geoff, using modern wound pharmaceutical products during the 40 week study meant savings per nursing home bed of almost \$85.

"Across Australia there are 140,000 nursing home beds, so this could mean total savings of almost \$12 million," he said.

The clinical study of 2600 beds in 66 nursing homes throughout Victoria is one of the largest studies of its kind ever undertaken in Australia. Researchers identified healing outcomes of three common wounds found in nursing homes – skin tears, pressure wounds and leg ulcers.

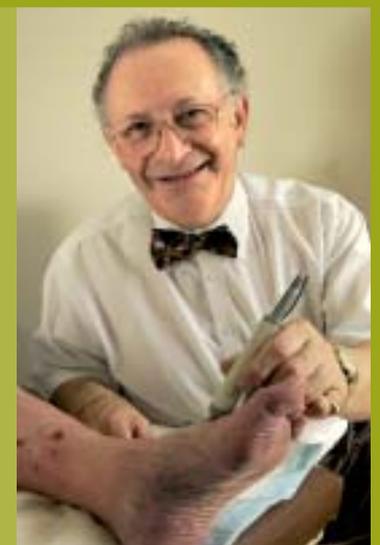
"By comparing results from two separate groups we found modern standardised moist wound management practices lead to faster healing, less pain and lower costs," Geoff said.

"Our results clearly show it is far cheaper to use modern wound pharmaceutical products compared with old-fashioned and traditionally cheaper items like gauze and paraffin tulle dressings," he added.

The study also revealed a dramatic reduction in nursing time for ongoing wound management by applying modern practices, proving cost effective treatment can produce significant cost savings and improved patient care.

In light of these results, Geoff has recommended changes to aged care policy and produced a protocol template for wound assessment, documentation and treatment.

The study was funded by the Commonwealth Department of Health and Ageing through the Pharmacy Guild of Australia.



For further information contact Geoff Sussman, tel: 613 9903 9619.



Left: Verna Wan (Secretary), Mary Poon (Treasurer), John Nguyen (President) and Linda Kevorkian (Vice President) holding the Les Cashen trophy.

Right: The VPSA contingent at the Congress in their t-shirts.

59 college students attend NAPSA Congress

Report from third year pharmacy student Verna Wan, Secretary, Victorian Pharmacy Students' Association (VPSA).

Close to 300 pharmacy students drawn from the ten pharmacy schools in Australia participated in the third Annual Congress of the National Australian Pharmacy Students' Association (NAPSA) in Brisbane from 24 to 30 January 2005.

VPSA was represented by 59 college students, our largest cohort to date.

The central theme for the Congress was 'Diversity in Pharmacy' and the education program included seminars and forums centred on the NAPSA subcommittees, such as pharmacy awareness, industrial affairs, rural pharmacy and education.

All Congress delegates participated enthusiastically in sharing opinions on the issues brought up during the forums. Topics focused on the different areas of speciality in pharmacy practice, and much

discussion was generated among students throughout the week about where their career paths may take them, as well as the future of the pharmacy profession.

Students made the most of their chance to ask questions of the panel who were invited to speak and provide expertise from their areas of practice. Discussions extended from recent controversies such as the TGA's decision to down-schedule certain drugs, workforce issues, the role of complementary medicines in pharmacy, and the impact on the profession of an increasing number of universities offering pharmacy as a degree, as well as the commencement of the Master of Pharmacy degree at one Queensland university in lieu of the usual Bachelor of Pharmacy.

Various social events were also enjoyed by delegates, such as a trip to Dreamworld, an Australia Day boat cruise, a beach party at South Bank and a NAPSA Ball on the final night.

Through the educational and social events at the NAPSA Congress, Australian pharmacy students had the opportunity to form friendships and establish networks across the country.

VPSA also won the coveted Les Cashen Trophy, awarded each year to the CO (Constituent Organisation) of NAPSA that displayed the most spirit and enthusiasm throughout the week of Congress. VPSA's delegates each had a VPSA t-shirt, designed to be worn exclusively at the NAPSA Congress, and the t-shirts became the envy of all the other COs.

NAPSA was a perfect occasion to present to the COs VPSA's transformation from being just another student body pre-2004, to a student association with definite aims in representing the professional interests of pharmacy students at the college.

The 2006 NAPSA Congress will be held in Hobart, Tasmania, and VPSA will be making a bid at the upcoming NAPSA AGM in July 2005 to bring the NAPSA Congress to Melbourne in January 2007. This will have special significance in terms of pharmacy in Victoria, as it will coincide with the college's 125 year anniversary in 2006, as well as the 150 year anniversary of the Pharmaceutical Society of Australia (Victorian branch).

For more information about the VPSA, visit www.vpsa.org.au

For information about other clubs and societies at the college, visit www.vcp.monash.edu.au/students/undergrad/clubssocieties.html

YAA Awards and business success

In 2004, pharmacy students joined with students from commerce, arts, IT and law at Monash to compete in the Young Achievement Australia (YAA) Tertiary Business Skills program. The 15 students formed a company called Idiyada, sponsored by Sigma Company Ltd, to learn real world business and leadership skills.

The company developed a series of products called Kooshi Kreatures, convertible pillow-blankets (pillows that unzip into blankets) that were individually packaged with their own tags and ID cards. Idiyada, with the support of the Pharmacy Guild of Australia, launched the Kooshi Kreatures to the profession at the Community Pharmacy Southern Convention and Exhibition, selling out of one series in their range on the day.

The company sold more than 450 Kooshi Kreatures in just three months, making Idiyada the most profitable of the 20 Victorian tertiary groups in the program.

At the November YAA Awards dinner, Idiyada won seven out of the nine awards including Company of the Year, Best Annual Report, Best e-Commerce

Solutions, Best Media Coverage, Best Product, Most Profitable Company and runner-up for Best Business Plan.

Managing Director Kristie Vuong, currently studying fourth year pharmacy/commerce, won the Tertiary Business Person of the Year award.

"Working with real industry and designing, marketing and producing a product encouraged us to believe in ourselves and have the confidence to succeed in the real world," said Kristie.

For further information contact Kristie Vuong, tel: 0413 145 646, email kristie.vuong@gmail.com

Team member An Nguyen and fourth year pharmacy student Kristie Vuong with Idiyada's Kooshi-Kreatures.





The Remedy booth at Student Orientation Week (O Week) 2004.

A Remedy for the world

Student group Remedy debuted in 2004 with the aim of sharing resources with pharmacy institutions of underdeveloped countries and to educate the college community on health and pharmacy practice issues in underprivileged areas.

Remedy has achieved a lot in a short time, with the involvement of many students, staff, friends and colleagues working in the profession and in international health.

The group initiated a relationship with a pharmacy school in southern India via Pharmabridge, a Swiss organisation that links groups in developed nations with those in less developed nations. Remedy will supply the school with *eTG complete* – a CD-Rom of all ten Therapeutic Guideline titles. This is an annual commitment, which includes posting Therapeutic Guidelines updated CD-Roms every few months.

With the guidance and expertise of Beverley Snell (1957), an essential drugs and community health specialist at the Macfarlane Burnet Institute, the group has also developed a relationship with the Ministry of Health in Kiribati.

Kiribati is a group of islands stretching 5000km across the central-western Pacific Ocean. A growing population exacerbates Kiribati's problems with environmental issues such as water quality, waste and sanitation. There is a high incidence of respiratory and diarrheal diseases, and as a result, a high death rate for young children. In the last decade, continual improvement in the standard of health care has led to a significant decrease in

morbidity in children. However, mortality among adults is increasing due to the growing incidence of lifestyle diseases such as diabetes and hypertension. The college has another link with Kiribati, in that Professor Chapman grew up there.

Working through Bev, Remedy contacted Ariane Kienene, a World Health Organisation representative on Kiribati and supplied her with a hard copy and CD-Rom of the *Martindale Complete Drug Reference, eTG complete* – a CD-Rom of all ten Therapeutic Guideline titles, four of the hard copy books – *Psychotropic, Antibiotics, Endocrinology and Cardiovascular* – (suggested by Bev due to the high incidence of diseases relating to these topics), plus the Royal Women's Hospital publications *Drugs and Breastfeeding* and *Drugs and Pregnancy*.

Throughout the year, Remedy held a variety of small-scale fundraising events, including cake stalls, sausage sizzles and movie nights. Although successful, these activities were limited in scope and left the group wanting to undertake an event on a large scale that would raise money and awareness within the college community. The resulting 'Reality Bites! Remedy's Real World Dinner 2004' combined fun, food, music, dance and fundraising, and increased awareness of the health issues faced in the developing world.

These activities raised over \$4500 to be divided between Kiribati, the group's sponsored child in Ecuador and the Indian pharmacy school.

Remedy is planning the second 'Reality Bites!' dinner for 2005, which will be held in second semester.

For further information about Remedy and the next dinner, or to receive Remedy's email newsletter, contact Remedy, email vcp_remedy@hotmail.com

YAA Biotechnology Entrepreneur Program success

Undergraduate students were not alone in participating in the YAA program to foster business skills. A group of mostly college postgraduate students completing advanced degrees (predominantly in the biological sciences) formed a team called MyaRDa to develop business management skills through the YAA Biotechnology Entrepreneur Program.

MyaRDa attracted financial sponsorship from the Pharmaceutical Society of Australia and biotechnology company Acrux, advertising support from the Royal Australian Chemical Institute and magazine *Chemistry in Australia*, graphics and website design support from Lightworks Creative, supplies from Christie Tea Pty Ltd and resource support from the college, to develop products for the biotechnology sector.

The MyaRDa product was called 'MagBag™'. The MagBag™ was conceived when a member of MyaRDa dipped his teabag into his hot drink after performing a tedious magnesium sulphate filtration.

The idea for a drying agent that could be dipped into wet organic solvent and then removed whole was born. MyaRDa developed this idea from embryonic form to a professional product released to the market in July 2004.

In order to reduce the amount of time and resources (ie glassware) used in drying organic solvents, the MagBag™ provides a novel approach to the removal in the form of a directly removable porous container filled with a drying agent. The MagBag™ is immersed in the wet organic solvent following liquid-liquid extraction or any other process that may result in the solvent containing water in either dissolved, emulsified or 'droplet' states. The porous nature of the container allows the diffusion of water droplets/molecules into the interior, where magnesium sulfate absorbs it. This porous nature still keeps the larger particles of the drying agent within the container.

The MagBag™ saves organic chemists as much as eight minutes per dehydration (and several



The MagBag™.

pieces of dirty glassware), for a similar price to chemical and labwares used in the old method of dehydration.

Idiyada were not the only award winners with college representation in the YAA program. At the YAA Biotechnology Entrepreneur Program awards night held in March 2005, MyaRDa received the media and marketing award.

For more information on the MagBag™ contact Kye Masters, tel: 613 9903 9548 or email kye.masters@vcp.monash.edu.au

1979 Pharmacy Reunion

The 1979 25th anniversary reunion was a milestone for all those who attended. Much has changed in the profession and at the college in 25 years. The reunion, celebrated on Saturday, 9 October 2004, was organised by Ingrid Norton and Diana Nowak and held in a new-look Cossar Hall arranged especially to resemble a lounge bar.

"It was very nice to be back at Cossar Hall 25 years after graduating in our academic gowns – celebrating our profession, lasting friendships and catching up with colleagues in a party atmosphere," said Diana.

Associate Professor Louis Roller was guest speaker and went into great detail comparing the college in 1979 to the present. Many present were ex-students of Louis, and he evoked many memories with photographs of life at the college 25 years ago. He also outlined the changes in the past quarter of century, including new courses and research advancements.

"We thought it would be great for the other graduates from our year to see what has happened at college," added Diana.



A commemorative photo of the class of 1979, sponsored by Sigma Company Ltd, was taken on the night and distributed to all attendees as a lasting keepsake of the evening.



Many thanks to Sigma for sponsoring the photo.

"Many took the official Sigma photo to work the next day, along with the PowerPoint photos shown on the big screen, and asked their staff to match up the faces. An interesting exercise!" said Ingrid.

"It was a wonderfully festive night with music from 1979 playing and a fantastic PowerPoint presentation of our three years at the college amidst tea lights and helium balloons," she added.

1994 Pharmacy Reunion

The 1994 reunion was held at the Bedford Hotel in North Melbourne on Saturday, 2 October 2004 and organised by graduates Suzanne Caliph, Dan Malone and Daniela Peers.

A reunion is a great way to strengthen ties and to find out what happened to fellow students. Suzanne, Dan and Daniela did a great job to track down their colleagues and choose a venue that suited their wish for a relaxed atmosphere.

"There were a lot of people in my year who I had not seen for a while and I thought it would be great to catch up," said Dan.

"It was a pleasure to catch up with old uni friends,

particularly those that I had not seen for ten years. Organising the reunion was challenging at times, but nonetheless enjoyable because the endpoint was a lively party. Thanks to all those who attended," added Daniela.

"The tenth anniversary reunion was a great opportunity to see old uni friends and renew that mateship again. Life has gotten busier for all of us over the past ten years with jobs and businesses, families, further studies and more. It's great to have an event like this to remember and celebrate what we've learnt and achieved and how we have progressed personally and professionally in the past ten years."



Clare Neo, Annette Dobson and Jien Kittkhoun.

Gift to college Foundation from 1954 Pharmacy Reunion

"In appreciation of the contribution of the Foundation in assisting us with the 1954 graduate 50th reunion held in June last year, we are giving the Foundation a donation to mark the occasion. We thank all concerned in making this such a successful event."
Bryan Casey and Beverley Gorr (1954)

Bryan Casey and Beverley Gorr, organisers of the 1954 reunion.



2005 Chemists' Interstate Cricket Challenge, VIC vs NSW

The Annual Pharmacy Cricket Challenge came to Melbourne on 29 January with a dinner in the Cato Room, Wesley College.

Guest speakers included ex-Australian fast bowler Rodney Hogg, ex-Test and Victorian wicket keeper Darren Berry and well-known author and cricket commentator Ken Plesse as Master of Ceremonies.

The match was also held at Wesley the following day, under skies which were unusually blue breaking the past run of wet and windy match conditions.

Victoria, captained by Steve White (1988), ended the day at 7 for 173 after 50 overs, triumphing over NSW at 8 for 152 after 50 overs.

Jeff Facey (1997), who hit 50 not out before retiring, was awarded 'Player of the Match' and David Ford (1984) won the 'Best Bowling' award with figures of 2 for 12 off 10 overs.

Congratulations to the Victorian team, who now hold the shield.



The victorious Victorian team holding the shield.



Far left: Monash's Alpine Lodge at Mt Buller.

Monash ski lodge for students, staff and alumni

All college alumni are entitled to the many discounts and advantages available only to graduates of Monash.

These include library memberships, Monash career services such as the Gearing for Success seminars that offer career development advice and networking opportunities, a mentoring program offered through the Monash Alumni Association Inc, concession rates for courses at Monash's Short Course Centre, a 5% discount on all courses offered by Monash IT and concession price tickets and special offers at the Monash University Arts Centres.

College graduates are also entitled to discounted rates at Monash sport and recreation facilities on all campuses. This includes discounts on the use of Monash's Alpine Lodge at Mt Buller, which is also available for use by staff and students. Located in the heart of Mt Buller Village, it has 43 beds and is available for bookings in both summer and winter.

The lodge provides quality, budget accommodation in a friendly environment. The two-storey building has four bunks to a room (six bunks in two rooms) and a fully equipped communal kitchen. Current tariffs are \$47 per night in winter off-peak, \$54 winter peak and \$20 per night in summer.

To receive discounted rates, Monash graduates must register with Monash Sport. For details about how to register and obtain a free graduate identification card, tel: 613 9905 4102.

For further information about the Monash ski lodge, visit www.sport.monash.edu.au/alpine-lodge.html

For further information about privileges for Monash alumni, visit www.monash.edu.au/alumni/privileges/

Morgan & Rule pharmacy in Mornington wins the 2005 Pfizer Quality Care Pharmacy of the Year

Congratulations to Retail Manager Amanda Huggins and her team at Morgan & Rule, situated in the Mornington Village Shopping Centre, on winning the 2005 award.

Morgan & Rule has its own café, beauty rooms, a spray tanning room, dedicated packing room for nursing homes and dosette patients, direct access

through to a doctor's surgery and a full time delivery driver. With a floor size of 10,000 square feet and over 65 staff including naturopaths, nurses, a mothercraft nurse, dispensary technicians, an aromatherapist and beauty therapists, they are able to provide a wide range of excellent services to up to 900 customers a day.

Alumni – win \$200 worth of books or merchandise!

Each month in 2005 one lucky graduate, randomly selected from those who update their contact details at the Monash alumni website, will be able to shop online for \$200 worth of books and Monash merchandise.

Winners can choose from a comprehensive online range of books from the Monash Bookshop or clothing, stationery, homewares and more from the Monash merchandise range. Worldwide delivery is available.

To be eligible to win, your updated details must include employment and email, where applicable.

For more details or to enter, visit www.monash.edu.au/alumni/



Have you moved house?

Stay in touch with the college community and don't miss out on the next issue of *Alchemy*. Fill in the update form, tear it off and send it to:

Alchemy
 Victorian College of Pharmacy
 381 Royal Parade
 Parkville Victoria 3052
 Australia
 Or fax to: 613 9903 9058
 (confidential fax).

Name _____

Home address _____

Country _____

Business address _____

Country _____

Telephone (H/B) _____

Email (H/B) _____

Fax (H/B) _____

Are you a:

- parent of a current student?
- current student?
- staff member?
- former staff member?
- graduate?

Do you have news you would like to share with the college community?

Would you like further information on:

- organising a reunion?
- going on a tour of the college?
- upcoming college events?
- making a donation to the college?



Awards for college PhD student using the Australian Synchrotron at Monash



Above: Vincenzo Carbone.

Left: An impression of the Australian Synchrotron at Monash.

Vincenzo Carbone, a PhD student supervised by Dr Ossama El-Kabbani in the Department of Medicinal Chemistry, has received a prestigious award from the Monash Centre for Synchrotron Science for research into pregnancy enzymes.

The award will top up Vince's existing Australian Postgraduate Award (APA) of \$18,484 offered by the Australian Government with a Monash Synchrotron Postgraduate Scholarship of \$6516, bringing the total scholarships to \$25,000 per year.

"My PhD research project involves the investigation of two enzymes," Vince said. "The first belongs to a group of enzymes called the hydroxysteroid dehydrogenases and is involved in the termination of pregnancy. I intend to use the synchrotron to determine the 3D structures of inhibitor complexes for this enzyme to discover new drugs for the treatment of pregnant women.

"The second enzyme is called dihydrodiol dehydrogenase and its structure would establish a new family of enzymes that links both mammalian and single-cell organisms."

A synchrotron is a facility with a 'footprint' the size of a football field that produces extremely bright pinpoint beams of light. This light, called synchrotron light, allows scientists to study the microstructure of materials more precisely than ever before. Opening in 2007 at Monash's Clayton campus, the Australian Synchrotron will speed up the development of new pharmaceutical products, aid medical research and lead to new manufacturing processes.

"My group at the college is actively involved in synchrotron research," said Dr Ossama El-Kabbani. "Recently, we have determined the structure of a diabetes enzyme-drug complex at one of the highest resolutions ever known for an enzyme of its size in complex with a drug. The work

was carried out at synchrotron sources in the USA and Europe. We expect to be regular users of the Australian Synchrotron when it opens in 2007."

Vince also recently won a prestigious E.N. (Ted) Maslen 1987 Travelling Scholarship, created by the Society of Crystallographers in Australia to honour the life of Professor Ted Maslen, one of the first crystallographers to use electronic computers for structure determination. Vince will use his scholarship to present his latest synchrotron results at the 20th Congress of the International Union of Crystallography to be held in Florence, Italy in August.

For further information about the research contact Dr Ossama El-Kabbani, email ossama.el-kabbani@vcp.monash.edu.au

For further information about the Australian Synchrotron, visit www.monash.edu.au/synchrotron/