MONASH University
Medicine, Nursing and Health Sciences

50 years Engaging the world

Monash Praxis

A publication for alumni of the Faculty of Medicine, Nursing and Health Sciences – Issue 10, Winter 2008

Girl on film: colourful careers after biomed

Inside this issue

From the Dean

In 1980, a Melbourne doctor led a team that nurtured the gestation and birth of Australia's first IVF baby. Only the third IVF birth in the world, the baby girl was just one of the tremendous milestones in the career of Dr Carl Wood.

Over the years, the Foundation Professor of the Monash Department of Obstetrics and Gynaecology also delivered the world's first babies from frozen embryos and donor eggs in 1983, and was made a Commander of the British Empire in 1982 and a Companion in the Order of Australia in 1995.

Recognising the groundwork that this remarkable man laid for Monash in reproductive sciences, the Faculty this year appointed its first Carl Wood Chair in Obstetrics and Gynaecology. Funded by the sale of Monash IVF, the inaugural appointment will be filled by Professor Euan Wallace. The Faculty has also appointed Monash alumni Dr Stephen Tong (MBBS (Hons) 1998, PhD 2004) and Dr Gareth Weston (GradDipClinEpi 2002, MPH 2003, PhD 2004) to two new Carl Wood Senior Lectureships within the Department of Obstetrics and Gynaecology.

Dr Tong, whose current interests include pregnancy, twinning and biomarkers, recently received one of the inaugural NHMRC Achievement Awards for Excellence in Health and Medical Research in recognition of his strengths as an early career researcher.

Overall, Monash scientists won a quarter of these awards. (See page 10 for full story).

More recent funding rounds delivered a prestigious Federation Fellowship to Professor James Whisstock, and a $6.3 million program grant to three of our pharmacology researchers to intensify their research into G protein-coupled receptors.

To continue to support such successes, our Faculty has developed a new focused research strategy, which identifies prominent research strengths such as cancer, rural health, protease biology, infection and immunity, mental health, cardiovascular disease, and public health and epidemiology. We also now aim to build stronger networks between departments, campuses and disciplines, bringing together the knowledge of researchers who focus on specific health issues of strategic importance such as obesity.

Underpinning this activity are our high-quality research facilities, including services in proteomics, structural biology, genomics and optical imaging. In 2008, we will launch several dramatic new facilities, the most prominent of which will house a maximum of 6.5 million zebra fish and support Monash's growing expertise in regenerative medicine.

"In 2008, we will launch new facilities, the most prominent of which will house up to 6.5 million zebra fish."

Two new schools join the Faculty structure this year. The Eastern Health Clinical School will draw on the Faculty's strong relationship with Eastern Health to expand the clinical placement program. Meanwhile, at The Alfred Hospital, the Department of Epidemiology and Preventive Medicine will soon join with the Department of Forensic Medicine, the Monash Institute of Health Services Research and the Centre for Obesity Research and Education (CORE) to assume a new status as the School of Public Health and Preventive Medicine. This school will also have a presence at the Monash Medical Centre, where the Monash Institute of Health Services Research will also join the new school.

Our teaching landscape also continues to expand, particularly at the Gippsland campus, where the smell of fresh paint still lingers at the new medical school. With its focus on rural health, this graduate-entry program is the third string to the Faculty's unique bow of three medical schools. The 59 students in the program come from backgrounds as diverse as journalism, engineering and pharmacy. They benefit from new teaching facilities including an impressive simulation centre.

Taking into account both the new clinical school and other developments in the MBBS program, a new advisory board will consult with the Faculty on issues related to the course. Former Victorian Minister of Health John Thwaites (BSc 1978, LLB (Hons) 1981) has agreed to chair this board.

The Faculty's amazing expansion also manifests in the new laboratories and teaching facilities that now grow behind scaffolding in locations including Box Hill, Bendigo, Gippsland, Malaysia and The Alfred Hospital. Many staff also eagerly await the completion of STRIP Stage 2, which will house much of Clayton's landmark bioscience precinct.

It's a terrain vastly different to that surrounding Dr Carl Wood in 1980. But the culture of discovery, innovation and impact on healthcare remains equally powerful.

Steve Wesselingh
Dean of the Faculty of Medicine, Nursing and Health Sciences

Girl on film – Biomedical science alumna Fiona Henderson (BBiomedSc(Hons) 2003) in the television studio with the presenter of the popular children's science program *SCOPE*. See cover story on page 7.

Monash Praxis

Monash Praxis is published by the Faculty of Medicine, Nursing and Health Sciences.

The word "praxis" has its origins in Ancient Greek. The *Merriam-Webster Online Dictionary* states that praxis is "1 a: exercise or practice of an art, science, or skill b: customary practice or conduct, 2: practical application of a theory".

To read Praxis online (a PDF version), please visit **www.med.monash.edu/alumni** and follow the link.

Enquiries:
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News in brief

World Psychiatric Association award

In November 2007, Professor Bruce Tonge (MBBS 1970) received the World Psychiatric Association (WPA) Distinguished Service Award (Teaching and Training International Psychiatrists).

Professor Tonge is Head of Psychological Medicine in the Faculty's School of Psychology, Psychiatry and Psychological Medicine. He is also Head of the Centre for Developmental Psychiatry and Psychology at Monash Medical Centre.

The WPA presented the award to Professor Tonge in recognition of his work training psychiatrists in Cambodia and Malaysia.

Monash commemorates first physio PhD graduate

The new Department of Physiotherapy at Monash University celebrated its first PhD graduate in December 2007. Dr Natalie de Morton's PhD thesis was titled *Measuring mobility and the effects of exercise for older acute medical patients* and was conducted under the principal supervision of Professor Jenny Keating, Head of the Department of Physiotherapy at Monash University. Co-supervisors were Dr Megan Davidson and Dr David Berlowitz.

The development of the de Morton Mobility Index (DEMMI), an advanced method for measuring the physical ability of older people, was the focus of this research. This instrument is quick and easy to use and interpret, and supports and advances a modern approach of encouraging full physical ability across the lifespan. It has been incorporated into usual clinical care in hospitals in Australia and overseas, and plans are in place with international collaborators to translate the DEMMI into other languages. The outcomes of this research have also resulted in changes to the provision of physiotherapy services in several Victorian acute hospitals to achieve better outcomes from exercise programs for older acute medical in-patients.

Awards recognise medical research achievements

From left to right: Diana Ruzzene-Grollo, Professor David de Kretser AC and Rino Grollo

The Faculty of Medicine, Nursing and Health Sciences recently recognised the career achievements of two leading medical researchers. The Faculty's most prestigious community awards were presented by the Governor of Victoria, Professor David de Kretser AC, in December 2007.

Retired Professor of Physiology, Mollie Holman AO received the 2007 David de Kretser Award for her exceptional contribution to the Faculty.

The Governor presented the 2007 Lifetime Achievement Medal to Professor Graeme Clark AC for his outstanding career which includes the development of the bionic ear (cochlear implant) and other hearing devices. Professor Clark is Honorary Laureate Professorial Fellow in the University of Melbourne's Department of Otolaryngology within the Faculty of Medicine, Dentistry and Health Sciences.

The Governor also presented the Faculty's award for Outstanding Philanthropic Support to Rino Grollo and Diana Ruzzene-Grollo.

Emeritus Professor Holman first worked with the Faculty in 1963. She held a personal chair as Professor of Physiology from 1970 to 1996. Her research work focused on the complex network of nerve cells in the smooth muscle in the wall of the gut.

Each year the Faculty presents its Lifetime Achievement Medal to an individual who has made an outstanding contribution, nationally and internationally, to human health and wellbeing. The David de Kretser Award is given to a Monash staff member in recognition of their exceptional contribution to the Faculty over a significant period.

David de Kretser Award

2005 Professor John Murtagh AM

2006 Professor Warwick Anderson AM

2007 Emeritus Professor Mollie Holman AO

Lifetime Achievement Medal

2005 Professor Fiona Stanley AC

2006 Emeritus Professor Donald Metcalf AC

2007 Professor Graeme Clark AC

Professor Graeme Clark AC, recipient of the 2007 Lifetime Achievement Medal

Emeritus Professor Mollie Holman AO

A prized evening for best and brightest

The Faculty of Medicine, Nursing and Health Sciences held prize-giving ceremonies in December 2007 and April 2008, to acknowledge and applaud its best performing students. Recipients of these awards are seen as tomorrow's leaders in clinical practice, academia and health service management.

Dean of the Faculty of Medicine, Nursing and Health Sciences Professor Steve Wesselingh and Belinda Hibble (MBBS 2007). Dr Hibble was the recipient of the Monash Medical Alumni Prize, awarded to the final-year student who provided the most support to fellow students during the course of their degree.

Fourth-year medical student Melissa Northcott, who won four prizes, accepts the Leo Cussen Pathology Prize from the late Dr Leo Cussen, Senior Lecturer in the Department of Immunology.

From left to right: Professor Margaret O'Connor, Vivian Bullwinkel Chair in Nursing, Palliative Care; Kylie Wesley, winner of the South East Palliative Care Service Essay Prize; Mark Cockayne, CEO of South East Palliative Care; Janet Wettenhall, winner of the South East Palliative Care Service Research Study Scholarship; and Senior Lecturer Dr Susan Lee.

Claire Owen (MBBS(Hons) 2007) won the Prince Henry's Prize in Surgery, an award given to the final-year student at the Southern Clinical School with the highest aggregate marks in surgery.

Gippsland campus welcomes new rural medicine course

Story: Alexandra Roginski

Students from backgrounds as diverse as journalism, engineering and pharmacy join the Faculty of Medicine, Nursing and Health Sciences this year as part of the first cohort at Gippsland Medical School.

Farzan Fahrtash (MBBS(Hons) 2007) received the Bryan Hudson Prize in Medicine. The award is given to the final-year student at the Southern Clinical School who obtains the highest aggregate mark in medicine.

Professor Adam Shoemaker, Deputy Vice-Chancellor (Education), addresses the audience at the April awards.

Located near the small town of Churchill on the Monash Gippsland campus, the graduate medical program is the third string to the Faculty's unique bow of three medical schools, which also includes the Central Clinical School and the Sunway campus in Malaysia.

The 59 students in the course learn skills that prepare them for rural or regional practice, studying within intensive 18-week semesters.

They benefit from new teaching facilities including an impressive simulation centre with mannequins where they can practise their new clinical skills.

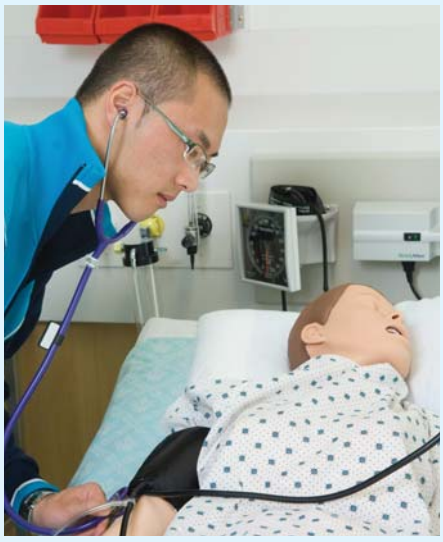
Professor Steve Wesselingh, Dean of the Faculty of Medicine, Nursing and Health Sciences, said that the Australian Medical Council's accreditation of the Gippsland program adds to the diverse range of training offered by Monash within the Bachelor of Medicine/Bachelor of Surgery (MBBS) course.

"Combined with our programs in rural and metropolitan Victoria and Malaysia, we are now ideally placed to train graduates for a broad range of specific community needs," Professor Wesselingh said.

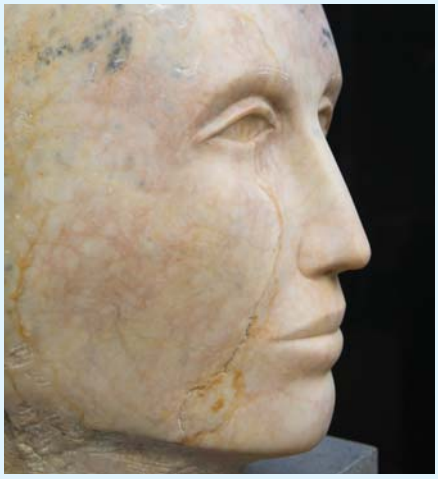
Professor Chris Browne leads the program as Head of Gippsland Medical School, working with a robust network of regional training hospitals.

Vice-Chancellor Professor Richard Larkins said that the MBBS program at Gippsland strengthens the academic qualities of the campus and emphasises the University's commitment to producing high-quality graduates suited for employment in regional and rural Australia.

Taking into account both the new clinical school and other developments in the MBBS program, a new advisory board chaired by former Victorian Minister of Health John Thwaites (BSc 1978, LLB (Hons) 1981) will consult with the Faculty on issues related to the course.



Gippsland Medical School students benefit from a range of teaching environments, including facilities with mannequins in which they can hone their clinical skills.



This sculpture of Hygeia, Greek goddess of health and healing, was presented as a gift to the Gippsland Medical School from the Gippsland campus. The work of renowned local sculptor Clive Murray-White, the sculpture is now the centrepiece in the school's courtyard.

Colourful careers after biomed

Fiona Henderson in the studio with the presenter of the popular children's science program *SCOPE*

Girl on film

Fiona Henderson (BBiomedSc(Hons) 2003) never thought that her biomedical science course would one day send her to Dreamworld, Mount Buller, or to the RAAF Base Amberley for a peek at the F111 fighter jets.

After completing her honours year in the Monash Immunology and Stem Cell Laboratories, where she studied latex allergens, Ms Henderson sampled a range of careers – including research assistant and sales representative for a scientific instrumentation company – before searching for a new path.

She found television.

"I went to a science and technology careers expo and found out about the Graduate Diploma in Science Communication at Australian National University. I went and did that in Canberra in 2005, and as part of that had to do work experience. I'd done extras work and bit parts, for a bit of cash, and somebody suggested that I do work experience with *Totally Wild*, because they worked with CSIRO," she said.

It was perfect timing. CSIRO and Channel Ten were about to launch a new science show for kids *SCOPE*. She visited for three days of work experience in September 2005, and by November received a job offer to work as production coordinator in the Brisbane office of the program.

"We'd have a list of topics laid out for the year, so it was my job to research them and get story ideas and then sit down with the producer and nut out an outline of which stories we were going to use, where we wanted to film them, and what talent we would use," Ms Henderson said.

"I'd ring around and book the locations and talent, and basically coordinate the logistics of the show. I was responsible for the smooth running of the shoots."

After 10 months, Ms Henderson relocated to Melbourne to work as segment producer on *SCOPE* - a role that continued when she moved up north again to Brisbane.

During this stint of roving around with a cameraman and a sound technician, she visited Tiger Island at Dreamworld, and held baby alligators and iguanas at Australia Zoo, where a giant tortoise bit her.

"We were trying to get Harriet, this 170-year-old giant tortoise, to face a certain way for a shot. I was holding out her favourite treat – a hibiscus flower. She was moving so slowly and then all of a sudden she snapped it out of my fingers," she laughed.

"I think it's important to be a people person and to be interested in a wide range of topics. If you're someone who really likes to specialise and know everything about one particular thing, then it's probably not for you," Ms Henderson said.

Her biomedical science background helped her to quickly grasp *SCOPE* content.

"We'd always try to put a biology story in an episode, and it's amazing how much you actually remember. And dealing with scientists on a daily basis, you understand the whole research process," she said.

Ms Henderson now works as a communications officer with CSIRO. She promotes the Water for a Healthy Country Flagship, which brings together scientists from CSIRO and other organisations to address one of Australia's biggest problems – the sustainable use of water.

"It's a cross between journalism, marketing and public relations: writing media releases, web pages, brochures, publicity materials and organising events. It's basically about raising awareness of what the scientists are doing, both within CSIRO and externally," she said.

"I loved the job on *SCOPE* but I felt like I wanted to get more into the nuts and bolts of science again."

An accidental career change

"It could be an accident. It could be someone falling down a hole. It could be someone burning in bushfires. It could be someone shot by police. It could be any cause of death."

Stephanie Lecouvey (BBiomedSc 2003, LLB 2005) sees a lot more drama in her daily working life than most biomed graduates. As a health and aged care solicitor with Russell Kennedy Solicitors, she regularly appears at coronial inquests for clients including Victoria Police and the Victorian Department of Human Services. And that's in-between advising health boards, retirement villages, hospitals and health practitioners.

"Most people see law as being boring, but I'm definitely not one of those people. I have a great time at work," she said.

Ms Lecouvey always dreamt of practising law, but completed high school under the French system, which streams students based on aptitude. Strong in chemistry and biology, she found herself in a science stream, and after graduating in 1999, moved to Australia to enrol in the Bachelor of Biomedical Science.

At Monash, she forged strong friendships within the close-knit group of around 120 students in her year group, and immersed herself in science.

"I loved anatomy because one has privileged access to the human body. You learn anatomy, you learn the nerves, you learn the organs, you learn the muscles, and then you study the actual deceased body and you can recognise the parts," she said.

After graduating in 2002, Ms Lecouvey transferred directly into the undergraduate law degree, which she completed in early 2005 after a flurry of summer and winter subjects.

She is now enrolled in a Monash Master of Law, and tackles medico-legal subjects with evocative names such as 'Dying, Death and the Courts'.

Her biomedical skills constantly come in handy.

"In a coronial inquest, I'll get medical reports written by doctors as to the causes of death and I actually have the necessary language and knowledge to be able to understand them. I also sometimes have to look at gruesome photos of injuries and deceased people. My biomed studies certainly prepared me for that," she said.

Stephanie Lecouvey

The weekly group exercises of the biomed course also prepared her for long hours of teamwork on cases with up to five lawyers. And the memorisation inherent to biomed's closed-book exams armed her with a formidable memory for recognising discrepancies in the stories of adversary witnesses.

"The two courses are a strange combination," she admitted. "But because it's such a strange combination, it's also a good combination. Not many people have done it."

"I loved anatomy because of the privileged access to the human body."

Father and son alumni on rural health

Social scientist John Humphreys (PhD 1975) is Professor of Rural Health Research at the Bendigo Regional Clinical School. His son David is a third-year medical student at Monash University with a strong interest in rural health.

John Humphreys

What did you aspire to be as a child?

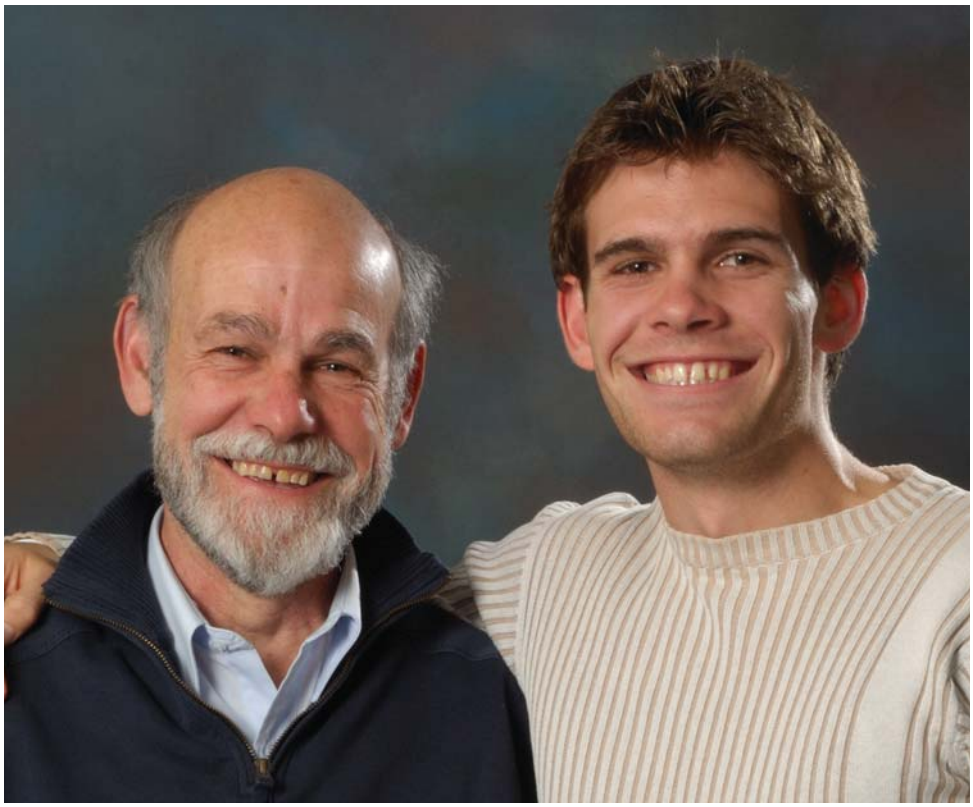
A doctor. Unfortunately, coming from a small country town, it was difficult to achieve an excellent matriculation score in the right subjects to meet university entry requirements. Hence, I did an arts degree with honours. Graduate medical schools have since increased opportunities for rural students to enter medical schools.

What is your best memory from the days when you were a Monash student?

Stimulation provided by enthusiastic and energetic young academic staff who inspired us postgraduate students to extend our research into complex topics of global significance.

What has been the most gratifying part of your career to date?

I've enjoyed working closely with healthcare professionals in small rural and remote communities who work in difficult circumstances to provide quality healthcare to local residents.



John and David Humphreys

> "As a child, my parents were keen to impart upon me the importance of education, health and preservation of the environment as cornerstones of a successful society."

David Humphreys

How great an influence were your parents on your choice to enter the medical field?

As a child, my parents were keen to impart upon me the importance of education, health and preservation of the environment as cornerstones of a successful society. To this day, I have continued to value these dearly, and hope to contribute to each of these respective fields throughout the course of my life. It was only very late in my secondary schooling that I began to see medicine as an ideal avenue through which to commence this pursuit.

What did you want to be as a child and why?

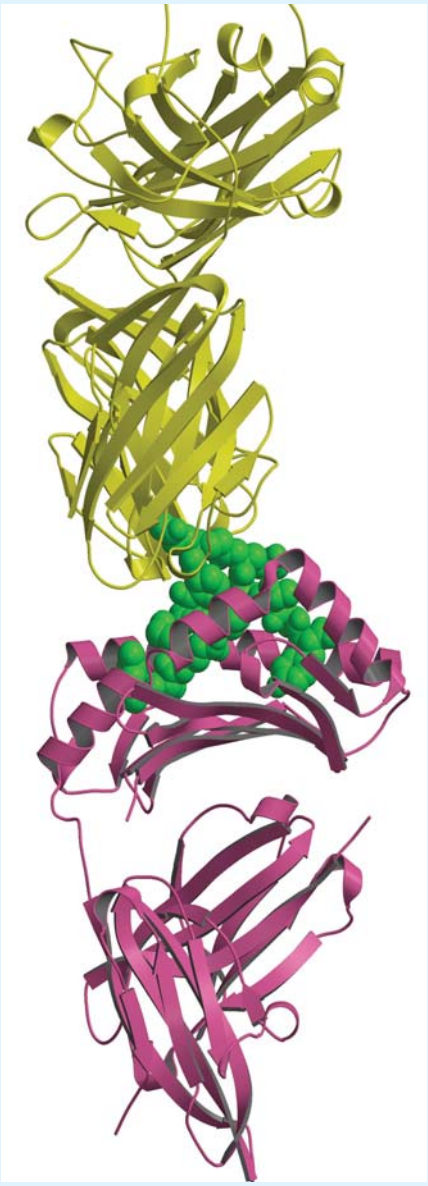
Fireman, teacher, marine biologist, United Nations peacekeeper, professional sportsperson, astronaut, physiotherapist, musician, pilot, Greenpeace activist … the list goes on! I have always had numerous interests, which, at times, has been to my detriment!

What aspects of medical practice are you looking forward to? What are your aspirations?

At this stage, the question of specialty is still a little far off for me. However, regardless of the field I choose to explore, I will make sure it encompasses a broad range of skills and knowledge that are easily transportable and valuable to communities, be it in rural Australia or overseas.

What attracts you to becoming a rural doctor?

My interest and passion for rural health stems from discussions with my father about the critical shortage of medical services and barriers to healthcare access many rural communities across Australia are facing. A childhood upbringing in such communities also contributed strongly to this interest, as I have come to truly appreciate the benefits of leading a rural lifestyle and close proximity to the magnificent Australian environment.



Simple schematic of the complex involving a T cell receptor (yellow), bound to an MHC molecule (pink) presenting an extraordinarily long viral fragment (green). This structure was published in *Nature Immunology* in 2005.

Shaping up to solve immunity puzzles

Fleur Tynan (BSc 2002) loves the graceful shapes she discovers as part of her research in the rapidly evolving field of protein crystallography.

"Working with the crystals can be really beautiful. They can be fragile and we have to be extremely careful with them," said the young biochemist, who submitted her PhD thesis in December last year, just months after receiving a commendation in the 2007 Premier's Awards for Medical Research.

Working as part of Professor Jamie Rossjohn's laboratory, Ms Tynan's research investigates how T cells – the human body's immunity guardians - can tune in to viral invaders. To do this, she solves the shapes of cell-surface molecules that present small viral fragments.

"We purify these important proteins, which are found on the surface of cells, and grow crystals of them. These look like a crystal of salt but much smaller. We fire x-rays through the crystals. The pattern in which the x-rays bounce off the crystal reflects the arrangements of the atoms within the crystal lattice. We can then use this information to recreate the structure of the molecule. This allows us to 'see' precisely what the protein looks like," she said.

Ms Tynan and fellow researchers are currently looking for rules and patterns that could explain why the T cell receptor gravitates towards them.

"T cells are extraordinarily specific. Changes of a single amino-acid in the T cell receptor's ligand can alter the binding and response of the T cell," she said.

After graduating with a Bachelor of Science degree in 2001, Ms Tynan signed up for honours with the Department of Biochemistry in 2002, sparking an unexpected love affair with the structures of important proteins in the immune system.

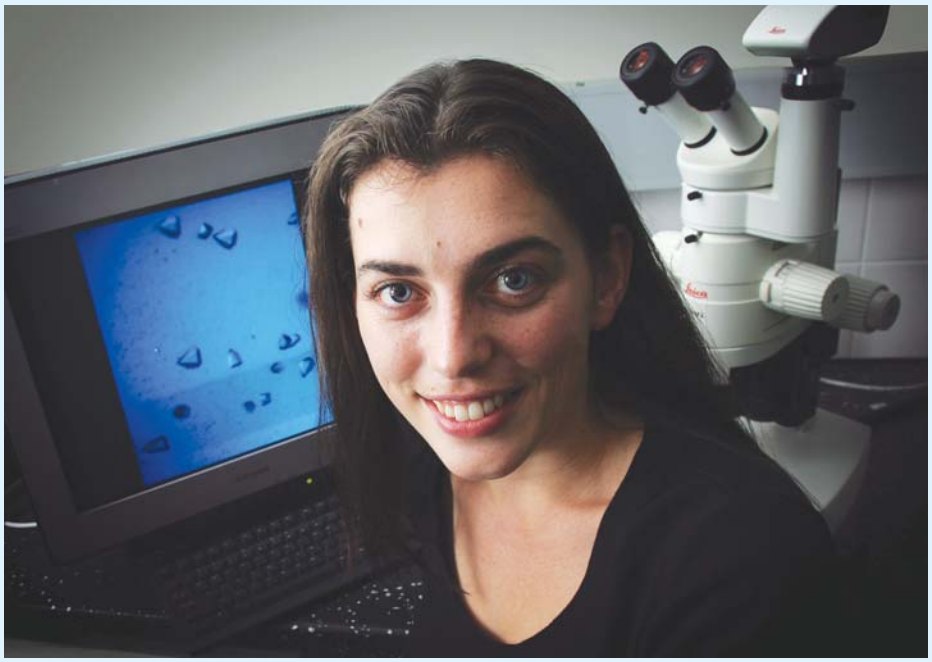
Despite the hours of meticulous information-gathering involved in her work, she says that little can beat the satisfaction of publishing her findings.

"Some structures we can complete in a matter of months, others can take us years. It is often these more challenging structures that are the most rewarding."

Last year, Ms Tynan travelled to Stanford University in the US for three months to examine the live T cells of mice using video microscopy. The Victorian State Government funded this research trip with one of its Victoria Fellowships, which give early-career researchers the opportunity to head overseas and garner knowledge that they can then carry back to Australia.

Thanks to an NHMRC biomedical training fellowship, Ms Tynan will now return to Stanford later this year to spend two years learning more about this imaging method.

"Crystallography shows us the fine details of a molecule at an atomic level. Microscopy allows us to visualise how these molecules move around the cell in response to different stimuli. Together, these techniques will be very powerful."



"Working with the crystals can be really beautiful. They can be fragile and we have to be extremely careful with them."

Fleur Tynan

Monash researchers receive four NHMRC awards

Story: Samantha Blair

Monash University researchers have dominated new National Health and Medical Research Council (NHMRC) awards, taking out a quarter of the prizes at a ceremony in Canberra in December 2007.

Four Monash scientists and researchers were recognised for their outstanding contributions.

Monash University Deputy Vice-Chancellor (Research) Professor Edwina Cornish said the Monash recipients were worthy winners.

“I congratulate the award recipients for their contributions to health and medical research and to the Monash community,” Professor Cornish said.

The awards are designed to show the NHMRC's appreciation to the research and ethics community for their considerable scientific research, innovation and leadership.

Obstetrician, gynaecologist and senior lecturer Dr Stephen Tong (MBBS(Hons) 1998, PhD 2004), and anatomy and cell biology research fellow Dr James Bourne were both given a NHMRC Achievement Award in Career Development for junior researchers.

Dr Tong is researching ways to improve future clinical care in areas such as early pregnancy, the biological reasons behind producing twins, and discovering molecules used to diagnose disease. His work with the immune system could help develop a novel class of drug to treat various diseases.

Dr Bourne is researching primate brains to assess the impact of damage to visual functions to help 'switch back on' developmental mechanisms after a stroke or other brain injury and regenerate vision.

“I want to uncover every twist and turn in the physiological and anatomical development of the visual cortex, where multiple areas evolve and interconnect like a well-woven fabric, seamlessly delivering sight,” Dr Bourne said.

Dr Teresa Iacono from the University's Centre for Developmental Disability Health was given a NHMRC Ethics Award for her achievements in developing high ethical standards in health and medical research. She has been researching effective strategies for people with severe communication impairment so they can experience meaningful interactions and improve their quality of life.

Federal Minister for Health and Ageing Nicola Roxon presents James Bourne with a NHMRC Achievement Award in Career Development

The image 'Cellular Renovations,' by Associate Professor Brian Cooke, won the 2007 Science to Art Award

Associate Professor Brian Cooke from the Department of Microbiology received the From Science to Art Award, which recognises his studies of fatal malaria cases.

“I hope that my small contribution may one day make a big difference to millions of people burdened by unnecessary illness,” Associate Professor Cooke said.

“Simple and effective communication of our research is paramount, particularly in the present era of new, sophisticated technologies and merging disciplines. Science through art and graphic visualisation is a tantalising way to capture all imaginations.”

The image, ‘Cellular Renovations’, represents a view of the surface of a human red blood cell infected with a malaria parasite.

School of Physics photographer Steven Morton manipulated and pseudo-coloured the image after the National University of Singapore provided the raw imaging data gained by atomic force microscopy.

The knob-like bumps are part of the renovations that the malaria parasite makes to its new home (the red blood cell) after it moves in during infection. The NHMRC-funded work at Monash University aims to understand the molecular nature of these changes in red blood cells that make malaria so severe.

Ingenious new drug boosts fight against colon cancer

Story: Alexandra Roginski

Biochemist Tracey Brown (PhD 1997) always suspected that there was a smarter way to treat cancer. Now, one of the world's most powerful pharmaceutical bodies agrees.

The US Food and Drug Administration (FDA) has given a team of Monash University scientists the green light to start 'phase three' clinical trials on a new form of chemotherapy that appears to double the efficacy of colon cancer treatment.

The drug model, developed by Associate Professor Tracey Brown and her team at the School of Biomedical Sciences, combines an existing drug known as irinotecan with a naturally occurring carbohydrate called hyaluronic acid. Associate Professor Brown began working with this combination after reading in the late 1990s that many solid-tumour cells have a large number of receptors for this molecule.

"The hyaluronic acid targets the drug to the tumour like a missile because the relevant receptors are already there on the tumour. It takes the drug directly to the tumour, resulting in a higher concentration of the anti-cancer which ultimately translates into the killing of more cancer cells. In 'phase two' clinical trials, we were able to halt the progression of cancer for nearly double the amount of time of the ordinary anti-cancer drug alone," she said.

Associate Professor Brown's team will now work with 400 colon cancer patients in both Australia and the US. They will treat half with a standard irinotecan dose, and compare the progression of their tumours with those of the 200 patients receiving the carefully formulated mix of irinotecan and hyaluronic acid.

Funded largely by Queensland biotechnology company Alchemia, the drug was developed entirely at Monash, with 'phase one' and 'phase two' clinical trials conducted in selected Melbourne hospitals.

"There isn't a lot out there for colon cancer. The survival rates for colon cancer are quite poor and yet there's a really high incidence of the disease. Irinotecan appeared to be the right drug to use with our drug delivery vehicle. Irinotecan, and therefore our drug, can also be used with small-cell lung cancer and potentially breast cancer," she said.

Tracey Brown (second from left in front row) with her laboratory team

Associate Professor Brown came to Monash in 1996 with a basic research focus on hyaluronic acid.

"Then in 1998, I decided to take the research on a slightly different track, primarily because my mother had cancer and I nursed her through chemo. And I thought, there must be better ways of treating cancer patients," she said.

"There isn't a lot out there for colon cancer. The survival rates for colon cancer are quite poor and yet there's a really high incidence of the disease."

She started developing the drug with the help of one honours and one PhD student. Today, 14 scientists work with her in a state-of-the-art laboratory.

The US FDA recently reviewed a proposal to conduct a single confirmatory pivotal study and endorsed the trial design. The Investigational New Drug application to allow the study to commence will be lodged in the near future. The positive response from the FDA is testament to the quality of the data generated in the preclinical and clinical work conducted by Associate Professor Brown's group so far.

The team of Monash researchers now hope to see the new drug ready for market as soon as late 2010. The technology has also been shown to work with a wide range of other anti-cancer treatments, including antibodies, and could spawn a number of improved therapies.

MONASH University
Medicine, Nursing and Health Sciences

GROUP OF EIGHT

Reunions

Reunions in 2008

Register your interest in the reunions below via email at *alumni@med.monash.edu.au* or telephone +61 3 9905 5971.

1968 MBBS alumni 40-year reunion

Date: 14–15 November 2008

Location: Hobart

Organisers: Dr Roald Fullerton
Dr David Challis
Dr John Goy

1973 MBBS alumni 35-year reunion

Date: Saturday, 8 November 2008

Location: The Alfred Hospital, Prahran followed by a cruise on the Victoria Star

Organiser: Dr Pete Radford

Other 2008 events

Read about more events organised by the Faculty of Medicine, Nursing and Health Sciences at **www.med.monash.edu.au/alumni/events.html**

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VIC 3800

www.med.monash.edu.au/alumni

In General, placements give students perfect practice

Nandini Choudhury and Dr Gerald Segal

Dr Gerald Segal has nurtured the education of myriad Monash medical students since he joined the Chadstone Road Clinic in East Malvern in 1975.

It was the same year that the University established its Department of General Practice, and the double Monash alumnus was one of the first GPs to offer his support for practical student placements. He still keeps in touch with many of those students, even welcoming some back to practise as fellow GPs, or referring patients to those who specialised.

“Students add value in a number of ways. The patients tell them things that they don’t tell us, which sounds surprising, but they tell them amazing stuff. That’s a real benefit,” says Dr Segal.

“I’ll give them 40 minutes with a patient, and tell them to take more time if they need it. The patients love that because they get great care. And as a teacher, if you ask questions in the right way of your students, you can actually learn a lot of new things yourself about developments that are occurring in medicine.”

A natural mentor, Dr Segal finished his medical studies in 1971, and later returned to Monash to study computer science, graduating in 1981. The second qualification led to a teaching role at Caulfield in the area of computers in small business, but Dr Segal eventually returned full-time to his great passion: general practice.

Since February, fourth-year medical student Nandini Choudhury has dedicated every Tuesday to Chadstone Road Clinic.

“There have been quite a few interesting patients, including one who came in with abdominal pain whom we had to send to the emergency department. And the procedural stuff is great. I started off with injections and doing liquid nitrogen to remove moles. I even helped with chronic-illness patient care,” Ms Choudhury says.

Around 200 general practitioners currently offer Monash their time and expertise, providing approximately 100 students each semester with a level of insight they could never glean from books.

This year, the Faculty of Medicine, Nursing and Health Sciences appointed a General Practice Placement Coordinator, Dr Andrew Beveridge, to support mentors with the educational and practical issues that arise during placements. In addition to lecturing within the Faculty, Dr Andrew Beveridge also continues his work as a GP.

“It’s important that someone who is a point of call for the placement program actively still sees patients. I also teach students in my practice, so when the GP supervisors tell me about a problem, I understand immediately,” Dr Beveridge says.

“We couldn’t offer our students this real experience without the generous support of GPs in the community, who consistently give their time to teach the next generation of doctors.”

GPs wishing to participate in the placement program should email Dr Beveridge at *andrew.beveridge@med.monash.edu.au*

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