Can the humble fly help us to see better?

Unlike the popular stereotype, fly eyes do not form thousands of little images — instead, they perceive one very fuzzy image of the world around it.

Yet, with a brain the size of a grain of rice and only this fuzzy image to go on, how do flies see well enough to avoid getting swatted by us, or to perform a precise landing on a flower waving in the breeze?

The answer, according to Dr David O’Carroll from the University of Adelaide’s School of Molecular and Biomedical Science, is that flies have an exquisite sense of visual motion. It is this sense of motion that has a team of university scientists and engineers led by Dr O’Carroll, and known as the Visual Physiology Group, studying the brains and eyes of flies to develop artificial vision systems — computer chips that can see — that one day may provide the basis for a bionic eye.

“As all animals move, the world moves past and so even stationary objects generate patterns of motion on our retina,” he said. “Our eyes move continually to track this motion and the motion itself provides a powerful cue as to what we are doing in the world, as well as where features are and how large they are.

“As we move past an object, its apparent speed depends on its distance, with close objects appearing to move faster, so the relative motion of objects provides a powerful sense of structure in the world.”

The Visual Physiology Group has already studied how flies perceive this visual motion, and copied the whole process onto a tiny computer chip. Dr Karin Nordstrom, a post-doctoral fellow in the Discipline of Physiology and a member of the Visual Physiology Group, said this is done by inserting an electrode in the fly’s brain to enable researchers to record the activity in its brain cells.

“We project images onto a computer screen that the insect views, and then we correlate that with the responses obtained from the insect’s brain cells, which helps us understand how their brain analyses visual information.”

continued on page 4
From the Vice-Chancellor

It’s always refreshing to learn what our alumni have been doing since graduating from the University of Adelaide, and some recent experiences of mine have further underlined the contribution they are making not only locally, but across the country and the region.

In March I travelled to Malaysia and Hong Kong to attend our annual offshore graduation ceremonies held in those countries, as well as attending various alumni-related events, including a visit to Sarawak. In both of those countries I was impressed by the level of enthusiasm that was shown by graduates of the university. This enthusiasm was expressed equally by those who had only just graduated, and by those who had graduated anywhere up to 50 years ago. The Chancellor, the Honourable John von Doussa QC, attended similar functions in Singapore and reported similar sentiments. Such a sense of connection and engagement with the university is irreplaceable.

In April, along with the Premier, Mr Mike Rann, and the Vice-Chancellors of the other two South Australian universities, I attended functions hosted by the State Government in Melbourne and Sydney for alumni of all three local universities. While the aim of these functions was to inform these alumni of the benefits of returning to work and live in South Australia, what they suggested to me was how mobile our alumni are within Australia. The attendance for the Melbourne event was 500, and for Sydney between 400 to 500. While these numbers represent graduates from all three universities, a significant proportion of them were from Adelaide and many of them, again, expressed to me their enthusiasm and affection for their university.

Both here and overseas, our graduates are playing major roles in the societies in which they live, and these recent events only serve to reinforce this. Such events also highlight the strength of our alumni networks in Australia and the Asia-Pacific region, and I congratulate the many people involved in these networks for the time and effort they give back to the university. I strongly encourage all of our graduates to stay involved with the university, as we like to know what you have been doing, just as you like to know what the university has been doing. It is a relationship that can only benefit both of us.

STOP PRESS

Who are the new faces of the University of Adelaide’s award-winning Life Impact campaign?

Vice-Chancellor Professor James McWha will be launching new Life Impact television commercials at a special function on Friday, June 10 to a select group of media and university representatives.

After that date, visit the university website to find out who the new “Life Impacters” are – and keep an eye out for the television commercials!

Government boost for industry links

The University of Adelaide’s collaborative links with industry have been further enhanced with three university researchers receiving $500,000 worth of State Government funding.

Professor John Carver, Head of School of Chemistry and Physics, and Professor Jesper Munch, Professor of Experimental Physics, were awarded $250,000 to establish “The Defence Photonics Cluster” as a partnership between the University of Adelaide, the Defence Science and Technology Organization (DSTO) and the South Australian defence industry.

Another project, “Value-adding South Australian lamb”, and led by Dr Zibby Kruk, a Postdoctoral Fellow in the School of Agriculture and Wine, has also been awarded $250,000 over the next three years.

Both projects were funded through the Premier’s Science and Research Fund.

Professor Munch said the cluster would enable collaborations between the university and industry for the purpose of increasing business opportunities, research and education in defence photonics.

“The vision of the Defence Photonics Cluster is to generate an internationally recognized strength in defence photonics in South Australia, which will form a nucleus for further growth in photonics and its applications,” Professor Munch said. “In particular, it will maximise the benefit of the very significant increase in local photonics capability which has resulted from the recent appointment of Professor Tanya Monro to the DSTO Chair of Photonics at the University of Adelaide.”

Dr Kruk said one of the exciting things about the value-adding lamb project is the collaboration between university research groups, Regency Institute of TAFE and industry.

“Private company Wanderribby will develop the project’s feeding and marketing systems, the university will conduct the analytical work and the Regency Institute of TAFE will carry out the taste testing trials,” Dr Kruk said.

“We aim to develop a healthy lamb product with enhanced flavours via dietary manipulations. This has the potential to significantly increase profit for the SA sheep and lamb industry by developing branded products as well as opening the possibility of targeting new markets,” Dr Kruk said.
Adelaide’s unique street tree environment is a haven for our birdlife – but more needs to be done, according to a University of Adelaide researcher.

Karen Young (pictured right) studied hundreds of street trees in Adelaide for her Honours project in the School of Environmental and Earth Sciences to find out what type of birds used them and what factors influenced this use.

“We have quite bit of vegetation on our streets, which means a number of birds can use street trees and the ground for food and shelter,” she said. “In other cities which are much more built-up, like London, birds don’t have this luxury – they can feed only on the ground.”

But to preserve this uniqueness, Karen said, it is not simply a matter of planting more trees, as a wide number of factors affect how birds use street trees.

“I looked at four main species of trees that are common in Adelaide, and what birds used them for: the native red gum, plane trees, jacarandas and bottlebrushes,” she said.

“Out of the 45 species of birds commonly seen on the Adelaide plains, I counted 28 different species during my survey. Of those 28, I saw 24 species actually using the trees. Some species of birds were quite common, like the noisy miner, and others were seen only occasionally, such as the red-rumped parrot and silver-eye.

“Different birds used the trees for different reasons, and some trees were better than others in certain ways. Plane trees and red gums were good for food, where the jacarandas weren’t. Birds that used hollows for sheltering liked the red gums and plane trees, and the birds that used nests liked the bottlebrushes.

“Season also influences which birds are using which trees and when, because they affect the resources the trees provide: once the bottlebrushes stopped flowering the rainbow lorikeets stopped using them, and little wattlebirds were generally only seen using the red gums in summer.”

Adelaide residents also have a big part to play in maintaining an overall bird-friendly environment.

“Although tree species and season are very important, an interesting finding from my study was that the surrounding environment in which the street trees stand affects how the tree species and season influence the birds,” she said.

“Essentially, that means how well-vegetated the front gardens are along the street. A single tree surrounded by concrete is less likely to attract great numbers of birds if the little bit of food or shelter that tree provides are the only things in the area, no matter how good that tree species may be elsewhere.

“But if you have gardens with a variety of vegetation, like some lawn, shrubs, and ground covers, then birds are more likely to be in the area.

“Birds are then more likely to use the street trees if the tree species and time of year are appropriate, as these are most important factors for them.

“Councils do have a big part to play in what street trees go in where, and they have a lot of things to consider: how long the trees are going to last, how much will they cost to maintain, how much shade they will provide, and how much they will cost to replace.

“But I hope my study will show that with just a little bit more thought about what trees are effective and where and when they are effective, councils can use them more appropriately. Part of it is also up to us, to make sure we provide the appropriate surrounding vegetation to create an environment where birds are encouraged to use our street trees as much as possible.”

Story and photo by Ben Osborne
“The information obtained by the physiologists is then used by the engineers to build computer models of the insect brain and from there we can put it on the chips.”

These motion-sensing chips have a huge range of possible applications from more powerful anti-collision sensors in cars to optical gyroscopes for miniature aircraft.

Dr O’Carroll said the development of this initial research for use in a human bionic eye, however, is still some years away.

“Eye diseases with millions of sufferers worldwide, such as retinitis pigmentosa and macular degeneration, involve irreversible degeneration of the light sensitive layers of the retina in the eye, leaving sufferers with profound blindness,” he said.

“These diseases stop the retina from detecting the image focused onto it by the pupil, yet leave the nerve that connects the eye to the brain perfectly intact. So if a bionic eye could be developed to mimic the function of the retina, it could be coupled to the optic nerve in a similar way to the bionic ear.

“The problem that others are having in trying to develop bionic eyes which fit this model is that the image our brain ‘sees’ comes from hundreds of thousands of very tightly packed relay nerve cells within the retina. These nerve cells couple each and every point of the image formed in the retina to the rest of our brains.

“Trying to find a way to connect electrodes from an artificial device like a camera to each individual nerve cell correctly is very difficult, and even if we could, the packing of these cells is so dense that we couldn’t achieve an image with a high enough resolution.”

Instead, Dr O’Carroll and his team are tackling the problem from a motion-sensing perspective, rather than an image-capturing one.

“What we know is that specific visual areas in the temporal lobes of our brains contain motion processing centres remarkably similar to those of insects,” he said. “Brain cells studied in that region respond to complex patterns of motion just like those found in the fly.

“If electrodes were used to directly stimulate these brain regions, they could produce a sensation of the world moving without the need to map a bionic eye back onto the retina.

“Any approach that could provide motion but not the image that our normal vision provides could still be useful to a severely sight-impaired person,” he said.

Dr O’Carroll and his team are working to develop a small chip that can generate motion sensations in the brain.

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Dr O’Carroll and his team are working to develop a small chip that can generate motion sensations in the brain.

Story by Ben Osborne and Sukhmani Khorana

Artificial vision research at the University of Adelaide has received another boost with the recent announcement of the Computational Neuroscience research cluster, one of five new clusters (see story opposite).

Researchers from across the University will be involved in the multi-disciplinary cluster, representing such areas as Physiology, Philosophy, Genetics, Computer Science, Electronic Engineering, and Psychology.

It will be led by Dr O’Carroll and Associate Professor Gerard O’Brien from the Discipline of Philosophy.
A high five for research

The University of Adelaide’s research capabilities have been further emphasised with the recent announcement of five new clusters.

With four other clusters already in operation, this brings the total of clusters currently operating in the university to nine.

The new clusters are:

The Computational Neuroscience Research Cluster (see continuation of Page One story opposite).

The Preventive Healthcare Research Cluster which comprises membership from all five university faculties.

The Integrating Sustainability Research Cluster, which will expand on the university’s broad research interests in sustainability, ranging from technology through to environmental and economic concerns.

This cluster will allow enhanced interaction between the university, the State Government and the broader community in the practical application of research into sustainability.

The Food Plus Cluster has been established to facilitate enhanced integration across disciplines in food and beverage research, and draws upon expertise from within the university from plant and animal molecular biosciences, sustainable agriculture, food and beverage processing, human health and nutrition, and commerce and marketing.

The cluster will engage the South Australian Government, businesses and the broader community in the practical applications of research into food and beverage production, food quality and nutrition, value adding and marketing.

The Energy Research Cluster aims to deliver substantive social and economic benefits, while reducing the associated environmental impacts, in all areas of energy provision and consumption by establishing a single entity to coordinate and draw upon the specialist expertise available within the university.

In particular, this expertise is focused on the areas of cleaner and more efficient production, conversion and utilisation of energy, and will include technology development, evaluation of socio-cultural phenomena and formulation of energy policy.

Hawker scholars’ double success

Scholarships

University of Adelaide students continue to prove their outstanding abilities with two receiving prestigious Charles Hawker scholarships for 2005.

Both students are residents at St Mark’s College and studying for double degrees at Adelaide. Kate McFarlane is studying for a Bachelor of International Studies and Law, while Jeffrey Duncan is studying for a Bachelor of Mechanical Engineering/Economics.

They will receive up to $60,000 each over four years from one of the most generously funded scholarships in Australia. The scholarship perpetuates the memory of scholar, soldier, pastoralist and statesman Charles Allan Seymour Hawker and commemorates the achievements of one of Australia’s most respected pastoral pioneers.

Kate grew up in regional Victoria and was educated at Ballarat Grammar. She has a keen interest in current affairs, politics, and social issues, as well as a strong understanding of Australia’s place in the world.

“My parents nurtured a strong sense of social awareness and instilled in me an understanding of my responsibilities to the community,” Kate said.

The young student’s social conscience is manifested in her involvement with the Ballarat Refugee Support Network and A Just Australia, and her initiation of a letter-writing program between Grade Six students and children detained on Nauru.

“My goal is to pursue a career involving community issues and social justice in Australia or overseas,” Kate said.

Jeffrey was educated at the Coomealla High School in New South Wales and grew up on his family’s sheep station.

“As a result of my work on the family property, I now understand and appreciate the extent to which regional and rural Australia can benefit from the work of engineers,” Jeffrey said.

A brilliant student and an accomplished sportsman, Jeffrey was one of 40 students in New South Wales to be awarded the Minister’s Award for Excellence in Student Achievement.

“My career goal is to make a major contribution by developing functional, well-designed and well-constructed products to benefit rural Australia,” Jeffrey said.

Presenting the scholarship certificates to Kate and Jeffrey, the Hon. David Hawker MP said they are awarded to academically capable students of principle and character who are committed to Australia’s future.

“The Charles Hawker Scholarship is one of the most important in Australia. I commend the Trustees for the contribution the scholarship has already made and will continue to make to the education of a number of outstanding young Australians,” he said.

“Each of these recipients has already displayed a strong commitment to the ideals upon which the Charles Hawker Scholarship is founded. They are gifted scholars with inquiring minds and have already contributed to the wider community.”
Adelaide makes an impression on counsellors

Future Students

Career counsellors from the eastern states were singing the praises of the University of Adelaide following a two-day introduction to the university and its city recently.

Anne Schoonraad from Presbyterian Ladies College, an independent girls school in Melbourne, Frank Thompson from Melbourne Grammar School, an independent boys school and Jenny Oglesby of Melbourne independent co-ed school, Taylors College, were among 22 career counsellors who came to Adelaide from secondary schools in Victoria and New South Wales.

Anne, who has several former students studying here, said: “I am very impressed with the facilities, I think it’s a fantastic university – it’s in the heart of the city but still has its own atmosphere.”

Frank said the visit was “an opportunity to see one of Australia’s leading universities first-hand and what it has to offer.”

“It’s important for our students to be aware that we deal in a national system and they shouldn’t restrict their thinking to just what’s in the local community, a short tram-ride away.”

At Taylors College international students, the majority from China, form about 80 percent of the enrolment. Jenny said the overseas students were “quite mobile and want to go to a Group of Eight university – there were quite a few last year for whom Adelaide was the first choice and they didn’t want to fill out a VTAC form.”

Student Information and Services director Liz Geddes said the counsellors attended presentations from the faculties and student support services, and were taken on tours of the North Terrace campus and city of Adelaide.

“There’s nothing more powerful than actually seeing and feeling the University of Adelaide campus and Adelaide,” she said.

She said both the counsellors and faculty representatives were extremely pleased with the event, especially as it enabled them to meet and speak in person.

Story by Lisa Toole

Tall Poppy Science Awards

The Tall Poppy Science Awards, inaugurated in 1999, continue to identify high achievers in an exciting and innovative approach that recognises the outstanding professional and personal commitment of our young South Australian researchers from all fields of science.

The Tall Poppy Science Awards are closely affiliated with the Premier’s Science Excellence Awards.

For further information or to download a copy of the nomination guide, please visit www.tallpoppies.net.au or contact Pamela McLeod on 0402 228 507

Applications close on Friday 1 July 2005

The Department of Further Education, Employment and Training

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Making new discoveries about the more extreme parts of our universe is part of the attraction of astrophysics for University of Adelaide student David Jones.

David recently moved from Melbourne to start his PhD at Adelaide which will involve using radio telescopes to measure the interactions of some of the highest energy particles in the universe with the moon’s surface. The findings should help to explore acceleration mechanisms and models of the structure of the universe.

“I always wanted to do sciences, firstly it was palaeontology but I got interested in physics in high school and it was reading *A Brief History of Time* which got me into astrophysics,” he said.

“It was so different to every other book that I read until then and concerned things so removed from everyday experience.

“I ended up doing a science degree at Monash University and after my honours decided to come to Adelaide for my PhD as the university has a greater focus on high-energy astrophysics.”

To date, David has had the opportunity to use some high profile pieces of equipment to observe objects both in our galaxy and beyond.

“I had a Summer scholarship at the Australian Telescope National Facility and lived at the Australian Compact Array telescope near Narrabri for three months. The Compact Array is six 22-metre dishes spread over six kilometres,” he said.

“I also had the opportunity to work at the Parkes telescope, which was in the film *The Dish*, and is 70 metres in diameter and the Schmidt telescope in Coonabarabran for an Honours observing project.”

“I’ve got an eight-inch refractor telescope set up for celestial photography and I’ve been able to see Saturn’s rings, a lot of the moons of Saturn and Jupiter and the Andromeda galaxy, that’s the closest galaxy to the Milky Way.

“I enjoy the challenge of astrophysics and the fact that it’s possible to make discoveries no one else has.

“Two studies have already been done to try to find the type of radiation I’m looking for in my PhD – we know it exists because it’s been reproduced in a lab.”

David said astrophysics offered many specialisations depending on a person’s particular interest and studies in this area could lead to jobs at NASA, another US space science institute known as the Jet Propulsion Laboratory or any number of other overseas universities and institutions.

“With high-energy astrophysics, and especially the area that I am in, there are opportunities to work for particle accelerator (laboratories) such as CERN in Switzerland. These places bombard atoms all day long with other atoms at very high speed and watch what comes out,” he said.

Interested in the stars and the universe beyond? The Investigator Science and Technology Centre’s Stardome, sponsored by the University of Adelaide, is a mobile planetarium which provides a simulation of the stars of the southern hemisphere and an immersing astronomy lesson.

It has been featured at exhibitions such as *The Only Way To Live*.

For more information, visit: [www.investigator.org.au](http://www.investigator.org.au)

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David’s high-energy stargazing

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"The bottom line is that astrophysics is great for people who like to work, travel and live overseas. Most people in an astronomy department will have worked and lived overseas at least some time in their careers.”

Story by Lisa Toole
The traditional home of music in South Australia – the University of Adelaide’s Elder School of Music, or the “Con” as it is still affectionately known – has had a much-needed $8 million facelift.

State Premier the Hon. Mike Rann officially opened the new facilities recently, which provide the music dimension of the city’s famed ‘cultural precinct’.

Funding for the extensive project was contributed by the Federal Government ($4 million), State Government ($2 million) and the University of Adelaide ($2 million).

Dean and Director of the Elder School of Music, Professor Charles Bodman Rae, said the redevelopment had been essential for the provision of intensive professional training of very talented young musicians who come not only from South Australia but also from interstate and overseas.

“Music has been an integral part of the University of Adelaide for 120 years, and while we are tremendously proud of our history as Australia’s first specialist music institution, we have had our eyes firmly on the future. This major upgrade puts us now in a very strong position.” Professor Bodman Rae said.

“The creation of many more acoustically treated music studios, together with lots of other enhanced facilities, makes us once again one of the top institutions in Australia for professional training, study and research in all the key fields of music.

“The key to our success with this project has been to give top priority to the practical needs of students and the spaces they need for high-level music making. We have also ensured that the Elder Music Library remains one of the finest of its kind in Australia.”

All buildings associated with the Elder School of Music have received major refurbishments: the Hartley Building (including the Elder Music Library), the Madley Studios, the Schulz Building and the Elder Conservatorium teaching studios in Elder Hall.

In addition, a landscaped courtyard “hub” for the music precinct has been established in the area flanked by the Schulz Building, Hartley Building, Madley Studios and Scott Theatre.

Story by Ben Osborne
Jamie’s modern musical spirit

The creative musical talents of past and present Elder School of Music students and staff will be on display this month in the fourth Adelaide Symphony Orchestra Master Series Concert for 2005.

The concert, titled “The Modern Spirit”, will feature the world premiere of *Music for an Absent Film*, the latest work by Elder School of Music composition graduate Jamie Messenger (pictured above).

Jamie graduated in 2003 with First Class Honours in composition and studied under renowned Australian composer Graeme Koehne.

Also performing at the concert will be the Elder School of Music’s Chamber Choir, along with other local choirs Adelaide Voices and the Adelaide Chamber Singers. All three choirs are directed by Carl Crossin, who is Director of Choral Music, Head of the Music Studies Program and Lecturer in Conducting at the Elder School of Music.

Jamie said *Music for an Absent Film* is a commissioned work for orchestra and chorus, and was inspired primarily by his passion for film soundtracks, as well as his recent travelling experiences in Europe and Africa.

“I wanted to write a piece which had the same power to conjure up images and evoke a feeling in the listeners that a film soundtrack does,” he said.

“What I love about film soundtracks is that they evoke such a wide variety of emotions ranging from excitement, fear, sadness and passion to happiness,” he said.

In the same way that a movie tells a story, Jamie has tried to create a range of different atmospheres throughout the piece. He hopes that the audience will respond positively.

“I hope that throughout the piece it evokes a mood and images in your mind and maybe even fires up your imagination to carry you out of the theatre at the end of the concert,” he said.

*Music for an Absent Film* will open the program, which includes Mozart’s *Posthorn Serenade*, and two works by contemporary Estonian composer Arvo Pärt, *Cantus in Memoriam Britten* and *Te Deum*.

Tickets for “The Modern Spirit” are available for all full-time students for $9 (including BASS fee) at the venue 30 minutes before the performance.

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Evening concerts start with a bang

The Elder School of Music’s 2005 Evening Concert Series gets off to a pounding start this month with *Uneven Souls*, a different yet exciting combination of percussion, brass and some voices.

Featuring the School’s award-winning percussionists, the Elder Conservatorium Brass Ensemble, and supported by members of the Adelaide Symphony Orchestra, it is the first in a series of six promising concerts not to be missed.

The performances include Niehaus’s *Fanfare and Allegro*, Varèse’s *Ionisation*, Kopetski’s *Night of Moon & Dances*, Tull’s *Liturgical Symphony*, Zivkovic’s *Uneven Souls*, and Maki Ishii’s *Dyu Ha*.

The concert will be held at the Elder Hall on Saturday 25 June at 6.30pm.
Revecca responds to child disease challenge

Contributing to research that could benefit thousands of children suffering from a debilitating disease is all in a day’s work for one University of Adelaide student.

Revecca Kakavos is studying for her PhD in the university’s Department of Paediatrics and is based at the Women’s and Children’s Hospital. She is studying the immune response to therapy for a group of genetically inherited conditions known as Lysosomal Storage Disorders (LSD).

LSD affects children and as the child grows, symptoms appear and worsen with age. Severely affected patients deteriorate rapidly and die by the age of 10.

Revecca is part of the Lysosomal Diseases Research Unit at the hospital, which aims to develop therapies for children who suffer from these life-threatening diseases.

“Lysosomes are found within each of the body’s cells and are responsible for the removal of cellular waste. This process relies on a series of proteins (enzymes), working together inside the lysosome,” Revecca said.

“LSD results from a deficiency in function of one or more of these enzymes, leading to an impaired waste removal. Over time, the waste accumulates within the cell and interferes with the cell’s normal function, leading to onset of disease.”

Revecca’s work involves investigating why some LSD patients react to current therapeutic strategies and subsequently identify ways to prevent these reactions from occurring in order to assist the delivery of a more effective therapy.

Last year, Revecca was given the opportunity to present her research findings at the 8th International Symposium on Mucopolysaccharide and Related Diseases in Germany.

“This was a fulfilling experience that would not have been possible without the two travel awards I obtained: the Faculty of Health Sciences Postgraduate Travelling Fellowship and the Alumni Association Heddle/AUGUC Awards,” she said.

“A number of internationally recognised experts in my field were present at the conference, making it an ideal environment to present my work.”

But that was not the only highlight of 2004, with Revecca being one of the eight semi-finalists for the Young Investigator Awards.

“This was a challenging experience as the target audience was one of a general scientific background and I consequently had to avoid using scientific lingo, but my ability to present my research has been greatly improved,” she said.

Revecca said her next major priority is to finish her PhD later this year.

“I enjoy and am intrigued by the field I’m currently in and hope to be able to continue working towards understanding the immune response in these affected children,” she said.

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Engineering the passion for a great career

Engineering graduates of the University of Adelaide are making an impact in their field, and also contributing to the community by encouraging younger people to take up the profession.

One such success story is Ms Elena Mavrofridis, who graduated from the University of Adelaide in 1997 with an Honours degree in Chemical Engineering, and is currently employed as a Facilities Engineer with oil and gas company Santos.

She recently received the inaugural 2005 Schools Fellowship in Chemical Engineering Award for 2005, which was established by the university’s School of Chemical Engineering in conjunction with the SA Branch of the Joint Chemical Engineering Committee (JCEC), and the Institution of Chemical Engineers in Australia.

As part of her award, Ms Mavrofridis will be visiting schools and talking about her profession in order to promote chemical engineering to secondary school students in Adelaide.

Ms Mavrofridis’s journey began during her hectic days studying at the University of Adelaide. Not only was she dedicated towards her studies, but also actively sought out vacation work to gain practical experience in the field of engineering. It is this experience that helped her gain a coveted position at Mobil’s Adelaide refinery upon graduation.

“I think the biggest thing I got from university was that I had to continue learning, and learning in a certain way. Chemical engineering made me part of a certain school of thought that is particularly applicable in the work environment,” Ms Mavrofridis said.

“I want to encourage school students to take up chemical engineering because it gives you access to a broad range of opportunities and industries. It is truly a diverse career choice.”

Ms Mavrofridis also has words of advice for students currently enrolled in a chemical engineering course.

“Instead of becoming jaded with exams and the mechanics of being a student, it is crucial to be proactive; to go out there and see what chemical engineers really do in the industry,” she said.

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Story by Natalie De Nadai
Photo by Ben Osborne

Elena Mavrofridis
Photo by Sukhmani Khorana

Story by Sukhmani Khorana
One of Japan’s leading scientific minds will headline a major Japanese studies conference being hosted by the University of Adelaide’s Centre for Asian Studies early next month (July).

Former Japanese and NASA astronaut Dr Mamoru Mohri will be the keynote speaker at the Japanese Studies Association of Australia conference being held at the University from Sunday, July 3 to Wednesday, July 6.

Dr Mohri is no stranger to Adelaide, having obtained his PhD from Flinders University in 1976, and heads an international contingent of Japanese experts coming for the conference.

President of the Japanese Studies Association of Australia and conference convenor Professor Purnendra Jain, a Professor in the University’s Centre for Asian Studies, said it is the first time in the conference’s 28-year history that it is being held in Adelaide.

“The theme for the conference is ‘Japan – Negotiating the 21st Century’,” Professor Jain said.

“We will have speakers from around the world who will examine Japan’s place in the world, and what challenges it faces now and will face in the future.”

Dr Mohri is now retired as an astronaut, but is currently the executive director and CEO of Japan’s National Museum of Emerging Science and Innovation and has research interests in the sciences of vacuums, surfaces and microgravity.

His keynote address, which will be held in Bonython Hall at 9am on Monday, July 4, will consider the challenges facing Japan in the areas of technology, education and communication.

Dr Mohri said he has fond memories of his time in Adelaide in the 1970s and is looking forward to returning to the city.

“I learned far more than I anticipated,” he said. “I interacted and experienced life with new people, from a wide variety of cultures, all within a new environment.

“I learned that I could not just survive by accepting these challenges, but thrive and develop into a more complete person.”

The total number of delegates expected to attend the conference is between 200 to 250, with delegates coming from Australia, Japan, New Zealand, the UK, the US, Singapore, Malaysia, Hong Kong, Thailand, the Philippines, Korea and India.

Professor Helen Hardacre, Professor of Japanese Religions and Society at Harvard University and Professor Kumiko Torikai, an expert in intercultural communication at Tokyo’s Rikkyo University, will be the two plenary speakers.

The Japanese Ambassador to Australia, along with a number of Japanese officials and diplomats, will also be attending the conference.

Story by Ben Osborne
New WWI book a labour of love for historian

Historian and author Professor Trevor Wilson has put his heart and soul into his most recent work.

In co-authoring The Somme – an account of the Somme battle fought on the Western front in 1916 during World War I – the Emeritus Professor of History at the University of Adelaide said he felt “extremely satisfied” following five years of extensive research.

“My co-author Robin Prior (Head of the School of Humanities and Social Sciences at the University of New South Wales) and I worked through a staggering amount of information. And what made it exciting is that we discovered untold data,” Professor Wilson said.

The result is the most precise and authentic account of the campaign on record, and a book that challenges almost every received view of the battle.

In the long history of the British Army, the Battle of the Somme was its bloodiest encounter. Between July 1 and mid-November 1916, 432,000 of its soldiers became casualties – about 3600 for every day of battle.

In their quest to find out what went wrong for the British, the authors spent considerable time at the Public Records Office in London and “lots of money” on photocopying.

“As new material came to light, we would share it and double check to ensure we had the right facts. It was quite the battle as there was so much to refer to,” Professor Wilson said.

One of the world’s most highly regarded World War I historians, Professor Wilson has also written Myriad Faces of War, and co-authored with Professor Prior Command in the Western Front and Passchendaele: the Untold Story. Professor Prior has also written Churchill’s "World Crisis" as History.

The Somme is published by Yale University Press (New Haven and London).

Story by Howard Salkow
Anne’s perfect strands: knitting and writing

Anne Bartlett was optimistic for a small local print run for her first adult novel but it seems everyone wants to get into Knitting.

Anne’s novel Knitting was published in Australia in March by Penguin, and released two weeks later in the US by Houghton Mifflin. It will be published in the UK by Penguin early next year.

The work forms the creative writing component of her PhD in Creative Writing at the University of Adelaide. A mentorship with Sydney writer Nicholas Jose during her studies was the stepping-stone to international publishing.

“It was through him that I met editor Bob Wyatt in New York, who in turn introduced me to agent Joy Harris,” Anne said.

“It has been quite overwhelming. At the most, I had hoped for a small Australian print run,” she said.

Anne knows about the persistence required to bring manuscripts into print. Her first “serious fiction” was written thirty years ago and Knitting is her first adult novel.

She said it was “a surreal experience” when she moved to the negotiation stage with publishers. The author recently travelled to the United States to meet with editors and her agent.

Anne also said she found it “quite strange” when she first saw the finished novel.

“Words that had been inside my head were there in a book at the Adelaide Airport,” she said.

On the morning she spoke to the Adelaidean, Anne had already given five radio interviews and several newspaper interviews. She was also invited to attend the Sydney Writers Festival in the last week of May.

Knitting is story of two women, both widows, who meet by chance and the impact they have on each other’s lives and grieving processes.

Anne said the book was a case of “writing about what you know”.

“I come from a family of knitting women and have knitted since I was a child. I knitted one-off garments at home for a designer when my children were small,” she said. “And I always had an interest in grief and grieving.”

“The novel is superficially about knitting but knitting is also a metaphor for being knitted back together, particularly after a period of grief.”

Despite being tagged as a women’s fiction offering, the novel’s universal messages are appealing to a wider audience and men have also enjoyed it, she said.

Anne, who has “always written”, has published non-fiction books for children’s education, had her own magazine column and undertaken freelance editing.

She completed a Master of Arts in Creative Writing at Adelaide in 1998 and, during that time, was co-editor of the university’s first Creative Writing anthology, Iron Lace.

Several of Anne’s notable works relate to Australia’s indigenous population, including her non-fiction children’s book on Aboriginal history and culture, The Aboriginal People’s of Australia, which was published in Singapore and the United States as part of a First People’s Series in 2001.

Commisions from State Aboriginal Affairs in 1999 lead to her assisting with the publication of The Chairman (Australian Scholarly Publishing) in 2004. The Chairman is the autobiography of Ngarrindjeri elder Garnett Wilson, who was a foundation member of the Aboriginal Lands Trust and then chair for over twenty years.

Anne lives in the Adelaide Hills with her husband, Russell and they have four grown-up children.

Knitting is published by Penguin with a RRP of $22.95

Story by Lisa Toole
The Adelaide University Postgraduate Students’ Association (AUPGSA) recently celebrated 40 years of looking after the best interests of our future researchers and academics.

The Association, an affiliate of the Adelaide University Union, was founded on April 8, 1965.

Newly elected AUPGSA President Felicity Rai (pictured right) has been involved with the University of Adelaide since the late 1990s and is studying for her PhD in Asian Studies.

Felicity said the initial AUPGSA membership of 55 had increased to more than 5500 students who were enrolled in PhD, Masters, Graduate Diploma and Honours programs.

“They’re the future academics, particularly as the University of Adelaide is part of the Group of Eight research-intensive universities,” she said.

“If these students are comfortable and content within the university, this will impact positively on their abilities to research and break new academic ground which, in turn, will raise the profile of the University of Adelaide both here and overseas.

“It will attract more international students to the university for both the academic and wonderful campus culture.”

Felicity said three of the AUPGSA’s five executive positions were held by international students, with such students welcomed and now making up half of the association’s membership.

She said the association’s original roles of disseminating information to postgraduate students on relevant issues, promoting academic and social contact between these students, representing their interests on boards and committees across the university and in the wider community, and campaigning for improvements to postgraduate student life had not altered over four decades.

Postgraduate students came together at the beginning of May for the 40th birthday celebrations, which coincided with the AUPGSA elections and a referendum which led to the adoption of a new constitution.

Story and photo by Lisa Toole

Applications are now being called for the annual Young Investigator Award, a joint initiative of the University’s Faculty of Health Sciences and the Children, Youth and Women’s Health Service (CYWHS).

This highly successful award, now in its sixth year, rewards excellence in both science and the ability to communicate and “sell” that science. The award is open to postgraduate students and new post-doctoral scientists from the University of Adelaide, CYWHS and the Child Health Research Institute.

Applicants must be researching into an aspect of children’s or women’s health.

In the lead-up to the finals, applicants are judged on scientific merit. At the finals, a media panel judges ability to communicate to a general audience.

First prize is $1000 plus a $1500 conference prize. Runners-up each receive $500.

Applications close July 11.

For more information, including eligibility criteria and application forms, visit www.health.adelaide.edu.au/yia2005 or contact organising committee chair Dr Edna Bates on (08) 8161 7388 or email batese@wch.sa.gov.au
Cycling through the heart of Australia is not a typical act for a lawyer but University of Adelaide Senior Lecturer John Gava is setting a precedent and it’s all for a worthy cause.

In an initiative titled “Bike for Books”, Mr. Gava is raising the $3100 kilometres from Darwin to Adelaide to raise money for books for the University of Adelaide’s Law Library.

The ride will take place at the beginning of July and Mr. Gava is primarily looking for sponsorship in the lead-up but he will also seek donations during the trip.

He said keeping the Law Library up to date was essential to ensure students were exposed to the whole spectrum of ideas, both old and new, that were available.

Mr. Gava said this would enhance their education by challenging them intellectually and also ensure they were at the cutting edge of the legal profession.

During “Bike for Books”, he aims to ride about 100 kilometres each day, carrying his own tent, food and water, and plans to camp and stay at roadhouses along the way.

Mr. Gava said he would be carrying a five-litre container of water with him as, in some cases, it could be two or three days between roadhouses or towns.

“I want to try to finish it in a month – I start on July the 1st and hope to be back by the 1st of August.”

Mr. Gava said he planned to tackle the long highway through the centre of Australia alone, although two Law School colleagues would possibly join him for several days or a week.

“It’s a great way to experience Australia – you get to see it, hear it and smell it,” he said. “Cycling’s a much slower mode of transport, and give you an opportunity to really experience first-hand how unique our country is.”

This is the first charity ride for Mr. Gava but he is certainly no stranger to lengthy cycling trips and enjoys what some people would see as long and lonely roads.

“I like being in the middle of nowhere,” he said.

His first long-haul cycle was a trip from Perth to Sydney, a 40th birthday present to himself, and he has tried to undertake one big ride each year since then. Other journeys included Sydney to Brisbane, Wellington to Christchurch in New Zealand and around Australia’s Snowy Mountains.

He chose Darwin for his latest challenge as he had already conquered the road from east to west and it was an opportunity to cycle north to south and finish back in Adelaide, the focus of the exercise.

Mr. Gava, who usually cycles to work from Joslin and spends a couple of hours riding in the Adelaide Hills on weekends, said he would increase his training in the lead-up to the long ride home from Darwin.

To make a donation to Bike for Books, contact University of Adelaide senior lecturer John Gava on 8303 4451 or email john.gava@adelaide.edu.au, or Law Librarian Sue Milne on 8303 5348 or email sue.milne@adelaide.edu.au

Cornell Chapter Film Night

The Cornell Chapter presents A Good Woman, starring Helen Hunt, Mark Umbers and Scarlett Johansson.

Date: Wednesday, June 22
Time: 6 for 6.30pm
Venue: Trak Cinema, Greenhill Road, Toorak.
Price: $14 (includes complimentary wine)
Bookings are essential and can be made by phoning Development and Alumni on (08) 8303 5800

Development & Alumni Events

MBA Chapter: Network Breakfasts

Purchase your own breakfast, sit amongst your peers and enjoy stimulating conversation and network opportunities. Current students and graduates are all welcome!

Date: 1st Wednesday of every month
Time: 7.30am – 8.30am
Venue: East Terrace Café

For information regarding this event, please contact Paul Szuster at paul@unimeter.com or visit www.agsb.adelaide.edu.au/alumni/events_index.html

Alumni Association AGM

Date: Tuesday, June 21
Time: 6pm–7pm
Location: Equinox Function Room Level 4, Union House University of Adelaide (North Terrace Campus)
RSVP: by Friday, June 17 to Kim McBride, Ph: (08) 8303 3196, Fax: (08) 8303 5808 or email kim.mcbride@adelaide.edu.au

Light refreshments will be provided prior to the meeting and there will be an opportunity to mingle over drinks and nibbles following the meeting.

Agenda and documents will be available from the Development and Alumni office or at the website www.adelaide.edu.au/alumni after May 23rd.

MBA Chapter Speaker Seminar

Date: Monday, June 20 6pm-8pm
Venue: Adelaide Graduate School of Business, Level 5, 233 North Terrace
Speaker: Jim McDowell, CEO, BAE Systems Australia “The Business of War”
Cost: Members $15, Non-members $20
RSVP: Gaynor Tyerman (08) 8303 6356
Email: gaynor.tyerman@adelaide.edu.au

John Bray Law Chapter Quiz Night

The Chapter proudly presents the Chief Justice’s Shield Quiz Night.

Date: Friday, June 3
Time: 7pm to 11pm
Venue: Eclipse Room, Level 4, Union House University of Adelaide University,
Location: East Terrace Café
Cost: $20 per person, $200 per table
BYO: Supper, Gold Coins for Games
Bookings essential by COB Monday, May 30 by phone (08) 8303 6356 or gaynor.tyerman@adelaide.edu.au

Roseworthy Old Collegians Association Chapter AGM and Dinner

AGM, Annual Reunion Dinner and Award of the ROCA Award of Merit for 2005:

Date: Friday, October 14
Time: AGM at 6.30pm and Dinner at 7pm
Venue: Glenelg Golf Club House, James Melrose Drive, Glenelg
Cost: Dinner $35 pp
Bookings: Phone (08) 8363 4371, or PO Box 503 Kent Town SA 5071
Helping our sports stars strive for excellence

Combining top-level sport and study has been made easier, thanks to a new support program established at the University of Adelaide.

Known as the Elite Athlete Support and Information Service (EASIS), the program will give student-athletes the flexibility needed to achieve both academically and in their chosen sport.

The program is part of the university’s membership of the national network of Elite Athlete Friendly Universities. Member institutions provide assistance and support for students who are also elite athletes.

The network also has the backing of the Australian Institute of Sport, the South Australian Institute of Sport and professional player associations such as the AFL Players’ Association and the Australian Cricketers’ Association.

So far, some 38 student-athletes currently studying across all five Faculties at the university and taking part in a wide cross-section of sports have been identified as potential beneficiaries of the program. Sports represented include cricket, hockey, water-skiing, AFL, kayaking, sailing, water polo, basketball, beach volleyball, athletics, ice hockey, rowing, orienteering and baseball.

In launching EASIS recently, Vice-Chancellor Professor James McWha said students taking part in the scheme would be offered flexible and timely options to continue their education, while meeting the demands associated with being an elite athlete.

“We will be able to offer leave of absence to attend major competitions, or the opportunity to sit exams externally if needed,” he said.

“I am particularly pleased that the project officer for our program is Amber Halliday, who has two degrees from this university and has won world championships and represented her country at the 2004 Olympics.

“Amber knows exactly what it is like to combine study with sport, and her experience and knowledge can only benefit those current students who are in a similar position.”

One student who has welcomed the introduction of the athlete-friendly program is volleyballer Travis Moran, who is studying for an Arts degree and represented Australia in indoor volleyball at the 2004 Olympics (he has since switched “codes” to beach volleyball).

“Often my study or my sport gets really hectic for a period of time and it’s hard to find a balance sometimes,” Travis said. “I’ve had to sacrifice a lot: academically when I was at school, and socially too, to get where I am but I’m still happy with what I’ve achieved.”

Miranda Bennett, too, has experienced the rigours of combining study and sport. A world champion rower, she completed a double degree in Law and Commerce in 2004 and after working for law firm Minter Ellison in Adelaide, she recently moved to Sydney to work for law firm Sparke Helman.

“It wasn’t easy! I still had to complete all the components of the course,” she said. “If I couldn’t be at classes, I still had to complete other assignments to make up the attendance. I also had to prove myself to my lecturers that I could handle it.

“I guess I never lost sight of the importance of study. Sport is there but you always have to think about life after sport.”

Story by Ben Osborne