

The University of Adelaide Alumni Magazine

Lumen

WINTER 2008

The science of AIDS

Fighting a global tragedy

LIFE IMPACT - THE UNIVERSITY OF ADELAIDE

LUMEN - The University of Adelaide Alumni Magazine
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OF ADELAIDE
AUSTRALIA

AIDS: the elusive vaccine

Over 30 million people around the world are living with HIV/AIDS, the vast majority of them in developing countries. In this issue profiles the global work of University of Adelaide alumni who are key international players in the fight against this insidious disease.

1981:

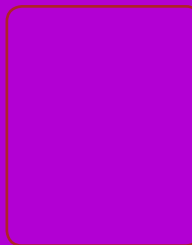
AIDS is first recognised by scientists following 121 "gay cancer" deaths in the US since the mid-1970s.

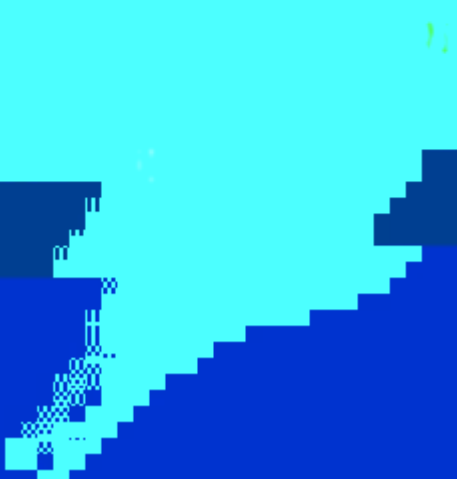
1991:

10 million people worldwide are estimated to be HIV-positive.

1999:

World Health Organization estimates that AIDS has caused the life expectancy in southern Africa to drop from 59 years to 45 years.





Dr Robbiani's research has centred on the pathway of the HIV virus during sexual transmission.

"HIV must breach the skin at the body surfaces to interact with and infect the white blood cells within and underneath the skin," Dr Robbiani said. "Once HIV breaches this barrier, it interacts with and can infect dendritic cells, macrophages or T cells. Dendritic cells are especially effective in capturing HIV and extremely efficient in transmitting the virus to T cells which amplify the spread of infection."

Direct exposure via injecting drug use is believed to be more potent than sexual exposure, but both forms of transmission occur.

Dr Robbiani said that despite the statistics, there is room for optimism.

"Our research focuses on understanding the basic biology of HIV transmission and the role of dendritic cells in this biology. We are making significant advances in this area, although there is still an enormous amount to learn about how to prevent infection through micro-biocides and vaccines."

Aevent

On the other side of the Atlantic, Dr Graeme Moyle is a leading member of a multidisciplinary team at the Chelsea and Westminster Hospital, London, managing the day-to-day clinical care of HIV-positive individuals.

The hospital is northern Europe's largest HIV treatment centre and Dr Moyle's role encompasses clinical research.

"As Director of HIV Research Strategy I lead phase 2-4 research programs into all aspects of HIV infection. I take a special interest in developing new antiretroviral drugs and in managing disturbances of metabolism and morphology," he said.

The Mildura-born doctor was educated at Prince Alfred College and the University of Adelaide before heading to the UK, where he has spent the past two decades working in HIV care.

After graduating in 1986 with a Bachelor of Medicine, Bachelor of Surgery (MBBS), he completed his doctorate in 1996, with a thesis on the treatment of HIV infection with didanosine and foscarnet.

Dr Moyle's interest in infectious diseases was stimulated by a 5th-year elective at CMC Hospital in Vellore, India.

"A colleague at university was one of the first people in Adelaide to die of AIDS

and I had several friends – both straight and gay – who were infected in the early 1980s," he said.

His clinical research is focused on antiretroviral drugs (substances that stop or suppress HIV) and also involves collaborating with the international AIDS vaccine initiative (IAVI). Dr Moyle is a UK investigator for a vaccine study run by biotechnology company Bionor and is also working with pharmaceutical company GlaxoSmithKline on their HIV vaccine.

"We have made fantastic progress in drug development in recent years but the number of new infections across the world is unacceptable and the pandemic is likely to get worse," Dr Moyle said.

"The growth in new infections is most evident in places with little access to care and little political will to address the problem."

Dr Nicholas Vandegraaff obtained his PhD in Virology as a Dawes Scholar from the University of Adelaide in 2002 under the supervision of Dr Li Peng and Professor Christopher Burrell.

After a four-year postdoctoral position at Harvard Medical School, Dr Vandegraaff took up his current job as Principal Scientist in Virology at the Melbourne-based pharmaceutical company, Avexa Ltd.

He leads Avexa's program aimed at identifying novel, small molecule inhibitors of HIV.

"Incredible progress has been made over the past 10-15 years in terms of our understanding of the HIV life cycle," Dr Vandegraaff said. "Fifteen years ago the life expectancy of someone diagnosed with AIDS was 1-2 years. HIV patients in industrialised nations can now expect something approaching a 'normal' life expectancy thanks to antiretroviral therapy."

However, Dr Vandegraaff concedes that significant challenges lie ahead. Chief amongst these is the development of a vaccine.

"Current antiretroviral therapies are costly and therefore not readily available to developing nations who make up about 95% of the HIV/AIDS statistics. A successful vaccine will go a long way

towards addressing the appalling HIV infection and treatment rates in Third World countries.”

A second major challenge is to improve the quality of life for patients by developing treatments with fewer side effects, more activity and lower pill burdens.

“Such treatments are likely to reduce the number of drug-resistant viruses that are emerging within HIV-positive individuals.”

Dr Vandegraaff said that while current antiretroviral therapies largely kept the disease under control, to date no-one has been cured of HIV infection.

“With HIV it is a constant race to stay one step ahead of the virus, which evolves at an extremely rapid rate,” he said.

Dr Robert Ali is head of the South Australian-based World Health Organization Collaborating Centre for Research in the Treatment of Drug and Alcohol Problems.

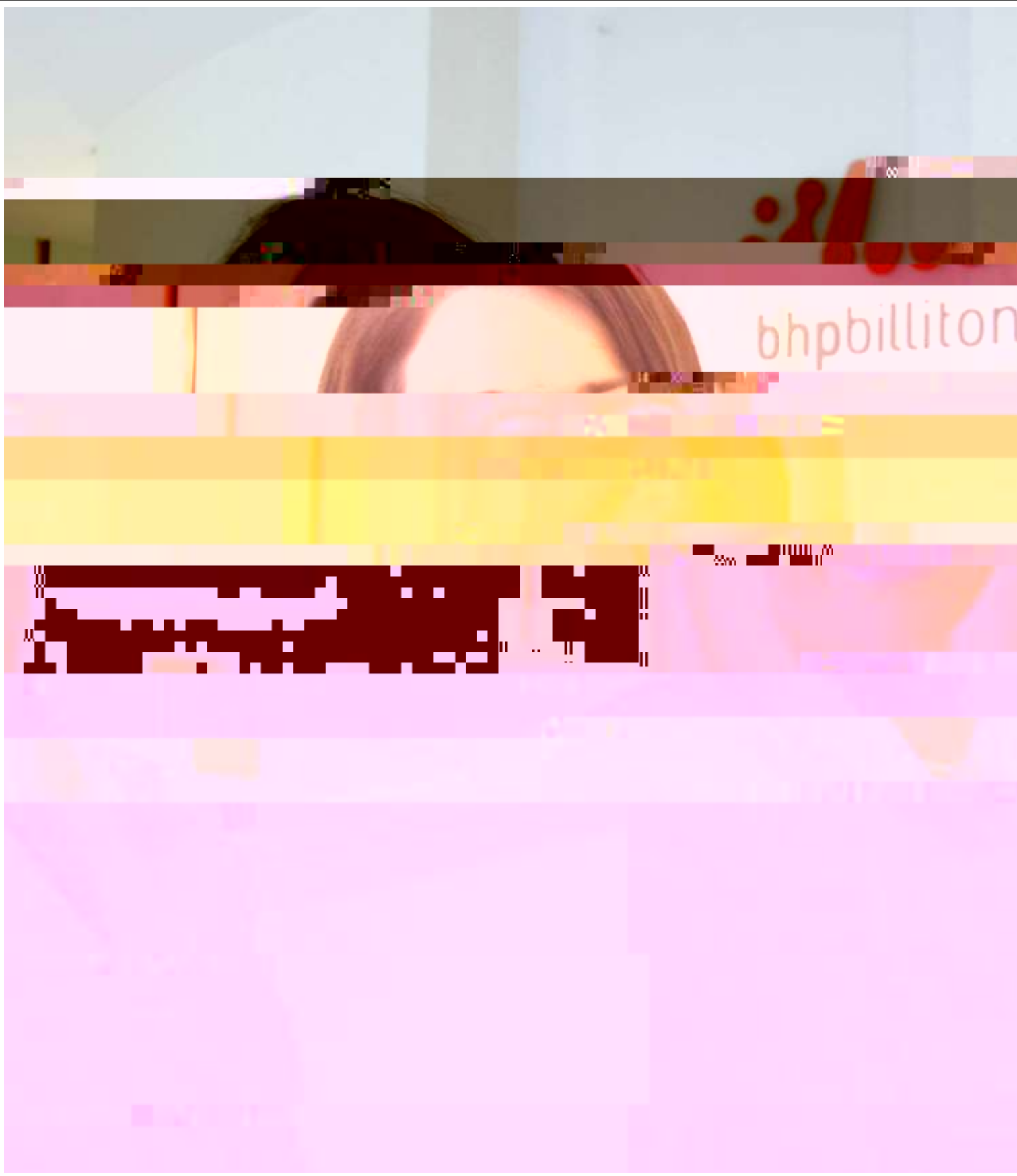
The University of Adelaide medical graduate has been working in the field for the past 20 years. His current role focuses on evidence-based treatment for dependent drug users in the Asia Pacific region, including HIV-positive individuals.

Progress has been patchy, due mainly to governments in Asia pursuing a hardline prevention approach, which has not proved successful.

“These governments have tended to view drug use as a moral weakness, using harsh measures such as imprisonment to discourage continued drug use. But experience has shown us that this does not work. Drug addiction isn’t a moral weakness; it’s actually a medical condition,” Dr Ali said.

Asian authorities are slowly coming to terms with this fact and starting to embrace a range of treatments sanctioned by the World Health Organization.

“China’s response to the HIV pandemic was initially tepid but now they are dramatically increasing





*At home
with Ravel*

For Emily Kilpatrick, a shift from studying Performance in her Music Honours year to Musicology for her PhD made Ravel's music the perfect choice for the focus of her research.

"It started I guess because I'm a pianist and I play Ravel. It's some of the most satisfying music that I've ever played. It's incredibly hard, incredibly challenging, but it's so rich," Emily said.

After an intensive Honours year of doing almost nothing but performing, Emily decided she needed to "use another part of her brain" and do her PhD in Musicology. Her supervisor for both her Honours and PhD has been Professor David Lockett, Director of the Elder Conservatorium of Music.

"Musicology, for me at least, is based in history," Emily said. "It's music within an historical and social context. It certainly has an analytical component – the works themselves – but I'm much more interested in the works as a product of a time and place, and what they can tell us about that society.

"Ravel's dates are 1875–1937. It's a wonderful period of world history and particularly French history. Paris was an amazing place to be around at the turn of the century. The artistic interaction was extraordinary; anyone who was anybody was in Paris. And it's the way artists, writers, poets, painters and musicians were interacting that I find really fascinating."

As part of her PhD, Emily spent six months in France in 2004 and, during

objects and trinkets, playing his piano, sitting on his floor reading his books, sweeping out his toilet. You start to feel like you know someone when you do these things. There are things that I know he did that I also did. It was a quite extraordinary experience and it shaped the way I think of him."

Emily's PhD thesis, recently submitted, is called 'The Language of Enchantment: Childhood and Fairytale in the music of Maurice Ravel'. She focuses on three Ravel works: the opera *Le Cid* (The Child and the Enchantments), the piano duet *Le Petit Poucet* (Mother Goose) and a set of songs for choir (*Les Chansons de la nuit*, 1914–1915).

"Childhood and fairy tales are ideas that underpin a lot of Ravel's music but they are explored most directly in these three works," said Emily. "They also reach out very directly to a broader history, to literature and society in really interesting ways."

Uniquely among operas, *Le Cid* has as its central character a child, who in a fit of temper trashes his room and toys which then come to life to reproach him.

"Through this opera you can trace a lot of changing ways in which society is thinking about children. The child is a modern child, sure of himself, very much the central focus of his family, something that had really emerged in French society from about 1870 onwards. On lots of levels the opera engages with early 20th century conceptions of childhood and philosophical thought," said Emily.

Emily lectures in Music History at the Elder Conservatorium. She moves to England in September and will be seeking postdoctoral research and teaching opportunities there. ■

UNIVERSITY CELEBRATES 10 YEARS IN SINGAPORE

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Make an Impact

Donation form

Personal details

Name: _____

Graduate: Yes No

Degree: _____ Year of graduation: _____

Address:

_____ Postcode: _____

Phone (ah): _____ (wk): _____

Mobile: _____ Email: _____

Payment details

Please make cheques payable to: **The University of Adelaide.**

Please debit my:

Please debit my:

Gift details

Amount of gift (AUS Dollars): \$ _____

Designation of gift:



“A year ago I was terrified of public speaking, but now I’m quite used to talking to large groups about our wines.”

While the average cost of a bottle of wine is still high — about double that of Australian prices — Adelaide Cellar Door has deliberately kept its prices competitive.

One of their wines, Hahn Catharina Shiraz, was rated among the top five boutique wines exported out of Australia in 2007. They retail it for HK\$212 a bottle, whereas normally a wine of that calibre is priced at around HK\$600 a bottle (about A\$85).

“Our company has grown largely due to word of mouth and the fact that we



Hard evidence that crime pays

After 30 years of having his work in print, Australian author and University of Adelaide graduate Garry Disher is starting to find that crime really can pay.

A 10-year-old girl is snatched from the side of the road. The acting head of the Crime Investigation Unit, Detective Ellen Destry, is faced with little evidence and some tough

“I hated it. Back then I was already keen on becoming a writer, and it seemed to me that English was going to ruin my love of reading and books. I found the analysis of the novels we were reading too academic, too difficult, and in some respects wrong-headed. But I was just a kid, what did I know? I wasn’t ready for that way of looking at literature.”

Luckily, Disher discovered a love of history and philosophy, in which he majored. He kept his writing interests alive by submitting creative pieces to the annual magazine published by Lincoln College, where he stayed throughout his undergraduate years, and becoming co-editor of the University’s student magazine, , in his final year in 1971.

“The idea that I would write fiction had been there since I was a child, but by the time I finished university I wanted to make a conscious effort to write something and get it published,” Disher says.

“When I left Adelaide University I travelled overseas for a couple of years and I tried to write a novel part-time while I was travelling, which was very difficult. And it wasn’t very good; it came to nothing.

“I was thwarted by not knowing what I was doing, as well as the travelling. When I came back to Australia I moved to Victoria and did a Masters degree (in History) at Monash, and while I was there I tried again to get something written. I started with some short stories.”

Disher’s writing began to take shape, so much so that while studying for his

Global Impact

The University of Adelaide alumni community stretches across the globe. From war-torn Africa to the centre of Mongolia, graduates are exploring new cultures, sharing their knowledge and helping to improve the lives of others. Lana Guineay profiles three Adelaide graduates who, armed with degrees and a passion for the world around them, are making an impact.

Human rights on a global scale

Catherine Maywald
BA Psychology 2000
LLB Law 2002

Sudan may be a long way from the sandstone halls of the University of Adelaide, but working in the war-torn African nation was a memorable experience for alumna Catherine Maywald. Catherine made the journey to help local communities draft the first ever state-level constitutions a few years after completing a Bachelor of Arts and a Bachelor of Laws at Adelaide in 2002.

Catherine's role saw her travel to various parts of Sudan, which had just consolidated a Comprehensive Peace Agreement after the longest running civil war in Africa. She visited communities in some of the remotest parts of the country, including Lewere, a tiny village in the Nuba Mountains in central Sudan, which she said was particularly memorable.

"I stayed in a mud hut, with no power or running water, in an area with virtually no infrastructure, no paved roads, and no communications capacity. The local drafting committees were often working with virtually no resources — nothing but paper and pens (if that!). Most of them spoke Arabic (which I do not speak), so we had to work through translators," she says.

"Needless to say, it was extremely challenging, but also incredibly rewarding and humbling to be working with people who had so little to survive on, yet were so welcoming and resilient."

Catherine is no stranger to travel — she was born in Tonga, raised in Australia, and has spent much of her adult life in New York, where she worked as an adviser to the United Nations at the Permanent Mission of the Marshall Islands and studied for a Master of Laws in International Legal Studies at NYU, for which she was awarded the Jerome Lipper Prize for distinction in the program.

Catherine returned to Australia in 2007 to begin a post at the Human Rights and Equal Opportunity Commission in Sydney, but says her time overseas has been invaluable, both professionally and personally.

"I feel incredibly lucky to have been given unique opportunities to experience the creation and implementation of law in diverse circumstances in different international settings.

"While Australia will always be home to me, my time overseas has been fascinating and eye-opening."

Professor Rawi says it is an honour to spread knowledge through straightforward and engaging writing, and he will be content if his past works are re-published for the benefit of future generations.

His work saw him awarded the prestigious National Artist Award for Literature in 2006, presented annually to people who have made a considerable contribution to the art and culture of Thailand.

A Colombo Plan Scholar at the

Golden formula for Beijing

The work of a mathematician 110 years ago could play a key role in Australia securing a gold medal in the rowing events at this year's Beijing Olympics.

When John Henry Michell published a paper on wave resistance of ships back in 1898, it created barely a ripple of interest, much to his disappointment.

The listless reaction from his peers perhaps explains why this brilliant Melbourne mathematician chose not to publish anything more after 1902, instead devoting the remainder of his academic life to teaching. But were he alive today, Professor Michell could well be on the cusp of one of Australia's greatest achievements – in sport.

Fast track to 2008 and another mathematician – University of Adelaide PhD candidate Leo Lazauskas – hopes to finally gain the long overdue recognition for Michell.

Mr Lazauskas is part of a national collaborative effort to design a rowing shell for current World and Australian Pairs Rowing Champions Drew Ginn and Duncan Free. The shell will carry the hopes of millions of Australians at this year's Beijing Olympics.

The major partners involved are: Sykes Racing of Geelong, Australia's leading manufacturer of rowing shells; Dr Matt Dingle of Applied Research and Development, who has worked on the hull; the Victorian Institute of Sport; and the Queensland Academy of Sport.

For his part, Mr Lazauskas has applied the same algorithmic methods advocated by Professor Michell in his wave resistance research in the late 1800s to help minimise the hydrodynamic drag on the hull.

"We are hoping for a 1% advantage over other competitors, which translates to several seconds – a huge margin in sport," he said.

Under the supervision of Professor Ernie Tuck from the University of Adelaide's School of Mathematical Sciences, Mr Lazauskas has used Professor Michell's methods to evaluate thousands of competing shell designs and evolve new ones using techniques such as Memetic Algorithms (abstract templates).

"With some mathematical ingenuity and modern computers, I have been able to do calculations in a fraction of a second that would take other methods several days on very large super computers."

Mr Lazauskas started work 12 years ago on designs to optimise the drag of rowing shells.

"I am not a rower but I find the sport to be a fascinating study involving mathematics, advanced computer methods, mechanical engineering and biomechanics. I set myself a goal many years ago that I would like to help design a boat that is used in the Olympics – and it's wonderful to see that dream come to fruition."

Professor Michell's work only applies to thin, slender ships, which is essentially what rowing shells are.

"Essentially, what we have done is tweak the performance of the hull. This involves fine tuning the shell to exactly match the weight, strength and muscle definition of the rowers," he said. "The same boat would not perform as well with lightweight women, for example."

The team work has already paid off, with Drew Ginn and Duncan Free trialling the new rowing shell at the National Championships in March, where they took out the title.

Three identical boats have now been built for the titleholders in the run-up to Beijing – one has been shipped to Europe for pre-Olympic competitions, another one has been sent to Beijing, and a third shell will remain in Australia for training before the European leg.

"This boat was assessed from every possible angle and performance tested by the Australian Institute of Sport," Mr Lazauskas said. "If it hadn't come up to scratch it wouldn't be going to the Olympics because a number of other shells from overseas were also trialled. We're just happy they chose ours." ■

STORY CANDY GIBSON

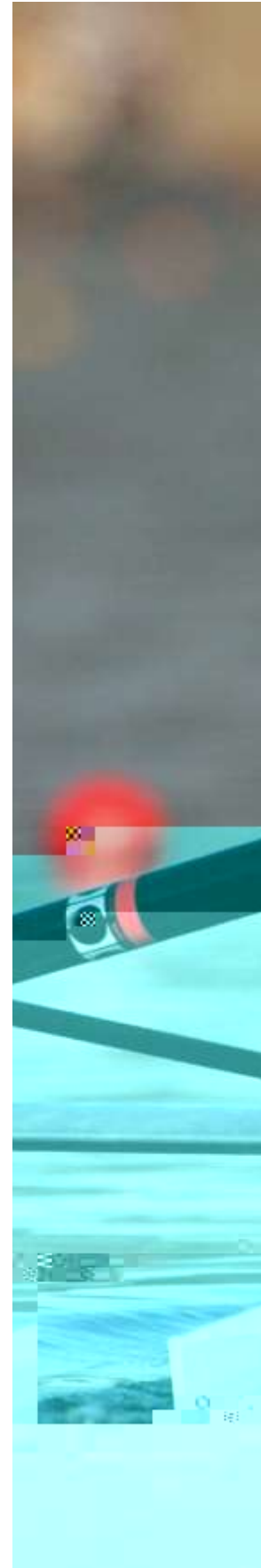
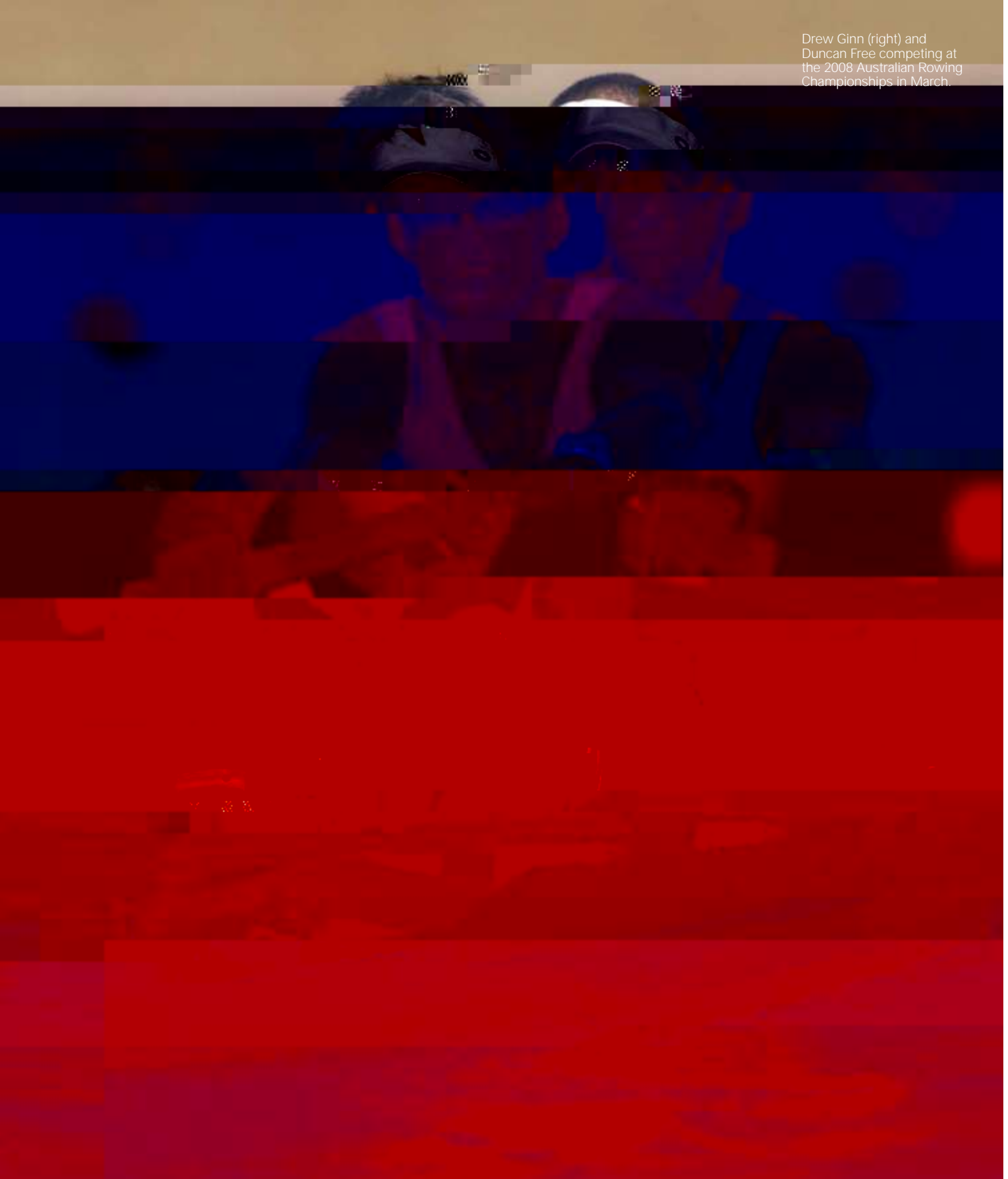


PHOTO COURTESY OF JAMES WORRELL / AAP

Drew Ginn (right) and
Duncan Free competing at
the 2008 Australian Rowing
Championships in March.



Architecture and Urban Design.

"I'd always kept the urban design and cartoon work really separate but about 10 years ago I started to bring the two together in community consultation," Ross says.

"Community consultation is an

When Malaysian dentist Asilah Yusof graduated from the University of Adelaide in April, she raised the hopes of thousands of young Malay children affected by craniofacial abnormalities.

The PhD graduate is using her newly acquired postgraduate degree to help treat children with cleft lip and palate deformities, the most common form of facial abnormalities in Malaysians.

Her thesis findings will provide dental surgeons with a new set of measurements to help diagnose, treat and also improve the post-operative care of children with craniofacial abnormalities.

“Malays tend to have a shorter anterior cranial base, which may set up a wider palate and maxillary arch,” Asilah said. “My PhD involved developing reference data of Malay children based on three-dimensional computed topography, comparing facial variables

between males and females and also comparing the results with Caucasian populations.”

Asilah’s postgraduate studies were sponsored by her employer, the Universiti Sains Malaysia, where she is teaching dental students and furthering her research into craniofacial morphology.

She completed her Graduate Diploma in Clinical Dentistry at the University of Adelaide in 2000 after finishing an undergraduate degree at the University of Otago in New Zealand.

Born and raised in Kota Bharu, Kelantan, Asilah is the offspring of two health workers. She was inspired to study dentistry as a child after visits to the hospital clinic.

“I worked with the Ministry of Health Malaysia as a dentist after graduating in 1996 and spent a year working in a remote rural area, which opened my eyes

to the facial deformities that affect many young children,” she said.

Asilah joined the Universiti Sains Malaysia in 1999 as a trainee lect mDdr

Helping heritage one bite at

More than 150 of Adelaide's leading business figures enjoyed an up close and personal experience of some of the University's heritage-listed buildings

their generosity," Mr Maras said. "The profits will be used to restore, preserve and conserve the University's iconic, heritage-listed buildings, not only for future generations of students, but the whole community."

The University of Adelaide's Heritage Foundation hosted the event to highlight the cultural and historic significance of these buildings to the University and to the State.

While the oldest buildings of the University – including the Mitchell Building at 126 years old, Elder Hall at 108, and Bonython Hall, a relative youngster at 72 — might be getting on in years, their relevance to today's University is stronger than ever.

Not only are the buildings in use every day, housing everything from administrative staff to student concerts, they are landmarks appreciated state-wide, and drawcards for the wider public.

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PHOTOS BY BRYAN CHARLTON

a time

"The interest received from across Adelaide's business community goes to show that all South Australians have great pride in these buildings and are keen to see them preserved. They are a wonderful asset and a distinct part of Adelaide's cultural life," said Mr Maras.

The University has spent more than \$5 million on conservation plans alone for these three buildings since 2005.

The conservation work on Bonython Hall was the only Australian project honoured in the UNESCO Asia-Pacific Heritage Awards in 2007. UNESCO's Regional Advisor for Culture, Mr Richard Engelhardt, attended the event from Bangkok to present the award to the University's Vice-Chancellor and President, Professor James McWha. ■

STORY LANA GUINEAY

Presented by Her Excellency

1. Bonython Hall
2. Lindsay McWha and University of Adelaide Vice-Chancellor and President Professor James McWha
3. Mary Wilson, The Hon Ian Wilson AM, Chris C P Chong, Helen Chong
4. Anne Hetzel OAM, Dr Basil Hetzel AC
5. Helen Maras, Theo Maras AM
6. Kym Cheek, Alison Pearson
7. Ruth Hemmerling, Dr Mal Hemmerling, Deborah Schultz, Dr Barry Schultz
8. Julie von Doussa and University of Adelaide Chancellor the Hon. John von Doussa QC

New era for alumni

2008 is a big year for alumni relations. As part of the University's new Alumni Relations Strategic Plan, two exciting new programs will be launched, giving alumni unprecedented access to benefits, services and networking opportunities.

Adelaide onLION

Have you ever wondered what happened to your fellow classmates – what they are doing now and where they are located? Would you like to organise your class reunion or contact a long lost friend from university? Are you travelling interstate or overseas and would like to meet with someone in your industry who studied at your university?

If you answered 'yes' to any of these questions, then our new online community is for you.

On 1 July 2008, the University of Adelaide will launch Adelaide onLION, an interactive social and professional networking facility that will enable you to connect with graduates, students and staff all within a secure, private online environment. Some of the things you will be able to do are:

- Create your own personal profile, add photos, videos, blogs etc
- Choose how your information is displayed to members
- Reconnect with friends or staff
- Network socially and professionally by creating or joining interest groups
- Access exclusive alumni privileges and opportunities
- Access mentors and a career centre
- Subscribe to the latest University news and RSS feeds
- Post advertisements, subscribe to noticeboards etc
- Register for events online

Adelaide onLION is open to all University of Adelaide alumni – including graduates, current and former staff, and current and former students. Limited access will also be available for friends of the University.

The inspiration behind the name Adelaide onLION is the Bonython Hall lion, an icon of the University's tradition and 134-year heritage.

Alumni Membership Program and Privileges Package

Another exciting program to be launched in 2008 is the Membership Program and Privileges Package. You will be receiving your personalised Membership Card in the post some time in July. This card will identify you as a member of our alumni community - now 55,000 strong. The card will give you exclusive access to benefits and services within the Privileges Package.

Development and Alumni look forward to your comments and feedback on these new programs as they are rolled out over the coming months. The success of the alumni program depends as much on your involvement as it does with the engagement tools on offer. ■

For more information, visit Development and Alumni at www.adelaide.edu/alumni

STORY KIM HARVEY

S e e M a r a o e *BC 1999*

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