

## Welcome to the University of New South Wales Canberra's first Alumni Newsletter.

I commenced as Rector of UNSW Canberra in January this year, having formerly been the Head of the School of Engineering and Information Technology.

When you graduated you became a permanent member of this University. I look forward to meeting you at one of our alumni events in 2012. We look to our graduates to help forge and maintain close links between the university and the community. Please take the time to read this Newsletter to discover more about what we're doing. Find out how you can stay connected and involved with your university.

We at the University of New South Wales feel privileged to have been able to build strong links to the Australian Defence Force and to provide educational services to such a highly motivated group of professionals. We have a proud history of association with the

Australian Defence Force going back to 1967.

The provision of high-quality undergraduate teaching programs to midshipmen and officer cadets of the Australian Defence Force continues to be the core business of UNSW Canberra. We have a strong record of success that is consistently as good as, or better than, similar programs in other Go8 universities.

We aim to be recognised nationally and internationally as a location of outstanding university learning and teaching. UNSW Canberra is also regarded as a premium provider of postgraduate programs and we excel in the delivery of tailored programs in distance and intensive modes.

Like any higher education institution, excellence in research is our backbone. UNSW is already a leading Go8 research intensive university in the Asia-Pacific region and UNSW Canberra aspires to be one of the top specialist institutions in the world. We will

continue building the scale, quality and focus in our research, developing and expanding strategic research linkages of mutual benefit.

This newsletter is a snapshot of the exciting achievements happening on campus. We look forward to your involvement.



## Message from the Rector Professor Michael Frater

## Did you know?...

### ...you can study postgraduate coursework programs on our Canberra campus?

UNSW Canberra offers a range of coursework programs at postgraduate level. These programs encompass Arts, Business, Engineering and Systems Engineering, Information Technology, Science

and Project Management. Each program offers different specialisations. Provision exists in most programs to articulate through a graduate diploma/ masters sequence. Postgraduate programs at UNSW Canberra are offered in different modes: on campus, by distance and some in intensive mode.

**Applications for Session 1 close on 20 January 2012.**

### ...you can study a wide range of intensive short courses at UNSW Canberra?

UNSW Canberra offers a variety of short courses that cater for a wide range of needs and interests and are suitable for students from the Public Service (including defence), the corporate sector and the broader community. In addition to

providing valuable learning outcomes, these courses also offer excellent networking opportunities as participants are able to interact with other attendees from across a range of organisations and industries.

**For further information visit**  
[www.unsw.adfa.edu.au/alumni](http://www.unsw.adfa.edu.au/alumni)

**Email:** [alumni@adfa.edu.au](mailto:alumni@adfa.edu.au)  
**Phone:** 02 6268 8702

# A Test of Integrity

Dr Stephen Coleman, UNSW's Vincent Fairfax Foundation Fellow and Senior Lecturer in Leadership and Ethics, can't ensure anyone will actually do the right thing but, he explains, "I can educate students enough so that they know when they are doing the wrong thing."

The difference between knowing right and doing right is what Dr Coleman calls "a test of integrity". He teaches this to midshipmen and officer cadets, along with ethical dilemmas where he focuses on equipping students with the skills to understand what is involved in the problems they face and to balance different considerations appropriately.

Australia currently has nine distinct overseas military deployments in some of the most dangerous and volatile parts of the world. Many of our graduates find themselves in complex situations where their concepts of right and wrong are severely challenged. The enhanced ethics and leadership studies undertaken by the junior officers and other ADF personnel at UNSW Canberra will help them to deal with such challenges in theatres of conflict in their future career.

The Vincent Fairfax Ethics and Leadership Foundation has been supporting the ethics program at UNSW Canberra since 2007, specifically to conduct research and teaching in the field of ethics in leadership. This support dramatically increased the depth in which material could be covered. An expanded ethics course was offered



Dr Stephen Coleman took up his appointment as the Vincent Fairfax Fellow in October 2007. Prior to this he taught Ethics at Charles Sturt University and was a Senior Research Fellow at the Centre for Applied Philosophy and Public Ethics. He has served as an editor of three journals on Ethics. He has published a book *The Ethics of Artificial Uteruses: Implications for Reproduction and Abortion* and is an author of numerous papers in academic journals.

for the first time in 2009 and has been enthusiastically received by students, with enrolment numbers more than tripling over three years.

The ethics courses are quickly becoming popular. Almost half of all undergraduate students now study ethics and they enthusiastically describe it as "one of the most interesting courses" ever studied and "really relevant to our careers and current operations".

When teaching ethics in practical contexts, such as policing or the military, Dr Coleman sees it as important to stay as focused as possible on real

problems. A lot of his teaching is based on case studies drawn from the personal experience of military officers.

"The aim is to educate students about the sorts of problems they will face in the course of their duties and equip them to deal with those problems," says Dr Coleman. He has engaged at an international level with academic and military staff at military academies about teaching ethics. Oxford University Press will publish his groundbreaking book on the subject in 2012.

## The World's Most Portable Personal Radiation Monitoring System



A/Prof Hans Riesen and his team have developed the world's lightest and most portable radiation monitoring system which is the size of a mobile phone. It utilises small detector chips worn by people potentially being exposed to radiation. A portable reader extracts information from the chips.

The device can be used by both defence personnel deployed in conflict zones and civilians involved in nuclear accidents such as Fukushima. The developers expect the system will replace detection technology currently used by the military, which involves equipment about the size of a filing cabinet and requires a power supply.



# The cat + the teleporter = a breakthrough in quantum communications



Researchers at UNSW Canberra have helped achieve a breakthrough in quantum communications and computing, using a teleporter and a paradoxical cat.

This first ever teleportation of a particular complex set of quantum information from one point to another, opens the way for high-speed, high-fidelity transmission of

large volumes of information via quantum communications networks.

Professor Elanor Huntington explains that teleportation is one of the fundamental quantum communication techniques.

"It relies on having two things," she says. "One is the normal fibre-optic internet or even copper cables, and the other is a shared resource between the sender and the receiver." One of the limitations of high-speed quantum communication at present is that some detail is lost during the teleportation process. It's the Star Trek equivalent of beaming the crew down to a planet and having their organs disappear or materialise in the wrong place.

"The value of this discovery is that it allows us, for the first time, to quickly and reliably move quantum information around," says Professor Huntington. "If we can do this, we can do just about any form of communication needed for any quantum technology."

The cat in the equation was not a living, breathing feline but rather "wave packets" of light representing the famous "thought experiment" known as Schrodinger's Cat. Professor Huntington was part of a team led by University of Tokyo researchers and developed the high-speed communication part of the "teleporter" with PhD student James Webb.



### FI in Schools – ACT Final

Students from across the ACT were vying for a place in the FI in Schools National Competition when they met at the ACT Final in October at UNSW Canberra. FI in Schools is an initiative of the Re-Engineering Australia Foundation. It inspires students to learn about physics, aerodynamics, design, manufacturing, prototyping, leadership, teamwork, marketing and public speaking. They then apply these skills in an imaginative and exciting way in order to design, develop, make and race model FI cars of the future that reach speeds of 80 km/h. The ACT activity is sponsored by the Royal Australian Navy and UNSW Canberra.



## I Surrender - The University Lecture

In September Phillip Adams AO, host of *Late Night Live*, presented the University Lecture at the Academy. As the students snapped to attention Adams paused and said, "I surrender." This set the scene for an entertaining and thought-provoking theatre of ideas under the heading: *How the audience fails the media - how voters fail democracy*.

Adams proposed that the age of the mass media is gone. With so many publications and radio and TV channels this infinite choice allows people to put themselves in their own media balloons, where any competing source of information bounces off. "We choose our belief system, lock ourselves inside it and ignore the rest," Phillips said.

"We never have had this much data, but data isn't information, information isn't knowledge, and knowledge isn't wisdom," he explained.

He encouraged students to think, be curious and to question the nature of our existence. Adams then closed with a quote from the Franco era Spanish cellist Pable Casals, "The situation is hopeless. We must take the next step." Adams challenged the audience, saying, "We must take the next step, whether in your uniforms or out of them, seek ways to engage, to get involved and to change. Discuss, debate and try."

Listen to the podcast of Adams' lecture at [www.unsw.adfa.edu.au/alumni](http://www.unsw.adfa.edu.au/alumni)

## Staff Profile



UNSW Canberra and ADFA staff gathered to farewell Jan Gordon, Manager of the Academy Library, who retired in September 2011, after 20 years of service.

## Alumni Focus



### The ADFA History Fellowship

Dr Ian Pfennigwerth, the ADFA History Fellow, has spent the last year rummaging through records that have been preserved, and searching extensively for those that have not, to document the complex story of ADFA. The Fellowship aims to record the history of the development and first 25 years of operation of the Academy, and to create a collection of materials relating to the activities and operations of ADFA, for use by future researchers. A publication will be available in late 2012.

If you have any relevant material please email us at [alumni@adfa.edu.au](mailto:alumni@adfa.edu.au).

## Events in 2012

### Retro - Morphosis

Barak Zelig

24 November - 16 December 2011

### Chief of Defence Force Parade

February 2012

### Max Cullen Paintings

February 2012

### Drawings and Watercolours of Ken Unsworth

March 2012

### ANZAC Exhibition

April 2012

### Patrick White Birthday Centenary

May 2012

From the Academy Library rare book and manuscript collections.

## News in Brief

### UNSW Canberra Delegation in China

The Rector led a delegation to China in October to visit Ocean University of China, Xi'an Jiaotong University and South China University of Technology. Xi'an Jiaotong University is a member of China's C9 universities and recently signed a Memorandum of Understanding with UNSW Canberra. The visit opened new areas for research collaboration and provided information for potential PhD applicants.

## Stay Connected

We're keen to stay connected with our alumni and would love to hear from you.

If you know other UNSW Canberra alumni as friends or colleagues, please encourage them to get in touch. This is an exciting time for UNSW Canberra and we look forward to you being a part of it.

**Visit:** [www.unsw.adfa.edu.au/alumni](http://www.unsw.adfa.edu.au/alumni)

**Email:** [alumni@adfa.edu.au](mailto:alumni@adfa.edu.au)

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- Tell us about your career since graduation
- Update your details
- Ask us about what is happening at UNSW Canberra
- Enrol in a postgraduate program or short course



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THE UNIVERSITY OF NEW SOUTH WALES



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**GROUP OF EIGHT**  
MEMBER