



Director's Message

Over the past 7 years DSTO has been, and continues to be, a strong supporter of IPAS through their engagement with the Centre of Expertise in Photonics (CoEP). The CoEP has now drawn to a close and I would like to take this opportunity to acknowledge and thank the DSTO for their partnership. Many excellent projects have developed and are ongoing; all future collaborations with DSTO will now be handled via IPAS. For further information please go to this [link](#).



You will read in the following pages that IPAS members continue to be recognised via awards, prizes and features in journals, highlighting the strength of our team. Well done to them for their excellent efforts. I am also pleased to report that international students are regularly choosing IPAS as their preferred destination for study on winning international travel grants. We currently have five students from Germany and one from Poland working on projects with IPAS research members.

In June the University held a Topping Out Ceremony to mark the final stage of external construction of the new state-of-the-art building which will be the headquarters for IPAS from February 2013. The Vice Chancellor also took this opportunity to announce the new official name for the building as "The Braggs" in commemoration of the wonderful work done in Physics at this University by the father and son team of William and Lawrence Bragg. It is also great to see the recent acknowledgement of the Braggs on our postage stamps.



Work on the new building is on schedule for handover at the end of February 2013. To view live progress please go to the webcam link below:

<http://illumin8or.services.adelaide.edu.au/>

I hope you enjoy the snapshot of the IPAS research provided in this Newsletter and I look forward to sharing with you many more successes from the IPAS team in future editions.

Tanya Monro



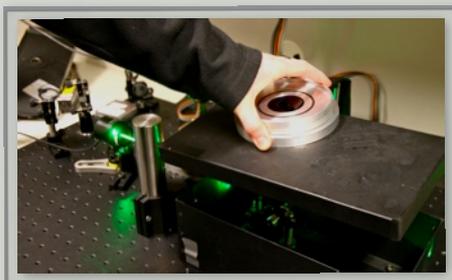
Our Talking Papers Series has been created to communicate high impact research within our themes.



Talking Paper #5

Optical Materials & Structures and Chemical & Radiation Sensing Themes

Radiation sensing fibres



Imagine:

- Clothing that can detect radiation
- A tiny probe to reduce the side effects of cancer treatments

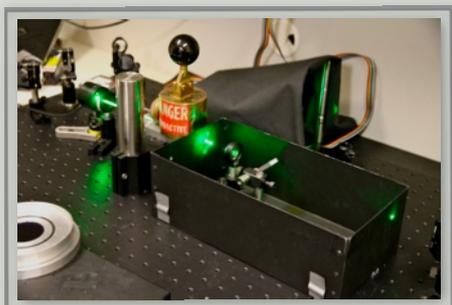
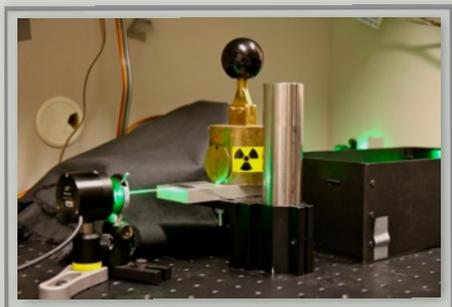
Work from a PhD student mixes together two IPAS research themes and demonstrates a novel dosimetry architecture capable of supporting these and many other innovations.

It's a great story on the way IPAS can boost the career of young researchers through access to world leaders in six discipline-spanning research themes. PhD student Chris Kalnins has been with IPAS since commencing honours a three and a half years ago. Even before finishing his PhD, Chris is now lead author on a significant research paper published in *Optical Materials Express* which shows a novel architecture for dosimetry - the measurement of radiation in an environment. Chris has been able to mix together expertise from two of the six IPAS trans-disciplinary research themes, namely Optical Materials & Structures and Chemical & Radiation Sensing. Normally a student would have to choose between the opportunity to work on the development of a new material or the testing of the application of a new material in a field of Science.

Armed with some fairly rudimentary radiation sources, shields and detectors, a few home-made black boxes (literally!) to keep things dark, and soft fluoride phosphate glass drawn to a fibre of very simple geometry, Chris was able to demonstrate and measure Optically Stimulated Luminescence of OSL. I spent some time with Chris to talk about his work and to take a look at some of the equipment he used.

To read the full article go to the [IPAS blog](#) or [website](#).

Click [YouTube](#) to watch the presentation which accompanies the article.



IPAS Award Recipients

Adrien Albert Award

Congratulations to [Prof Andrew Abell](#) on being awarded the Adrien Albert Award, the most prestigious award of the RACI Division of Biomolecular Chemistry.

The award is presented for “sustained, outstanding research in the field of medicinal or agricultural chemistry, related to biomolecular chemistry”. The judging panel felt that Andrew’s “sustained and highly innovative contributions to research in the medicinal chemistry area are outstanding (heterocycle-based peptidomimetics; enzyme inhibitors; potential new antibacterials and antithrombotic drugs; and new synthetic methods relevant to medicinal chemistry”.



IPAS members finalists in SA Science Excellence Awards

Congratulations to [Prof Alan Cooper](#), Director of the Australian Centre for Ancient DNA, on becoming a finalist in the SA Scientist of the Year Category.

Congratulations also to **Dr Ove Gustafsson** from the Adelaide Proteomics Centre, on becoming a finalist in the PhD Research Excellence - Health and Medical Sciences category.



HG Andrewartha Medal

Congratulations to [Dr Tara Pukala](#) on being awarded the HG Andrewartha Medal of the Royal Society of South Australia.

The medal recognises outstanding research by an early career young Australian Scientist and is due to the initiative and generosity of Emeritus Professor P.A. Parsons.



JSPS Postdoctoral Fellowship

Congratulations to **Victoria Peddie**, a student of Prof Andrew Abell, who recently won a two year Japan Society for the promotion of Science (JSPS) Postdoctoral Fellowship to work at the University of Tokyo with Prof Shigeki Matsunaga.

Victoria will be working on the isolation and structure elucidation of natural products from shallow water and deep sea marine invertebrates, as well as from marine microbes, with the aim of discovering compounds with anticancer properties.



Australia-China Research Program

Congratulations to [Dr Stephen Warren-Smith](#) on his successful application to the Australia-China Young Researchers Exchange Program 2012. Stephen will visit Peking University, Beijing; Tianjin University, Tianjin; Huazhong University of Science and Technology, Wuhan; University of Electronic Science and Technology of China, Chengdu to present his work at IPAS and set up collaborations between IPAS and these universities.

For more information on this program visit this [link](#).



Visiting Speakers

IPAS continues to build collaborations with international and interstate researchers and teams and in the past few months IPAS members have been invited to listen to the following speakers:

Date	Speaker	Institute	Talk Title
22 May	Dr Ben Buchler	Australian National University	Quantum memory for light: fun times with hot gas
30 May	Dr Fenghong Chu	Shanghi University	Explosives sensing by using fluorescence quenching method
8 June	Dr Axel T Neffe	University of Hamburg	Biomimetic polymers for biomedical applications
20 June	Dr Zeyad Alwahabi	Sussex University	Laser diagnostics in reactive fluids: Great photonics to better engineering
14 August	Dr Igor Kosacki	Shell International E&P Inc., Houston	Nanomaterials for energy conversion
29 August	Prof Eric May	University of Western Australia	Fluid science for natural gas research: Precision measurement challenges and solutions for delivering outcomes to industry
3 September	Prof Justin Gooding	University of New South Wales	Nanotechnology and biosensors: From detecting small molecules and drugs to the monitoring of the activity of whole cells
4 September	Dr Lee Arnold	Centro Nacional de Investigacion sobre la Evolucion Humana (CENIEH), Burgos, Spain	Optical dating in a new light: Improved and extended-range chronologies using single-grain techniques
11 September	Dr Tich-Lam Nguyen	University of Melbourne	Up & down-converting fluorescent nanocrystals



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