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#### 1. WE ARE OPEN!

On 31 July 2007, the Premier of Victoria, the Hon. John Brumby, and the Australian Minister for Education, Science and Training, the Hon. Julie Bishop, officially opened the Australian Synchrotron, at a ceremony



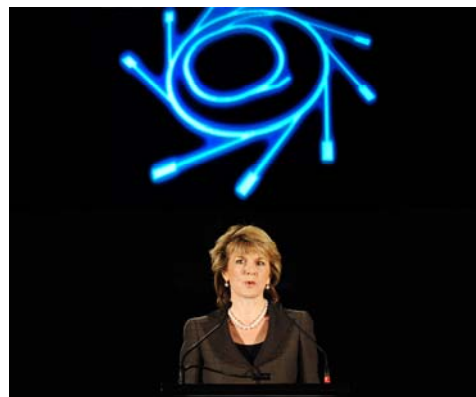
"Australian scientists already punch above their weight, but this facility means we can expand into new areas, finding solutions to modern problems," Mr Brumby said. "Now that this project is up and running, an extra A\$110 million a year is expected to flow into the national economy, creating an extra 2500 direct and indirect jobs."



**Premier Brumby opens the Australian Synchrotron.**



Mr Brumby said that the Australian Synchrotron marked a new era of national collaboration in science and technology. Five State Governments, the Commonwealth Government, 25 Australian universities, CSIRO, ANSTO and Australia's medical research institutions and New Zealand's Government and universities, have come together to fund this unique research platform that will drive Australian innovation for years to come.



Commonwealth Minister for Education, Science and Training, Julie Bishop, joined Mr Brumby on stage for the official opening.



Professor Suzanne Cory, Director, Walter and Eliza Hall Institute for Medical Research, spoke on behalf of the scientific community when she said that the facility would open new opportunities for students and scientists who have difficulty accessing overseas synchrotrons and would contribute to reversing the 'brain drain'.

The event for 300 invited guests featured a light show and a dramatic presentation by 'Beethoven' explaining the role of synchrotron light in such discoveries as revealing the cause of his chronic illnesses and death.



Media interest in the opening was intense and a number of synchrotron scientists were interviewed for comment. Richard Garrett, Director of the Australian Synchrotron Research Program, and synchrotron scientists Peter Lay, Cameron Kepert and Marjorie Valix were interviewed at a press briefing in Sydney the previous day, with the kind assistance of the Australian Science Media Centre and Chris Armstrong, NSW Office for Science and Medical Research.



**Australian Synchrotron Science Director Rob Lamb describes a diffraction pattern to Premier Brumby at the Protein Crystallography Beamline, after the official opening ceremony.**



**Premier Brumby (left) shows a protein crystal canister to media in the Protein Crystallography End-station while Science Director Rob Lamb and Science Minister Julie Bishop look on.**

## 2. LATTICE DESIGNER HONOURED

### John Boldeman wins ANZAAS Medal

John Boldeman who co-designed (with Dieter Einfeld of ANKA, Sesame and LLS) the accelerator system for the Australian Synchrotron (the 'lattice' of magnets that make up the booster synchrotron ring and the Storage Ring) was awarded the prestigious ANZAAS Medal for 2007 at a ceremony in the Queens Hall of Victoria's Parliament House on 31 July.



**Nobel Laureate Barry Marshall (left) presented John Boldeman (centre) with the ANZAAS medal, congratulated by eminent scientist Sir Gustav Nossal.**

The Medal was awarded to Professor Boldeman "in recognition of his sustained and outstanding contributions to nuclear science and particle accelerator physics".

John became committed to the installation of a national synchrotron facility in Australia in 1989 and was involved in establishing the Australian Synchrotron Research Program and related programs to provide access for Australian scientists to overseas synchrotron facilities. In 1993, he prepared a preliminary proposal for a national synchrotron facility, and was a key figure in achieving national consensus for a third generation 3 GeV facility. In 1999 he prepared a full design report and in the years 2001–2003 completely revised the design in collaboration

with Professor Dieter Einfeld of Germany for the design that was implemented by the Victorian government.

ANZAAS (the Australia and New Zealand Association for the Advancement of Science) is now in its 120th year and is the oldest national public interest advocacy organisation for the cause of science in Australasia.



**Mike Murray, ANZAAS National Chairman, congratulates John Boldeman on his award in Queen's Hall, Parliament House.**

### 3. OPEN HOUSE FOR SUPPLIERS

#### **Australian Synchrotron staff say 'thank you' to construction contractors and suppliers**

Staff at the Australian Synchrotron volunteered a weekend in August to host a 'thank you day' for all those who had worked on or contributed to completing the Australian Synchrotron facility and its beamlines on time and within budget.



#### **Suppliers and their families visited the Australian Synchrotron in August.**

Over 2,000 people from 120 companies, mainly locally based, took up the invitation and enjoyed a self-guided tour of the facility, accompanied by explanatory videos. Visitors, from electrical contractors to lead-shielding suppliers, could show their families and friends how they had contributed, and meet the beamline scientists who are now working at the facility they helped to build.

## 4. BEAMLINER NEWS

### Microspectroscopy Beamline

The synchrotron's first in-vacuum undulator has arrived. Testing is under way on the six-and-a-half tonne device (made by Neomax, Japan) for vacuum performance and checking that its two 90-magnet arrays can be precisely controlled. Once the tests have been successfully completed, the undulator will be installed inside the storage ring tunnel.



**The 2metre undulator was lifted over the ring wall into the internal area of the storage ring in preparation for installation inside the storage ring in October.**



## Soft X-ray Beamline

A commissioning end-station for the Soft X-ray Beamline has been installed prior to delivery of the final end-station which is currently at the Taiwan light-source. Commissioning will begin in October to check beamline performance and resolution on standard samples and establish world-class benchmarks. The undulator has been tested and the beamline itself is working very well.

*Bruce Cowie, Soft X-ray Beamline Scientist*

## SAXS/WAXS Beamline

The design of the end-station for the Small Angle/Wide Angle X-ray Scattering Beamline has been completed, The Beamline Advisory Panel and the facility's engineering and drafting staff have provided valued advice and assistance with design work on the hutches, beamline utilities, and end-station design.



**SAXS/WAXS Beamline end-station concept drawing (CAD Illustrator: Brad Mountford)**

*Nigel Kirby, SAXS/WAXS Beamline*

## Infrared Beamline

A steady stream of expert synchrotron researchers have been using the Infrared Beamline for a number of weeks. General User Program will commence in early October.

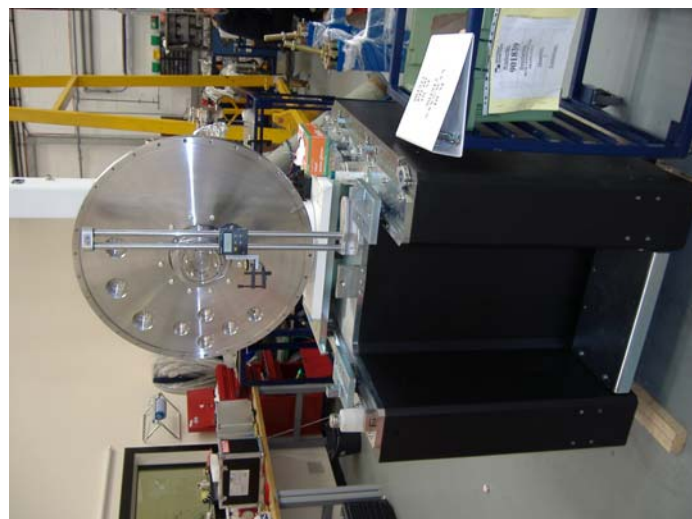
## X-ray Absorption Spectroscopy Beamline

Rigorous beamline commissioning continues, with the assistance of the Beamline Advisory Panel and the additional temporary help of Australian National University PhD student, David Sprouster, from Electronic and Materials Engineering. Expert users are being invited to test standard samples during commissioning. A number of quality applications were received for the position of second Beamline Scientist.

*Chris Glover, XAS Beamline Scientist*

## Protein Crystallography Beamline

The Protein Crystallography Beamline is now taking users from the General User Program—a mere 2 years, 8 months from the start of beamline design to seeing general users. Beamline performance is exceeding expectations.



**The monochromator for the second Protein Crystallography Beamline in production (UK, July).**

*Julian Adams, PX Beamline Scientist*

## 5. SYNCHROTRON COMMUNITY NEWS

### 2007 ASRP/Australian Synchrotron Users Workshop

#### First Announcement and Call for Abstracts

The ASRP and the Australian Synchrotron are holding their 3rd annual joint Users Workshop on

**12–14 DECEMBER 2007**

at Monash University, Melbourne.

The abstract submission page is now open at:

[http://www.synchrotron.vic.gov.au/content.asp?Document\\_ID=5139](http://www.synchrotron.vic.gov.au/content.asp?Document_ID=5139)

The deadline for abstract submission is **28 October**.

Program and registration details will be announced shortly.

### ASRP Medal

Deadline for applications for the ASRP Medal is 1<sup>st</sup> October. The Medal is awarded annually to the PhD student judged to have completed the most outstanding thesis under the auspices of an Australian university using any synchrotron light source. (Note: ASRP facilities need not have been involved). This year the Medal will be awarded for work in physical/chemical sciences.

<http://old->

[www.ansto.gov.au/natfac/2007\\_ASRP\\_Thesis\\_Medal.htm](http://www.ansto.gov.au/natfac/2007_ASRP_Thesis_Medal.htm)

### ASRP 2008 Internship Program

Deadline for applications for the ASRP 2008 Internship Program is 1<sup>st</sup> October. The Internship enables current or prospective PhD students to spend three months stationed at the ASRP beamlines at the Advanced Photon Source in Chicago, or the Photon Factory in Japan. See:

<http://old->

[www.ansto.gov.au/natfac/2008\\_ASRP\\_Internship\\_Program.html](http://www.ansto.gov.au/natfac/2008_ASRP_Internship_Program.html)

## NSRRC 2008/1 Beamtime Proposals

Proposals for beamtime for the 2008-1 operations cycle at NSRRC close 1<sup>st</sup> October. See <http://portal.nsrcc.org.tw/>

## South Australian Scientist of the Year 2007

John Ralston from the University of South Australia has been awarded the inaugural \$25,000 South Australia Scientist of the Year prize. John and his team at the Ian Wark Research Institute have driven advances in the mining, biotechnology, pharmaceutical and speciality chemicals sectors, including development of a flotation model to increase recovery and quality during minerals processing.

## Adelaide young scientist wins US Award

Hugh Harris from The University of Adelaide has been chosen to receive the 2007 William E Spicer Young Investigator Award, to be presented at the joint SSRL/LCLS Users' Meeting in the USA in October. The award recognises young scientists who make important technical or scientific contributions that benefit the light source community. Hugh's work on the application of x-ray techniques to bioinorganic chemistry and the life sciences will have a broad impact on biology and medicine.

## Australian Synchrotron helps WEHI research

Researchers from the Walter and Eliza Hall Institute for Medical Research, Peter Colman, Marc Kvensakul, Brian Smith and Mike Lawrence, recently unveiled a cell death visualisation made with the help of the Australian Synchrotron protein crystallography beamline, which will assist their search for new cancer drugs. Some of the coverage here: <http://www.theage.com.au/news/national/suicidal-cells-may-provide-fresh-clues-to-life/2007/08/24/1187462524664.html>

<http://www.abc.net.au/news/stories/2007/08/24/2014196.htm>

<http://www.lightsources.org/cms/?pid=1002321>

## Synchrotron scientists demystify perforins

James Whisstock and Michelle Dunstone from Monash University have discovered that human immune proteins crucial for fighting cancer, viruses and bacterial infections belong to an ancient and lethal toxin family previously only found in bacteria. They have found that perforins are related to bacterial toxins that cause diseases such as anthrax, gas gangrene and scarlet fever. Story here:

<http://www.monash.edu.au/news/aug07-toxic-shock.html>

## 6. FORTHCOMING EVENTS

### AUSTRALIAN EVENTS

#### APAC07

Advanced Computing, Grid Applications and e-Research  
8–12 October 2007

Perth

Includes sessions on remote access, data management and NCRIS 5.16 Platforms for Collaboration

[www.apac.edu.au/apac07/](http://www.apac.edu.au/apac07/)

## EPSM-ABEC 2007 Conference

14–18 October 2007

Fremantle Esplanade Hotel Convention Centre, Western Australia

Engineering and Physical Sciences in Medicine and the Australian Biomedical Engineering Conference

<http://www.epsm.org.au>

## 4<sup>th</sup> International and 7<sup>th</sup> Australian Peptide Conference/2<sup>nd</sup> Asia–Pacific Peptide Symposium

21–25 October 2007, Cairns Convention Centre, Queensland

*Discovery to Drugs: The Peptide Pipeline*

Over 20 invited Australian and International speakers

Covers peptide chemistry and biology, with special emphasis on emerging technologies such as proteomics, biosensors, bioinformatics, fluorescent technologies, identification of new biomarkers, and novel applications of established techniques.

Four satellite symposia:

Chemical Protein Synthesis; Modern Solid Phase Peptide Synthesis; Protein Misfolding; Peptidomics  
Registration and abstract forms now open.

Early bird registration and abstracts close: **7 July**

**Student bursaries available**

<http://www.peptideoz.org>

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Pickford: [mp@asnevents.net.au](mailto:mp@asnevents.net.au)

## ANSTO/AINSE Neutron School on Diffraction

29 November – 3 December 2007

[www.ansto.gov.au/bragg/science/conferences\\_and\\_workshops/workshops/neutron\\_school/](http://www.ansto.gov.au/bragg/science/conferences_and_workshops/workshops/neutron_school/)

## 6<sup>th</sup> AINSE/ANBUG Neutron Scattering Symposium (AANSS) 2007

4–6 December 2007

AINSE, Lucas Heights, Sydney, NSW

## Australian Synchrotron User Workshop 2007

12–14 December 2007

Monash University, Melbourne, Victoria

Abstracts due 28 October.

[http://www.synchrotron.vic.gov.au/content.asp?Document\\_ID=5139](http://www.synchrotron.vic.gov.au/content.asp?Document_ID=5139)

## 32<sup>nd</sup> Annual Condensed Matter and Materials

30 January – 1 February 2008

Wagga Wagga

Registration open at

<http://www.science.uts.edu.au/physics/wagga08/wagga08.htm>

## AXAA-2008 National Conference

4 – 8 February 2008

Melbourne

<http://www.pco.com.au/axaa2008>

Earlybird registration: By 5 November 2007

Registration brochure:

<http://www.pco.com.au/axaa2008/AXAA%20preconf%20FINAL.pdf>

Registration:

<https://www.secureregistrations.com/AXAA08/>

Student Bursaries:

<http://www.pco.com.au/axaa2008/AXAA%202008%20Student%20Sponsorship%20Flyer.pdf>

## INTERNATIONAL EVENTS

For additional information and listings, see:

<http://www.lightsources.org/cms/?pid=1000068>

### Asia–Oceania Week, NSRRC, Taiwan

A full week of meetings in Taiwan at NSRRC, from 31 October to 7 November 2007, including:  
NSRRC 13th Users Meeting;  
2nd Asia Oceania Forum for Synchrotron Radiation Research, 1-2 November;  
1st IUCr International School of Crystallography in Asia, 3-4 November ;  
2007 AsCA Meeting, 4-7 November  
<http://2007aoweek.nsrcc.org.tw/>

### International Conference on Magnetic Materials (ICMM–2007)

11–16 December 2007  
Saha Institute of Nuclear Physics, Kolkata ('Calcutta'), India  
The International Conference on Magnetic Materials is intended to provide a forum for presentation and discussion in the recent developments in magnetic materials. The presentations will cover both materials (magnetic thin films, nanoparticles, spin glasses, amorphous nanocrystalline and granular materials, intermetallics, magnetic semiconductors, etc) and methods (magnetization, scattering techniques, including light, neutron and x-ray), resonance, high magnetic fields, and magneto-optic effects).  
Registration deadline: 30 August  
<http://www.saha.ac.in/cmp/icmm.2007/>  
Email: [icmm.2007@saha.ac.in](mailto:icmm.2007@saha.ac.in)

### 8th World Biomaterials Congress—2008

28 May–1 June 2008, Amsterdam, The Netherlands  
<http://www.wbc2008.com/>

*Crossing Frontiers in Biomaterials and Regenerative Medicine*

Student travel awards will be available.  
Deadline for abstract submission is **30 September 2007**.  
The Call for Abstracts and Registration is now online at:  
<http://www.wbc2008.com>

### IUMRS-ICEM 2008:Synchrotron Radiation (Symposium J)

International Conference on Electronic Materials  
28 July – 1 August 2008  
Hilton Sydney, Sydney, Australia  
Precise and potentially non-destructive characterisation of bulk-, micro- and nanostructures is critical for the design

and manufacture of contemporary electronic materials. Advances in various x-ray diffraction, absorption and microscopy techniques enable insight into the structure and dynamic behaviour of such materials. Furthermore, recent rapid development of the methods and techniques utilising synchrotron radiation has opened new possibilities for direct and diffractive imaging and in-situ studies of materials at the nanometre scale.

Collaborations between the physical and material sciences have created new methods of imaging of modern materials and nanostructures using conventional and synchrotron x-rays. We hope to bring together scientists of all disciplines who use x-rays to solve their scientific problems, allowing participants to gain a new understanding of, and appreciation for, the role that advanced synchrotron techniques can play in their research.

- Advances in x-ray microscopy techniques and instrumentation
- Novel methods for non-destructive characterisation of materials
- Three-dimensional imaging methods
- Characterisation of interfaces and microstructural defects
- Structure and deformation of nanostructured and thin-film materials
- Advances in theoretical and/or computational imaging

More: <http://www.aumrs.com.au/ICEM-08/Symposia/?S=9>

## MORE INFORMATION

A list of Australian Synchrotron Project personnel can be found at [http://www.synchrotron.vic.gov.au/content.asp?Document\\_ID=129](http://www.synchrotron.vic.gov.au/content.asp?Document_ID=129).  
Email: [contact.us@synchrotron.vic.gov.au](mailto:contact.us@synchrotron.vic.gov.au)

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800 Blackburn Road, Clayton, Vic 3168  
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International +61 3 8540 4100  
*[Please note that the facility is not open to the public]*

### City office

Level 17, 80 Collins Street, Melbourne, Vic 3000  
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International: +61 3 9655 3315

## HOW TO UNSUBSCRIBE

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Send an email with UNSUBSCRIBE Synchrotron in the Subject line to [contact.us@synchrotron.vic.gov.au](mailto:contact.us@synchrotron.vic.gov.au)