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1. COMMONWEALTH PARTICIPATION

Commonwealth Budget allocation

The Federal Government Budget for 2007/08, which was released on Tuesday 8 May, included the allocation of \$50 million towards the running costs of the Australian Synchrotron for the first five years of operation.

Federal Science Minister visits

On 17 May, the Federal Minister for Education, Science and Training, the Hon. Julie Bishop, inspected the Australian Synchrotron, together with Federal Senator Kay Patterson. Minister Bishop reiterated the Commonwealth's commitment of \$50 million towards the operating costs of this hugely versatile platform for frontline science.



(L to R) Senator Patterson and Minister Bishop outside the Australian Synchrotron

Minister Bishop met Science Director Professor Rob Lamb, Acting Chair of the International Machine Advisory Committee Dr Jeff Corbett of the Stanford Synchrotron Radiation Laboratory (USA), and members of the project team.



Australian Synchrotron Science Director Prof. Rob Lamb (centre) explains the synchrotron to Minister Bishop (right) and Senator Patterson (left)

2. NEWS FOR BEAMLINE USERS

Beamline operations ready to start

Commissioning studies are now at an advanced stage on the Protein Crystallography and Infrared Beamlines. During June, expert users from around Australia and New Zealand will be invited to test samples and procedures prior to proposals being called from general users for merit-based selection.

User labs

Fit-out of the Chemistry and Bio-Chemistry User Support laboratories is almost completed, and fit-out of a User Support lounge area is also progressing.

International Machine Advisory Committee

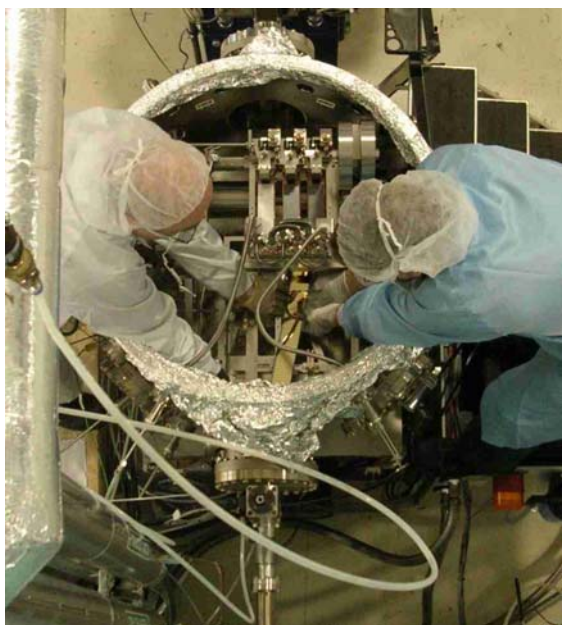
The International Machine Advisory Committee (IMAC) met at the Australian Synchrotron from 15–18 May. The Committee is preparing its final report on the completed machine and beamlines.

As usual, IMAC paid high compliments to the team for the way the project has been managed and delivered.

Beamline Progress

Soft X-ray Beamline

The final mirror for the Soft X-ray Beamline has been installed by FMB.



Gold-coated, internally water-cooled, silicon mirror for the monochromator of the Soft X-ray Beamline is installed, 15 May 2007.

A doctoral student, Donna Menzies has begun providing assistance on integrating additional end-station equipment on the Soft X-ray Beamline.

Infrared Beamline

Both branches of the Infrared beamline have operated simultaneously.

Liz Carter from University of Sydney spent several days on the IR beamline with two types of cells: adipocytes and cardiomyocytes, in a 'practice run' on the beamline and to compare data with data collected elsewhere. "Considering I've just plotted the functional group maps and done nothing else to the data I think it looks *fab*," she said. "I'm looking forward to spending lots more time at the Aust.

Synchrotron". Students from Monash University also visited to test the infrared beamline capabilities.

Imaging and Therapy Beamline

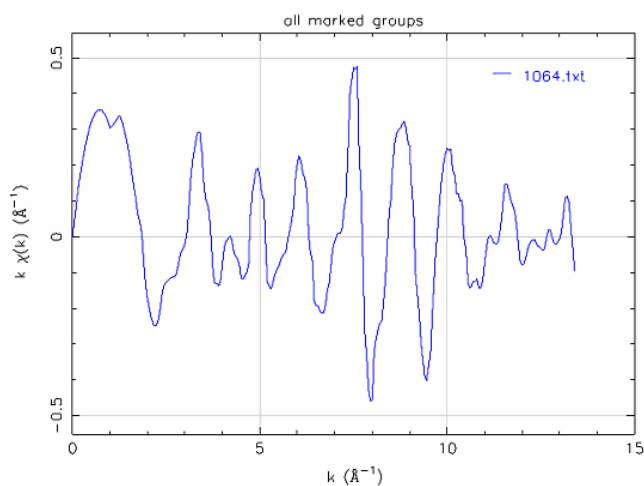
A special vacuum chamber suitable for use with the Imaging and Therapy Beamline wiggler has now been installed in the Storage Ring, prior to installation of the wiggler. As reported last month, the wiggler is now on site.

SAXS/WAXS Beamline

The final piece of design work for the Small and Wide Angle X-ray Scattering Beamline—a conditioning stand—was completed by Oxford Danfysik and has been accepted.

X-ray Absorption Spectroscopy Beamline

The final commissioning of the XAS Beamline is ongoing. ACCEL has adjusted the double-crystal monochromator with excellent results.



[Above] The very first EXAFS scan has been acquired in the XAS Beamline of molybdenum foil.



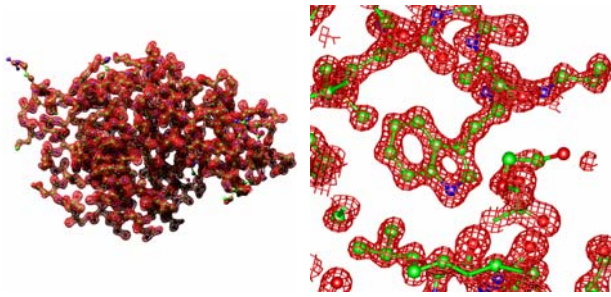
[L to R] Riccardo Signorato (Accel), Chris Glover (ASP), and Chitra Venkataraman (Accel) excited to see Wiggler beam in the XAS beamline for the first time.

Microspectroscopy Beamline

Instrument Design Technology in Daresbury, UK, announced a £1.2 million contract to develop instrumentation for the Microspectroscopy Beamline.

Protein Crystallography Beamline

The first full data-set has been collected on the Protein Crystallography Beamline. Oxford Danfysik has completed work on a mirror bender.



Scatter patterns from a lysozyme crystal, data collected on PX Beamline, April 2007

Statistics for Lysozyme data collected on 20 April 2007:

Unit Cell = 78.84 78.84 36.83 90.000 90.000 90.000
Detector distance = 40.99 mm
Wavelength = 1.347Å
Delta Phi: = 1 degree
images: 97 (4 – 100)
reflections = 210446 / 31711
unique = 28941 / 4587
R measured = 6.4% / 50.7%
Completeness: = 99.3% / 99.5%
I/sigma = 16.94 / 3.87
Wilson Plot, B = 18.1 1/Å²

Refinement

R = 20.9%, Rfree = 22.0%
rms (bonds) = 0.028Å
rms (angles) = 2.181 degree
rms (chiral) = 0.148
isotropic B-factor refinement at this stage

Dial-up for your synchrotron status updates

The main items of information about the status of the Australian Synchrotron—available on-line from:

<http://www.synchrotron.vic.gov.au/content.asp?DocumentID=5021> —can now be viewed on a suitable WAP-enabled

mobile phone. The Australian Synchrotron Facility Status Monitor, in a 'mini-FSM' version, can be accessed by mobile phones that support the popular Wireless Markup Language (WML) at:

<http://vbl.synchrotron.vic.gov.au/fsm/index.wml>

It provides information on beam current, beam lifetime, beam position, beamline status, and facility operator information via a rolling text bar. The monitor is updated every 60 seconds.



3. SYNCHROTRON COMMUNITY NEWS

Recent visitors to the Australian Synchrotron

On 18 May, the Speaker of the Federal House of Representatives, the Hon. David Hawker MP, visited.

On 29 May, the Victorian State Shadow Minister for Industry and State Development and for Major Projects, the Hon. David Davis MLC; and the Shadow Minister for Innovation, Martin Dixon MP, with other State Opposition members of parliament and staffers visited the Australian Synchrotron for a facility tour and briefing on the synchrotron's capabilities.

PhD students and early career researchers—First Cheiron Synchrotron School!

The first Cheiron Synchrotron School will be held at SPring-8 in Japan over ten days from 10 September 2007. It is intended to be an annual event.

The Cheiron School's main aim is to provide useful and basic knowledge and perspectives on synchrotron radiation science and technology for PhD students, young scientists and engineers in the Asia–Oceania region.

It will cover: accelerator science, optics, insertion devices, detectors, as well as applications including diffraction and scattering, protein crystallography, XAFS, soft x-ray spectroscopy, x-ray imaging, etc.

The curriculum will include:

- Lectures by leading scientists and engineers
- Hands-on practical training at SPring-8 beamlines
- Tutorial sessions with the lecturers and synchrotron engineers about practical and specific activities.

Only ten participants from each nation can attend.

Applicants should be either currently involved with synchrotron science or technology, or require these skills for their degree or research. Participants will **receive funding for travel, food and accommodation.**

Apply by 15 June with a short CV and 1–2 paragraphs explaining how attending the Cheiron Synchrotron School will benefit your degree or research. Apply by email to Richard Garrett, Director, Australian Synchrotron Research Program, at: garrett@ansto.gov.au

Closing date: 15 June 2007

The school has been organised by the Asia–Oceania Forum for Synchrotron Radiation, REIKN/SPring-8, JASRI and KEK-PF.

Fresh Science

Nominations for Fresh Science close on 15 June 2007. This is a great opportunity to showcase your young researchers.

Were you awarded a PhD less than five years ago? Do you have interesting research results that have not received any publicity? Then enter Fresh Science and tell your story! Fresh Science 2007 will run Monday 13 August to Thursday 16 August 2007. It is a national competition

that identifies new and interesting research being done by early-career scientists around the country. The stories are released to the media before, during and after National Science Week in August.

Sixteen scientists are selected from around Australia. They are flown to Melbourne for a day of media training after which they present their work to the media, school students, the general public, scientists, government and industry over the course of three days. The Fresh Scientists will also have the chance to win a one-year subscription to NewScientist magazine and a one-week internship with The Australian newspaper.

More information and nomination forms at:
<http://www.scienceinpublic.com/sciencenow/>

ANSTO's new website

ANSTO is updating its website and previous bookmarks to the Australian Synchrotron Research Program (ASRP) may no longer work. The new web-address of www.asrp.com.au or www.asrp.org.au will currently direct you to: <http://old-www.ansto.gov.au/natfac/index.html>

4. FORTHCOMING EVENTS

AUSTRALIAN EVENTS

Talk by Ziggy Switkowski

Climate Change and Nuclear Power in Australia
Dr Ziggy Switkowski, chairman of the Australian Nuclear Science and Technology Organisation (ANSTO)
12 June, 6.30 pm
Prince Philip Theatre, Architecture Building,
The University of Melbourne

East Coast Protein Meeting 2007

The East Coast Protein Meeting is a biannual conference held jointly by the Queensland and Sydney Protein Groups of the Australian Society for Biochemistry and Molecular Biology (ASBMB). Session themes are likely to include: proteomics, structural analysis, interactions, emerging techniques, receptors and signalling.
12–14 July 2007
Novotel Opal Cove Resort, Coffs Harbour, NSW
Contact: Brett Collins, Ph 07 33462062
Email: <b.collins@imb.uq.edu.au>

12th International COMS Conference 2007

2–6 September 2007, Melbourne, Vic
Conference on the Commercialisation of Micro and Nano Systems, bringing together world leaders within the field and showcases Australia's dynamic nanotechnology community, facilities and partnering opportunities.
<http://www.mancef-coms2007.org>
Email: mancefcoms2007aust@iird.vic.gov.au

4th International and 7th Australian Peptide Conference/2nd 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>

Contact: mibel.aguilar@med.monash.edu.au or Mike Pickford: mp@asnevents.net.au

Australian Synchrotron User Workshop 2007

12–14 December 2007

Monash University, Melbourne, Victoria

Begin planning your contribution now!

INTERNATIONAL EVENTS

For additional information and listings, see:

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

ICMAT 2007

International Conference on Materials for Advanced Technologies
1–6 July 2007, Singapore
Suntec Singapore International Convention & Exhibition Centre

<http://www.mrs.org.sg/conference/icmat2007>

Nine plenary lectures including Nobel Laureates Claude Cohen-Tannoudji (Physics), Barry Sharpless (Chemistry) and H. Robert Horvitz (Physiology)

Prominent Australian synchrotron scientist Prof Keith Nugent, The University of Melbourne, will be one of three keynote speakers at ICMAT Symposium N: *Synchrotron Radiation for Making and Measuring Materials*, joining speakers from Princeton and SPring-8.

The Synchrotron Symposium also includes 17 invited international speakers, including two Australians (Prof Rob Lewis, Monash University, and Dr Ian Gentle, The University of Queensland) with others from Canada, Ulster, Wales, Max Planck, XRadia (USA) and BASF in Germany, and throughout Asia.

Prof Herbert Moser, Director of the Singapore Synchrotron Light Source (SSLS) and ICMAT 2007 Symposium N Chair, has written a personal message encouraging Australian users to attend ICMAT 2007:

ICMAT is a bi-annual International Conference on Materials for Advanced Technologies which started in 2001 and has drawn more than 2500 registered participants in 2005. Traditionally, it includes public and plenary talks by Nobel Laureates and is structured in a

number of individual symposia—there will be 18 in 2007. This is a major event in materials science which reaches a worldwide audience.

SSLS is organising the Symposium N on “Synchrotron Radiation for Making and Measuring Materials” which offers a forum for virtually any synchrotron-related work. It offers an excellent opportunity for Australian synchrotron users to attend, well-timed with the opening of the Australian Synchrotron facility.”

VUV 15TH International Conference on Vacuum Ultraviolet Radiation Physics

July 29 – August 3, 2007, Konzerthaus Berlin, Germany

<http://www.bessy.de/VUVXV>

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).

Abstract deadline: 20 June (English only)

Registration and manuscript deadline: 30 August

<http://www.saha.ac.in/cmp/icmm.2007/>

Email: 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

Deadline for abstract submission is 30 September 2007.

The Call for Abstracts and Registration is now online at:

http://www.wbc2008.com/wbc2008/Prelim_Announcement/Call_for_Abst_racts.pdf

MORE INFORMATION

A list of Australian Synchrotron Project personnel can be found at http://www.synchrotron.vic.gov.au/content.asp?Document_ID=129.

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[Please note that the facility is not open to the public]

HOW TO UNSUBSCRIBE

TO UNSUBSCRIBE

Send an email with UNSUBSCRIBE Synchrotron in the

Subject line to contact.us@synchrotron.vic.gov.au