

current events

This section carries events of interest to the synchrotron radiation community. Works intended for this section should be sent direct to the Current-Events Editor (s.hasnain@dl.ac.uk).

Synchrotron community gathers to celebrate Jochen Schneider's achievements

More than 300 scientists from around the world gathered on 24 January 2008 at DESY in Hamburg to celebrate the scientific contribution of Jochen Schneider and to mark his formal retirement. Professor Wagner, Director General of DESY, opened the meeting with a brief synopsis of Jochen's contribution and his outstanding achievements in providing directions to DESY in placing photon science as the primary activity of this outstanding high-energy physics laboratory. Delegates included many who have witnessed the synchrotron radiation activity at DESY from a small parasitic science activity to a mainstream focus of the whole laboratory.

Andreas Freund and Jerry Hastings highlighted the early years of Jochen Schneider's research; Andreas Freund recalling his seminal contribution when they collaborated together at ILL in Grenoble while Jerry Hastings recalled the collaborative effort when they performed scattering experiments at high X-ray energies at CHESS, the only place where such high-energy X-rays were available. Boris Batterman, who was Director of CHESS at the time, provided a humorous account of his interactions with Jochen. Phil Coppens, the former President of the IUCr, gave a talk entitled 'The Quest for Higher Resolution in Space and in Time' and showed how his work overlapped Jochen's scientific interests. Keith Hodgson reminded Jochen's contribution in pursuing the free-electron laser advance-

ments including his open participation in the Stanford LCLS project. Many present at the meeting talked about his contributions on the advisory committees of different synchrotron radiation centres, including the European Synchrotron Radiation Facility (ESRF). The colloquium finished with a very entertaining talk by Helmut Dosch.

Princess Sumaya of Jordan visits SSRL and SLAC

Her Royal Highness Princess Sumaya bint El Hassan of Jordan visited the Stanford Linear Accelerator Center (SLAC) on 18 January 2008 for a tour of the laboratory and meetings with researchers across the facilities. The Princess plays a major role in education, science and technology in Jordan. For example, she is the head of the Princess Sumaya University for Technology Board of Trustees and the President of the Royal Scientific Society. Her primary interest was to see the Stanford Synchrotron Radiation Laboratory (SSRL) in operation in view of her interest in SESAME (Synchrotron-light for Experimental Science and Applications in the Middle East), a UNESCO-sponsored project under construction in Jordan as a collaboration among ten countries including Israel,



Professor Wagner gives a special gift from DESY to Professor Schneider.



Princess Sumaya with Persis Drell, Director of SLAC.



Scientists gather to celebrate Jochen Schneider.

current events

Palestine, Egypt, Pakistan, Iran and Turkey (<http://www.sesame.org.jo/>).

Princess Sumaya met the recently appointed SLAC director, Persis Drell, and other directorate members. She then went on a detailed tour of the SSRL with Keith Hodgson and host Herman Winick. Uwe Bergmann explained how X-rays are used to read overwritten ancient manuscripts, and Les Cottrell talked about the digital divide with emphasis on the Middle East. After visiting SLAC she had lunch with John Hennessy, President of Stanford University, and Artie Bienenstock. Following this, she gave a talk and had spirited exchanges with Stanford faculty and students at the Center for Democracy, Development and the Rule of Law on the Stanford campus.

The 18th ESRF Users' Meeting focuses on the upgrade

The ESRF annual Users' Meeting and its satellite workshops brought together more than 400 users on 5–7 February 2008 at the European light source. The meeting focused on the latest developments and challenges of the upgrade programme and it included two workshops on time-resolved and *in situ* catalyst research with X-rays and on structural and molecular biology of host-pathogen interactions. 'Nano' was one of the main topics at the meeting. Science at the nanometre scale was the main theme of the plenary session. Ian Robinson, from the London Centre for Nanotechnology, gave a keynote lecture on the use of coherent X-ray diffraction for materials research in nanoscience. Before that, the management of the ESRF presented the latest news from the facility and its plans for the developments of beamlines and accelerator and source in view of the upgrade programme.

The ESRF upgrade programme, which some have referred to as 2020-ESRF, is expected to take ten years and is described in the 'purple book' which is available on-line (<http://www.esrf.eu/AboutUs/Upgrade>). Here we outline some salient points.

The upgrade is an exceptional ten-year project that will greatly extend the scientific impact of the ESRF. It is aimed to deliver both new facilities and a unique associated environment for the scientific communities of the member and scientific associate countries, designed to match the future scientific challenges facing society: health, energy, environment and climate change, new materials and nanotechnology.

When the ESRF opened its first beamline in 1994, it was the world's only insertion-device-based ('third-generation') synchrotron radiation source. Prior to this, the synchrotron radiation sources had

few insertion devices for fulfilling special user needs including SRS, NSLS, SSRL and PF. The user community, and with it the number of third-generation light sources, has been growing steadily since then. The number of member states has also increased and now 18 countries are members or associates.

The ten-year upgrade programme, developed through extensive review and wide user consultation, was submitted in November 2007 to the funding bodies for consideration. Council approved the programme as the basis for the future of the ESRF, subject to funding made available by the member states. This plan builds on a shared vision to maintain Europe's light source at the leading edge of science for another 15 years. For established user communities, the objective of the ESRF is to remain the logical choice for the most complex and demanding experiments. The upgrade programme also aims at positioning the ESRF at the crossroads of synchrotron science in Europe, from where expertise, knowledge and technology is spread out across current and future member states. For the various user communities, the initiation and fostering of science-driven partnerships with other institutes and facilities across Europe is planned as a core aspect of the upgrade programme to facilitate access to the ESRF both for communities new to research with synchrotron light and for established users to whom these partnerships will provide coordinated 'one-stop-shop' access to complementary facilities.

The 230 million Euro upgrade programme has been designed for minimum interference with the user operation, without shutdown periods longer than six to nine months. Currently, alternative financial scenarios are being investigated based on two overlapping phases, covering years 2008–2013 and covering 2012–2017, plus several options in each phase. The tender for the architectural team is under preparation and expected to be sent out to the five competing consortiums by the end of the month.

Although the main focus of the upgrade programme is on developing new beamlines and related instrumentation, the ESRF X-ray source will also be further enhanced over the coming years. The lattice of the ESRF was designed with two sets of quadrupole triplets located on either side of the 32 straight sections for the insertion devices, with the objective to provide maximum flexibility and allow a wide range of beta values in the centre of straight sections. In fact, this



Jens Als-Nielsen (left) and Bill Stirling (right) at the users meeting.



View of 2020-ESRF showing the extensions of the experimental hall building for four segments of the machine. Relevant insertion device numbers are shown.

flexibility has turned out not to be necessary for routine operations and it is possible to remove one quadrupole at each end of the straight sections and to replace the other quadrupole by a shorter one. The current 5 m-long straight sections can therefore be extended to 7 m; this increased length can either be used to install longer undulators for a single beamline to increase the brilliance, or to increase flexibility by adding a portfolio of undulators with varied periods and/or lengths, or to be shared between two experimental stations using the canted undulator approach adopted at SOLEIL most recently.

The four main components of the programme are:

- (i) the reconstruction of about one half of the current 31 beamlines, with an emphasis on nanofocusing capabilities;
- (ii) improvements to the accelerator complex including longer straight sections to increase the capacity for further beamlines, plus, in parallel, preparation of a longer-term design for a new higher-brightness lattice;
- (iii) instrumentation developments, particularly new detectors, nano-compatible engineering and sample manipulation;
- (iv) extensions to the experimental hall totalling 21000 m² permitting up to 16 beamlines to be doubled in length to up to 140 m, and to house new infrastructure.

SOLEIL opens beamlines to users

User operation of SOLEIL has started again as of 22 January 2008. As readers would recall, SOLEIL was shut down for user operation in July 2007 in order to rectify severe defects in the water-cooling network supply of the beamlines. SOLEIL also welcomed its first users in the new guest house. At the time of reporting, SOLEIL was operating with 194 mA 18–20 h lifetime and a number of beamlines were taking data.

E-XFEL users meeting attracts 300 delegates

On 23–24 January 2008, the European XFEL (E-XFEL) Users' Meeting took place, which brought together the future users of the European X-ray laser facility. Edgar Weckert, the interim Director of Photon Science at DESY, welcomed the delegates followed by Professor John Wood, the Chair of E-XFEL Steering Committee and Chair of ESFRI. It is expected that the company responsible for E-XFEL, European XFEL GmbH, will be set up by May 2008. Strong and active participation is expected by Russia as well. Massimo Altarelli has been appointed as the designate Managing Director with three other designate Directors, namely Andreas S. Schwarz (Scientific Technical Director), Thomas Tschentscher (Scientific Technical Director) and Karl Witte (Administration Director).

Massimo Altarelli then provided an overview of the E-XFEL project, which was followed by detailed technical presentations by members of the E-XFEL team. Details of the superconducting accelerator and undulator systems were given as well as the photon beam systems. In the afternoon, the delegates were shown some of the latest results from FLASH, whetting the appetite for E-XFEL. Wide-ranging opportunities were discussed including ultrafast dynamics and a variety of spectroscopic techniques such as X-ray emission (K_{α} , K_{β}) and X-ray Raman spectroscopy.



Delegates from the UK at the E-XFEL Users Meeting with Professor John Wood (front row, third from right).