

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.s.hasnain@liverpool.ac.uk).

Brookhaven Laboratory is praised by Congressional committee for its science facilities

At a 21 June hearing of the House Science, Space and Technology's Subcommittee on Energy and Environment, politicians, scientists and industry leaders expressed strong support for the past triumphs and great potential of cutting-edge facilities at the Brookhaven National Laboratory, the home to the National Synchrotron Light Source (NSLS), where the construction of the USD 912 million National Synchrotron Light Source II (NSLS-II) and the commissioning of the first of the accelerators, the linear accelerator (linac), are at advanced stages.

Ernie Hall, a chief scientist at General Electric Global Research (GE), spoke highly at the hearing of his experience partnering with DOE facilities. He specifically noted the commercial impact and economic boost created by GE's collaboration with Brookhaven Laboratory. GE now plans to open a new battery manufacturing plant in Schenectady, NY, USA, that owes basic breakthroughs in underlying technology to research at Brookhaven's NSLS. 'These experiments provided unprecedented insight into the basic battery chemistry, which supported further developments that helped us ready this technology for the marketplace', Hall said. 'They provided us with much greater capabilities, for example higher energy, higher resolution and higher throughput, for understanding materials and systems than instrumentation in our own research laboratories.' Hall added that Brookhaven's forthcoming NSLS-II, which will begin operating in 2015 and provide an even higher calibre of experimental insight, represents DOE's positive commitment to investing in the future of its facilities, a fact also noted by Congressional representatives.

At NSLS-II the 200 MeV linac is being commissioned. 'One of the objects of commissioning is to achieve a very high total charge of 15 nC of charge per electron bunch train (corresponding to about ten billion electrons), which make up the beam', said James Rose, the Radio Frequency Group leader. Beam performance is of paramount importance to NSLS-II's success and is what distinguishes the forthcoming resource from the laboratory's first-generation light source, NSLS. NSLS-II will produce a brightness of four orders of magnitude greater than the NSLS, added Willeke. 'The intensity and the uniformity of the intensity over the train of bunches of the linac are both important in establishing a uniform train of bunches in the

storage ring', said Willeke. 'That is why the linac contributes a lot to the quality of the service that we can provide.' 'This is the first linac on site with solid-state modulators', said Feng Gao, a linac project engineer. 'They are easier and safer to operate. They operate with 30 to 40 times less voltage and still get the same performance.'

European XFEL receives 125 magnets as in-kind contributions from Russia and Sweden and holds the first international conference on XFEL science

On 17 July, 125 magnets custom-built for the European XFEL arrived in Hamburg. The quadrupole magnets will be used to focus the electron beam between the undulator segments. Based on a design by Deutsches Elektronen-Synchrotron (DESY), the magnets were produced by Budker Institute of Nuclear Physics (BINP) in Novosibirsk as a Russian in-kind contribution to the European XFEL facility. After production, they were shipped to Manne Siegbahn Laboratory at Stockholm University, where their magnetic centreline position was measured and indicated by 'fiducials' on the magnet's surface to allow its correct positioning with respect to the direction of the electron beam for their final assembly and alignment in the undulator intersections of the European XFEL.

The month of July also saw about 200 delegates attending the world's first major international conference dedicated exclusively to science with X-ray free-electron lasers (X-ray FELs) at the DESY campus, the host of the European XFEL. Speakers presented a number of highlights achieved in the last seven years of operation of short-wavelength free-electron lasers. Short-wavelength FELs in operation are FLASH in Hamburg (since 2005), LCLS in the USA (since 2009), SACLA in Japan (since 2012) and FERMI in Italy (since 2012). The scientific topics covered at the conference were from the areas of atomic and molecular physics, chemistry, life science, condensed matter physics, and matter under extreme conditions, as well as new enabling developments in FEL science. Joachim Stöhr, director of the world's first operating hard XFEL, the Linac Coherent Light Source (LCLS), stressed the relevance of this kind of scientific exchange: 'It is very important that we get together periodically to exchange information. New results are coming out every month, and it is important for people to know what is going on. At LCLS, for example, there has been tremendous development from what we had originally promised to where we are now.' The participants came from more than 20 countries in Europe, America and Asia. 'We are very pleased that not only well known researchers and long-time colleagues in FEL science attended the conference, but that many young scientists participated and several also gave presentations', said Thomas Tschentscher, the scientific director at the European XFEL and co-chair of the conference. 'This is a very good sign that a new generation of young scientists educated for and trained in using this new class of light sources is actively exploiting the wide spectrum of research opportunities they provide.' The conference was jointly organized by the European XFEL and DESY as a satellite meeting to the 11th International Conference on Synchrotron Radiation Instrumentation (SRI2012) held in Lyon, France, during 9–13 July 2012. The SRI conference co-chairs, Paul Dumas (SOLEIL) and Jean



The NSLS-II linac and its commissioning team.

Susini (ESRF), wrote 'As you travel home from SRI2012, we would like to take this opportunity to express our deepest appreciation for the time you have devoted to be with us this week and for the quality of your contributions which have made SRI2012 a smooth-running, enjoyable and successful event. Overall, your contributions have indeed illustrated the continuing growth in the international synchrotron community and the quality of science enabled by innovative instrumentation. SRI2012 has exemplified both the healthy competition as well as the many collaborative projects between facilities and new photon sources of all kinds. A real scientific synergy is clearly emerging. Furthermore, the quality and size of the commercial exhibition have reinforced our belief in the growing importance of the partnership between synchrotron facilities and industry.' The next SRI conference will be held in New York in 2015, coinciding with the start of operation of NSLS-II.

Caterina Biscari appointed new Director of ALBA

Dr Caterina Biscari has been appointed Director of the CELLS-ALBA, the Spanish synchrotron facility in Barcelona, by its Rector Council. Announcing the appointment, Dr Ramon Pascual, Chairman of the Executive Commission of CELLS, said "This opens a new era to our facility just when it is facing the beginning of users' reception".

Dr Biscari, born in Italy in 1957, has a degree in physics by the Universidad Complutense of Madrid and has developed her scientific career in several laboratories around the world, especially at CERN and in Italy. Currently she is Technology Director and Scientific

Deputy of the Accelerators Division at the National Laboratory of Frascati of the Italian National Nuclear Physics Institute.

Dr Biscari will take over from Gastón García who has been working as Acting Director since the retirement of Dr Joan Bordas, the founding director of Alba. Caterina Biscari will start in September 2012. Joan Bordas has moved to Bilbao to head the Spanish headquarters of the European Spallation Source.



Dr Caterina Biscari.