

current events

This section carries events of interest to the synchrotron radiation community. Works for this section should be sent direct to the Current-Events Editors Friso van der Veen (friso.vanderveen@psi.ch) or Paul Zschack (pzscheck@bnl.gov).

Taiwan Photon Source (TPS) Inauguration Ceremony

The Taiwan Photon Source (TPS) Inauguration Ceremony was hosted by President Ying-Jeou Ma on 25 January 2015, at the National Synchrotron Radiation Research Center in Hsinchu, Taiwan. Just a few weeks earlier, the TPS succeeded in emitting its first synchrotron light and scored the success of its commissioning process. Five of its seven endstations in Phase I are scheduled to be completed by the end of this year and to be available for users at the beginning of next year.

President Ma regarded the completion of the TPS, which was designed and constructed domestically, as national pride. “TPS opens up tremendous possibilities for Taiwan’s key research and development sectors spanning from medical to nano devices, as well as pharmaceuticals and semiconductors”, President Ma said. “The project will also enhance the fundamental and multidisciplinary research capabilities of the country’s academia and foster next-generation talents.”

The TPS storage ring is 518 m in circumference, operates with 3 GeV electrons, and is the largest experimental facility for multi-discipline cutting-edge research in Taiwan. The facility delivered its first synchrotron light on 31 December 2014. The commissioning of the TPS has proceeded at a speedy pace. The electron beam energy of the TPS circulating in the storage ring reached the design value, and the stored beam current has achieved 100 mA as of early February, creating the world record for the fastest commissioning for an advanced accelerator light source. As the TPS is 100 000 times brighter in the X-ray region than the Taiwan Light Source, the country’s first synchrotron accelerator that was made available to users in 1993, the more powerful TPS will create unprecedented scientific research opportunities and will open the door to new scientific explorations. The initial Phase I beamlines include Protein Microcrystallography, Resonant Soft X-ray Scattering, Submicron Soft X-ray Spectroscopy, Coherent X-ray Scattering, Submicron X-ray Diffraction, X-ray Nano-probe and Temporally Coherent X-ray Diffraction.



Inauguration ceremony at TPS.

NSLS-II dedication

On 6 February 2015, US Department of Energy (DOE) Secretary Ernest Moniz dedicated the National Synchrotron Light Source II (NSLS-II) at Brookhaven National Laboratory. The NSLS-II is a USD 912 million DOE Office of Science User Facility that produces extremely bright beams of X-ray, ultraviolet and infrared light used to examine a wide range of materials, including superconductors and catalysts, geological samples and biological proteins to accelerate advances in energy, environmental science and medicine.

Steve Dierker, NSLS-II Project Director, indicated “It has been a long road to get here, but it is gratifying to see NSLS-II operating successfully. It took an enormous effort by many hundreds of people, and we are finally ready to open our doors and begin the exciting science this facility was built to produce.” Already, the facility has achieved horizontal emittance of 1 nm rad and a vertical emittance of 16 pm rad. The six beamlines developed in the initial suite have begun commissioning and are making good progress toward the first science experiments this spring. There are 22 other beamlines in various phases of installation and development. When fully built out, the National Synchrotron Light Source II will accommodate about 60–70 beamlines using 27 straight sections for insertion-device sources, 30 bending-magnet or three-pole-wiggler sources and multiple branches.

Secretary Moniz said “The research performed at NSLS-II will probe the fundamental structure of novel materials and help drive the development of low-cost low-carbon energy technologies, spark advances in environmental science and spur medical breakthroughs.” He added “The successful completion of this crucial component of the United States’ research infrastructure will ensure that top researchers from across the country will have access to the needed facilities to drive key scientific and technological advances in the 21st century.”



US Department of Energy Secretary Ernest Moniz as he dedicated the National Synchrotron Light Source II.