

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 (icege@ornl.gov).

Kimber wins 2013 Young Scientist Award

Dr Simon Kimber was presented with the ESRF 2012 Young Scientist Award at the 23rd ESRF Users Meeting in Grenoble, France, on 6 February 2013. This award is presented each year to a scientist aged 35 or under in recognition of outstanding work carried out at the ESRF. Dr Kimber was awarded for his work on X-ray pair distribution function techniques and their application to nanostructured materials. Dr Harald Reichert, ESRF Director of Research, commented, “Simon’s research provides a particularly nice demonstration of the usefulness of synchrotron radiation for the study of materials at the border between order and disorder. These materials are not only interesting for their often surprising properties but especially for their broad range of real-world applications.” Simon thanked the members of ID15 and singled out Marco Di Michiel for special thanks. Over the last six years Simon has published 24 papers in high-profile physics and chemistry journals and presented numerous invited talks.



Simon Kimber describes the analysis of nanoparticle structure using pair distribution function techniques.

Ash wins synchrotron medal

Miriam-Rose Ash has been awarded the Australian Synchrotron Thesis Medal at the November 2012 Australian Synchrotron Users Meeting in Melbourne, Australia. The award was presented for her study into ‘the essential roles that iron and copper play in living organisms’. Announcing the award, Australian Synchrotron Head of Science, Andrew Peele, said, ‘Miriam-Rose Ash is an outstanding candidate, an exceptional researcher, a great communicator and a marvelous example for young students considering a career in science’. Her thesis work was described as excellent and her body of work includes seven research papers with six first-author papers. In March 2012 Dr Ash completed her PhD studies at the University of Sydney and the Centenary Institute, an independent medical research

organization. Miriam is currently an EMBO postdoctoral research fellow at the Centre for Structural Biology at Aarhus University in Denmark. The Australian Synchrotron Thesis Medal is awarded for outstanding research work involving the use of synchrotron techniques.



Miriam-Rose Ash.

Record attendance at DESY users’ meeting

The DESY Photon Science and the European X-ray Free-Electron Laser users’ meeting held on 23–25 January 2013 set a new record with roughly 800 participants. DESY Research Director Edgar Weckert commented, “This year’s participant record at the users’ meeting shows the strong interest of a broad user community in the light sources at DESY and the European XFEL which is in progress. The research with photons is an extremely dynamic territory due to the rapid technological development in X-ray sources, which offers important contributions on the problem solving process in many scientific fields.” Included in the participants were more than 45 young scientists who received travel grants. Thomas Tschentscher,



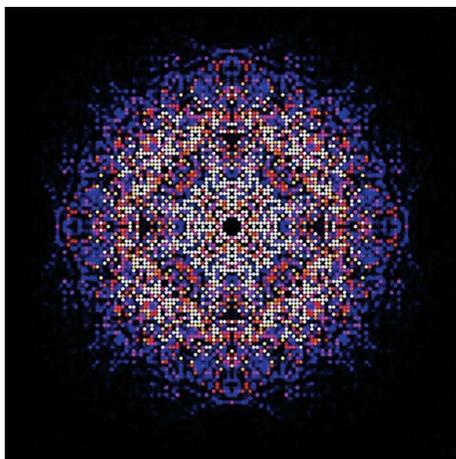
2013 Crowd at the DESY and European XFEL users’ meeting.

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Scientific Director at the European XFEL, said, 'We want to make the coming generation of scientists aware of the huge potential and research opportunities XFELs offer'.

Protein structure determination among top ten 2012 achievements

The journal *Science* has chosen the first new biological structure solved by an X-ray free-electron laser as one of the ten most important scientific breakthroughs in 2012. In a press release the journal states: 'The advance demonstrates the potential of X-ray lasers to decipher proteins that conventional X-ray sources cannot'. The cited work revealed the structure of an inactive form of an enzyme that is key for the survival of the single-celled parasite *Trypanosoma brucei* that causes sleeping sickness. An international team of scientists from Germany and USA carried out the research at the Linac Coherent Light Source (LCLS) at the US National Accelerator Laboratory SLAC. DESY scientist Professor Henry Chapman from the Center for Free-Electron Laser Science, who co-led the international team, explained, 'This is the first new biological structure solved with a free-electron laser'. Other co-leaders included Professor Christian Betzel of the University of Hamburg and Dr Lars Redecke from the joint Junior Research Group 'Structural Infection Biology using new Radiation Sources (SIAS)' of the Universities of Hamburg and Lübeck.



Intensity map made by merging almost 2×10^5 diffraction patterns obtained from *in vivo* grown crystals of *Trypanosoma brucei* cathepsin B.

Diamond celebrates tenth anniversary

In November 2012, scientists, industrial researchers and funding agencies gathered at the Royal Society in London for a tenth anni-

versary celebration of science driven by Diamond Light Source, the UK's national synchrotron science facility. Science highlighted included studies of cell signalling systems, studies into the electronic function and structure–function relationships in catalysts, the design and discovery of carbon capture materials, studies of pollutants and a detailed series of structures for the EV71 virus responsible for hand-foot-and-mouth disease. Professor Gerd Materlik, Diamond's Chief Executive, commented, "Today is about showcasing the world-class research that amazingly talented scientists are delivering with the help of our machine and our in-house expertise. As new facilities become available at Diamond, we are able to attract researchers from an ever-increasing number of scientific disciplines. Phase III's ten additional beamlines will further enhance Diamond's ability to support UK science and industry and contribute to economic growth."



Diamond Light Source.

MAX IV gains research support and praise

The ongoing MAX IV project to construct a high-brilliance third-generation synchrotron in Sweden has garnered additional praise and scientific support. In a recently released report the Swedish Research Council recognized the MAX IV laboratory as 'a highly successful example of Sweden gaining international attention through sound investment in research infrastructure'. The report also praised MAX IV, saying, 'the MAX IV management is clearly looking ahead to the challenge of MAX IV and is taking a well structured approach to managing the transition and growth'.

In a related event, a Danish research project, which will leverage off of the nearby MAX IV laboratory and the European Spallation Source, has been awarded DKK 37.9 million by the University of Copenhagen's star program for interdisciplinary research. The project, led by the former interim director of MAX IV laboratory and former IUCr President Sine Larsen, will interact closely with the MAX IV laboratory which will benefit from the increased research activities. The new project involves 31 researchers from natural sciences, health sciences, social sciences, humanities and the law. The goal of the project is to develop methods for X-ray imaging, which can be used to study implants and their environment for example. The project will also study submicrometre-sized crystals.