



Illustration of the European Spallation Source (ESS) © ESS

Announcements

WORKSHOP: NEUTRON SCATTERING IN SOFT MATTER

Winter School in Northern Sweden

A workshop on Neutron Scattering in Soft Matter for PhD students will take place in Björkliden, Sweden between March 25th and 30th, 2012. The University of Göttingen offers 10 PhD scholarships to attend the winter school. Topics to be covered include structure in multiphase systems; polymer dynamics; structure and dynamics in liquids; coatings. The team of lecturers consists of experts from European and Northern American Universities. It includes Marked Koza (ILL, Grenoble, France), Roland Steitz (HZB, Berlin, Germany), Antonio Faraone (NIST, Gaithersburg, USA) and Kell Mortensen (University of Copenhagen, Denmark). For more info please see www.rontgen-angstrom.eu or www.chalmers.se/soft Deadline for registration is December 30th, 2011.

Outlook

New Projects

Both, PT-DESY and the Swedish Research Council put out calls for applications for research projects within the Röntgen-Ångström-Cluster. The applications are currently being reviewed. In our next issue, read about some of the successful applicants. In the meantime, please visit www.rontgen-angstrom.eu for news.

Editor's note

Please remember that this newsletter appears in print only twice. So, the next issue will be the last that you will receive as a printed copy. If you want to sign up to the electronic version of this newsletter, please go to www.rontgen-angstrom.eu.

Imprint

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The OTHER News

Crossing borders in pursuit of a scientific call can awaken passions hitherto unknown.

It was a German-Swedish collaboration that resulted in Gunter Schneider's "changing sides" 30 years ago. German scientist Gunter Schneider didn't need his ten hour Swedish crash course to realize that Sweden was the place for him: he was (and still is) impressed by the lack of hierarchies at all levels, the collegial support for younger colleagues – and, of course, the big, dark Swedish woods.

Schneider soon discovered that there was more to life than chasing after results in his area of research. Friends and colleagues introduced him to hunting. And ever since, everyone knows where to look for Gunter Schneider if he's not to be found at Karolinska Institutet: in the deep, dark woods hunting moose.

Gunter Schneider is also a member of the Röntgen-Ångström-Cluster Steering Committee (see his profile above). As a German and a Swede, representing the Swedish side on the Röntgen-Ångström-Cluster, Schneider's experiences and input are invaluable. He hopes that the collaboration between the two countries will become stronger yet in order to produce some "fantastic results".



Swedes may be tired of looking at älg-pictures. A recommendation in this case could be to color it instead...



Detail of the facade of the PETRA III building © DESY

Editorial

WELCOME – VÄLKOMMEN – WILLKOMMEN

In this new issue of the newsletter we have gathered news, info and insights from scientists and decision-makers in Sweden and Germany involved in the Röntgen-Ångström-Cluster.

You will also find summaries of workshops that have taken place in this context, as well as announcements for events to come. People feature prominently in our newsletter. We aim to shed a light on the individuals behind the collaboration – so look out for the "soft" news as well. The relaunch of the website is the big news from our side. We have also developed a new logo.

Enjoy reading!

The editors.

For your information: This quarterly newsletter appears in print only twice. Please make sure you subscribe to the virtual version to be kept in the loop. To get a first taster of the online version, you can download this issue on the web, or why not forward it to your colleagues... To subscribe, please go to www.rontgen-angstrom.eu. It's free.

News

ESS: Tungsten as Target Station Material

Tungsten is to be used as target station material at the European Spallation Source (ESS). This milestone decision has been taken by the ESS AB Board of Directors and representatives of 17 partner countries. Tungsten will secure the best scientific performances combined with a minimum environmental impact. This new target station design replaces the 2002/2003 ESS technical design based on liquid mercury target.

Switzerland joins ESS collaboration

Switzerland has joined the international European Spallation Source (ESS) collaboration. The Swiss signing of the Memorandum of Understanding has brought the number of participating countries up to 17. In addition, there are several collaborating partners across the globe who contribute to the ESS project in various ways.

Rolf Hilgenfeld retires

Rolf Hilgenfeld, Head of the Institute for Biochemistry at the University of Lübeck, retires from his post in the Steering Committee due to personal reasons. The other members wish to thank him for his efforts and commitment to the Röntgen-Ångström-Cluster.

WEBSITE & LOGO

The new Röntgen-Ångström-Cluster Website just went live! There, you will find all news and info relating to the Cluster. We also have a new logo. It features the colours of the countries involved, as well as symbolize atoms, photons and electrons. You can also download our new logo (in the download section), as well as templates to use in connection with your Projects. Please go to www.rontgen-angstrom.eu to check it out. It's constantly updated so please bookmark us and come and visit frequently!

EU-PROJECT SCIENCE LINK IS APPROVED

SCIENCE LINK will be supported by the EU Baltic Sea Programme with 2.8 million € and will last for two and a half years. It is part of the EU Action Plan in support of a balanced development in the Baltic Sea region. The aim of the project is to organise a network of Research Infrastructures (RI) PartnerHubs in all states around the Baltic Sea to attract, advise and train commercial users at RIs. Scientific partners at RI PartnerHubs will prepare, execute and interpret experiments at RIs together with commercial users. All RIs in the Baltic Sea region (MaxLab, DESY, Helmholtz Zentrum Geesthacht, Helmholtz Zentrum Berlin and St. Petersburg Institute for Nuclear Physics) are partners of the project. Unlike the Röntgen-Ångström-Cluster, the project will not support scientific projects but promote co-operation in the Baltic Sea area. The aim of SCIENCE LINK for the next funding period of the EU is to prepare a system of RI PartnerHubs specialised in different areas of science, e.g. nano science or life science, and a system of financial support by the member states.

People

PROFILES

Starting with this issue, we will introduce a few members of the Röntgen-Ångström-Cluster Steering Committee in each newsletter.

Inger Andersson, Professor of Plant Biochemistry, Swedish University of Agricultural Sciences, Department of Molecular Biology, Uppsala Biomedical Centre. She is a structural biologist specialised in photosynthesis research, a long-time user of synchrotron radiation sources and recently also of X-ray free-electron laser facilities. Contact: inger@xray.bmc.uu.se



Prof. Inger Andersson



Prof. Anke Rita Kaysser-Pyzalla



Prof. Gunter Schneider

Anke Rita Kaysser-Pyzalla, Scientific Director/Chief Executive at Helmholtz-Zentrum Berlin for Materials and Energy, has been a member of the Steering Committee since 2009. She is also a member of the senate of Deutsche Forschungsgemeinschaft (DFG), editor of "Journal of Applied Crystallography" and co-editor of "Journal of Synchrotron Radiation". Her specialist interests are research with photons and neutrons, operation of large scientific infrastructures, material science as well as solar energy research. Contact: anke.pyzalla@helmholtz-berlin.de

Gunter Schneider, Professor of Molecular Structural Biology, Department of Medical Biochemistry and Biophysics, Karolinska Institutet, Stockholm.

Gunter Schneider's current research interests include structural biology of bacterial pathogens. This research project aims at the structural and functional characterization of proteins and protein complexes from major pathogens, in particular *Pseudomonas aeruginosa* and *Mycobacterium tuberculosis*. One of the objectives of this program is to provide sufficient structural and mechanistic insights to facilitate the design of strong binding inhibitors, which may be developed into novel drugs.

Contact: gunter.schneider@ki.se

Learn more about these and the other members of the Steering Committee at www.rontgen-angstrom.eu.

Reflections

In this column, we would like to invite members of the Steering Committee to share some more personal insights into their work for the Röntgen-Ångström-Cluster. Inger Andersson makes the start!

When invited to join the Steering Committee of the newly formed Röntgen-Ångström-Cluster, Swedish scientist Inger Andersson knew she couldn't decline. "A collaboration of this size, initiated by two governments, doesn't come along every day in my field", she resumes.

The structural biologist has not been disappointed. "The great thing about the Cluster is that it is shaped by us. This is a fantastic opportunity." Andersson describes the enthusiasm that accompanies the project in the light of all its possibilities. But she also points to the huge responsibilities. "The governments have invested a large amount of money in the research infrastructures and we now have the responsibility to use it in ways that would benefit us", says Andersson. Three workshops have been organized by the Swedish side with many Germans participating. Many more are to follow. "What we have achieved so far is a very good way of working together, and of finding a common route", says Inger Andersson, "we remain excited about what is to come."

Workshops

„MULTIDIMENSIONAL X-RAY SPECTROSCOPY"

The Röntgen-Ångström workshop on „Multidimensional X-Ray Spectroscopy" was held at the Helmholtz-Zentrum Berlin (HZB) May 19–20 2011.

The workshop attracted over fifty participants from Sweden and Germany, as well as other Nordic countries like Norway, Finland and Estonia. The workshop was made up of the following four sessions:

Session 1: Electron Spectroscopy in Multiple Dimensions (Prof. Svante Svensson)

The rapid evolution of novel multidimensional instruments for high resolution – high transmission electron spectroscopy (ArTOF analyzers) – were presented and the different fields of applications were investigated.

Session 2: Low Energy Excitations, Phase Transitions and Dynamics (Prof. Jan-Erik Rubensson)

It was shown that Resonant Inelastic X-ray Scattering (RIXS) is an excellent tool for studies of Solids, for studies of low excitations in high-thermal-conductivity (HTC) materials, for studies of liquid phase transitions. A large section was dealing with RIXS applied to fundamental science on molecules and liquids. The extreme lack of suitable high resolution RIXS facilities was noted.

Session 3: Chemically Relevant Systems and Molecular Dynamics (Prof. Simone Techert)

The very large progress of theoretical interpretations was covered by one of the most outstanding experts in the field and the consequence for the application of RIXS to molecular and chemical systems created an intense discussion on the strong need for vibrational resolved RIXS in combination with time resolved studies.

Session 4: Discussion and Recommendation

(Prof. Alexander Föhlisch) Details to follow online.



Wilhelm-Conrad-Röntgen Campus, BESSY building © HZB

SWEDISH MATERIALS SCIENCE (SMS) BEAMLINE AT PETRA III

The second workshop on the Swedish Materials Science (SMS) beamline at PETRA III took place at Deutsches Elektronen-Synchrotron (DESY) in Hamburg on August 29–30, 2011. Aim of the workshop was to further discuss the possibilities for scientific applications and techniques at the SMS beamline and to stimulate interaction between scientists from Sweden and colleagues at DESY.

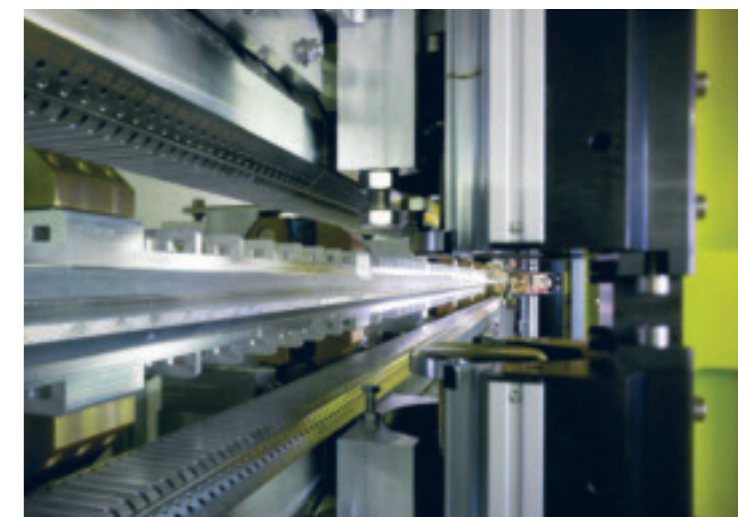
The workshop was organized by the Swedish Research Council which funds the construction of the beamline and, later on, will give a substantial contribution to its operation.

Edgar Weckert, Research Director of Photon Science at DESY, stressed the new research opportunities made possible by the extremely high brilliance of the PETRA III X-ray source which allows for beam focusing down to a few tens of a nanometer.

Ulf Karlsson from the Royal Institute of Technology (KTH) in Stockholm, spoke about the participation of the Swedish scientific community in the SMS beamline. He stressed the complementarity of the SMS beamline, which will work in a photon energy range of 50–100 keV, to those at MAX-IV, which will cover photon energies up to 50 keV.

Wolfgang Drube, Project Leader of the PETRA III Extensions, described the upcoming experimental opportunities which will be provided by the PETRA III Extension project adding ten additional insertion device beamlines in two new experimental halls. The construction of these new facilities will start in Spring 2013 and the SMS beamline will be built in the East Hall, making use of a long straight section of the storage ring which is very well suited to accommodate specialized insertion devices.

Detailed reviews of these and other workshops can be found on our website www.rontgen-angstrom.eu.



Petra III undulator © DESY