Meeting Reports

Discussing Biomolecular Dynamics and Protein-Water Interactions

Recently, an international workshop on Biomolecular Dynamics and Protein-Water Interactions was held on September 24 to 26, 2008 in Feldafing near Munich, Germany, jointly organized by the Physics Department of Technical University Munich, the Forschungs-Neutronenquelle Heinz Meier-Leibnitz (FRM II) and the Jülich Centre for Neutron Science. Focus of the workshop was the discussion on the mechanism of the protein dynamical transition, protein hydration and protein dynamics studied by neutron scattering and other methods. More than 60 scientists from Europe, USA, Australia and Japan attended the workshop in the beautiful surroundings of the InWent Education Center close to Lake Starnberg in southern Bavaria.

Main talks were given by leading experts in the field, such as Jan Swenson (Chalmers University) and Bertil Halle (Lund University), who discussed the role solvents have on protein dynamics. Michael Vogel (TU Darmstadt) described investigations on the fragile-to-strong transition of protein hydration water. Mikio Kataoka (Nara Institute) reviewed the effect of hydration on protein dynamics. Joe Zaccai (ILL) gave an enthusiastic description of the biological relevance of protein dynamics, while Alevei Sokolov (University of Akron) compared dynamics of proteins and nucleic acids. Mourir Tarek (CNRS Nancy) and Gerald Kneller (University of Orleans) gave state-of-the-art descriptions of the potential of molecular-dynamics simulations on protein dynamics. These talks were complemented by another twenty oral presentations and about twenty poster presentations by researchers, postdocs and PhD students.

We had intense discussion between the participants, especially during an evening poster and beer session. A highlight was a visit of the Roseimuseum in Lake Starnberg at the end of the workshop. Most participants appreciated the open and informal way discussing current competing dynamic models and experimental approaches to study protein dynamics. The clear demand for more sophisticated neutron instruments to study dynamical phenomena in proteins and biological systems was expressed, but also the importance of complementing neutron data with NMR, dielectric spectroscopy and powerful Monte Carlo simulation studies was seen as vital. In particular, regarding the use of neutron spectroscopy, the participants were delighted about using new instruments (under construction or available) as the time-of-flight spectrometer ToFToF and the backscattering instrument SPHERES at FRM II, the new backscattering and time-of-flight spectrometers at SNS and the upgraded inelastic spectrometers at ILL. It makes common sense to use these experimental options and combine them with dedicated simulation efforts and complementary NMR studies to gain more insight into protein and water dynamics - an ongoing strong topic in the future.

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Mediterranean Sea Welcomes IV Biennial Meeting of the Spanish Society on Neutron Techniques

The Spanish Society on Neutron Techniques (SETN) held its fourth biennial meeting from September 8 to 10, 2008, at the marvelous Mediterranean seaside in Sant Feliu de Guixols (Girona). This three-day meeting offered the opportunity to review the topics on which the Spanish neutron scattering community and also engineering departments from some high-technology companies are currently working.

The meeting, chaired by Jose Luis Garcia-Munoz of the Instituto de Ciencia de Materiales de Barcelona (CSIC), was attended by almost 100 scientists from different countries and many neutron centers all over Europe, most of them a dynamic young generation of Spanish researchers ensuring a continuity of our community.

This fourth meeting had nine sessions, including three plenary presentations: reflectometry and SANS in soft-matter studies (by Jeffrey Penfold), magnetic structures determination (by Juan Rodriguez-Carvajal), and instrumentation concepts for long-pulse spallation sources (by Feron

Neutron News

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20 Years of Partnership Between Switzerland and the ILL – A Symposium at PSI on November 28, 2008

On May 13, 1988, the contract was signed, making Switzerland an official member country of the Institut Laue-Langevin 'ILL' in Grenoble, France. Since then a very fruitful partnership with manifold collaborations has been established.

On the occasion of the 20th anniversary of the Swiss ILL membership the 'Swiss State Secretariat for Education and Research' together with the Paul Scherrer Institut (PSI) invited for a dedicated symposium, which was held at PSI on November 28, 2008.

In his welcome address Paul E. Zschokke, from the Swiss State Secretariat, not only mentioned the successful history of the partnership, but also announced that the contract for the next five years has just been signed, continuing access to the ILL for the Swiss user community.

The new director of PSI - Joël F. Mesot - reminded of the many collaborations between Swiss users and the ILL: in particular he mentioned the use of polarised neutrons (Cryopad/ILL and Mapad/SINQ), the fruitful collaborations on hybrid time-of-flight spectrometers (IN4/IN6 concept influenced FOCUS/SINQ), and the PSI development of supermirrors (e.g. SINQ neutron guides), the project in its first review ii) the commitment of Regional and Central administrations to boost the project, iii) the support of a sectoral R&D strategy on accelerators technology, iv) the design review of the project, v) the possibility to install higher energy power, of great importance if a high magnetic field lab is setting up next to the source. Javier Campo, President of the SETN, declared the firm support to the ESS-Bilbao project.

On behalf of the organizers, the SETN would like to express its gratitude to all the participants and speakers. Special thanks are due to the Spanish Ministry of Science and Innovation, the ESS-Bilbao Consortium, the Spanish CSIC and the Materials Science Institute of Barcelona (ICMAB-CSIC) who organised this fruitful event. More information can be found at http://www.icmab.es/setsn/

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Meeting Reports

Juan Urrutia, President of the Executive Committee of the consortium ESS-Bilbao, in a moment of his vibrant presentation during the last day of the meeting.

Moreover, eight Spanish scientists working at different neutron sources reviewed the latest developments offered by these centers, and around 20 scientific talks illustrated the Spanish highlights on a wide variety of areas from purely scientific to applied studies. In addition, forty-three posters covered many areas of science that benefit from neutron techniques.

The General Assembly of the SETN took place the second day in a convivial atmosphere that continued during the conference dinner some hours later, at a seaside restaurant with view to one of the most beautiful bays of the Costa Brava.

The last day was dedicated to analyze and revisit the status of big upgrade programs and projects such as the TS-2 at ISIS, the Millennium Program at ILL, ESS, and so on. The experiences of technological companies actively working in the field of neutron instrumentation were also presented. The complementarity of neutrons and x-rays was stressed following the presentation of the current status of the Spanish synchrotron ALBA that is being built near Barcelona. Last news from ENSA and main aspects of the new NM13 program were presented and lively discussed. The closing session presented the new initiatives of the Spanish Ministry of Science and Innovation (MICINN) in the area of neutrons, announcing the intention to increase the Spanish participation at the Institute Laue Langevin from 4% to 6%, maintain the 2.5% of quota at the UK source ISIS, and increase the Spanish quota up to 45% for the well-known CRG-D1B at ILL.

This meeting gave unanimous support to the Spanish candidate hosting the European Spallation Source (ESS) facility in Bilbao. Juan Urrutia, then President of the Executive Committee of the consortium ESS-Bilbao, summarized some relevant aspects: i) the European Strategy Forum on Research Infrastructures (ESFRI) has approved the project in its first review ii) the commitment of Regional and Central administrations to boost the project, iii) the support of a sectoral R&D strategy on accelerators technology, iv) the design review of the project, v) the possibility to install higher energy power, of great importance if a high magnetic field lab is setting up next to the source. Javier Campo, President of the SETN, declared the firm support to the ESS-Bilbao project.

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