

NMI3: support for education

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NMI3, the Integrated Infrastructure Initiative for Neutron Scattering and Muon Spectroscopy, was created in 2003 to facilitate the integration of neutron and muon facilities, support the community of users and foster innovation in neutron and muon research and instrumentation.

NMI3, like all I3s, dedicates a part of its efforts to Networking activities. These activities include dissemination and outreach. The NMI3 website* for example, which was recently re-launched at www.nmi3.eu falls into this category, as does *Inside NMI3*, the new biannual newsletter for neutron and muon users and members of the scientific community wishing to know more about the N and M in NMI3's name.

For NMI3 and the neutron and muon community, Networking also means training and teaching.

Since its inception in 2003, NMI3 has supported the training of future generations of neutron and muon users, as part of its Education Activities. Until July 2011, European institutions could apply for NMI3 funding for a school through calls for proposals. The school proposals were then evaluated by a scientific committee and selected on the basis of their international impact and openness. Twenty-five individual schools, 36 schools in total were supported through calls in the first half of FP7.

As of 2012, NMI3 is supporting neutron and muon schools differently. In order to

Students at PSI Summer school in 2011. Picture courtesy of the organisers.



Students at the ISIS Muon school in 2012. Picture Stephen Kill, ISIS.



coordinate and make the various schools available to European scientists more coherent, NMI3 has decided to focus its efforts on a group of selected schools, occurring annually or every two years. Through the creation of this umbrella called the *European Neutron and Muon School*, NMI3 aims to improve the planning and scheduling of the European neutron and muon schools and to share resources and information between them. NMI3 has earmarked 415,000 euros for the next four years for the funding of the schools, which are well distributed over the year and over the European regions and will provide training to students with a variety of training needs and scientific interests.

To complement the schools, NMI3 is developing an e-learning resource, the *Virtual Neutrons for Teaching* platform, in close collaboration with researchers and students from the University of Copenhagen. The *Virtual Neutrons for Teaching* e-learning platform is aimed at university students and their teachers as well as scientists from other fields. The platform will be accessible from the NMI3 website (www.nmi3.eu). It will offer lesson material compiled by experienced neutron scientists, exercises, live neutron instrument simulations and virtual experiments. In addition, students will receive support and feedback on their work through forums for questions and discussion. The platform will also provide access to teaching material produced for the schools supported by NMI3.

Introduction to neutron and muon research

NMI3 supports schools offering an introduction to neutron and muon experimental techniques. In these schools, students are given an overview of the relevant

theoretical aspects of the techniques, as well as an opportunity to perform real experiments on state-of-the-art instruments from European neutron and muon facilities. These schools are important to introduce neutrons and muons and their many facets to PhD students and post-doctoral scientists embarking on a research program using neutrons and/or muons. Many of the students of past neutron schools supported by NMI3 are now eminent and internationally recognized neutron and muon users. The Jülich Laboratory Course Neutron Scattering, the Oxford Summer school on Neutron Scattering, the Berlin School on Neutron Scattering, the Central European Training School, Fan du LLB, HERCULES, the Italian Society for Neutron Spectroscopy school, the Baltic school (University of Latvia), the HZG Summer School (Helmholtz Zentrum Geesthacht) and the ISIS muon school fall into this category.

Thematic neutron schools

Neutron schools focusing on a specific neutron technique, analysis tool or scientific discipline are necessary to attend scientists looking for a more specific type of training. The FullProf school, the Paul Scherrer Institute Summer school on condensed matter, the Bombannes Summer School, and the Jaca School (University of Zaragoza) fall into this category. They complement the introductory schools and address topical subjects, which are updated regularly.

Communication

More information on upcoming schools as well as registration and contact details can be found in the Education section of NMI3's website*. School reports will regularly be published in the News and Media section of the website and

pictures of each school will be uploaded in its picture gallery. In addition, NMI3 will soon be distributing a brochure presenting the *European Neutron and Muon School* in institutions and universities across Europe.

** If you have not already done so, please register on the NMI3 website in order to receive regular information on schools and other matters.*