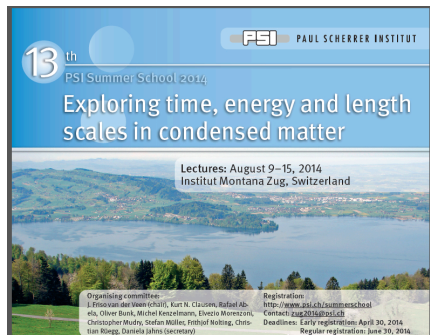


## Announcements

### PSI Summer School on Condensed Matter Research



The 2014 edition of the PSI Summer School on condensed matter physics is being dedicated to some of the main topics addressed at large-scale user facilities, such as neutron and muon sources or synchrotron photon sources: Exploring time, energy and length scales in condensed matter. International experts and PSI staff members will introduce and deepen your knowledge not only about these scientific topics but also about the main methods applied to understanding the phenomena which are presently at the forefront of modern solid-state physics and chemistry. The school will be organised from **August 9-15, 2014** on the

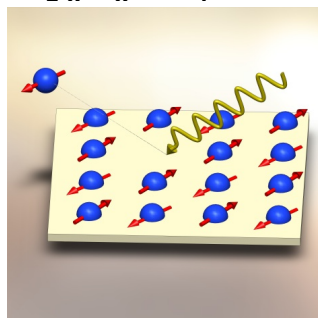
premises of the Institut Montana Zugerberg (international boarding school), Zug, Switzerland. Following the school, practical training at PSI is being offered to a limited number of participants. **More details:** [www.psi.ch/summerschool](http://www.psi.ch/summerschool)

### PSI-FELLOW/COFUND – International Fellowship Program for Postdocs at Paul Scherrer Institut

The new EU co-financed funding program PSI-FELLOW addresses international postdocs and offers these researchers the opportunity to perform their innovative scientific project in one of the four attractive scientific fields tackled at PSI: i) materials and matter, ii) life-sciences, iii) energy and environment and iv) accelerator technologies. The application has to be made together with a senior scientist at PSI, who will act as the fellow's mentor. The second **call will start on June 1, 2014 with deadline on August 4, 2014**. Please keep updated: <http://www.psi.ch/psi-fellow/>

## Research highlight

### Comprehensive study of the spin-charge interplay in antiferromagnetic $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$



**G. Drachuck et al, Nature Communications 5, 3390 (2014), DOI: 10.1038/ncomms4390**

The origin of the pseudogap and its relationship with superconductivity in the cuprates remains vague. In particular, the interplay between the pseudogap and magnetism is mysterious. Here we investigate the newly discovered nodal gap in hole-doped cuprates using a combination of three experimental techniques applied to one, custom made, single crystal. The crystal is an antiferromagnetic  $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$  with  $x=1.92\%$ . We perform angle-resolved photoemission spectroscopy measurements as a function of temperature and find: quasi-particle peaks, Fermi surface, anti-nodal gap and below 45 K a nodal gap. Muon spin rotation measurements ensure that the sample is indeed antiferromagnetic and that the doping is close, but below, the spin-glass phase boundary. We also perform elastic neutron scattering measurements and determine the thermal evolution of the commensurate and incommensurate magnetic order, where we find that a nodal gap opens well below the commensurate ordering at 140K, and close to the incommensurate spin density wave ordering temperature of 30K.

<http://www.psi.ch/info/psi-user-facilities-newsletter-i2014>