

AVVISO DI SEMINARIO

Venerdì 20 Febbraio 2015 alle ore 12:00 nell'Aula Seminari del Dipartimento di Scienze e
Tecnologie Chimiche, il

Prof. Felix Fernando Alonso

ISIS Rutherford Appleton Laboratory & University College London, UK

terrà un seminario dal titolo:

Chemical Dynamics and Spectroscopy with Pulsed Neutrons

Proponente: Prof. Silvia Licoccia

Abstract:

This talk provides an overview of current scientific capabilities and ongoing developments in chemical dynamics and spectroscopy at the *ISIS Pulsed Neutron and Muon Source*, Rutherford Appleton Laboratory, United Kingdom[1]. In particular, we emphasize the uniqueness of short-pulse spallation neutron sources to explore a broad range of structural and dynamical phenomena of chemical interest with unrivalled resolution, from relaxation phenomena and stochastic diffusion at sub-THz frequencies to atomic quantum thermometry using electron-volt neutron spectroscopy[2]. These capabilities remain unique to ISIS, with a growing number of applications in physical and materials chemistry, including the study of novel charge-storage media and carbon-based functional materials[3]. We also illustrate the pivotal role currently played by first-principles materials-modelling methodologies to interpret increasingly complex neutron-scattering experiments, as well as parallel infrastructure developments *in-situ* and *operando* studies under realistic conditions.

References

- [1] www.isis.stfc.ac.uk/groups/molecular-spectroscopy/
- [2] F. Fernandez-Alonso and D.L. Price (Eds), *Neutron Scattering – Fundamentals* (Academic Press, New York, 2013).
- [3] For some recent examples, see: www.isis.stfc.ac.uk/People/felix_fernandez-alonso5242.html