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Characterization of energy materials by neutron scattering

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The ISIS neutron and muon facility is a world-leading centre for research in the physical and life sciences at the STFC Rutherford Appleton Laboratory. Its two target stations give an unrivalled breadth of neutron science capabilities and have provided the blueprint for future neutron scattering facilities worldwide. ISIS supports a national and international community of more than 3000 scientists for research into subjects ranging from clean energy and the environment, pharmaceuticals and health care, through to nanotechnology and materials engineering, catalysis and polymers, and on to the fundamental studies of materials. The extensive characterisation facilities include neutron and muon instruments that can determine structure, molecular motion and ionic mobility at extremes of temperature and pressure. Neutron tomography experiments can also be performed to image devices to a resolution of 40 microns.

This presentation will introduce the ISIS neutron and muon facility at the Rutherford Appleton Laboratory, including descriptions of the instruments, techniques and capabilities at the facility. The characterisation of energy materials will be explained through a number of case studies ranging from solid oxide fuel cells, through electrolyte materials to conventional and unconventional hydrogen storage materials.

Biography

Martin Owen Jones is a professor at Science and Technology Facilities Council, UK. His international experience includes various programs, contributions and participation in different countries for diverse fields of study. His research interests as a Scientist reflect in his wide range of publications in various national and international journals.

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