

The FaME38 Engineering Laboratory

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The ILL and the ESRF are respectively the European centres for neutron and synchrotron radiation research and are located on a shared site in Grenoble, France. They are each probably the best in the world in their fields and jointly they are unique. Engineering research is now conducted at many Central Facilities worldwide, but rarely by engineers themselves because the facilities and equipment were in general designed for scientific, not engineering, research. Visiting engineers generally do not have an appropriate or sufficient scientific background to make use of the facilities, and most Local Contacts, who necessarily are scientists, do not have the specialist engineering knowledge that is required to provide the extra support that inexperienced engineering users need.

FaME38, the joint ILL-ESRF support Facility for Materials Engineering, was set up in 2001 as an additional on-site resource to remedy these deficiencies. Its objective is to encourage and to facilitate materials engineering research, by engineers, initially through developing strain-scanning capability. FaME38 provides a 'Knowledge Centre', a 'User Centre', and a 'Technical Centre', with facilities to pre-mount samples and to simulate scans off-line so as to optimise beam-time utilisation. It has materials engineering equipment including static and dynamic thermo-mechanical loading equipment and software to simplify data collection and processing and to enhance analysis. It is enabling the high potential for engineering research at Central Facilities to be realised efficiently and for that potential to be exploited academically and industrially.

The presentation describes the development and activities of FaME38 through its start-up phase that will be completed in June 2005. FaME38 support and resources are provided equally to all academic users of ILL and ESRF regardless of their national affiliations. It provides advice and assistance to academics with drafting proposals, preparation for and the conduct of experiments and with data analysis. It is also able to provide a full measuring service to industry.

Acknowledgements

FaME38 is financially supported by the UK EPSRC Grant GR/R48070 'FaME – A Joint Support Facility for Materials Engineering at ILL/ESRF' and by ILL and ESRF who provide matching on-site support. The grant and project are managed by Salford University on behalf of a UK consortium that includes the Universities of Salford, Manchester, Oxford, Loughborough, Imperial College, The Open University and CCLRC.