

Muon Spectroscopy in Condensed Matter

Overview

Muons are a valuable and versatile probe of condensed matter. The μ SR (muon spin rotation / relaxation / resonance) spectroscopic techniques are used to investigate magnetic, superconducting, semiconducting, molecular, ionic and metallic systems. The aim of the course on Muon Spectroscopy in Condensed Matter is to provide an overview of muons in condensed matter research.

This course is organized in 3 modules that should be taken together. The topics in Module A will expose the participants to the basics of muon and muon spectroscopy. Module B will cover application of μ SR to Magnetism, Superconductivity, Semiconductors, Charge Transport and Chemistry. Module C will cover complementary techniques to muon such as Neutron and NMR. Also we will give Virtual tour of ISIS muon facility at Rutherford Laboratory U. K. Each lecture on the topics listed below for about 1.0 hour and tutorials will be conducted by faculty members of Physics Department IISER Bhopal.

Modules	A: Introduction to μSR : May 20 - May 23 B: Applications of μSR : May 24 - May 26 C: Complementary Techniques & Overview of ISIS facility RAL U K : May 27 - May 27 Number of participants for the course will be limited to twenty five.
You Should Attend If...	<ul style="list-style-type: none">▪ you are a graduate student in Physics & Chemistry▪ you are a college/university teacher or researcher in Physics & Chemistry
Fees	The participation fees for taking the course is as follows: Participants from abroad: US \$100 Industry: Rs 5000 Academic Institutions: Rs 500 The above fee include all instructional materials.

The Faculty



Dr. Adrian Hillier is Muon Group Leader at ISIS facility at Rutherford Appleton Laboratory U. K. He has an active research programme investigating magnetic and superconducting systems using a wide range of techniques including muon-spin relaxation/rotation (μ SR), elastic and inelastic neutron scattering, heat capacity and magnetization. Adrian is an expert in μ SR and has published over 150 papers in this area alone in the last 10 years. After obtaining his Ph.D. at St. Andrews U. K., Adrian worked as an EPSRC post-doc and then as an instrument scientist at the Institut Laue-Langevin (ILL) France where he was co-responsible for the polarized neutron single crystal diffractometer, D3.

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Location

IISER Bhopal

Duration

May 20- May 27, 2016

Course Co-ordinator

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