

Frontiers of Muon Spectroscopy

Celebrating 25 years of μ SR at ISIS and
marking the recent retirement of Steve Cox

17-18 September 2012, St Hugh's College, Oxford, UK

Monday, September 17th

10:30-11:00 Refreshments

Session A: Novel technique to novel research

(Philip King)

11:00-11:10 Welcome
Uschi Steigenberger (STFC)

11:10-11:50 ISIS μ SR: The first 25 years
Steve Cox (STFC)

Session B: Semiconductors

(Ted Davis)

11:50-12:30 Muonium in Semiconductors as a Model for Hydrogen Impurities
Roger Lichti (Texas Tech University)

12:30-13:30 Lunch

Session B: Semiconductors (continues)

(James Lord)

13:30-13:55 Hydrogen in high-k dielectric oxides modelled by muonium
Rui Vilao (University of Coimbra)

13:55-14:20 Hydrogen impurities, native defects and surface states in semiconductors: the role of μ SR and the charge neutrality level
Tim Veal (University of Liverpool)

14:20-15:05 Refreshments and posters

Session C: Superconductivity and Magnetism I

(Peter Baker)

- 15:05-15:45 Dilution in frustrated magnets and in iron-based superconductors
Pietro Carretta (University of Pavia)
- 15:45-16:10 Odd-frequency pairing in $(\text{TMTSF})_2\text{ClO}_4$
Francis Pratt (STFC)
- 16:10-16:35 Neutron scattering and μSR studies of spin gap formation in the caged compounds $\text{CeT}_2\text{Al}_{10}$ (T = Fe, Ru, Os)
Devashibhai Adroja (STFC)
- 16:35-16:50 Unconventional superconductivity in non-centrosymmetric Ru_7B_3
Natalia Parzyk (University of Warwick)

16:50-17:05 Break

Session D: ISIS Facility User Meeting

(Alan Drew/Philip King)

- 17:05-17:20 ISIS Update
Philip King (STFC)
- 17:20-17:35 RIKEN-RAL Update
Katsu Ishida (RIKEN-RAL)
- 17:35-17:50 PSI Update
Thomas Prokscha (PSI)
- 17:50-18:10 Potential applications of DFT
Francis Pratt (STFC) / Johannes Moeller (University of Oxford)
- 18:10-18:20 Laser excitation – A new direction for μSR
Alan Drew (Queen Mary, University of London)
- 18:20-18:50 Discussion

19:30-20:00 Pre-Dinner Drinks

(with the Oxford Fiddle Group)

20:00-00:00 Dinner

Tuesday, September 18th

Session E: Chemistry

(Mark Telling)

- 09:00-09:40 Catch me if you can! Studying transient radicals using muon spin spectroscopy
Iain McKenzie (TRIUMF / Simon Fraser University)
- 09:40-10:05 Synergy between theory and muon-spin resonance in radical chemistry, specifically for anti-oxidants, catalysis and polymerisation
Greg Chass (Queen Mary, University of London)
- 10:05-10:30 Rates of Interfacial Transfer by ALC Muon Spectroscopy
Nigel Clayden (University of East Anglia)
- 10:30-10:45 Determining the regiochemistry of mixed valent [Fe(I)Fe(II)]-hydrogenase complexes using Muon Spectroscopy and DFT calculations
Jamie Peck (University of East Anglia / STFC)

10:45-11:15 Refreshments

Session F: Functional Materials

(Francis Pratt)

- 11:15-11:55 Magnetoelectric coupling probed with muon spin rotation
Alan Drew (Queen Mary, University of London)
- 11:55-12:20 The hydrogen interaction with defective graphene and the μ SR
Matteo Aramini (University of Parma)
- 12:20-12:45 Muon-spin relaxation study on Li- and Na-diffusion in solids
Jun Sugiyama (Toyota Central Research and Development Laboratories)
- 12:45-13:00 Muon diffusion in hcp metals
Ola Hartmann (Uppsala University)

13:00-14:00 Lunch

Session G: Superconductivity and Magnetism II

(Adrian Hillier)

- 14:00-14:40 Quantum kagome spin liquids
Philippe Mendels (Université Paris-Sud)
- 14:40-15:05 The ground states of molecular magnets revealed with muon spectroscopy
Tom Lancaster (University of Durham)
- 15:05-15:45 Keeping your finger on the pulse - the next 25 years of ISIS μ SR
Steve Blundell (University of Oxford)

15:45: Close of meeting

15:45 Refreshments



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