

Magnetism 2016

4–5 April 2016, Cutler's Hall, Sheffield, UK

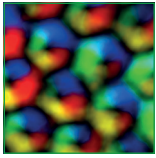
Organised by the IOP Magnetism Group
 Student support by the UKRI Chapter of IEEE Magnetics Society
 Sponsored by EPSRC

<http://magnetism2016.iopconfs.org>

Programme

Monday 4 April

09:00	Registration <i>First Floor, Drawing room</i>	
	Strain effects on magnetism <i>The Hadfield Hall</i> Welcome and Chair: Dan Allwood, University of Sheffield	Correlated electrons I <i>The Old Banqueting Hall</i> Welcome: Gonzalo Vallejo Fernandez, University of York Chair: Christy Kinane, STFC
10:00	(IEEE Distinguished Lecture) Magnetics + mechanics + nanoscale = electromagnetics future Greg Carman, University of California at Los Angeles, USA	Using Hall probe imaging to study the first-order magnetic phase transitions in magnetocaloric La(Fe,Si)₁₃ and Heusler alloys Edmund Lovell, Imperial College London, UK
10:15		Coexistence of magnetic order and valence fluctuations in a novel Kondo lattice system Ce₂Rh₃Sn₅ Monika Gamza, Jeremiah Horrocks Institute, University of Central Lancashire, UK
10:30	Manipulating domain walls with surface acoustic waves Tom Hayward, University of Sheffield, UK	Field induced incommensurate magnetic structure in Holmium Tetraboride Daniel Brunt, The University of Warwick, UK
10:45	Tuning domain wall creep velocity with piezoelectric strain: the effect of perpendicular magnetic anisotropy and the Dzyaloshinskii-Moriya interaction Philippa Shepley, University of Leeds, UK	Magnetocalorics for magnetic refrigeration – prospects Lesley Cohen, Imperial College London, UK
11:00	Manipulating the chirality of vortex domain walls with mechanical strain Andrew Rushforth, University of Nottingham, UK	Tuning phase transitions and the magnetocaloric effect of La(Fe,Si)₁₃ alloys Precious Shamba, University of Sheffield, UK
11:15	Refreshment break <i>The Main Hall</i>	
	Spin excitations and nano-oscillators <i>The Hadfield Hall</i> Chair: Bryan Hickey, University of Leeds	Induced magnetism & organic semiconductors <i>The Old Banqueting Hall</i> Chair: Tom Thomson, The University of Manchester
11:45	Super-harmonic injection locking of a nano-contact spin-torque vortex oscillator Paul Keatley, University of Exeter, UK	(Invited) Emergent magnetism at metallo-molecular interfaces Oscar Cespedes, University of Leeds, UK
12:00	Dynamic processes in spin Hall nano-oscillators driven by AC and DC currents Tim Spicer, University of Exeter, UK	
12:15	Interface coupling of spin waves in permalloy/Ru/permalloy multilayer nanowires: ferromagnetic resonance and theory Michael Cottam, University of Western Ontario, Canada	2D-ferrimagnetic ordering in a chessboard-like molecular layer on Au(111) Jan Nowakowski, Paul Scherrer Institute, Switzerland
12:30	Switching single-atom spin excitations on and off Benjamin Bryant, Radboud University, Netherlands	Temporal mapping of excitonic wavefunctions with carbon specificity Alan Drew, Queen Mary, University of London, UK
12:45	Magneto-optical coupling in whispering gallery mode resonators James Haigh, Hitachi Cambridge Laboratory, UK	The magnetic field dependent crossover between hyperfine and spin-orbit interactions in organic semiconductors Ke Wang, Queen Mary University of London, UK



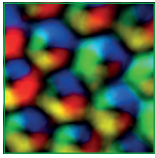
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Monday 4 April continued

13:00	Exhibition and Lunch <i>The Main Hall</i>	
	Thin films and nanomagnetism <i>The Hadfield Hall</i> Chair: Tom Hayward, University of Sheffield	Computational I <i>The Old Banqueting Hall</i> Chair: Julie Staunton, University of Warwick
14:30	Controlled Dzyaloshinskii-Moriya interaction and Slonczewski-like torque in epitaxial trilayers of Pt/Co/Pt_{1-x}Au_x Kowsar Shahbazi, University of Leeds, UK	(Invited) Multiscale modelling of bloch point dynamics in magnetic nanowires Riccardo Hertel, University of Strasbourg, France
14:45	Tuning the Dzyaloshinskii-Moriya interaction via interface engineering in epitaxial Co/Pt Adam Wells, University of Leeds, UK	
15:00	Current-induced magnetization reversal in Pt/Co/Pt multilayers using spin-orbit torques Richard Rowan-Robinson, Durham University, UK	Control of magnetic vortex position in a patterned nanoscale ferromagnetic disc via applied magnetic field pulses Angus Laurenson, University of Exeter, UK
15:15	Temperature dependence of magnetic dead layer thicknesses in ferromagnetic thin-films Mustafa Tokac, Durham University, UK	Monopole dynamics following thermal quenches in spin ice Marianne Haroche, University of Cambridge, UK
15:30	The thermal and spin diffusion properties of Py/Ag/Py lateral spin valves Georgios Stefanou, University of Leeds, UK	Multi-scale modelling of magnetisation reversal induced by spin transfer torque Matthew Ellis, Trinity College Dublin, Ireland
15:45	Influence of damping on magnetization reversal in edge modulated NiFe/Pt nanowires Jeovani Brandão, Durham University, UK	Complex spin configurations in hybrid magnetic multilayer structures due to mutual spin imprinting for multi-functional magneto-logic devices Gino Hrkac, University of Exeter, UK
16:00	Refreshment break <i>The Main Hall</i>	
16:30	(Plenary) From south-pointing chariot to pure spin current, the never-ending saga of magnetism Chia-Ling Chien, Johns Hopkins University, USA <i>The Hadfield Hall</i> Chair: Rob Hicken, University of Exeter	
17:30	Exhibition, poster session and bierstube <i>The Main Hall</i>	
19:30	Conference Dinner – Sponsored by Durham Magneto-Optics <i>The Cathedral</i>	

Tuesday 5 April

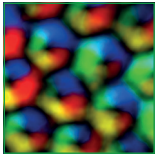
09:00	(Wohlfarth Lecture) Antiferromagnetic spintronics: Large magnitude magneto-resistance effects and current controlled switching Joerg Wunderlich, Hitachi Cambridge Laboratory, UK and Institute of Physics of the ASCR, Czech Republic <i>The Hadfield Hall</i> Chair: Robert Stamps, University of Glasgow	
10:00	Refreshment break <i>The Main Hall</i>	
	Spintronics <i>The Hadfield Hall</i> Chair: Lesley Cohen, Imperial College London	Computational II <i>The Old Banqueting Hall</i> Chair: Gonzalo Vallejo Fernandez, University of York
10:30	(IEEE Distinguished Lecture) The magnetism of oxides Professor Josep Fontcuberta, Institut de Ciència de Materials de Barcelona, Spain	Uncovering the mystery of pinned interfacial spins responsible for exchange bias Sarah Jenkins, University of York, UK
10:45		Ab-initio theory for the first order ferrimagnetic-antiferromagnetic phase transition in magnetocaloric Mn₂Sb-based compounds Eduardo Mendive Tapia, University of Warwick, UK
11:00	Separating the interfacial contributions to the anomalous Hall-like effect in YIG/Pt bilayers Amy Westerman, University of Leeds, UK	Atomistic spin dynamics and temperature dependent properties of Nd₂Fe₁₄B Richard Evans, University of York, UK



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Tuesday 5 April continued

11:15	Spin Seebeck effect in Fe₃O₄ thin films Kelly Morrison, Loughborough University, UK	Double exchange ferromagnetism in (111) oriented manganite superlattices Fabrizio Cossu, King Abdullah University of Science and Technology, Saudi Arabia
11:30	The Rashba spin-orbit interaction in germanium quantum wells Christopher Morrison, University of Leeds, UK	Thermal transport in thin metallic films excited by femtosecond optical pulses Callum Vincent, University of Exeter, UK
11:45	Anisotropy imprinting through spin pumping Alexander Baker, University of Oxford, UK	
12:00	EPSRC Meeting followed by the IOP Magnetism Group AGM <i>The Hadfield Hall</i>	
12:45	Exhibition, Lunch and Posters <i>The Main Hall</i>	
	Synchrotron techniques <i>The Hadfield Hall</i> Chair: Thomas Moore, University of Leeds	Nanoparticles <i>The Old Banqueting Hall</i> Chair: Alan Drew, Queen Mary, University of London
14:00	(Invited) Magnetic thin film topological insulators Gerrit van der Laan, Diamond Light Source, UK	Perpendicularly magnetized particles for cancer therapies Rhodri Mansell, University of Cambridge, UK
14:15		Synergy between different types of nanoparticles to improve magnetic hyperthermia David Serantes, University of York, UK
14:30	Investigation of dissipative magnetic solitons using x-ray holography with extended references Erick Burgos Parra, University of Exeter, UK	Magnetic surfactants as molecular based-magnets with spin glass-like properties Peter Baker, ISIS, STFC Rutherford Appleton Laboratory, UK
14:45	Skyrmion bubble dynamics and room temperature chiral skyrmions Christoforos Moutafis, University of Manchester, UK	Beyond LRT: Validity range of particle properties identification based on LRT Sergiu Ruta, University of York, UK
15:00	Resonant elastic X-ray scattering on a multidomain skyrmion lattice in Cu₂₀SeO₃ Shilei Zhang, University of Oxford, UK	Experimental investigation of magnetically controlled ferromagnetic swimmers Joshua Hamilton, University of Exeter, UK
15:15	Refreshment break <i>The Main Hall</i>	
	Spin ice <i>The Hadfield Hall</i> Chair: Claudio Castelnovo, University of Cambridge	Correlated electrons II <i>The Old Banqueting Hall</i> Chair: Heather Lewtas, BAE Systems (Operations) Ltd
15:45	Local manipulation of the magnetic state of large area nanomagnetic arrays Will Branford, Imperial College London, UK	(Invited) Magnetic properties of quantum spin ice Martin Lees, University of Warwick, UK
16:00	Magneto-transport measurements of a dipolar coupled Kagome artificial spin ice lattices Simon Olivari, Cardiff University, UK	
16:15	Vogel-Fulcher-Tammann type freezing of the magnetization dynamics in Artificial Spin-Ice Jose Maria Porro, ISIS, STFC, UK	Quantitative analysis of magnetic diffuse neutron scattering in Gd-pyrochlores Ross Stewart, ISIS, STFC, UK
16:30	Nanomagnetic field-driven thermal mobility of emergent monopoles in artificial spin ice Sophie A Morley, University of Leeds, UK	Frustrated magnetism in the lanthanide zirconate pyrochlores, Ln₂Zr₂O₇ (Ln = Pr-Gd) Monica Ciomaga Hatnean, University of Warwick, UK
16:45	Cobalt nanowires grown by focused electron beam induced deposition for applications in 3D nanomagnetism Amalio Fernandez-Pacheco, University of Cambridge, UK	Strong Coupling of hybrid nuclear-electron magnons to microwave resonator Leonid Abdurakhimov, University of Cambridge, UK
17:00	Conference closes	



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Poster programme

P1. Fabrication and characterisation of magnetostrictive amorphous FeGaSiB thin films

Qayes Aldulaim, University of Sheffield, UK

P2. Theory of spin-wave instability thresholds for ferromagnetic nanowires under parallel pumping

Zahra Haghshenasfard, Uwo, Canada

P3. Measuring element specific time-resolved magnetic phenomena

David Burn, Diamond Light Source, UK

P4. Magnetocaloric Effect (MCE) in Lanthanide Orthoborates LnBO₃

Paromita Mukherjee, University of Cambridge, UK

P5. Doping effect on quantum spin liquid in frustrated one-dimensional LiCuSbO₄

Hajime Shinohara, University of Cambridge, UK

P6. Micromagnetic simulations of the dependance of sintered Nd-Fe-B permanent magnets performance on processing conditions

Ghaiath A. Fadhil, University of Sheffield, UK

P7. Inverted band structures in III-V semiconductor quantum wells for spintronic devices

Craig Knox, University of Leeds, UK

P8. Novel spin injection into graphene

Jack Warren, The University of Manchester, UK

P9. Weak antilocalization as evidence of the spin-orbit interaction in the trivial phase of topologically insulating InAs/GaSb Quantum Wells

Franz Herling, University of Leeds, UK

P10. Magnetic depth profile of CoFeTaB/Pt interfaces for spin-Hall magnetoresistance

Oto-obong Andrew Inyang, Durham University, UK

P11. Domain wall chirality conservation in ferromagnetic nanowires with triangular modulated edges

Jeovani Brandão, Durham University, UK

P12. Micromagnetic simulations of the dependance of sintered Nd-Fe-B permanent magnets performance on processing conditions

Ghaiath A. Fadhil, University of Sheffield, UK

P13. Towards Realization of Strong Coupling between the Magnon Mode of a Microscale Ferromagnet and a Microwave Resonator

Leonid Abdurakhimov, University of Cambridge, UK

P14. Magnetic circuits – how the complex permeability got its hump

Nicolas Hamilton, UK

P15. Beamline I21 - Resonant inelastic x-ray scattering (RIXS) at Diamond Light Source

Andrew Walters, Diamond Light Source, UK

P16. Characterisation of grain orientated electrical steels under high DC biased conditions

Christopher Harrison, University of Cardiff, UK

P17. Zoom, a polarised small angle neutron scattering instrument in ISIS TS₂

Diego Alba Venero, STFC/ISIS, UK

P18. Coupled magneto-elastic phase transition in MnCoGe alloy ribbons

Aris Quintana Nedelcos, Marmara University, Turkey

P19. A statistical spin torque model

Jennifer Talbot, University of Manchester, UK

P20. Polarised neutron reflectometry at ISIS

Nina-Juliane Steinke, ISIS, STFC Rutherford Appleton Laboratory, UK

P21. Electropolishing of Aluminium in a magnetic field

Amir Sajad Esmaeily, Trinity College Dublin, Ireland

P22. Effect of sink layer thickness on damping in CoMnGe (5 nm)/Ag (6 nm)/NiFe (x nm) spin valves

Rob Valkass, University of Exeter, UK

P23. The effects of multiple anisotropy axes on the magneto-electric coupling in multiferroic composites

Steven Bourn, UCLAN, UK

P24. Microcalorimetry studies on the magnetocaloric Heusler alloy Ni₂Mn_{1-x}Cu_xGa_{0.8}Al_{0.2}

Luiz Silva, UFRJ, Brazil

P25. Spin reorientation transitions in the pseudobinaries Ho_{1-y}Gd_yAl₂

Luiz Silva, UFRJ, Brazil

P26. The role of heat-treatment on the microstructure and coercivity of Spark Plasma Sintered Sm₂Co₁₇

Alex Mackie, The University of Sheffield, UK

P27. First Principle Calculation of the Magnetic Properties of Mn-doped 6H-SiC

Maya Al-Azri, Ministry of Education, Oman

P28. Composition and ordering dependent antiferromagnetic properties of IrMn alloys

Sarah Jenkins, University of York, UK

P29. The role of damping constant at in ECC Media for Heat Assisted Magnetic Recording

Razvan Ababei, York University, UK

P30. Helicity-dependent all-optical magnetic switching via the Landau-Lifshitz-Bloch equation

Chudong Xu, University of York, UK

P31. Multi-scale modelling of interfacial stress in magnetic systems

Alexander Wynn, University of Sheffield, UK

P32. The Origin of MCD from defect states in Magnetic oxides

Fatma Gerriu, University of Sheffield, UK

P33. Analytical and numerical studies of exchange-dipole spin waves in magnonic waveguides

Fedor Mushenok, University of Exeter, UK

P34. Theory of Plane Spin Wave Emission from a Rectangular Anisotropy Defect

Natalie Whitehead, University of Exeter, UK

P35. Suppression of Stochastic Domain Wall Pinning Through Modified Gilbert Damping In Permalloy Nanowires

Thomas Broomhall, University of Sheffield, UK

P36. Atomistic modelling of domain wall thicknesses in Nd₂Fe₁₄B

Samuel Westmoreland, University of York, UK

P37. The effect of vacancies on the magnetism and thermoelectric properties of hierarchical marcasite FeSe₂

Guowei Li, University of Groningen, Netherlands

P38. Electrical control of thin Film Magnetolectric Hexaferrites

James Beever, University of York, UK

P39. X-Ray Detected Ferromagnetic Resonance (XFMR)

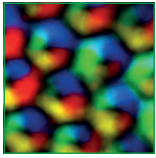
Alexander Baker, University of Oxford, UK

P40. Helical magnetic structure in Fe_{1-x}Co_xGe epilayers

Charles Spencer, University of Leeds, UK

P41. Electric-field control of magnetic properties in multiferroic heterostructures

Weigang Yang, University of Sheffield, UK



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P42. Strategies for enhancing the transition temperature of magnetically-doped topological insulator thin films

Adriana Isabel Figueroa-Garcia, Diamond Light Source, UK

P43. The phase diagram of monolayer chiral magnet skyrmion model

Yifan Zhou, University of York, UK

P44. Effect of annealing temperature on the Dzyaloshinskii-Moriya Interaction (DMI) in Ta/CoFeB/MgO thin films

Risalat A-Khan, University of Leeds, UK

P45. Investigation of changing velocity asymmetry of chiral domain walls in Pt/Co/Ir/Ta multilayers

Kowsar Shahbazi, University of Leeds, UK

P46. Micromagnetic simulations of frustrated arrays of Gadolinium Islands

Matthew McMullan, Queen's University Belfast, UK

P47. Grain size observations of FePt thin films for high density data storage

David Huskisson, University of Manchester, UK

P48. Electronic structure analysis of magnetite nanoparticles using XMCD

Christopher Love, University of York, UK

P49. Asymmetry in anomalous Hall effect measurements of bilayer magnetic islands

Rhys Griffiths, University of Manchester, UK

P50. Spin ordering at the interface between diamagnetic Cu/amorphous Carbon

Shoug Alghamdi, University of Leeds, UK

P51. PLD growth of Zinc Oxide Films for Magnetic Materials

Ahmad Mohammad A Saeedi, University of Sheffield, UK

P52. Observation of skyrmion bubbles in [Pt/Co/Ir] multilayer discs at room temperature

Katharina Zeissler, University of Leeds, UK

P53. Magneto-optics properties of Graphite and Graphene

Wala Dizayee, University of Sheffield, UK

P54. Preparation of Thin Iron Oxides Films By PLD

Aliaa M Zaki, University of Sheffield, UK

P55. Control over magnetisation states of nanostructures via injection of 360 degree domain walls

Jack Carter Gartside, Imperial College London, UK

P56. Electrical transport properties of micro fabricated FeRh films

Kenta Matsumoto, University of Tokyo, Japan

P57. Characterisation of magnetic-oncolytic viral complexes for targeted cancer therapy

Haider AL-Janabi, University of Sheffield, UK

P58. Spin-wave excitation by a resonant microwave-to-spin-wave transducer

Fedor Mushenok, University of Exeter, UK

P59. Fabrication and analysis of FeRh/FePt bilayers

Craig Barton, University of Manchester, UK

P60. The metamagnetic transition in NiAl-buffered FeRh films grown on GaAs

Jamie Massey, University of Leeds, UK

P61. Ballistic Rectification of Vortex Domain Wall Chirality at Nanowire Corners

TJ Hayward, University of Sheffield, UK

P62. Reflectometry study of the surface and interface in FeOx/Pt bi-layers for use in spin Seebeck devices

Andrew Caruana, Loughborough University, UK

P63. Imaging defects in magnetic junctions using scanning electron microscopy

Edward Jackson, University of York, UK

P64. Electrical manipulation of magnetism at the ferromagnetic/molecular interface

Matthew Rogers, University of Leeds, UK

P65. Magnetic ordering in Cr doped Sb₂Te₃ thin films

Liam Duffy, Oxford University/ISIS, UK

P66. Kerr imaging of the metamagnetic transition in FeRh

Rowan Temple, University of Leeds, UK

P67. Two-photon lithography for 2D magnetic nanostructure fabrication

Ifan Williams, Cardiff University, UK

P68. Voltage induced electrochemical control of ferromagnetic properties of Ni₈₀Fe₂₀ thin films

Jonathan Wood, University of Sheffield, UK

P69. Controlling the emergent magnetism at metallo-molecular interfaces

Fatma Al Ma'Mari, University of Leeds, UK

P70. Sensitivity of VNA-FMR on NiFe thin films

August Johansson, University of Manchester, UK

P71. Time-resolved holography with extended reference by autocorrelation linear differential operator (HERALDO) imaging of nano-scale magnetic vortex dynamics

Nicholas Bukin, University of Exeter, UK

P72. A modified sol-gel synthesis of lanthanum strontium manganate magnetic nanoparticles for hyperthermia treatment

Solveig Felton, Queen's University of Belfast, UK

P73. Multiscale atomistic simulations of the temperature dependent properties of Fe/MgO(001) ultrathin films

Andrea Meo, University of York, UK

P74. Magnetic and electrical properties of electro-deposited Nickel nanowires

René Dost, University of Sheffield, UK

P75. Coercivity Tuning of Fe₃O₄ thin films

Ruth Bradley, University of Sheffield, UK

P76. Competing Interactions, magnetization dynamics and switching processes in Doped Rare-earth Manganites nanostructural system

Wiqar Hussain Shah, International Islamic University, Pakistan

P77. Muon Relaxation Study on the Magnetism of CP*-Tm-COT Single-Ion Magnet

Zhengqiang Yang, Queen Mary University of London, UK

P78. Production of magnetic nanoparticle arrays on surfaces from solution using top-down patterning and bottom-up biotemplating for future nanodevices

Rosie Jarrald, University of Sheffield, UK

P79. Exciton dynamics in organic materials probed by muon spin relaxation

Jingliang Miao, Queen Mary University of London, UK

P80. Tailoring magnetism in complex oxide nanomagnets

Erik Folven, Norwegian University of Science and Technology, Norway

P81. Development of a CPP-GMR Heusler Alloy Junction

William Frost, University of York, UK

P82. Heusler alloys replacement for Iridium

Atsufumi Hirohata, University of York, UK

P83. Racetrack memory concept using exchange-bias pinning

Atsufumi Hirohata, University of York, UK

P84. Origin of synthetic antiferromagnetism at the Fe/Fe₃O₄ interface

Andrew Pratt, University of York, UK

P85. Unusual behaviour of GdMnO₃ films on LSAT

Gillian Gehring, University of Sheffield, UK