

Programme: Research Conference



Computation meets Experiment

[Each experimental talk 25mins+5mins questions, each theory/computational talk 20mins+5mins questions]

All lectures take place in the Physics Lecture Theatre (PLT) in the Physics Department (48 on campus map)

Saturday 13 July

13.00 Registration - Physics Concourse, Physics Department (48 on campus map)

13.45 Conference starts - Physics Lecture Theatre (PLT) Welcome (Julie Staunton, University of Warwick)

Session 1

14.00 Nicholas Plumb (Swiss Light Source) *The one-two punch of angle-resolved photoemission and resonant inelastic*

x-ray scattering: Examples from complex oxides

14.30 Matti Lindroos (Tampere University of Technology) *Computational ARPES, beyond spectral functions*

14.55 Friedel Reinert (University of Wuerzburg) *Kondo and Correlation in Angle Resolved Photoemission Spectroscopy*

15.25 Jurgen Braun (LMU Munich) *Spectroscopical properties of topological insulators: dichroism, final-state effects and Rashba physics*

15.50 -16.10 Discussion

Coffee (**Physics Concourse**)

Session 2

16.30 Heiko Wende (Universität Duisburg-Essen) *Magnetic coupling in molecular spin hybrid systems: experiment and theory*

17.00 Samir Lounis (Forschungszentrum Juelich) *Theory of dynamical magnetic excitations in itinerant nanomagnets*

17.25 Gleb Parakhonskiy (ESRF) *Search for structure of 3d-metals melts under high pressure with XANES*

17.55 John Rehr (University of Washington) ***Extensions of the Real-space Green's Function Approach for Calculations of X-ray Absorption and Inelastic Scattering***

18.20 -18.40 Discussion

(Poster boards available)

19.30 Dinner (**Rootes Restaurant**, building 54)

Sunday 14 July

8.45 start

Session 3

8.50 Elizabeth Blackburn (University of Birmingham) ***Interpreting signatures of CDW order in the normal state of underdoped cuprates***

9.20 Martin Gradhand (University of Bristol) ***Kerr rotation and Hall effects in unconventional superconductors***

9.45 Stephen Dugdale (University of Bristol) ***Allying theory to positron annihilation experiments***

10.15 Durga Paudyal (Ames Lab.) ***Rare earth based materials: play ground for theory, computation and experiment***

10.40-11.00 Discussion

Coffee (**Physics Concourse**)

Session 4

11.20 Geetha Balakrishnan (University of Warwick) ***Synthesis and study of Topological Insulators: bulk crystalline and nanomaterials***

11.50 Arthur Ernst (MPI Halle) ***First-principles design of complex oxides***

12.15 Jon Duffy (University of Warwick) ***What can we learn from magnetic Compton scattering?***

12.45-13.00 Discussion

13.00 Lunch (**Rootes Restaurant**, building 54)

13.30-15.00 Posters (including poster shouts?) **Physics Concourse**

Session 5

15.00 Jan Honolka (ASCR Prague) *X-ray absorption spectroscopy of magnetic atoms coupled to topological insulators*

15.30 Peter Krueger (Chiba University) *Polarization and spin dependent resonant photoemission: what can we learn?*

15.55-16.10 Discussion

Coffee (**Physics Concourse**)

16.30 Saskia Fischer (Humboldt University Berlin) *Combined structural, electronic and transport investigations of thickness-dependent properties from undoped topological insulator Bi₂Se₃ microflakes*

17.00 Hubert Ebert (LMU Munich) *Ab-initio calculation of the Gilbert damping parameter for transition metal alloys by means of a linear response theory*

17.25 Hisazumi Akai (University of Tokyo) *A new formalism for Keldysh Green's functions in the KKR method*

17.50 Jan Zemen (University of Nottingham) *Tunneling Anisotropic Magnetoresistance (TAMR) in tunnel junctions with ferromagnetic and antiferromagnetic electrodes*

18.15-18.30 Discussion

19.30 Conference Dinner (**Chancellors Suite, Rootes Building, 54**)

Monday 15 July

8.45 start

Session 6

8.50 Khalil Zakeri (MPI Halle) *Magnetic excitations in ultrathin ferromagnetic films: The role of spin-orbit coupling*

9.20 Laszlo Szunyogh (Budapest University of Technology and Economics) *Using the Relativistic Disordered Local Moment scheme for itinerant magnetism at finite temperatures*

9.45 Wulf Wulfhekel (KIT) *Dynamic magnetic excitations in atoms and clusters - from femto seconds to minutes*

10.15 Ilja Turek (ASCR Brno) *Tunnelling anisotropic magnetoresistance in epitaxial junctions from ab initio and semi-empirical theory*

10.40-11.00 Discussion

Coffee (**Physics Concourse**)

11.20 Phivos Mavropoulos (Forschungszentrum Juelich) *Anisotropy of spin relaxation in metals and metallic films*

11.45 Chris Marrows (University of Leeds) ***Spin-polarisation and skyrmions in Co-doped FeSi epilayers***

12.15 -12.30 Discussion

12.30 Lunch (**Physics Concourse**)

Session 7

13.30 Rudi Zeller (Forschungszentrum Juelich) ***KKR Green-function techniques for electronic structure calculations at the nanoscale***

13.55 Christian Heiliger (University Giessen) ***Spin-dependent transport in tunnel junctions with magnetic alloys: Importance of vertex corrections***

14.20 Markus Daene (LLNL) ***Self-Interaction Free and Analytic Treatment of the Coulomb Energy in Kohn-Sham Density Functional Theory***

14.45-15.30 Discussion and closing remarks

15.30-16.00 Coffee (**Physics Concourse**)

16.00-17.00 ***Widening participation*** closed session

Contact us

Telephone: +44 (024) 765 23965 Fa:
Email: physicsadmin@warwick.ac.uk

Page contact: [Taherah Nureen](#)

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