Curriculum Vitae of Prof. A. P. Mackenzie

Name: Andrew Peter Mackenzie
Date of Birth: 07.03.1964
Nationality: British

Present Positions: Director
Department Physics of Quantum Materials
Max Planck Institute for Chemical Physics of Solids
Nöthnitzer Straβe 40
01187 Dresden
Germany
Tel: +49 351 4646 5900
E-mail: andy.mackenzie@cpfs.mpg.de

Professor of Condensed Matter Physics,
School of Physics and Astronomy,
University of St. Andrews,
North Haugh, St. Andrews,
Fife KY16 9SS, Scotland.

Education: University of Edinburgh (1982-86): BSc (1st class Hons.) in Physics.
University of Cambridge (1987-91): PhD in Physics.

Prizes, Bursaries and Fellowships

1991 The Charles and Katherine Darwin Research Fellowship, Darwin College, Cambridge.
1993 Royal Society University Research Fellowship.
1999 Mott Lecturer at the Condensed Matter and Materials Physics conference of the UK Institute of Physics.
2001 Fellow of the Institute of Physics.
2004 Fellow of the Royal Society of Edinburgh.
2004 Daiwa-Adrian Prize for collaborative UK-Japanese research achievement.
2007 Ehrenfest Lecturer, Leiden, Netherlands.
2008 Foreign Associateship, Canadian Institute for Advanced Research.
2011 Royal Society-Wolfson Research Merit Award.
2011 Mott Medal and Prize of the UK Institute of Physics.
2012 Fellow of the American Physical Society.

Visiting Scholar / Professorships

1995 Centro Atómico de Bariloche, Argentina
2003 Stanford University, USA

2004 Kyoto University, Japan
2006 Cornell University, USA
2009 National Institute for Material Science, Tsukuba, Japan
Salerno University, Italy
2010 Stanford University

Research Experience

1985 Vacation studentship at CERN, Geneva, working on muon chamber group for "L3" experiment under Professor U. Becker (MIT).
1986-87 One year contract at CERN to continue research on L3 experiment.
1987-91 PhD entitled 'The role of stoichiometry in high temperature superconductivity' under the supervision of Prof. G. G. Lonzarich FRS.
1991-93 Research Associate at the IRC in Superconductivity, University of Cambridge.
1993-97 Royal Society University Research Fellow at the IRC in Superconductivity.
1997-2001 Royal Society University Research Fellow and Honorary Reader in Condensed Matter Physics at the University of Birmingham.
2001- Professor of Condensed Matter Physics at the University of St. Andrews.
2012- Director, Max Planck Institute for Chemical Physics of Solids, Dresden, Germany

Research Grants as Principal Investigator

1997-99 *Anisotropic oxide metals in the $T \rightarrow 0$ limit* with Dr. S.R. Julian (University of Cambridge): EPSRC £98K.
1997-98 Royal Society Small Equipment Grant for variable temperature insert: £10K.
1997-98 *Effect of disorder, temperature and anisotropy on the metallic state in layered perovskite oxides.* EPSRC £50K.
1999-2002 *Ruthenates: An unprecedented opportunity to understand the physics of strongly correlated electrons*, with Dr. S.R. Julian (University of Cambridge): £185K from EPSRC.
2000-06 *Science and technology of strongly correlated electrons in oxides.* Programme grant for £350K from the Leverhulme Trust. Co-applicants Drs. A.J. Schofield and S.R. Julian, and Profs. C.E. Gough and P.P. Edwards (Universities of Birmingham and Cambridge).
2002-05 *Novel quantum order in ultra-pure ruthenates*, with Dr. S.R. Julian (University of Cambridge): £250K from EPSRC.
2002-05 *Quantum criticality and novel quantum order in correlated electron systems*, with Dr. S.R. Julian (University of Cambridge): Equipment grant of £252K from EPSRC and industrial collaborator Cambridge Magnetic Refrigeration Ltd.
2003–06 *Helium liquefier for University of St. Andrews* £582K from SRIF2 / University of St. Andrews.

2004-09 *EPSRC Portfolio Partnership on Novel Quantum Order in Strongly Interacting Electron Metals* Total award £3.2M between 6 PI's from Bristol, Cambridge & St Andrews. Personal share £740K

2006 *Leverhulme Study Abroad Fellowship* to support sabbatical visits to Cornell, Stanford & Kyoto Universities. £17K

2008-12 *$Sr_3Ru_2O_7$: Quantum Nematic Fluid, Vector Magnetic Field Tuning and Spectroscopic Imaging Scanning Tunneling Microscopy*, with Prof J.C. Davis (St Andrews and Cornell). £1.3M from EPSRC.

2009-18 *The Scottish Doctoral Training Centre in Condensed Matter Physics*, with Dr. C.A. Hooley (St Andrews), Profs M.E. Cates and A.D. Huxley (Edinburgh) and Prof R.J. Warburton (Heriot Watt). £6.7M from EPSRC.

2009-12 *Novel Quantum Order in Correlated Oxides*, with N.E. Hussey, S.M. Hayden. & N.S. Shannon (University of Bristol). £105K from EPSRC for collaborative UK-Japanese research with H. Takagi (University of Tokyo) & Y. Maeno (Kyoto University).

2011-17 *Topological Protection and Non-Equilibrium States in Strongly Correlated Electron Systems* EPSRC Programme Grant of £6.8M. I am PI; co-I's F. Baumberger, J.C. Davis, A.G. Green, C.A. Hooley, J.M.J. Keeling (St Andrews), A.D. Huxley (Edinburgh) & S.H. Simon (Oxford)

Service and positions of responsibility

2001-04 Research Policy Advisory Committee, Scottish Higher Education Funding Council

2001-03 UK Institute of Physics Superconductivity Group Committee

2002-05 Physics Strategic Advisory Team, EPSRC

2002- EPSRC Peer Review College

2003-11 Director of Research and Deputy Head, School of Physics & Astronomy, University of St Andrews

2005-08 Leader, Condensed Matter and Materials Physics Theme, Scottish Universities Physics Alliance

2005-06 Chair, 2020 Science Strategy Working Group, University of St Andrews

2008-10 Royal Society International Exchanges Committee

2008-13 University Court, University of St Andrews
Director, Scottish Doctoral Training Centre in Condensed Matter Physics

2010 Technical Opportunities Panel, EPSRC

2011-14 Network of Advisors, EPSRC
Director, EPSRC Programme 'Topological Protection and Non-Equilibrium States in Strongly Correlated Electron Systems'
Advisory Board, South East Physics Network

2013- Advisory Board, Shanghai Centre for Complex Physics
Advisory Board, Quantum Materials Programme of the Canadian Institute for Advanced Research