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Publications: <http://scholar.google.co.uk/citations?user=gczj5uMAAAAJ&hl=en&pagesize=100&sortby=pubdate>

Recent grants: http://www.imperial.ac.uk/AP/faces/pages/read/Research.jsp?person=d.mcphail&_adf.ctrl-state=10z4m42u46_3

Resume

I am a senior academic at Imperial College, London, and I hold several posts of responsibility at a College level. I have experience of successfully managing complex collaborative multi-disciplinary projects involving several national and international partners.

Director of the Imperial College Centre for Doctoral Training in the Advanced Characterisation of Materials (CDT-ACM).

I am Director of this new Centre, and am Principal Investigator (PI) on the £4.2M EPSRC grant that underpins it. The centre is run jointly with University College London, and all research students study at both institutions; part of the training vision is that every student also takes a three-month placement at a university or research organisation overseas.

Deputy Director of the Graduate School at Imperial College.

I have special responsibility for the PhD and Masters provision in the Faculties of Engineering and Physical Sciences, and in the Business School, chairing the relevant quality assurance committee. I have conducted a number of College wide reviews recently looking at issues such as grade inflation, late submissions and peer assessment and I have represented the Graduate School on a review of Student Surveys. I routinely manage the review of PGR and PGT provision in academic departments and am responsible for ensuring quality control of new and existing courses.

International Work: Academic Lead on the Joint PhD programme between Imperial College and the National University of Singapore.

I have managed the smooth running of this programme since its inception in 2009, making the necessary evolutionary changes to the regulations and procedures to optimise the student experience. The first students are now graduating from this programme. I also periodically represent the International Office overseas, for example in Indonesia on a British Council visit of Indonesian Universities (June 2013). I have oversight of the joint PhD programmes with NTU and HKU.

IOP Council Member

In 2010 I was elected to the Institute of Physics (IOP) Council where I am championing the international work and the work on engagement with schools. In July 2011 I was nominated by the IOP Council as a Fellow of the Institute of Physics.

I am on the IOP International committee, the Group and Coordination Committee (GCC) and the Group and Division Officers Forum (GDOF) and I recently chaired an IOP Members Engagement review panel. At present I am chairing the London Schools Excellence project called capital Physics, the aim of which is to improve participation in Physics in London Schools.

Research Profile

My research is concerned with the characterization of materials using surface analysis techniques, especially Secondary Ion Mass Spectrometry (SIMS). I have over 160 publications in print (see link above), have supervised thirty PhD students, and have won over £7M in research funding.

I am the manager of the departmental surface analysis facility and line-manage two research officers. My aim is to apply SIMS to as many different materials types as possible exploiting the very high resolution and sensitivity of the technique. In 2009 I received a grant for £2.3M from EPSRC for a new combined TOF SIMS – LEIS instrument. Recent investigations include biomaterial related themes such as macular degeneration and nanotoxicology, nanomaterials, electrical ceramics, glass, aerospace alloys, conservation of museum materials (for example by laser cleaning) and studies on micrometeorites.

For six months in 2009 I was a visiting Professor in the Physics department at the National University of Singapore.

Teaching and Outreach Profile

I have taught at undergraduate and postgraduate level for over twenty years at Imperial College, and have also taught at the National University Singapore at the Indian Institute of Technology (IIT) at Ropar. I have won the Imperial College Rector's award for excellence in teaching twice, in 2002 and 2012. I am interested in educational research and have received four grants to facilitate work on transferable skills, international students and student exchanges. I have several publications in the educational literature and have given four invited talks in this area, for example at ICMAT 2009 and Going Global 2010.

In addition to my teaching I am involved in an Outreach programme in collaboration with St Pauls School and the Ogden trust, the aim of which is to help the gifted and talented students in South London schools to reach their full potential in science.

Reference on request