ABOUT LOUGHBOROUGH UNIVERSITY

SCHOOL OF SCIENCE - DEPARTMENT OF CHEMISTRY

PROFESSOR OF CHEMISTRY	
JOB REF: REQ15309	**MAY 2015**

As part of the University's ongoing commitment to redeployment, please note that this vacancy may be withdrawn at any stage of the recruitment process if a suitable redeployee is identified.

Loughborough University is a fantastic place to work, boasting internationally acclaimed research and outstanding teaching quality placing us at 13th in The Complete University Guide 2015 and leading to us being named University of the Year at the 2015 Whatuni Student Choice Awards Our attractive single-site campus provides an environment that is stimulating and supportive, offering first-rate facilities for both students and staff. There is a real pride and ambition in the University that touches everyone associated with it. The University performs consistently well in the National Student Survey, produces graduates that are highly employable. Its strong links with industry provides an environment where staff can carry out research projects that have significant impact in the real world.

CENTRE FOR DATA SCIENCE

Our Centre for Data Science is multi-disciplinary involving established leaders in: mathematical modelling, computational modelling, data mining, statistics, and secure data transmission and storage. The Centre brings together scientists and engineers supported by The High Performance Computing service at Loughborough with the necessary infrastructure for managing and analysing the big data challenges intrinsic to agenda setting research.

The Centre's core staff will be in the School of Science and with the support and engagement of senior staff will also collaborate with different Schools from across the University. We see the exciting initiative as an important part of our strategy to "grow capacity and influence" across the University's research challenges.

The successful candidate will be part of a multi-disciplinary team that encompasses, amongst other things, Mathematical and Computational Modelling, Computer Networks, Machine Learning and Pattern Recognition, Applied Statistics, as well as Chemistry. The appointee is expected to lead research and to collaborate with other Schools and organisations. They will also contribute to the teaching chemistry.

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CHEMISTRY

Research in Chemistry is delivered by four teams based in: Analytical Science; the Energy Research Laboratory; Radiochemistry; and Synthesis.

Analytical Science (CAS), provides a focus for analytical research and educational activities focused on the development and application of new measurement systems. An important aspect of the work in CAS is the translation of advanced measurements into research predominantly within the health and security research challenges, focussing on the development of advanced mass spectrometry and sensor techniques, particularly in the areas of bio-sensing, metallomics and metabolomics. Research in these areas combined with cutting edge data-processing, chemometrics and simulations lie at the heart of "next-generation" analytical science. The generation of large scale data associated with patient stratification and personalised/precision medicine is a defining characteristic of this research and cross-disciplinary research within the Centre for Data Science is seen as an important enabling strategy.

The Energy Research Laboratory is home to a multi-disciplinary team comprising physical, inorganic, organic and radiochemists collaborating within a vibrant research culture. The group delivers high quality research from fundamental studies to real-world applications. Our research is driven by the depletion of conventional energy resources and the pressing need for sustainable alternatives. Our efforts are also focused on sustainable energy capture and nuclear power. We work closely with physicists, mathematicians, computer scientists, materials scientists, social scientists, economists and engineers to find effective solutions for complex issues in the energy sector. We are interested in multi-scale modelling with advanced computational techniques to study and rationalise functional materials for energy and artificial photosynthesis.

Strengths in synthesis lie in biologically relevant small molecule synthesis, catalyst development for a variety of applications including carbon dioxide utilization, and drug development. Our synthetic team studies and develops methodologies for stereo-, chemo- and regio-selective transformations to create chemical complexity via new: catalysts; catalytic-mechanisms; and modes of reactivity. We are interested in extending our modelling capability to encompass computational methods for the prediction of structure and properties, as well as the development of multi-variate approaches to synthesis optimisation. This could be achieved by various methods not limited to for example, computer aided design, liner free energy relationships involving molecular descriptors leveraging state of the art spectroscopic measurements for quantitative analysis

As well as computational resource there are also instrumentation assets that include a high-resolution, sector-field-ICP-MS instrument (Thermo Fisher), a linear ion trap electrospray mass spectrometer, state-of-the art laser ablation equipment and nano-LC, quadrupole ICP-MS , ICP-OES, ion mobility Q-TOF-ES-MS (Waters Synapt); Q-Exactive Orbitrap, GC-MS, IMS, FAIMS, DMS, NMR and XRD.

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JOB DESCRIPTION

Job Grade: Research, Teaching and Enterprise, Grade 9

Job purpose

- To lead the development and implementation of research, teaching and enterprise strategy to maintain vitality in Data Science in Chemistry.
- To engage personally with those activities, adding to the School's international reputation in the area of Chemistry.

Duties and responsibilities

Academic Leadership
- To provide academic leadership for Data Science in Chemistry as well as more generally across the School and the University.
- To pursue excellence in research, teaching and enterprise and to inspire others to do the same.
- To play a lead role in the development and communication of the strategic vision for Chemistry.
- To lead and participate in internal and external networks to foster collaboration and to promote Chemistry, the School and the University, nationally and internationally.

Research
- To pursue an 'internationally competitive' personal research programme consistent with the research priorities of Chemistry and the Centre of Data Science.
- To secure external research funding.
- To supervise and manage research projects.
- To publish the outcomes of research in outlets of international standing.
- To attend and contribute to the organisation of major international conferences.
- To supervise postgraduate students at Masters and Doctoral levels.
- To initiate, lead and collaborate in research initiatives with colleagues in the School and more widely across the University.
- To initiate, lead and collaborate in research initiatives with other HEIs and other relevant bodies.
- To support and inspire all staff and students of Chemistry to work to the highest possible standards.
- To produce an annual personal research plan.

Teaching
- To teach and inspire undergraduate and postgraduate students, and to conduct associated assessments.
- To provide academic and pastoral support to undergraduate and postgraduate students.
- To promote the adoption of best practice in the range of methods and techniques adopted for teaching, learning and assessment.
- To engage in the evaluation and development of modules for which you have responsibility, in terms of content, delivery and assessment.

- To be responsible for the design and content of specific areas of teaching and learning within the School's undergraduate and postgraduate programmes.
- To lead colleagues in the continuous review and development of the School's taught programmes and the curriculum.

Enterprise
- To initiate and lead engagement with business, public and voluntary organisations through knowledge exchange activities such as student projects and placements, research collaboration, consultancy and specialist training.
- To create social, cultural and economic impacts from academic, especially research, activity.
- To secure external funding in support of these activities.
- To seek opportunities for the commercialisation of research and the formation of social enterprises.

Related Activities and Functions
- To appraise and advise staff on personal and career development plans.
- To work effectively with relevant administrative, technical and academic staff in the School and across the University.
- To carry out significant administrative and leadership roles and functions as may be reasonably required e.g. Module Leader, Programme Director, Personal Tutor, Admissions Tutor and Head of Department.
- To take part in and, on occasion, act as chair of one or more of the School's committees.
- To engage in training programmes in the University (e.g. through Staff Development) which are consistent with your needs and aspirations and those of Chemistry and the School of Science.
- To undertake such other duties as may be reasonably requested and that are commensurate with the nature and grade of the post.

Special Conditions

None

Organisational Responsibility

Reports to Dean of School

All staff have a statutory responsibility to take reasonable care of themselves, others and the environment and to prevent harm by their acts or omissions. All staff are therefore required to adhere to the University's Health, Safety and Environmental Policy & Procedures.

All staff should hold a duty and commitment to observing the University's Equality & Diversity policy and procedures at all times. Duties must be carried out in accordance with relevant Equality & Diversity legislation and University policies/procedures.

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PERSON SPECIFICATION

Job Title: Professor of Chemistry

Job Grade: Research, Teaching and Enterprise Grade 9

	Essential	**Desirable**
Education	An outstanding educational profile up to and including first degree and/or Masters Chemistry or other relevant disciplines (1) Relevant PhD or equivalent experience (1)	Appropriate professional status (1)
Leadership Experience	Leadership experience gained within university or business settings (1,3), including: • project management • leading collaborations • managing professional staff (academic or otherwise) within a team. • managing budgets	Experience at research group head or equivalent level (1,3), including: • strategic planning and delivery • promoting your organisation
Technical Experience	Background in Chemistry with specific and current expertise in: Computational Modelling/Simulations; Mathematical Modelling; or Multi-variate chemometrics associated with, metallomics and metabolomics (1,2,3) Currently and demonstrably active in research in an area consistent with the expertise mentioned above (2,3) Experience of leading and participating in projects in an internationally recognised academic research, including sustained experience at a senior level (1)	Experience of presenting research work at international conferences (1) Experience of teaching and assessment at undergraduate and postgraduate level (1,3) Experience in commercial exploitation of products / services or formation of social enterprises (1,3)

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	Essential	Desirable
Technical Experience	Experience of work in or in collaboration with industry (1) Experience of authoring a substantial body of original work, in the highest quality refereed academic journals (1) Extended experience of successfully supervising the projects of taught and research students or company staff at equivalent levels (1,3)	
General Skills, Abilities and Knowledge	Demonstrated ability to develop a major original research programme on your own initiative and to persuade others of its importance orally and on paper (2,3) Demonstrated ability to secure significant research and/or enterprise funds from competitive external / company sources on a regular basis (1,3) Demonstrated ability to create social / cultural / economic impacts from professional activity (2,3) Ability to teach and supervise undergraduate and postgraduate students in Applied Mathematics or Analytical Chemistry (1,2) Ability to provide tutorial and counselling advice to students (1) Ability to work independently, as part of a team and as the leader of a team (1,3) Ability to advise staff on personal and career development plans (1,3) Excellent communication skills (2)	Demonstrated ability to take part in module and programme development (3) A sound understanding of the structure of universities and issues facing the UK higher education sector, for example: • research funding opportunities in UK HE (2,3) • the challenges faced in recruiting students to UK HE (1)
	Excellent IT skills (1)	

	Essential	**Desirable**
Training	Willingness to to adopt new procedures as and when required (1) Demonstrate evidence of having undertaken further training (1,3)	Completion of a recognised training programme for academic staff (1)
Other	Commitment to observing the University's Equal Opportunities policy at all times (1,3)	

Typical assessment stages (shown in brackets):
1 = Application Form and CV, 2 = Presentation and Questions, 3 = Final Interview.

Conditions of Service

The appointment will be on a full-time, open-ended contract. Salary will be on Research, Teaching and Enterprise Grade 9, minimum £56,482 per annum, at a starting salary commensurate with experience and qualifications.

The appointment will be subject to the University's normal Terms and Conditions of Employment for Academic and Related staff, details of which can be found at: http://www.lboro.ac.uk/services/hr/a-z/conditions-of-service.html

Informal Enquiries

Informal enquiries are welcomed and should be made to Professor Paul Thomas by email at: c.l.p.thomas@lboro.ac.uk or by telephone on +44 (0)1509 222549.

Application

The closing date for receipt of applications is **23rd June 2015. Shortlisted candidates will be invited for interview, which is expected to take place on the 7th July 2015**.

We have a commitment to gender equality and support the Athena SWAN Charter. We encourage women to apply for these positions as they are under-represented. All appointments will be made on merit.

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