

Candidate Information

Position:	Reader in Foundations of Data Science School
School/Department:	of Mathematics and Physics
Reference:	19/107294
Closing Date:	Monday 29 April 2019
Salary:	£33,199 to £50,132 per annum
Anticipated Interview Date:	week commencing 20 May 2019

Job Purpose

To undertake research in the Foundations of Data Science, in line with University's research strategy, to teach at undergraduate and/or postgraduate level, and to contribute to the School administration/outreach activity. The successful candidate will be a member of the Mathematical Sciences Research Centre and will be eligible to become an Associate Member of the Institute of Electronics, Communications and Information Technology (ECIT), strengthening ECIT's theoretical base in Data Science.

Main Activities/Responsibilities

The following describes the type of work that is typically required of academic staff at this level. It is not expected that anyone carries out all the activities mentioned below and some carry out additional duties

Education

- Develop the teaching activities of the School by pursuing new and innovative teaching approaches taking the responsibility for the quality of course units and delivering a range of teaching and assessment activities in Mathematics/Statistics/Data Science, including lectures, tutorials and setting/marking coursework, as assigned by Head of the School of Mathematics and Physics.
- Contribute to the enhancement of quality teaching within the subject, school or faculty, ensuring that course design and delivery comply with the appropriate benchmarks and regulations.
- Develop and advise others on learning and teaching tasks and methods.
- Provide leadership in the design of innovative teaching programmes, as appropriate.
- Act as internal examiner for undergraduate and postgraduate students.
- Be involved in strategic planning for the School/work unit and may contribute to the University's strategic planning process.
- Communicate complex and conceptual ideas to students as well as to peers using high level skills and a range of media.

Research

- Conduct research in the Foundations of Data Science, sustaining a personal research plan by managing and undertaking research activities leading to a REF return in Mathematical Sciences.
- Strengthen the theoretical capability of ECIT, developing links with its members, leading to potential joint research projects. Qualified candidates will be eligible to become ECIT Associate Members.
- Sustain an extensive research track record of international excellence/leadership by publishing regularly in high quality refereed journals and presenting at international conferences.
- Develop innovative research proposals and lead funding bids.
- Direct, coach and develop research staff, where appropriate.
- Act as referee and contribute to peer assessment of research.

Leadership and Administration

- Contribute significantly to the development and running of the School/area by taking on appropriate school co-ordinating roles. Such duties may include, for example, Advisor of Studies, QAA Aspect Co-ordinator, Module/Year/Programme Co-ordinator or other recognised official University roles.

- Contribute significantly to the knowledge transfer and the impact agenda of the University by engaging with relevant non-academic partners.
- Act as mentor or appraiser to colleagues, including Teaching Assistants, advising on their personal development and ensuring that they are meeting the standards required.
- Provide pastoral care for students within own area to ensure, as far as practicable, that relevant issues are dealt with in a timely, sympathetic and effective manner.
- May sit on major University committees.
- Contribute to the School's outreach strategy by designing or delivering Community outreach programmes and developing external links.
- Plan and deliver research, teaching and consultancy or similar programmes and ensure that resources are available.
- Contribute to the management of quality, audit and other external assessments.
- Provide academic leadership to those working within programme areas, as course leader or equivalent, by for example co-ordinating the work of others to ensure that courses are delivered effectively or organising the work of a team by agreeing objectives and work plans.
- Develop and manage staff and resources, in support of major research, teaching and administrative activities.
- Contribute to the overall management of the School/work unit, in areas such as budget planning.
- Be involved in strategic planning for the School/work unit and may contribute to the University's strategic planning process.
- Act as mentor for students in capacity of personal tutor.
- Lead and develop internal networks for example by participating in University committee/s.
- Lead and develop links with external networks, for example, with external examiners and assessors.
- Develop links with external contacts such as other educational bodies, employers, and professional bodies to foster collaboration.

ESSENTIAL CRITERIA

- PhD in the Foundations of Data Science
- Evidence of sustained high quality lecturing in Mathematics, Statistics and/or Data Science at undergraduate or postgraduate level through the medium of English
- Ability to provide strategic academic leadership in programme development and teaching
- A distinguished record of research publications of international excellence, commensurate with past research career, in the Foundations of Data Science, REF returnable at international level
- Demonstrated record of attracting and obtaining substantial, peer reviewed, research income
- A record of successful supervision of PhD students
- Evidence of ability to strengthen the international excellence in research at the School of Mathematics and Physics and to develop collaborative networks
- Commitment to strengthening the theoretical base of Data Science in the Institute of Electronics, Communication and Information Technology at Queen's University Belfast
- A clear vision on future research and development plans and how they would benefit the School
- Evidence of ability to provide strategic academic leadership in research
- Experience in successful team management including supervising research students and/or postdoctoral researchers
- Evidence of international esteem
- Plenary or invited talks at major international conferences
- A strong track record of leadership, demonstrated as evidence of major initiatives that significantly improved education, research or administrative processes
- Contribution to a wider range of administrative tasks
- Willingness to provide/develop a significant contribution to societal and economic impact.
- Evidence of ability to communicate and present academic material clearly and effectively
- High level of analytical capability
- Ability to provide effective leadership
- Understanding of resource management processes and skills to apply them effectively
- Willingness to travel to conferences and other scientific events

DESIRABLE CRITERIA

- PhD in Combinatorial Optimisation, Machine Learning or Applied Graph Theory.
- Background in Theoretical Computer Science
- Completed PGCHET or an equivalent teaching qualification

- Experience in design of new and innovative modules/pathways or assessment methods
- A distinguished record of research publications of international excellence in Combinatorial Optimisation, Machine Learning or Applied Graph Theory
- A track record of interdisciplinary research/collaboration
- A track record of research with the potential to lead to societal or economic impact
- Successful supervision of postdoctoral researchers
- Contribution to a wide range of community outreach programmes/initiatives in designing and delivering innovative new programmes.
- Measurable societal and economic impact such as contribution to industry roadmaps and technology transfer to industry, with associated evidence
- Evidence of social engagement and outreach activities
- Proven skills in coaching and developing others in best practice techniques