

## Candidate Information

<b>Position:</b>	Lecturer in Foundations of Data Science School
<b>School/Department:</b>	of Mathematics and Physics
<b>Reference:</b>	19/107294
<b>Closing Date:</b>	Monday 29 April 2019
<b>Salary:</b>	£33,199 to £50,132 per annum
<b>Anticipated Interview Date:</b>	week commencing 20th 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 teaching methods, design course units and deliver teaching and assessment activities in Mathematics/Data Science, including lectures, tutorials and coursework, as assigned by the Head of the School of Mathematics and Physics.
- Develop approaches to teaching and learning, which are appropriate for the subject area; reflect developing practice.
- Contribute to the enhancement of quality teaching within the subject, school or faculty.
- Develop and advise others on learning and teaching tasks and methods.
- Contribute to the design of innovative teaching programmes.
- Design/update modules in line with School's teaching strategy.
- 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 a high quality publication record by publishing in refereed journals and presenting at conferences to assist individual research and so that the School's research profile is enhanced.
- Develop research proposals and funding bids, in collaboration with others as appropriate.
- Direct, coach and develop research staff, where appropriate.
- Ensure that research projects are completed on time and within budget.
- Prepare research proposals for submission for external funding.
- Plan for and set research objectives over a number of years.

### Leadership and Administration

- Contribute to the School's outreach strategy by developing external links.
- Develop links with relevant industries or external bodies to encourage technology transfer opportunities and create opportunities for future research projects.

- Provide pastoral care for students within own area to ensure, as far as practicable, that all relevant issues are dealt with in a timely, sympathetic and effective manner.
- Carry out designated School functions, including, for example, participation in committee work, assisting in the process of admissions, preparation of submission for teaching quality assessment or the REF.
- As module leader, co-ordinate with others (such as support staff or academic colleagues) to ensure student needs and expectations are met.
- Plan for the use of teaching and research resources as appropriate.
- If appropriate, supervise the work of others, for example in research teams and projects.
- Manage own teaching, research and administrative demands under general supervision of Head.
- Assist in the development of skills and competence in others (for example through the supervision of research students).
- If appropriate, manage use of resources for research and teaching.
- Participate in judgements regarding the use of resources within their research project/school.
- Act as mentor for students in capacity of personal tutor.
- Member of the School Board and Examination Board and such committees relevant to their administrative duties.
- Participate in and develop networks, for example to identify sources of funding, contribute to student recruitment, act as website editor, secure student placements, market the institution, facilitate outreach work, generate income, obtain consultancy projects, or build relationships for future activities.

## **ESSENTIAL CRITERIA**

- Hold a PhD in Foundations of Data Science
- Evidence of potential to deliver high quality teaching in Mathematics, Statistics and/or Data Science at undergraduate or postgraduate level through the medium of English
- A strong record of publications, commensurate with career stage, in the Foundations of Data Science in peer reviewed/refereed journals that are REF returnable within the Mathematical Sciences Unit of Assessment
- Commitment to applying for and obtaining peer reviewed research income from research councils and other relevant funding bodies
- Willingness to supervise research students and postdoctoral researchers
- Commitment to strengthening the international excellence in research at the School of Mathematics and Physics and to developing 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 for developing and maintaining an independent research programme
- Evidence of scholarly activity, e.g. conference presentations, book or papers reviews
- High level of analytical capability
- Ability to communicate complex information effectively.
- Ability to communicate effectively in English, both orally and in writing
- Demonstrable intellectual ability and good time management
- Willingness to travel to conferences and other scientific events

## **DESIRABLE CRITERIA**

- PhD in Combinatorial Optimisation, theoretical Machine Learning or Applied Graph Theory.
- Background in Theoretical Computer Science
- Completed PGCHET or an equivalent teaching qualification
- Experience of teaching Mathematics in tertiary level education
- Evidence of good teaching evaluations
- Experience in design of new modules and/or assessment methods
- A record of publications in Combinatorial Optimisation, Machine Learning or Applied Graph Theory.
- A record of successful grant applications
- Successful supervision of PhD or Masters students
- Evidence of successful research collaboration, participation in collaborative networks or research teams
- Plenary or invited talks at international conferences
- Contribution to a wider range of administrative tasks.
- Contribution to a wider range of community/outreach activities

- Evidence of measurable societal and economic impact such as contribution to industry roadmaps and technology transfer to industry
- Evidence of social engagement and outreach activities