

Candidate Information

Position: Lecturer in Data Analysis
School/Department: Mathematical Sciences Research Centre
Reference: 22/110215
Closing Date: Monday 10 October 2022
Salary: £38,592 - £53,353 per annum
Anticipated Interview Date: Monday 24 October 2022

Overview:

The School of Mathematics and Physics at Queen's University Belfast hosts the Mathematical Sciences Research Centre (MSRC), a large hub for the pursuit of Pure Mathematics, Applied Mathematics, Statistics and Operational Research whose members address challenges spanning a widespread range of topics. The School is thus perfectly positioned within the Higher Education Sector to train mathematicians, statisticians and data analysts to address the challenges of modern society where mathematical literacy is at the core of challenges ranging from healthcare to climate changing. Our research interests and strengths extend all the way to address problems in Artificial Intelligence and Data Science, which we address through the rigour of our Mathematical methodology and innovative analytical and computational tools.

The School and MSRC provide a vibrant, stimulating, and collaborative environment with strong partnerships with academic and industry. As the sole provider of University-level education in Mathematical Sciences in Northern Ireland, we have at the core of our mission both the advances of research within the context of our genuinely global-scale research environment, and the training of skilled, competent scientists and teachers to support the growth of the Northern Irish economy and society

About the role:

An Applied Mathematician to undertake advanced research primarily in Statistics and Data Analytics, develop and support the School's and MSRC's research agenda connected to data analysis, and lead interdisciplinary cross-School and cross-Faculty initiatives addressing challenges in Big Data.

The post holder will support our new Undergraduate curriculum in Mathematical Sciences and will contribute to the growth of the successful postgraduate taught (PGT) programme in Data Analytics through the delivery of research-led applied mathematics modules that have a strong connection to both academia and industry. They will champion innovation and excellence through their teaching practices, thus contributing to delivering a genuinely world-class student experience. The post holder will also contribute to administration and/or outreach activities, capitalising on the possibilities offered by the intrinsically multidisciplinary nature of their area of research.

Main Activities & Responsibilities

Research:

1. To lead and undertake research programmes in Data Analysis, and contribute to secure substantial external funding and develop large, income-generating collaborative and interdisciplinary research activities.
2. To publish in peer-reviewed national or international journals and conferences in the field of Data Analysis.
3. To engage in knowledge transfer and innovation activity and to deliver research impact.
4. Where appropriate to engage with regional, national and international initiatives in the space of Data Analysis.
5. To contribute to the strategic growth and mission of MSRC and the School of Mathematics and Physics.
6. To engage, mentor and develop postgraduate or postdoctoral researchers.

Teaching:

1. To contribute to the design delivery and improvement of Mathematical Sciences content in the Mathematics curriculum and in the PGT programme in Data Analytics.
2. To contribute to the School's efforts to develop new teaching delivery methods, including but not limited to new blended learning and research-led teaching methods.
3. To undertake initiatives to improve the overall student experience, by new methods of assessment, feedback, and student engagement.
4. To supervise undergraduate and postgraduate taught students in practical and project-based work as appropriate to the relevant courses of study.
5. To contribute to student recruitment and student support mechanism.

Administration:

1. To contribute to the School of Mathematics and Physics outreach and internationalisation strategies by developing external links.
2. To carry out designated administrative duties including, for example, committee work, working group leadership or course administration.
3. To participate in and support of the Personal Development Review (PDR) process.

Person Specification:

The appointed person will have an outstanding track record in Applied Mathematics with specific competence in Data Analysis, with a specific interest for Topological Data Analysis, and the drive and ability to make more possible. Their personal values and work ethic will reflect ours - integrity, collaboration, ambition, respect, and the pursuit of excellence. They will thrive in a team environment and have a passion for developing and mentoring the potential of others. We will share a common objective of pursuing research excellence and developing the skills for future generations.

Essential Criteria:

1. A relevant degree with a PhD in Data Analysis, Statistics or Mathematical Sciences.
2. Demonstrate at least 3 years postdoctoral research experience in Data Analysis, Statistics or Mathematical Sciences.
3. A strong record of publications in Data Analysis, Statistics or Mathematical Sciences in peer reviewed/refereed journals or invited presentations that are REF returnable in accordance with stage of career.
4. Evidence of independent contribution in research projects and outputs and potential to establish an independent sustainable research programme.
5. Evidence of contribution of research income generation.
6. Evidence of contribution to national and international collaborations.
7. Evidence of scholarly activity e.g. conference presentations, book or paper reviews.
8. Evidence of teaching experience including, but not limited to undergraduate and postgraduate level teaching, assessment and/or training activities.
9. Demonstrable experience of social engagement and outreach activities.
10. Proven ability to plan and deliver a programme of research and develop techniques, sources of funding and/or proven skills in coaching and developing others in best practice techniques.
11. Ability to communicate effectively (in English) complex information to a variety of audiences.
12. A commitment to creating an inclusive and supportive academic environment enhancing equality, diversity, and supporting early career academics.

Desirable Criteria:

1. A PhD in Topological Data Analysis, Statistical Modelling or Machine Learning.
2. Completed a Postgraduate Certificate in Higher Education Teaching (or equivalent) qualification with HEA membership.
3. Significant research expertise in relevant areas depending on academic position.
4. A strong record of publications in Topological Data Analysis, Statistical Modelling or Machine Learning.
5. A record of successful grant applications.
6. Significant research measures of esteem in relevant areas depending on academic position.
7. Successful supervision of postdoctoral or Masters students.
8. Experience of teaching Statistics or Applied Mathematics in Tertiary level education environments.
9. Design of modules and development of assessment methods.
10. Strong peer-reviews of teaching and student teaching evaluations.
11. Experience of successful research collaboration, participation in collaborative networks or research teams.

12. Plenary or invited talks at international conferences.

13. Contribution to a wider range of community/outreach activities.