Senior Research Associate in Pure Mathematics

(Voronoi Research Fellowship)

1 JOB DESCRIPTION

Faculty / School or Division: Faculty of Science and Engineering, School of Mathematics
Faculty/School or Division Address: Fry Building, Woodland Road, Bristol, BS8 1UG

Job Family:	**Research and Teaching**		
Grade/Pathway:	Grade J, Pathway 2	**Salary range:**	£45,641 - £51,258 per annum
Hours of work:	100% time / 1.0FTE	**Contract type:**	Open ended with 3 years' fixed term funding Anticipated start date September 2027 – until August 2030
Work pattern:	Full-time	**Vacancy Reference Number: ACAD108763**	

1.1 Main Job Purpose

The post-holder will perform cutting-edge academic research in Pure Mathematics (broadly interpreted). Areas of particular interest include the following: Algebra, Analysis, Combinatorics, Dynamical Systems, Ergodic Theory, Geometry and Topology, Number Theory, Probability, Set Theory and Logic.

The post-holder will be a member of the School's Institute for Pure Mathematics and/or Institute for Probability, Analysis and Dynamics.

The University of Bristol is able to offer this Voronoi Fellowship thanks to a charitable grant from XTX Markets, a leading algorithmic trading company.

1.2 Main Statement of Responsibilities

Research Responsibilities

The post-holder will be expected to develop their own independent research programme on topics in Pure Mathematics. They will be expected to disseminate their research findings through peer-reviewed publications in leading journals, as well as invited seminars and presentations at international conferences. The School will provide the post holder with high quality, structured mentoring

Administration Responsibilities

The role has no formal administrative responsibilities. However, the role holder will have the opportunity to contribute to the academic activities of their institute in a variety of ways. For example, through the co-ordination of seminars and reading groups, and by co-organising relevant workshops and research events. They may also have the opportunity to mentor PhD students, where appropriate. The role holder will have access to focussed career development activities and network building opportunities.

Teaching Responsibilities

As this role is a Pathway 2 (research-focussed) position, there are no formal teaching duties. However, other commitments permitting, the role holder may have the opportunity to design and deliver a postgraduate course (for example, Bristol is a member of the Taught Course Centre https://www.maths.ox.ac.uk/groups/tcc as well as supervising an MSc dissertation or an undergraduate project within the School of Mathematics, as appropriate.

1.3 Relationships

Line Manager: A senior academic from either the Institute for Pure Mathematics or the Institute for Probability, Analysis and Dynamics, depending on the role-holder's area of research.

1.4 Job Hazards/Safety Critical Duties (Pre-employment health screening)

Not applicable.

2 PERSON SPECIFICATION

2.1 Relevant Experience, Skills and Knowledge

Essential

- Evidence of research excellence and recognition, appropriate for the applicant's career stage, e.g. publications in high-quality international journals.
- Candidates should be able to demonstrate research independence, with the potential and ability to pursue high-quality research projects.

2.2 Relevant Qualifications

Essential

- A PhD or near completion, or equivalent research experience in an academic, industrial or clinical setting equivalent to a PhD (in Pure Mathematics, broadly interpreted).

2.3 Communication and Interpersonal Skills

Essential

- Able to articulate ideas clearly and logically, both verbally and in writing.
- Able to prepare high-quality academic publications.
- Able to work independently, as well as with others in a team.
- Excellent written and oral communication skills.
- Candidates should demonstrate the ability to take a primary role in organising and running research projects.

Desirable

- An enthusiasm to work in a multidisciplinary group and share knowledge and skills. Engaging with reading groups, seminars, PhD students, etc.

3 CAREER PATHWAY AND OTHER RELEVANT INFORMATION

3.1 Career Pathways

All members of academic staff have a clear career pathway involving a series of levels with distinct role profiles, each with its unique requirements. Each profile sets out what is expected of an academic at the particular level. The role profiles also set out a collection of competencies expected for each level. Progression or promotion to the next level will occur after these competencies have been attained and where a role at the higher level is available.

The academic pathways are as follows:

Career Pathway One - academic roles that combine teaching, research and administrative duties.

Career Pathway Two - academic roles focusing on research and associated administrative duties.

Career Pathway Three – academic roles focusing on teaching and associated administrative pathways

This post is located on Pathway Two. Role Summaries setting out what is expected of an academic at each particular profile level on pathway two can be found below. Please note that an appointment may be made at any level of the pathway.

A schematic diagram of the career pathways can be found at http://www.bristol.ac.uk/hr/grading/academic/.

For Pathway Two roles progression to the next level will only occur where a role has been identified as being eligible for progression, having reached the relevant point on the salary scale and after the relevant competencies have been attained. A progressable role is a role at Level b or Level c that has been determined as being eligible for progression by the Head of Department, based on departmental needs, priorities and funds. Individuals in progressable roles at Level b or Level c are expected to develop their skills, knowledge and experience in order to ultimately progress to Level c or Level d, as applicable. A non-progressable role is one either at Level a (which are not subject to formal progression arrangements, although there may be opportunities to develop into a Level b role, based on departmental needs, priorities and funds), or at Level b or c for which the Head of Department has identified an ongoing need at that particular level. Movement to Level e will be by promotion only.

3.1.1 Role Summaries

Research Associate (Level a)
Role holders at this level are concerned with *assisting* an individual research leader or team to conduct a particular study (or group of studies). They will generally be involved in data generation and/or collection using standard and well-defined methods developed by others. They will be working under close supervision by, and direction from, a more senior researcher, who will be ultimately responsible for the project. This may be the entry level for some staff who are expected

to train and/or develop to take on more senior researcher roles. Role holders will be provided with academic and pastoral support within the department (including counselling on realistic career opportunities) and training will be available designed to develop their competences and to prepare them to take on more responsibilities associated with a higher grade.

Senior Research Associate (Level b)
Role holders at this level will be experienced and professional researchers (or have considerable professional experience) and will be specialists in a particular area or methodology, drawing upon knowledge gained from postgraduate research and/or working within a Level a role. They will be *associated* with a particular project (or projects) and will contribute ideas, and/or enhancement of techniques or methodologies. They will be expected to do some writing for dissemination outside the Department. They will still be working under supervision, but will be expected to take significant initiatives in their work and consult with the Principal Investigator over the details of the project. They may, where practical, contribute to the department's teaching, through supervision of projects, overseeing practical classes, or taking small group classes. They will be provided with academic and pastoral support within the department and training will be available designed to develop their competences (including counselling on realistic career opportunities) and prepare them to take on more responsibilities associated with a higher grade.

Research Fellow (Level c)
Role holders at this level will have substantial experience of research (normally not less than six years). They will initiate and take responsibility for some research projects and may be Principal Investigators or, where a Research Council does not permit this, act as though they were Principal Investigators. They will be involved in administration relevant to their projects (e.g. helping to prepare bids for research funding), managing other researchers and monitoring research budgets. They will be expected to be undertaking research individually and/or collectively and to be advancing the state of knowledge and understanding within their particular area of expertise. They will be publishing regularly in high quality outlets. They are likely to provide some teaching support for the department (consonant with the terms of their funding). They will be expected to be establishing a growing reputation within their particular research field and academic discipline and to be developing and demonstrating intellectual independence.

Senior Research Fellow (Level d)
Role holders at this level will have extensive experience in research and research management. They will normally be Principal Investigators, leading collaborative research bids and research teams, or driving forward innovative research themselves. They will be involved in scholastic projects (e.g. editing journals and academic books), and be making a significant leadership and/or management contribution within their department or the wider university, to be participating in national/international academic networks and conferences. They may be transferring their knowledge through some teaching and/or supervision to undergraduate or graduate students (consonant with the terms of their funding). Role holders at this level will be independent researchers and will have an established national and growing international reputation within their academic discipline generally and research field in particular.

Professorial Research Fellow (Level e)

Role holders at this level will have very extensive experience of research leadership and related management/administration. They will enjoy a wide recognition for their expertise within the academic community internationally (as evidenced by conference invitations, journal editorships, office holding in specialist groupings, associations with appropriate Research Councils etc.). They will have made recognised and significant contributions to the developing knowledge and

understanding of their research area. They will already have responsibilities for the creation, initiation, development and overall management of significant research programmes. They will 'profess' their discipline within the Department, as appropriate and consonant with the terms of their funding. They may also carry significant leadership roles within the Faculty or University.

3.2 Relevant Physical and Environmental Information

The role holder will be based in the historic Grade II-listed Fry Building in the heart of the University precinct. The building has housed the School of Mathematics since 2019, following a £33 million three-year renovation project.

The role holder will benefit from access to world class facilities and support from across the school and wider institution.

3.3 Key Contacts

Professor Tim Burness, Director of the Institute for Pure Mathematics
t.burness@bristol.ac.uk

Professor Carl Dettmann, Director of the Institute for Probability, Analysis and Dynamics Carl.Dettmann@bristol.ac.uk