HEILBRONN FELLOWSHIPS

The Heilbronn Institute for Mathematical Research invites applications for Heilbronn Research Fellowships. Fellows divide their time equally between their own research and the classified research programme of the Heilbronn Institute, thus enjoying opportunities to engage in collaborative work as well as individual projects. Fellowships are available at any one of our partner institutions: University of Bristol, Imperial College London, King's College London, University College London, University of Manchester. Some of our Fellowships are funded through the UKRI/EPSRC 'Additional Funding Programme for Mathematical Sciences'.

We expect to make up to eight appointments in **Pure Mathematics** at the University of Bristol, two at Imperial College London, three at Kings College London, two at University College London, and four at the University of Manchester. In addition, we expect to make two appointments in **Data Science** and one in **Quantum Computing** at the University of Bristol.

The Heilbronn Institute for Mathematical Research (HIMR)
HIMR was established by the UK Government Communications Headquarters (GCHQ) to conduct research in areas of mathematics including but not restricted to Algebra, Algebraic Geometry, Combinatorics, Computational Statistics, Data Science, Number Theory, Probability, and Quantum Information. These areas are interpreted broadly: Research Fellows have previously been appointed with backgrounds in most areas of Pure Mathematics and Statistics, and several areas of Mathematical/Theoretical Physics.

The Heilbronn Institute is a national research institute, with some of the leading mathematicians in the UK working in a highly stimulating research environment. It partners in various activities with the Alan Turing Institute, the Clay Mathematics Institute, the Isaac Newton Institute, and the International Centre for Mathematical Sciences. For more information about the Heilbronn Institute, including its workshops and conferences , papers written by its members, and current fellows, please see our website at http://heilbronn.ac.uk.

The Institute's research programme is divided equally into 'internal' research on behalf of GCHQ, and 'external' research in areas of the Fellows' choice. The external research may be in any area of mathematics and can be published in the usual way.

At any one time the Heilbronn Institute typically has over 70 members. These range from extremely distinguished senior visiting academics to postdoctoral researchers holding Heilbronn Research Fellowships. Currently, around 40 Research Fellows are supported, for between one and seven years, and we currently support over 20 PhD students. Since it was established in 2005, over 200 mathematicians have been members of the Institute, including over 100 Research Fellows.

The Chair of HIMR, who is responsible for the external research and associated activities, is Professor Geoffrey Grimmett. Dr Michael Groves, the Head of HIMR, is responsible for the internal research programme.

Research Environment

You will join a cohort of over 40 Heilbronn Research Fellows that includes some of the leading early-career mathematicians in the UK.

Expert mentoring will be provided by the host department, with a national programme of career development events organized by the Associate Chair, who is based in the School of Mathematics at the University of Bristol.

HIMR supports a large number of conferences, workshops and other research events, including our flagship event, the Annual Conference, and the Heilbronn Distinguished Lecture Series. For more information, see: https://heilbronn.ac.uk/events/

The internal research programme is determined by the Head of HIMR in conjunction with GCHQ. Fellows are presented with a range of challenging mathematical problems and are given the facilities and support to contribute to one or more of them, frequently as part of a collaborative team.

The Heilbronn Institute is a supporter of the LMS Good Practice Scheme aimed at advancing women's careers in mathematics and we particularly welcome applications from women for this post. For more information, please see https://heilbronn.ac.uk/diversity/

Facilities and Research Support

Excellent facilities are provided for both the external and the internal research. In addition to workspace at the Institute. Fellows also have a desk in their host university which they can access 24/7.

Fellows work flexible hours, and for the most part can split their time between internal and external research in whatever way suits them best.

The Chair holds a generous budget for research activities such as travel and organising workshops and visits by collaborators from other institutions. Fellows are given research expenses of up to £2.5K pa and they are able to bid for further sums from the Chair's fund for special projects. They may also bid for external funding.

Terms and Conditions

Terms and conditions of employment for Research Fellows will be based on those applicable to fixed-term externally funded researchers in the employed host institution.

The salary range is £38,587-43,434 depending on previous experience, plus the London weighting where appropriate. There is a salary supplement of £3.5K pa, in recognition of the distinctive nature of these Fellowships. Payment of this supplement is conditional on a PhD thesis having been accepted in final form.

Intellectual Property Rights

The Institute acquires all IPR in the internal research. Rights in the external research are subject to the normal arrangements between the host university and its employees, subject to GCHQ acquiring a royalty-free license on any exploitable invention.

Security

Some of the Institute's work is highly confidential and subject to formal security procedures. All the internal research must be carried out within the Institute and not discussed, even in general terms, elsewhere, without explicit GCHQ permission.

It is a condition of employment that Fellows acquire, and continue to qualify for, a national security clearance (Developed Vetting) from GCHQ; they are subject to provisions of the Official Secrets Acts and restrictions on travel to certain countries. UK resident UK nationals will normally be able to meet this condition. Non-UK citizens and UK citizens who are not UK residents should contact the Heilbronn Manager himr-recruitment@bristol.ac.uk about eligibility before applying. Information on the process can be found on the UK Government security vetting website: https://www.gov.uk/government/publications/united-kingdom-security-vetting-clearance-levels/national-security-vetting-clearance-levels#developed-vetting-dv

The host university and the Heilbronn Institute reserve the right to terminate the fellowship in the event of loss of security clearance.

Teaching

These Fellowships are research positions, and as such there are no formal specified teaching duties required of the role-holder. However, other commitments permitting, the role-holder may be offered development opportunities to undertake activities such as teaching on undergraduate programmes and/or supervising final year projects, as appropriate.

Informal Enquiries

Enquiries about the fellowships may be addressed to the Heilbronn Manager, School of Mathematics**,** University of Bristol**,** Fry Building, Woodland Road, Bristol, BS8 1UG, UK, email: himr-recruitment@bristol.ac.uk

PERSON SPECIFICATION

Relevant Experience, Skills and Knowledge

Essential

Experience of independent research in Algebra, Algebraic Geometry, Combinatorics, Computational Statistics, Data Science, Number Theory, Probability, and/or Quantum Information, or related areas, interpreted broadly.

A publication record commensurate with career stage.

Self-motivation, initiative, and organisational skills in planning and carrying out research.

Relevant Qualifications

Essential

PhD or equivalent doctoral qualification in a relevant subject by the time you start this fellowship, or very close to completion.

Communication and Interpersonal Skills

Essential

Excellent written and oral communication skills in English.

Additional Criteria

Essential

Due to the nature of the Heilbronn Institute's work, Fellows will be required to obtain and maintain a national security clearance (Developed Vetting). UK resident UK nationals will normally be able to meet this condition, etc. UK resident UK nationals will normally be able to meet this condition: other potential applicants should consult the Heilbronn Manager, himr-recruitment@bristol.ac.uk about eligibility before applying.