UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Representation Theory and/or Applications (2 posts), Faculty of Engineering and Physical Sciences

Salary: Grade 7 (£37,099 – £44,263 p.a.) Due to funding restrictions, an appointment will not be made higher than £39,347 p.a.

Reference: EPSMA1114

Closing date: Monday 08 July 2024

Two positions available, one is fixed term for up to 24 months, and the other is fixed term for up to 30 months

We are open to discussing flexible working arrangements

Research Fellow in Representation Theory and/or Applications (2 posts), School of Mathematics.

Are you an early career researcher looking for your first challenge? Do you have a background in an area related to representation theory and/or applications? Do you want to further your career in one of the UK's leading research-intensive universities?

We are looking for two Research Fellows to work on the EPSRC Programme Grant, "Combinatorial Representation Theory: Discovering the Interfaces of Algebra with Geometry and Topology".

You will join a strong and supportive collaborative team: Karin Baur, Eleonore Faber, Joao Faria Martins, Bethany Marsh, Paul Martin and Alison Parker.

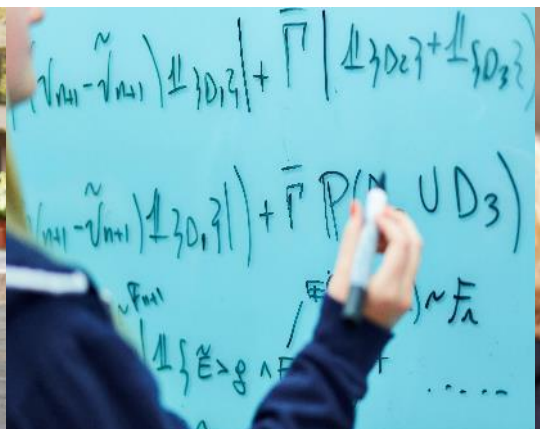
The vision of the programme is to develop a broad, holistic and useful theory of representations, engaging and unifying diverse perspectives, from algebra, geometry and topology to physics, life sciences and engineering, enabling a cross-discipline transfer of ideas. Our aim is thus to develop a unifying representation theory, which acts as a conduit for cross-fertilization between these disciplines.

The programme is organised around four themes:

1. Algebras bridging between combinatorics and geometry;
2. Mutation of algebraic and geometric structures;
3. Algebraic geometry of Grassmannians and moduli spaces;
4. Computation for Physics.

An ability to work on Theme 4 is preferred for the 30 month position, but the programme grant is flexible and applications from candidates with the potential to work on any of the four themes will be considered.

In particular, preference may be given to candidates with expertise in one or more of the following areas: diagram algebras, Hecke algebras, Brauer algebras, homological algebra, algebraic groups, statistical mechanics, topological quantum field theory, topological quantum computing, algebraic computation, and geometric topology.
For more information on the programme, please see our website.



What does the role entail?

As a Research Fellow, your main duties will include:

- Contributing to the day-to-day management of the programme and its webpages, including organising workshops, research seminars and hosting visitors;
- Generating and pursuing independent and original research ideas in the appropriate subject area;
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own research;
- Making a significant contribution to the dissemination of research results by publication in leading peer-reviewed journals and by presentation at national and international meetings;
- Working both independently and also as part of a larger team of researchers, both internally and externally, to develop new research links and collaborations engaging in knowledge-transfer activities where appropriate;
- Maintaining your own continuing professional development and acting as a mentor to less experienced colleagues as appropriate;
- Contributing to the training of both undergraduate and postgraduate students, including assisting with the supervision of projects in areas relevant to the project.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow you will have:

- A PhD (or have submitted your thesis before taking up the role) in Mathematics or another field relevant to the programme;
- A strong background in representation theory or other research area relevant to the programme themes;



- Good time management and planning skills, with the ability to meet tight deadlines and manage competing demands effectively without close support;
- A developing track record of peer-reviewed publications in international journals;
- Excellent communication skills both written and verbal, and the ability to communicate your research at national and international conferences;
- A proven ability to work well both independently and in a team;
- A strong commitment to your own continuous professional development.

You may also have:

- Experience of pursuing external funding to support research;
- Experience in mentoring or supervising Master's or PhD students.

How to apply

You can apply for this role online; more guidance can be found on our How to Apply information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

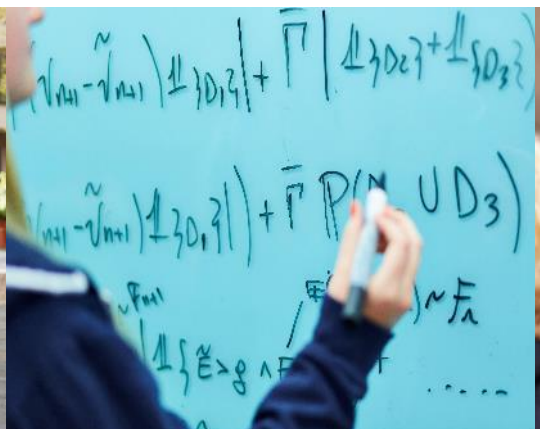
Contact information

To explore the post further or for any queries you may have, please contact:

Professor Paul Martin, Areas of expertise: representation theory; diagram categories and algebras; statistical mechanics.
Email: P.P.Martin@leeds.ac.uk

OR

Professor Karin Baur, Areas of expertise: algebraic, geometric, and combinatorial methods in representation theory.
Email: K.U.Baur@leeds.ac.uk


Additional information

Please note: If you are not a British or Irish citizen, you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Webpage for the Programme Grant, "Combinatorial Representation Theory: Discovering the Interfaces of Algebra with Geometry and Topology":
Programme Grant webpage.

Faculty and School Information
Further information is available on the research and teaching activities of the Faculty of Engineering & Physical Sciences, and the School of Mathematics.

A diverse workforce
As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. We are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. Candidates will always be selected based on merit and ability.

The Faculty of Engineering and Physical Sciences are proud to have been awarded the Athena SWAN Silver Award from the Equality Challenge Unit, the national body that promotes equality in the higher education sector. Our equality and inclusion webpage provides more information.

Working at Leeds
We are a campus based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our Working at Leeds information page.



Information for disabled candidates
Information for disabled candidates, impairments or health conditions, including requesting alternative formats, can be found on our Accessibility information page or by getting in touch with us at hr@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974
A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our Criminal Records information page.