



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

**Research Fellow in Many-Body and Topological Quantum Systems,
Faculty of Engineering & Physical Sciences**



Salary: Grade 7 (£33,797 – £40,322 p.a.)

Reference: EPSPA1009

Closing date: Thursday 26 March 2020

Fixed-term until 31 March 2021

We will consider flexible working arrangements

Research Fellow in Many-Body and Topological Quantum Systems, School of Physics and Astronomy.

Do you have a background in topological systems or many-body physics? Would you like to further your career in one of the UK's leading research intensive universities?

Applications are invited to work on an EPSRC funded project (Free-particle descriptions of topological quantum matter and many-body localisation) within the [Theoretical Physics Group](#), in the School of Physics and Astronomy. You will work in collaboration with the groups of [Prof Pachos](#) and [Dr Papic](#) investigating interaction effects in quantum systems, with a particular emphasis on topological phases of matter, non-equilibrium physics and many-body localisation.

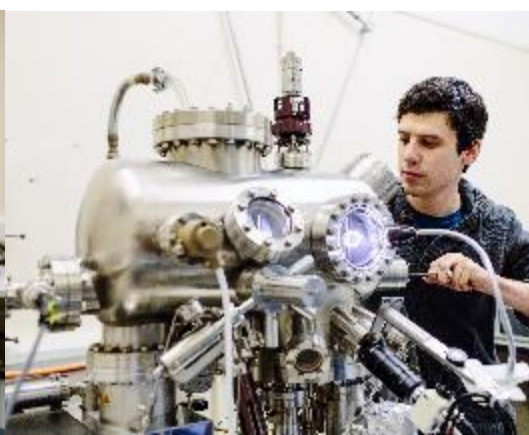
The project will involve the development of new theoretical and computational approaches to study the effect of interactions on the emergent properties of many-body systems. The job will involve collaborations within the group and with our international Project Partners. You will have the opportunity to work in both fundamental aspects of many-body physics as well as specialised applications.

You will have a PhD (or you will have submitted your thesis prior to taking up the appointment) in Theoretical Physics of topological systems, many-body systems or a closely related discipline. You will also have experience in modelling, analysis and computational skills and evidence of contributing to papers in internationally recognised, peer-reviewed journals or evidence of publishable research in progress.

What does the role entail?

As a Research Fellow, your main duties will include:

- Contributing to the “Free-particle descriptions of topological quantum matter and many-body localisation” project, as directed by Prof Jiannis Pachos and Dr Zlatko Papic;
- Generating and pursuing independent and original research ideas in the appropriate subject area;



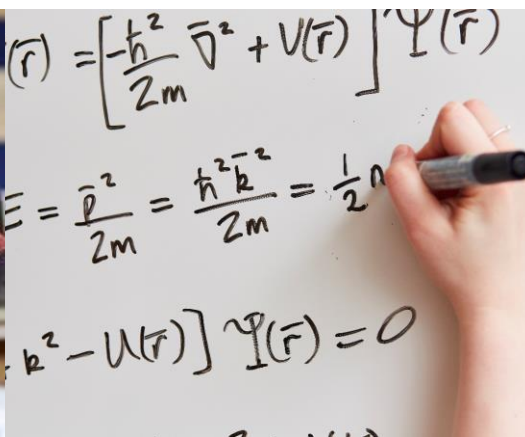
- Developing research objectives and proposals and contributing to setting the direction of the research project and team including preparing proposals for funding in collaboration with colleagues;
- Evaluating methods and techniques used and results obtained by other researchers and to relate such evaluations appropriately to your own work;
- Preparing papers for publication in leading international journals and disseminating research results through other recognised forms of output;
- Working both independently and also as part of a larger team of researchers, engaging in knowledge-transfer activities where appropriate and feasible;
- 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 in Theoretical Physics or a closely allied discipline;
- A strong background in modelling, analysis and computational skills;
- General knowledge of topological phases of matter and/or non-equilibrium physics (in particular, many-body localisation);
- Good time management and planning skills, with the ability to meet tight deadlines, manage competing demands and work effectively under pressure without close support;
- A proven track record of peer-reviewed publications in high impact factor journals;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually 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.

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:

[Prof Jiannis Pachos, Reader in Theoretical Physics](#)

Tel: +44 (0)113 343 3817

Email: j.k.pachos@leeds.ac.uk

or

[Dr Zlatko Papic, Lecturer in Theoretical Physics](#)

Tel: +44 (0)113 343 3882

Email: z.papic@leeds.ac.uk

Additional information

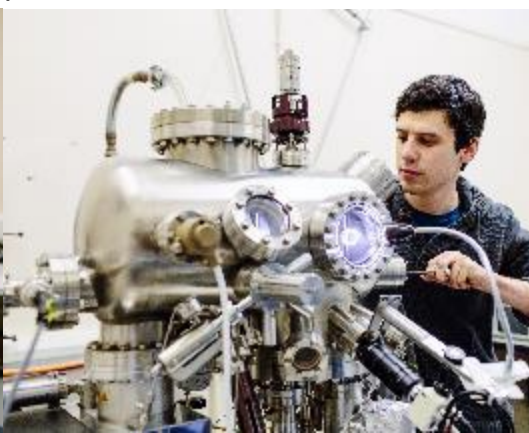
Faculty and School Information

The project will be carried out at the [Theoretical Physics](#) group of the University of Leeds and it is associated with an EPSRC grant "[Free-particle description of topological quantum matter and many body localisation](#)".

Further information is available on the research and teaching activities of the [School of Physics and Astronomy](#).

A diverse workforce

The Schools in the Faculty of Engineering & Physical Sciences are proud to have been awarded the Athena SWAN [Bronze or 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

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on our [Working at Leeds](#) information page.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

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.

