Newcastle University PhD Studentship award

Title
PhD projects in Applied Mathematics (see Overview)

Value of award
A tax-free stipend of £14,777 per year (subject to minor change) and 100% UK tuition fees. We will consider covering the EU/international fees for outstanding students and where possible.

Number of awards
1

Start date and duration
42 months from September 2019

Application closing date
31 January 2019

Overview
The School of Mathematics, Statistics and Physics is offering a PhD studentship in Applied Mathematics, to commence in September 2019.
A list of available projects, categorised by research theme, is given below. More detailed descriptions of each project can be found at the following link: https://www.ncl.ac.uk/maths-physics/postgraduate/research-projects/applied/

Cosmology and Quantum Gravity
- The Big Bang and inflation
- The large-scale structure of the universe

Astrophysical and Geophysical Fluids
- Convective dynamo action at the solar surface
- Convection in the Earth's core
- Internal waves in the Arctic Ocean
- Galactic magnetic fields
- Buoyant magnetic fields in the Sun
- Neutron star magnetic fields

Quantum Matter
- Stochastic modelling of quantum matter
• Ultracold quantum gases: from the fundamental to the technological
• Is turbulence knotted?
• Vortex lines as topological defects at phase transitions: micro big-bangs in superfluid helium
• Vortex motion in atomic condensates

Mathematical Biology and Archaeology
• Collective behaviour from cells to animals
• Modelling of ecological systems
• Improving medical imaging and diagnostics
• Prehistoric population dynamics

Interested applicants are encouraged to contact the supervisors of the projects they are interested in for more information. General information can also be obtained from Dr Toby Wood (toby.wood@ncl.ac.uk).

Sponsor
EPSRC and School of Mathematics, Statistics and Physics

Name of supervisor(s)
The projects will be supervised by members of the academic staff of the school with relevant research interests and experience. These include Dr Andrew Baggaley, Prof Carlo Barenghi, Dr Tom Billam, Dr Paul Bushby, Dr Magda Carr, Dr Clive Emary, Dr Andrew Fletcher, Dr Céline Guervilly, Prof Ian Moss, Dr Nick Parker, Prof Nick Proukakis, Dr Graeme Sarson, Prof Anvar Shukurov, and Dr Toby Wood. To view the supervisors of the projects please use the following link: https://www.ncl.ac.uk/maths-physics/staff/academic/applied/

Eligibility Criteria
This studentship is available to candidates who have or are predicted to obtain at least a 2(i) honours degree in computing science, mathematics, physics, statistics or another strongly quantitative discipline, or an international equivalent. Applicants whose first language is not English require a minimum of IELTS 6.5 or equivalent.

How to apply
You must apply through the University’s online postgraduate application system. To do this please ‘Create a new account’.

All relevant fields marked with a red asterisk must to be completed. The following information will help us to process your application. You will need to:

• insert the programme code 8080F in the programme of study section
• select ‘PhD Mathematics – Applied’ as the programme of study
• insert the studentship code **MSP012** in the studentship/partnership reference field
• attach a personal statement and CV. The personal statement should list up to three projects that you are interested in applying for, in order of preference, must state the title of the studentship, quote reference code MSP012 and state how your interests and experience relate to the project.
• attach degree transcripts and certificates and, if English is not your first language, a copy of your English language qualifications

**Contact**

Dr Toby Wood (toby.wood@ncl.ac.uk)