Research Associate in Gamma-ray Astronomy

College of Science and Engineering

Department of Physics and Astronomy

Salary Grade 7 - £31,331 to £36,298 per annum

Open Ended Contract, subject to Fixed Term Funding

Funding is available for 3 years

Ref: SEN00355

At Leicester we’re going places. Ranked in the top 20 universities in Britain our aim is to climb further. A commitment to high quality fused with an inclusive academic culture is our hallmark and led the Times Higher Education to describe us as “elite without being elitist”.

In this exciting role you will pursue cutting edge research at the high-energy frontier of astronomy using data from major ground and space based gamma-ray observatories and contribute to the development of the world-leading next generation instrument for this waveband: CTA.

Your Role

In this role you will participate in the gamma-ray astrophysics programme at the University of Leicester. You will contribute to the analysis of data from the satellite-based Fermi-LAT detector and the Cherenkov telescope array HESS, and you will support the scientific optimisation of the Cherenkov Telescope Array (CTA), a global project to build a major facility for ground-based gamma-ray astronomy.

You will work with the CTA Project Scientist on several key problems in high-energy astrophysics, including the role of relativistic particles in the dynamics and evolution of star-forming regions, and the origin of the locally-measured PeV cosmic rays. The first science data from CTA pre-production telescopes is expected towards the end of the appointment and you will contribute towards the development of the CTA data-pipeline, working towards the first CTA science.

Context

You will be responsible to Professor Jim Hinton, X-ray and Observation Astronomy Group, Department of Physics and Astronomy.

You will be responsible for the day to day management of projects, in collaboration with other members of the Leicester team.
You will work with many national and international collaborators including members of the HESS and CTA consortia. For further information on the CTA project and the UK role please see:

The CTA Project in the UK: [https://www.cta-observatory.ac.uk/](https://www.cta-observatory.ac.uk/)

**Principal Accountabilities**

- Develop and apply methods for data analysis to extract key observational constraints on astrophysical systems, and refine these methods for routine application in future datasets.
- Develop and apply simulation tools for use in the interpretation of astrophysical data and in the optimisation of future instrumentation.
- Write up research findings for publication and dissemination, including delivery at conferences and seminars.
- Provide guidance to other staff and students and support the organisation of local meetings.

**Person Specification**

Candidates will be asked to address each of the essential criteria (marked *) in their application.

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<th>Criteria</th>
<th>Method of Assessment</th>
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<tr>
<td>Your will hold (or expect shortly to hold) a PhD in Physics or Astronomy in a relevant research area such as particle physics, astroparticle physics or high energy astrophysics (or have relevant post-doc experience).*</td>
<td>Application</td>
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<td>Excellent computational/software development skills and experience appropriate to the programme of work.*</td>
<td>Application, presentation, interview</td>
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<tr>
<td>Excellent technical, diagnostic and interpretive skills, especially experience analysing gamma-ray data from Cherenkov telescopes and/or Fermi-LAT.*</td>
<td>Application, presentation, interview</td>
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<td>Experience in modelling for high energy astrophysics.</td>
<td>Application, presentation, interview</td>
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<td>A willingness to travel for collaborative visits and conferences, often overseas.</td>
<td>Interview</td>
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<td>High level of proficiency in English, sufficient to undertake research, teaching and administrative activities utilising English Language materials and to communicate effectively with staff and students.</td>
<td>Application, presentation, interview</td>
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**Athena Swan**

We are proud holders of the Athena Swan Bronze Award which recognises and celebrates good practice for employment in science, engineering and technology (SET) in higher education and research. The award reflects our commitment to the advancement and promotion of diversity and equality. We are actively seeking Silver and Gold awards.

Informal Enquiries

Informal enquiries are welcome and should be made to Professor Jim Hinton on jah85@le.ac.uk or on 0116 252 2719.

For further information about the University, please visit our website: http://www2.le.ac.uk/offices/jobs/here

Applications

For further information and to apply on-line, please visit our website: www.le.ac.uk/joinus

We use a web based, e-recruitment system, which allows you to apply on-line. Please upload a copy of your CV and a covering letter including the names and addresses of two referees. One of your referees should be your current or most recent employer.

The closing date for this post is midnight on 8 July 2013.

We anticipate that interviews will take place on 18 July 2013.

Candidates short-listed for interview will be contacted by the University. If you do not receive a communication from the University within 4 weeks of the closing date, please assume that your application has been unsuccessful.

Contractual information

At the end of your Fixed Term Period you will automatically be placed onto the University’s Redeployment Register, if you wish to opt out or you would like further information please contact the Recruitment Team on recruitment@le.ac.uk