



JOB DESCRIPTION

Job Title:	Postdoctoral Research Associate in the Astronomy Group
Department / Unit:	Department of Physics
Job type	Professional Services
Grade:	RHUL 7
Accountable to:	Dr Gregory Ashton
Accountable for:	N/A
Purpose of the Post	
<p>The main purpose of this post is to undertake research activities related to gravitational wave astronomy as part of the 2024 RHUL STFC Gravitational Wave Consolidator Grant Award "<i>Advancing Gravitational-Wave Astronomy Using Artificial Intelligence</i>".</p> <p>As part of this position, the post holder will also contribute to the research life within the Astronomy Group through collaboration with postgraduate students, other postdoctoral researchers, and academics. The successful candidate will join the international LIGO Scientific Collaboration.</p>	
Key Tasks	
<ul style="list-style-type: none"> • To lead the development of AI-enhanced approaches to Compact Binary Coalescence parameter estimation, including but not limited to: applications of Simulation Based Inference, simultaneous signal and glitch modelling, and applications to astrophysical observations. • To take initiative in the planning of other research projects and lead multi-disciplinary projects within the LIGO Scientific Collaboration. • To maintain accurate and complete records of all findings and regularly communicate these to collaborators. • Attend national and international workshops and conferences and present research findings. • Draft and contribute to publications for submission to refereed journals. • Contribute to bids for research grants. • Take part in the supervision of BSc, MSc/MSci, and PhD students. • Promote the reputation of the Group, the Department, and the University. 	
Other Duties	

- Undertake appropriate administration tasks
- Attend relevant group, departmental, and university-wide meetings
- Undertake any necessary training and/or personal development
- Undertake specific safety responsibilities relevant to the role as set out in the University procedures
- Maintain safe workplace practices and procedures in accordance with the requirements of Health and Safety legislation
- Maintain an up-to-date knowledge of relevant statutory Health and Safety legislation and recommendations and attend safety training as required
- Observe and comply with all University policies and regulations

The duties listed are not exhaustive and may be varied from time to time as dictated by the changing needs of the University. The post holder will also be expected to undertake other duties as appropriate and as requested by their manager.

The post holder may be required to work at any of the locations at which the business of Royal Holloway is conducted.

Internal and External Relationships

The following list is not exhaustive, but the post holder will be required to liaise with:

- Members of the RHUL Astronomy group
- Project collaborators

PERSON SPECIFICATION

Details on the qualifications, experience, skills, knowledge and abilities that are needed to fulfil this role are set out below.

Job Title: Postdoctoral Research Associate in the Astronomy Group

Department: Physics

	Essential	Desirable	Tested by Application Form/Interview/Test
Knowledge, Education, Qualifications and Training (a) PhD in astrophysics, theoretical physics, or related discipline (or near completion - it is expected that the appointee will have their PhD awarded within 4 months of the start date) with a focus on gravitational-wave astronomy.	X		Application
Skills and Abilities (a) Solid knowledge of python programming (b) Knowledge of modern scientific software development concepts such as version control, software testing, high-performance computing environments, and delivery of production-quality software. (c) Effective communication skills in English (d) Flexibility to adapt to an evolving environment and to work in teams, both as a leader or as a member (e) Good planning and organisational skills	X X X X	X	Application Application / Interview Interview Interview Interview
Experience (a) Solid publication track record in gravitational-wave astronomy with papers in refereed scientific journals commensurate with career stage	X		Application

(b) Experience of working as part of a team.	X		Application / Interview
(c) Experience with agile development techniques and continuous integration processes		X	Application / Interview
(d) Experience and understanding of gravitational-wave astronomy and computational Bayesian inference tools	X		Application/Interview
Other Requirements			
(a) Strong self-motivation	X		Application/Interview
(b) Demonstrable commitment to equality, diversity, and inclusion	X		Application/Interview