THE UNIVERSITY OF MANCHESTER

PARTICULARS OF APPOINTMENT

FACULTY OF SCIENCE & ENGINEERING

SCHOOL OF NATURAL SCIENCES

DIVISION OF PHYSICS AND ASTRONOMY

RESEARCH ASSOCIATE IN ALMA ASTRONOMY

VACANCY REF: SAE-15503

Salary:	Grade 6 £32,816 to £40,322 per annum (according to relevant experience)
Hours:	1 FTE
Duration:	2 Years commencing 20 July 2020 with the possibility of extension
Location:	Sackville Street, Manchester

Enquiries about the vacancy, shortlisting and interviews:
Name: Prof. Gary Fuller,
Email: g.fuller@manchester.ac.uk
or
Name: Dr. Tom Muxlow,
Email: tom.muxlow@manchester.ac.uk

BACKGROUND

The Jodrell Bank Centre for Astrophysics (JBCA) is a research division of the Department of Physics and Astronomy and one of the largest academic astronomy research groups in Europe, studying a very broad range of astrophysical research, in particular Cosmology, Galaxy formation and evolution, AGN and Star-formation, Galactic Astronomy, Time-domain astrophysics (including Pulsars, Masers and Exoplanets) and Solar Physics. Research staff are located in the Alan Turing Building on the main Manchester campus, and comprises around 30 academic staff, 50 postdoctoral researchers, and 60 post-graduate students

JBCA host the UK ALMA Regional Centre (ARC) Node. The ARC Node is funded by STFC to support the UK astronomical community to exploit the UK's investment in the Atacama Large Millimeter/sub-millimeter Array (ALMA). The UK ARC Node is a leading member of the European ALMA Regional Centre network which is led by the ESO in Garching.

The Department is strongly committed to promoting equality and diversity, including the Athena SWAN charter for gender equality in higher education. The Department holds a Silver Award which recognises their good practice in relation to gender; including flexible working arrangements, family-friendly policies, and support to allow staff achieve a good work-life balance.

Further information on the Department of Physics and Astronomy can be found at www.physics.manchester.ac.uk.

Overall Purpose of the Job:

The holder of this position will play a leading role in the UK ARC Node and EU ARC user support, science and development activities. The appointee will spend 75% of their time as part of the team supporting astronomers planning ALMA observations, acquiring and processing data. This will involve one-to-one support, the passing on of mm-wave interferometry skills, and the testing and enhancement of software and imaging tools, with the exact balance of activities to be agreed after appointment. This work will require significant active interaction with both the ESO ARC and the other members of the European ARC Node network, as well as the wider international ALMA project. For the remaining 25% of their time the successful candidate will be expected to engage in their own independent research program focused on ALMA science, in collaboration with researchers locally and elsewhere.

Key Responsibilities, Accountabilities or Duties:

The range of duties will include:

- Supporting UK and international astronomers using ALMA and publishing scientific results from ALMA.
- Leading and contributing to a range of activities, both in the UK and internationally, to enhance ALMA's operations and scientific output.
- Participate in professional training and development activities.
- Participate in public engagement activities.
- Conducting individual and collaborative ALMA-related research projects.
- Maintaining a high level of expertise in ALMA observations capabilities and data analysis techniques.
- Contribute to the preparation of proposals and applications to external bodies, e.g. for funding.
- Attend and contribute to relevant meetings.

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PERSON SPECIFICATION

Essential Knowledge, Skills and Experience*:*

- Have, or be about to obtain, a PhD (or equivalent) in astrophysics or in a closely related subject area.
- Have established expertise in interferometry techniques and data processing with specific reference to the field of mm and sub-mm astronomy.
- Be capable of playing a leading role in developing ALMA-related science in the UK.

- Have expertise with observational data analysis using CASA.
- Have excellent IT skills especially in Python scripting.
- Be enthusiastic to support users and prospective users of ALMA.
- Excellent communication and interpersonal skills.
- Excellent time management and organisational skills.
- Ability to work independently and as part of a team.
- Ability to liaise confidently and effectively with a range of individuals.
- Flexible approach to dealing with research problems as they arise.
- Willingness to learn and develop.
- Ability to present in both written and oral publications.
- Ability to meet deadlines.
- Strong journal publication record.
- Understand equal opportunity issues as they may impact on areas of research content.

Desirable Knowledge, Skills and Experience

- Experience as an ALMA user.
- Experience of ALMA user support.
- Have experience with advanced radio interferometric data processing techniques such as wide-field imaging, mosaicking, and innovative calibration including advanced phase recovery techniques.
- Have experience with the development or maintenance of astronomical archives.