## JOB DESCRIPTION

### Vacancy Ref: A2329

<table>
<thead>
<tr>
<th>Job Title:</th>
<th>Research Associate in Fabrication of Novel Millimetre Wave Traveling Wave Tubes for Future High Data Rate Networks</th>
<th>Present Grade: 6P</th>
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</thead>
<tbody>
<tr>
<td>Department:</td>
<td>Engineering</td>
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<td>Directly responsible to:</td>
<td>Professor Claudio Paoloni</td>
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<td>Supervisory responsibility for:</td>
<td>support in supervision of PhD students and final year UG/PG students</td>
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### Other contacts

**Internal:**
- All Lancaster academic and professional staff

**External:**
- All industry and university collaborators, scientific community, EU Commission

This is a two-year appointment for applied research in the field of millimetre vacuum electron devices for high data rate communications for new generation networks.

The role is to actively contribute to the success of EPSRC and EU Horizon 2020 projects led by Professor Claudio Paoloni in the field of millimetre wave traveling wave tubes for high capacity wireless networks. The researcher will design and fabricate novel millimetre wave Traveling Wave Tubes (TWT). The work will be performed in collaboration with the research group.

The main duties and activities are:

- Design and simulation of novel slow wave structures (SWSs) for millimetre wave vacuum tubes by three dimensional electromagnetic simulators in collaboration with the research group.
- Design of all the parts of the TWTs, including electron gun, collector and magnetic focusing system.
- Use of CNC milling or LIGA process for microfabrication of SWSs.
- Procurement all the parts of the TWTs and set of the fabrication setup.
- Mechanical and electrical measurement of realised SWSs.
- Assembly, high voltage test, beam focussing of TWTs.
- To take responsibility of the tasks and reporting of the project.
- To publish in high-quality peer-reviewed journals.
- To participate to the project meetings; preparation of the report for the status of the project to be presented to seminars; preparation and presentation of talks, posters and reports to disseminate the results of the project.
- To present papers to relevant international and national conferences and workshops.
- To contribute in the organisation of conferences, workshops and meetings.