

**JOB DESCRIPTION**

**Vacancy Ref: 0519-23**

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| **Job Title:** Research Associate for the ‘DIGIPIPEWELD’ Project | **Present Grade:** 6 |
| **Department/College:** Engineering |
| **Directly responsible to:** Dr Min Xia and Prof Darren Williams |
| **Supervisory responsibility for:** support in supervision of PhD and final year UG/PG students |
| **Other contacts**  |
| **Internal:**Lancaster academic and professional staff |
| **External:**  Industry collaborators including Pinweld, TWI, ATS, and Rainbow |
| **Major Duties:**1. Develop AI-based process monitoring module using various sensors for in-process defect detection of plastic pipe welding. Build effective process optimisation algorithms to optimise process parameters.
2. Integration of monitoring data, optimisation techniques and control module in the pipe welding platform. Performance verification and final customisation of the system. Visit industry partners as needed to carry out the tasks.
3. Develop autonomous quality inspection and leakage detection modules.
4. Participation in project meetings; preparation and presentation of talks, posters and reports to disseminate the results of these studies.
5. Preparation of progress reports describing the results of the project.
6. Participation in national and international conferences and workshops to present the results of the project to a wider audience and to learn about current advances in the field.
7. Preparation of journal papers for publication of project findings.
8. Participation in (and ultimately taking the lead in) writing new research proposals that build on the expertise in process monitoring and optimization developed in this project.
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