Research Fellow (Remote Laser Welding)
WMG
£29,799 - £38,833 pa
Fixed Term Contract until 31st March 2020

There are 2 positions available and both are offered as a fixed term contract until 31st March 2020.

These positions will support rapid deployment of new manufacturing technologies necessary for the lightweight strategy in automotive industry. It builds on the WMG simulation technology which led to the first ever fully digitally developed aluminium car door with remote laser welding.

This is an exciting opportunity for you to apply your technical skills within the strategically important areas of remote laser welding (RLW) technology and its application for a new automotive manufacturing system.

- Post 1 is in the area of experimental characterisation of laser welding joints and their quality improvement and;
- Post 2 is in the area of robotics/control/automation and their applications in manufacturing.

You will have excellent communication skills, be flexible, and have the ability to work independently and as part of a team. You will work closely with senior research staff and will be responsible for developing robotics systems applications in manufacturing.

You will hold a PhD level qualification, have undertaken complimentary research in ONE of the above areas and potentially be able to demonstrate your capability through appropriate industrial experience.

If you have not yet been awarded your PhD but are near submission or have recently submitted your PhD, any offers of employment will be made as Research Assistant on level 5 of the University grade structure (£28,936). Upon successful award of your PhD and evidence of this fact, you will be promoted to Research Fellow on the first point of the level 6 of the University grade structure (£29,799).

If you require further information about this position, please contact Professor Darek Ceglarek D.J.Ceglarek@warwick.ac.uk for an informal discussion.

This role will be advertised shortly on the University of Warwick Job Search pages. If you would like to be considered for this role, please forward your CV to WMGrecruitment@warwick.ac.uk clearly stating the job title that you are interested in, and we will make contact with you when it is advertised. You can also set up job alerts on the University of Warwick Job Search page, so you can be made aware of vacancies that may be suitable when they become available.
JOB DESCRIPTION

Job Purpose

You will be employed to work with the multidisciplinary research team of Digital Lifecycle Management to support the work of the Department and develop and enhance its reputation, both internal and external to the University. You will assist the Project Director and Project Collaborators in the successful execution of the project.

Duties and Responsibilities

Research

1. To establish a sound research base in collaboration with colleagues as appropriate.
2. To work closely with project team to help secure external funding through research grants or contracts to support a developing research agenda.
3. To manage research projects within the University, which includes supervising post-doctoral research assistant, research students, and technical and other support staff engaged in research.
4. To consider the value of research achievements within their potential commercial context and where appropriate and with the assistance of the Research and Impact Services, take appropriate action to protect such research results by patent application or copyright to the potential benefit of the University.
5. Where appropriate and expedient, to secure contract work to the benefit of (your) research activity and to provide resources to underpin this activity.
6. To assist with the development and delivery of teaching and training materials to disseminate research findings in a format that will encourage successful implementation.
7. To publish research outcomes in appropriate journals of international standing and to publish and disseminate the result of research and scholarship in other reputable outlets.
8. To identify and explore with the Department and the University any entrepreneurial opportunities which may arise and to ensure that intellectual property rights are protected for the benefit of the University and the researcher.
9. To attend and present research findings and papers at academic and professional conferences, and to contribute to the external visibility of the department.
10. To contribute to the research plans developed by the Department, including providing such information as may be required by the Department to monitor the progress of each member of staff’s research programme and to support the Department fully in the preparation of material required for the REF or similar activities.
11. To help draft research reports for the Project Director.
Administration and Other Activities

1. To undertake such specific departmental roles and management functions as may be reasonably required by the Head of Department.

2. To attend departmental meetings and to participate (where necessary) in other committees and working groups within the department, the faculty and the University.

3. To participate in relevant professional activities.

4. To engage in continuous professional development.

5. To undertake external commitments, which reflect well and enhance the reputation of the University.

6. To ensure compliance with health and safety in all aspects of work.

The duties and responsibilities outlined are not intended to be an exhaustive list but provide guidance on the main aspects of the job. The post holder will be required to be flexible in their duties.
## PERSON SPECIFICATION

**POST TITLE:** Research Fellow (Remote Laser Welding)  
**DEPARTMENT:** WMG  

The Person Specification focuses on the knowledge, skills, experience and qualifications required to undertake the role effectively.

### REQUIREMENTS

The post holder must be able to demonstrate:

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<th>REQUIREMENTS</th>
<th>ESSENTIAL (E) or DESIRABLE (D) REQUIREMENTS (please indicate)</th>
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|              |                                                               | a) application form  
|              |                                                               | b) Test/Exercise  
|              |                                                               | c) Interview  
|              |                                                               | d) Presentation |
| Honours degree, 2.1 or above in in one of the following areas material/mechanical/industrial/computer engineering | E | a |
| Possession of a PhD in a relevant discipline | E | a |
| Technical knowledge and experience in the areas of (Post 1) mechanical engineering and/or material science, and the use of software packages such as MATLAB, C++, Minitab and SPSS, to analyse data and extrapolate correlation patterns; **OR** | E | a, c, d |
| Technical knowledge and experience in the areas of (Post 2) mechanical engineering, robotics, programming, specifically Matlab, C++, CAD/CAM, and RobotStudio | E | a, c, d |
| Have demonstrated hands on experience to (Post 1) design and run physical experimentation, analyse and interpret data using multivariate statistical analysis; **OR** (Post 2) program industrial robots and develop control architectures | E | a, c, d |
| Have demonstrated excellent knowledge of (Post 1) material and specimen preparation; **OR** (Post 2) automation & control, PLC programming | E | a, c, d |
| Ability or potential to publish excellent work in refereed journals & to demonstrate excellent research in relevant fields | E | a, c |
| Good effective communication (oral and written) skills, presentation and training skills | E | a, c, d |
| Good interpersonal skills | E | a, c, d |
| Ability to work independently and as part of a team on research programmes | E | a, c, d |
| Ability to initiate, plan organise, implement and deliver programmes of work to tight deadlines | E | a, c, d |
| Competency in IT and familiarity with a computerised environment | E | a, c |
| A range of Quantitative and/or Qualitative research skills | E | a, c |
| Evidence of quality research output from experience candidates or strong research potential from less experienced candidates | E | a, c |
| Proven experience in Higher Education | D | a, c |
| Ability to initiate, develop and deliver high quality research and to publish in peer reviewed journals | D | a, c |
| Developing track record in producing high quality publications | D | a, c |
| Ability or potential to generate external funding (grants, contracts etc) to support research projects | D | a, c |
| Ability to write research reports and papers in styles accessible to both academic and policy audiences | D | a, c |
Further Particulars

For information about WMG, please visit our website:
http://www2.warwick.ac.uk/fac/sci/wmg/

This role will sit within the Digital Lifecycle Management Group in WMG. This Group, headed by Professor Darek Ceglarek, conducts research aimed at developing methodologies that integrate products, processes and complex services with system design to create a novel closed-loop lifecycle modelling and synthesis framework, as well as self-resilient production and service systems that are robust to changes and six-sigma faults. This breaks new ground by establishing a field of research on the interface between product design, system design, manufacturing and intangible services. The developed methodologies have significant impact on a range of areas including automotive, aerospace, consumer goods and the healthcare services.

For further information on the work of the Group, please visit:
https://www2.warwick.ac.uk/fac/sci/wmg/research/manufacturing/