ROLE PROFILE

Job Title: Research Associate/Fellow in Manufacturing

School/Department: Faculty of Engineering, Department of Mechanical, Materials and Manufacturing Engineering.

Job Family and Level: Research and Teaching Level 4 Training Grade/Level 4

Contract Status: Fixed-term until 30 October 2020, available from 1 September 2019

Hours of Work: Full-time (36.25 hours per week)

Location: Jubilee Campus, Nottingham.

Reporting to: Professor Dragos Axinte

Purpose of the New Role:
This post will focus on the study of advanced manufacturing technologies and surface integrity inspection methods for difficult-to-machine materials (e.g. Nickel based alloys). To conduct original research of national and international standing leading to high quality publications as a member of the Rolls-Royce UTC in Manufacturing and On-Wing Technology, Faculty of Engineering.

Main Responsibilities % time per year

1. To undertake research of international excellence compatible with existing activity within Department of Mechanical, Materials and Manufacturing Engineering, Rolls-Royce University Technology (UTC) in Manufacturing and On-Wing Technology. Publish research results in internationally leading peer-reviewed journals or peer-reviewed international conferences, and disseminate research findings internationally. 50%

2. To develop new research methodology and undertake validation experiments. 15%

3. Manage and undertake projects, including meeting organisation, reports preparation etc. 15%

4. Help supervise postgraduate research students engaged in their research. 10%

5. Any other duties appropriate to the grade and role. 10%

Knowledge, Skills, Qualifications & Experience

<table>
<thead>
<tr>
<th>Essential</th>
<th>Desirable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualifications/Education</td>
<td>• Undergraduate or Masters degree in mechanical engineering.</td>
</tr>
<tr>
<td></td>
<td>• PhD (or be very close to completion) or equivalent in Mechanical Engineering.</td>
</tr>
<tr>
<td>Skills/Training</td>
<td>• Skills in surface integrity related manufacturing techniques.</td>
</tr>
<tr>
<td></td>
<td>• Knowledge on surface characterisation methods, such EBSD, XRD, SEM, FIB etc.</td>
</tr>
<tr>
<td>Experience</td>
<td>Personal Attributes</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
</tbody>
</table>
| • Experience in manufacturing techniques of difficult-to-manufacturing materials and knowledge about surface integrity analysis of machined workpiece.  
• Experience of publication in journals or conference.                  | • Excellent communication and presentation skills with the ability to easily communicate on all levels across many areas.  
• Ability to work in a team to deadlines and to prioritise tasks.  
• Self-motivated.                                                      |
| • Experience in analysis of nickel-based superalloys and its surface integrity.  
• Experience on operate SEM, XRD, EBSD and FIB etc.  
• Experience in delivering presentations at workshops or conference.   | • Ability to quickly respond to requirements related to research.  
• Independent decision maker.                                          |

The University of Nottingham strongly endorses Athena SWAN principles, with commitment from all levels of the organisation in furthering women’s careers. It is our mission to ensure equal opportunity, best working practices and fair policies for all.