Role profile

**Job title**  
Marie Skłodowska Curie Actions: Early Stage Researcher (MSCA ESR)

**Job family and level**  
Research and Teaching Off-Scale

**School/Department**  
Institute for Aerospace Technology, Faculty of Engineering

**Location**  
Jubilee Campus, Nottingham UK

**Purpose of role**
Composite materials are being extensively implemented into various engineering applications, e.g. in the aerospace industry, due to their enhanced mechanical properties such as high strength and stiffness to weight ratio amongst others. Composites also offer a high degree of flexibility when designing a component since the properties of a laminated structure depend on the individual characteristics of the laminas that form it. Aircraft structures in particular pose a significant challenge for structural designers due to their size and complexity.

The successful applicant will establish an accurate, robust and efficient methodology for optimising large-scale composite aircraft structures.

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<tr>
<th>Main responsibilities</th>
<th>% time per year</th>
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<tr>
<td>1 Review existing work relevant to the technical area of research.</td>
<td>10%</td>
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<tr>
<td>2 Conduct original research contributing towards a PhD qualification in ultrasonic wave interaction with damage.</td>
<td>40%</td>
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<tr>
<td>3 Develop and test new methods to contribute to the technical area of research.</td>
<td>30%</td>
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<td>4 Prepare project report and scientific publications.</td>
<td>10%</td>
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<tr>
<td>5 Accomplish general tasks in the Composites Research group</td>
<td>10%</td>
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RPF Band B
## Person specification

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<th>Essential</th>
<th>Desirable</th>
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<td><strong>Skills</strong></td>
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| ▪ Good communication skills, both orally and in written English, laying groundwork for the preparation of scientific articles and presentation of research at network meetings and conferences | ▪ Composite structures  
▪ Strong programming skills in Fortran and Python or equivalent. |
| ▪ Basic laboratory skills (safe operating practice) and use of instrumentation. |                                                                           |
| **Knowledge and experience**                                              |                                                                           |
| ▪ Research experience in a relevant area (see above).  
▪ Scientific writing  
▪ Oral presentations | ▪ Mathematical optimization  
▪ Computer programming |
| **Qualifications, certification and training (relevant to role)**          |                                                                           |
| ▪ Excellent Masters Degree in a relevant discipline (e.g. Civil/ Mechanical/ Aerospace Engineering or Applied Maths), enabling the candidate to register for a doctoral degree |                                                                           |

The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.
Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University’s strategy, vision and values. The following are essential to the role:

Valuing people
Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.

Taking ownership
Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.

Forward thinking
Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.

Professional pride
Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.

Always inclusive
Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others

- **Line manager**: Dr. D. Chronopoulos: UNOTT PI
- **Role holder**: ESR
- **Key stakeholder relationships**: ESR Colleagues, OPTIMACS Project Manager