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| Last updated: | 13/10/2022 |

**JOB DESCRIPTION**

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| Post title: | **Research Fellow in Multirotor Aerodynamics** | | |
| School: | Aerodynamics and Flight Mechanics Research Group | | |
| Faculty: | Engineering and Physcial Sciences | | |
| Career Pathway: | Education, Research and Enterprise (ERE) | Level: | 4 |
| \*ERE category: | Research pathway | | |
| Posts responsible to: | Principal Investigator | | |
| Posts responsible for: |  | | |
| Post base: | Office-based:  - University of Southampton: Boldrewood Innovation Campus and  - Airbus Operations Ltd: Filton (Bristol) | | |

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| Job purpose |
| To undertake research in accordance with the specified research project under the supervision of the award holder. To undertake leadership, management and engagement activities. |

| Key accountabilities/primary responsibilities | | % Time |
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|  | To develop and carry out an area of specific research. | 50 % |
|  | Regularly disseminate findings by taking the lead in preparing publication materials for referred journals, presenting results at conferences, or exhibiting work at other appropriate events. | 5% |
|  | Contribute to the writing of bids for research funding. | 5 % |
|  | Investigate models and approaches to test and develop them. | 10% |
|  | Collaborate/work on original research tasks with colleagues in other institutions. | 10% |
|  | Carry out administrative tasks associated with specified research funding, for example risk assessment of research activities, organisation of project meetings and documentation. Implementation of procedures required to ensure accurate and timely formal reporting and financial control. | 5% |
|  | Supervise the work of junior research staff. | 5% |
|  | Carry out occasional undergraduate supervision, demonstrating or lecturing duties within own area of expertise, under the direct guidance of a member of departmental academic staff. | 5% |
|  | Any other duties as allocated by the line manager following consultation with the post holder. | 5% |

| Internal and external relationships |
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| Direct responsibility to report to Dr Andrea Da Ronch on weekly basis.  Engagement with Airbus Operations Ltd on a monthly basis.  May have additional reporting and liaison responsibilities to external funding bodies or sponsors.  Collaborators/colleagues in other work areas and institutions. |

| Special Requirements |
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| To attend national and international conferences for the purpose of disseminating research results.  To attend project meetings with our partners and collaborators.  *Applications for Research Fellow positions will be considered from candidates who are working towards or nearing completion of a relevant PhD qualification. The title of Research Fellow will be applied upon successful completion of the PhD. Prior to the qualification being awarded the title of* ***Senior Research Assistant*** *will be given.* |

**PERSON SPECIFICATION**

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| Criteria | Essential | Desirable | How to be assessed |
| Qualifications, knowledge and experience | PhD or equivalent professional qualifications and experience in computational aerodynamics or aeroelasticity  Knowledge of single or multirotor configurations and development and analysis of novel fixed/rotary wing aircraft.  Detailed understanding and knowledge of computational methods and the analysis of complex aerospace problems  Evidence of publications | PhD in aerospace engineering or equivalent.  Excellent knowledge in at least one of the following topics: aerodynamics, aeroelasticity, rotary wings.  Experience in developing programming codes related to aerodynamics and aeroelasticity of fixed/rotary wing aircraft.  Experience with SU2 or other aerodynamic analysis tools (medium to high fidelity preferred) and multibody tools  Experience with analysis tools such as MATLAB, Python and high performance computing | CV, publications, and interview |
| Planning and organising | Good time management and organisational skills and ability to organise own research activities to deadline and quality standards |  | CV, interview, references |
| Problem solving and initiative | Able to develop understanding of complex problems and apply in-depth knowledge to address them  Able to develop original techniques/methods | Implement research concepts into prototypical tools and evaluate them with project partners | CV, interview, publications |
| Management and teamwork | Able to supervise work of junior research staff, delegating effectively  Able to contribute to Academic Unit management and administrative processes  Work effectively in a team, understanding the strengths and weaknesses of others to help teamwork development | Able to contribute to Academic Unit management and administrative processes | CV, interview, references |
| Communicating and influencing | Communicate new and complex information effectively, both verbally and in writing, engaging the interest and enthusiasm of the target audience  Able to present research results at group meetings and conferences  Able to write up research results for publication in leading peer-viewed journals  Work proactively with colleagues in other work areas/institutions, contributing specialist knowledge to achieve outcomes |  | CV, interview |
| Other skills and behaviours | Understanding of relevant Health & Safety issues  Proactive in promoting a working environment that is inclusive and engaging; recognising the value diversity brings. |  | Interview |
| Special requirements | Able to attend national and international conferences for the purpose of disseminating research results.  Able to attend project meetings with our partners and collaborators. |  | CV and interview |

**JOB HAZARD ANALYSIS**

**Is this an office-based post?**

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| Yes | If this post is an office-based job with routine office hazards (eg: use of VDU), no further information needs to be supplied. Do not complete the section below. |
| No | If this post is not office-based or has some hazards other than routine office (eg: more than use of VDU) please complete the analysis below.  Hiring managers are asked to complete this section as accurately as possible to ensure the safety of the post-holder. |

## - HR will send a full PEHQ to all applicants for this position. Please note, if full health clearance is required for a role, this will apply to all individuals, including existing members of staff.

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| **ENVIRONMENTAL EXPOSURES** | **Occasionally**  (<30% of time) | **Frequently**  (30-60% of time) | **Constantly**  (> 60% of time) |
| Outside work |  |  |  |
| Extremes of temperature (eg: fridge/ furnace) |  |  |  |
| ## Potential for exposure to body fluids |  |  |  |
| ## Noise (greater than 80 dba - 8 hrs twa) |  |  |  |
| ## Exposure to hazardous substances (eg: solvents, liquids, dust, fumes, biohazards). Specify below: |  |  |  |
| Frequent hand washing |  |  |  |
| Ionising radiation |  |  |  |
| **EQUIPMENT/TOOLS/MACHINES USED** | | | |
| ## Food handling |  |  |  |
| ## Driving university vehicles(eg: car/van/LGV/PCV) |  |  |  |
| ## Use of latex gloves (prohibited unless specific clinical necessity) |  |  |  |
| ## Vibrating tools (eg: strimmers, hammer drill, lawnmowers) |  |  |  |
| **PHYSICAL ABILITIES** | | | |
| Load manual handling |  |  |  |
| Repetitive crouching/kneeling/stooping |  |  |  |
| Repetitive pulling/pushing |  |  |  |
| Repetitive lifting |  |  |  |
| Standing for prolonged periods |  |  |  |
| Repetitive climbing (ie: steps, stools, ladders, stairs) |  |  |  |
| Fine motor grips (eg: pipetting) |  |  |  |
| Gross motor grips |  |  |  |
| Repetitive reaching below shoulder height |  |  |  |
| Repetitive reaching at shoulder height |  |  |  |
| Repetitive reaching above shoulder height |  |  |  |
| **PSYCHOSOCIAL ISSUES** | | | |
| Face to face contact with public |  |  |  |
| Lone working |  |  |  |
| ## Shift work/night work/on call duties |  |  |  |