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**Faculty of Technology**

**School of Mathematics and Physics**

**Senior Research Associate for Drone Medical Logistics**

**ZZ007191**

**Information for Candidates**

**THE POST**

Please see the attached job description and person specification.

**TERMS OF APPOINTMENT**

Full-time

Fixed term

Salary is in the range from £31,406 to £35,326 per annum and progress to the top of the scale is by annual increments payable on 1 September each year. Salary is paid into a bank or building society monthly in arrears.

Working hours are normally from 8.30 a.m. to 5.15 p.m. Monday to Thursday and 8.30 a.m. to 4.15 p.m. Friday with one hour and ten minutes for lunch. As this post is research based, working hours will vary depending on the needs of the project so a flexible approach is required. Specific working hours will be agreed once an appointment has been made. Overtime is not normally payable but time off in lieu may be given.

Annual leave entitlement is 35 working days in a full leave year. The leave year commences on 1 October and staff starting and leaving during that period accrue leave on a pro-rata basis. In addition, the University is normally closed from Christmas Eve until New Year’s Day inclusive and on bank holidays.

The Appointee will be entitled to join the Local Government Pension Scheme. The scheme's provisions include a final salary based, index-linked pension with an option to exchange some pension for a lump sum on retirement together with dependants’ benefits. Contributions by the employee are subject to tax relief.

There is a probationary period of six months during which new staff are expected to demonstrate their suitability for the post. There is a comprehensive sickness and maternity benefits scheme.

**All interview applicants will be required to bring their passport or full birth certificate and any other 'Right to Work' information to interview where it will be copied and verified.** The successful applicant will not be able to start work until their right to work documentation has been verified.

Please note if you are the successful candidate once the verbal offer of employment has been made and accepted, references will be immediately requested. It is the University’s policy that all employment covering the past three years is referenced. A minimum of two references is required to cover this three-year period of employment or study (where there has been no employment). One of your referees must be your current or most recent employer.

The successful candidate will need to bring documentary evidence of their qualifications to Human Resources on taking up their appointment. If the position has a requirement for Disclosure and Barring Service check (DBS) or Non-Police Personnel Vetting (NPPV), this will be stated in the advert. Further information will be provided once the selection process has been completed.

All applications must be submitted by 23:59 (UK time) on the closing date published.



**UNIVERSITY OF PORTSMOUTH – RECRUITMENT PAPERWORK**

1. **JOB DESCRIPTION**

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| **Job Title:** | Senior Research Associate for Drone Medical Logistics |
| **Grade:** | 6 |
| **Faculty/Centre:** | Technology |
| **Department/Service:****Location:** | School of Mathematics and Physics Dennis Sciama Building |
| **Position Reference No** | ZZ007191 |
| **Responsible to:** | Chair of Logistics, OR and Analytics Research Group and Director of the Intelligent Transport Cluster |
| **Responsible for** | Professor Djamila Ouelhadj |
| **Effective date of job description:** | September 2021 |

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| **Purpose of Job:**  |
| Applications are invited for the position of a Senior Research Associate (SRA) at the University of Portsmouth. The SRA will work on the Future Transport Zone (FTZ) programme, a £28.75 million project funded by the Department for Transport to trial innovative and sustainable ways to move people and freight. This is a multidisciplinary project in collaboration with the University of Southampton and Solent Transport, comprising Southampton City Council, Portsmouth City Council, Isle of Wight Council, and Hampshire County Council. The University of Portsmouth will investigate the environmental impacts of freight movement within the city of Portsmouth and the wider Solent area, and develop innovative and sustainable approaches to urban logistics, reducing the impact that goods movement has on congestion, air quality, safety and journey times. The University will trial new freight consolidation solutions for freight distribution including drones for medical deliveries for the NHS to move medical supplies between three hospitals in Hampshire - Southampton General Hospital, Queen Alexandra Hospital in Portsmouth and St Mary’s Hospital on the Isle of Wight. Using drones for medical deliveries has the potential to significantly reduce the time it takes to get crucial medical test results for hospital patients, or deliver life saving medicines to remote parts of the country. The project aims to realise Uncrewed Aerial Vehicle (UAV) BVLOS flights between medical centres across the Solent region, introducing new simulation software for air traffic control and logistics planners to evaluate policy options. It will develop and trial a new class of airspace to allow UAVs to effectively operate alongside General Aviation and other traffic. It will also evaluate and optimise complex supply chains and human factors related to the operation of Vertical Take Off and Landing (VTOL) UAVs. The SRA will lead on the development and coding of a stochastic optimisation-simulation environment for optimising and evaluating multimodal supply chains involving land-to-UAV and UAV-to-land logistics interchanges, and the optimal scheduling of UAVs for deliveries and collections. The optimisation-simulation tool will be developed to aid logistics planners understand how multiple freight transport modes involving various land-to-UAV interfaces could be adopted into their existing operations, focusing on the NHS case study. This could include interfaces such as direct-to consignee (including land-and-deliver and in-flight drop), through micro-consolidation points to consignees or through dynamic drop-off points served by sustainable transport modes. The researcher will also lead on the simulation and evaluation of the impacts of different potential drone-land and land-drone logistics operating scenarios.Applicants should have a PhD (or equivalent research experience) in Operational Research and logistics, or a related discipline. Experience is required in applied Operational Research, simulation, and freight logistics and desirable in drone logistics. Proficiency in computer programming is also required. The applicants should show strong motivation for independent research, and the ability to work with academics, local authorities and stakeholders. The models and algorithms developed are expected to be of sufficient scientific novelty and application worth that they will lead to articles published in leading operational research and transport scientific journals. The research fellow is also expected to disseminate the research findings at project meetings, international conferences, and industrial events. They will also be responsible for supporting general research activity at the University of Portsmouth, and encouraging more junior researchers such as PhD students in their research work. |

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| **Key Responsibilities:** |
| 1. Manage and be responsible for the completion of the proposed research project, ensuring that aims and objectives and deliverables are met in a timely manner.
2. Present the research project findings to a variety of stakeholders and write papers for refereed journals and project reports.

Additional expectations of the role holder1. Communicate with team members and liaise and network with relevant other professional bodies
2. Contribute to both internal and external project meetings providing relevant and timely information, in order to aid decision making
3. Solve problems that occur during the length of the research project applying knowledge of subject area
4. Contribute to seminars and discussions in the School.
5. Contribute to public outreach activities
6. Participate in and contribute to a performance & development review (PDR), ensuring that work produced is in line with the Department/Faculty/University aims
7. Comply with the University's Health and Safety Policy and pay due care to own safety and the safety of others. Report all accidents, near misses and unsafe circumstances to line management
8. Any other duties as required by the Line Manager and Head of School.
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| **Working Relationships (key individuals the job holder would be working with):** |
| 1. Managed by Professor Djamila Ouelhadj
2. Working with the Future Transport Zone Project Manager, academics and researchers across the University
3. Working with Solent Transport, Portsmouth City Council, Southampton City Council, Hampshire County Council, Isle of Wight Council and the University of Southampton
4. Working with stakeholders
5. Working with admin, support and technical staff
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1. **PERSON SPECIFICATION**

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| **No** | **Attributes**  | **Rating** | **Source** |
| **1.** | **Specific Knowledge & Experience** |  |  |
| 1.1 | Knowledge of transport and freight logistics | E | AF, S |
| 1.2 | Knowledge of drone logistics | D | AF, S |
| 1.3 | Knowledge of Operational Research  | E | AF, S |
|  | Knowledge of optimisation and simulation  | E | AF, S |
| 1.4 | Experience of developing Operational Research optimisation models, simulation models, and algorithms to solve freight logistics problems | E | AF, S |
| 1.5 | Experience in writing research articles for leading international journals | E | AF, S |
| 1.6 | Experience in dealing with industrial and/or governmental stakeholders | D | AF, S |
| **2.** | **Skills & Abilities** |  |  |
| 2.1 | Ability to plan, organise and prioritise workloads | E | AF, S |
| 2.2 | Excellent communication and interpersonal skills | E | AF, S |
| 2.3 | Writing research papers and/or project reports | E | AF, S |
| 2.4 | Excellent reporting and presentation skills | E | AF, S |
| 2.5 | Excellent computational and programming skills | E | AF, S |
| 2.6 | Project management skills  | D | AF, S |
| **3.**  | **Qualifications, Education & Training** |  |  |
| 3.1 | Completed PhD (or equivalent research experience) in operational research, or a related discipline | E | AF |
| **4.** | **Other Requirements** |  |  |
| 4.1 | Ability to motivate and engage others in research | D | AF, S |
| 4.2 | Ability to work on own initiative and as part of a team | E | AF, S |
| 4.3 | Ability to work to tight deadlines | E | AF, S |
| 4.4 | Willingness to undertake travel to industrial and project partners  | E | AF, S |

**Legend**

Rating of attribute: E = essential; D = desirable

Source of evidence: AF = Application Form; S = Selection Programme (including Test, Presentation)

**JOB HAZARD IDENTIFICATION FORM**

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| **Please tick box(s) if any of the below are likely to be encountered in this role. This is in order to identify potential job related hazards and minimise associated health effects as far as possible. Please use the** [**Job Hazard Information**](http://www.port.ac.uk/departments/services/humanresources/occupationalhealthservice/jobhazardinformation/filetodownload%2C164407%2Cen.doc) **document in order to do this and give details in the free text space provided.**  |
| 1. International travel/Fieldwork

To attend conferences and to present papers etc  | X | 13. Substances to which COSHH regulations apply (including microorganisms, animal allergens, wood dust, chemicals, skin sensitizers and irritants, welding fume)  |  |
| 1. Manual Handling (of loads/people)
 |  | 14. Working at height |  |
| 1. Human tissue/body fluids (e.g. Healthcare settings, First Aiders, Nursery workers, Laboratory workers)
 |  | 15. Working with sewage, drains, river or canal water  |  |
| 1. Genetically Modified Organisms
 |  | 16. Confined spaces |  |
| 1. Noise > 80 DbA
 |  | 17. Vibrating tools  |  |
| 1. Night Working

 (between 2200 hrs and 0600 hrs) |  | 18. Diving |  |
| 1. Display screen equipment
 | x | 19. Compressed gases |  |
| 1. Repetitive tasks (e.g. pipette use etc)
 |  | 20. Small print/colour coding |  |
| 1. Ionising radiation/ non-ionising radiation/lasers/UV

radiation  | 21. Soil/bio-aerosols |  |
| 10. Asbestos and or lead  | 22. Nanomaterials  |
| 11. Driving on University business: mini- bus (over 9 seats), van, bus, forklift truck, drones only)  | 23. Workplace stressors (e.g. workload, relationships, job role etc)  |
| 12. Food handling  | 24. Other (please specify)  |

**Completed by Line Manager/Supervisor:**

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| **Name (block capitals)** | PROFESSOR DJAMILA OUELHADJ |
| **Date** | Sept 2021 |
| **Extension number** | 6565 |

Managers should use this form and the information contained in it during induction of new staff to identify any training needs or requirement for referral to Occupational Health (OH).

Should any of this associated information be unavailable please contact OH (Tel: 023 9284 3187) so that appropriate advice can be given.