



**Faculty of Technology**

**Department of Mathematics**

**Research Fellow in Applied Operational Research and Waste Water Recovery**

**ZZ004333**

**Information for Candidates**

**THE POST**

Please see the attached job description and person specification.

**TERMS OF APPOINTMENT**

**Fixed-term**

**Full-time**

Salary is in the range from £34,520 to £37,706 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 37 per week and are usually worked between 8.30 am and 5.15 pm Monday to Thursday and between 8.30 am and 4.15 pm on 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.

It is a condition of the appointment for the proper performance of the duties of the post that the appointee will take up residence at a location such that they are able to fulfil the full range of their contractual duties. This residential requirement will be expected to be fulfilled within twelve months of taking up the appointment. The University has a scheme of financial assistance towards the cost of relocation, details of which can be found on the University website:

<http://www.port.ac.uk/departments/services/humanresources/recruitmentandselection/informationforapplicants/removalandseparationguidelines>

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 mustbeyour 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.

To comply with UKVI legislation, non-EEA candidates are only eligible to apply for this post if it has been advertised for a total of 28 days.

If the position has a requirement for Disclosure and Barring Service check (DBS), this will be stated in the advert. The DBS Application Form will be provided once the selection process has been completed.

All applications must be submitted by Midnight (GMT) on the closing date published.

**UNIVERSITY OF PORTSMOUTH – RECRUITMENT PAPERWORK**

1. **JOB DESCRIPTION**

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| **Job Title:** | Research Fellow in Applied Operational Research and Waste Water Recovery – 36 Month fixed term contract  |
| **Faculty/Centre:** | Technology |
| **Grade:** | 7 |
| **Department/Service:****Location:** | Department of Mathematics |
| **Position Reference No:** | ZZ004333 |
| **Responsible to:** | Professor Djamila Ouelhadj, Head of Logistics, Operational Research , and Analytics Group |
| **Responsible for:** | -  |
| **Effective date of job description:** | October 2017  |

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| **Purpose of Job:** |
| The Research Fellow will work on the NEREUS (New Energy and REsources from Urban Sanitation) project funded by EU Interreg 2 Seas. This is a multi-disciplinary project which involves 7 European partners and the Logistics, Operational, and Analytics (LORA) Group in the Mathematics Department and the School of Civil Engineering and Surveying (SCES) from the University of Portsmouth.The NEREUS project will tackle the common 2SEAS area challenges by boosting further the development of green economy and transforming wastewater into a valuable source of water, resources (eg cellulose, nutrients), and energy that could be reused. The overall objective of the NEREUS project is to increase the reuse of resources, water and energy from wastewater by boosting the adoption of technologies that recover resources, water and energy from wastewater in urban areas. A demonstration framework and an institutional framework will be developed to increase the adoption and acceptance of resource recovering technologies. The major change the project will make is to show and to convince cities, regions, waterboards and citizens the benefit of implementing resource recovering solutions to reuse wastewater. The urban context shows residents directly what these technologies can do. This can accelerate the adoption of these resource recovering techniques and can contribute to a 'circular economy'.The Research Fellow will work on the development of a decision support tool for implementing/executing organisations to select the best resource recovering technology for wastewater treatment. A decision support tool will be designed and implemented to assist decision makers in the optimal selection of the wastewater recovery technology (ies). The tool will consider a variety of technologies proposed by the pilot case studies, and evaluation of criteria for the selection of optimal treatment, including technical, economical, environmental and socio-cultural factors. All these criteria will be integrated within the tool. The decision support tool will require comparison of technologies in a comparable and reproducible manner. This will be done by using Life Cycle Analysis (LCA) and C-footprinting to produce comparable indicators of the environmental benefits\ impacts of recovering each unit mass of resource. The research fellow will be responsible for taking a lead in the development and coding of these models and algorithms and production of testing. The research fellow will liaise with the LORA and SCES academics at the University of Portsmouth and the industrial/academic partners involved in the project in order to achieve this goal. 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 scientific journals. The research fellow is also expected to disseminate the research findings at project meetings, international conferences, and industrial events. The research fellow will also be responsible for supporting general research activity in LORA and SCES and encouraging more junior researchers such as PhD students in their research.  |

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

Additional expectations of the role holder1. To communicate with team members and liaise and network with relevant other professional bodies
2. To contribute to both internal and external project meetings providing relevant and timely information, in order to aid decision making
3. To solve problems that occur during the length of the research project applying knowledge of subject area
4. To contribute to seminars and discussions in the Department
5. To contribute to public outreach activities
6. To participate in and contribute to a performance & development review (PDR), ensuring that work produced is in line with the Department/Faculty/University aims
7. To 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 Head of School
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| **Working Relationships (key individuals the job holder would be working with):** |
| 1. Managed by Prof. Andrew Osbaldestion, Head of the Department of Mathematics, Prof. Djamila Ouelhadj and Prof. John Williams for day to day management.
2. Other members of LORA group and SCES and the industrial partners; support/technical staff on day-to-day issues; associates operating in the same area.
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1. **PERSON SPECIFICATION**

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| **No** | **Attributes -**  | **Rating** | **Source** |
| **1.** | **Specific Knowledge & Experience** |  |  |
|  | Knowledge of Operational Research, Logistics, or related discipline.  | E | AF, S |
|  | Knowledge of waste water management and recovery  | D | AF, S |
|  | Experience of developing Operational Research, optimisation models and algorithms, and decision support tools | E | AF, S |
|  | Experience in writing research articles for leading international journals | E | AF, S |
|  | Experience in dealing with industrial and/or governmental stakeholders | D | AF, S |
| **2.** | **Skills & Abilities** |  |  |
|  | Ability to plan, organise and prioritise workloads | E | AF, R, S |
|  | Good communication and interpersonal skills | E | AF, R, S |
|  | Writing research papers and/or project reports | E | AF,S |
|  | Excellent presentation skills | E | R, S |
|  | Project Management skills | D | AF, R, S |
|  | Computational and programming skills | E | AF,S |
| **3.**  | **Qualifications, Education & Training** |  |  |
|  | Completed PhD in relevant subject  | E | AF |
|  | Refereed publications in leading international journals | D | AF |
| **4.** | **Other Requirements** |  |  |
|  | Ability to motivate and engage others in research | D | AF, R, S |
|  | Ability to work on own initiative and as part of a team | E | AF, R, S |
|  | Ability to work to tight deadlines | E | AF, R, S |
|  | 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; R = References; S = Selection Programme (including Test, Presentation, References)

**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.**  |
| 1. International travel/Fieldwork

**To attend conferences & to present papers etc.**  | X | 13. Substances to which COSHH regulations apply (including microorganisms, animal allergens, wood dust, chemicals, skin sensitizers and irritants)  |  |
| 1. Manual Handling (of loads/people)
 |  | 14. Working at height |  |
| 1. Human tissue/body fluids (e.g. Healthcare workers, 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 (including lone working)
 | X | 19. Compressed gases |  |
| 1. Repetitive tasks (e.g. pipette use, book sensitization etc)
 |  | 20. Small print/colour coding |  |
| 1. Ionising radiation/ non-ionising radiation/lasers/UV radiation
 | 21. Contaminated soil/bioaerosols |  |
| 10. Asbestos and lead  | 22. Nanomaterials  |
| 11. Driving on University business (mini-bus, van, bus, forklift truck etc)  | 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)** | Prof. DJAMILA OUELHADJ |
| **Date** | December 2017  |
| **Extension number** | 6355  |

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.