

THE UNIVERSITY OF MANCHESTER
PARTICULARS OF APPOINTMENT
FACULTY OF SCIENCE & ENGINEERING
FACULTY OFFICE SCIENCE & ENGINEERING
DIVISION OF FSE TECHNICAL SERVICES
TECHNICAL SPECIALIST (EXPERIMENTAL AERODYNAMICS)
VACANCY REF: SAE-026648

Salary: Grade 6 £36,924 to £45,163 per annum, depending on relevant experience

Hours: Full time (1 FTE)

Duration: Fixed term for 48 months

Location: Oxford Road, Manchester

Enquiries about the vacancy, shortlisting and interviews:

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Overall Purpose of the Job

The University of Manchester (www.manchester.ac.uk) is one of the largest single-site universities in the UK, with one of the biggest student communities. In total, 25 Nobel Prize winners have worked or studied here and 93% of our research was ranked as 'world-leading' or 'internationally excellent' by the Research Excellence Framework in 2021. Furthermore, more than nine out of ten of our recent graduates go straight into employment or continued studies. The Faculty of Science and Engineering (FSE) comprises two multi-discipline Schools; the School of Engineering and the School of Natural Sciences, each led by a Head of School and Head of School Operations. The School of Engineering is made up of five academic departments and the School of Natural Sciences is made up of five academic departments. For more information, please visit <https://www.se.manchester.ac.uk/>.

We are seeking an enthusiastic and proactive technical specialist in experimental aerodynamics to join our dynamic technical operations team. The technical specialist will work on an infrastructure project sponsored by UKRI to transfer a 2m x 2m cycling wind tunnel into a world-class research facility for studying human-flow interactions. In the first three years, the technical specialist will be responsible for (i) carrying out an upgrade of the wind tunnel facility to increase its testing capabilities; (ii) setting up a number of the state-of-the-art flow diagnostic equipment for the tunnel including thermography, robotic PIV, real-time wake visualizer and 4D body scanner. In Year 4, the technical specialist will become the tunnel manager and participate in

and provide technical support to the research and teaching activities to be undertaken by both internal and external users in this national wind tunnel facility. This project provides an exciting opportunity to work with the Great Britain Cycling Team and The UK Institute of Sport (UKSI) contributing directly to their Olympic Programme and delivering new insights and opportunities to UK Sport's celebrated 'Marginal Gains' strategy with potential to enable record-breaking results in international contest.

Main Duties And Responsibilities

Equipment & Operations

Project specific

- To deliver facility upgrade and set up new flow diagnostic equipment under the direction of the project supervisor in accordance with the objectives and timescale specified in the grant proposal
- Report progresses to the Facility Management Board at a monthly basis and work collegially within an extended research team consisting of the project supervisor, academic and technical staff and PhD students
- Support the operation of the wind tunnel and use of the equipment for research, teaching and open access. This will include participating in the above activities and developing supporting technical documents for the wind tunnel facility and equipment.

General

- Contribute detailed professional scientific/engineering expertise through highly developed specialist knowledge and skills in a specific field
- Provide high quality and reliable advice, guidance and training to a range of staff, students, visitors and external customers on your specific area of expertise
- Proactively and freely contribute creative and innovative solutions
- Ensure that all experimental requests are delivered in a timely fashion and in line with service performance indicators
- Apply professional expertise to collect, interpret, evaluate and present data in support of teaching, research and/or operational planning purposes
- Take ownership for the continuous improvement in your own knowledge, experience and expertise, while freely sharing your knowledge and training others in your area(s) of expertise
- Develop strong and effective working relationships with colleagues across the University and at all levels of the organisation
- Contribute to short, medium and long term planning in order to continuously improve FSE's technical operations
- Ensure cost recovery from research and other internal and external income streams is maximized within your area of specialism
- Provide specialist technical input and make recommendations which influence the direction of teaching and/or research operations in your area of specialism

- Be responsible for the provision of an excellent service, proactively scan the wider environment for changes which may impact on delivery of service and use intelligence gathered to inform operation and planning processes
- Be an active and enthusiastic member of the FSE technical operations community
- Champion a culture of continuous improvement, collaboration, consistency and innovation; and actively engage with change initiatives, leading on specific activities as appropriate

Leadership & Management

- Line manage, supervise, motivate and develop technical staff where required

Governance & Compliance

- Manage and take responsibility for all aspects of health and safety in the workplace within your area of specialism to ensure that the University continues to meet its legislative requirements
- Liaise with all colleagues and safety advisors to ensure that all equipment is maintained and operated in compliance with the latest regulations e.g. PUWER, PSSR, etc. Maintain up to date knowledge of all relevant legislation
- Act in accordance with and promote university policies, procedures and requirements at all times, in particular those relating to health and safety; procurement; finance; equality, diversity and inclusion; and information governance
- Make a difference to the life and future of our region by embedding the University's social responsibility goals within the day to day operations of the team
- Maintain a commitment to equality, diversity and inclusion
- Maintain a strong awareness of the Faculty's strategy to deliver world-class research and teaching performance as well as an understanding of how your area of work directly supports the vision and goals of the University

Key Relationships

The role requires excellent communication skills in order to build and maintain effective collaborative relationships with all stakeholders in the Faculty of Science & Engineering, the wider University, industry and other research institutions. Key relationships include:

Internal: FSE Senior Management (e.g. Heads of Research Infrastructure & Facilities, Technical Operations Managers), the wider FSE Technical Operations Team, Professional Staff (PS) colleagues, apprentices, line manager, academic staff (research and teaching), health & safety advisors and the associated committee members, FSE and University Estates and Facilities, University IT Services, students and any other relevant staff from across the University.

External: British Cycling, UKSI, equipment and consumable vendors, external contractors, service engineers, visitors, professional bodies and other external organisations.

Person Specification

Qualifications

- A qualification in a science or engineering related subject area e.g. degree, HND, HNC or extensive work experience in a relevant technical, engineering or scientific role.

Essential

Project specific

- Be recognised as an operational specialist in experimental aerodynamics with a comprehensive knowledge and understanding of the field
- Advanced practical experience in design of experimental setups and wind tunnel testing
- Advanced knowledge and practical experience with a range of experimental flow measurement techniques (such as force balance, 5-hole probes, hot-wire anemometry, PIV and thermography) as well as data/image acquisition systems and post-processing techniques
- Good experience and knowledge of commonly used engineering design and data processing software and good programming skills

General

- Ability to work both independently and collaboratively as a member of a multi-disciplinary team
- Ability to apply an in-depth knowledge so as to be a credible point of reference for staff and student enquiries
- Experience of working in a customer focused technical environment and delivering an exceptional experimental based service
- Highly developed interpersonal skills, including tact, diplomacy and sensitivity
- Excellent oral and written communication skills
- Ability to communicate confidently and effectively with staff from across the University at all levels of the organisation and external stakeholders
- Excellent time management skills
- Ability to work well under pressure
- Excellent IT skills
- Excellent analytical and problem solving skills with the ability to identify and resolve issues effectively
- An awareness and understanding of all relevant health and safety requirements in the workplace, including the application of specific legislative requirements such as risk assessments, operating procedures and COSHH, etc. in a laboratory environment
- A flexible approach to work with a willingness to undergo further training and continuous professional development as required

- A commitment to the University's core values and to the provision of the best possible support to our students, staff and customers

Desirable

- A Master, PhD or equivalent degree.
- Postdoctoral research experience or considerable industrial experience.
- A good record of high quality research publications.
- Experience of supervising undergraduate and postgraduate individual research projects
- Experience of managing projects, e.g. planning, procurement, negotiation, reporting, etc.

Expectations and Success Factors

- To be a proactive team member and treat all colleagues and students with respect in accordance with well-established PS behaviors
- To be willing to work across organisational boundaries
- To seek new knowledge and share ideas
- To be open and responsive to change and innovation#

In line with the University's terms and conditions, you will be expected to work such hours as are necessary for the proper discharge of your duties and responsibilities, with a notional minimum 35 hours per week through Monday to Friday. There may be occasions when some non-core hours work could be required, however the University operates arrangements to recognise out-of-hours working and to ensure an appropriate balance between working and non-working time.