



Job title	Experimental Research Associate/Fellow (Mechanical and Aerospace Systems)	Job family and level	R&T Level 4. (Appointment will be Level 4 career training grade where an appointment is made before PhD has been completed)
School/ Department	Faculty of Engineering, MAS	Location	Jubilee Campus

Purpose of role

The Mechanical and Aerospace Systems Research Group (MAS) requires a Research Fellow who is experienced in the fields of experimental fluid mechanics and advanced flow visualisation techniques for multiphase flows to work across several industry relevant projects. MAS has a large intra-disciplinary team of researchers, engineers, technicians, support staff and academics who work together to deliver research from fundamental to high level TRL.

The researcher will design, conduct, analyse and disseminate experimental work in the field of flow visualisation for multiphase flows. To achieve this the successful candidate should be able to demonstrate capability the application of state of the art methods such as Brightness Based Laser Induced Fluorescence (BB-LIF), Structured Planar Laser Induced Fluorescence (SP-LIF) and Simultaneous 2-Phase Particle Image Velocimetry (S2-PIV) to multiphase flows.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Research Activities <ul style="list-style-type: none"> • Lead and perform high quality research as part of a collaborative team that contributes to the achievements of the research objectives of MAS. ▪ Coordinate, in collaboration with academic staff and researchers, experimental and analytical activities across a variety of multiphase fluid mechanics relevant projects. ▪ Collaborate with academic staff to assist in developing group level fluid mechanics strategy and explore funding opportunities. ▪ Resolve problems for self and other researchers on the project to meet research objective and deadlines, escalating any issues effectively to senior colleagues. 	70%
2	Stakeholder Liaison <ul style="list-style-type: none"> ▪ Regular formal and informal liaison will be required with stakeholders, both internal and external to the group and university. ▪ Responsible handling of commercially confidential data will be required, including managing the secure electronic storage of this data. ▪ Liaison and monitoring of project milestones/deliverables. 	10%
3	Reporting	15%

	<ul style="list-style-type: none"> ▪ Attendance at meetings with presentation to internal and external stakeholders. ▪ Creation of written reports for internal and external stakeholders ▪ Dissemination activities, paper publication. 	
4	<p>Group Collaboration</p> <ul style="list-style-type: none"> • Researchers within the group are expected to contribute to internal seminar and training activities, by attending and where appropriate presenting. • Participation in collaborative activities to further enhance group cohesion and development of new proposals/publications 	5%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> • Ability to independently manage both technical and project workload, proactively alerting line manager of issues, with suggestion of potential resolution routes. • Ability to liaise with a wide range of internal and external stakeholders including, but not limited to, industrial technical specialists, experimental researchers, engineering and technicians, project managers, academic staff. • Ability to present complex data to a wide audience to provide a clear analysis and outcomes. • Identify opportunities for research development and, working with academic staff, contribute to the creation of funding applications. 	<ul style="list-style-type: none"> ▪ Project management skills ▪ Good documentation practice for all work, especially relating to computer coding. ▪ Active participation in meetings, recording of meeting information and creation of actions from meetings. ▪ Technical report/journal paper writing for a specialist audience.
Knowledge and experience	<ul style="list-style-type: none"> ▪ Ability to use programming software (particularly Matlab and Python languages) and manage large data sets for the analysis of experimental results. ▪ Experience in the design of experimental multiphase fluid mechanics problems. Demonstrable experience in uncertainty estimation and error quantification. ▪ Experience of applying advanced laser-based measurement techniques to such as BB-LIF and SP-LIF to multiphase flows. ▪ Experience in having developed and/or adhered to strict safety systems. 	<ul style="list-style-type: none"> ▪ Good understanding of multiphase fluid mechanics and how these can be utilized across a range of applications. ▪ Ability to work independently within a wider team of researchers/engineers on a technical project and contributing to the timely delivery of project outputs.
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ Degree in a subject relevant to mechanical engineering ▪ PhD (or close to completion) in relevant subject. 	
Other	<ul style="list-style-type: none"> ▪ Satisfactory basic disclosure obtained from the Disclosure and Barring Service. 	



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 always equitable and fair and works with integrity. Proactively looks for ways to develop the team and is comfortable providing clarity by explaining the rationale behind decisions.
- Taking ownership** Is highly self-aware, looking for ways to improve, both taking on board and offering constructive feedback. Inspires others to take accountability for their own areas.
- Forward thinking** Driven to question the status quo and explore new ideas, supporting the team to "lead the way" in terms of know-how and learning.
- Professional pride** Sets the bar high with quality systems and control measures in place. Demands high standards of others identifying and addressing any gaps to enhance the overall performance.
- Always inclusive** Ensures accessibility to the wider community, actively encouraging inclusion and seeking to involve others. Ensures others always consider the wider context when sharing information making full use of networks and connections.

Key relationships with others

This is a Smart Art diagram. Click on the boxes to enter the role holder's job title, line manager's job title and any direct reports (if applicable). If a role does not have any direct reports, remove this box by double clicking on it and pressing Delete.

****Please remove this paragraph of instructions before submitting the role profile****



