



Job title	Research Fellow in Computational Fluid Dynamics (Title will be Research Associate where an appointment is made before PhD is completed)	Job family and level	Research 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, G2TRC	Location	Jubilee Campus, Energy Technologies Building

Purpose of role

The Gas Turbine and Transmission Research Centre (G2TRC) requires a post-doctoral researcher to work on developing high fidelity models of droplet evaporation in sheared gas flows for application in next generation propulsion systems. The researcher will undertake a range of activities to achieve the above, requiring skills in numerical analysis and model development for multiphase flows. The role holder will report to the principal investigator of the project as their line manager.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	<p>Develop and apply a model for evaporation of liquid droplets in a sheared gas flow</p> <ul style="list-style-type: none"> ▪ The successful applicant will be required to develop a high fidelity modelling methodology for the evaporation of liquid droplets in a sheared gas flow. ▪ They will be need to liaise with other researchers conducting experimental studies to validate their model ▪ They will analyse the results of simulations and experiments to improve lower fidelity modelling approaches. 	70%
2	<p>Stakeholders Liaison</p> <ul style="list-style-type: none"> ▪ The role holder will have to make regular reports to industrial and academic partners. ▪ They will be responsible for monitoring and communicating project milestones/deliverables. ▪ They will also be expected to explain their work to co-workers within the G2TRC and occasionally to parties from close collaborators in research groups in other Universities. 	10%
3	<p>Documentation, Dissemination and Reporting</p> <ul style="list-style-type: none"> ▪ The role holder will be responsible for ensuring that their work is thoroughly documented such that other researchers can advance this work either simultaneously or subsequently. This applies to any computer programming done as well as design calculations and development of research papers. ▪ They will attend meetings with colleagues and stakeholders, both within the university and with industrial partners. 	15%

	<ul style="list-style-type: none"> ▪ They will be required to produce written reports and journal quality outputs based on their work. The individual will need to make these reports professionally written in English and easy to read without extra support. 	
4	<p>Other</p> <ul style="list-style-type: none"> ▪ Researchers within the G2TRC are expected to contribute to internal seminar and training activities, by attending and where appropriate presenting. ▪ The role holder will be asked to ensure that they undertake regular continued professional development. ▪ Any other duties as appropriate to this post as requested by the line manager. 	5%

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ Ability to work independently and proactively manage workload whilst highlighting issues and giving potential solutions. ▪ Able to present complex data clearly to a wide audience to show analysis and outcomes. ▪ Experience in technical report / journal paper writing for a specialist audience. ▪ The ability to work in a team and interact professionally with collaborators 	<ul style="list-style-type: none"> ▪ Project management skills ▪ Good documentation practice for all work, especially relating to computer coding.
Knowledge and experience	<ul style="list-style-type: none"> ▪ Experience and understanding of modelling multiphase flows ▪ Experience in OpenFOAM or an equivalent opensource simulation tool ▪ C/C++ programming experience 	<ul style="list-style-type: none"> ▪ Experience of numerical modelling of phase change processes ▪ Experience of developing numerical models for VOF or DPM
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ A PhD (or close to completion) in engineering, applied mathematics or a related subject area, with a major component using Computational Fluid Dynamics 	



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

