

<u>Information on Postgraduate Research Scholarship - Ref:FES-PhD-2425-04</u>	
Faculty:	Engineering & Science
Department:	Engineering
Lead Supervisor:	Hafid Belaidi
Project Title:	The effect of pseudo-unsteady flows and particle residence time on the performance of cyclonic solid-liquid separators
Project Description:	Rapidly swirling flows in cyclonic devices create a radial acceleration field that causes materials with different densities to segregate. Initially, this method was used to separate solid particles from liquids and gases, akin to centrifugal separation of dust from air. This technology found a wide range of applications, from dehydration, particle segregation and classification, to liquid-liquid separation applications in many the industries, such as water and wastewater treatment, mining, paper and food manufacturing, and many others. Cyclonic devices are being used in many industries for free gas removal. This was investigated in some of the primary supervisor's past work on liquid-liquid separation. Imagine challenging a long-held belief in fluid process engineering, where it has always been perceived that a steady flow in a cyclone offers the best performance of the device, but our initial experiments suggest that performances can be enhanced with new operational regimes. This investigation aspires to develop new operational methods to enhance and widen the performance envelop of such devices. This can, potentially, change the way hydrocyclones are designed and operated, making them more attractive to stakeholders in the various industries that use such technology.
Duration:	3 years, Full-Time Study or 6 years, Part-Time Study
Bursary available (subject to satisfactory performance):	
<p>Please note that as part of your application process, there will be short-listing of candidates per project. Those shortlisted will be interviewed and then there is a competitive selection that includes the project and candidate to decide which project will receive which financial support. This financial support can take up the form of a (partial) tuition fee waiver and/or stipend for your PhD studies. You will be made aware of what that offer will be and will then be asked to decide on moving forwards with your application or not.</p> <p>In case of allocation of financial support, then the tuition fee waiver would include a contribution to tuition fees equivalent to the university's Home rate, currently £4,786 (FT) or pro-rata (PT), for the duration of their scholarship. International applicants may need to pay the remainder tuition fee for the duration of their scholarship.</p> <p>In case of the allocation of a stipend, then this fee would be subject to an annual increase. Year 1: £19,237 (FT) or pro-rata (PT) Year 2: In line with UKRI rate Year 3: In line with UKRI rate</p>	

Person Specification of Essential (E) or Desirable (D) requirements:	
Criteria:	E or D
Education and Training:	
<ul style="list-style-type: none"> 1st Class or 2nd class, First Division (Upper Second Class) honours degree or a taught master's degree with a minimum 60% overall (or equivalent) in a relevant area to the proposed research project 	E
<ul style="list-style-type: none"> For those whose first language is not English and/or if from a country where English is not the majority spoken language (as recognised by the UKBA), a language proficiency score of at least IELTS 6.5 (in all elements of the test) or an equivalent UK VISA and Immigration secure English Language Test is required, if your programme falls within the faculty of Engineering and Science a language proficiency score of at least IELTS 6.5 overall with a minimum of 6.0 in all elements of the test or an equivalent UK VISA and Immigration secure English Language Test is required. Unless the degree above was taught in English and obtained in a majority English speaking country, e.g. UK, USA, Australia, New Zealand, etc, as recognised by the UKBA. 	E
Experience & Skills:	
<ul style="list-style-type: none"> Previous experience of undertaking research (e.g. undergraduate or taught master's dissertation) 	E
<ul style="list-style-type: none"> A solid background in fluid dynamics and familiarity with complex flows behaviour 	E
<ul style="list-style-type: none"> Ability to work on own initiative with minimum supervision 	E
<ul style="list-style-type: none"> Hands-on approach, willing to work in a laboratory environment operating rotating equipment and pressurized fluids 	D
<ul style="list-style-type: none"> Excellent time management and reporting skills with the ability to work to tight deadlines. 	E
<ul style="list-style-type: none"> Good analytical skills, with skills to collect and analyse large sets of data 	D
Personal Attributes:	
<ul style="list-style-type: none"> Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation 	E
<ul style="list-style-type: none"> Able to, under guidance, complete independent work successfully 	E
Other Requirements:	
<ul style="list-style-type: none"> This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA 	E
<ul style="list-style-type: none"> The scholarship must commence by September 2025 	E
Closing date for applications:	midnight UTC on 16/02/2025
For further information contact:	Hafid Belaidi – h.belaidi@gre.ac.uk
<p>Making an application: Please read this information before making an application. Information on the application process is available at: https://www.gre.ac.uk/research/study/apply/application-process. Applications need to be made online via this link. No other form of application will be considered.</p> <p>All applications must include the following information. Applications not containing these documents will not be considered.</p>	

- **Scholarship Reference Number (*FES-PhD-2425-04*)**– included in the personal statement section together with your personal statement as to why you are applying
- **a CV including 2 referees ***
- **academic qualification certificates/transcripts and IELTS/English Language certificate if you are an international applicant or if English is not your first language or you are from a country where English is not the majority spoken language as defined by the UK Border Agency ***

**upload to the qualification section of the application form. Attachments must be a PDF format.*

Before submitting your application, you are encouraged to liaise with the Lead Supervisor on the details above.