Information on Postgraduate Research Scholarship – Ref: Syngenta-FES-01-24			
Faculty:	Faculty of Engineering and Science	**Department:**	School of Science
Lead Supervisor:	Prof Peter Griffiths		
Project Title:	Characterization of macromolecular complex mixtures - development of analytical methodology for qualitative and quantitative characterization of ethoxylated polymers and their blends		
Project Description:	Any undesirable components present - even at low level - in formulations may have a deleterious impact on the formulation properties and product performance. Polymeric dispersants, whose role is to stabilize formulations, may be affected by the presence of lower molecular weight fractions. Poly(ethylene glycol) is often present as a by-product in high molecular weight block polymers or ethoxylated systems. This project aims to establish an analytical methodology suitable to identify and characterize possible by-products in polymeric dispersants and to determine their role in the stability of the formulation. Dispersant polymers are likely to be of sufficient molecular weight to present challenges to standard liquid chromatography analysis methods. Therefore, the desired technique(s) would detect, characterize and quantify PEG present and subsequently link this information to stability of the formulation. The project will critically evaluate NMR techniques – diffusion, electrophoretic and relaxation NMR - but in its early stage, will not prioritize any specific characterization technique. As the non-desired polymers do not contain any chromophore and are of similar composition to the desired ones, the technique of choice must detect all polymer populations. The project is co-funded with Syngenta and will involve regular reporting to Syngenta colleagues. A period of work placement within Syngenta is anticipated, timed to yield most benefit to the project.		
Duration:	3 years, Full-Time Study or 6 years, Part-Time Study		

Bursary available (subject to satisfactory performance):
Year 1: **£19,237** (FT) or pro-rata (PT) Year 2: In line with UKRI rate Year 3: In line with UKRI rate

In addition, the successful candidate will receive 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 will need to pay the remainder tuition fee for the duration of their scholarship.

This fee is subject to an annual increase.

Person Specification of Essential (E) or Desirable (D) requirements:

Criteria:	**E or D**
Education and Training:	
• 1st Class or 2nd class, First Division (Upper Second Class) honours degree or a taught master's degree with a minimum average of 60% in all areas of assessment (UK or UK equivalent) in a relevant area to the proposed research project	**E**
• 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:	
• Previous experience of undertaking research (e.g. undergraduate or taught master's dissertation)	**E**
• Experience of analytical methodologies for resolving complex formulations and determining compositions and identities of components	**E**
• Experience with various analytical techniques (HPLC, optical spectroscopy, wet chemistry, preparation of stock solutions)	**D**
• Experience with NMR (basic understanding of theory, hands on sample prep, interpretation of spectra, some experience of NMR based software)	**E**
• Understanding the basis of Colloidal chemistry / polymer chemistry	**D**
• Good numeracy skills, (programming skills would be an advantage)	**E**
Personal Attributes:	
• Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation	**E**
• Able to, under guidance, complete independent work successfully	**E**

• Curiosity	**E**
Other Requirements:	
• This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA	**E**
• The scholarship must commence • ***before 6th October 2025***	**E**
Closing date for applications:	***midnight UTC on 18th May 2025***
For further information contact:	***Prof Peter Griffiths (p.griffiths@gre.ac.uk)***

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**.

All applications **must include** the following information. **Applications not containing these documents will not be considered.**

- **Scholarship Reference Number (Syngenta-FES-01-24) -** 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.