UNIVERSITY of GREENWICH

Information on Postgraduate Research Scholarship – VCS-FES-04-22

Faculty:	FES	**Department:**	School of Science
Lead Supervisor:	Dr Milan Antonijevic		
Project Title:	Application of Thermally Stimulated Current (TSC) Spectroscopy for Qualitative and Quantitative Characterisation of Amorphous Pharmaceutical Systems in Collaboration with AstraZeneca		
Project Description:	TSC is a dielectric analytical technique that measures currents generated by the relaxation of molecular dipoles in response to an externally applied static electrical field. The results acquired provides a direct measure of the degree, ease and rate of molecular mobility in the system under investigation. An important feature of TSC is that the signal is directly proportional to the strength of the externally applied electrical field and sample mass, hence sensitivity is easily controlled by the operator. For example, weak transitions can be amplified by simply increasing the electrical field strength or sample mass. This makes it possible to detect subtle physical events and low level of a particular phase in multi-component systems, in ways that is not easily accessible by other techniques. This makes the technique ideal for quantitative work, assessment of glass transitions when the materials display an inherently relatively small change in heat capacity going through the glass transition, and to probe inherently weak beta-relaxations that can be a pre-cursor to failure of the amorphous systems i.e. crystallisation. Hence, this project proposes developing a *new methodology for better understanding of the amorphous materials and links between secondary relaxations with stability of amorphous materials.* *We are now looking for highly motivated PhD students to join our team and further explore the synthetic potential of organic electrosynthesis.* **The candidate:** The projects would be suitable for a student with a **strong background in physical chemistry/pharmaceutical sciences** and an interest in analytical chemistry, thermal analysis and method development. The student will be supervised by Dr Milan Antonijevic and join a group of young, international and dynamic researchers! **The Laboratory:** The laboratory is well equipped with the state of the art instruments of interest TSC, DSC, TGA, HSM, DVS. The university will also provide the student with routine access to 4 NMR spectrometers, several HPLC/UPLC systems with various detectors.		
Duration:	3 years, Full-Time Study		

Bursary available (subject to satisfactory performance):
Year 1: £17,668 (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 £4,596 (FT) or pro-rata (PT), for the duration of their scholarship.

September 2021

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**
• Background in physical chemistry and/or pharmaceutical sciences	**E**
• Interest in analytical chemistry, thermal analysis and method development	**D**
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**
Other Requirements:	
• This scholarship may require Academic Technology Approval Scheme approval for the successful candidate if from outside of the EU/EEA	**E**
Closing date for applications:	***midnight UTC on 30/11/2022***
For further information contact:	**m.antonijevic@greenwich.ac.uk**
Making an application: **Before submitting your application, you are encouraged to liaise with Dr Milan Antonijevic on the details above (m.antonijevic 'at' gre.ac.uk)** 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 (VCS-FES-04-22)**– 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.*