



Department of Chemistry and the Centro de Química de Évora (CQE)
University of Évora, PORTUGAL.

Research Scholarship in Synthetic Organic Chemistry-Organocatalysis

25 September 2014

A research scholarship is available for a highly motivated individual with a proven track record in synthetic organic chemistry/metal based catalysis to work as a key team member of the project: INMOLFARM - Molecular Innovation and Drug Discovery, (ALENT-57-2011-20). The selected candidate will have the opportunity to work with an interdisciplinary multinational team, from Universities and Institutes in Portugal and Germany, including chemical and biotech companies. This project will look at the catalytic asymmetric synthesis of key potential API molecules for neurodegenerative diseases using highly efficient organocatalyzed reactions. This project is co-financed by FEDER through the "Sistema de Apoio a Entidades do Sistema Científico e Tecnológico Nacional (SAESCTN)". This project will be undertaken in the Department of Chemistry and the *Centro de Química de Évora* at the University of Évora.

Scientific Area: Synthetic Organic Chemistry, Organocatalysis, Asymmetric Catalysis

Academic Requirements: A first degree (*licenciatura*) which is recognized both in Portugal and internationally - in chemistry or biochemistry. Ideally the selected candidate should have achieved a high final grade. The selected candidate's academic background should include subjects (including research projects) of relevance to the theme of this project, and ideally should have obtained very good grades in these subjects.

Specific Entry Requirements: The candidate should have significant (documented) experience in organic synthesis and in catalysis. He/she should have good experience of working in an organic synthesis laboratory. Good experience in the analysis of NMR spectra is also required. The candidate should be a highly motivated, organized individual, with the ability to be able to work autonomously in the laboratory, but at the same time being a good team-player and with a track-record in accomplishing deadlines. The candidate should have good English language skills, and if required be willing to travel abroad for a short stay in a specific European partner laboratory.

Work Plan: The aim of this project is to develop a cutting edge innovative catalytic process into a state of the art process for the discovery and eventual production of key pharmaceuticals. INMOLFARM will involve the development of this catalytic process, from proof of concept to application: discovery and production of innovative pharmaceuticals. During this project, the student will work with a highly productive and talented group of workers, who will apply a new and highly efficient organocatalytic system in ketimine hydrosilylation reactions leading to key non-racemic chiral amine intermediates that will furnish, key neurodegenerative disease treatment drugs, like rasagline or rivastigmine and analogues. This will be carried out under the guidance of Prof. Anthony Burke (CQE). The objective will be the establishment of a robust catalytic asymmetric method. Various techniques will be used, including parallel synthesis techniques, and analytical and separation techniques, such as NMR and mass spectrometry and HPLC. The compounds will then be screened using certain biological targets that are involved in Alzheimer's and Parkinson's diseases such as cholinesterases and MAO-B etc.

The selected candidate ideally should have completed his/her first degree with strong intentions of enrolling in the Masters degree Program in Chemistry at the University of Évora.

Legislation and applicable regulations: This scholarship will be carried on the basis of a signed contract between the University of Évora and the scholarship recipient, under the terms of the Research Scholarship Regulations of the University of Évora, (*Regulamento de Bolsas de Investigação da Universidade de Évora*) (*Ordem de Serviço* nº1/2011), the Scientific Research Grant Holder Statute (*Estatuto do Bolseiro de Investigação Científica*) (Decree-Law nº40/2004 of the 18 of August) and according to the Regulations and legislation for advanced training and qualifications for human resources of the *Fundação para a Ciência e a Tecnologia* (FCT).

Work location: This project will be carried out in the organic synthesis laboratory at the *Centro de Química de Évora* at the University of Évora, under the supervision of Prof. Anthony Burke.

Grant Duration: Until the 30th June 2015 with the expected starting date of October 2014.

Stipend value: 745€ per month (tax free), till the end of the project. This stipend will be paid monthly by cheque or bank transfer.

Selection Method: The evaluation criteria are: i) Academic/Scientific record (a. CV, 50%; b. previous experience in the context of this project, 35%; c. letter of motivation, 15%. If deemed necessary by the jury, the top ranked candidates could be called for interview.

Selection Committee

Prof. Anthony Burke (President of the Jury), Prof. Paulo Mendes (Member), Prof. João P. Prates Ramalho (Member) and Ana Teresa Caldeira (reserve member) all from Dept of Chemistry, University of Évora.

Advertisement/Notification of the results: The final result of the assessment will be made public through a ranking list which will be exhibited in a visible public place in the Chemistry Department/CQE of the University of Évora, the candidates being notified by email.

Call opening and closing dates: The call will be opened from the 25th September to the 8rd of October 2014 and the results will be published as soon as possible thereafter.

Applications will be formalized, mandatorily, by sending a letter of motivation, which will be accompanied by the following relevant documents: a very detailed *Curriculum Vitae* (which includes, candidates address, telephone number and email address and the same contacts for the named referees), a motivation letter, two letters of recommendation (most recent possible), photocopy or scanned copy of identity card/passport and degree certificates/transcripts (grade cards) and any other documents that are considered relevant for the selection process.

These documents must be sent or emailed (before the closing date) to:

Prof. Anthony Burke,
Chemistry Department and Centro de Química de Évora,
Universidade de Évora,
Rua Romão Ramalho, 59
7000 Évora,
PORTUGAL.
e-mail: ajb@uevora.pt

For any queries please contact Prof. Anthony Burke (telephone: +351 266 745310;; e-mail: ajb@uevora.pt)

