

PhD project in the area of design, manufacture and test of a rapid PCR system

Title: **Design, manufacture and test of a rapid PCR system based on microwave radiation**

Funding Program: CDT studentship in Embedded intelligence (CDT-EI)

Institution: Heriot-Watt University, Edinburgh, Scotland, UK.

Industrial partner: Genetic Analysis Strategies S.L., Alicante (Spain)

PhD supervisors: Prof. Marc Desmulliez, Dr. Maiwenn Kersaudy-Kerhoas

Industrial supervisor: Dr. Antonio Martinez-Murcia

Application Deadline: 15th of December 2017 (but preferably by 15th of August 2017)

Funding: Stipends of £17,500 per year, and full tuitions fees payment, for 4 years

Link to apply: <https://www.hw.ac.uk/study/apply/uk/postgraduate.htm>

Relevant fields: Microwave Engineering, Systems integration

Project Description:

Genetic Analysis Strategies offer a range of smart kits for the rapid molecular detection of pathogens, especially for safe drinking water and water in food. There is a need to develop in collaboration with Heriot-Watt University (HWU) a PCR system based on rapid heating enabled by microwave energy and incorporating magnetic separation.

We are looking for a creative and highly motivated student willing to work in the field of microwave engineering and biochemistry. Studies in Manufacturing or Engineering (Microwave) are desired. The student is expected to work effectively as a part of a team, both at HWU or in the host institution in Spain. Good manufacturing and/or experimental skills are required.

The student is funded by the UK Engineering and Physical Sciences Research Council (EPSRC) under its Centre of Doctoral Training (CDT) programme. The company is sponsoring part of the PhD studentship. Heriot-Watt is Scotland's most international University, boasting the largest international student cohort, with five campuses in three countries. In a strategic partnership with the University of Edinburgh, EPS was ranked first in power ratings in General Engineering by the last Research Excellence Network assessment of UK research quality (REF2014).

If you wish to discuss any details of the project informally, please contact Prof. Marc Desmulliez (m.desmulliez@hw.ac.uk) or Dr. Maiwenn Kersaudy-Kerhoas (m.kersaudy-kerhoas@hw.ac.uk)

Requirements

All applicants must be home/EU and must have or expect to have a 1st class Bachelor Degree or a MChem, MPhys, MSci, MEng, MBioChem by Autumn 2017. Selection will be based on academic excellence and research potential, and all short-listed applicants will be interviewed (in person or by Skype). The Scholarship consists of an annual stipend of £17,500 (tax free) and full tuition fees payment, for 4 years.

Deadline of applications: 15th of August 2017 although a submission by the 15th of December is possible. The successful candidate must commence studies by early January 2018 at the very latest.

All applications should be made online by using the electronic system of Heriot-Watt University:

<https://www.hw.ac.uk/study/apply/uk/postgraduate.htm>

(For this, refer to the CDT-EI PhD studentship)