

SFI-FUNDED PHD STUDENTSHIP - NOVEL RATIOMETRIC APPROACH TO IDENTIFY DECISIVE MOLECULAR INTERACTIONS OF THE TRAIL APOPTOTIC MACHINERY

Details: Despite the availability of genomics and proteomics and intensive investigation, the ability to predict tumour response to treatments remains limited. Our proteomic analysis of the apoptotic pathway induced by the cytokine and novel anticancer agent, TRAIL, revealed that the expression level of individual proteins only loosely correlates with TRAIL-sensitivity of tumours. On the other hand, expression ratio of various proteins showed strong correlation with TRAIL-sensitivity. The aim of this project is to assess the predictive power of a ratiometric analysis of proteomes and genomes of tumour cell behaviour. With this ratiometric analysis, ratio-fingerprints can be generated to reveal hidden gene/protein interactions and enable us to explain so far unexplainable phenotypes and cellular responses and remove barriers in our understanding of tumour behaviour.

The project provides training in protein and gene expression profiling, quantitative mass spectrometry, mathematical analytical methods of proteomes as well as transcriptomes. The PhD student will have the opportunity to learn cell biology techniques, such as flow cytometry, gene overexpression and silencing and will work closely with a team of cancer biologists. This project is funded by Science Foundation Ireland under the Starting Investigator Research Grant Programme with partners at the Centre of Genetic Regulation, Barcelona, Spain.

Requirements: Candidates should have a MSc. or BSc. degree with a minimum of higher second class honours in biochemistry, molecular biology or a closely related discipline and a strong motivation for research in the area of cancer biology.

Applications: Application including a cover letter (personal statement), curriculum vitae, academic degree, and name and contact details of 2 references should be sent to Dr. Eva Szegezdi (eva.szegezdi@nuigalway.ie), National University of Ireland, Galway, School of Natural Sciences, Department of Biochemistry, University Road, Galway, Ireland.

Stipend and Start Date: A stipend with a 3% annual increment starting at €16,650 is available. Tuition fees will be covered by the project. It is anticipated that the PhD candidate will commence in October 2009.

Information: With enquiries please contact Dr. Eva Szegezdi: eva.szegezdi@nuigalway.ie.

Closing date for applications: 4th September, 2009.