A short description of the project

Alzheimer's disease is a progressive neurological disorder characterized by impairments in learning and memory processes and a decline of general cognitive function. Changes in the brain begin decades before the manifestation of recognizable symptoms. In 2014 it was said that there were 44 million people worldwide living with dementia, of these cases Alzheimer's disease is the most common form. Glycosylation is a vital function of the biosynthetic-secretory pathway in the endoplasmic reticulum (ER) and Golgi apparatus. Abnormal glycosylation profiles have been associated with various disease states.

The aim of this project is to determine glycosylation patterns, initially in a model of Alzheimer's disease, to work towards a desperately needed diagnostic biomarker for AD. Glycosylation patterns associated with response to therapy will also be investigated, which may serve as theranostic markers, which are critical in the development of novel therapeutics. This project will provide important proof of concept evidence that glycosylation profiling is a useful diagnostic/theransotic tool for Alzheimers Disease research.

Person Specification:

The ideal candidate will demonstrate the appropriate mix of knowledge, experience, skills, talent and abilities as outlined below:

Knowledge and Experience:
- Ability to manage and conduct a specific programme of research under the leadership of the main supervisor and external supervisor (essential).
- A strong analytical background with a BSc (2:1 minimum) in analytical, bioanalytical chemistry or a relevant related discipline from an approved degree awarding institution (essential).
- A strong understanding, interest and demonstrated practical experience of at least three of the following; UPLC, liquid chromatography mass spectrometry (LC-MS), mammalian cell culture, immunohistochemistry and affinity chromatography (essential).
- An understanding of the role of glycosylation in disease (essential).
- Project administration skills (desirable).

Skills, talents and abilities:
- Ability to interact effectively with colleagues in an interdisciplinary environment (essential).
- Willing to engage in appropriate training and professional development opportunities as determined by the project supervisors (essential).
- Effective report writing, knowledge transfer and communication skills with the ability to disseminate the outcomes of this research at conferences (essential).
- Highly motivated, self-driven, and able to work independently (essential).

For further information please contact Dr Margaret Doherty at doherty.margaret@itsligo.ie