

PhD student position in natural compound chemistry:

“The ability of bioactive ellagitannins to function as anti-parasitic drugs and to improve digestive efficiency in order to reduce pollutant emissions from ruminants”

Ellagitannins are an under-valued group of plant polyphenols with yet unstudied structures and bioactivities. The EU-FP7 People Programme Legume^{Plus} aims at optimizing plant polyphenols for ruminant nutrition focusing on animal health as well as environmental sustainability. The PhD student will focus on ellagitannins and the host laboratory is the Laboratory of Organic Chemistry and Chemical Biology (University of Turku, Finland) that has expertise on ellagitannin chemistry and bioactivity.

Position

The PhD student (Early Stage Researcher) will be part of the EU Marie Curie Initial Training Network, Legume^{Plus}, which will provide multi-disciplinary and inter-sectoral research and training activities within Europe on legumes containing bioactives. The objective is to harness their potential benefits for ruminants and the environment. In particular, the mechanisms by which bioactive forage legumes contribute to improve protein use efficiency, reduce methane gas emissions, and inhibit parasitic worms, will be investigated. The PhD project aims (i) to isolate and purify a series of monomeric, oligomeric and polymeric ellagitannins by a suite of chromatographic methods, (ii) to characterize their structures by HR-MS, MS/MS, ¹H- and ¹³C-NMR, (iii) to measure tannin bioactivities, and (iv) to study the ability of tannins to act against parasitic nematodes and to lower methane emissions and ruminal biohydrogenation. The student will stay at the Laboratory of Organic Chemistry and Chemical Biology for most of his/her PhD studies, but will also benefit from two 3-month scientific exchanges with groups from the international network of Legume^{Plus}. He/she will be expected to participate in 6-monthly meetings and scientific and complementary skills training courses, which will be held in the countries of the different project partners.

Requirements

We are seeking a highly motivated, team-oriented candidate with a strong interest in natural compound chemistry. Applicants should hold a master level degree in chemistry. Experience in the field chromatographic methods, mass spectrometry and NMR would be beneficial. Good knowledge of spoken and written English is required. Due to the regulations of EU-FP7 People Programme the candidate must not have resided or carried out his/her activity in Finland for more than 12 months during the last three years. In addition, he/she must have less than 4 years of full-time equivalent research experience at the time of starting the PhD employment.

Conditions

The position will start in June 2012 for three years and the researcher will participate in the Kick-off Meeting and Training Course in the UK from 24 June to 7 July 2012. The salary is fixed according to the guidelines of the EU Marie Curie Initial Training Network. Living allowance is ca. 3840 euros/month and mobility allowance is between ca. 845 and 1210 euros/month (http://cordis.europa.eu/fp7/mariecurieactions/links_en.html).

Application

Deadline: April 01, 2012. To apply, send a cover letter explaining your interest in this position, a complete academic record, CV and addresses of 2-3 potential academic referees to: Juha-Pekka Salminen (j-p.salminen@utu.fi).