Applications are invited for a Postdoctoral Senior Research Officer to join the Laboratory of Dr Ulrike Bechtold in the School of Biological Sciences at the University of Essex. This project investigates sugar signalling in response to drought stress.

In plants, sugars regulate cellular activity at multiple levels, from gene expression and translation to protein stability and activity, which makes the elucidation of the role of sugars in the regulation of stress responses very difficult. This project investigates the mechanisms for sugar and drought stress signalling, proposing that they share the same intermediate, glycated peptides. Glycation is the reaction of sugars with proteins to form advanced glycation endproducts (AGEs), which trigger inflammation in humans and are associated with diabetic complications. The inflammation is caused by AGEs initiating a cascade of intracellular signals. Plants accumulate AGEs in response to environmental stress, which in turn may initiate a signalling cascade analogous to the signalling in animal cells. This project aims to demonstrate the existence of this pathway in plants, identify how AGEs are sensed in the cell and how signalling is initiated triggering drought-induced changes in gene expression. To dissect the signalling pathway triggered by AGEs we will combine proteomics and gene expression analysis with mathematical modelling to identify cellular targets and test these targets for potential signalling functions.

This post is open to researchers from any biochemistry and proteomics background but candidates must have strong practical skills and a keen interest in studying post translational protein modifications. The position would suit researchers interested in the molecular mechanisms that underpin sugar signalling, with a strong focus on biochemistry, proteomics and molecular biology.

The post-holder will work independently, showing initiative within a multidisciplinary project. Potential candidates should have, or expects to soon receive, a PhD in the areas of biochemistry, proteomics, molecular biology, or a related subject. The successful candidate will join a multidisciplinary group with interests in systems biology, genomics and plant molecular biology.

This post is fixed-term for three years to start from 01 January 2016 (or as soon as possible thereafter).

Salary: £31,342 per annum

Closing date: 13 September 2015

Apply online (Ref. RE957). If you have a disability and would like information in a different format telephone (01206) 873521/874588.

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