

PhD position - Prediction of fruit dry matter accumulation using NIR (IHP020902)

Applications are invited for a PhD position at the University of Aarhus, Faculty of Agricultural Sciences (DJF), Department of Horticulture. The position is available for three years beginning as soon as possible.

Research area and project description

The PhD study will focus on dry matter (DM) accumulation in relation to fruit quality as influenced by water and nutrient availability in root restricted fruit crops during the production phase. This study will evaluate the impact of these input resources on fruit quality and the ability to monitor physiological changes in the fruit via destructive and non-destructive technologies.

Further, the aim is to validate if DM at harvest can be used as an indicator of fruit quality in terms of ability to store and retain fruit firmness.

This study will determine the reliability of non-destructive technology to describe DM accumulation and potentially other quality attributes in the fruit. DM is not normally a parameter measured as part of a standard fruit quality assessment because current methods are laborious, destructive, and rely on pooled samples of fruit. New non-destructive techniques such as NIR open up for repeated measurements on individual fruit which can be followed in the field and through storage to final consumption. Focus will also be placed on sampling technologies and multivariate data analysis. The PhD student will be introduced to NIR technologies and interpretation of NIR-spectra. Available instruments include: Polychronic (hand held), FT-NIR Spectroscopy (desk top Q-interline) and NIR-equipment on an AWETA commercial grader.

The PhD study will be part of a large 4 year project focusing on sustainable production of apple, pear and strawberries. The PhD student will be part of a group of 3 PhD students working closely together and supported by a team of supervisors and co-advisers.

Qualifications and specific competences

Applicants to the PhD positions must have a relevant Master's degree (or graduate in the very near future – documentation for final thesis and date of examination must be enclosed in the application) or equivalent.

Place of Employment and Place of Work

The place of employment is the University of Aarhus, and the place of work is the Faculty of Agricultural Sciences. Part of the study will take place at ACABS Research Group (Applied Chemometrics, Analytical Chemistry, Sampling) at Aalborg University, Campus Esbjerg (AAUE).

Salary and Terms of Employment

Salary and terms of employment are according to current agreement for state-employed academics and government circular from the Ministry of Finance regarding PhD students as well as the appointment structure of 2007 for scientific personnel at universities.

The salary level for PhD students with qualifications corresponding to a Danish Master degree is approx. DKK 288,000 per year excluding pension (corresponding to USD 48,600 / EUR 38,600 per year - depending on the rate of exchange at the actual time of employment).

Matriculation as a PhD student will be in accordance with Ministerial Order no. 18 of 14 January 2008 on the PhD Programme at Universities, and matriculation at the Faculty of Agricultural Sciences is a prerequisite for employment as a PhD student.

Applicants seeking further information are invited to contact: Senior scientist Marianne Bertelsen, email: Marianne.Bertelsen@agrsci.dk or phone +45 8999 3263 or Dr. Ole Callesen, Head of department, email: Ole.Callesen@agrsci.dk or phone: +45 8999 3265.

Application

In order for your application to be taken into consideration you must meet the requirements stated in the application form (please find the application form [here](#))

Please send your application to the following address: SAFE@agrsci.dk

Closing date for applications is 15 August 2009 at 12.00 noon.

Applications received after the closing date for applications will not be considered!

The University of Aarhus encourages all, irrespective of personal background, to apply.

The University of Aarhus has 35,000 students, 8,500 members of staff and a turnover of DKK 4.8 billion in 2008. The university's strategy and development contract are available at <http://www.au.dk/en/strategy>