

DOREEN FEIKE



“ I first became interested in plant science when I learnt about the ability of plants to deal with environmental stress. I am now particularly interested in the area of starch metabolism. ”

First Degree

MSc Biotechnology
Lausitz University of Applied Sciences, Germany
Graduated April 2009

PhD

Sainsbury PhD Studentship
Circadian clock control of starch degradation in *Arabidopsis* leaves
John Innes Centre
Supervisor – Professor Alison Smith
Started October 2009

Summary of Research Project

Sucrose is the primary product of photosynthesis and is used immediately for plant metabolism and growth during the day. The remainder of the photosynthetically fixed carbon is converted to starch which accumulates in the chloroplast as long as light is available. At night when photosynthesis is not possible, starch reserves are broken down to produce sucrose. Recently, it was demonstrated that the circadian clock plays an essential role in the control of starch degradation at night.

The general objective of my PhD project is to investigate how starch degradation is controlled by the circadian clock. Basically, a forward genetic approach will be used to identify proteins that play a role in controlling starch degradation.

The project will open up a new area of plant biology and the discoveries made will help to establish the link between the circadian clock, carbohydrate availability and plant growth.
