



## Swedish University of Agricultural Sciences

Faculty of Natural Resources and Agricultural Sciences  
Plant Biology and Forest Genetics, Uppsala

# PhD student in plant immunity

Mechanisms of autophagy and programmed cell death

*SLU is an international university, world class in life and environmental sciences. We are ranked among the Top 100 of ca 5,000 European universities. We have a strong research focus, but we also offer some of Sweden's most in-demand educations; veterinarian, forester, and landscape architect.*

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*Faculty of Natural Resources and Agricultural Sciences is the largest of the four faculties of SLU. Our area of activity covers a wide range of disciplines, spanning over agriculture, food and biotechnology to natural resources, environment of landscape planning. Most of our departments are located in Uppsala, 65 km north of Stockholm.*

**Project description:** Programmed cell death associated with the pathogen triggered hypersensitive response (HR) is a hallmark of plant innate immunity. Many key factors of the HR have been identified but the molecular mechanisms and pathways of cell death execution remain obscure. Autophagy, a conserved vesicular degradation pathway, has recently been shown to contribute to hypersensitive cell death and disease resistance (Hofius et al. Cell 2009; Hofius et al. Cell Death Diff. 2011). We now aim to identify and characterize novel factors required for vesicular trafficking and autophagy during programmed cell death and innate immune responses. To attain this objective, we will primarily use genetic, biochemical, and cell biological approaches and explore previously isolated Arabidopsis suppressor mutants of immunity associated cell death.

**Research environment:** The successful applicant will work in the newly established research group of Prof. Daniel Hofius at the Department of Plant Biology and Forest Genetics, Uppsala. The department offers a creative and stimulating international environment, and is one of six departments that will make up the new cluster 'Uppsala BioCenter' at SLU. The research group and the department contributes to internationally recognized basic and applied science in plant biology; for more information visit the web page at <http://www.vbbsg.slu.se>

**Qualifications:** We are looking for a highly motivated candidate with a higher university degree in molecular biology (Degree of Master or Master of Science) with emphasis on molecular genetics, functional genomics, plant physiology or related topics. Documented abilities to manage a laboratory research project and experience with standard molecular biology techniques are required. Knowledge of plant/pathogen handling, plant molecular biology and/or proteomics approaches are highly valued. The applicant must be fluent in written as well as spoken English. Applications should be sent as a single pdf file no later than August 31, 2011. The selection will be based on the written application, CV, diploma/exam work, personal references, and an interview.

Form of employment: PhD student for 4 years of postgraduate studies.  
Starting date: The position is open from October 1, 2011 with some flexibility.

**SLU is an equal opportunity employer.**

**Further information:**

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*We welcome your application marked with **Ref no. SLU ua 2362/2011**.*

*Please submit your application to the Registrar of SLU, P.O. Box 7070, S-750 07 Uppsala, Sweden or [registrator@slu.se](mailto:registrator@slu.se) no later than **August 31, 2011**.*

*The application should be written in English.*