



Marie Curie Fellowships (Ph.D. positions) in the Initial Training Network “Peroxisomes: key to cell performance and health”

ESR7-NO: “The role of peroxisomes in plant adaptation to abiotic stress”

ESR8-NO: “Pathogen-inducible peroxisomal proteins mediating disease resistance”

both at the University of Stavanger (Norway), Prof. Dr. S. Reumann

The Marie Curie Initial Training Network **PERFUME** (PERoxisome Formation, Function, Metabolism) is opening 12 Marie Curie fellowship positions for Early Stage Researchers. PERFUME is funded by the European Union Seventh Framework Programme under Grant Agreement No. 316723.

Description

The PERFUME program (www.itn-perfume.eu) is an interdisciplinary and intersectoral initial stage training network (ITN) at the interface of medicine, plant and fungal biology, devoted to understanding the principles of peroxisome biology. Peroxisomes are ubiquitous organelles that are essential in man. Yet, the importance of the organelles is strongly underestimated. This is evident from the recent identification of several novel crucial functions, i.e. related to cope with various stress conditions. Due to earlier considerable technical challenges the atlas of peroxisome functions is still far from complete. Further understanding of the significance of the intact organelle for cell performance demands directed analyses, which require the combined expertise from different disciplines and sectors that cut across historically separated fields. The data generated in PERFUME will result in novel leads for the development of new therapeutic compounds and biomarkers for the diagnosis of peroxisome related diseases, but may also result in innovations in agriculture and biotechnology.

PERFUME brings together a team comprising of top scientists from the fields of cell biology, biochemistry, genomics, proteomics, metabolomics, mathematical modeling, bioinformatics and protein structure analysis. The Network consists of 11 full partners, representing 4 EU member states and Norway, and includes 3 commercial enterprises. Multiple complementary training schemes will include specific research projects (including various academic and industrial secondments), a wide range of dedicated courses organized by the academic partners of the Network, and finally, training organized by the industrial partners of the Network. Trainees will become experts in the multidisciplinary field of peroxisome biology, and are expected to constitute future leaders in this field.

12 Early Stage Researchers

The positions for **Early Stage Researchers** are available for candidates with a research experience ≤ 4 years (counted from the diploma that gives the rights to embark in a doctoral degree). Candidates **must not have resided or carried out their main activity** (work, studies, etc) in the country of their host organisation for more than 12 months in the 3 years immediately prior to recruitment (short stays, such as holidays, are not taken into account). Requirements: Master degree (or very close to completion) in Life Sciences. Candidates should have i) exceptional academic performance, including qualifications, prizes, ii) subject specific skills and expertise (see descriptions of the positions), iii), communication, presentation skills and team working abilities and iv) competence in written and spoken English.

Length of appointment: 3 years

Type of Contract: temporary

Starting date: between July 2013 and October 2013

Application: candidates are expected to submit a cover letter, a CV, as well a statement of research interests and skills, scanned copies of degree certificates, and the names and email addresses of two confidential references as a single PDF file.

Applications from female candidates are particularly encouraged.

Applicants are entitled to choose their preferred research team, with the option of indicating a secondary team preference.

Application deadline: 17/05/2013

Descriptions of two individual PhD projects:

ESR7-NO: “The role of peroxisomes in plant adaptation to abiotic stress”

A PhD position is available at the Centre for Organelle Research (CORE) of the University of Stavanger, Norway.

This PhD study aims to reveal yet unknown mechanisms that allow plants to adapt to adverse environmental conditions. Candidate proteins will be identified by peroxisome proteomics of stressed *A. thaliana* plants and novel peroxisomal targeting signal (PTS) prediction tools. The function of promising candidate proteins will be studied by extensive phenotyping of constructed plant gain- and loss-of-function mutants, focussing on alterations in stress susceptibility and resistance, peroxisome proliferation and secondary metabolism (metabolomics in collaboration with MDiscoveries, Potsdam). Functional conservation of newly identified plant peroxisomal proteins in fungi will be studied, for instance by complementation analysis, during a secondment at the University of Groningen.

Part of the research will be performed at the University of Groningen and MDiscoveries (Potsdam).

Location: Stavanger, Norway

Supervisor: Prof. Dr. Sigrun Reumann (sigrun.reumann@uis.no)

Co-Supervisor: Prof. Dr. Ida J. van der Klei, University of Groningen

Required subject specific skills and expertise: a master's degree in molecular life sciences (molecular cell biology, molecular genetics, biochemistry). Experience in Arabidopsis research is advantageous but not mandatory.

ESR8-NO: “Pathogen-inducible peroxisomal proteins mediating disease resistance”

A PhD position is available at the Centre for Organelle Research (CORE) of the University of Stavanger, Norway.

The student will identify and functionally characterize pathogen-inducible plant peroxisomal proteins by proteomics of peroxisomes isolated from *A. thaliana* plants treated with defence hormones and elicitors or infected with pathogens. Candidate proteins will be further analysed for their role in peroxisome biology and pathogen defence. At the University of Exeter, the student will analyse putative human orthologs of novel plant and yeast peroxisomal proteins, which are predicted to play a role in stress adaptation, by extensive phenotyping of gene knock-down/ overexpression in mammalian cells, including a.o. metabolome analysis (MDiscoveries; Potsdam).

Part of the research will be performed at the University of Exeter and MDiscoveries (Potsdam).

Location: Stavanger, Norway

Supervisor: Prof. Dr. Sigrun Reumann (sigrun.reumann@uis.no)

Co-Supervisor: Prof. Dr. Michael Schrader, University of Exeter

Required subject specific skills and expertise: a master's degree in molecular life sciences (molecular cell biology, molecular genetics, biochemistry). Experience in Arabidopsis research is advantageous but not mandatory.