



**Institute of Experimental
Botany of the AS CR, v. v. i.**



Institute of Experimental Botany | Centre of the Region Haná
Centre of Plant Structural and Functional Genomics, Šlechtitelů 31, Olomouc, Czech Republic
<http://olomouc.ueb.cas.cz/>

PhD project in Chromosome Biology

Project description

Nuclear genome is organized into nucleosomes and the folded into larger domains of different density, which control gene transcription, DNA replication, repair and other processes. How the large scale chromatin and chromosome organization is determined remains largely unknown. This project will focus on the "**Functional analysis of chromatin and chromosome organization in barley (*Hordeum vulgare*) and *Arabidopsis thaliana***", which represent plant models with large and small nuclear genomes and show contrasting arrangement of chromosomes during interphase. The PhD candidate will use mutants in known and new candidate proteins involved in the structural organization of chromatin and chromosomes. The mutants for Arabidopsis are mostly existing, but those for barley will be created using CRISPR/Cas9 technology. The mutant nuclear and developmental phenotypes will be analyzed using microscopic, molecular and biochemical methods under both control and stress conditions. This lead to characterization of new genes and understanding their functions in folding and organizing plant nuclear genome.

Requirements

The successful PhD candidate should have M.Sc. diploma (or be close to receive it), experience in molecular and cell biology, microscopy, strong motivation and excellent communication skills. Additional experience in molecular cloning and plant transformation will be considered as added value.

Appointment

The appointment will be on a temporary basis for a period of 4 years (initial appointment will be for a period of 18 months and after satisfactory evaluation it can be extended for a total duration of 4 years) and should lead to a dissertation (PhD thesis) in Molecular and cellular biology. An educational plan will be drafted that includes attendance of courses and (international) meetings. The PhD student may (but must not) assist in teaching of undergraduates. Based on a full-time appointment (40 hours per week) the gross monthly salary will be 24000 CZK brutto.

Job application

Applications should be submitted by email to Dr. Ales Pecinka (pecinka@ueb.cas.cz), which can also provide further information if necessary. Applications must include a curriculum vitae and a letter of motivation. Please combine these documents in a single PDF file. Selection process will begin as soon as a sufficient number of applications is received, but not before **May 20th, 2018**. Expected starting date is September 2018.