



**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 Seed development***

### **Project description**

This project is focusing on the "**Analysis of nuclear genome organization and dynamics in endosperm tissues of barley**". Endosperm is an energy rich tissue, which forms the major mass of cereal grains. Endosperm has enormous importance for human nutrition, but little is known about the molecular control of its development in cereals. Our aim is to analyze chromosome dynamics, chromatin organization and epigenetic regulation during endosperm development in barley. The PhD candidate will perform measurements of nuclear ploidy, fluorescence *in situ* hybridization, immunostaining and RNA-sequencing using flow-sorted endosperm nuclei, cloning and transformation of specific nuclear reporter constructs and their *in vivo* analysis using confocal microscopy in barley wild type and endosperm development mutants. This will allow understanding how nuclear organization affects gene expression and endosperm development in this economically important species.

### **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.

### **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](mailto: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.