INVESTMENTS IN EDUCATION DEVELOPMENT

Postdoctoral research fellow position (tutor Dalibor Kodrík)

Project title: Study of anti-stress reactions in insect body

Hosted by: Laboratory of Insect Physiology, Institute of Entomology, Biology Centre of the Academy of Sciences, Czech Republic,

The position will be co-financed by the European Social Fund and the state budget of the Czech Republic.

Workplace: The main topic of the lab is an investigation of insect neuropeptides and their role in physiological and developmental processes in insect body. The study is primarily focused on the adipokinetic hormones (AKHs) and their functions in various stress situations including the oxidative stress, and their interactions with other insect hormones. A wide choice of advanced biochemical and physiological methods is used in the lab. **For details see *http://www.entu.cas.cz/en/departments/department-of-biochemistry-and-physiology/laboratory-of-insect-physiology/.***

Position summary: The fellow will pursue research in the following research field:

1. Study a role of AKH in insect reproduction mainly in modulation of a vitellogenin (Vg) production. The Vg synthesis is a complicated matter controlled by several hormones. It is supposed the fellow will verify the AKH role in the reproductive processes in the *Pyrrhocoris apterus* and *Periplaneta americana*, and the results will use as markers for the study of AKH interactions with other insect hormones (allatostatins, JH, juvenoids).

2. Study of AKH role in stimulation of insect anti-oxidative stress (OS) reactions. It has been suggested recently the AKH is involved in protection of insect body against the OS and eliminates or reduces the impact of OS on insect organism. This phenomenon will be studied on the *Drosophila* model using physiological and genetic techniques. Interactions of AKH with other insect neurohormones will be considered as well.

The work will include a 4-month stay in the Institute of Genetics, Biological Research Centre, Hungarian Academy of Sciences, Szeged (Laboratory of Insect Neuropeptide Research). The fellow will study the effect of AKH on a course of the OS using suitable *Drosophila* mutants. The main goal of this stay will be a transfer of the methodological knowledge from the Szeged lab to the home one.

Pedagogical activities - will include a help with leading of practical exercises – Insect Physiology, and Animal and Human Physiology, eventually a work with the undergraduate students in the lab.

Other activities: Annual presentation of results within the Institute seminaries and international meetings, publication of the results in the impacted journals (second half of the stay).

Duration of contract:

Selected candidate will be offered a position for up to 34 months starting from September 1st, 2012. The salary is about 1800 EUR brutto per month and this amount corresponds to a good living standard in the Czech Republic. Extension of the contract beyond 34 months may be possible, pending renewed funding.

Qualifications:

Interested candidates must have successfully obtained their Ph.D. degree in a relevant discipline after March 29th, 2008. A good knowledge of English language (corresponding to CAE or equivalent) is required. Some knowledge of the Czech language will prove useful.

***How to apply*:**

Interested candidates should apply no later than July 31st, 2012 by submitting the following documents and information to **A. Navrátilová** (navratilova@bc.cas.cz): (**1**) Cover letter explaining the candidate's research interests; (**2**) Detailed CV including a list of publications and other achievements; (**3**) Certified academic transcripts and diplomas (scanned copies); (**4**) List of minimally two referees who can testify on the candidate´s character and performance; (**5**) Declaration of the candidate's proficiency in English.

***Announcement of results*:** The Evaluation Committee will convene in August 2012 and candidates will be immediately informed of the results.