



# INSTITUTE OF ECOLOGY AND ENVIRONMENTAL SCIENCES OF PARIS

## Post-doc position in pheromone biosynthesis evolution

**Context.** A post-doc position is available in the sensory ecology department at iEES-Paris. This department involves 10 researchers from Sorbonne University (Paris) and INRAE (Versailles), and uses a unique combination of know-how, including bioinformatics, functional genomics, biochemistry, electrophysiology and ethology. We are notably interested in dissecting the mechanisms of olfactory communication and their evolution in insects. In moths, the diversification of sex pheromone signals has likely played a key role in their extensive radiation, as it may be one of the major mechanisms responsible for the evolution of reproductive isolation. We currently investigate this topic in moths of the genus *Spodoptera*, by studying the evolution of genes involved in pheromone production and reception.

**Activity.** We have identified candidate genes presumably responsible for the evolution of pheromone blends in *Spodoptera*. Depending on his/her skills and interest, the person recruited will integrate the project to develop one of the following lines of research:

- 1) a functional study of the candidate enzymes already identified, using biochemistry approaches (yeast transformation, GC-MS analyses). The aim would be to determine how the substrate specificity of these enzymes evolved.
- 2) a comprehensive comparative study of all the gene families potentially involved in pheromone biosynthesis, using bioinformatics (genome annotation, RNAseq, phylogeny). This will allow to rebuild their evolutionary history and assess their potential contribution to the diversification of pheromone blends.

**Skills.** We are seeking a highly motivated candidate holding a PhD in Life Sciences, and with a strong interest for insect physiology and/or evolutionary biology. Depending on the preferred line of research, a solid experience in biochemistry/molecular biology or in bioinformatics is mandatory. The candidate should have strong communication and organization skills, and be fluent in English.

**Practical details.** CV and motivation letter should be sent to [nicolas.montagne@upmc.fr](mailto:nicolas.montagne@upmc.fr) and [thomas.chertemps@upmc.fr](mailto:thomas.chertemps@upmc.fr) (deadline 15<sup>th</sup> March). The position is expected to be filled as soon as possible, before summer 2020. Depending on the availability of the candidates, the term of the position will be between 12 and 18 months. The lab will provide all the bench equipment and facilities required for the project, which is funded by an ANR grant.