**PhD fellowship in Structural Biology**

The Department of Structural Biology and Chemistry, Institut Pasteur is pleased to announce that a PhD fellowship will be available from 1 February 2017 or as soon as possible thereafter. The application deadline is **November 15 2016**.

Applications are invited for the three-year fellowship from applicants who hold or expect to hold a master’s degree in a field relevant to the following PhD project: Role of multi-domain protein networks in the auditory transduction machinery

**Project description**

Mammals perceive sound thanks to mechanosensory hair cells located in the inner ear. Vibrations produced by sound waves induce motion of the hair-cell cilia in the cochlea. These cilia are tightly bound together in bundle by a network of cadherins and scaffolding proteins. Stretching of this network is directly responsible for the opening of an ion channel that triggers a neuronal message transmissible to the brain. Nearly all proteins involved in this cilia-associated network contain short C-terminal motifs of interaction with PDZ domains. Only two proteins of this network encompass PDZ domains: Harmonin and Whirlin. Mutations of these hair cell proteins cause severe deafness associated to blindness in humans. Harmonin and Whirlin are large multi-domain scaffolding proteins containing three PDZ domains and two HHD domains (Harmonin Homology Domain). With tens of potential partners in hair cells, Harmonin and Whirlin have a central role in connecting the extracellular protein links, the cytoskeleton and the mechanotransduction channel. However, their interactomes have been only partially described and very little information is available on their conformations.

Our project focuses on the role of multi-domain PDZ proteins in the auditory transduction machinery. We will characterise the organization of submembrane complexes involved in the mechanoelectrical transduction machinery that is still unknown: we will establish the entire human PDZ-PBM quantitative interactome in the auditory sensory cells using an efficient and innovative high throughput chromatographic assay. In parallel, we will decipher the functional and structural role of multi-domain PDZ proteins such as Whirlin. To yield a conformation for this intrinsically dynamical complex, we will determine the structure of the multi-domain proteins based on data from X-ray diffractions, NMR, mass spectrometry and SAXS using an integrative structural biology approach.

The PhD fellowship is part of the EU-funded project, PDZnet, which is an ambitious interdisciplinary European Training Network under the H2020 Marie Skłodowska-Curie Actions ([www.pdznet.eu](http://www.pdznet.eu)) offering training for 14 PhD fellows. The PDZnet consortium contains 12 different partners in 6 EU countries (Denmark, Sweden, Germany, France, Italy, Portugal). The PDZnet training programme involves a range of network wide training activities.

**Required qualifications**

The successful candidate must:

- hold a Master’s degree in a relevant subject area prior to the starting date
- be fluent in English and have excellent communication skills

**Preferred qualifications**
We are looking for a highly motivated individual with a background in protein biochemistry and biophysics, ideally with some experience in structural determination (NMR and/or X-rays diffractions).

**Supervisor**
Doctor Nicolas Wolff, nicolas.wolff@pasteur.fr, Unit of NMR, Department of Structural Biology and Chemistry, Institut Pasteur.

**General job description**
Your key tasks as a PhD fellow at Institut Pasteur are to:

- manage and carry through your research project
- take PhD courses
- write scientific articles and your PhD thesis
- participate in national and international congresses and scientific meetings
- stay at an external research institution, preferably abroad
- teach and disseminate your research

**Key criteria for the assessment of applicants**
- Professional qualifications relevant to the PhD programme
- Relevant work experience
- Previous publications
- The grade point average achieved
- Other professional activities
- Language skills
- The successful applicant is also required to be enterprising and to possess good interpersonal skills

**Formal requirements**
The position is available for a three-year period for applicants holding a relevant master’s degree.

The candidate should have less than 4 years of research experience and must not have resided or carried out his/her main activity in France for more than 12 months during the last 3 years immediately prior to the recruitment.

The successful applicant will be requested to formally apply for enrolment as a PhD student at University Pierre et Marie Curie (UPMC-Sorbonne universités, Paris VI).

The PhD student is expected to be affiliated to the graduate programme in doctoral school “Life Science Complexity” – ED 515 (WEB site: http://www.ed515.upmc.fr/en/)

**Terms of employment**
Salary and other terms of employment are in full compliance with French Labour Law and Institut Pasteur Corporate Agreement with Labour Unions.

**Questions**
For further information, applicants may contact the supervisor or the PDZnet Project Manager Louise Albertsen, louise.albertsen@sund.ku.dk.

**How to apply**

Students are requested to submit their application electronically to the thesis advisor of the project, sending a full CV (including all academic training, research experience, possible publication list and presentations at conferences) and a letter of motivation (letter stating the interest in and qualifications for the project). Please note that recommendation letters will be requested and must be sent by the authors to the supervisor (nicolas.wolff@pasteur.fr).

**Deadline for applications:** November 15 2016. Please note that only online applications will be accepted.

After the expiry of the deadline for applications, the written applications are evaluated on the basis of the academic qualifications, previous research experience and scientific potential of the candidates. The Admissions Committee is composed of Institut Pasteur scientists, representatives of the Doctoral Schools. Then, all applicants are then immediately notified whether their application has been passed for assessment by an expert assessment committee. The expert assessment committee consists of the principal supervisor and the supervisory team of PDZnet.

An answer as to the granting of the fellowship can be expected approx. 4 weeks after application deadline.

The Institut Pasteur wishes to encourage everyone interested in this post to apply, regardless of personal background.