2 PhD positions

• Shedding light on myopia using congenital stationary night blindness
• Shedding light on myopia by studying retinitis pigmentosa

The PhD positions are part of the MSCA Doctoral Network ‘MyoTreat’, Myopia - from genes and environment to cellular responses and treatment. The PhD students will study myopia using mouse models respectively with congenital stationary night blindness and with retinitis pigmentosa. The positions will provide state-of the art training in vision research using non-invasive optical measuring techniques and biochemical and molecular genetics research methods with application to the eye disorder, myopia.

We are seeking two motivated and intellectually curious PhD students to work on a project addressing the role of differentially regulated genes appearing in mouse models respectively with congenital stationary night blindness and with retinitis pigmentosa, showing also myopia. Myopia is currently the most frequent developmental disorder in juvenile eyes. The projects aim is to improve the diagnostic methods and treatment options for myopia. The PhD candidates will benefit from networking with, and secondment to, other project partners in order to gain understanding and access knowledge from others.

The doctoral candidates will utilize cutting-edge techniques:
• Gene expression studies (RT qPCR)
• Biochemical methods (immunohistochemistry, dopamine measurements using HPLC)
• Non-invasive optical measurement techniques for measurement in alert animals (photorefraction, electroretinography, optical coherence tomography)

Recent open access research publications related to this position: https://hal.science/hal-03954516

Requirements

The candidate should have:
• A Master’s degree in life sciences (biology, neurobiology or closely related fields).
• Excellence in oral and written English, with good presentation skills.
• High motivation with an interest in myopia research.
• Work effectively both independently and as part of a team.
• Knowledge of eye biology, physiology, and neuroscience.
• Willingness to work with our animal model (mouse) is mandatory for the project.
The following skills are desirable:
• Background in physiology of vision.
• Hands-on knowledge of optical measurement techniques, molecular biology, biochemistry, cell biology.
• Good background of statistics

Eligibility criteria

• Shall not have resided or carried out his/her main activity (work, studies etc.) in France for more than 12 months in the 36 months immediately before the recruitment date (unless as part of a compulsory national service or a procedure for obtaining refugee status under the Geneva Convention).
• Shall not already be in possession of a doctoral degree (*).
• Can be of any nationality.

*: researchers who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree will not be considered eligible

Benefits

The EU provides 36 months support for each recruited researcher. We offer a highly competitive salary.

Sorbonne University is a world-class research university, presenting the comprehensive disciplinary range of arts, humanities, social sciences, natural sciences, engineering and medicine. The University offers its 55,600 students the best educational opportunities for the success of each of their personal and professional projects, through monodisciplinary, bi-disciplinary and interdisciplinary programs. Close to 10,200 of its students are international and 4,500 are in doctoral programs. With its three main faculties, it offers varied and original opportunities across disciplines and high-quality research and training environment with, for instance, the largest university library in France. Following its tradition in hosting excellent researchers from around the world, the university has adopted the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and is engaged into the HRS4R process.

The Vision Institute building of 6000 m2 houses more than 20 research teams (Inserm - Sorbonne University - CNRS) working on different eyesight problems: myopia, retina imaging, AMD (Age-related macular degeneration), glaucoma, diabetic retinopathies, retinitis pigmentosa, etc. Twelve platforms are at the core of the Institute’s research activities, dedicated to: tissue and cell imaging by confocal microscopy, adaptive optics, full field optical coherence tomography, functional explorations, DNA-collection, transcriptome and proteome analysis, bioinformatics, behavioural tests, patch clamp study of ionic channels, two-photon imaging and utilization of optogenetic tools, preclinical studies on non-human primate, development of animal models, genetic therapy approaches, pharmacological and light toxicity studies, high-throughput screening.
Selection process

Doctoral candidates will be selected based on scientific qualification and experience, research interest, additional knowledge/skills and their motivation to participate in an intersectoral research-training program.

Please send:
• your CV, specifying the title of the position
• a 1-page letter of intent
• the contact details of one or two academic referees
• transcripts and diplomas of Bachelor’s and Master’s Degrees.

All documents must be in French or English. Any translations must be certified. These documents will be sent to Dr. Christina ZEITZ christina.zeitz@inserm.fr

The 2 PhD positions will start in early 2024.