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The GIGA Research Institute at the University of Liège is recruiting a  
**Postdoctoral fellow in Molecular Biology of Sensory Systems**

Established in 2007 at the University of Liège (Belgium), the GIGA is an interfaculty research center carrying interdisciplinary research in biological and medical sciences (<http://www.giga.uliege.be/>). The GIGA offers its 500+ members a high-quality international research environment and provides access to a broad range of state-of-the-art technologies through core facilities, including genomics, proteomics and imaging platforms.

**Subject description:**

In the natural world, the ability for organisms to detect sunlight, derive light-guided physiological responses from chemotaxis to colour vision systems, stems from the large diversity of rhodopsin protein structures and functions. Eukaryotic rhodopsins can capture incoming wavelengths of light in and outside of the visible range, extending to ultraviolet and far-red light. Whether similar functions, properties, and mode of evolution can be attributed across homologous Gt vertebrate and Gq invertebrate GPCR opsins remains unclear owing in part to the limited understanding of Gq opsins at the molecular and functional level. We are seeking a postdoctoral researcher to focus on studying the evolution and mechanisms of invertebrate rhodopsin spectral functions combining molecular, biochemical and cell-based expression tools.

A two-year postdoctoral position is offered to study the molecular mechanisms underlying invertebrate light-sensing GPCR rhodopsin function evolution and retinal chromophore tuning. The prospective researcher will be hosted by Dr. Marjorie Liénard in the GIGA Laboratory of Molecular Biology of Sensory Systems at the GIGA Research Institute, Liège University, Belgium. Dr. Liénard's laboratory is anchored within the unit of Molecular Biology of Diseases providing a broad range of technical and scientific expertise in molecular biology, protein signaling, molecular pharmacology, medical chemistry and functional genetics.

**Work duties:**

The successful candidate will investigate the functional diversity of wild type and chimeric invertebrate Gq/Go opsins by leveraging cell-based protein expression, protein purification techniques, spectroscopy, bioinformatics and protein homology modeling. The researcher will be involved in characterizing opsin functions in vitro and will have the potential to disentangle the molecular interactions driving spectral shifts particularly in the long wavelength range. These data will be used with the aim of building a genotype-phenotype database mapping key molecular mechanisms for spectral tuning, ultimately aiming to engineer animal visual and non-visual rhodopsins for various GPCR applications.

**Eligibility:**

- PhD in Molecular Biology, Genomics, Biochemistry or a related discipline obtained within the last 5 years at the time for employment decision (PhDs awarded more than 5 years ago due to career breaks will also be considered however must be indicated in the CV or cover letter). Highly suitable candidates who will obtain their PhD degree early 2024 are encouraged to apply.
- The candidate must not have worked or lived in Belgium for more than 24 months during the 3 years preceding the start date.

**Qualifications :**

- Documented experience in laboratory techniques including nucleic acid extraction, PCR, vector cloning procedures, Sanger Sequencing, Mammalian cell culture
- Documented experience in bioinformatics and gene and protein database work
- A good track record of publishing peer-reviewed academic papers

- Evidence of ability to plan, develop, conduct high quality research
- Evidence of ability to organize resources and time, report research work, and meet deadlines effectively and consistently
- Very good oral and written proficiency in English and ability to communicate scientific results

The appointment as a postdoctoral researcher is intended as an initial step in the career and as an opportunity to further deepen and broaden research competence. The assessment of the applicants will primarily be based on their research qualifications, potential as researchers, scientific ability in the subject area, and personal qualities. Consideration will also be given to ability in next generation sequencing and analysis, experience in the biochemical methods that will be used in the project, and ability to work efficiently both independently and as a member of a team.

### **How to apply?**

Your application should be sent as a single PDF to [Marjorie.lienard@uliege.be](mailto:Marjorie.lienard@uliege.be) and must contain:

- CV (maximum of 2 pages)
- List of publications
- Cover letter (maximum of 2 pages) outlining a general description of past research experience, future research interests, methodological knowhow, why you are interested in this position, and contact information for three references including main supervisors
- Copy of the doctoral degree certificate and other certificates/grades that you wish to be considered

### **Start date :**

As soon as possible. Deadline for applications: February 15<sup>th</sup>, 2024.

### **Terms of employment:**

The position is a full-time, fixed-term employment of 2 years (initial contract for one year renewable).

### **Contact:**

Please contact [Marjorie.lienard@uliege.be](mailto:Marjorie.lienard@uliege.be) to apply or obtain more information about the lab and position.