LIÈGE université
GIGA institute

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:

American trypanosomiasis, or Chagas disease, is a neglected parasitic infection that constitutes a significant global public health threat. Every year, millions of people are affected in the Americas, with a risk of spreading to other continents. Challenges such as the lack of a vaccine and effective control methods demand innovative strategies. A two-year postdoctoral position is opened in the Laboratory of Molecular Biology of Sensory Systems at the GIGA Research Institute, Liège University, Belgium led by Dr. Marjorie Liénard. The project will investigate the molecular mechanisms underlying thermosensory response of transient channel receptor genes in *Rhodnius prolixus* and *Triatoma infestans*, two hematophagous triatomines attracted to host emitted heat and responsible for transmitting the infectious agent *Trypanosoma cruzi*. Through a series of innovative approaches, including the development of stable inducible flpn HEK cell lines and cellular *in vitro* and fluorescent assays studying the effect of temperature and natural ligands on membrane receptor channel activation, the successful applicant will functionally characterize a suite of candidate thermoTRPAs, to identify their full spectrum of thermal responses. The candidate will also study the *in vitro* allosteric interactions of these channels with candidate chemical ligands that may ultimately modulate the host-seeking behavior of vectors. This research promises to identify new molecular targets and candidate repellent substances with the goal of identifying chemical ecology targets reducing vector contact with humans, thereby reducing the incidence of Chagas disease.

Dr. Liénard's laboratory is anchored within the unit of Molecular and Computational Biology providing a broad range of technical and scientific expertise in molecular biology, protein signaling, molecular pharmacology, medical chemistry and functional genetics.

Work duties:

The postdoctoral researcher will be involved in maintaining cell cultures, establishing stable Flpn Hek cell lines expressing transient channel receptor proteins, monitor protein level expression at the plasma membrane over time and under varying culture conditions. The researcher will implement reproducible experimental workflows with fluorescent assay readouts (following on protocols available in the lab) to characterize the thermal response range of activated channels, perform ligand assays and establish dose-response curves. The researcher is expected to plan and design experiments with ad hoc supervision, execute, analyze experimental data, and be capable of troubleshooting, contribute to figure preparation and writing for publication, and take part in national and international meetings to communicate their research findings.

Eligibility:

- PhD in Biology, 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 are in the process of obtaining their PhD degree 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 molecular laboratory methods, mammalian cell culture techniques, establishment of polyclonal and/or monoclonal stable cell lines, PCR and qPCR, vector cloning procedures, DNA purification, Western Blot, Fluorescent and calcium imaging assays, media preparation
- A good track record of publishing peer-reviewed academic papers
- Evidence of ability to plan, develop, conduct rigorous quality research independently
- 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 experience with working with membrane proteins, fluorescent microscopy and the ability to work efficiently both independently and as a member of a team.

How to apply?

Your application should be sent to Marjorie.lienard@uliege.be as a single PDF 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. Last application day: October 30th, 2024. Applications will be reviewed on a rolling basis.

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 to apply or obtain more information about the lab and position details.