



BIOMEDICAL SCIENCE FOR THE BENEFIT OF SOCIETY

Postdoctoral Fellow in Systems Neuroscience

The Institute

The Centre for Genomic Regulation (CRG), is an international biomedical research institute of excellence, based in Barcelona, Spain, whose mission is to discover and advance knowledge for the benefit of society, public health and economic prosperity.

The breadth of topics, approaches and technologies at the CRG permits a broad range of fundamental issues in life sciences and biomedicine to be addressed. Research at the CRG falls into four main areas: gene regulation, stem cells and cancer; cell and developmental biology; bioinformatics and genomics; and systems biology.

With more than 380 scientists from 42 countries, the CRG excellence is based on an interdisciplinary, motivated and creative scientific team that is supported by high-end and innovative technologies.

The centre's other main strategic goals are: to translate basic scientific findings into benefits for health and economic value for society; to provide advanced and excellent training to our scientists; and to communicate and establish a bilateral dialogue with society.

CRG has received the "HR Excellence in Research" award from the European Commission, which shows the commitment of the institute in conducting transparent and merit-based recruitment procedures and providing attractive working conditions in alignment with the European Charter and Code.

For further information: www.crg.eu

Mission of the role

We are looking for a highly motivated researcher interested in quantitative behavioral neuroscience. A position for a research assistant or short-term post-doctoral experience is available in the laboratory of Matthieu Louis (CRG, Barcelona, Spain). The successful candidate will join the *MINIMAL* project (www.maggot.eu), which aims to advance our understanding of learning by developing a computational model of innate and learned chemotaxis process in the fruit fly *Drosophila* larva. Part of the research will be carried out in collaboration with the group of James Sharpe at the CRG.

The main research interest of the Louis lab is to clarify the link between sensory coding, neural circuit computations and behavior. We follow a systems approach to understand how odor tracking comes about in terms of neural computation in the *Drosophila* larva. Our work has established larval chemotaxis as a paradigm to dissect the molecular and cellular bases of sensorimotor integration and decision making in a genetic model organism (Gomez-Marin *et al.*, Nature Communications 2011). We take advantage of optogenetics to create virtual olfactory realities where quantitative models about the mechanisms controlling chemotaxis can be tested and refined (Schulze *et al.*, eLIFE 2015). We are now exploring how these mechanisms can be modulated by learning and how sensorimotor control can be reproduced in mobile robots (kilobots).

We are seeking to recruit a researcher to participate in this interdisciplinary project. The successful candidate will benefit from 12 months of funding. This project is ideal for an early career researcher seeking for exposure to the field of systems and computational neuroscience.





Requirements

Studies:

- Master/PhD in neuroscience, biophysics or engineering. Candidates with a background in bioengineering and computer sciences are highly encouraged to apply.

Technical skills required:

- Prior experience in scientific programming (C, C++, MATLAB).

Languages:

- Fluent level of English

The Offer

- **Duration:** Temporary contract till the 31st of December 2016
- **Estimated annual gross salary:** A competitive salary will be provided, which will be well matched relative to the cost of living in Barcelona, and adjusted according to experience
- **Starting date:** January 2016

We offer work in a highly stimulating environment with state-of-the-art infrastructure, providing the successful applicant with unique opportunities to develop a strong technical portfolio.

A successful candidate will benefit from up to 12 months of funding - *MINIMAL* project.

Application Procedure

All applications must include:

1. A presentation letter addressed to Dr. Matthieu Louis.
2. A full CV including contact details.
3. Two or three contacts for further references.

All applications must be addressed to Dr. Matthieu Louis and be submitted by means of on-line application on the official website of the CRG - <http://recruitment.crg.eu/>.

Deadline: Please submit your application by **January the 17th of 2016**

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