Dr. Claire WYART

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**Interdisciplinary PhD program: computer science and neuroscience
in the ZENITH European Training Network** https://zenith-etn.com

Job Description: **Coding Engineer for controlling high speed acquisition systems, deep learning applied to image analysis, and signal processing for the study of neuronal activity underlying the selection of behavioural sequences.** The engineer will work in the Wyart lab, located in the Paris Brain Institute within the Pitié-Salpêtrière hospital campus. The lab investigates the circuit mechanisms underlying sensory feedback during locomotion and postural control in the brain and spinal cord. The lab carries approaches at the interface between biophysics and neuroscience. The Wyart lab develops original experimental setups relying on diverse imaging methods such as 2 photon imaging, light-sheet microscopy, spinning disk microscopy, dynamic full field optical coherence tomography. The Wyart lab pioneered the use of optogenetics in combination with in vivo electrophysiology for synaptic connectivity mapping. Synchronous imaging and behavioural experiments lead to very large data sets, which require the development of automated approaches for data extraction, visualisation, analysis and modelling.

Skills in data acquisition systems, image processing, deep learning or modelling. The engineer will develop image analysis and data processing programs to extract relevant information from live imaging of neuronal activity, in vivo electrophysiological recordings and behavioural experiments to be carried out in an automated manner. The person recruited will work for the benefit of multiple projects involving image and signal analysis, deep learning and modelling.

International training and collaborations. The engineer will contribute to a novel effort of extracting and modelling sequences in the chemotaxis behaviour in collaboration with the theorist Massimo Vergassola (IBENS, Paris) and the expert in causality analysis between neuronal activity and behaviour Moritz Grosse-Wentrup (U Wien, Vienna, Austria). The position to be filled by Oct 1st, 2020 is secured for 3 years and will be associated with intensive training and collaborations within a European training network. This affiliation will ensure that the engineer to be recruited will benefit from the optimal training adapted to her/his current expertise and all needs for completing the projects.

In order to promote international applications and mobility, we will consider only applications from engineers who:
- **have acquired skills in either control systems, data acquisition, image processing or modelling,**
- **have spent less than 12 months in France in the last 3 years.**

The Wyart lab shows commitment to a diverse work force: we identify and promote the most talented and diverse individuals. Our program aims to mentor minorities in order to enhance diversity in science.

Dr. Claire Wyart is EMBO Young investigator & EMBO full member, New York Stem Cell Foundation (NYSCF) Robertson Investigator, FENS-Kavli Network of Excellence (FKNE) Scholar and Board member. Dr. Wyart's commitment to science outreach and training in science here: https://wyartlab.org ; https://zenith-etn.com ;https://en.adioscorona.org.