

## **Opportunity # GN000007**

Postdoctoral position in the circuit neuromodulation of motor action and decision making at : Italian Institute of Technology, Genova, Italy

Deadline: 31 July 2022

## **Description:**

Application are invited to join our multidisciplinary and highly collaborative research team as postdoctoral fellow.

The lab applies a multi-scale neuroscience approach to investigate the cellular mechanisms of synaptic neuromodulation, and to resolve the spatiotemporal dynamic of behaviorally relevant neuromodulatory signals at circuit level resolution (for reference see Cavaccini et al., Neuron 2018; Alberio et al., Nature Methods 2018; Boender et al., Biol Psychiatric 2021; Peters et al., TINS, 2021).

The successful applicant will investigate how midbrain neuromodulatory nuclei convey internal-state (positive or negative valence) information to motor control regions (striatum), thereby influencing action control, both in health and disease state (psychomotor and affective disorders).

To this purpose, the candidate will apply neurophysiological, optogenetic and chemogenetic approaches (ex vivo and in vivo) to study how noradrenaline, serotonin- and endocannabinoid signals interact to modulate the activity of neurons as well as the astrocyte-neuron cross-talk. These studies will be implemented by using state-of-the art imaging techniques (miniscope imaging and fiber photometry) to monitor neuronal and astrocytic activity along with neuromodulators during behavioral paradigms.

Knowledge of ex vivo neurophysiology and optogenetics, combined with viral-based approaches to deconstruct and manipulate neuronal circuits in vivo is preferred. Previous experience with large-scale neuronal imaging in-vivo and programming (Python or MATLAB), together with signal processing expertise appropriate for the analysis of neuronal activity, will be a plus.

Candidates from abroad or Italian citizens who permanently work abroad and meet specific requirements, may be entitled to a deduction from taxable income of up to 90% from 6 to 13 years.

Applications should include a cover letter, a CV, and the names and addresses (including e-mail addresses) of at least two referees and sent to raffaella.Tonini@iit.it quoting "Postdoctoral position in the circuit neuromodulation of motor action and decision making" in the subject line". The position will remain open until filled. Starting date flexible.

Applications can be also submitted online at

https://iit.taleo.net/careersection/ex/jobdetail.ftl?lang=it&job=2100005M.



We inform you that the information you provide will be used solely for the purposes of evaluating and selecting professional profiles in order to meet the requirements of Istituto Italiano di Tecnologia.

Your data will be processed by Istituto Italiano di Tecnologia, based in Genoa, Via Morego 30, acting as Data Controller, in compliance with the rules on protection of personal data, including those related to data security.

Please also note that, pursuant to articles 15 et. seq. of European Regulation no. 679/2016 (General Data Protection Regulation), you may exercise your rights at any time by contacting the Data Protection Officer (phone Tel: +39 010 28961 – email: dpo@iit.it ).

## **Contact Details**

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