



2 Post Doc Positions in Neurogenetics

CB 78485

CB 78486

The “Genetics and Epigenetics of Behaviour” Research Line at IIT, led by Dr Valter Tucci, is mainly focused on the investigation of sleep, circadian clock and behavior.

Epigenetic marks across the genome influence sleep and daily rhythms imposed by the Earth’s rotation around its axis (circadian clock). Over the last decade, our lab provided the first direct evidence that genomic imprinting is an important player in sleep regulation, and we demonstrated that the parental origin of a gene can influence the sleep profile. Genomic imprinting is well-known in epigenetics as a mark across the genome that cause the expression pattern of an allele depending on its parental origin (see Tucci et al., Cell. 2019 Feb 21;176 (5):952-965). Further investigation in the genomic imprinting hypothesis of sleep is instrumental to understand sleep biology in mammals. This parent-of-origin epigenetic aspect was never considered in sleep and circadian studies before. Imprinted genes are highly expressed in the suprachiasmatic nucleus of the hypothalamus, which serves as the main master clock, and in the hypothalamus and frontal cortex, in which specific circuitries serve as the sleep-wake centres of the brain.

The hypothesis that imprinting has set an evolutionary agenda for the physiology of mammalian sleep has been an attractive idea that now urges a systematic exploration.

Therefore, driven by this hypothesis, our Research Line is now recruiting **two post-docs** to address the following questions: how epigenetic inheritance impacts on single neuronal responses in the brain and how evolutionary changes has influenced the link between sleep and imprinted genes.

Candidates must hold a PhD in Molecular Genetics, Neurobiology or a related discipline; they should be highly motivated to work in a multi-disciplinary research environment.

Candidates should have significant hands-on expertise in one of these areas:

- Neurobiology
- Molecular biology
- Genetics/Epigenetics
- Neuroscience
- Bioinformatics
- Population genetics

To apply please provide your CV, publication list, research statement, and names of 2 referees using the online form <https://iit.taleo.net/careersection/ex/jobdetail.ftl?lang=en&job=20000016>.

Deadline is June 15, 2020.



1 PHD POSITION IN NEUROSCIENCE AT IIT IN COLLABORATION WITH UNIVERSITÀ DI PADOVA

Workplace: Genova, IIT

IIT has established a collaboration with Università degli studi di Padova and funds #1 scholarship on the topic: **“The epigenetic landscape of sleep”** at the Phd Course in Neuroscience of the University.

Research and training activities are jointly conducted between the University and IIT infrastructures in Genova, at the Genetics and Epigenetics of Behavior laboratory, led by its Principal Investigator Valter Tucci

The proposed research theme is the following:

Epigenetic marks across the genome influence sleep and daily rhythms imposed by the Earth’s rotation around its axis (circadian clock). Over the last decade, our lab provided the first direct evidence that genomic imprinting is an important player in sleep regulation, and we demonstrated that which parent a gene came from can influence the sleep profile. Genomic imprinting is well-known in epigenetics as a mark across the genome causing the expression pattern of an allele to depend on its parental origin (see Tucci et al., Cell. 2019 Feb 21;176(5):952-965). Further investigation in the genomic imprinting hypothesis of sleep is instrumental to understand sleep biology in mammals. This parent-of-origin epigenetic aspect was never considered in sleep and circadian studies before. Imprinted genes are highly expressed in the suprachiasmatic nucleus of the hypothalamus, which serves as the main master clock, and in the hypothalamus and frontal cortex, in which specific circuitries serve as the sleep-wake centres of the brain.

The hypothesis that imprinting has set an evolutionary agenda for the physiology of mammalian sleep has been an attractive idea that now urges a systematic explorations. Therefore, driven by this hypothesis, the PhD candidate will address the following question: how epigenetic inheritance impacts neuronal responses in the brain during sleep.

Successful candidates will be part of an exciting and international working environment and will work in brand new laboratories equipped with state-of-the-art equipment.

Excellent communication skills in English, as well as ability to interact effectively with members of the research team, are mandatory.

In order to apply for these positions, it is mandatory to refer to the procedures administered by the Università degli studi di Padova. The official procedure is available at this link: **Ph.D. programmes - Admission 36th cycle**

Please take the time to read carefully the full information available on **The General call published by the University** web page, which offers in particular

- the [PhD Courses: call for admission 2020/2021](#);
- the [PhD Course table \(Appendix 1: course list\) 2020/21](#)
- the [Technical guidelines for the submission of the application form](#).

For further information please contact [valter.tucci\[at\]iit.it](mailto:valter.tucci[at]iit.it)

Please, apply before deadline: 16/06/2020, 13:00 (Italian time).



**ISTITUTO ITALIANO
DI TECNOLOGIA
GENETICS AND EPIGENETICS
OF BEHAVIOR**

Istituto Italiano di Tecnologia, with its headquarters in Genoa, Italy, is a non-profit institution with the primary goal of creating and disseminating scientific knowledge and strengthening Italy's technological competitiveness. IIT's research endeavor focuses on high-tech and innovation, representing the forefront of technology with possible application from medicine to industry, computer science, robotics, life sciences and nanobiotechnologies.

Istituto Italiano di Tecnologia is an Equal Opportunity Employer that actively seeks diversity in the workforce.

We inform you that the data you provide will be processed for the sole purpose of evaluating professional profiles and selecting them according to the needs of the Fondazione Istituto Italiano di Tecnologia.

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

We also inform you that, pursuant to article 15 and following articles of EU Regulation 2016/679 ("General Data Protection Regulation"), you may exercise your rights at any time by contacting the Data Protection Officer (telephone 010 28961 - email: dpo@iit.it).