



Centre for Integrative Biology - CIBIO

PhD-position: Epigenetic reprogramming during breast cancer progression

The project

The project – funded by the Italian Association for cancer research, AIRC - is centered on determining the contribution of epigenetic reprogramming on enhancer activity during tumor progression and metastasis formation. The objective of this proposal is to define the contribution of oncogenic enhancers to tumor heterogeneity during basal-like breast cancer progression and metastasis formation. We specifically aim to establish whether the epigenetic modulation of oncogenic-specific enhancers may support the transition from alternative cellular stages, in response to environmental cues. By using cutting edge technologies, the herein program aims to solve enhancer-centered chromatin domains to gain insights on epigenetic plasticity and its impact to predict the best therapeutic options at different stages of tumor progression.

The candidate

We are seeking proactive, talented students willing to investigate the contribution of epigenetic reprogramming to the cancer cell plasticity. The candidate is requested to have familiarity with methods of molecular biology and cell biology to address chromatin changes during tumor progression. The PhD student will experience state-of-the-art technologies including epigenetic profiling, CRISPR/Cas9 epigenome editing and super-resolution microscopy. Given the international framework, the candidate should also have good communication skills in English, and a team-oriented working attitude. For additional information please contact Dr. Alessio Zippo (alessio.zippo@unitn.it).

Qualifications:

- A high level of motivation and interest.
- Master degree in Biology, Biotechnology, Computational Biology or in a related field
- Prior research experience in cell and molecular biology
- Experience in quantitative advanced imaging and/or NGS data analysis will be a plus
- Excellent communication skills and good team spirit with the ability to solve problems independently
- High level of English speaking and writing skills.
- International mobility will be considered a plus.

The environment

The lab of Chromatin Biology and Epigenetics is interested in determining the contribution of epigenetic changes to stem cell function, both in physiological and pathological settings. In particular, we are investigating the contribution and the consequence of epigenetic perturbations to the maintenance of cell identity and tissue homeostasis. Within the international and vibrant context of the Department of Cellular, Computational and Integrative Biology (CIBIO) in Trento, Italy. PhD students joining the lab gain access to the Institute's advanced research training as part of the PhD program in Biomolecular Sciences (<https://www.unitn.it/drbs/>). CIBIO offers the possibility to work in a young, highly dynamic and stimulating research environment thanks to a streamlined organization, which can support researchers to readily adapt to new scientific challenges through cutting-edge research infrastructures. At CIBIO, research goals are pursued in the frame of an integrative view of basic biological processes and of their derangement in disease, whereby basic science co-exists with biomedical oriented translational approaches.

Qualified and interested candidates should submit their application including CV, a motivation letter describing how her/his background would best fit this position, and the contact information of at least two referees. Please send all documents to Dr. Alessio Zippo (alessio.zippo@unitn.it). This position is available starting from November 2020.