

Pre-doctoral positions on the epigenetics function of transposable elements in T cell dysfunction

The **group** of Genome Biology headed by Prof. Beatrice Bodega at INGM, Istituto Nazionale Genetica Molecolare, in Milan, is looking for motivated candidates, with passionate interest in genome biology and epigenetics, to be enrolled as pre-doctoral/PhD fellow willing to challenge an innovative project by adopting a pro-active attitude and an interdisciplinary approach. Cracking the code of the dark side of the human genome is one of the main interests of the group, with a particular attention in understanding how Transposable Elements contribute to the epigenetic regulation of cellular identity adaptation to environment, influencing human inter-individual variability in terms of predisposition to diseases and response to therapies.

The **project** aims at illuminating how the interplay between the RNA expressed by Transposable elements and chromatin steers a dysfunctional state in lymphocytes that infiltrate tumor, hampering their antitumor immune response. This project promises to define new T-cell biology, discovering uncharted epigenetic mechanisms and to identify novel candidate targets and molecules for novel immunotherapeutic opportunities. The successful candidate will utilize innovative molecular and computational methodologies, integrating various technologies such as transcriptomics and epigenetics at both bulk and single-cell levels, alongside with cutting-edge microscopy technologies at super resolution.

The **work environment**. The successful candidates will become integral members of an interdisciplinary research group comprising wet lab scientists and computational biologists. The Genome Biology Lab employs a range of omics technologies for transcriptomics and epigenetics, including short- and long-read sequencing (both bulk and single-cell), and others, to address the molecular basis of complex diseases and unmet medical needs. As part of the Istituto Nazionale Genetica Molecolare (INGM), the lab collaborates closely with clinical partners to identify new biomarkers and therapeutic targets for infectious, autoimmune, or neoplastic diseases. The candidates will also benefit from collaboration with the highly collaborative members of the FACS sorting, Imaging, and Bioinformatic Unit, as well as exposure to the vibrant international scientific community through seminars and conference participation.

The **candidates** must hold a master's degree in a relevant biomedical field, prior research experience in molecular biology or immunology will be considered a plus. Interested candidates can send their CV, a motivation letter and contact us for further details at the following address: bodega@ingm.org. Contact information of one/two reference is required.

Duration and salary will be commensurate with experience.

One Postdoc and one Technician positions available in Genome Biology group

Job application The Genome Biology Lab, led by Prof. Beatrice Bodega, is currently offering one Postdoctoral position and one technician position. The successful candidates will join a multidisciplinary team dedicated to exploring the role of Transposable Element (TE) expression in tumor microenvironment.

The aim of the lab is to elucidate the role of TEs in establishing and regulating tumor infiltrating lymphocytes identity and functions, with the goal of developing novel therapeutic strategies. The project will utilize innovative molecular and computational methodologies, integrating various technologies such as transcriptomics and epigenetics at both bulk and single-cell levels, alongside cutting-edge long-read sequencing technologies.

Work Environment. The successful candidates will become integral members of an interdisciplinary research group comprising wet lab scientists and computational biologists. The Genome Biology Lab employs a range of omics technologies for transcriptomics and epigenetics, including short- and long-read sequencing (both bulk and single-cell), and others, to address the molecular basis of complex diseases and unmet medical needs. As part of the Istituto Nazionale Genetica Molecolare (INGM), the lab collaborates closely with clinical partners to identify new biomarkers and therapeutic targets for infectious, autoimmune, or neoplastic diseases. The candidates will also benefit from collaboration with the highly collaborative members of the FACS sorting, Imaging, and Bioinformatic Unit, as well as exposure to the vibrant international scientific community through seminars and conference participation.

The candidates We are looking for highly motivated and enthusiastic candidates, willing to challenge an innovative project by adopting a pro-active attitude and an interdisciplinary approach. He/she will deal with large scale production or analysis of -omics datasets generated by cutting- edge technologies (e.g. sc-RNA-seq, ATAC-seq, WGS-ONT, ChIP-seq, Perturb-seq approaches). The candidate should also have good communication and organization skills, and a collaborative attitude both within the Genome Biology group and with all the other members of the Bioinformatic Unit.

Required qualifications for the Postdoc position:

- PhD in Molecular Biology, Immunology, Cancer Biology or in a related field or 3 years of hands-on experience
- Ability to work and think independently and prone to team building and problem-solving
- Experience in supervise the work of the collaborators and/or students
- Good proficiency of English speaking and writing skills

Required qualifications for the Technician position:

- Experience in molecular biology or immunology field
- Ability to work and think independently and prone to team building and problem-solving
- Experience in supervise the work of the collaborators and/or students
- Good proficiency of English speaking and writing skills

Duration and salary will be commensurate with experience.

How to apply

Qualified and interested candidates are invited to apply by sending a detailed CV, a cover letter describing her/his research background/interests and motivation to join the lab, and the contact information of at least two references to Prof. Beatrice Bodega (bodega@ingm.org). Applications will be considered until the position is filled.