Junior fellowship in the field of erythropoiesis

Department of Biotechnology and Biosciences University of Milano-Bicocca- ITALY

Exciting opportunity for a scholarship is open on the PRIN (PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE) project **"Understanding dyserythropoiesis to identify new therapeutic mechanisms in hereditary anemias"**.

The research project will be carried out at the **Department of Biotechnology and Biosciences, University of Milano – Bicocca (Italy)** in the Human Genetics Laboratory headed by Prof. Antonella Ronchi. The fellowship is for two years.

Project

In mammalians, the production of erythroid cells during development is characterized by the expression of different types of haemoglobin to respond to the different needs of the growing organism. These sequential hemoglobin (Hb) switches require complex developmental stage-specific chromatin remodelling at the globins loci and changes in the transcription/epigenetic factors regulating gene expression.

Our laboratory is interested in studying the molecular mechanisms sequentially controlling these events during development. The research will focus on the role of two proteins involved in the proliferation/differentiation balance during red cells production and in the fetal to adult switch: the "embryo/fetal" Coup-TFII and the "adult" Sox6 transcription factors.

Understanding the molecular mechanisms regulating this process has a high clinical relevance for patients with dyserythropoiesis and hemoglobin disorders caused by qualitative/quantitative defects in adult beta-globin synthesis, such as beta-thalassemia and Sickle Cell Disease. In our research we use cellular and mouse models, CRISPR/Cas9 gene editing and state-of-the art approaches to investigate transcription factors-chromatin interactions and to functionally characterize key players in developmental erythropoiesis, with the final goal of identifying new therapeutic targets.

Education required

• University Master degree obtained within the last 4 years in a relevant discipline, e.g. biomedicine, biology or biochemistry. A PhD in these disciplines will be considered an additional qualification.

Qualifications

• Experience with basic laboratory methods in genetics, molecular/cell biology and biochemistry.

- Good written and oral communication in English
- High level of motivation and commitment
- Ability to work in a team

Deadline for the application: March 30, 2023. Fellowship start date: May 1, 2023.

Additional information

Additional information can be obtained directly from Prof. Antonella Ronchi: antonella.ronchi@unimib.it