

## Two Postdoctoral Opportunities in Cancer Epigenetics

Two postdoctoral opportunities are immediately available within the Epigenetics Group at the International Agency for Research on Cancer (IARC), Lyon France, to study epigenetics and cancer. The Group conducts both epigenetic profiling and mechanistic studies, aiming to enhance our understanding of mechanisms of carcinogenesis and cancer etiology and to discover and validate new epigenetic biomarkers. It exploits new concepts in cancer epigenetics and recent technological advances in epigenomics.

**1. Postdoctoral opportunity in epigenetic mechanisms and cancer development.** An important focus of the group is to investigate epigenetic mechanisms (DNA methylation and histone modifications) underlying cancer development and progression. This research line builds on the most recent knowledge of the cancer genome and epigenome, new concepts, and genomic databases. A postdoctoral opportunity is immediately available within the Group to apply state-of-the-art molecular/cell biology and new functional genomic tools for mechanistic studies focusing on functionally important epigenetic “driver” genes (“epidrivers”) and associated molecular pathways. This also includes the development and application of in vitro models (for example, human and mouse immortalization models), new (epi)genome editing tools, and functional genomics. We also study interactions of epidrivers with selected known and suspected carcinogens (with focus on non-genotoxic “epigenetic” agents) that may play a role in tumour initiation and progression through epigenetic mechanisms. Candidates with a background in epigenetics, molecular biology, and genome editing (such as CRISPR-Cas9 system) with a good command of English are encouraged to apply. Experience in, genome-wide shRNA screens and functional (epi)genomics would be an asset.

**2. Postdoctoral opportunity in epigenetics and breast cancer.** Another focus of the group is to investigate how the epigenome (methylome) deregulation (epigenetic drift and/or methylation age acceleration) contributes to breast cancer development and to identify risk factors associated with these changes. We also aim to test whether breast cancer-specific methylome changes can be detected in circulating free DNA, and whether these epigenetic changes can serve as sensitive biomarkers in prevention of breast cancer. Our approach includes cutting edge epigenomics, population-based cohorts, and innovative bioinformatics tools to investigate epigenomic profiles of cancer and surrogate tissues. Candidates with a solid background in epigenetics, molecular biology, and cancer research with a good command of English are encouraged to apply. Experience in molecular and epigenetic profiling (array- and/or Next-Generation Sequencing-based) and related data analysis and interpretation would be an asset.

Each postdoctoral opportunity is initially for one year with possibility of extension. The IARC stipend is currently €2750 per month. The cost of travel for the post-doc, and in certain circumstances for dependants, will be met, a dependant’s allowance paid, and health insurance covered. Official working language at IARC is English.

Applicants should send a CV, including list of publications and a description of previous research experience, as well as the names and addresses of two academic referees, preferably by email to: Email: [ege@iarc.fr](mailto:ege@iarc.fr)

To the attention of: Dr Zdenko Herceg, Epigenetics Group, International Agency for Research on Cancer, 150, cours Albert Thomas, 69372 Lyon Cedex 08 France, Tel +33-472738398