

## Postdoctoral Opportunity

### SECTION OF NUTRITION AND METABOLISM/ BIOMARKERS GROUP

The International Agency for Research on Cancer (IARC) is the specialized cancer Agency of the World Health Organization (<http://www.iarc.fr/>). The objective of the IARC is to promote international collaboration in cancer research. The Agency is inter-disciplinary, bringing together skills in epidemiology, laboratory sciences, and biostatistics to identify the causes of cancer so that preventive measures may be adopted and the burden of disease and associated suffering reduced. The Biomarkers Group research aim is to develop new approaches to identify, validate and implement biomarkers, to better understand the relationship of nutrition, environmental, and lifestyle factors (the exposome) with carcinogenesis. This involves application of computational and high-resolution mass spectrometry for the analysis of biofluid samples to identify new biomarkers of exposures, food intake and gut microbiota functions and to explore mechanisms linking them with cancer.

This postdoctoral scientist opportunity is immediately available within the Group, under the supervision of Dr Reza Salek, to develop informatics solutions. The main objectives are to develop a novel computational framework to integrate different knowledge-based metabolic computational and experimental networks (genome-scale metabolic networks, MS/MS similarity network, chemical similarity). This research project is included in an internationally funded grant (ANR-DFG, 928k€) between 4 leading labs in the field of metabolomics in France and Germany (Steffen NEUMANN- IPB, Halle, Germany, Fabien JOURDAN, INRAE, France and Michael WITTING, Helmholtz Zentrum, München, Germany). We will test and apply this framework to mine and interpret the plethora of data collected over the last years using high-resolution mass spectrometry (LC-MS) in large cohort studies on cancer. Results will be published in peer-reviewed journals.

The Biomarkers Group is composed of 18 persons highly skilled in the application of metabolomics to cohort studies and clinical trials. The Biomarkers Group laboratory is equipped with state-of-the-art high and low resolution mass spectrometers.

Candidates should hold a recent doctoral degree in a relevant field, be ambitious, self-motivated, very autonomous, with excellent English skills, and have a track record of productivity. Familiarity with metabolomic data analysis approaches is essential and knowledge of omics data integration and the willing to tackle complex biological questions would be advantageous.

#### Needed skills:

- Solid experience in computational biology, bioinformatics or biostatistics.
- Strong working knowledge of R or Python with a keen interest in pursuing computational projects.
- Good background in life sciences.
- Good knowledge in MS based metabolomic data analysis.

#### Desired skills:



- Interest in complex problem solving such as analyzing and integrating multi-omics data using computational and statistical approaches.
- Understanding of genome-scale metabolic models
- Setting up workflow and data analysis pipelines within HPC environment and familiar with Nextflow, Galaxy or common workflow environments.

Candidates highly motivated to be in an English-speaking multinational team are strongly encouraged to apply.

This postdoctoral opportunity is initially for one year with possibility of renewal, and is suitable for candidates who have completed a Ph.D., or who have acquired equivalent training. The IARC stipend is currently € 2,820 per month Net. The cost of travel for the Postdoctoral Scientist, and in certain circumstances for dependents, will be met, a dependent's allowance paid, and health insurance covered. For more information about postdoctoral stays at IARC, please read the Postdoctoral charter [here](#). Applications from women and from nationals from low and middle income countries are particularly encouraged. IARC welcomes around 40 postdoctoral scientists, at any one time, distributed across its sixteen research groups. Postdoctoral scientists at IARC have access to a wide spectrum of scientific disciplines and to a unique network of collaborators across the world.

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

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Closing date: open until position filled