

Postdoctoral Fellowship

Dietary profiles, health risk from chronic diseases, and dynamics of life-course health

Context and project

Unravelling the complex relationship between what we eat and how long and well we live is a critical challenge in public health. Adherence to healthy dietary patterns has been shown to prevent from diseases and prolong life expectancy¹. This project aims to develop new epidemiological models integrating dietary composition with life-course health dynamics to improve our understanding of the long-term health impact of food choices².

The appointed candidate will join the PROSPECT team for a period of 14-18 months, collaborating closely with partners from the ANR-funded Transfood project and related initiatives. This work will mostly be conducted at EREN (U. Sorbonne Paris-Nord, Bobigny, France) for the initial period and then at PNCA (University Paris-Saclay, Campus Agro Paris-Saclay, France).

Your primary responsibilities will include:

- Leading data analysis on the NutriNet-Santé cohort and INCA 3 Survey³.
- Contributing to the development of methods to assess the impact of diet on disease risk and (healthy) life expectancy.
- Utilizing and potentially expanding upon existing tools and methods within the team.

More specific objectives will focus on:

- Identify dietary profiles that are contrasted with regard to disease risk on NutriNet-Santé cohort data, using a set of multivariable Cox proportional hazard models to characterize relative risks associated with individual food groups using an aggregate morbi-mortality endpoint. Leverage existing team expertise and tools. This task will be conducted at EREN (Bobigny, France).
- Evaluate the nutritional characteristics of the dietary profiles that contrast with regards to associated morbi-mortality risks, by exploring dietary and nutrient composition and comparing with diets observed in the INCA3 survey, building upon existing team methods and tools.
- Assessing the impact of dietary changes on the burden of disease, including life table and life expectancy calculations, utilizing existing tools and methods within the team.
- Exploring dynamics of life-course health by investigate novel tools and methods to characterize the potential influence of dietary changes on life-course health dynamics. Consider factors such as the time lag between dietary modifications and disease onset, as well as changes in health event distribution.

¹Fadnes *et al.*, Estimating impact of food choices on life expectancy: A modeling study. PLoS Med. 2022.

²Wagner *et al.*, Life course epidemiology and public health, The Lancet Public Health, 2024.

³The NutriNet-Santé study is a large web-based longitudinal follow-up of a French population cohort, aiming to explore associations between nutrition and health. The INCA 3 Survey, conducted in 2014-2015, is the latest representative survey of dietary consumption in France.

The profile we are looking for:

Educational background and knowledge: The candidate will hold a PhD in public health or nutrition, with strong knowledge and skills in data modelling, or a PhD in applied mathematics, with some background or experience in public health or nutrition.

Skills: The candidate will be rigorous, able to work independently and as part of a team, interested in public health or nutrition. He/She will have a good knowledge of English. Knowledge of French would be a plus.

Contract duration: 14-18 months

Salary: € 2670 to 3370 gross per month, depending on experience, in accordance with the current salary scale.

Start date expected: September 2024.

Application: Please send an email to Juhui WANG (Juhui.Wang@inrae.fr), François Mariotti (Francois.Mariotti@agroparistech.fr) or Emmanuelle Kesse-Guyot (e.kess@eren.smbh.univ-paris13.fr) with the subject «Application for Transfood Postdoc-Prospect - Your last Name » and the following attachments as PDF documents:

- Your CV including research manuscripts or publications
- A statement of research interests and evidencing how you qualify for the project and position.
- Name and contact information of professional references.

Pre-selected candidates will be invited to an interview.