September 2021

Postdoctoral position in cancer epidemiology

CESP Team “Exposome, Heredity, Cancer and Health”

Keywords: *Epidemiology, Cancer, Comorbidity, Cohort Study*

Temporary contract (CDD, 12 months) based in Villejuif, FRANCE

WHERE?

Centre for research in epidemiology and population health" (CESP)

Director Bruno Falissard

The "Centre for research in epidemiology and population health" (CESP) is one of the most important centers for research and training in epidemiology and public health in France. The CESP was created in 2010 by the French National Institute for Health and Medical Research (Inserm), Université Paris Sud (UPS) and Université Versailles Saint Quentin (UVSQ). The CESP is comprised of about 400 persons, made up of scientists, statisticians, technical and administrative staff, and PhD and postdoctoral students. It is organized into research teams which have an international scientific reputation and work in the following domains of public health: chronic diseases (cancer, diabetes, kidney diseases, cardiovascular diseases, and mental health), sexually transmitted diseases, ageing, perinatal health, social determinants of health, health economics, organization of the healthcare system, including general medicine. Within the framework of Université Paris Saclay, the research staff of CESP leads prestigious training programs (Masters and PhD) in various public health domains (epidemiology, clinical research, biostatistics, health economics).

CESP Team “Exposome, Heredity, Cancer and Health”

Director Gianluca Severi

Our team is in charge of the E3N cohort, a French prospective study that started in 1990 when 98 995 women born between 1925 and 1950 and affiliated to the MGEN, a health insurance plan for workers in the education system and their families, responded to a mailed questionnaire. Participants have been actively followed through biennial follow-up questionnaires. Our team focuses on health in relation to environment and the modern way of life in individuals of the same family, who thus share a genetic background and common environmental factors. We are building up a new cohort, E4N, selected as an “Investissement d’Avenir” in 2011, composed of E3N participant’s children (Generation G2), grand-children (G3), and children’s fathers, (G1). The E3N and E4N cohorts will then constitute a large family cohort, on three generations, which will allow a better understanding of environmental and genetic risk factors for major chronic diseases. The E3N and E4N cohorts collect epidemiological, medical and biological data. Information is collected through self-administered questionnaires (health and lifestyle, including reproductive past, body size, smoking and alcohol consumptions, diet, physical activity, etc.) and innovative tools such as connected devices.

The self-reported medical conditions are confirmed, validated and detailed through pathological reports and/or medico-administrative databases (e.g. databases on causes of death, medication

reimbursements and hospitalizations). These cohorts also include large biological collections: 25 000 blood samples and 45 000 saliva samples (for DNA) collected from E3N women. We are currently completing this biobank on E4N. These resources will enable us to investigate the influence of environmental, genetic, and epigenetic factors during different periods of life on major chronic diseases risk and progression. The team also benefits from collaborations within CESP and Gustave Roussy teams, and from an active participation in international consortia of cohort studies such as EPIC (European Prospective Investigation into Cancer and nutrition), InterAct, ESCAPE (European Study of Cohorts for Air Pollution Effects), ELAPSE, and the NCI (National Cancer Institute) cohort consortium.

Lines of research in the team

- To identify and analyze the role of several factors, including hormonal, dietary, and genetic factors, in the occurrence of cancer and other major chronic diseases (type 2 diabetes, cardiovascular diseases, asthma, rheumatic disease, Parkinson's disease etc.)
- To investigate the associations of major chronic diseases with lifestyle and metabolic factors (in particular diet, physical activity, use of hormonal treatments, reproductive factors, early life exposure, …)
- To assess the relationship between chronic diseases and several biological markers (diet, hormonal milieu, genetic polymorphisms, ...)
- To analyze interactions between genetic characteristics and potential risk factor

WHAT?

We are looking for a motivated postdoctoral research scientist to join the "Exposome, Heredity, Cancer and Health" team to investigate the impact of comorbidities on cancer detection and survival after cancer in women (ComoCanS Project). Our team is responsible for the "E3N" component of this project coordinated by the International Agency for Research on Cancer (IARC) and funded by the National Cancer Institute (INCa). The objectives of the project are to: 1/ Describe the comorbidities by cancer site, age, sex and level of education, and compare these profiles with those of cancer-free subjects; 2/ Determine if the comorbidities are associated with the stage of cancer at diagnosis; 3/ Study the impact of comorbidities on overall and specific cancer survival; and 4/ Evaluate the contribution of treatments for comorbidities or cancer to the impact of comorbidities on cancer prognosis.

The postdoc scientist will use follow-up data from the E3N cohort (~ 15,000 women with cancer), information on cancer and comorbidities and their treatments, as well as drug reimbursement data (MGEN). He / she will be responsible for carrying out the statistical analyses in the E3N cohort within the framework of the ComoCanS project and drafting the corresponding research manuscripts.

The postdoc scientist will work with a high degree of autonomy. He/she will be supervised by Dr. Marina Kvaskoff, Epidemiologist and Inserm Tenured Scientist, and Dr. Alexandra-Cristina Paunescu, Epidemiologist and leader of the "Life after cancer" program in the team. He/she will also be in contact with the scientific coordination team of the ComoCanS project at IARC. He / she will be supported by the "Statistics and Methodology" and the Technical Departments of the team. The postdoc scientist will participate in the development of scientific reports and articles, as well as partner team meetings to which he / she will present the intermediate results of the project.

A 12-month post-doctoral position is available to participate in this exciting project. The team offers an internationally renowned research environment with direct access to modern infrastructures.

WHO?

The applicant will hold a PhD in epidemiology or related field (biostatistics, public health, health data science) with good programming skills in SAS or R. A previous experience in the field of oncology (in particular breast, colorectal or lung cancer) and/or pharmacoepidemiology will be highly appreciated. Knowledge of chronic diseases (type 2 diabetes, cardiovascular diseases) is highly desirable. Skills in processing complex and / or longitudinal data would be a plus. The applicant must be curious, motivated, have a problem-solving mindset and be able to integrate a multidisciplinary research team.

Highly motivated candidates should apply by sending an email to Alexandra-Cristina.Paunescu@gustaveroussy.fr and Marina.Kvaskoff@gustaveroussy.fr with a cover letter along with a detailed CV and the names and contact details of two references.

WHEN?

The position is open from September 2021.