

Institut de Radioprotection et de Sûreté Nucléaire

Lieu de travail : Toulouse, France

CDD 18 mois

Prise de fonction : Novembre 2020

Employeur

L'Institut de radioprotection et de sûreté nucléaire (IRSN) est un établissement public à caractère industriel et commercial français (EPIC), expert français en matière de recherche et d'expertise dans les domaines de la sûreté nucléaire, du contrôle et de la protection des matières nucléaires et de la protection contre les rayonnements ionisants.

Au sein de l'IRSN, les recherches menées par le Laboratoire d'Epidémiologie visent à améliorer, par le suivi épidémiologique de cohortes et d'analyses statistiques, les connaissances sur les effets sanitaires des rayonnements ionisants chez l'homme, notamment dans le cadre d'expositions d'origine professionnelle, médicale ou environnementale. Ces recherches contribuent à la mission d'expertise de l'IRSN en matière de radioprotection de l'homme.

Dans le domaine des expositions en milieu médical, ces recherches se font en collaboration avec des établissements de santé (hôpitaux, cliniques, Centres de Lutte contre le Cancer, ...)

Site web : <http://www.irsn.fr>

Poste et missions

In the frame of the European MEDIRAD project (<http://www.medirad-project.eu/>), the EARLY-HEART study was launched in order to investigate early cardiovascular changes after breast cancer radiation therapy.

The EARLY-HEART study is a multicentre prospective cohort study that included 250 breast cancer patients treated with radiotherapy (RT) in one of the 5 investigating centres (France, Netherlands, Germany, Spain and Portugal). Inclusion period lasted from August 2017 to October 2019.

Each patient is followed from baseline before RT to 6 months and 2 years after RT. At each visit, echocardiography, computed tomography coronary angiography, cardiac magnetic resonance Imaging are performed.

The objectives of the project are to identify and validate the most important cardiac imaging biomarkers (based on echocardiography, computed tomography coronary angiography, cardiac magnetic resonance imaging) and circulating plasma biomarkers of radiation-induced cardiovascular changes arising in the first 2 years after breast cancer radiotherapy and to develop risk/prediction models integrating these biomarkers combined with dose metrics of cardiac structures based on 3D dosimetry.

➤ In the frame of the postdoctoral position, work will be focused on the analysis of echocardiographic parameters (first step: analysis of the evolution between baseline and RT+6 months measurements; second step: analysis combining baseline, RT+6 months and RT+24 months measurements). In particular the longitudinal strain measurements (based on 2D-strain speckle tracking echocardiography) for early detection of subclinical left ventricular dysfunction will be analyzed, combined with cardiac dosimetry (including doses for whole heart, left ventricle and coronary arteries).

Profil

Applicants should have a PhD in Epidemiology or Biostatistics and good programming skills in SAS, Stata and/or R. Having a previous experience in the field of cardiology and or radiation oncology would be an asset.

The selected candidate will work in close collaboration with the coordinator of the project (French IRSN epidemiologist; in Toulouse) and scientists with expertise in clinical epidemiology, cardiac imaging and radiation oncology. The candidate should be able to work independently while efficiently interacting and collaborating in an interdisciplinary team, and should be able to communicate in English and French.

The position includes leading statistical analysis and manuscript writing in collaboration with the research team. The selected candidate will be encouraged to present the findings at scientific conferences.

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Pour candidater, envoyer CV et lettre de motivation