Institut National de la Santé et de la Recherche Biomédicale
U1152 - PHYSIOPATHOLOGIE ET EPIDEMIOLOGIE DES MALADIES RESPIRATOIRES

Adresse postale :
INSERM - U.1152 – Epidémiologie
Faculté de Médecine X. Bichat, 16 rue Henri Huchard, 75 890 Paris cedex 18, France

Post Doctoral Position – Epidemiologist, Statistician, Respiratory Health

Inserm – U1152 Team "Epidemiology of respiratory diseases: from the etiology of asthma and COPD to the prognosis of lung transplantation", Paris

Job summary

The Inserm U1152 Team 1 in Paris invites applications for a Post-Doctoral position in epidemiology to investigate the influence of age at menopause and hormonal status on lung function decline and the development of chronic obstructive lung disease (COPD), as part of the Horizon 2020 EU-funded Aging Lungs in European Cohorts (ALEC) project. The candidate will combine data from several large respiratory health cohorts and work in close connection with researchers from different teams in Europe and Australia to derive a comprehensive life-course overview of the relationships between the age-related changes in hormonal status in women and respiratory health. The candidate should have a PhD in medical statistics, epidemiology or related fields and experience in the analysis and reporting of epidemiological studies.

Inserm U1152 & Team of Epidemiology.

Inserm is the French National Institute of Health and Medical Research. The Inserm Unit 1152 ("Pathophysiology and Epidemiology of Respiratory Diseases ") comprises 4 teams (epidemiology, basic science, and clinics). U1152-Team 1 is the team of Epidemiology: "Epidemiology of respiratory diseases: from the etiology of asthma and COPD to the prognosis of lung transplantation". This team is involved in several international projects, aiming to improve our understanding of the development of asthma and COPD in adults, and provide new data in humans that might be helpful in focusing basic research. The research program of U1152-Team 1 covers an extended window in the natural history of asthma and COPD, from the identification of risk factors early in adulthood associated with later onset of asthma or accelerated decline in lung function (that may eventually lead to COPD), to the study of the course of asthma and decline in lung function associated with aging, and eventually the outcome of lung transplantation in patients with end-stage COPD.

The U1152-Team 1 has been leading the Gender Working Group of the European Community Respiratory Health Survey (ECRHS) for several years, and is responsible for tasks # 4 (Menarche and Menopause and lung function decline) and #10 (lung function decline and respiratory disability) of ALEC Work-Package 4 on Lung function decline.

ALEC

Low lung function, respiratory disability and COPD are common disorders, with high societal burden, and are associated with modifiable environmental exposures and lifestyles. ALEC is a H2020 EU-funded work-programme that will identify and validate plausible and novel risk factors for low lung function, respiratory disability and the development of COPD, by using information held within existing cohort studies. A particular focus will be placed on risk factors operating through recognised biological pathways (eg: systemic inflammation, allergy, oxidative stress, and hormonal mechanisms). The programme is based on a consortium of large respiratory health cohorts and biobanks which span the lifecourse and different generations. For adults, these longitudinal studies include ECRHS, TAHS, SAPALDIA, NFBC, some of which have followed similar protocols with the same measurement methods and between them have sufficient power to detect small differences in lung function changes (see http://www.alecstudy.org/)

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Project

Rationale - COPD has long been considered a disease with a strong male predominance. However, over more recent years there has been an increased burden and mortality in women. It is speculated that women may be more susceptible to lung function decline when exposed to airway irritants partly due to the effect of sex hormones. Variability in the age at which menarche and menopause occur is determined by both genetic and environmental and lifestyle determinants. Early menopause has been considered a marker of accelerated aging, and women with early menopause appear to have an increased risk of cardiovascular disease, osteoporosis, and all-cause mortality. **To date, no study has investigated whether premature menopause is associated with lung function decline**, and there is scant information on how hormonal status influences lung function. Menopausal transition is a period of fluctuating sex hormones, increasing insulin resistance and a time when many women take hormonal replacement therapy. Improved understanding, and validation of these as risk factors for disease, requires integration of multiple sources of information regarding hormonal status (questionnaire based, serological markers and genetic information). The ECRHS-Consortium and TAHS have such information and hormonal measures (including repeated measures) in women have been performed through a grant from Norwegian Research Council.

Relationships between menopausal status and lung function are currently being investigated within ECRHS and TASH as part of two PhD projects. The present work program will first comprise a meta-analysis on combined data from ALEC cohorts on the relationships between menopausal status and lung function, lung function decline and COPD. A second analysis will focus on the age at menopause (as a marker of accelerated aging), and assess whether age at menopause is a risk factor for accelerated lung function decline. This project will integrate measures of hormonal status – menarche, age of menopause, length of time between menarche and menopause, use of exogenous hormonal therapy, serum hormone measures to assess hormonal status. Interactions with body composition/obesity and physical activity will be considered. If appropriate, Mendelian randomisation, using genetic variants identified by GWAS, will be used to address reverse causation and confounding by smoking and use of hormonal treatment, and strengthen causal inference.

The candidate will work in collaboration with researchers from other ALEC Work-Packages to derive a comprehensive life-course overview of the relationships between the age-related changes in hormonal status in women and respiratory health. In particular, collaborations will be established with ALEC partners involved in Task 3.3 (metabolic and hormonal markers associated with lung growth and peak lung function; Lead University of Bristol) who investigate the association between age at menarche and maximally attained lung function. In addition, change in DNA methylation patterns occurring during puberty in ALSPAC and during menopause (ECRHS and SAPALDIA) identified in ALEC WP5 and in other published literature, could be integrated into analyses, as appropriate.

The postdoc position is a full-time, normally two years (1+1 years) starting early 2017, by agreement. The applicant will be expected to work primarily from Paris, but short stays abroad are possible.

Employment is on condition that you have not been employed as a postdoc fellow for more than one year at Inserm. The candidate should have a PhD in medical statistics, epidemiology or related fields and experience in the analysis and reporting of epidemiological studies.

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Please send your application to benedicte.leynaert@inserm.fr, with subject: "Post Doc Position at Inserm U1152"

An application must contain the following documents in French or English:
- A Curriculum vitae and qualifications,
- A complete list of publications
- A summary of current work or more recent project (no more than one page)

Contact : benedicte.leynaert@inserm.fr

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