Post-doctoral position in implementing methods to combine information from epidemiologic cohorts and large databases from national health insurance

The Inserm/UPMC UMR-S 707 unit offers a one-year postdoctoral position (full time) in Paris to begin in 2014 (February to August preferentially).

Disciplines: Bioinformatics - Biostatistics - Epidemiology - Data engineering

Unité Mixte de Recherche en Santé 707 “Epidemiology, Information Systems, Modeling” (UMR-S 707) - French Institute of Health and Medical Research (Inserm) / Université Pierre et Marie Curie (UPMC - Paris 6)

Deadline: 31 December 2013
Gross salary: Inserm salary index depending on previous professional experience (about 25,000 to 30,000€/year)
Contact: Nathanael Lapidus - lapidus@u707.jussieu.fr

Description:
Large medical administrative databases, such as those from the national health insurance, contain information on the entire French population. These databases collect a massive amount of information whose analysis could potentially address major public health issues. However, these databases lack detailed clinical and biological data to perform a relevant population-based analysis for most epidemiological outcomes (e.g. associations between exposures and health events accounting for potential confounders).
Meanwhile, comprehensive epidemiological studies of many diseases are frequently performed with the use of purposely created cohorts, with detailed information on these topics, but rely on a limited sample size and consequently, statistical power.
We aim to study the possible methodological approaches to combine the information available in these two kinds of information systems to counteract some of their respective limitations. Data fusion methods, relying on multiple imputation or statistical matching, have already been discussed in other disciplines and we expect the candidate to study their possible adaptations to our specific subject. This work will require review of the current literature and development of applications relying on real data available in our research unit.

Major duties and responsibilities:
• Establish an experimental strategy to meet the overall project objective
• Find and review scientific literature regarding related methods
• Propose specific approaches and test their implementation with real data
• Write a final report on work performed
• Write scientific communications

Required experience and skills:
• PhD in a relevant discipline (bioinformatics, biostatistics, epidemiology, modeling,
data mining or other relevant discipline)

- Competences and experiences with large database management and analysis
- Competences in programming with either R or SAS statistical software
- Good spoken and written English

Hosting conditions:
The UMR-S 707 laboratory “Epidemiology, Information Systems, Modeling”, located in the center of Paris, is a mixed unit composed of the French Institute of Health and Medical Research (Inserm, a public research institute funded by the French Ministries of Health and Research) / Université Pierre et Marie Curie (UPMC - Paris 6). In 2014 the laboratory will be integrated to the newly created Pierre Louis Institute of Epidemiology and Public Health. The team, headed by Prof. Fabrice Carrat, is developing original trans-disciplinary approaches in their main research themes (influenza and viral hepatitis), including integrative studies in epidemiology and public health. Several epidemiological cohorts, including the HEPATHER study following 25,000 patients with viral hepatitis, are managed by the team and would be relevant supports for this project.

The expected starting date is February 2014 (or up to summer 2014 according to the candidate’s availability), with duration of 12 (possibly 24) months.

How to apply:
Send a cover letter (describing research interests and motivation) and a resume (with research experience, scientific and technical skills, publication and conference presentation list, optional contact information of references) to Nathanael Lapidus (lapidus@u707.jussieu.fr).