

PhD STUDENT / DATA MINING FOR ADVERSE DRUG EVENTS

Project description

The register-based MEDALZ (MEDication use and ALzheimer's disease) study is a nationwide cohort of all community-dwelling persons diagnosed with Alzheimer's disease (AD) in Finland during 2005-2011 (n=70,718). The data have been linked to multiple Finnish registers, including prescription register and hospital discharge register. More information of the study are available at <http://www.uef.fi/en/web/gerho/tutkimus>

This project, funded by the Academy of Finland, will assess whether data mining methods are suitable for identifying medications and medication combinations that are related to increased susceptibility for adverse drug events in persons with and without AD.

Major responsibilities

The PhD student has the main responsibility of testing the suitability of different data mining methods conducting statistical analyses and drafting the manuscripts under provided supervision. The recruit will work in a multidisciplinary team including clinicians from different fields (geriatrics, neurology), pharmacists, mathematician, epidemiologists and computing scientist.

The PhD student is expected to work independently, plan and organise his/her own work, work well with team members and efficiently communicate scientific results in written and spoken English.

Qualifications

- MSc from computing science, statistics, mathematics or equivalent
- Understanding of common machine learning and data mining tools
- Good knowledge of programming, preferably with R and Python
- Good/fluent English (written and preferably oral)
- Familiarity with literature searches and experience on scientific writing are considered favourable but are not prerequisite.

Position summary and salary information

Full-term temporary employment with three-year funding, starting from October 2016. The salary of the position is determined in accordance with the salary system of Finnish universities and is based on levels 2-4 of the job requirement level chart for teaching and research staff (€1,985.85 - 2,475.31/ month). In addition to the job requirement component, the salary includes a personal performance component, which may be a maximum of 46.3% of the job requirement component.

Application procedure

The electronic application (<http://tinyurl.com/zk7dcmf>) should contain the following appendices:
- a résumé or CV (<http://www.tenk.fi/en/template-researchers-curriculum-vitae>) , include also two references we can contact

- a list of publications (<http://www.aka.fi/en/funding/how-to-apply/appendices-required/guidelines-for-list-of-publications/>)

-application (2-3 pages where you introduce yourself and present your qualifications and possible previous research fields and main research results)

-attested copies and transcripts of completed MSc (or equivalent) degree and grades

-other certificates the candidate considers necessary, such as TOEFL (optional)

The application needs to be submitted no later than 16.9.2016 (by 24.00 hours Finnish time) by using the electronic application form.

About the university and department:

University of Eastern Finland is one of the largest universities in Finland, and home to approximately 15,000 students and 2,800 members of staff. Since launching its operations in 2010, the University of Eastern Finland has appeared annually in several rankings listing the world's leading universities (more details available at <http://www.uef.fi/en/uef/introduction>). This position is in the School of Pharmacy (<http://www.uef.fi/en/web/farmasia/departement>), Kuopio campus. We are ranked in the place of 101-150 (QS World University Ranking) in year 2016 and undertake multidisciplinary research ranging from drug discovery to effectiveness of treatment.

Examples of our recent pharmacoepidemiological publications:

1. Tolppanen AM, Koponen M, Tanskanen A, Lavikainen P, Sund R, Tiihonen J, Hartikainen S, Taipale H. Antipsychotic use and risk of hospitalisation or death due to pneumonia in persons with and without Alzheimer's disease. *Chest* 2016 June 10

(link <http://www.ncbi.nlm.nih.gov/pubmed/27298071>)

2. Koponen M, Tolppanen AM, Taipale H, Tanskanen A, Tiihonen J, Johnell K, Fastbom J, Ahonen R, Hartikainen S. Incidence of antipsychotic use in relation to diagnosis of Alzheimer's disease among community-dwelling persons. *Br J Psych* 2015 Nov;207(5):444-9.

(link <http://www.ncbi.nlm.nih.gov/pubmed/26450581>)

3. Tanskanen A, Taipale H, Koponen M, Tolppanen AM, Hartikainen S, Ahonen R, Tiihonen J. From prescription drug purchases to drug use periods - a second generation method (PRE2DUP). *BMC Med Inform Decis Mak*. 2015 Mar 25;15(1):21.

(link <http://www.ncbi.nlm.nih.gov/pubmed/25453487>)

4. Taipale H, Koponen M, Tanskanen A, Tolppanen AM, Tiihonen J, Hartikainen S. Antipsychotic Doses Among Community-Dwelling Persons With Alzheimer Disease in Finland. *J Clin Psychopharmacol*. 2014 Aug;34(4):435-40.

(link <http://www.ncbi.nlm.nih.gov/pubmed/24875073>)