



SAHLGRENKA AKADEMIN

POSTDOCTORAL FELLOW IN EPIDEMIOLOGY/BIOSTATISTICS (PER 2016/650)

Type of employment: Fixed-term employment, 24 months

Extent: 100%

Location: Institute of Medicine, Göteborg

First day of employment: May 1, 2017, or by agreement

Occupational and Environmental Medicine is an integrated department with staff from both Sahlgrenska University Hospital and Gothenburg University. The main focus at the department is investigations of and research on the effects of exposure to chemical substances, physical factors, ergonomics, vibrations and stress in the occupational and surrounding environment. Patients with diseases and injuries caused by occupational exposure are investigated (see www.amm.se). The present project focuses on methods for understanding the pathways between exposure and outcome, using mediation analysis whereby the exposure effect is separated into a direct effect and an indirect effect; the exposure affect an intermediate variable which in turn affects the outcome.

Environmental Health and Toxicology is a research group aiming at understanding environmental exposure factors and how these factors affect human health. The research covers mainly the general population. It involves many kinds of professional competence, for example physicians, occupational and environmental hygienists, statisticians and environmental physicists. The main research areas are air pollution and toxic metals such as cadmium, lead and mercury.

SUBJECT AREA

Epidemiology/biostatistics

SPECIFIC SUBJECT DESCRIPTION

Much of the research in epidemiology is concerned with understanding the causal pathways between exposure and outcome. One example of interest in this project is smoking as a cause of

cardiovascular disease. Beside smoking, there are typical risk factors like hyperlipidemia, but in addition the heavy metal cadmium seems to be a risk factor. This creates a complicated situation, since one source of cadmium exposure is smoking. Mediation analysis can be used to quantify the direct effect of exposure (here smoking) vs the indirect effect, through an intermediate variable (here cadmium).

JOB ASSIGNMENTS

The position involves quantifying exposure pathways using several datasets through mediation analysis. One important application is the relation between smoking, cadmium and cardiovascular diseases, CVD. A population-based cohort is available (see e.g. Fagerberg et al 2015, Barregard 2016), containing data on several CVD-related outcomes, as well as background variables, collected both in medical examinations and using questionnaires. Another outcome affected by smoking and cadmium exposure is osteoporosis, where cohort data also are available (see e.g. Wallin et al 2016). For mediation analysis in standard situations, there are available computer procedures, but the job may also include developing procedures for other situations. Scientific results will be published.

Barregard, L., Sallsten, G., et al. (2016) *Environ. Health. Perspect* 124: 594-600.

Fagerberg, B., Barregard, L., et al. (2015) *Environmental Research* 136: 67-74.

Wallin, M, Barregard, L, et al (2016) *Journal of Bone and Mineral Research*, 31 (4) 732–741

ELIGIBILITY

To qualify as a postdoctoral researcher, the applicant should hold a PhD in epidemiology/biostatistics or equivalent academic field. Since postdoctoral constitutes a qualifying appointment for junior researchers, we aim to target those who have a doctoral degree not older than 3 years from the application deadline.

ASSESSMENT

The most important factor is extensive experience in epidemiological/biostatistics research. We especially invite applicants with a background in biomedicine and human health sciences who have experience in research on environmental health. Fluency in English is required; fluency in Swedish is not a prerequisite. It is an advantage if the applicant is used to writing computer procedures (e.g. in SAS or R) and not only menu-based softwares.

APPOINTMENT PROCEDURE

Please apply online (http://www.gu.se/english/about_the_university/work-at-the-university/ , click on *Apply for vacant positions*).

CONTACT

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CLOSING DATE

January 31, 2017