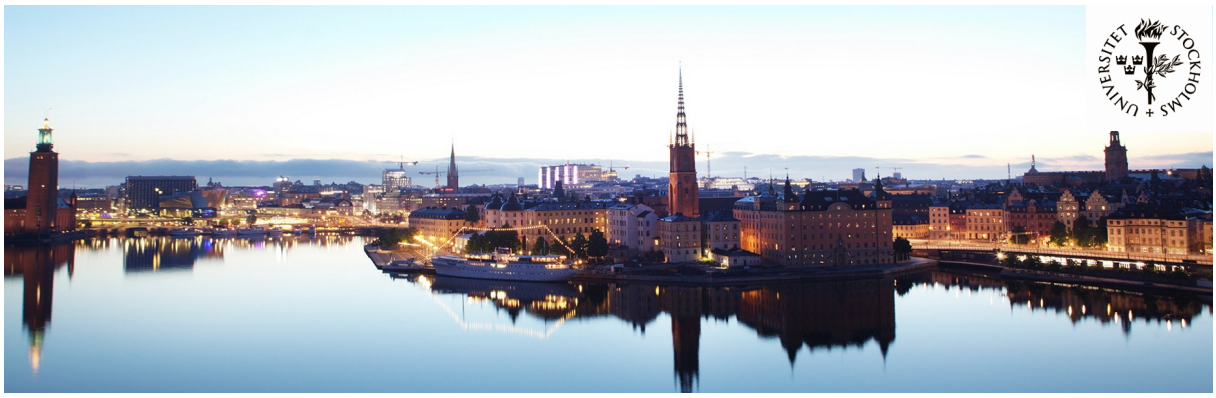

PhD Studentship in bioinformatics: Inference of protein function from domain architecture and orthology

at the Stockholm Bioinformatics Center, located at Science for Life Laboratory in Stockholm, Sweden, with strong ties to a number of life science and computer science departments at Stockholm University, KTH, and Karolinska Institutet. The research project will be supervised by Professor Erik Sonnhammer (http://sonnhammer.org/).

The function of a protein is very challenging to establish experimentally. A faster route is to predict the function based on the amino acid sequence. This project will employ several approaches that use sequence features to this end. The main goal is to develop computational tools for studying domain architecture evolution and its relation to function and orthology.

The project includes both development of new algorithms and methods, as well as applications such as tools and workbenches to enable public access for database queries of Pfam, InParanoid, and Hieranoid. The methods include hidden Markov models, clustering methods, various statistical analyses, and own developed algorithms. The project involves programming, data analysis, benchmarking, as well as application of the developed methods to genes of particular interest in order to discover new protein functions.

The successful candidate should have an M.Sc. in bioinformatics or related field, and knowledge of molecular biology. Alternatively, an M.Sc. in molecular biology or related field and at least 1 year of practical experience in bioinformatics research. Familiarity with sequence analysis techniques is essential, as well as a high level of motivation. Computer programming (e.g. Perl, Python, R, C++, Java), UNIX skills, and knowledge of biological database systems are necessary merits.

To apply, send your CV, a cover letter, and the email address of 2-3 references to Erik.Sonnhammer@scilifelab.se. The position is fully funded for 4 years of full-time study and offers a competitive salary and excellent computational resources. For further information about the research project, contact Erik.Sonnhammer@scilifelab.se, Tel: +46-(0)70-5586395, http://sonnhammer.org