



## **PhD studentship in bioinformatics: Gene regulatory network inference**

at the Science for Life Laboratory in Stockholm, Sweden, which is a strong research environment for large-scale life science research, and a joint physical center for a number of computational and life science groups at Stockholm University, KTH, and Karolinska Institutet. The research project will be supervised by Professor Erik Sonnhammer (<http://sonnhammer.org/>).

The goal of the project is to develop and apply methods for inference of accurate and predictive gene regulatory networks (GRNs). The Sonnhammer group has extensive experience in GRN inference and has developed several algorithms to improve the reliability of the GRNs inferred from perturbations. The toolkit includes the GeneSpider package for GRN and data generation, which is used for GRN inference benchmarking with controlled network and data properties. The NestBoot GRN inference algorithm was devised to control the false discovery rate of network links. The project aims to improve existing methods to make them faster and even more reliable. They will be applied to perturbation data from ENCODE and in-house data. The inferred GRNs will be analyzed for predictiveness and how well they replicate known links. The project involves programming, data analysis, benchmarking, and application of the developed methods to experimental data generated by the group.

The successful candidate must be highly motivated and 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 documented practical experience in bioinformatics research and programming. Demonstrable familiarity with sequence and molecular data analysis techniques is essential. Computer programming with Matlab, Python, R, (Perl, 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 references to [Erik.Sonnhammer@scilifelab.se](mailto: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](mailto:Erik.Sonnhammer@scilifelab.se), Tel: +46-(0)70-5586395, <http://sonnhammer.org>