

## Bioinformatics - From sequences to systems biology and beyond

**Bioinformatics is a multidisciplinary field that combines biological/medical and methodological (mathematics, computer science, statistics) tools and approaches to handle and analyse large datasets. The Advanced Study Group will organize a number of meetings in which we will map the existing knowledge and expertise as well as software and hardware available for bioinformatics at Lund University. The study group will start its work by organizing an introductory seminar on September 12th followed by discussion meetings on topical areas. During spring 2014 a symposium will be arranged with international and local key note speakers. The Advanced Study Group will chart, combine and coordinate bioinformatics efforts at Lund University.**

Biological methods are used for ever increasing data production. The time, effort and funds required to generate such datasets are reduced constantly. For instance, a whole genome sequence costs just a few thousand dollars. While data production is cheap and fast, analysis and interpretation of the raw data to knowledge require manpower, computers and suitable software. **Bioinformatics** is the discipline that combines expertise from both biology and medicine as well as methodological disciplines to develop methods and to perform analyses of complex datasets.

Many modern research methods would not be possible without bioinformatics. Bioinformatics covers a wide array of techniques and goals. It could be defined as ***a discipline that creates, retrieves, maintains, analyses, organizes, distributes and shares large biological and biomedical datasets.***

To further strengthen, bring together and coordinate plans for bioinformatics research and education at Lund University, we are going to organize a number of seminars and meetings in which the future challenges for the discipline are discussed. The project culminates in a symposium with international and local speakers and a panel discussion. The ideas and plans generated during the project will be harnessed for future implementation at LU.

The overall aim of the study group is to initiate and coordinate discussions and plans for future development of bioinformatics at Lund University. This will be achieved in theme-specific bi-weekly meetings. The project will increase knowledge about needs, existing solutions and expertise in bioinformatics at LU, thereby facilitating collaborations.