



The University of Gothenburg (Life Sciences) and Forbio are pleased to invite you to the PhD course

Next Generation Sequencing – data handling and analyses (2 ECTS)

Next Generation Sequencing is an umbrella term for various high throughput sequencing methods (e.g. 454 pyrosequencing and Illumina sequencing). These methods are efficient ways of generating large amounts of data, and advances in this field is rapidly changing the way biological science is conducted. The amount of data that is now available to biologists introduce new ways of addressing questions on species relationship or population genetic processes, but also presents challenges in data handling and analysing. This course will present different sequencing methods and introduce the steps necessary to prepare, store and handle data. Special emphasis will be put on hands-on exercises in handling the large datasets that are generated in a NGS project.

Aims of the course:

The course aims to give the students:

- ⤴ A basic understanding of the differences between various high throughput sequencing methods.
- ⤴ An overview of the steps necessary to prepare the raw sequence data before analysis.
- ⤴ Hands on experience with handling, storing and manipulating high throughput sequence data.

Prerequisites:

The course will consist of lectures and exercises. The latter will be conducted on a computer cluster that will be accessed using a command line interface available on UNIX-like operating systems (e.g. Mac OSX, GNU/Linux or Cygwin on Windows). A prerequisite for the course is therefore that the students have some prior experience with working in a command line environment (i.e. knows the commands ls, cd, mkdir etc), and can bring his/her own laptop computer.

Practical information:

Apply by sending an e-mail to Mats Töpel (mats.topel@dpes.gu.se) before November 1. The application should include a short CV and a description of your PhD/research project and how you would benefit from attending the course. In your application, please also include your previous experience with working in a command-line environment. The number of participants is limited to 25.

Travel and accommodation costs will be covered for ForBio members. See more information about membership at <http://www.nhm.uio.no/english/research/forbio/faq/>

Teachers:

Professor Kjetill Jakobsen, *Centre for Ecological and Evolutionary Synthesis (CEES), Univ. of Oslo.*

Dr. Lex Nederbragt, *Centre for Ecological and Evolutionary Synthesis (CEES), Univ. of Oslo.*

Dr. Anne Krag Brysting, *Centre for Ecological and Evolutionary Synthesis (CEES), Univ. of Oslo.*

Dr. Magnus Alm Rosenblad, *Department of Cell- and Molecular Biology, Univ. of Gothenburg.*

Dr. Johan Nylander, *Natural History Museum, Univ. of Oslo.*

Dr. Graham Jones, *Department of Plant and Environmental Sciences, Univ. of Gothenburg.*

Dr. Henrik Nilsson, *Department of Plant and Environmental Sciences, Univ. Gothenburg.*

Dr. Marcela Davila Lopez, *Department of Medical Biochemistry and Cell Biology, Univ. Gothenburg.*

Dr. Yann Bertrand, *Department of Plant and Environmental Sciences, Univ. of Gothenburg.*

Dr. Mats Töpel, *Department of Plant and Environmental Sciences, Univ. of Gothenburg.*

Duration: 2011-12-12, 09:00 – 2011-12-16, 16:00

Arranged by: University of Gothenburg (Life Sciences) and ForBio – the Research School in Biosystematics

Location: Konferenscentrum Wallenberg, Gothenburg, Sweden

Deadline for applying: 2011-11-01 kl. 23:59.

For further information contact: Mats Töpel, mats.topel@dpes.gu.se