

Analysis of data from high-throughput molecular biology experiments BB2490 (KTH) 7.5 hp – spring 2016

Project instructions

GENERAL INFORMATION

You will receive a real data set (you are also welcome – even encouraged – to bring your own data set). You should then analyze this data set with an appropriate set of bioinformatics tools. The analysis should aim at extracting and interpreting biologically relevant information. You are supposed to work in groups of 3 students. You will be assigned a group. Projects will be provided at the lecture 17 February.

REQUIREMENT 1: PROJECT PROGRESS REPORT MEETING

There are three scheduled seminars during the project period:

[Seminar 1: Project plan and individual diary] The first is on Friday 19 February at 10:15-12:00 we meet in FB54. At this occasion, each project group is expected to present (i) a **5 minutes overview** of their initial project plan, and (ii) **the first entry** for each group member on her/his individual project diary. The goal with this meeting is that your fellow students should get an idea of what is going on in all the groups, and to capture any initial problems that you might have with your projects.

[Seminar 2: Exchange of experiences] The second seminar is Friday 26 February at 10:15-12:00 in FB54. At this seminar, each group should prepare and present the following (max time per group: **10 minutes**):

1. Describe any problem you have run into and how you have (or have not) solved it.
2. Your best idea regarding the project so far. Give priority to any ideas that might help other projects.
3. Any change of the project plan. If you find that this point does not appeal to the rest of the class or that you did not change your plan, just email your plans to us.

We like to stress that this seminar is here to help you with the project, and that we do not use the seminar to grade you.

[Seminar 3: How to prepare poster and poster presentation] The third seminar is Wednesday 9 March at 10:15-12:00 in FA31 and contains preparations and discussions before the poster session. You are also welcome to bring up problems and/or ideas. Further instructions regarding the poster session will be provided later.

Please note: presence is mandatory.

REQUIREMENT 2: POSTER AND POSTER PRESENTATION

[a] Each group should prepare a **poster** to be presented at the **poster session** on Friday 18 March 13:00-16:00, in the Pascal room at Science for Life Laboratory, Tomtebodavägen 23a (Solna), Gamma building, floor 6.

[b] The poster should contain the results and conclusions from your data analysis, along with relevant information concerning how you analyzed your data and how you support your conclusions.

REQUIREMENT 3: PROJECT DIARY

[c] You should **maintain an individual diary** of what you do in the project, and where you also can keep figures etc. that you create during the work.

[d] You are required to use an **Internet-based** documentation system for the diary – e.g., a wiki or a blog). You must *not* use a handwritten document or a Word document. It *must* be Internet-accessible. Examples of blog services available for free on the Internet and that could be used for this course: <http://wordpress.com/>, <http://www.blogger.com>, <https://www.tumblr.com/>, <https://posterous.com/>. There are other services as well.

[e] Your diary must be **accessible for the examiners** (i.e., Lars Arvestad, Lukas Käll and Olof Emanuelsson) until one month after the poster presentation (i.e. 18 April).

SUPERVISION

The goal is that each group will have a designated supervisor. The supervisor is a PhD student or senior employee that will provide some assistance and support to the project group. The extent and type of supervision and feedback provided by the supervisor should be agreed upon by each group and their supervisor; we do not have any specific requirements. It should be noted that the supervisor is not expected to do any work on the project. If a project

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group contains a PhD student and/or Post-doc, the degree of supervision might be decreased.

COMPUTER RESOURCES

The *Uppmax project g2015056* on the Milou cluster, which you used for some of the computer exercises, will be available for the projects as well – you may use this *Uppmax project* or any other computing resource you deem suitable. If computing resources are insufficient, contact your supervisor immediately and we will ask for more computing resources.

Important: the *Uppmax project g2014056* will terminate 2016-07-31, and after that date, any data still in the `/proj/g2014056` directory, or subdirectories, will be destroyed forever. So make sure you move your files before that date.

POSTER PREPARATION

The poster should at most be A0 format, but A1 might be more suitable. Use any kind of document processing program to make your poster (PowerPoint, OpenOffice, Illustrator, etc.). The poster may be printed at AlbaNova (contact the Reception on floor 5). The fee will be paid by KTH, but you must contact us before you submit it to the printers so that payment can be arranged. Please note that they will need at least 48 hours to print your poster.

GRADING

Each student will be graded individually according to the A/B/C/D/E/F scale. The grade will be based on (i) the poster, (ii) the poster presentation, and (iii) the project diary.

KEY DATES

Project seminars: 19/2, 26/2 and 9/3, 10:15-12:00 at AlbaNova.

Poster presentation: Friday 18 March, 2016 (14:00-17:00) at the room Big, SciLifeLab.

Individual diary available for teachers: from now until 18 April, 2016.

Uppmax project g2015056 available until: 31 July 2016.