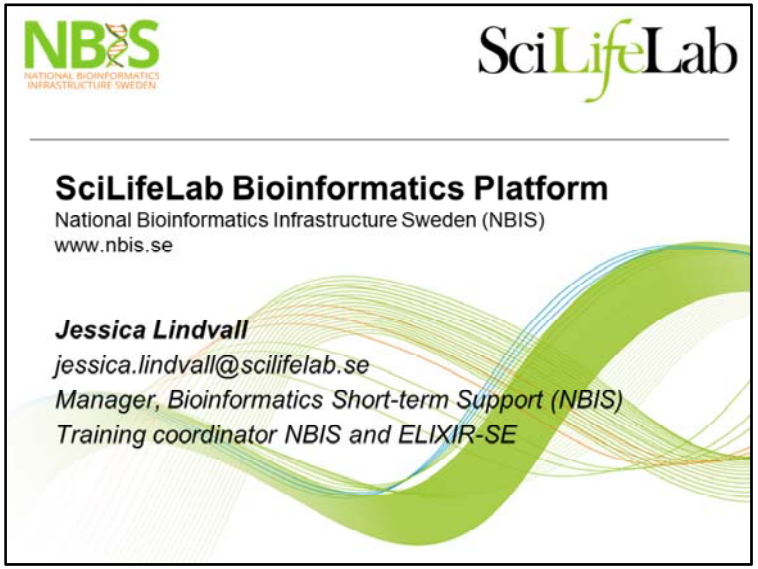
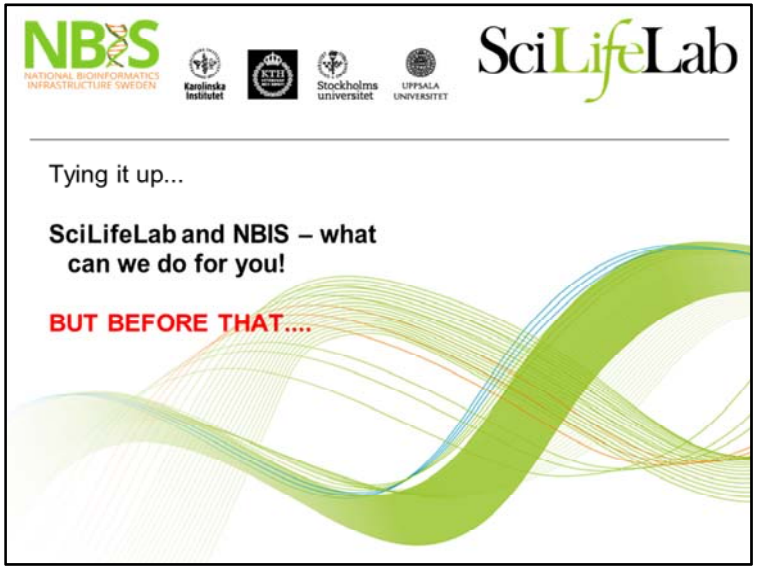
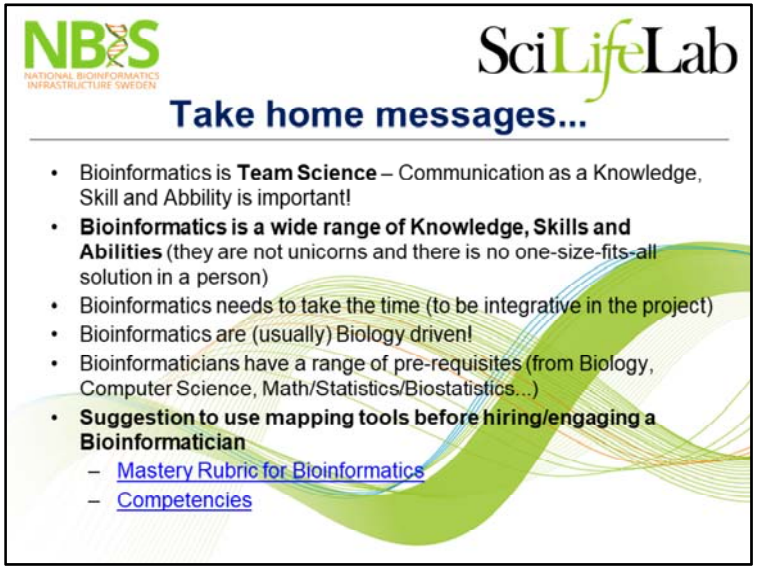


A presentation to wrap-up the course and tying the course content and deliverables together for the participants. Special emphasis on what SciLifeLab and NBIS can offer in terms of Bioinformatic services and Support.



Title of the presentation: Tying it up: SciLifeLab and NBIS – What can we do for You!



I like to take the opportunity not only to present the different services and Bioinformatics support we offer within SciLifeLab and the Bioinformatics platform but also trying to re-connect with the information and discussion that took place yesterday at Day 1 at the course. Where the different definitions and core skills/knowledge/abilities where presented and discussed.

One take home message that is super important for ME (Jessica Lindvall, jessica.lindvall@scilifelab.se) for you to bring from this two day Training event is that Bioinformatics and Bioinformaticians truely are a Team Science based research field, it is collaborative science we conduct together. Note that the term Team Science is as young as from 2006.

We as Bioinformaticians work on Biology driven research questions, being (in my view) the Bioinformatics PI in the projects we are involved in, and with this we can't do our work without your expertise in your respective field (from Biology, Medicine etc).

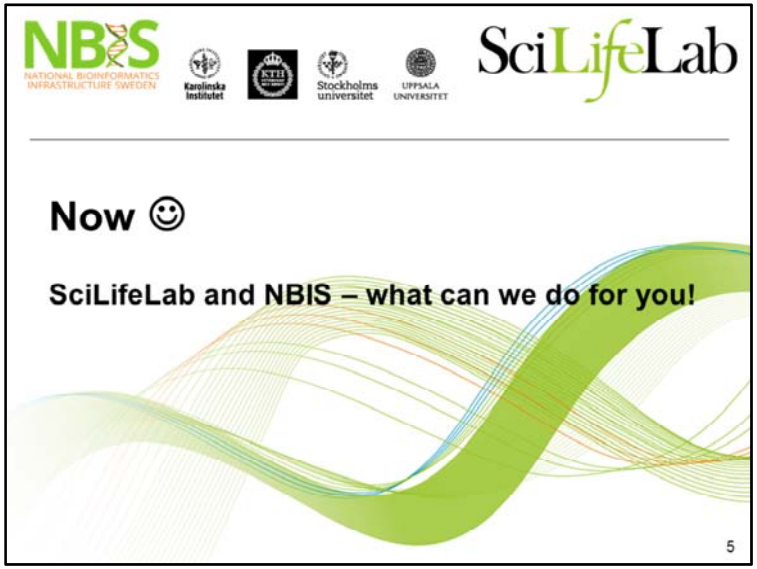
The other important thing is the take home message that Bioinformatics is not easy, this research is not done in a coffee break! In order for the Bioinformatician to do a great job, he or she needs to get the TIME to dig in and to understand the data (project) both with regards to the biological/medical research question and the technology and the methods that

will be applied to the question. This is not done in one working week usually!!!

The Bioinformatician is in some views the ”swiss-army-knife” in the project, as the person usually have several Knowledge, Skills and Abilities (KSAs) ranging from Biology, Statistics/Biostatistics and Computer Science (as well as communication...). And as the sessions yesterday (2019-09-17) talked about (Johan Nylander https://nbisweden.github.io/workshop-bioinformatics-for-PIs/session-bioinformatics/bioinformatics.pdf and Olga Dethlefssen https://nbisweden.github.io/workshop-bioinformatics-for-PIs/session-collaboration/session-collaboration-olga-dethlefsen.pdf), dependent on your specific needs in your specific project, the Bioinformatician looks a bit difference (There is no unicorn and not a one-size-fits-all).

There are tools for DMPs (Datamanagement plans)

- DMPonline: https://dmponline.dcc.ac.uk/
- ELIXIR Data stewardship wizard (DSW): https://ds-wizard.org/



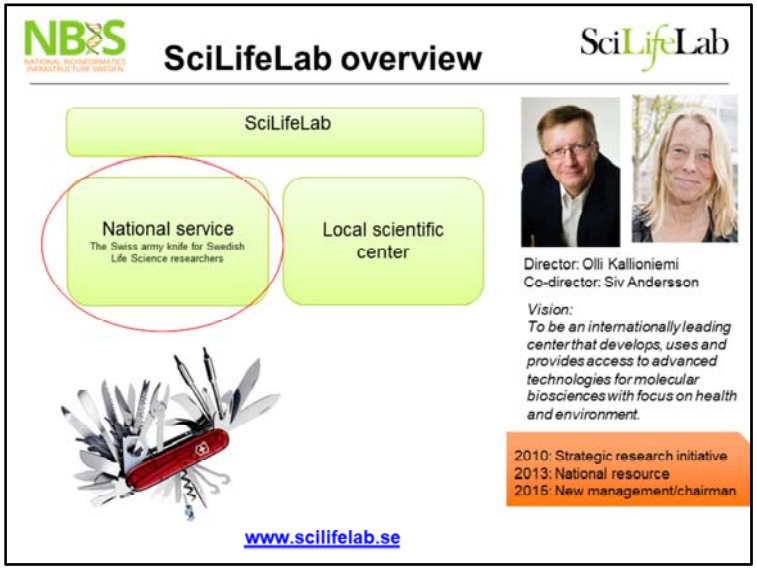
At the course you have been introduced to the concept of Bioinformatics and what Bioinformaticians (at SciLifeLab and the platforms/facilities) are doing. You have been given examples of how projects can look like and how Bioinformaticians experience the collaboration in research projects (different for different Bioinformaticians and different for different projects and teams). As a participant you should hopefully have an idea and grasp that Bioinformaticians at the different SciLifeLab platforms (as well as out in the individual research groups) consist of a wide range of Knowledge, Skills and Abilities (KSA's) dependent on the need at the work place and the research question at hand. Meaning that a Bioinformatician at the Genomics platform (could) have somewhat different work tasks compared to for instance a Bioinformatician at NBIS, Data Centre or UPPMAX.

I will in the following slides present SciLifeLab and especially focus on the Bioinformatics Support Services we at NBIS (SciLifeLab Bioinformatics Platform) can offer you as PIs wanting Bioinformatics assistance in your research.

Starting of with a brief overview of what SciLifeLab (https://www.scilifelab.se/) is. SciLifeLab consists/is built of four Universities, Uppsala University, Stockholm University, Royal Institute of Technology (KTH) and Karolinska Institutet (KI). SciLifeLab is hence not a legal entity.

SciLifeLab is a research infrastructure with Governmental funding. It is one of three infrastructures in Sweden, the other two are MAX-IV (https://www.maxiv.lu.se/) and ESS (https://europeanspallationsource.se/).

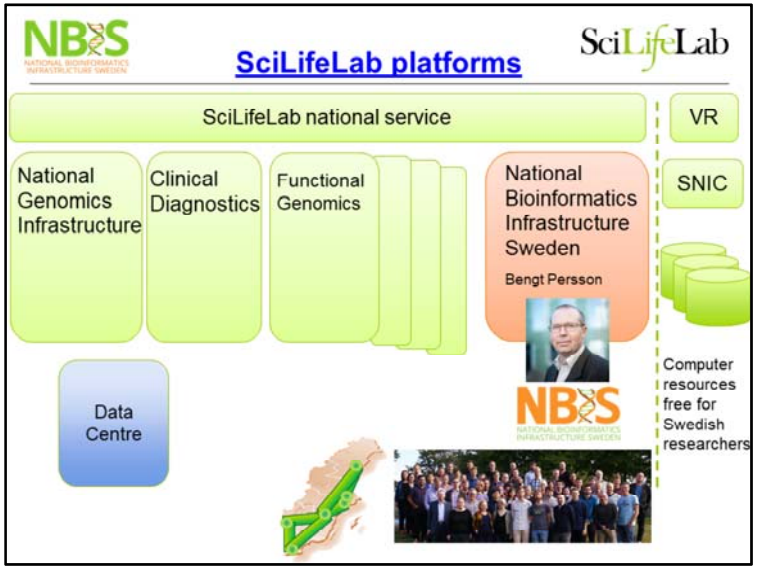
SciLifeLab is a distrubuted infrastructure and is situated at 6 sites/University cities accross Sweden (Uppsala, Solna, Umeå, Linköping, Lund and Gothenburg)



As a brief overview and description, SciLifeLab consist of one part being National Service, where we as platforms are represented. There is also the local Scientific center where SciLifeLab connects affiliated and associated high profile researcher to the Research Infrastructure.

The birth of SciLifeLab was in 2010 where the government decided upon this strategic research initiative. From 2013 SciLifeLab is a national resource found at six major Univeristy sites accross Sweden.

SciLifeLab is lead by Olli Kallioniemi (Director) and Siv Andersson (co-director)



A presentation of the SciLifeLab platforms https://www.scilifelab.se/infrastructure/.

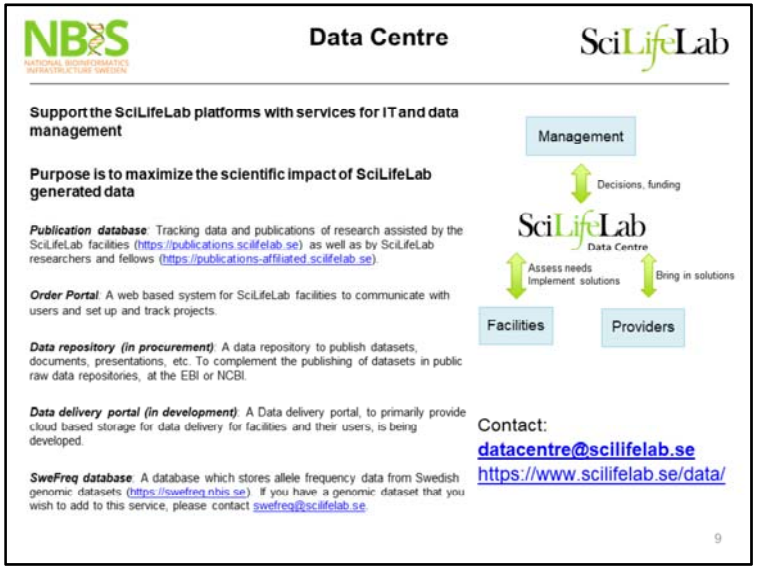
There are currently 10 SciLifeLab platforms (see link for updated details). Each platform as a number of facilities coupled to the platform.

Swedish National Research Council (Vetenskapsrådet (VR)) is funding the adjecent and tightly coupled infrastructures/organisations that are linked to SciLifeLab such as SNIC/UPPMAX (Compute and Storage), infrastructures and resources you have been hearing about today (Day 2 at the course (See course schedule for details and presentations: https://nbisweden.github.io/workshop-bioinformatics-for-PIs/schedule.html).

NBIS (National Bioinformatics Infrastructure Sweden, https://nbis.se/ and https://www.scilifelab.se/platforms/nbis/) is the Bioinformatics platform at SciLifeLab. NBIS is a distributed infrastructure located at all SciLifeLab sites and nodes. Bengt Persson is the Platform Director of NBIS. Currently we are close to 100 coworkers in NBIS working on Bioinformatics Support to the Swedish Life Science community.

NBIS is also the Swedish node of ELIXIR (https://elixir-europe.org), which is a European infrastructure for Life Science

information. With this NBIS takes part of the European scene when it comes to Life Science information such as technology, Data management, Training, Research communities etc.



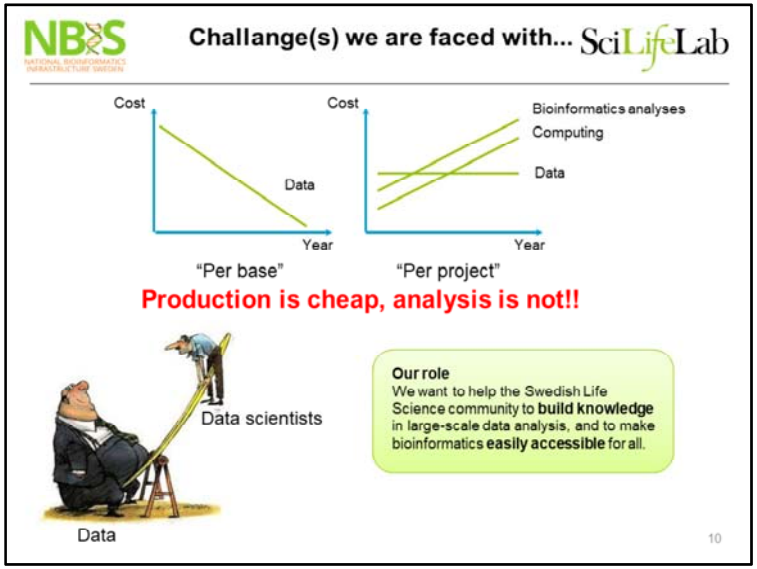
A few words about Data Centre.

Data Centre is not a platform nor a Service facility towards the RESEARCHERS but rather is a paltform and a Service for IT and data management towards and for the SciLifeLab management and in house platforms/facilities. The platforms and facilities are the ones that provide the Researcher with support and sercvice.

One of the purposes of Data centre is to maximize the the scientific impact of SciLifeLab generated data i.e. Data that that you as a researcher/PI owns and that has been produced/generated at a SciLifeLab facility.

Data Centre has to date these five focuses/services that they provide that you as a PI might come accross.

- Publication database
- Order portal
- Data repository
- Data delivery portal
- SweFreq database



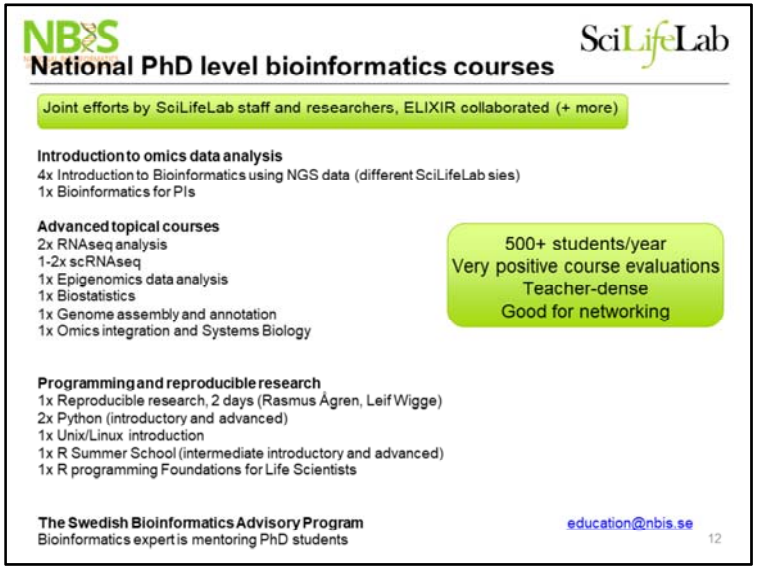
Picture to show for that even though the cost per base (with regards to sequencing technologies) have significantly reduced quite quickly over (a short?) time, the cost per ”project” as increases! This means that the there needs to be a bit of a mindshift in the researchers head/mind with regards to HOW TO BUDGET for a project. As data is becoming larger and the computing follows that curve the need to budget ”properly” for Bioinformatics resources (including salary and hiring of expertise) is apparent (but not always obvious! (to the one writing a grant!)).

In our (NBIS) mission ”To support Life Science Sweden” lies the responsibility also to raise awareness of these things such as cost for a project in terms of Bioinformatics resources needed and not only technology and data capacity needs but also human expertise power! Again, linking back to the fact that Bioinformatics is not done in a coffee break and there is no Unicorn available to suit all the needs!

NBIS provides

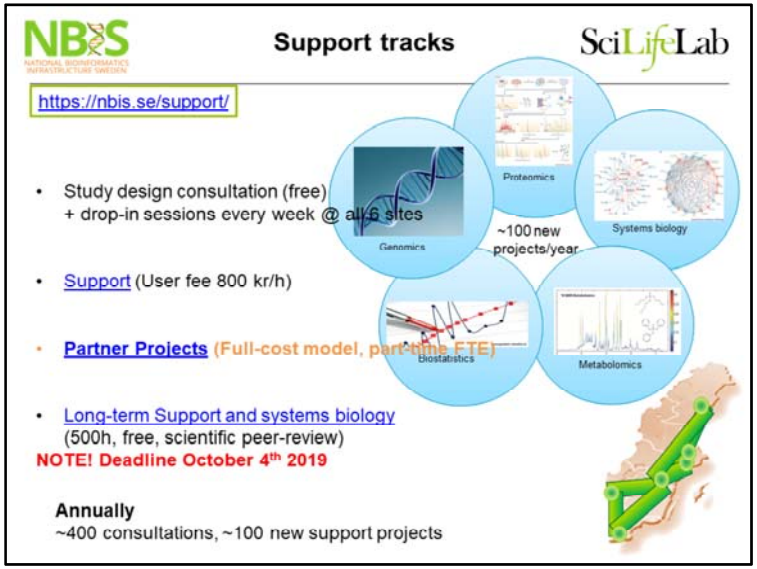
- Tools (https://nbis.se/infrastructure/tools/)
- Support – different support tracks depending on your needs (following slide including links)
- Training (Usually week-long training events) (https://www.scilifelab.se/training and https://nbis.se/training/)
    - National training events for PhD students and researcher/Staff scientists
    - ”Uppdragsutbildning” – workshops for targeted audiences of your choice
    - Hands-on workshops

Advisory program (https://www.scilifelab.se/education/mentorship/the-swedish-bioinformatics-advisory-program/) – Bioinformatics expert is mentoring PhD students. PhD students get a senior bioinformatician as a personal advisor during 2 years of their PhD. Monthly project meetings + two grand meetings per year to aid networking and knowledge transfer.



An overview of NBIS/SciLifeLab Bioinformatics national courses for PhD level and researchers/staff-scientists and the Swedish Bioinformatics Advisory Program. www.scilifelab.se/education/courses/
www.nbis.se/training/events.html

Any questions please mail either education@nbis.se or education@scilifelab.uu.se



Support (https://nbis.se/support/support.html): These hours are not tied to specific days/weeks but can be spread out over several months if necessary. We only count time when the expert is actively working with your project (including meetings)

PP (https://nbis.se/support/partnerprojects.html): This track is intended for projects requiring NBIS support staff of at least 12 person months over the project life-time, running minimally 2 and maximally 5 years calendar time (eg. 0.5 FTE over 2 years).

Long-term support (WABI support: https://www.nbis.se/support/longtermsupport.html): We offer a senior bioinformatician to work in your project for up to 500 hours. The support is fully subsidized and free of charge, but extensive hands-on involvement is required by the applying research groups. To apply for support, you need to submit a small application about your project. Projects are selected based on their scientific quality. Applications to be reviewed by a national evaluation committee.

A mail with the link to the Survey has been sent to all participants.

Continue the session with an **Open discussion forum** where Trainers/Presenters/Teachers from all sessions are present to answer questions from the participants.