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# SciLifeLab Bioinformatics Platform

National Bioinformatics Infrastructure Sweden (NBIS)

*Nina Norgren*

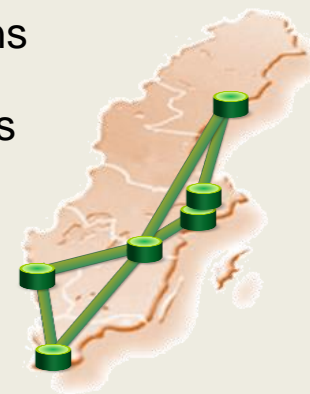
*Bioinformatics Long-term Support (WABI)*



Distributed research infrastructure with nodes at the 6 large university towns

The Swedish node in ELIXIR, the European infrastructure for bioinformatics

Staff: ~75 full-time equivalents



Services:

- **Support**

From short consultations to long-term, tailored project support

- **Infrastructure**

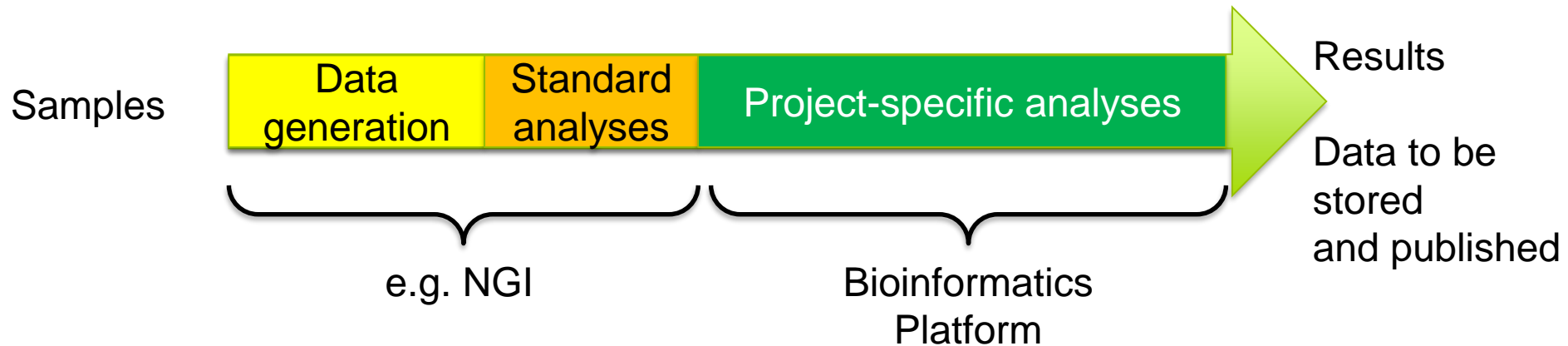
Computational resources, data management, tools and guidelines

- **Training**

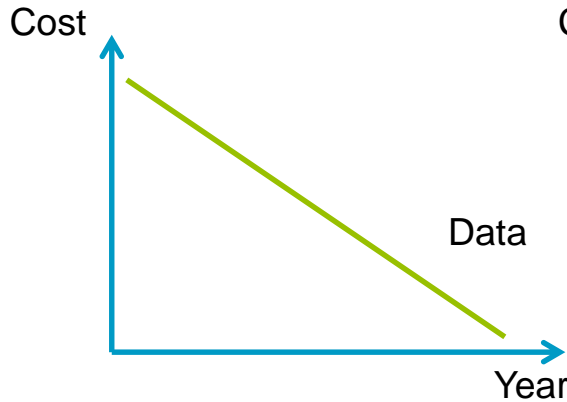
Workshops in advanced and applied bioinformatics

Funding from:

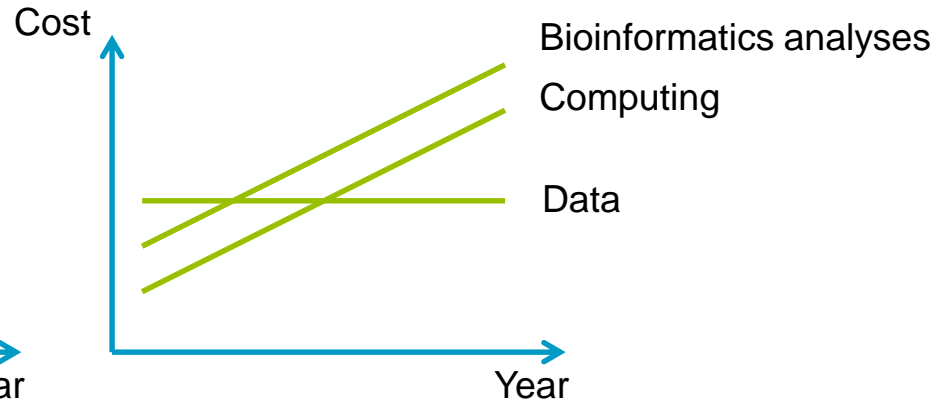




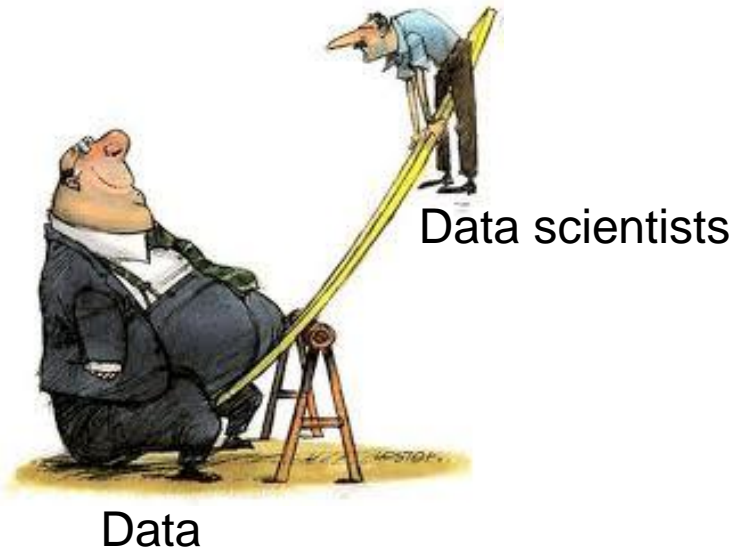
Increased data generation needs to be accompanied by increased bioinformatics analysis and data storage capacity



“Per base”



“Per project”



**Our role**  
We want to help the Swedish Life Science community to **build knowledge** in large-scale data analysis, and to make bioinformatics **easily accessible** for all.

**nature** International weekly journal of science

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NATURE | COMMENT

## Core services: Reward bioinformaticians

Jeffrey Chang

08 April 2015

Biological data will continue to pile up unless those who analyse it are recognized as creative collaborators in need of career paths, says Jeffrey Chang.

PDF | Rights & Permissions

Subject terms: Computational biology and bioinformatics · Research management · Careers

*“The scientific community has failed to craft attractive career paths for those who do the analyses it increasingly requires. **Institutions and funding bodies must carve out a viable place for bioinformaticians who focus on collaborations**, and reward them for their abilities to navigate the myriad demands of multidisciplinary projects.”*

<http://www.nature.com/news/core-services-reward-bioinformaticians-1.17251>

# Custom-tailored support

Study design consultation (free)  
+ drop-in sessions every week @ all 6  
sites

Short- and Medium-term  
800 kr/h)

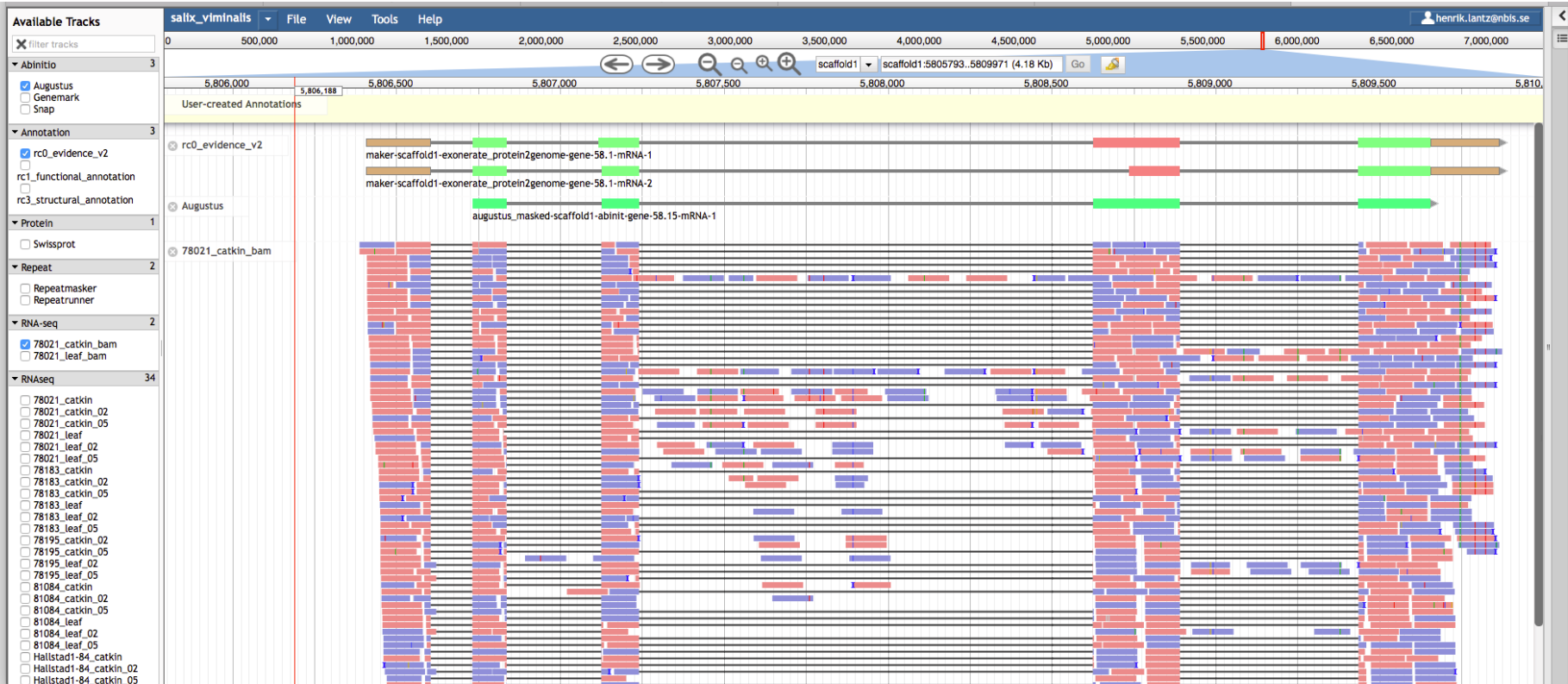
Long-term support (500h  
evaluation)

Thursdays  
10 am  
Odd weeks: KBC cafeteria  
Even weeks: outside Betula

Next deadline  
Jan 2019



# Focus area: Genome assembly and annotation



- Highly specialized staff and robust pipelines
- Tight user interaction
- Numerous manual and semi-manual QC steps
- Supports ENA submission

*Cost effective with high quality!*





# NBIS coordinates the Swedish node in ELIXIR – the European infrastructure for biological information

Data infrastructure for Europe's life-science research  
20 members + 1 observer

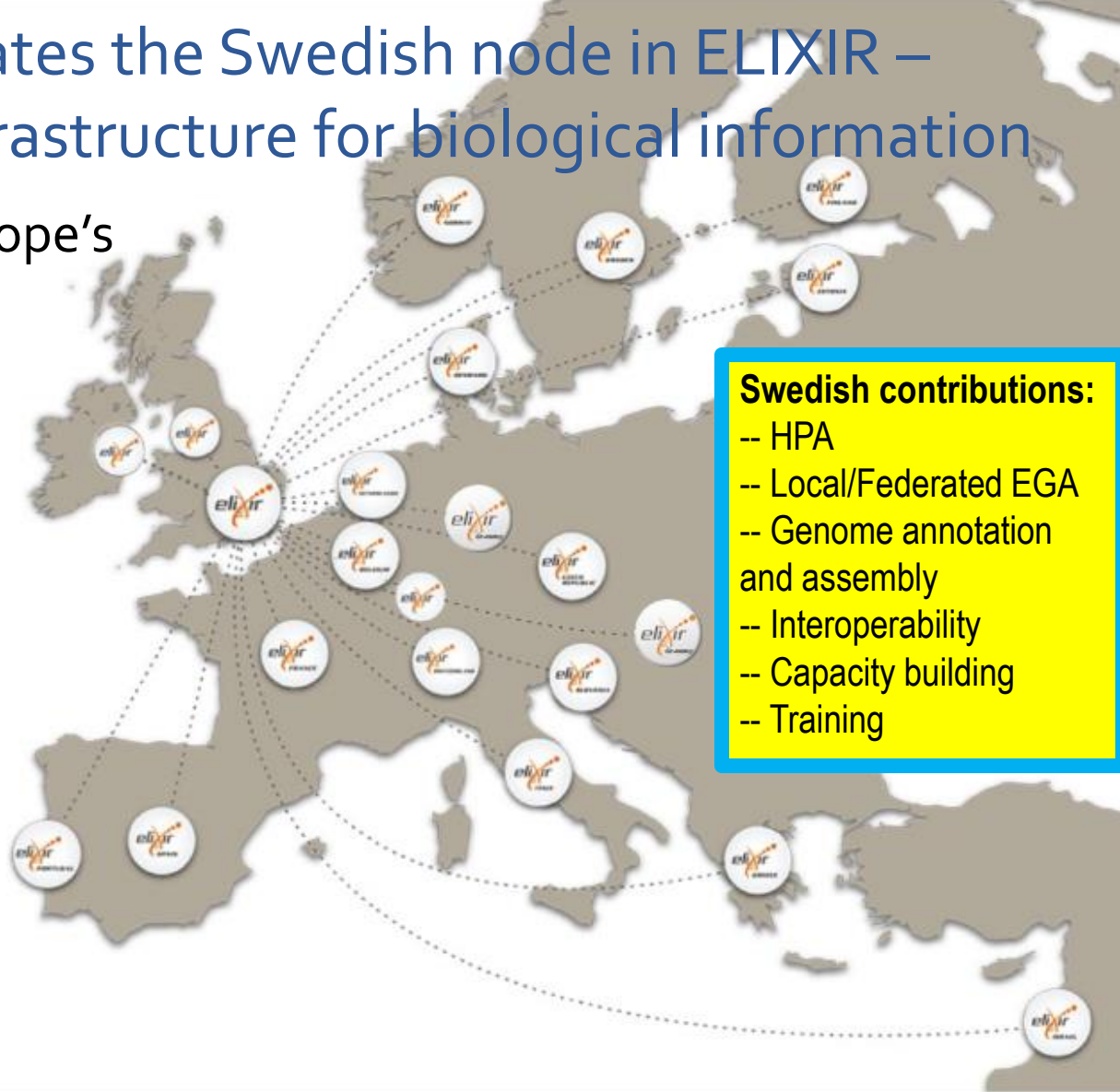
## Five platforms

-  Data
-  Interoperability
-  Tools
-  Compute
-  Training

## Four user communities

-  Marine metagenomics
-  Crop and forest plants
-  Human data
-  Rare diseases

At the global level interactions with:  
RDA, NIH BD2K, GA4GH



### Swedish contributions:

- HPA
- Local/Federated EGA
- Genome annotation and assembly
- Interoperability
- Capacity building
- Training

 [www.elixir-europe.org](http://www.elixir-europe.org)

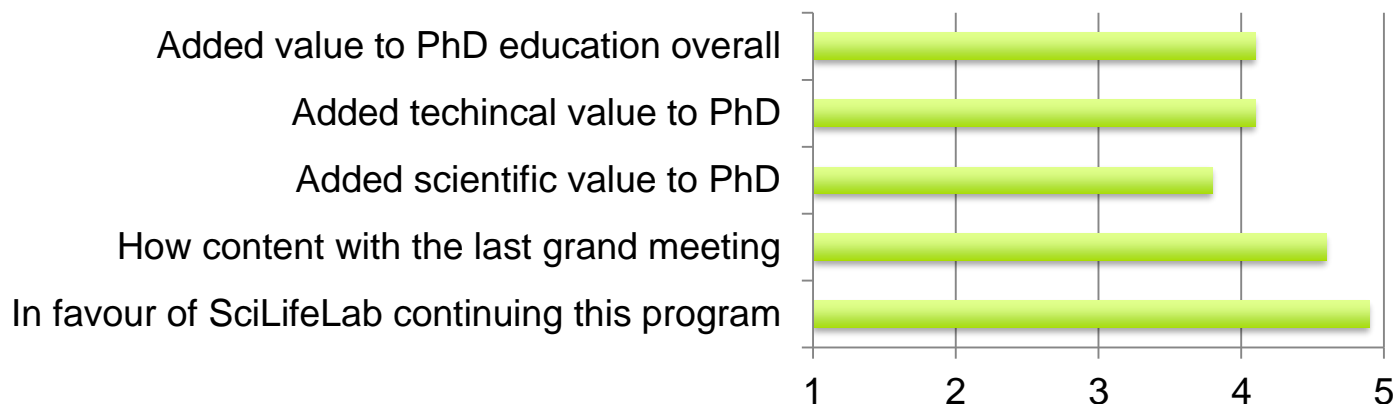
 [@ELIXIREurope](https://twitter.com/ELIXIREurope)





- PhD students get a senior bioinformatician as advisor for 2 years
- Monthly project meetings with advisor
- Two grand meetings per year for networking and knowledge exchange

## User evaluation (2018)



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**Introduction to Bioinformatics using NGS data**

4-8 Feb, Uppsala

**Single cell RNA sequencing data analysis**

4-6 Feb, Stockholm

**Reproducible research**

7-8 May, Stockholm

**Genome annotation**

6-8 May, Uppsala

**RNA-seq data analysis**

13-15 May, Uppsala

**Introduction to Bioinformatics using NGS data**

20-24 May, Göteborg

**Quick and clean: advanced Python for data science in biology**

20-24 May, Göteborg

**RaukR, Advanced R for Bioinformatics, summer course**

10-20 June, Visby

<https://www.scilifelab.se/education/courses/>



[www.nbis.se](http://www.nbis.se)