
National Bioinformatics Infrastructure Sweden **NBIS**

Dag Ahrén



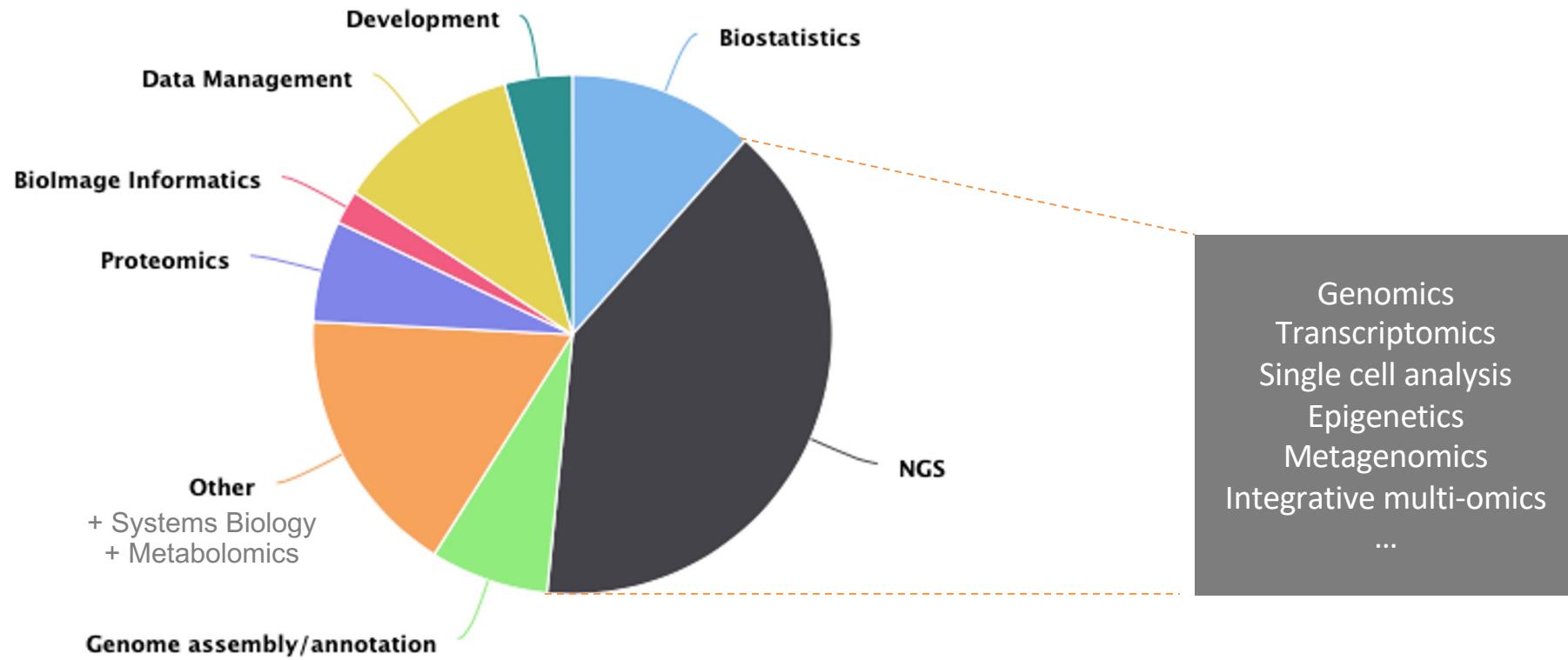
~100 staff at six different sites across Sweden with expertise in many different omics-related areas

NBIS - The SciLifeLab Bioinformatics Platform

nbis.se

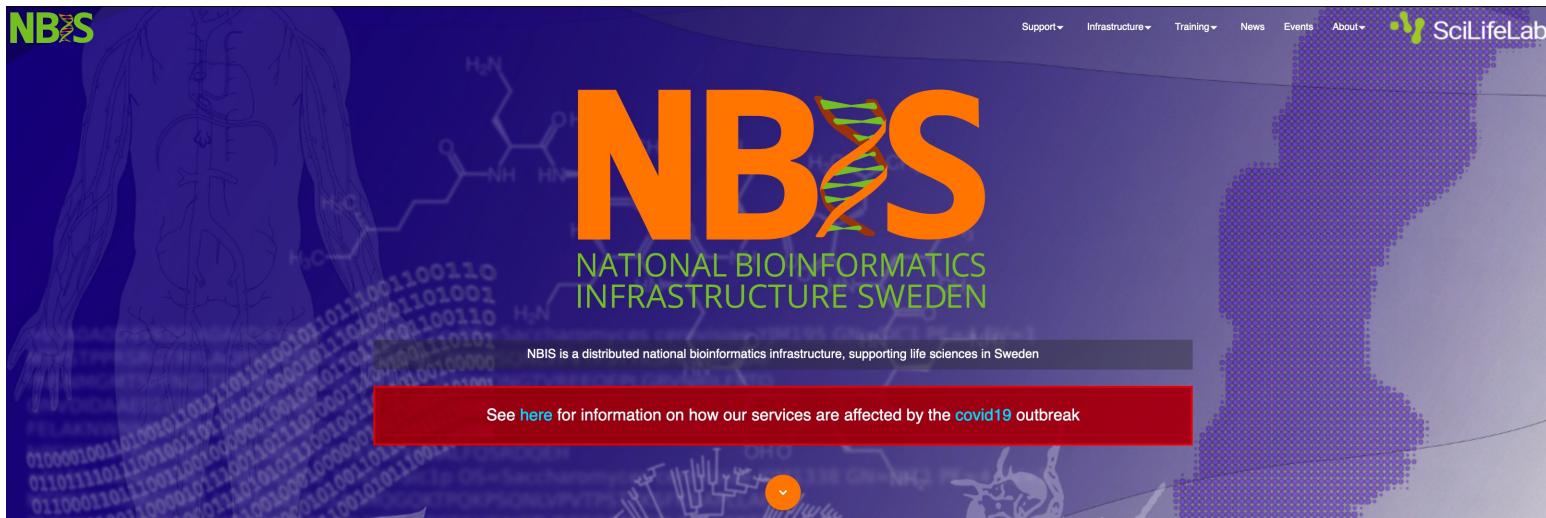


Support subjects



Overview of NBIS units

<https://nbis.se/>



The screenshot shows the NBIS homepage. At the top, there's a dark banner with the NBIS logo and a DNA helix icon. Below it, the text "NBIS NATIONAL BIOINFORMATICS INFRASTRUCTURE SWEDEN" is displayed. A red button in the center says "See here for information on how our services are affected by the covid19 outbreak". The main content area features three green boxes with icons and text: "Support" (two people icon), "Infrastructure" (gear icon), and "Training" (graduation cap icon). Each box has a brief description below it.

NBIS
NATIONAL BIOINFORMATICS
INFRASTRUCTURE SWEDEN

NBIS is a distributed national bioinformatics infrastructure, supporting life sciences in Sweden

See [here](#) for information on how our services are affected by the [covid19](#) outbreak

Support
Support services ranging from short consultation, consultancy to long-term embedded bioinformaticians.

Infrastructure
Providing infrastructure in the form of services, computational resources, tools and guidelines to the life science community.

Training
Training events in advanced and applied bioinformatics.

Core activities



Support

Support services ranging from short consultations to long-term embedded bioinformaticians.



Infrastructure

Providing infrastructure in the form of services, computational resources, tools and guidelines to the life science community.



Training

Training events in advanced and applied bioinformatics.

Drop-in support

Drop-in sessions

Ask your question!
Bioinformatics, sequencing, data
management, and more
Online - Tuesdays at 14.00

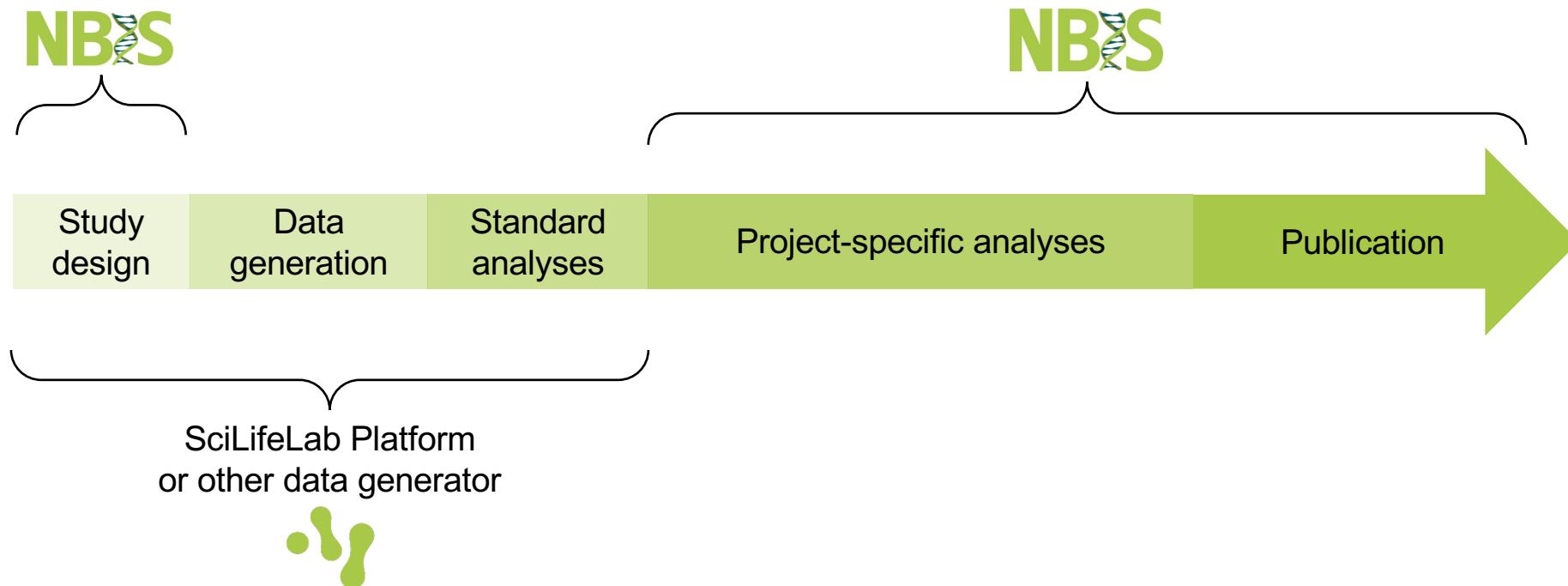


Study Design & project consultation	3 h per project No hands-on work
Short or medium term support (Fee-for-service)	User fee 800 SEK/h * All projects welcome, queuing system
Long-term support (KAW funded)	500 h support over ~ 1-2 years, for free Scientific selection by committee, 3 application rounds/year Involvement from research group mandatory
Partner Projects	For projects with large bioinformatic component “Hire” an NBIS bioinformatician Full-cost model: utilize and pay for e.g. 50% of one NBIS FTE



*The BioImage Informatics Facility has a slightly different financing policy

NBIS Support project stages



Infrastructure



Support

Support services ranging from short consultations to long-term embedded bioinformaticians.



Infrastructure

Providing infrastructure in the form of services, computational resources, tools and guidelines to the life science community.

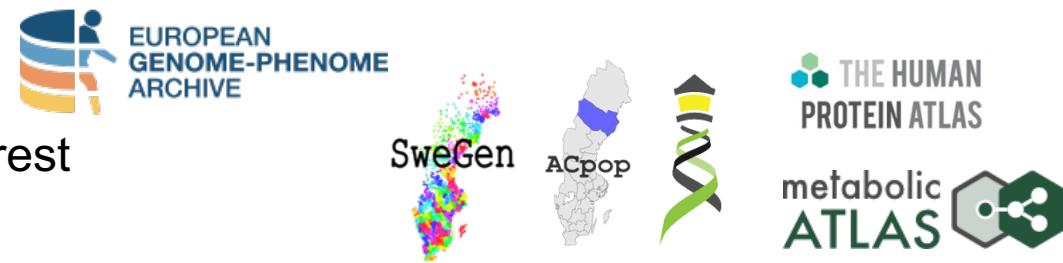


Training

Training events in advanced and applied bioinformatics.

Infrastructure development

- International repositories (e.g. Federated EGA)
- Hosting/interoperability of national resources of major interest (e.g. Human Protein Atlas, SweFreq, Metabolic Atlas)



Data management (close collaboration with Data Centre)

- Representing Sweden in international data initiatives
- Data Stewards to guide users in data management and FAIR data publishing



Tools

- Maintaining a few selected major Swedish software
- Continuous development of software, workflows and services





- Data stewards support researchers
- Collaboration with SciLifeLab Data Centre (supports platforms)

About 6 staff members

A **bridge** between NBIS and SNIC-funded UPPMAX

- SNIC — **free to use** national infrastructure for computing, funded by Swedish Research Council
- UPPMAX — Uppsala high-performance computing centre

Provides a **digital research environment** serving 700+ PIs with over 1000 projects

Focus on HPC systems provided by UPPMAX



22 members + 1 observer

Five technical platforms for
Compute
Data
Tools
Interoperability and
Training

Complemented by **Communities** in
Marine metagenomics
Rare diseases
Human data
Plants sciences
Proteomics
Metabolomics
Galaxy and more to come

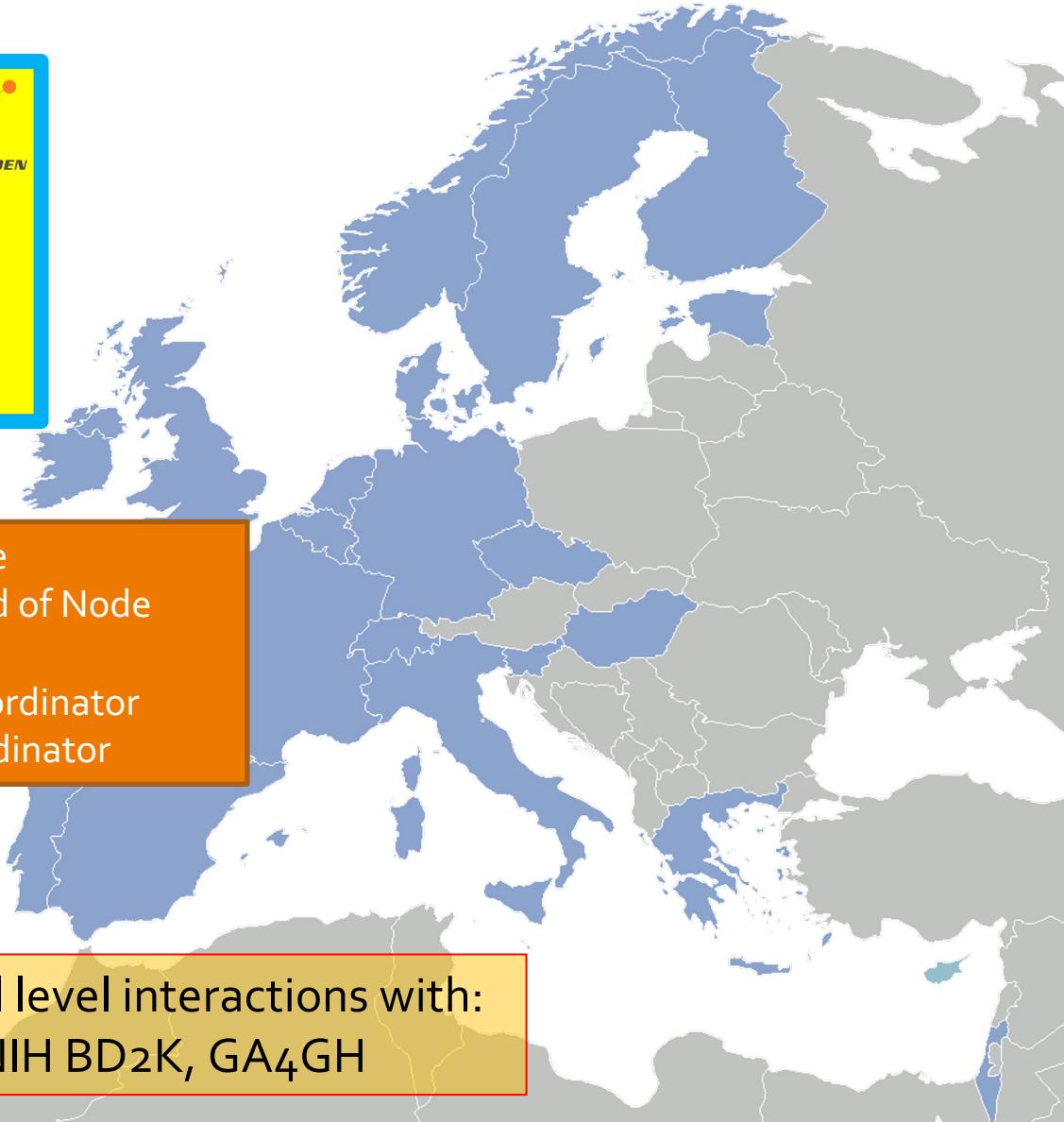
Swedish contributions:

- Human Protein Atlas
- Human Data Community
- Federated EGA and Beacons
- Data Management
- Biodiversity
- Training (Jessica Lindvall Ex-Co)



- Bengt Persson, Head of Node
- Jessica Lindvall, Deputy Head of Node and Training Coordinator
- Johan Viklund, Technical Coordinator
- Jessica Lindberg, Node Coordinator

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



Training



Support

Support services ranging from short consultations to long-term embedded bioinformaticians.



Infrastructure

Providing infrastructure in the form of services, computational resources, tools and guidelines to the life science community.



Training

Training events in advanced and applied bioinformatics.

Training events and programs

- Courses, teacher-dense for good networking
- Mentor program, boosting PhD skills

Rapid knowledge-transfer

- Drop-in sessions (Currently online, Tuesdays at 14:00)
- Catalyse rapid knowledge-transfer across projects/research areas
- Portable tools and workflows to empower users



Training opportunities:

<https://uppsala.instructure.com/courses/48087/pages/nbis-training-catalogue>

Example workshop topics:

- Python
- Data visualisation in R
- Biostatistics
- Workflows (snakemake) Bring your own code
- Reproducible research
- RNASeq & scRNASeq
- Epigenomics

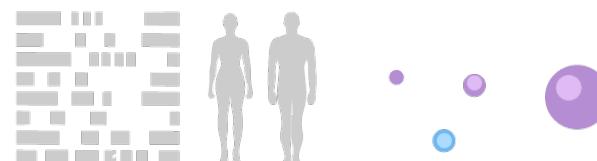
- Last minute registration for the 3 day RNASeq course in Uppsala

Application deadline: February 12, 2023

<https://nbis.se/training/events.html>

<https://www.scilifelab.se/event/rna-seq-data-analysis/>

- RNAseq quality control analysis
- Mapping of short reads
- Quantification of gene expression
- Exploratory data analysis
- Differential gene expression
- Gene set enrichment analysis



Any questions?



The screenshot shows the NBIS website homepage. At the top, there is a dark banner featuring a stylized human figure outline, a DNA helix, and some chemical structures. The NBIS logo is prominently displayed in orange and green. Below the banner, a red button contains the text: "See [here](#) for information on how our services are affected by the covid19 outbreak". The main content area has three green boxes labeled "Support", "Infrastructure", and "Training", each with a brief description. The SciLifeLab logo is visible in the top right corner.

NBIS is a distributed national bioinformatics infrastructure, supporting life sciences in Sweden

See [here](#) for information on how our services are affected by the covid19 outbreak

Support

Infrastructure

Training