
National Bioinformatics Infrastructure Sweden NBIS

Dag Ahrén

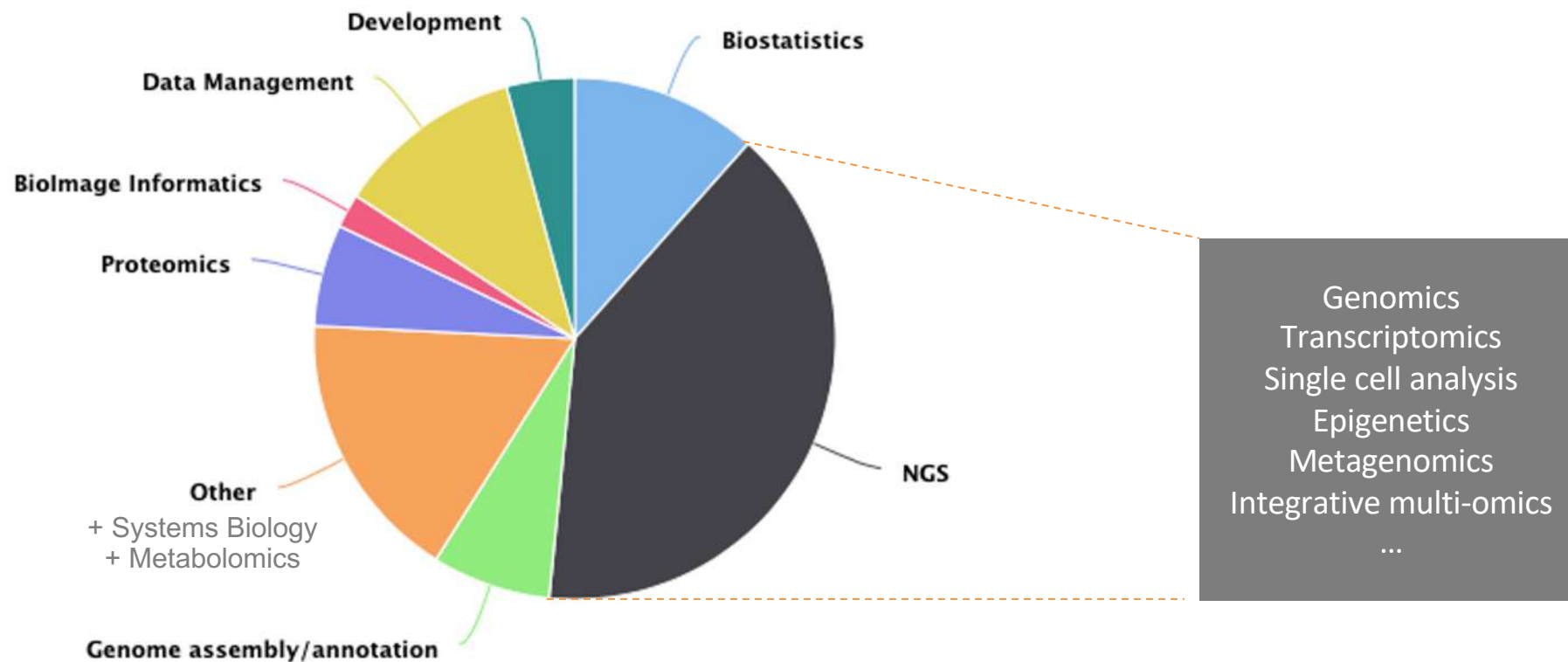


~100 staff at six different sites across Sweden with expertise in many different omics-related areas



NBIS - The SciLifeLab Bioinformatics Platform

nbis.se



Overview of NBIS units

<https://nbis.se/>



The screenshot shows the NBIS website homepage. At the top left is the NBIS logo. At the top right is a navigation menu with links for Support, Infrastructure, Training, News, Events, and About, followed by the SciLifeLab logo. The main header features the large NBIS logo with a DNA double helix, and the text 'NATIONAL BIOINFORMATICS INFRASTRUCTURE SWEDEN'. Below this is a dark blue banner with the text 'NBIS is a distributed national bioinformatics infrastructure, supporting life sciences in Sweden'. A red banner below that contains the text 'See [here](#) for information on how our services are affected by the [covid19](#) outbreak'. The main content area has a light grey background and features three green boxes: 'Support' (with a group of people icon), 'Infrastructure' (with a gear icon), and 'Training' (with a graduation cap icon). Each box contains a brief description of the service.

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.



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Drop-in sessions

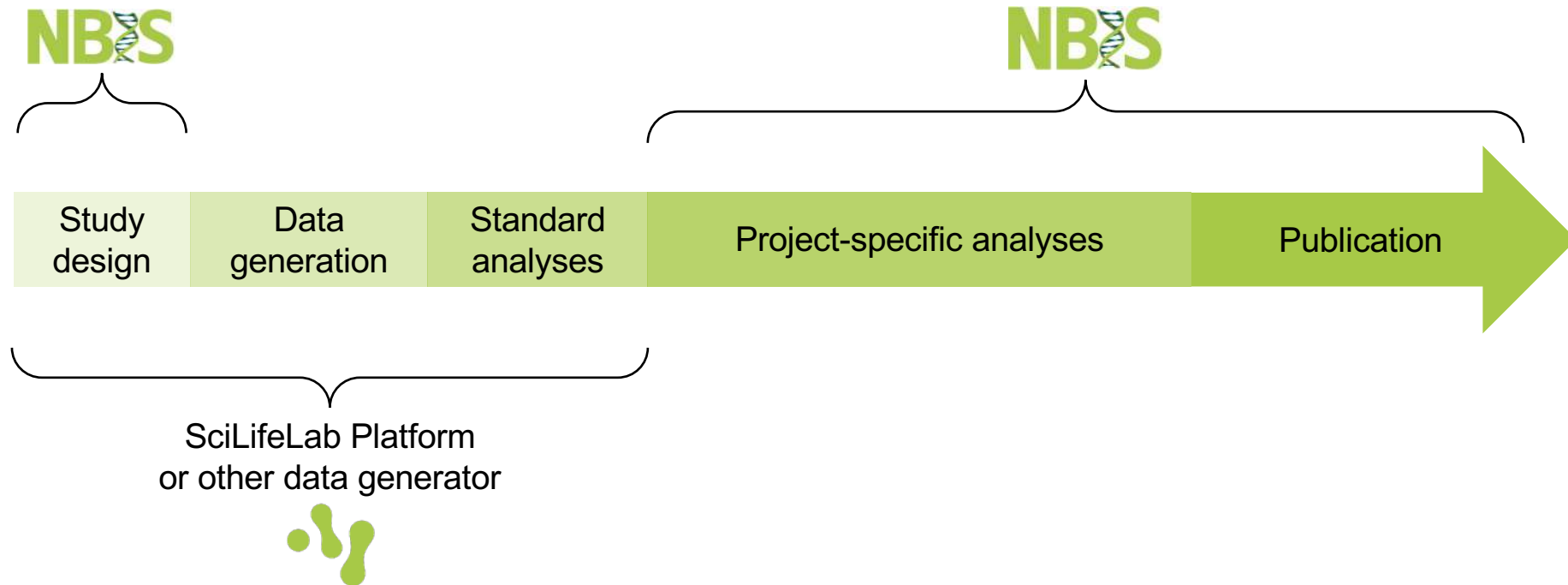
Ask your question!
Bioinformatics, sequencing, data
management, and more
Online - Tuesdays at 14.00



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





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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



Mr Bayes
Bayesian Inference
of Phylogeny





- 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

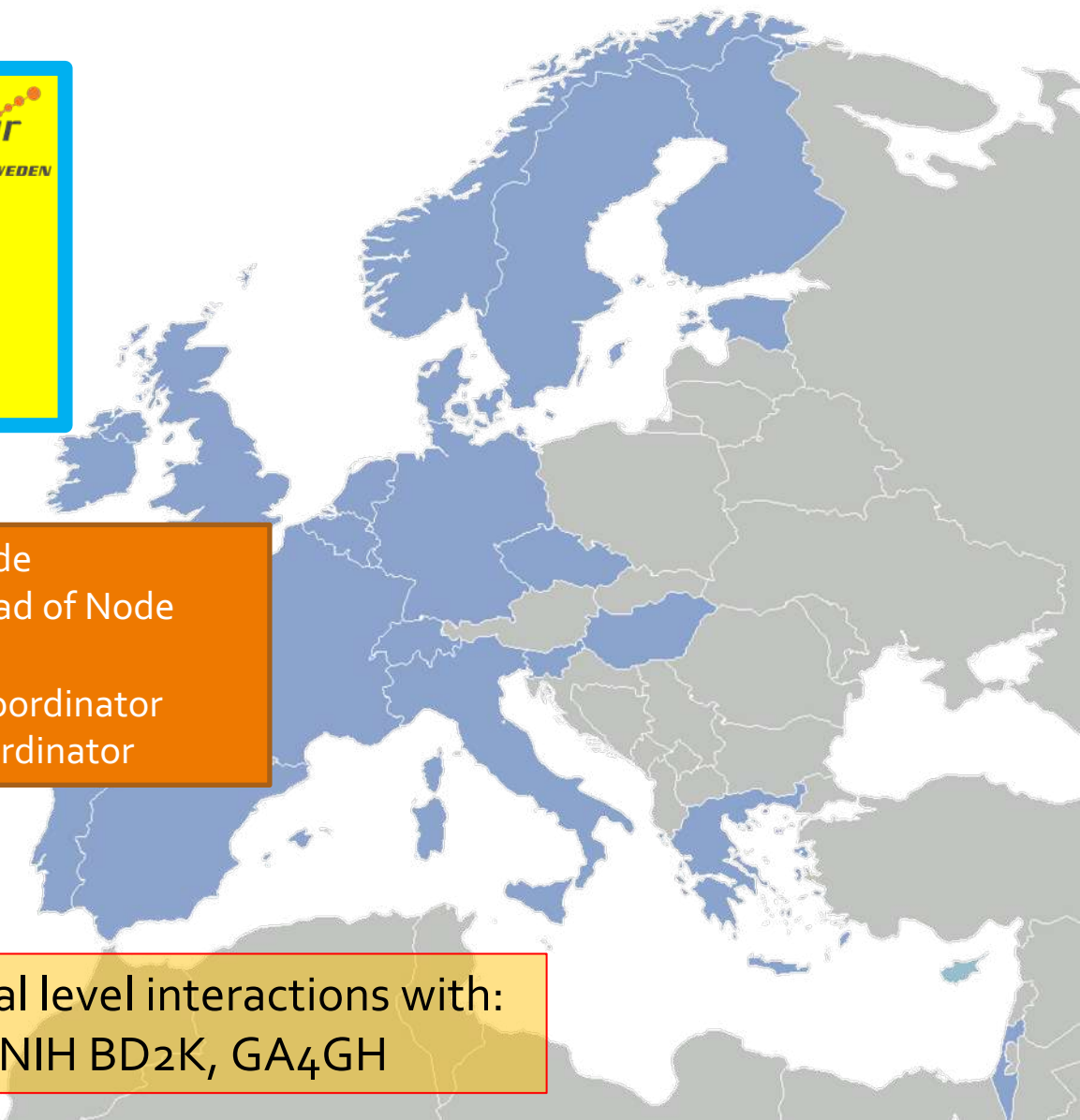
Swedish contributions:

- 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





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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

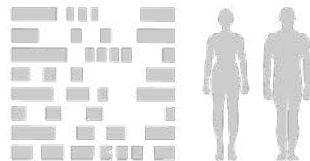
- Last minute registration for the 3 day RNASeq course in Uppsala

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 homepage of the National Bioinformatics Infrastructure Sweden (NBIS). The header includes the NBIS logo and a navigation menu with links for Support, Infrastructure, Training, News, Events, and About, along with the SciLifeLab logo. The main content area features a large orange 'NBIS' logo with a DNA double helix, and the text 'NATIONAL BIOINFORMATICS INFRASTRUCTURE SWEDEN'. Below this, a dark blue banner states 'NBIS is a distributed national bioinformatics infrastructure, supporting life sciences in Sweden'. A red banner below that contains the text 'See [here](#) for information on how our services are affected by the covid19 outbreak'. The bottom section consists of three green boxes: 'Support' (with a group of people icon), 'Infrastructure' (with a gear icon), and 'Training' (with a graduation cap icon). Each box contains a brief description of the service.

NBS
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Support Infrastructure Training News Events About SciLifeLab

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