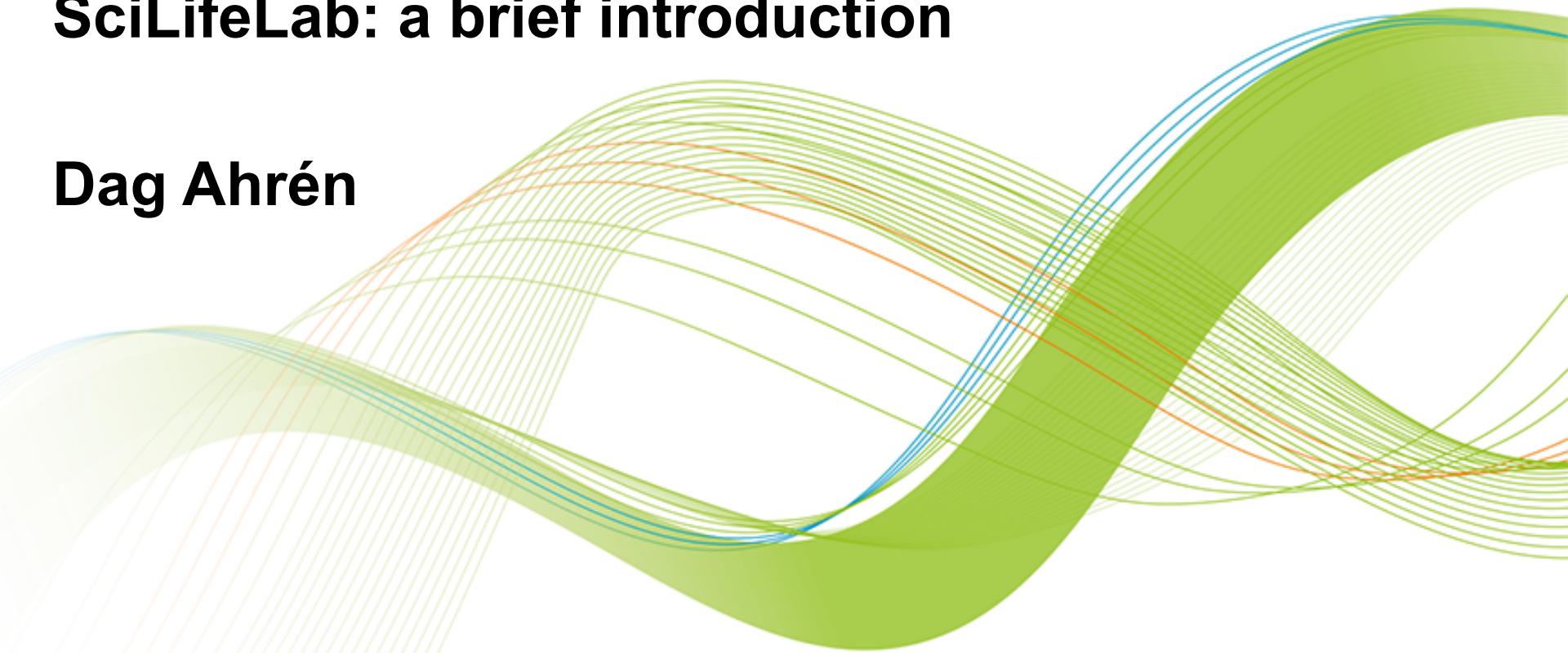


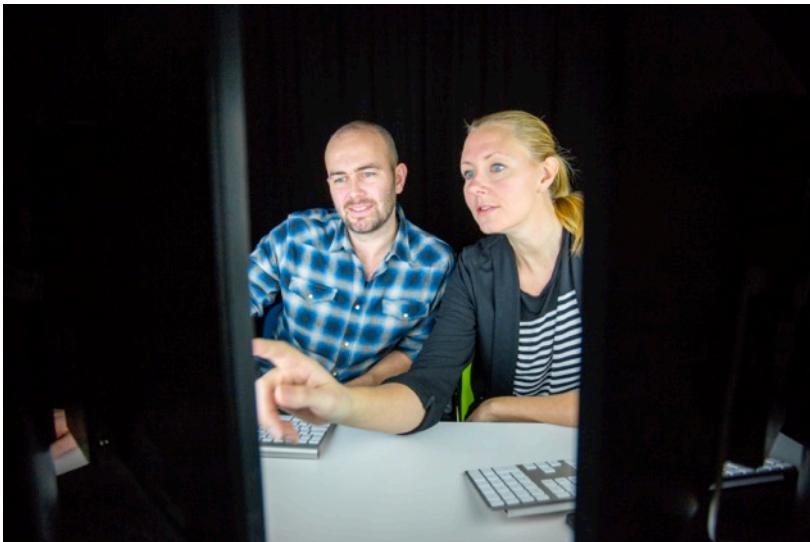


Introduction to Bioinformatics using NGS data, November 25-29, Lund

SciLifeLab: a brief introduction

Dag Ahrén

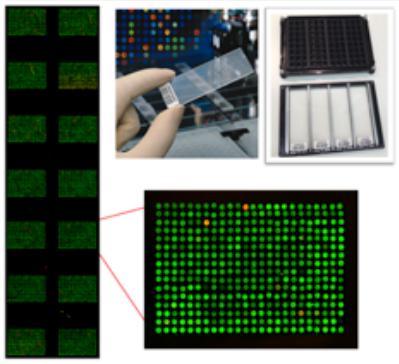




- Established in **2010**
- National resource since **2013**
- More than **1200** researchers

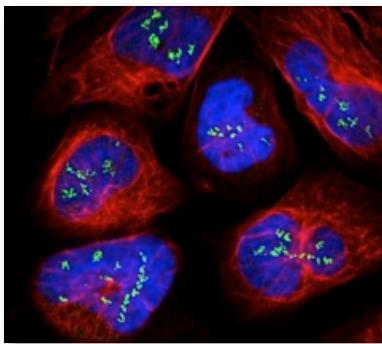
To be a national hub for **molecular life sciences**





Unique infrastructure

- Service to research community
- Technology development
- Education



Internationally leading research

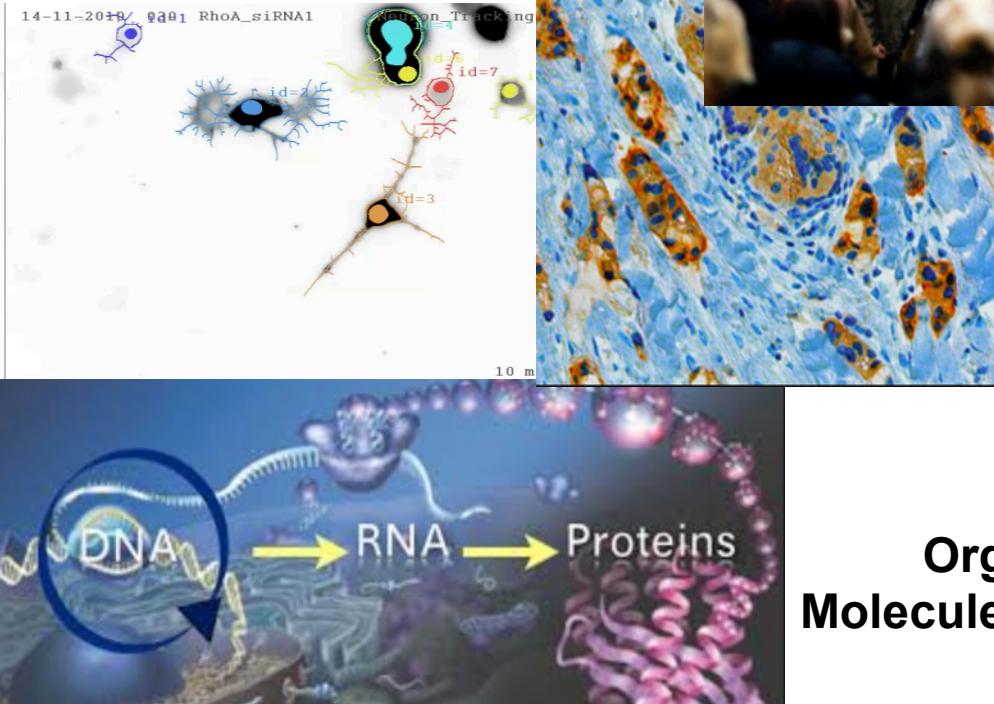
- Strong interdisciplinary community
- SciLifeLab Fellows Program
- National projects



Societal benefits

- Health care outcome
- Environment
- Tech transfer, spin-offs, industry collaborations

The range of life sciences studied

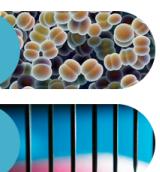
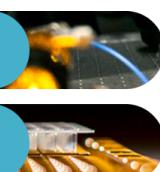


Ecosystems
Communities
Populations
Organisms
Organs
Tissues
Cells
Organelles
Molecules

Platforms and facilities



INFRASTRUCTURE SERVICES

[Infrastructure units A-Z](#)[Genomics](#)[Proteomics](#)[Metabolomics](#)[Single Cell Biology](#)[Bioimaging and Molecular Structure](#)[Chemical Biology and Genome Engineering](#)[Drug Discovery](#)[Diagnostics](#)[Bioinformatics](#)

SciLifeLab has been created by the coordinated effort of four universities in Stockholm and Uppsala: Stockholm University, Karolinska Institutet, KTH Royal Institute of Technology and Uppsala University.



Karolinska
Institutet



KTH
VETENSKAP
OCH KONST



Stockholms
universitet



UPPSALA
UNIVERSITET

Nodes and sites



Uppsala node



Stockholm node (Solna)



Infrastructure organization

<h3>Bioinformatics</h3> <p>Compute and Storage ^U Long-term Support ^{G, Li, Lu, S, U, Um} Support and Infrastructure ^{G, Li, Lu, S, U, Um} Systems Biology</p>	<h3>Diagnostics Development</h3> <p>Clinical Genomics Göteborg ^G Clinical Genomics Lund ^{Lu} Clinical Genomics Stockholm ^S Clinical Genomics Uppsala ^U</p>	<h3>Proteomics and Metabolomics</h3> <p>Autoimmunity Profiling ^S Chemical Proteomics and Proteogenomics ^S Clinical Biomarkers ^U PLA Proteomics ^U Plasma Profiling ^S Swedish Metabolomics Centre ^{Um}</p>
<h3>Cellular and Molecular Imaging</h3> <p>Advanced Light Microscopy ^S Biolmage Informatics ^U Cell Profiling ^S Cryo-EM ^{S, Um} Fluorescence Correlation Spectroscopy ^S Fluorescence Tissue Profiling ^S Protein Science Facility ^S Swedish NMR Centre ^{G, Um} Tissue Profiling ^U</p>	<h3>Drug Discovery and Development</h3> <p>ADME (Absorption, Distribution, Metabolism, Excretion) of Therapeutics ^U Biochemical and Cellular Assay ^S Biophysical Screening and Characterization ^U Human Antibody Therapeutics ^{Lu, S} In Vitro and Systems Pharmacology ^U Medicinal Chemistry – Hit2Lead ^S Medicinal Chemistry – Lead Identification ^U Protein Expression and Characterization ^S</p>	<h3>Single Cell Biology</h3> <p>Eukaryotic Single Cell Genomics ^S Mass Cytometry ^{Li, S} Microbial Single Cell Genomics ^U Single Cell Proteomics ^U</p>
<h3>Chemical Biology and Genome Engineering</h3> <p>Chemical Biology Consortium Sweden ^{S, Um} Genome Engineering Zebrafish ^U High Throughput Genome Engineering ^S</p>	<h3>Genomics</h3> <p>National Genomics Infrastructure ^{S, U} Ancient DNA ^U</p>	<p><i>G - Göteborg</i> <i>Li - Linköping</i> <i>Lu - Lund</i> <i>S - Stockholm</i> <i>U - Uppsala</i> <i>Um - Umeå</i></p>

Support ▾

Infrastructure ▾

Training ▾

NBIS

NATIONAL BIOINFORMATICS
INFRASTRUCTURE SWEDEN

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



Why bioinformatics infrastructure?

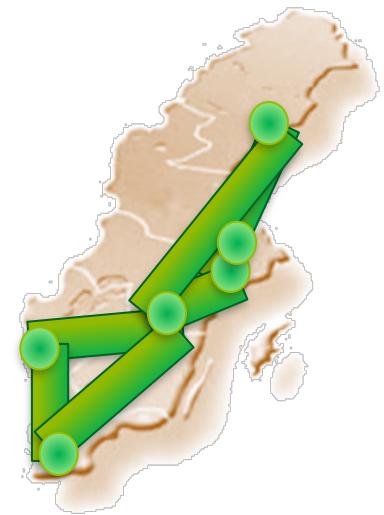
Bioinformatics is needed to be able to analyse the huge amount of information coming from Genomics, Proteomics and Metabolomics data at different levels (cellular, tissues, organisms).

User access to NBIS

- Study design consultation
- Short & medium-term support
- 800 SEK/hour
- <http://www.nbis.se/support/supportform/index.php>
- Apply anytime

- Long-term support (500h; free: scientific evaluation)
<http://www.scilifelab.se/facilities/wabi/>
- Several deadlines per year.

- Compute and storage (free; majority of hardware and system administration belongs to SNIC)
- Apply: <https://supr.snic.se>
- Read more: <http://www.uppmax.uu.se/>



- Are you planning a project and need someone to discuss the bioinformatics analysis with?
- Do you need bioinformatics support, but do not know who to turn to?
- Are you stuck in your own bioinformatics project and need help?
- Meet the NBIS staff at bioinformatics drop-in

Lund

When: Weekly on Wednesdays
at 10-ca 11:30 am

Where:

Even weeks at Medicom Village
Odd weeks at Biology Building

Stockholm

When: Weekly on Tuesdays
at 10.30-11.30 am

Where: SciLifeLab, lunch room, level 2

Upcoming SciLifeLab courses



Course	Location
Introduction to bioinformatics using NGS data, January 27-31, 2020	Stockholm
Single cell genomics - a practical and theoretical workshop, March 4-6, 2020	Uppsala
Introduction to bioinformatics using NGS data, April 20-24, 2020	Linköping
Cryo-EM sample preparation and data collection, June 2-4, 2020	Umeå

A new teaching model, where 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.

First call late 2014:

>50 applicants for 15 places

Last call in 2017

>93 applicants for 15 - 18 places

www.scilifelab.se/education/mentorship/the-swedish-bioinformatics-advisory-program/

The application for 2019/2020 is closed

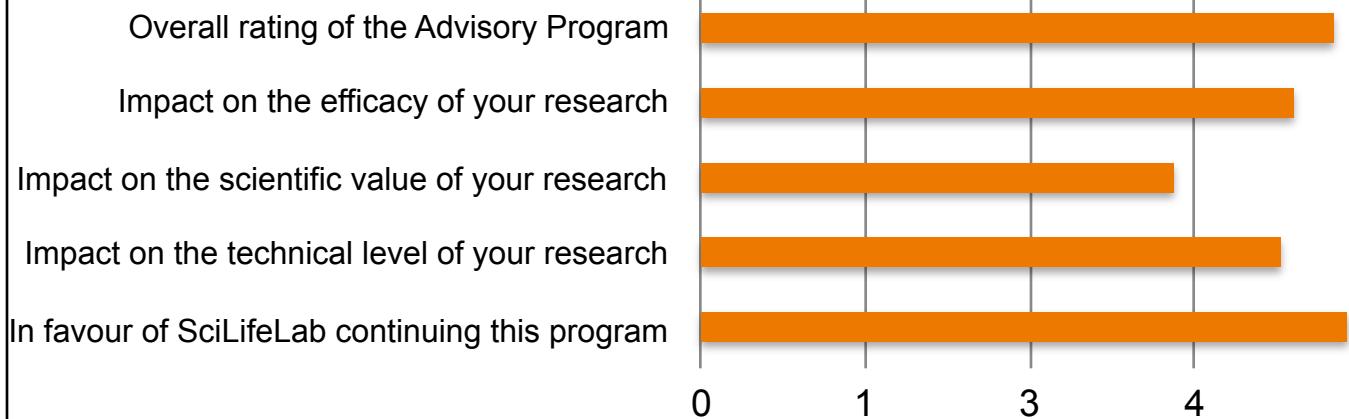
Why this program

Overall aim: Great research in Sweden!

How? Strategic investment in PhD education
Complementing PhD supervisors with technical expertise
Catalyze transition to large-scale data analyses

The PhD student is responsible to prepare and drive the meetings!

**The Swedish Bioinformatics
Advisory Program
Student evaluation, June
2015**



Attendance list

- Please sign this list every day

Coffee breaks and lunches for those who chose to join the social program

- Lunch at Restaurant Moroten & Piskan
- Coffee breaks outside the lecture room

Course dinner for those who chose to join the social program

- Tuesday November 26 at 18:00, Restaurant Kulturen
- Sign the list before lunch today, if you intend to join or not
- Included: Main course, dessert and one drink

SciLifeLab



www.scilifelab.se

Practical questions to:

Maria Bäckström

Coordinator

education@scilifelab.uu.se

072 9999 269

