

Microarray experiment - from design to biology

joint event: Elixir Sweden (NBIS), Elixir Slovenia



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(e-learning platform)



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NBIS (Elixir Sweden) – a brief introduction

Jessica M. Lindvall, PhD

Elixir Swedish Node (NBIS)

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Bioinformatics expert, Training coordinator

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SciLifeLab

- 4 host universities
- Established in **2010**
- National resource since **2013**
- More than **1000** researchers



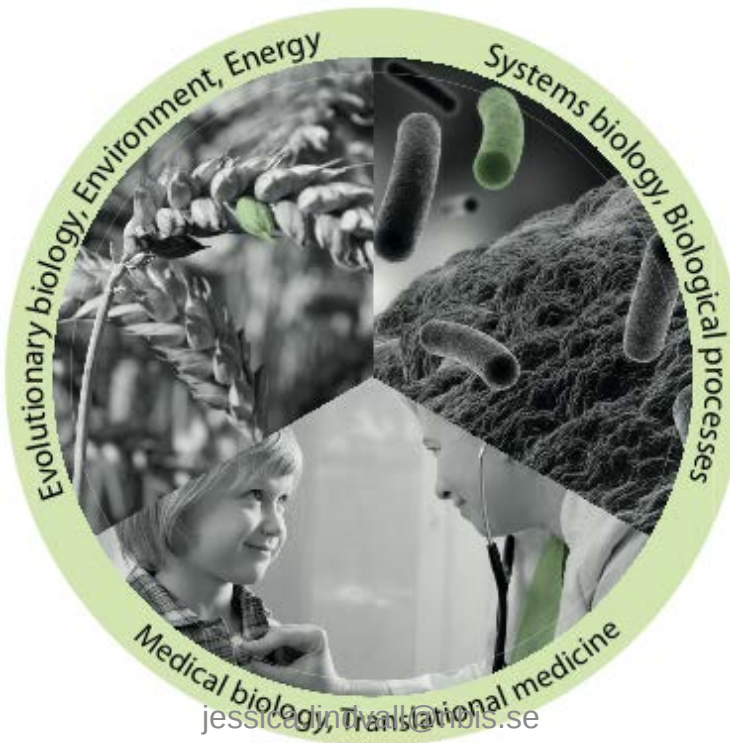
UPPSALA
UNIVERSITET



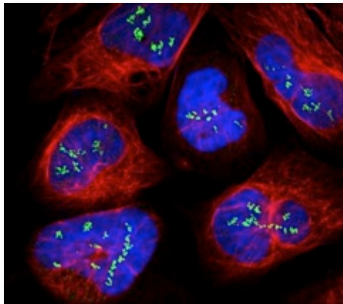
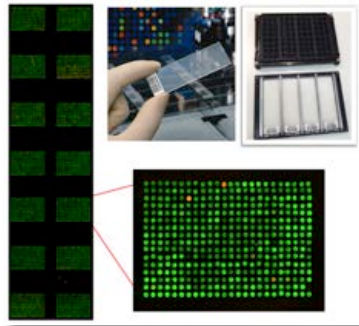
Stockholms
universitet

SciLifeLab's Vision

To be an internationally leading center that develops, uses and provides access to advanced technologies for **molecular biosciences** with focus on health and environment



SciLifeLab's mission



Technology platforms for national use

- Service to research community
- Technology development
- **Education**

Strong research community

- Strong interdisciplinary community
- SciLifeLab Fellows Program
- National projects

Society impact

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

Platforms & facilities

Bioinformatics (NBIS)

Bioinformatics Compute and Storage (UPPNEX)
Bioinformatics Long-term Support (WABI)
Bioinformatics Short-term Support and Infrastructure (BILS)
Systems Biology

Cellular & Molecular Imaging

Advanced Light Microscopy
BioImage Informatics
Cryo-EM
Fluorescence Correlation Spectroscopy
Fluorescence Tissue Profiling
High-Content Microscopy
Protein Science Facility
Swedish NMR Centre (SNC)
Tissue Profiling

Chemical Biology & Genome Engineering

Genome Engineering Zebrafish
High Throughput Genome Engineering (HTGE)
Laboratories for Chemical Biology Umeå (LCBU)
The Laboratories for Chemical Biology at Karolinska Institutet (LCBKI)

Diagnostics Development

Clinical Biomarkers
Clinical Genomics Göteborg
Clinical Genomics Lund
Clinical Genomics Stockholm
Clinical Genomics Uppsala

Drug Discovery and Development

ADME (Absorption Distribution, Metabolism Excretion) of Therapeutics (UDOPP)
Biochemical and Cellular Screening
Biophysical Screening and Characterization
Human Antibody Therapeutics
In Vitro and Systems Pharmacology
Medicinal Chemistry – Hit2Lead
Medicinal Chemistry – Lead Identification
Protein Expression and Characterization

Genomics (NGI)

NGI Stockholm (Genomics Applications Development)
NGI Stockholm (Genomics Production)
NGI Uppsala (SNP&SEQ Technology Platform)
NGI Uppsala (Uppsala Genome Center)
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Proteomics/Metabolomics

Advanced Mass Spectrometry Proteomics
Autoimmunity Profiling
Clinical Proteomics Mass Spectrometry
PLA Proteomics
Plasma Profiling
Swedish Metabolomics Centre (SMC)

Single-cell Biology

Eukaryotic Single Cell Genomics
Mass Cytometry
Microbial Single Cell Genomics
Single Cell Proteomics

www.nbis.se

Support ▼

Infrastructure ▼

Training ▼

NBIS

NATIONAL BIOINFORMATICS
INFRASTRUCTURE SWEDEN

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

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NBIS competence

- Genomics
- Systems Biology
- Genome Assembly and Annotation
- Proteomics
- Statistics
- Metabolomics
- Sequence analysis
- Development
- Software and systems
- Data management and services

NBIS support options - <http://nbis.se/support/>

- Study design consultation (free)
- Weekly Bioinformatics Drop-in at our nodes
- Short & medium-term support <http://nbis.se/support/support.html>
 - **800 SEK/hour** for Swedish affiliated researchers
 - **1500 SEK/hour** for international researchers and companies
 - Apply anytime
- Long-term support (only Swedish affiliated Researchers)
<http://nbis.se/support/longtermsupport.html>
 - 500h; free: *scientific evaluation*
- Compute and storage (free; majority of hardware and system administration belongs to SNIC)
 - Apply: <https://supr.snica.se>
 - Read more: <http://www.uppmax.uu.se/>



And now... the webinar!

Study design:

General statistics (EVA FREYHULT, NBIS/Elixir Sweden)

Towards different biological conditions - what to think about (JESSICA LINDVALL, NBIS/Elixir Sweden)

Microarray analysis:

Microarray technological platforms (MIHAELA MARTIS, NBIS/Elixir Sweden)

Quality control and DEG analysis (MIHAELA MARTIS, NBIS/Elixir Sweden)

Downstream analysis - How to see the biology in your lists (JESSICA LINDVALL, NBIS/Elixir Sweden)