

Zoom instructions for this meeting



Please remain muted
throughout the meeting, unless
you're invited to speak by the Chair



Questions

For questions, please use the "hand-raising" function - the Chair will invite you to ask your question



Camera off
Cameras will be used by the Chairs
and presenters only

Chat

Please use the chat only for comments
and housekeeping questions

Q & A: Shared HackMD [document](#)

Please note this session will be recorded



Using the Norwegian e-infrastructure for Life Science and usegalaxy.no



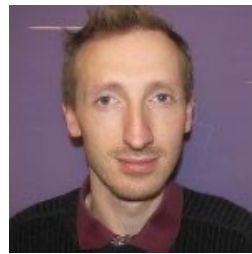
Annbjørg Barbakken(UiO)



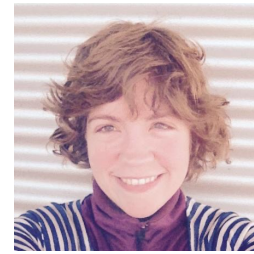
Espen Åberg (UiT)



Kjell Petersen (UiB)



David Dolan (UiB)



Kjersti Rise (NTNU)



Tina Visnovska (UiO)



Erik Hjerde (UiT)

Practical information

All **presentation** will be given in this Zoom - the main room

The **practical exercises** will be done in breakout rooms. You will automatically be assigned to a room together with maximum five participants and one teacher

In the interest of time: When you are done with an exercise, please type "Done" in the chat so you can be returned to the main room

All **lectures will be recorded**. Recording will stop before we open up for questions. Turn off your cameras if you don't want your face to be recorded

Course material and recorded videos will be publicly available after the course both in the EeLP and in Zenodo

Please make yourself familiar with the [ELIXIR code of conduct](#). Any issues can be reported to erik.hjerde@uit.no

Please help us improve by completing the [feedback survey](#)

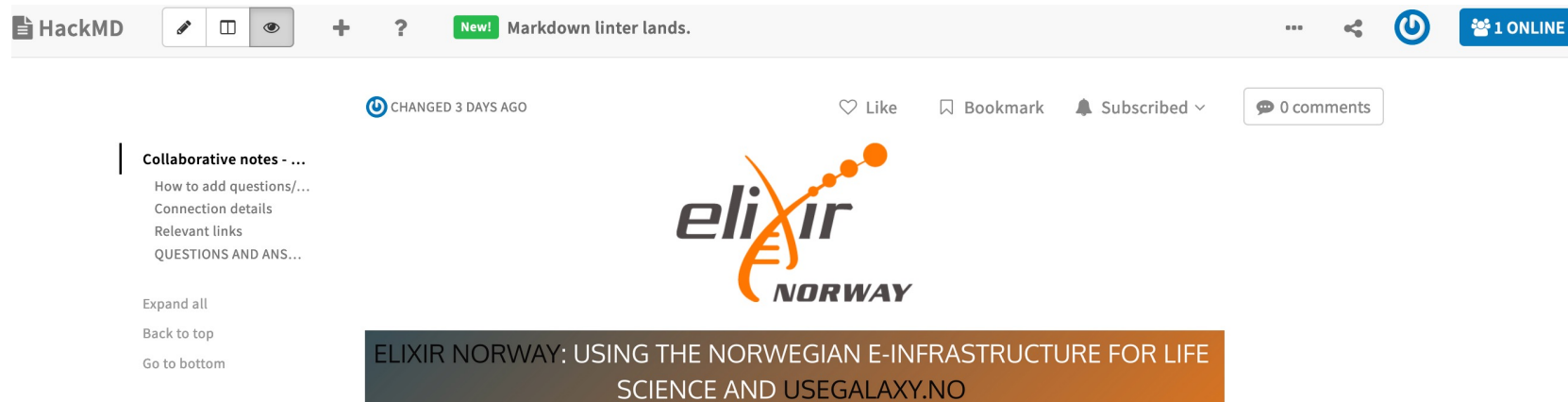


Practical information

Course page: <https://elixir.mf.uni-lj.si/course/view.php?id=59>



Collaborative notes with questions and answers: https://hackmd.io/@erikh/BkIOfjIN_/edit



| Time | Topic |
|----------------------|--|
| 09.00 - Lecture | Welcome and practical information. Introduction ELIXIR and NeLS (and DM) |
| 09.30 - Practical | Logging in finding the relevant urls, and finding the course data |
| 10.00 - Lecture | NeLS: Data transfer and organization |
| 10.20 - Practical | Transfer data to and from NeLS using web browser, FileZilla and command line |
| 10.50 - Coffee break | |
| 11.15 - Lecture | NeLS and Storebionfo - Projects and storage layers |
| 11.35 - Practical | Transfer of data between NeLS and SBI |
| 12.00 - Lunch | |
| 13.00 - Lecture | Introduction to usegalaxy.no and connection to NeLS |
| 13.30 - Practical | Logging in and data transfer between Galaxy and NeLS (both ways) |
| 14.00 - Lecture | Tools and workflows |
| 14.30 - Practical | Compose and run a simple workflow in usegalaxy.no |
| 15.00 - Lecture/Demo | Report issues and how to get help |
| 15.15 - Wrap up | Question and answers |



Introduction ELIXIR and NeLS

Erik Hjerde

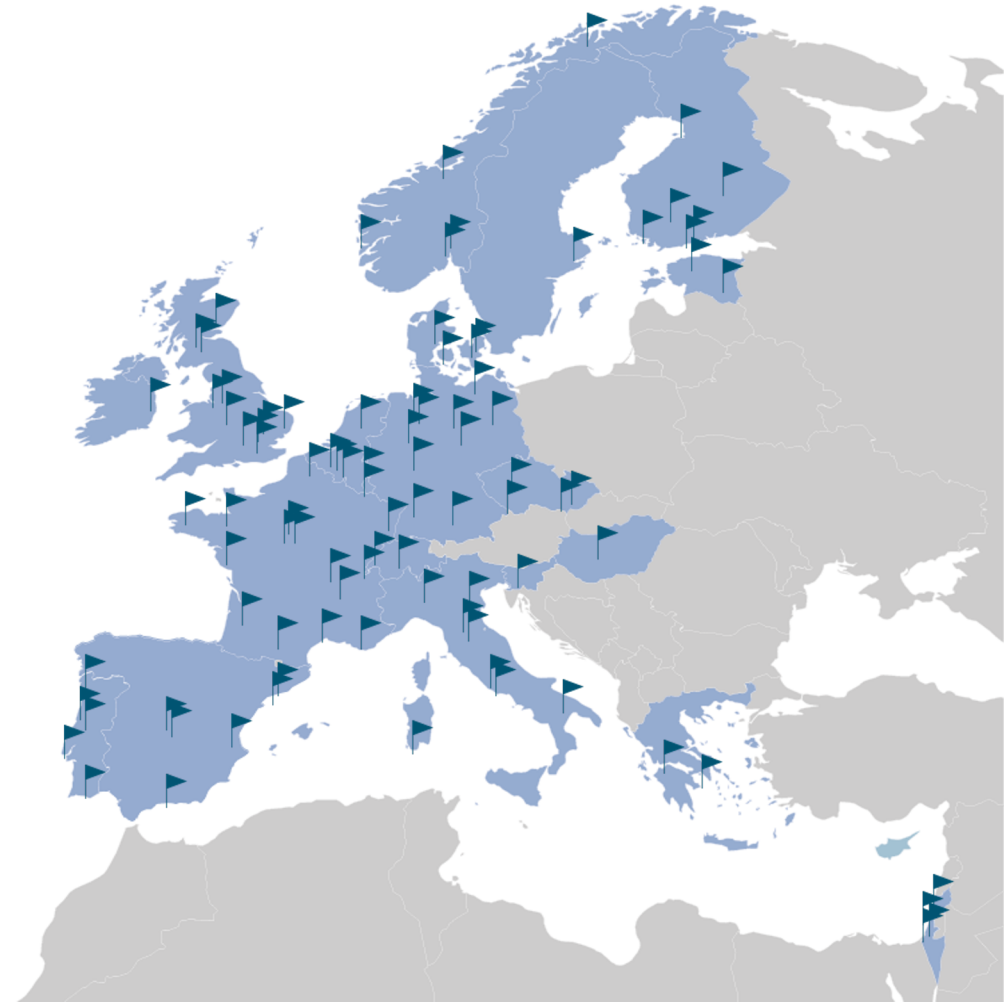
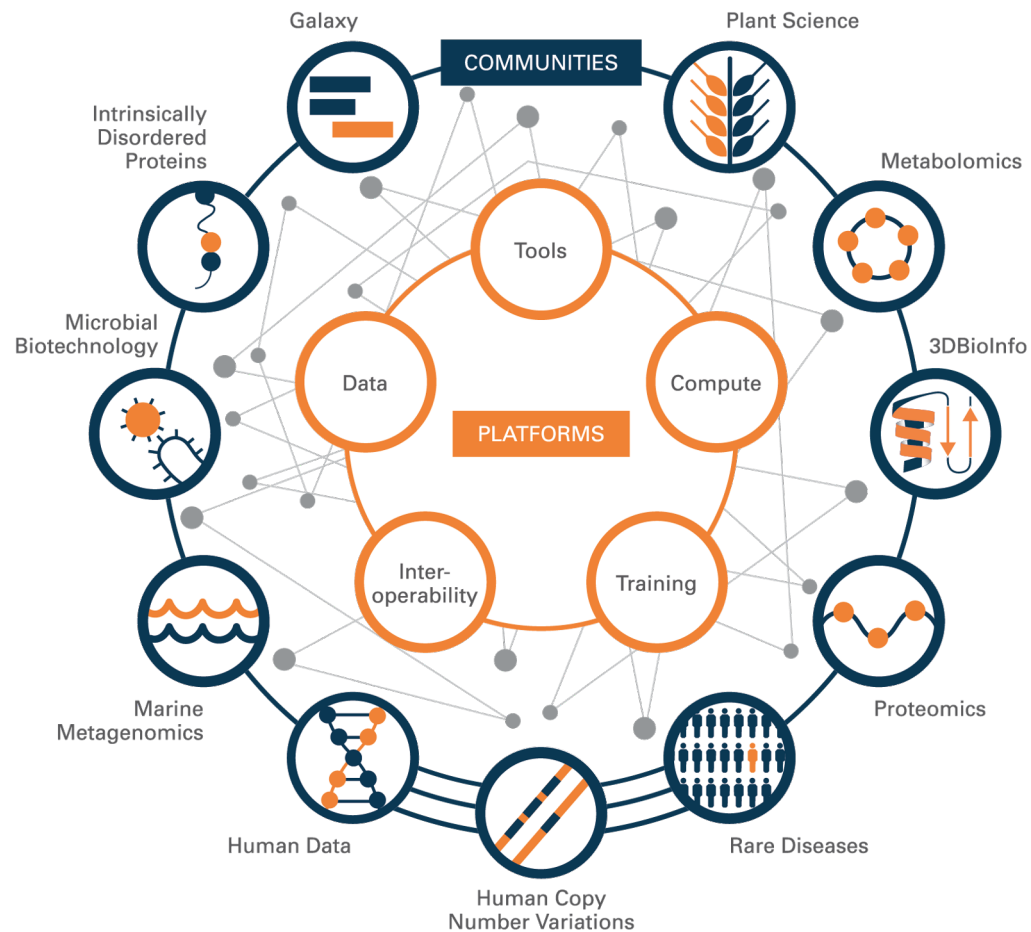
ELIXIR Norway, Norwegian e-infrastructure for Life Sciences and usegalaxy.no



ELIXIR - A distributed infrastructure for Life Science data

Coordinated work across multiple locations

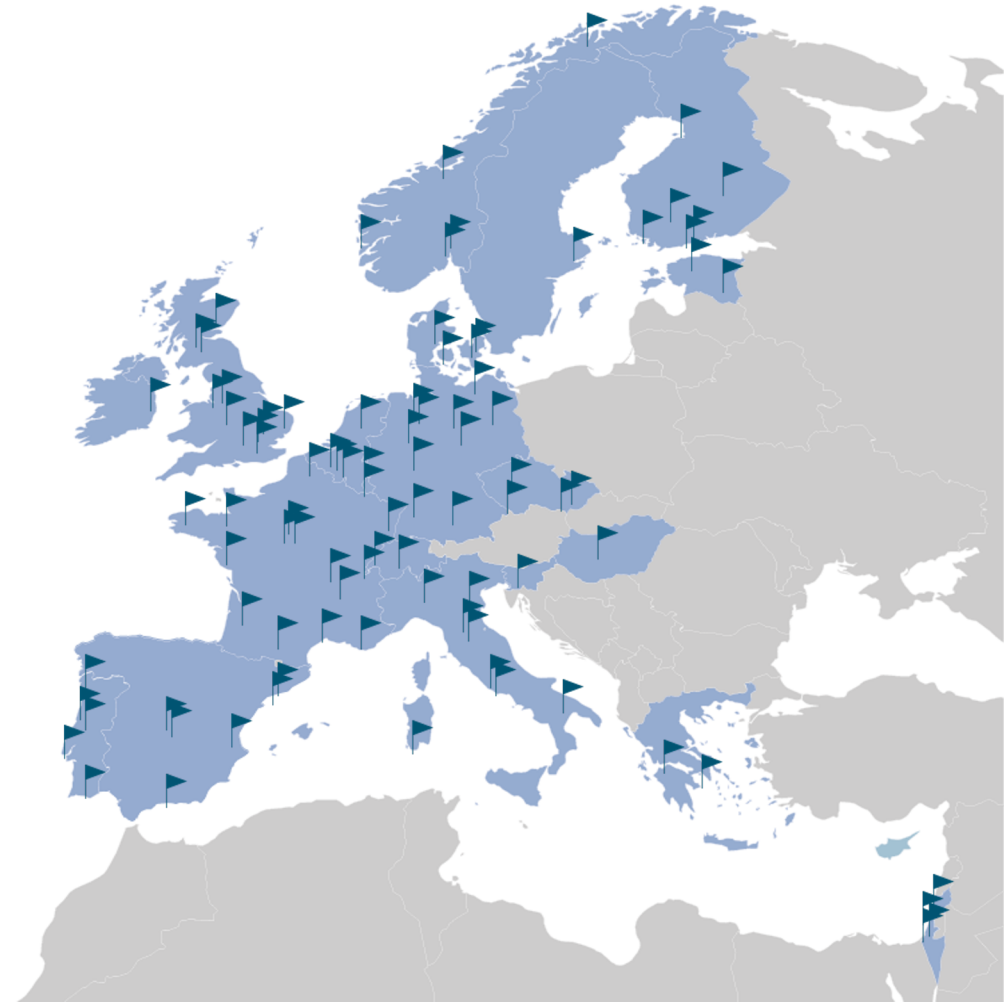
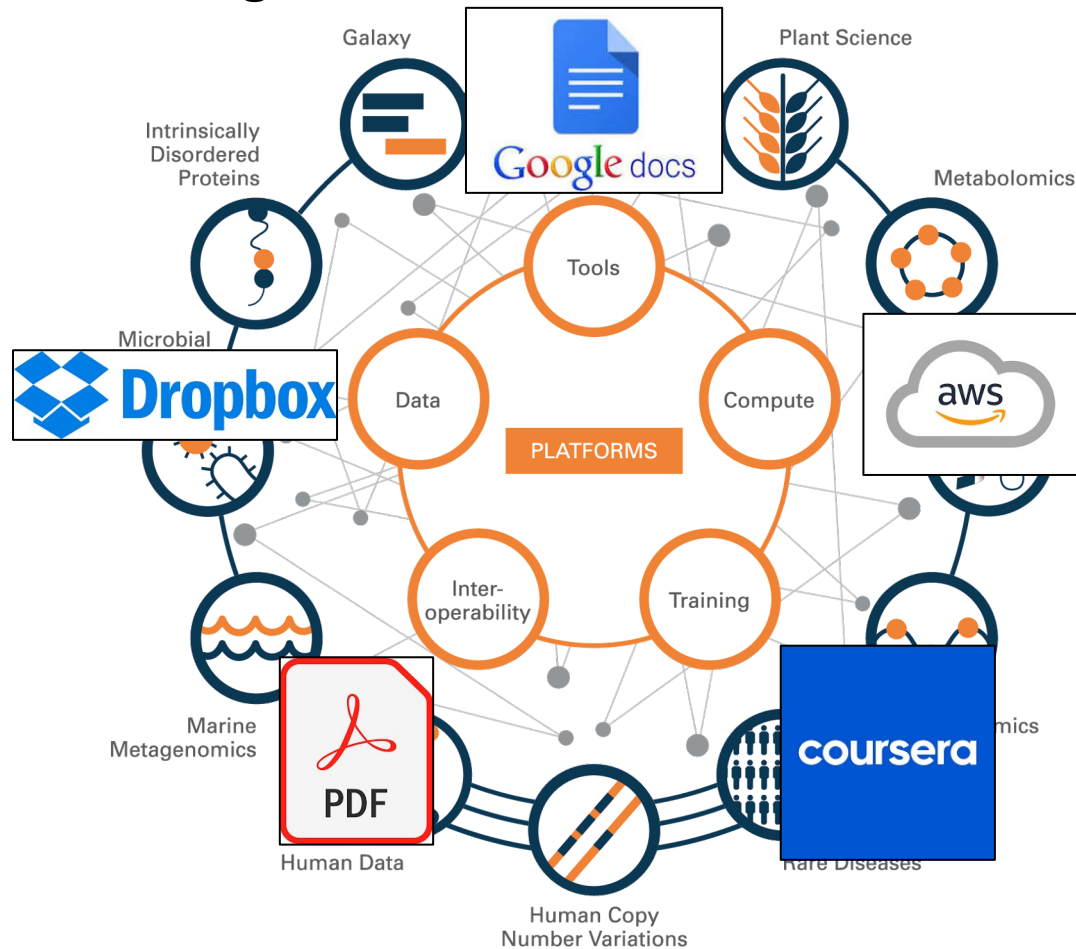
Work together to create common standards



ELIXIR - A distributed infrastructure for Life Science data

Coordinated work across multiple locations

Work together to create common standards



NeLS - Norwegian e-infrastructure for Life Sciences

- E-infrastructure provided to all Norwegian researchers within Life Sciences
 - From academia
 - From research institutes
 - From health regions
 - From private sector
- For non-sensitive data. (Elixir Norway also support projects in TSD for sensitive data.)
 - Compute resources and tools for data analysis
 - Multiple storage layers
 - Data Management
- Developed and operated by Elixir Norway, running on top of Elixir Norway servers as well as the generic storage services NIRD operated by Sigma2.
- User support provided by the Elixir Norway helpdesk



NeLS - Norwegian e-infrastructure for Life Sciences

= <https://nels.bioinfo.no> + <https://usegalaxy.no>

The screenshot displays the NeLS and Galaxy Norway web interface. The interface is split into several panels:

- NeLS Portal (Left):** Features a "Welcome!" message and a list of features: Federated login using FEIDE, Sharing of data, Bioinformatics pipelines, and API for integration. Below this is a "Help (Support)" section with contact information.
- Galaxy Norway Interface (Middle):** Shows a "Tools" sidebar with a search bar and a list of tools: Get Data, Send Data, Collection Operations, Lift-Over, Text Manipulation, Convert Formats, Filter and Sort, Join, Subtract and Group, Fetch Alignments/Sequences, Operate on Genomic Intervals, Statistics, Graph/Display Data, Phenotype Association, Interactive Tools, Mapping, SAM/BAM, Annotation, Assembly, Imaging, and ChemicalToolBox. The main content area displays a "Welcome to usegalaxy.no" message, a tweet from Sirarat Sarntivijai, and a "Galaxy version upgrade" notification.
- History Panel (Right):** Shows imported datasets, including "Homo_sap lens.GRCh38.102.gtf.gz" and "Homo_sap lens.GRCh38.dna.primary_assembly.fa uncompressed".

Access to storage and sharing of data in NeLS

Access to personal storage and projects

The screenshot displays the NeLS web interface with several overlapping panels. The top navigation bar includes 'NeLS', 'Dashboard', 'Personal', 'Projects', 'StoreBioInfo', and 'Help (Support)'. The user is identified as Erik Hjerde (NeLS ID :34).

NeLS Disk Usage: A line graph showing disk usage over time from 01-Sep-2016 to 01-May-2018. The usage starts at approximately 74.5 GB and fluctuates between 74.5 GB and 93.1 GB.

Account Information:

| | |
|-------------|----------------------|
| Full Name | Erik Hjerde |
| Email | erik.hjerde@uit.no |
| Affiliation | University of Tromsø |

My Data: A list of folders under the 'Personal' view:

- Bio3323
- ELIXIR2-WP4
- Matt
- metagenome
- Test2014

Projects: A table listing various projects with their names, roles, and creation dates.

| Project Name | Role in Project | Creation Date |
|--|---|--------------------|
| Elixir_NO-Documents A project for sharing Elixir.no related documents | Member Add files & folders, Navigate & Download | November 28, 2014 |
| Uio-Test-Project for demo | Member Add files & folders, Navigate & Download | March 19, 2015 |
| UIO_Halvorsen_RNAseq_Mouse_Spleen_T_cells_2018 RT#13277._____ Aim: To compare transcriptome of spleen T cells from WT mice and a transgenic mouse model. | Power User Manage File system: Add, Rename, Navigate, Download, Delete all Content | February 22, 2018 |
| Elixir_workshops Folder holding materials/data for Elixir workshops | Member Add files & folders, Navigate & Download | April 15, 2016 |
| UIB-Petersen_neuro_ma_regulation_disorder_2017 This is part of a larger consortium project, we are providing neuro samples RNA data (RNA-seq), for 100 cell lines cultivated in our lab at University of Bergen. | Power User Manage File system: Add, Rename, Navigate, Download, Delete all Content | May 11, 2017 |
| maseq-test-data Data, 12 samples, two groups, for testing updated maseq-pipeline | Power User Manage File system: Add, Rename, Navigate, Download, Delete all Content | September 11, 2017 |
| ELIXIR2-WP4 Collection of course data and documents | Power User Manage File system: Add, Rename, Navigate, Download, Delete all Content | November 8, 2017 |

Data Operations: A list of recent operations, all completed successfully:

- 5859 : NeLS >> StoreBioInfo
- 5858 : NeLS >> StoreBioInfo
- 5857 : NeLS >> StoreBioInfo
- 5856 : NeLS >> StoreBioInfo
- 5855 : NeLS >> StoreBioInfo
- 5854 : NeLS >> StoreBioInfo
- 5850 : NeLS >> StoreBioInfo

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Data management

Data management is a process that includes acquiring, storing, protecting, and processing data

ELIXIR promotes FAIR data

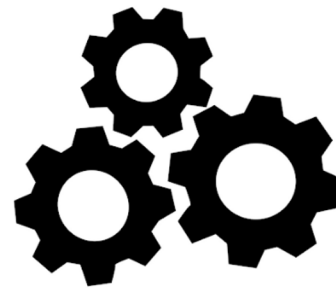
F
Findable



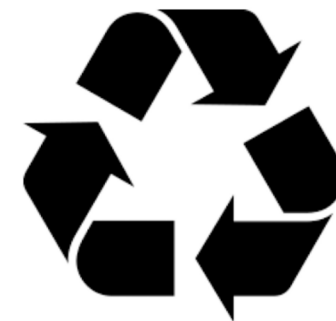
A
Accessible



I
Interoperable



R
Reusable



Data management planning

Data management planning is required for all grant applications
Important to capture metadata in all parts of the project

Sample collection



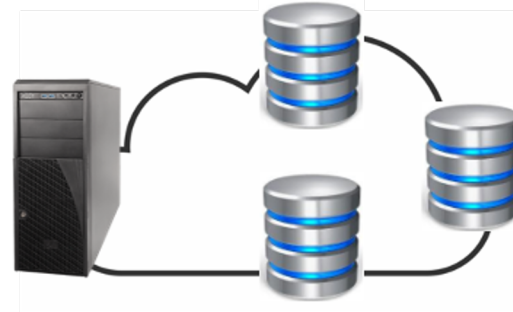
Data production



Data storage/sharing



Data processing



Data archiving



Data management

ELIXIR offers support in data management planning

Service and collaboration and support
Access to data, tools, compute & storage
Data management planning portal

Provide connection to other international
ELIXIR nodes
Training, courses and Hands-on workshops

Sample collection



Data production



Data storage/sharing



Data processing



Data archiving

