

Data Management in Digital Life Norway

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Digital Life Norway

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- DLN is aiming to generate a convergence of disciplines through a tight integration of life-sciences with informatics, mathematics, and engineering to strengthen research and innovation in biotechnology.



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Research Project 4

Research Project 3

Research Project 5

Research Project 2

Research Project 1

Research Project N

Thematic Work Groups
DLN
Network
team



DLN Scientific Advisory
Board



Anne-Claude Gavin- EMBL, Heidelberg, Germany



Peter Hunter- University of Auckland, New Zealand



Dominique Chu- University of Kent, United Kingdom



Vera van Noort- Katholieke Universiteit Leuven, Belgium

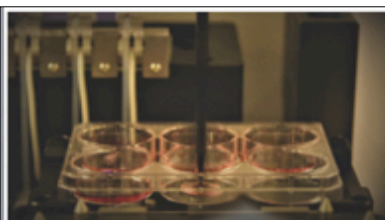


Ulrike Felt- University of Vienna, Austria

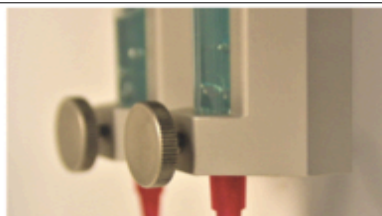


Rudi Balling- Luxemburg Centre for syst. Med., Luxemburg

Research projects in Digital Life Norway (DLN)



3DLife



AUROMEGA



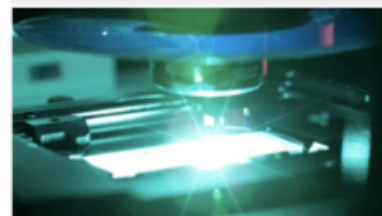
BioZEment 2.0



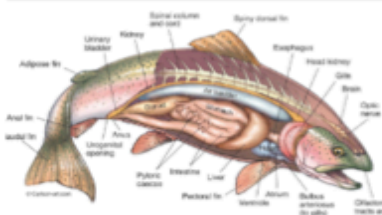
dCod 1.0



DigiBiotics



DigiBrain



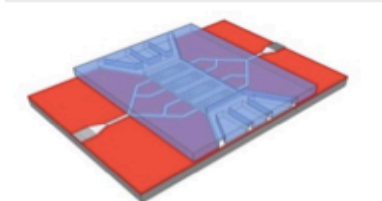
DigiSal



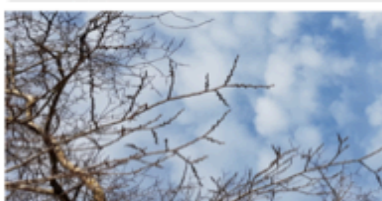
Double Intraperitoneal



INBioPharm



Lab-on-a-chip



OXYMOD



Res Publica



Decoding the systems toxicology of Atlantic cod

Researchers in dCod project, are in need for a solution for data storage and also standards for data.





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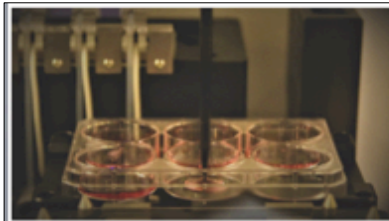


In INBioPharm project, high volume of datasets in different omics platforms were produced and there are challenges in data storage and integration.

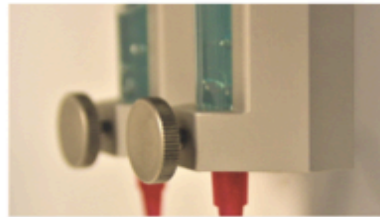


Alexander Wentzel
project leader of INBioPharm project

Research projects in Digital Life Norway (DLN)



3DLife

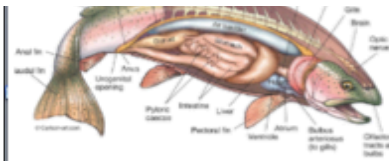


AUROMEGA



BioZement 2.0

Where do I keep my data? How do I share
my data? Which tools should be used to
deposit my data?



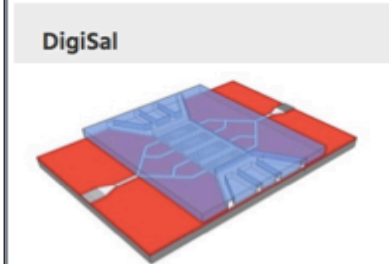
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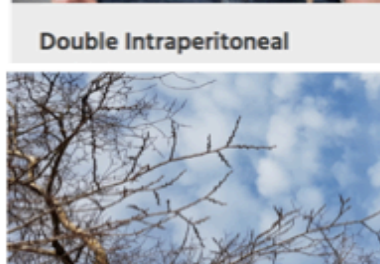
Double Intraperitoneal



INBioPharm



Lab-on-a-chip



OXYMOD



Res Publica

DLN can help research projects with DM

- The active use of Data Management (DM) according to the FAIR principles is promoted and supported in DLN.
- We work to identify and support well functioning systems, which can fit to most DLN projects including system biology, mathematical modelling and the storage of omics data.
- We arrange/offer workshops to help researchers gain new skills in DM.
- We are currently focusing on supporting the use of the SEEK and NeLS (Norwegian e-infrastructure for Life Sciences), platforms adapted towards systems biology and omics data, respectively.



Workshop – Getting your hands-on data management

26. MAY 2017



Workshop on Data management

14. MARCH 2017

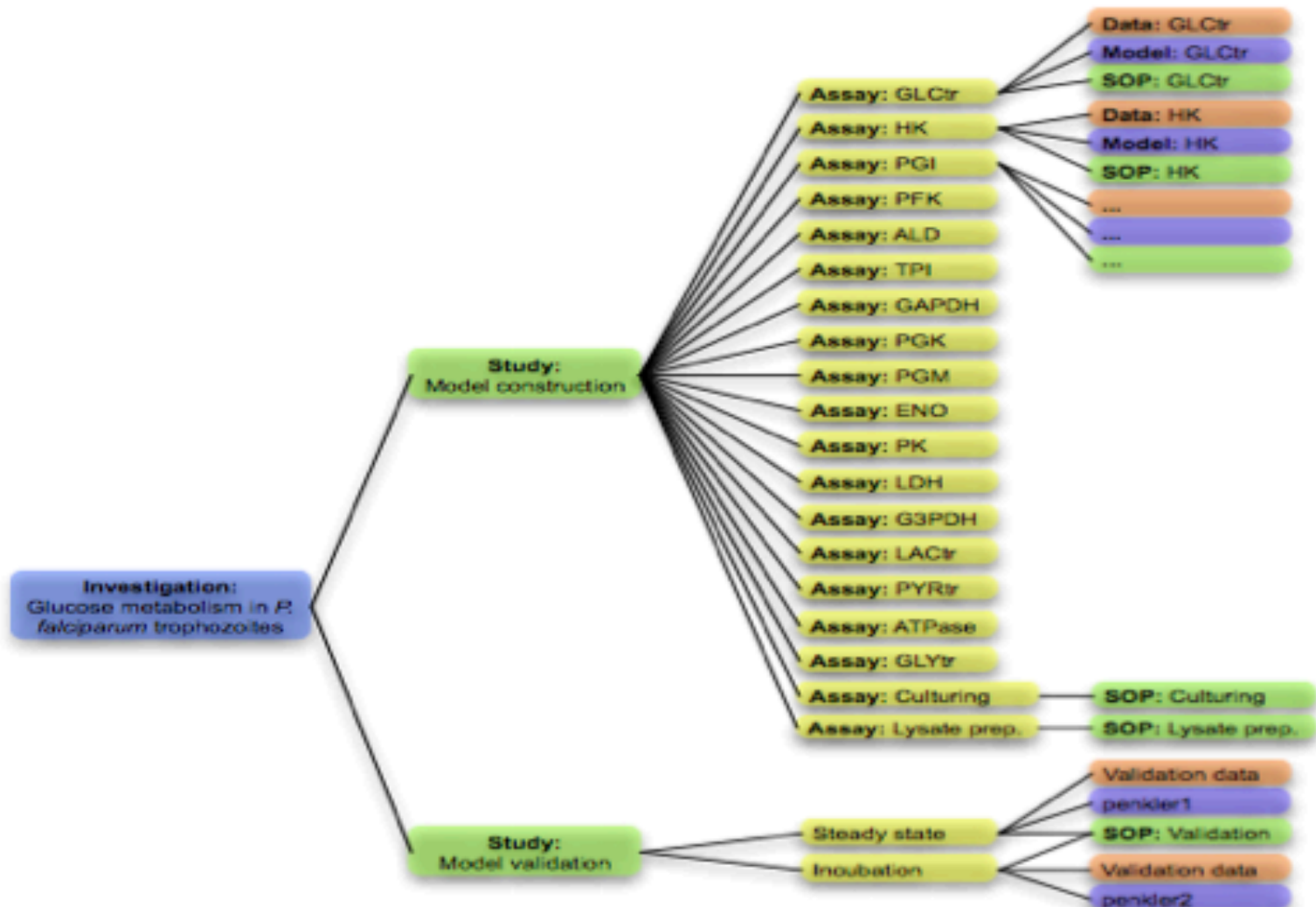


Findable
Accessible
Interoperable
Reusable

Data
Operating procedures
Models

- SEEK, is a web-based resource platform for managing and sharing scientific research datasets and models (in system biology) in project inside FAIRDOMHub.
- It is flexible in terms of the type of data stored. You can point to local data storage while keeping the metadata in SEEK.

SEEK is based on the ISA format: Investigation, Study, Assay



SEEK provides several tools to implement standards in DM



RightField



libSBML



CellDesigner.org





Online tools

▶ **NeLS-Portal** - NeLS (Norwegian e-Infrastructure for Life Sciences) portal is a Norwegian portal that provides data storage for life science researchers.

▶ **NeLS-Galaxy** - NeLS (Norwegian e-Infrastructure for Life Sciences) galaxies are the online tools to analyze data for life science researchers. There are total five different galaxy servers are running in Norway: **1. Galaxy at University of Bergen**, **2. Galaxy at University of Oslo**, **3. Galaxy at University of Tromsø**, **4. Galaxy at Norwegian University of Science and Technology**, **5. Galaxy at Norwegian University of Life Sciences**.

▶ **StoreBioInfo** - StoreBioInfo is a portal to safely store your data for years. [Click here](#) to know more about it.

NeLS-Portal
(Store data for analysis)

NeLS-Galaxy
(Online Analysis of NGS data)

Software

▶ **J-Express** - Application for processing, analysis and visualization of microarray data

▶ **Phyrex** - Program for reconstruction of continuous character trait values at nodes of phylogenetic trees

▶ **SciCraft** - Application for software and method integration

StoreBioInfo
(Store data for few years / free)

▶ **JSparklines** - Sparklines tables

contact@bioinfo.no

Links

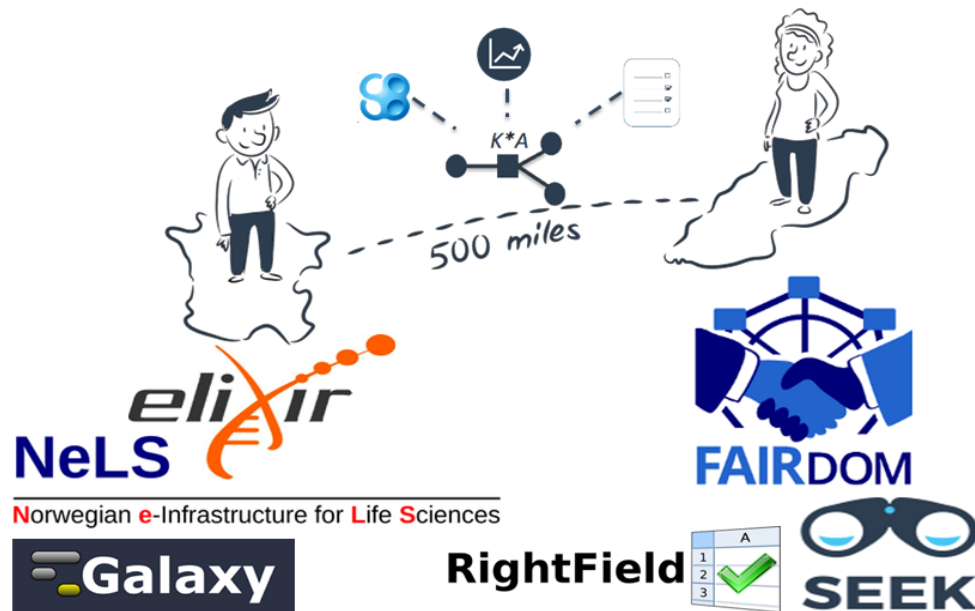
Links to collections of interesting tools:

▶ [Life Science Directory](#)

▶ [Bioinformatics Links](#)

Science Web Services

- DLN is currently developing an integration of the two platforms, which will facilitate:
 - long-term storage for users,
 - and solve issues of using omics data in system biology type projects.
- Norwegian users can store omics data in NeLS while keeping the metadata in SEEK.



Acknowledgement

Inge Jonassen

Rune Kleppe

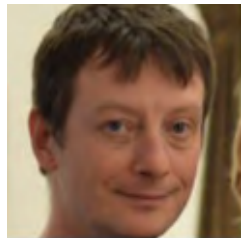
Thank you!



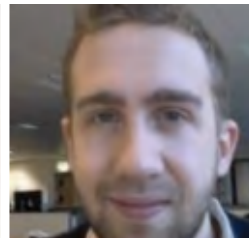
Kjell Petersen



Kidane M. Tekle



Stuart Owen



Finn Bacall