Helis Academy

Helis Academy - overview courses DTL

October 2021, Celia van Gelder DTL

Introduction & scope of this document

This document describes the Helis Academy Data Stewardship courses that have been developed by DTL and it is an appendix / linked to the Document "Helis DAS Curriculum - Summary Sept 2021" where more details (including the training gap analysis to identify the needs) about the Helis DAS Course Programme are given.

The first Helis FAIR data stewardship course was offered from May 27-29, 2019, in the Darwin Incubator in Niel, Belgium and the second edition took place from November 4-6, 2019 in Utrecht, the Netherlands. The courses introduced the trainees to important concepts of data stewardship. We introduced the data life cycle, the FAIR principles and data stewardship. Furthermore, we interactively presented the stages of the data life cycle in more detail. In 2021, an online, updated third edition was organised from March 17-31. Below more detailed information is given for all three editions.

FAIR data stewardship (for the life sciences) - 3th edition

Website: https://www.aanmelder.nl/fair-data-stewardship-2021
Course Coordinator: Mijke Jetten, mijke.jetten@dtls.nl

Helis Academy

Dates

The course exists of the following six half-days, that together form a full course:

- March 17, 2021 (13-17 CET)
- March 18 (13-17)
- March 22 (9-13)
- March 24 (9-13)
- March 29 (9-13)
- March 31 (9-13)

Number of participants: 31 participants & 3 observers

Location

Virtual (via Zoom)

Language

English

Target audience

This introductory course is for researchers, data stewards, and any others interested in the topic of FAIR data stewardship

Course description

During this course researchers, data stewards and experts of fields related to data stewardship will introduce you to several areas of research data management and technologies which ease the process of creating and maintaining FAIR research data.

The course will introduce the trainees to important concepts of data stewardship and the data steward competency framework. We start with a general introduction covering the data life cycle and the FAIR data principles.

Course topics

We will pass the stages of the data life cycle in more detail in the training modules of the course. The following topics will be discussed at an introductory level:

- Data stewardship competency framework & the FAIR data stewardship landscape
- (Reviewing) data management plans
- Informed consent procedures
- Data discovery and capturing data

- Preregistration
- Data security and privacy
- Infrastructure for storing and sharing data
- Tools for processing and analysing data
- Organising, versioning and documenting data
- Data and software carpentry
- Archiving data
- Data rights
- FAIR data
- Metadata & ontologies

Objectives

Gaining knowledge on:

- Data management life cycle
- FAIR data principles
- FAIR data stewardship

Required skills

There are no prior knowledge or programming skills needed.

Partners for this course

This course is part of the **Data Analysis and Stewardship** theme of Helis Academy and is organised by DTL and DTL collaborators. The partners in this Helis Academy theme are DTL, VIB, TU/e and Maastricht University and info about other courses in the theme of Data Analysis and Stewardship can be found on the Helis Academy website and on the Helis Academy page on the DTL website.

Courses in the other 5 themes of Helis Academy can be found via the Helis Academy website

Detailed Course programme

17 March 2021

12:45 - 13:00
Informal coffee/tea

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13:00 - 13:15
Welcome and introduction (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4629718

13:15 - 13:35
FAIR data stewardship landscape (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4629718

13:35 - 14:05
Institute requirements (**Paula Jansen**, University Medical Center Utrecht)

https://doi.org/10.5281/zenodo.4696049

14:05 - 14:25
Funder requirements (**Margreet Bloemers**, ZonMw)

https://doi.org/10.5281/zenodo.4629757

14:25 - 14:45
Publisher requirements (**Egon Willighagen**, Maastricht University)

https://doi.org/10.5281/zenodo.4629784

14:45 - 15:00
Break

15:00 - 16:10
(Reviewing) data management plans (**Esther Plomp**, Delft University of Technology)

https://doi.org/10.5281/zenodo.4610033

16:10 - 16:25
Wrap up (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4629718

18 March 2021

12:45 - 13:00
Informal coffee/tea

13:00 - 13:15
Welcome and introduction (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4629823

13:15 - 13:45
Informed consent procedures (**Elize Vlainic**, Amsterdam University Medical Centers)

https://doi.org/10.5281/zenodo.4629867

13:45 - 14:15
Finding and capturing data (**Martijn Kersloot**, Castor EDC/Amsterdam University Medical Centers)

https://doi.org/10.5281/zenodo.4629901

14:15 - 14:45
Finding and capturing data (**Rita Azevedo & Jeroen Beliën,** Health-RI)

https://doi.org/10.5281/zenodo.4631019

14:45 - 15:00
Break

15:00 - 15:40
Data security and privacy (**Erik Flikkenschild**, Leiden University Medical Center)

https://doi.org/10.5281/zenodo.4630130

15:40 - 16:20
Infrastructure for storing and sharing data (**Brett Olivier**, Vrije Universiteit Amsterdam, and **Sara Ramezani,** SURF)

https://doi.org/10.5281/zenodo.4631192

16:20 - 16:45
Tools for processing and analysing data (**Koen ten Hove**, Radboud University Medical Center)

https://doi.org/10.5281/zenodo.4631080

16:45 - 17:00
Wrap up (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4629823

22 March 2021

08:45 - 09:00
Informal coffee/tea

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09:00 - 09:15
Welcome and introduction (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4631412

09:15 - 10:45
Organising and documenting data with Electronic Lab Notebooks (**Hanne Vlietinck and Robbe Breugelmans**, Hasselt University, **Jonas Delva**, Ghent University, and Nicolas Carpi, ELabFTW/Deltablot)

https://doi.org/10.5281/zenodo.4647552

10:45 - 11:00
Break

11:00 - 12:45
Software carpentry (**Sander Bosch**, Vrije Universiteit Amsterdam)

https://doi.org/10.5281/zenodo.4631522

12:45 - 13:00
Wrap up (**Mijke Jetten,** Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4631412

24 March 2021

08:45 - 09:00
Informal coffee/tea

09:00 - 09:15
Welcome and introduction (**Mijke Jetten,** Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4639107

09:15 - 10:45
Software carpentry (**Heather Andrews,** Delft University of Technology)

https://doi.org/10.5281/zenodo.4639020

10:45 - 11:00
Break

11:00 - 12:45
Data carpentry (**Santosh Ilamparuthi,** Delft University of Technology)

https://doi.org/10.5281/zenodo.4641114

12:45 - 13:00
Wrap up (**Mijke Jetten,** Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4639107

29 March 2021

08:45 - 09:00
Informal coffee/tea

09:00 - 09:15
Welcome and introduction (**Mijke Jetten,** Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4647683

09:15 - 10:45
Archiving data (**Cees Hof**, DANS)

https://doi.org/10.5281/zenodo.4666287

10:45 - 11:00
Break

11:00 - 12:45
Data rights (**Dietmar Hertsen**, NLO/European Patent and Trademark Attorneys)

12:45 - 13:15
Preregistration (**Sjoerd Bruijn**, Vrije Universiteit Amsterdam)

https://doi.org/10.5281/zenodo.4647641

13:15 - 13:30
Wrap up (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4647683

31 March 2021

08:45 - 09:00
Informal coffee/tea

09:00 - 09:15
Welcome and introduction (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4696944

09:15 - 10:55
FAIR data (**Mischa Barthel**, University of Applied Sciences Leiden, and **Nikola Vasiljevic**, Technical University of Denmark)

https://doi.org/10.5281/zenodo.4648062

10:55 - 11:10
Break

11:10 - 12:45
Metadata and ontologies (**Nikola Vasiljevic,** Technical University of Denmark, and **Rajaram Kaliyaperumal,** Leiden University Medical Center)

https://doi.org/10.5281/zenodo.4647975 https://doi.org/10.5281/zenodo.4697037

12:45 - 13:00
Wrap up (**Mijke Jetten**, Dutch Techcentre for Life Sciences)

https://doi.org/10.5281/zenodo.4696944

FAIR data stewardship (for the life sciences) - 2th edition

Website: https://www.aanmelder.nl/data-stewardship-course
Course Coordinator: Christine Staiger (at that time working with DTL)

- Date start: Monday November 4th 2019 (9am CET)
- Date end: Wednesday November 6th 2019 (4pm CET)
- Location: **Buys Ballot Building, BBG119, Utrecht University, The Netherlands**

Number of participants: 25 (Note: due to the size of the venue and the availability of trainers the number of participants had to be limited to 25)

Course description

Helis Academy

Did you ever wonder how to improve your data handling in your daily research practice? Are you thinking of a career change or starting a career as a data steward in the life sciences in academia or industry?

Join this introductory course to FAIR data stewardship in the life sciences!

During this three day course researchers, data stewards and experts of related fields to data stewardship will introduce you to several areas of research data management and technologies which ease the process of creating and maintaining FAIR research data.

The course will introduce the trainees to important concepts of data stewardship. We start with a general introduction covering the data life cycle, the FAIR principles and a definition of data stewardship.

We will pass the stages of the data life cycle in more detail in the training modules of this 3 day course.

- **Module 1: Why use a data management plan and what for?** On day one trainees will investigate data management plans, which types are there and how they should be used.

- **Module 2: Mastering the data chaos during the research phase.** On day two the course highlights how to work with data during the research phase, explaining how to create well formatted data which helps in the second module of day two to make data interoperable already during the active research phase.

- **Module 3: Boost your visibility and get cited for your data!** On day three trainees will have an in-depth at persistent identifiers, different use cases and types of identifiers. Finally we are closing the data life cycle by making data fit for sharing, archiving and publishing.

The full program of the course can be found under the *Course Programme* Tab. The training is organised by DTL and delivered as a joint effort by DTL partners.

Target audience

Helis Academy

The course targets all researchers from the life sciences. There is no prior knowledge or programming skills needed. However, participants will be exposed to technology and some mild programming in some demonstrations.

Objectives

Gaining knowledge on:

- Research data management Life Cycle
- FAIR principles
- FAIR data stewardship

Practical experience in:

- Data management planning
- Cleaning data (Step 1 of making data FAIR)
- Semantic interoperability between data
- Archiving and publishing of data
- Persistent identifiers and their use cases

Required skills

There is no prior knowledge or programming skills needed.

Some basic experience with programming and scripting languages like python, perl, R, matlab, etc. are an advantage, but not needed.

Required software

Please bring your own laptop. For day 1 and 3 you will need a web browser. Day 2 requires to install some software:

- Docker: https://docs.docker.com/install/
- Docker-compose: https://docs.docker.com/compose/install/
- validating RDF: http://book.validatingrdf.com/
- And as a recommended text editor: https://www.sublimetext.com/

Further preparatory instructions for day 2 will follow shortly before the course starts.

Trainers (name, affiliation)

- Jasmin Boehmer, UMCU Bioinformatics Expertise Core, Center for Molecular Medicine, University Medical Center Utrecht

- Cees Hof, DANS
- Celia van Gelder, Dutch Techcentre for Life Sciences
- Christine Staiger, Dutch Techcentre for Life Sciences
- Santosh Ilamparuthi, Faculty of Electrical Engineering, Mathematics and Computer Science, TU Delft
- Andra Waagmeester, Owner of Micelio
- Frederieke Ehrhart, Department of Bioinformatics NUTRIM School of Nutrition and Translational Research in Metabolism Faculty of Health, Medicine and Life Sciences, Maastricht University

Partners for this course

This course is part of the **Data Analysis and Stewardship** theme of Helis Academy and is organised by DTL and DTL collaborators. The partners in this Helis Academy theme are: DTL, VIB, TU/e and Maastricht University and info about other courses in the theme of Data Analysis and Stewardship can be found on the Helis Academy website and on the Helis Academy page on the DTL website.

Courses in the other 5 themes of Helis Academy can be found via the Helis Academy website

Course programme

04 November 2019

09:00 - 09:30
Arrival & Coffee

09:30 - 10:15
Welcome and Introduction FAIR Data Stewardship

 (**Celia van Gelder** & **Christine Staiger**, DTL)

Slides: https://doi.org/10.5281/zenodo.2585691

10:15 - 12:00
Data Management plans

Slides: https://doi.org/10.5281/zenodo.3167795

Santosh Ilamparuthi (TU Delft), **Jasmin Bohmer** (UMCU)

12:00 - 13:00
Lunch

13:00 - 14:00
Data Management plans

Santosh Ilamparuthi, Jasmin Böhmer

14:00 - 14:30
Coffee

14:30 - 17:30
Data Carpentry

Mateusz Kuzak

Material: https://doi.org/10.5281/zenodo.570047

https://doi.org/10.5281/zenodo.570048

19:00
Dinner (self-paid)

05 November 2019

09:00 - 09:30
Arrival & Coffee

09:30 - 10:30
An introduction to the role of experimental data in Intellectual Property (**Ben Brigou** (NLO))

Slides: https://doi.org/10.5281/zenodo.3238325

10:30 - 10:45
Coffee

10:45 - 12:30
FAIRify your data

(**Andra Waagmeester** (Micelio), **Friederike Ehrhart** (Maastricht University))

https://doi.org/10.5281/zenodo.3238328

12:30 - 13:30
Lunch

13:30 - 16:00
FAIRify your data

(**Andra Waagmeester** (Micelio), **Friederike Ehrhart (**Maastricht University))

https://doi.org/10.5281/zenodo.3238328

16:00 - 17:00
Data management: Question and answer session

19:00
Dinner (self-paid)

06 November 2019

09:00 - 09:30
Arrival & Coffee

09:30 - 11:30
An introduction to Persistent identifiers and demonstration

(**Christine Staiger,** DTL)

Slides: https://doi.org/10.5281/zenodo.3539188

Hands-on material

11:30 - 12:30
Data sharing, publishing and archiving

(**Cees Hof, Jasmin Böhmer, Christine Staiger**)

Slides: https://doi.org/10.5281/zenodo.3257174

12:30 - 13:30
Lunch

13:30 - 15:00
Data sharing, publishing and archiving

(**Cees Hof, Jasmin Böhmer, Christine Staiger**)

Slides: https://doi.org/10.5281/zenodo.3257174

15:00 - 15:30
Evaluation and Wrap-up

FAIR data stewardship (for the life sciences) - 1st edition

Website: https://www.aanmelder.nl/helis-fair-data-stewardship-course
Course Coordinator: Christine Staiger (at that time working with DTL)

- Date start: Monday May 27th 2019 (12 CET)
- Date end: Wednesday May 29th 2019 (16 CET)
- Location: Darwin Incubator, Galileilaan 15, 2845 Niel, Belgium

Number of participants: 10
Notes:

1. due to the size of the venue the number of participants had to be limited
2. Using this venue for the first edition was a requirement from the Provincie of Antwerp.

Digital data scholarship for wetlab scientists

Target audience

Wet-lab scientists - from industry and academia - and graduate students in the Life Sciences who wish to improve their digital scholarship on data handling. Some basic experience with programming and scripting languages like python, perl, R, matlab, etc. are an advantage, but not needed. The course is also relevant for Data Stewards who have to support Life Science Researchers.

Course description

Helis Academy

The course will introduce the trainees to important concepts of data stewardship. We start with a general introduction covering the data life cycle, the FAIR principles and a definition of data stewardship and data stewards.

We will pass the stages of the data life cycle in more detail in the training modules of this 3 day course.

- **Day 1: Why use a datamanagement plan and what for?** On day one trainees will investigate data management plans, which types are there and how they should be used.

- **Day 2: Mastering the data chaos during the research phase.** On day two the course highlights how to work with data during the research phase, explaining how to create well formatted data which helps in the second module of day two to make data interoperable already during the active research phase.

- **Day 3: Boost your visibility and get cited for your data!** On day three trainees will have an in-depth at persistent identifiers, different use cases and types of identifiers. Finally we are closing the data life cycle by making data fit for sharing, archiving and publishing. The training is organised by DTL and delivered as a joint effort by DTL partners.

Objectives

Gaining knowledge on:

- Research data management Life Cycle
- FAIR principles
- FAIR data stewardship

Practical experience in:

- Data management planning
- Cleaning data (Step 1 of making data FAIR)
- Semantic interoperability between data
- Archiving and publishing of data
- Persistent identifiers and their use cases

Required skills

Some basic experience with programming and scripting languages like python, perl, R, matlab, etc. are an advantage, but not needed.

Required software

Please bring your own laptop. For day 1 and 3 you will need a web browser. Day 2 requires to install some software:

- Docker: https://docs.docker.com/install/
- Docker-compose: https://docs.docker.com/compose/install/
- validating RDF: http://book.validatingrdf.com/
- And as a recommended text editor: https://www.sublimetext.com/

Further preparatory instructions for day 2 will follow shortly before the course starts.

Trainers (name, affiliation)

- Jasmin Boehmer, UMCU Bioinformatics Expertise Core, Center for Molecular Medicine, University Medical Center Utrecht
- Cees Hof, DANS
- Celia van Gelder, Dutch Techcentre for Life Sciences
- Christine Staiger, Dutch Techcentre for Life Sciences
- Santosh Ilamparuthi, Faculty of Electrical Engineering, Mathematics and Computer Science, TU Delft
- Esther Plomp, Faculty of Applied Sciences, TU Delft
- Andra Waagmeester, Owner of Micelio
- Frederieke Ehrhart, Department of Bioinformatics NUTRIM School of Nutrition and Translational Research in Metabolism Faculty of Health, Medicine and Life Sciences, Maastricht University

Partners for this course

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Course programme

Helis Academy

27 May 2019

12:00 - 13:00
Arrival & lunch

13:00 - 13:45
Welcome and Introduction FAIR Data Stewardship

 (**Celia van Gelder & Christine Staiger**, DTL)

Slides: https://doi.org/10.5281/zenodo.2585691

13:45 - 14:45
An introduction to the role of experimental data in Intellectual Property (**Ben Brigou** (NLO))

Slides: https://doi.org/10.5281/zenodo.3238325

14:45 - 15:00
Coffee

15:00 - 18:00
Data Management plans

(**Esther Plomp** (TUD), **Santosh Ilamparuthi** (TUD))

Slides: https://doi.org/10.5281/zenodo.3167795

28 May 2019

09:00 - 09:15
Arrival & Coffee

09:15 - 12:30
Data Carpentry

(**Mateusz Kuzak**, DTL)

Material: https://doi.org/10.5281/zenodo.570047

https://doi.org/10.5281/zenodo.570048

12:30 - 13:30
Lunch

13:30 - 18:00
FAIRify your data

Helis Academy

(**Andra Waagmeester** (Micelio), **Friederike Ehrhar**t (Maastricht University))

Slides: https://doi.org/10.5281/zenodo.3238328

29 May 2019

09:00 - 09:15
Arrival & Coffee

09:15 - 10:45
Persistent identifiers

(**Christine Staiger,** DTL)

Slides: https://doi.org/10.5281/zenodo.3238331

10:45 - 11:15
Coffee

11:30 - 12:30
Data sharing, publishing and archiving

(**Cees Hof** (DANS), **Jasmin Boehmer** (UMCU))

12:30 - 13:30
Lunch

13:30 - 15:00
Data sharing, publishing and archiving

(**Cees Hof, Jasmin Boehmer**)

Slides: https://doi.org/10.5281/zenodo.3257174

15:00 - 16:00
Buffer and Wrap up