History of the FAIR Guiding Principles

Erik Schultes, Barbara Magagna, Andrea Tarallo

27 November 2024

IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-Mission 4 “Education and Research” - Component 2: “From research to business” - Investment 3.1: “Fund for the realisation of an integrated system of research and innovation infrastructures”

Finanziato dall'Unione europea NextGenerationEU
Ministero dell’Università e della Ricerca
Italiadomani

GO FAIR Foundation‘s Capacity Building Programme (GFF CPB)

13:20-13:40
(Barbara)

GFF Three-Point FAIRification Framework (3PFF)

FAIR awareness

Understanding FAIR Principles and their relevance for research data

FIP Introduction

FIP consultation

FAIR convergence

FIP
Selecting FAIR Enabling Resources to implement FAIR data
by creating FAIR Implementation Profiles

M4M schema

M4M vocabulary

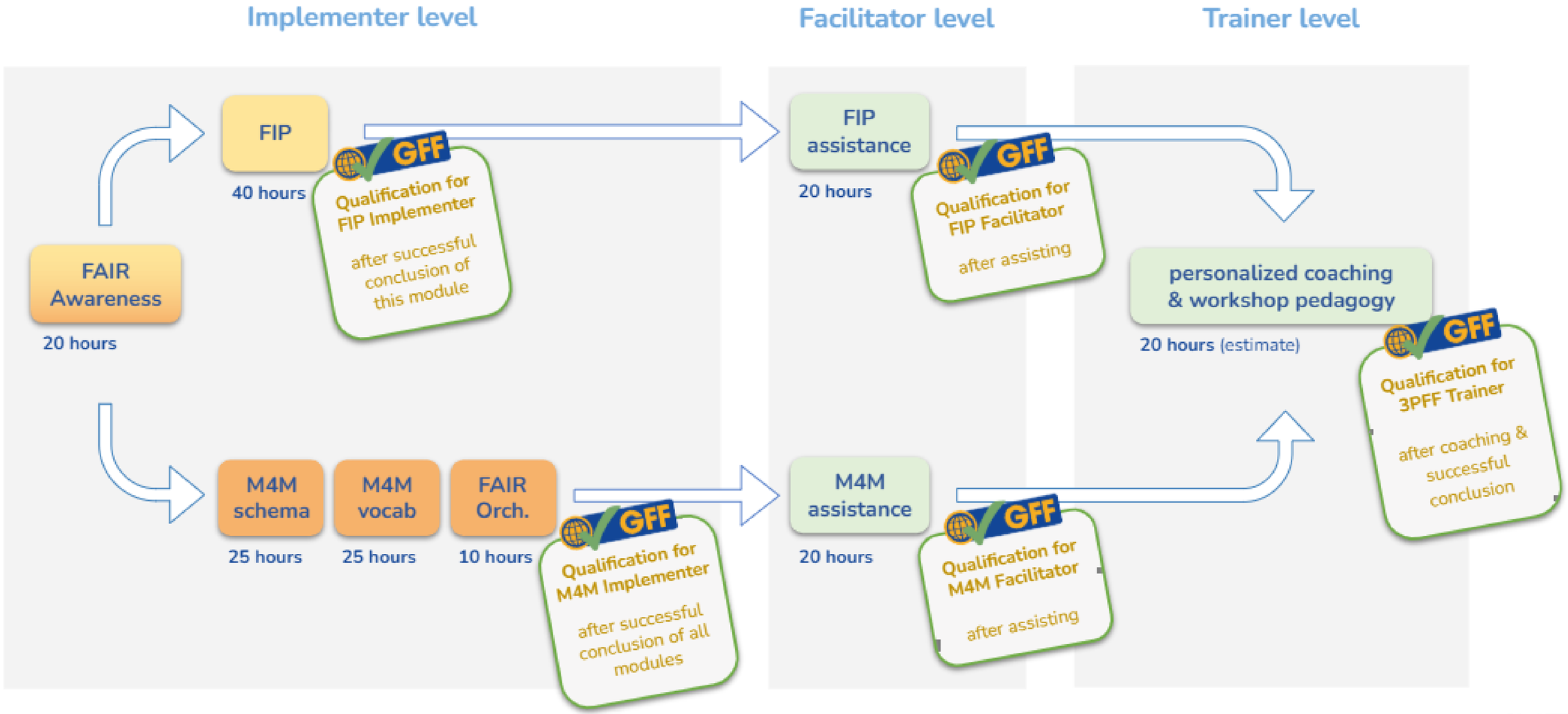
M4M applied

M4M
Creating FAIR Enabling Resources to implement FAIR data
with a special focus in domain relevant machine-actionable metadata

FO

FO
Deploying FAIR Supporting Resources to implement FAIR data
using FAIR Orchestration services

GFF Capacity Building Programme



Student Learning Outcomes Implementer level

FAIR Awareness:

- *Be able to explain* the FAIR Principles → GFF Interpretations → Implementation considerations
- *Be knowledgeable* about history and purpose of the FAIR Principles (and the GFF)
- *Be knowledgeable* about the 3PFF and the FAIR Hourglass
- *Be aware* of automated FAIR assessment tools
- *Be aware* of how FAIR fits into Data Management and Data Stewardship
- *Be aware* of good implementation examples including repositories (as well as examples of “Fake FAIR”)
- *Understand* how to prioritize FAIRimplementations in project proposals, roadmapping.

Student Learning Outcomes Implementer level

FAIR Implementation Profile (FIP):

Unterstand:

- The FIP Ontology
- Nanopublications
- FAIR Supporting Resources and FAIR Implementation Communities

Be able to:

- *Use* nanopublications in FIP/SIP Wizard and nanodash
- *Qualify* FAIR Supporting Resoures

Student Learning Outcomes Facilitator level

FAIR Implementation Profile (FIP):

Unterstand:

- The FIP Ontology
- Nanopublications
- FAIR Supporting Resources and FAIR Implementation Communities

Be able to:

- *Use* nanopublications in FIP/SIP Wizard and nanodash
- *Qualify* FAIR Supporting Resoures
- *Guide* through the FIP/SIP Wizard
- *Answer* FAIR Principles related questions
- *Understand* the different levels of convergence
- *Analyze* FIP results and produce a FIP matrix

Student Learning Outcomes Implementer level

Metadata for Machines (M4M):

- Be aware of existing semantic artifacts for the objects and predicates in the metadata schema
- Be able to build a metadata schema in different environments (CEDAR, DSW, nanopub)
- Be able to understand the concept FAIR Orchestration and give an overview of emerging tools
- Be knowledgeable about how FAIR Data Points and FAIR Data Stations

Student Learning Outcomes Facilitator level

Metadata for Machines (M4M):

- Be aware of existing semantic artifacts for the objects and predicates in the metadata schema
- Be able to build a metadata schema in different environments (CEDAR, DSW, nanopub)
- Be able to understand the concept FAIR Orchestration and give an overview of emerging tools
- Be knowledgeable about how FAIR Data Points and FAIR Data Stations
- Be able to explain the difference between metadata vs FAIR metadata
- Be able to facilitate a collaborative development of metadata schemas and vocabularies for a community

Trainer Qualification

- Passed exam for FIP
- Passed exam for M4M
- Assisted in FIP training events
- Assisted in M4M training events
- Got 1:1 coaching by GFF trainers

Training Methods

- GO FAIR wiki for implementers, facilitators and trainers
- e-Learning Platform (videos, tests)
- In Person training events
- Online training events
- Hands-on using online services
- Hackathons
- Q&A sessions
- Via Fellowship

Training media

- **ITINERIS:**
  A resource that links out to all other resources for the ITINERIS group

- **Open Science Framework projects** *(open-access):*
  A resource that links out to all other resources and includes presentations, recordings, links to minutes, links to the other platforms

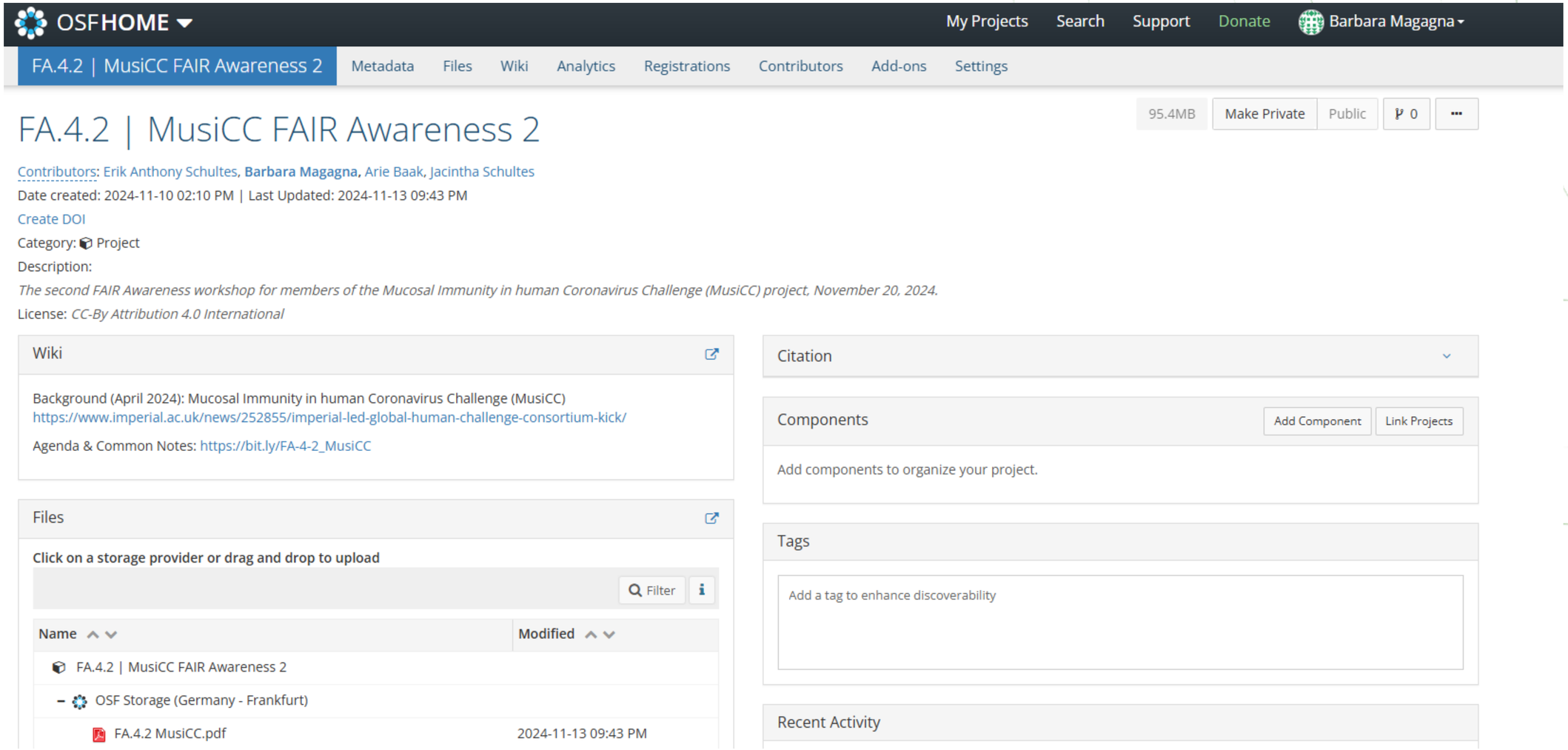
- Module specific **Wikis** *(one time fee)* with GitHub account:
  include step-by-step guidelines

- **GO FAIR Wiki** (open-access):
  Stay tuned via published news

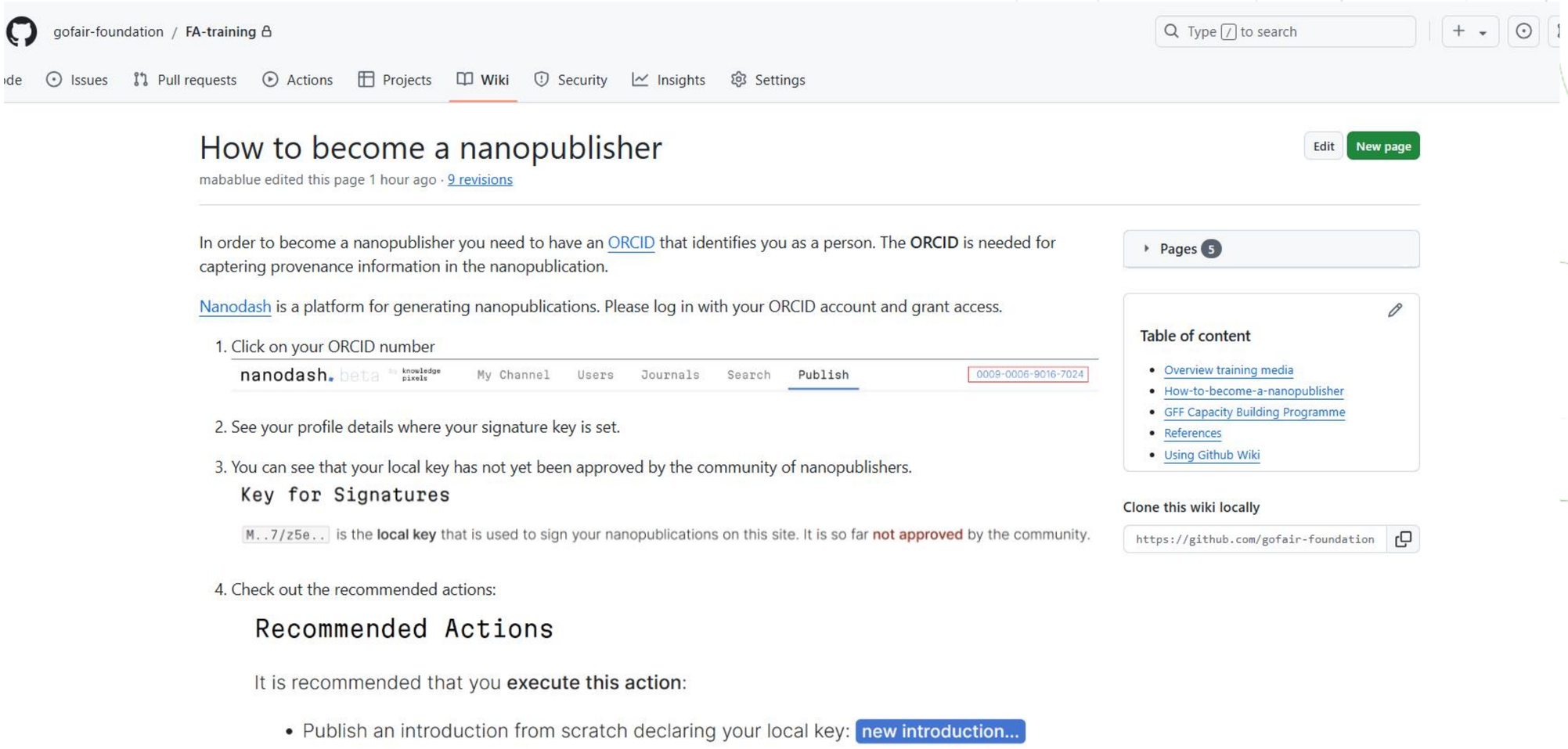
- **Mattermost** (open-access, by invitation):
  enables interactions with other trainees

- **E-learning platform** (annual fee; available as of January 2025)
  self-learning environment organized in modules with training videos and quizzes

Open Science Framework (OSF)



Training Wikis:
(e.g. https://github.com/gofair-foundation/FA-training)



GO FAIR Foundation Wiki

Home FIP Guide News FAIR Connect Contributing About

Website Email Github LinkedIn

Wiki

This GO FAIR **wiki** is an effort to bring together past, current and future individual documentation efforts into one comprehensive resource. This website is still **under construction**. This wiki and all of its content are maintained by the GO FAIR Foundation. The source files of this website can be found on Github.

Latest news | All news

Oct 30, 2024
Norbert van Dijk

LIFES Network Meeting

See event published here on linkedIn for details.

Oct 14, 2024
Barbara Magagna

The I-ADOPT Variable Modeling Challenge 2

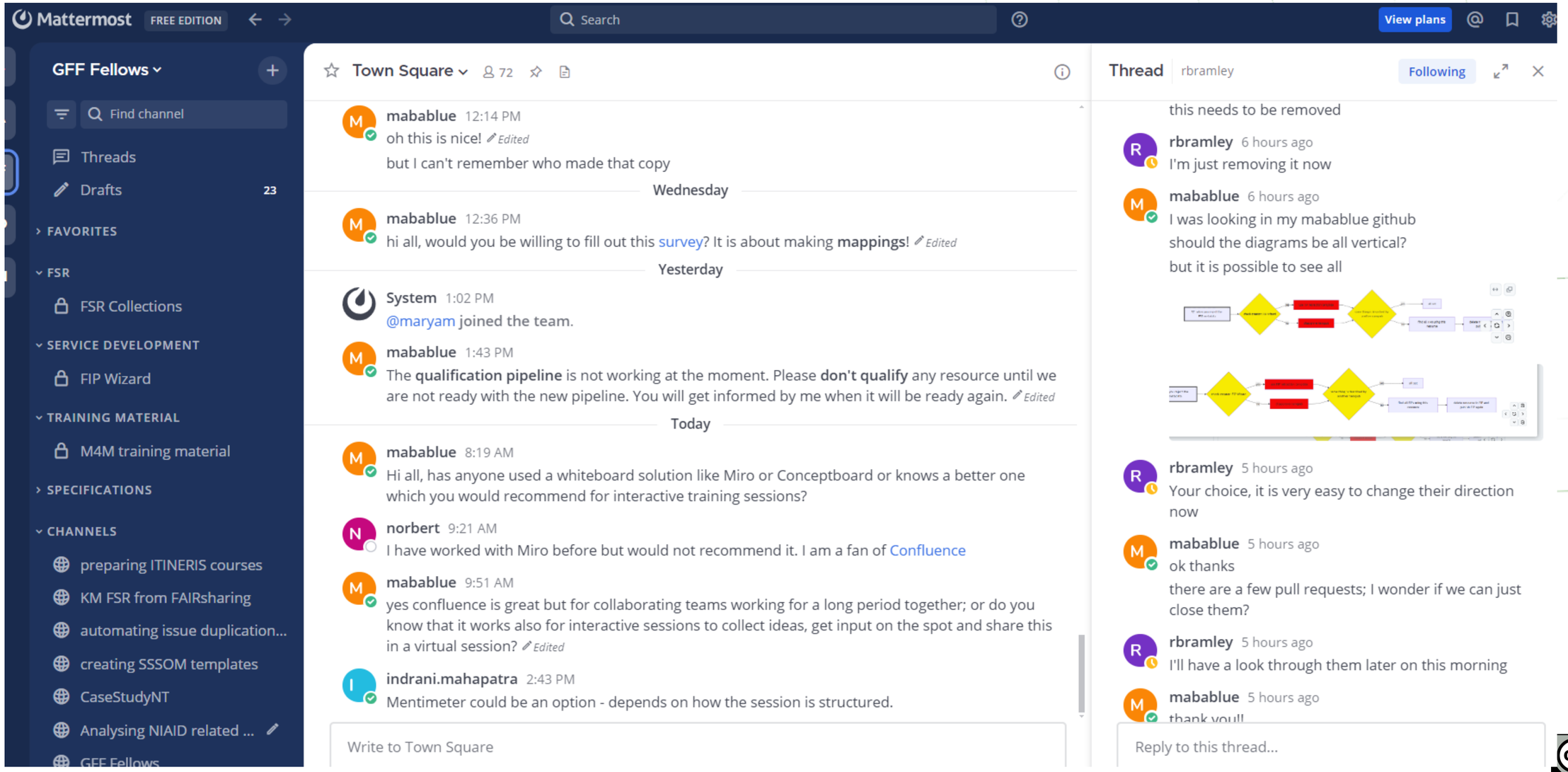
I-ADOPT is a candidate for an OGC standard. There are concrete plans to develop a semi-automatic I-ADOPT annotation service. In preparation, we would like to test the…

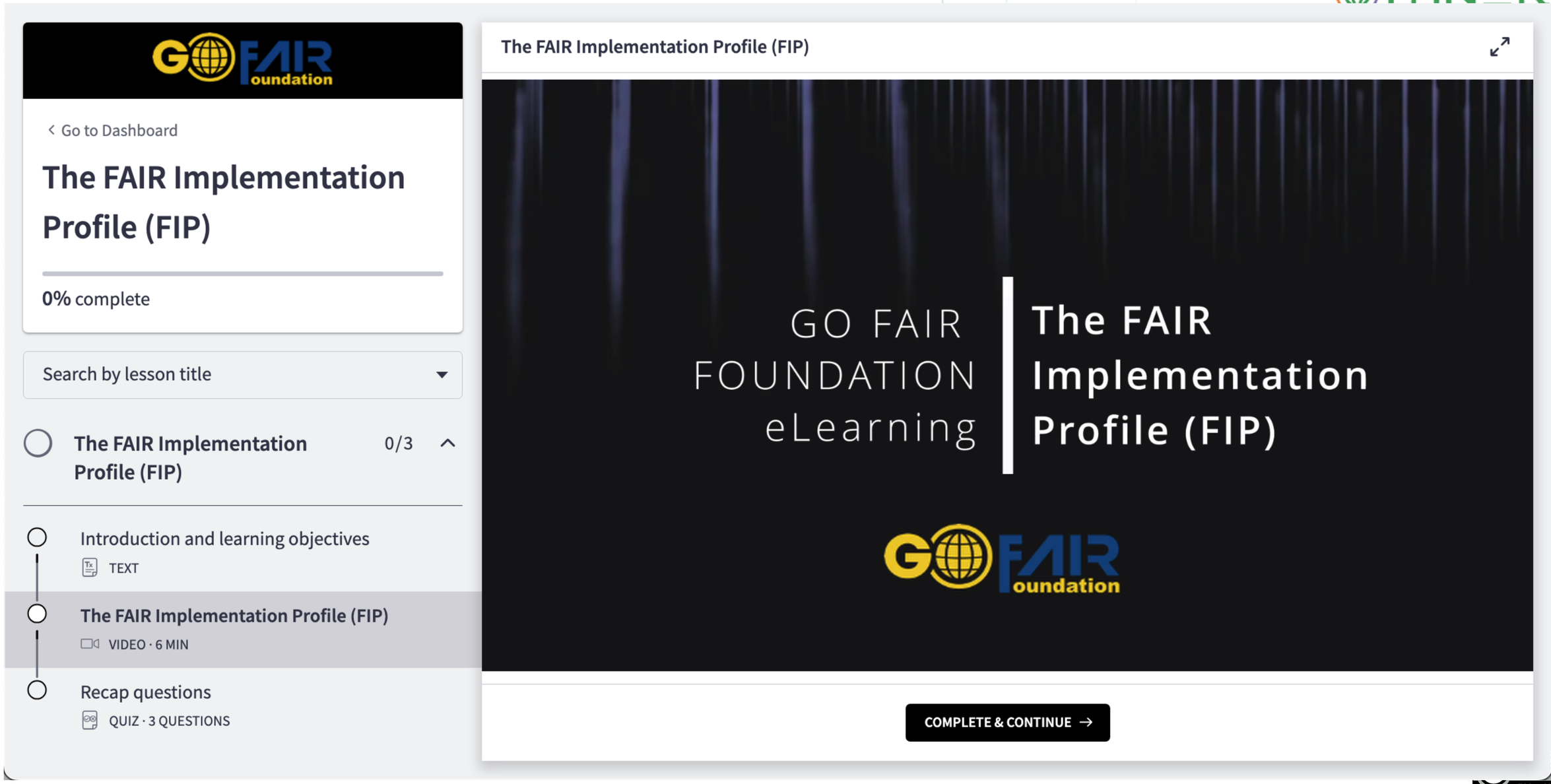
Aug 9, 2024
Barbara Magagna

GFF Capacity Building Programme Update

GO FAIR Foundation has updated its **GFF Capacity Building Programme**.

Mattermost communication platform: link




GO FAIR foundation
Go to Dashboard
The FAIR Implementation Profile (FIP)
0% complete
Search by lesson title
The FAIR Implementation Profile (FIP) 0/3
Introduction and learning objectives
TEXT
The FAIR Implementation Profile (FIP)
VIDEO · 6 MIN
Recap questions
QUIZ · 3 QUESTIONS
The FAIR Implementation Profile (FIP)
GO FAIR FOUNDATION eLearning
The FAIR Implementation Profile (FIP)
GO FAIR foundation
COMPLETE & CONTINUE →

GO FAIR foundation

< Go to Dashboard

The FAIR Implementation Profile (FIP)

0% complete

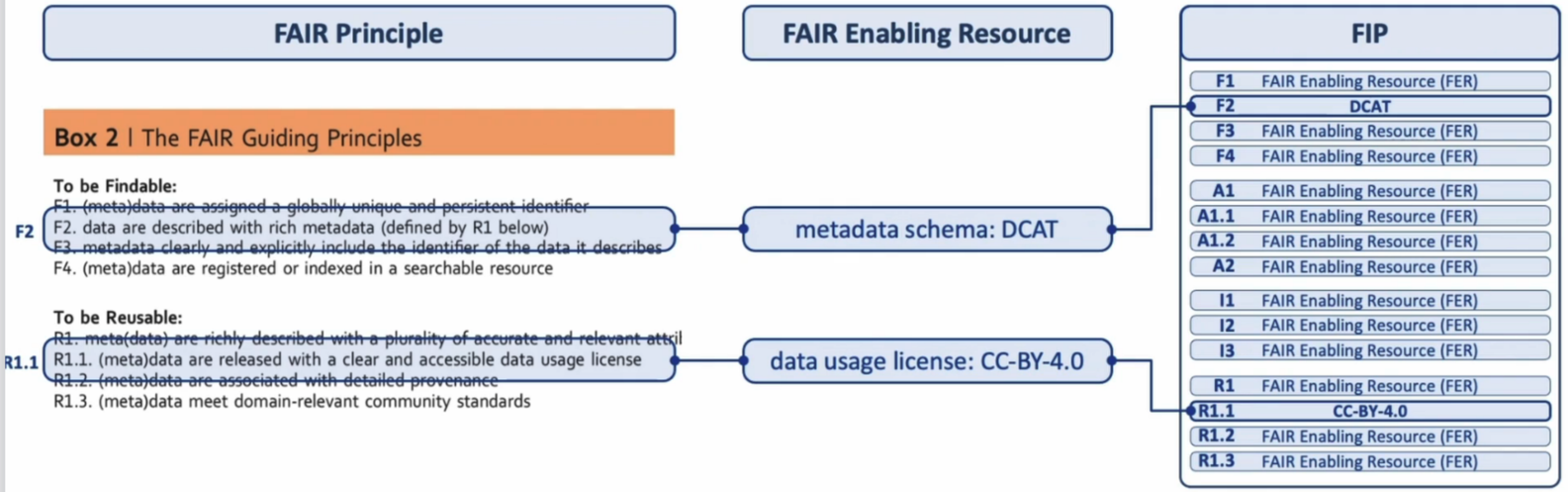
Search by lesson title

The FAIR Implementation Profile (FIP) 0/3

- Introduction and learning objectives
  TEXT
- **The FAIR Implementation Profile (FIP)**
  VIDEO · 6 MIN
- Recap questions
  QUIZ · 3 QUESTIONS

The FAIR Implementation Profile (FIP)

The FIP approach - CC-BY-4.0 as FER for principle R1.1



COMPLETE & CONTINUE →

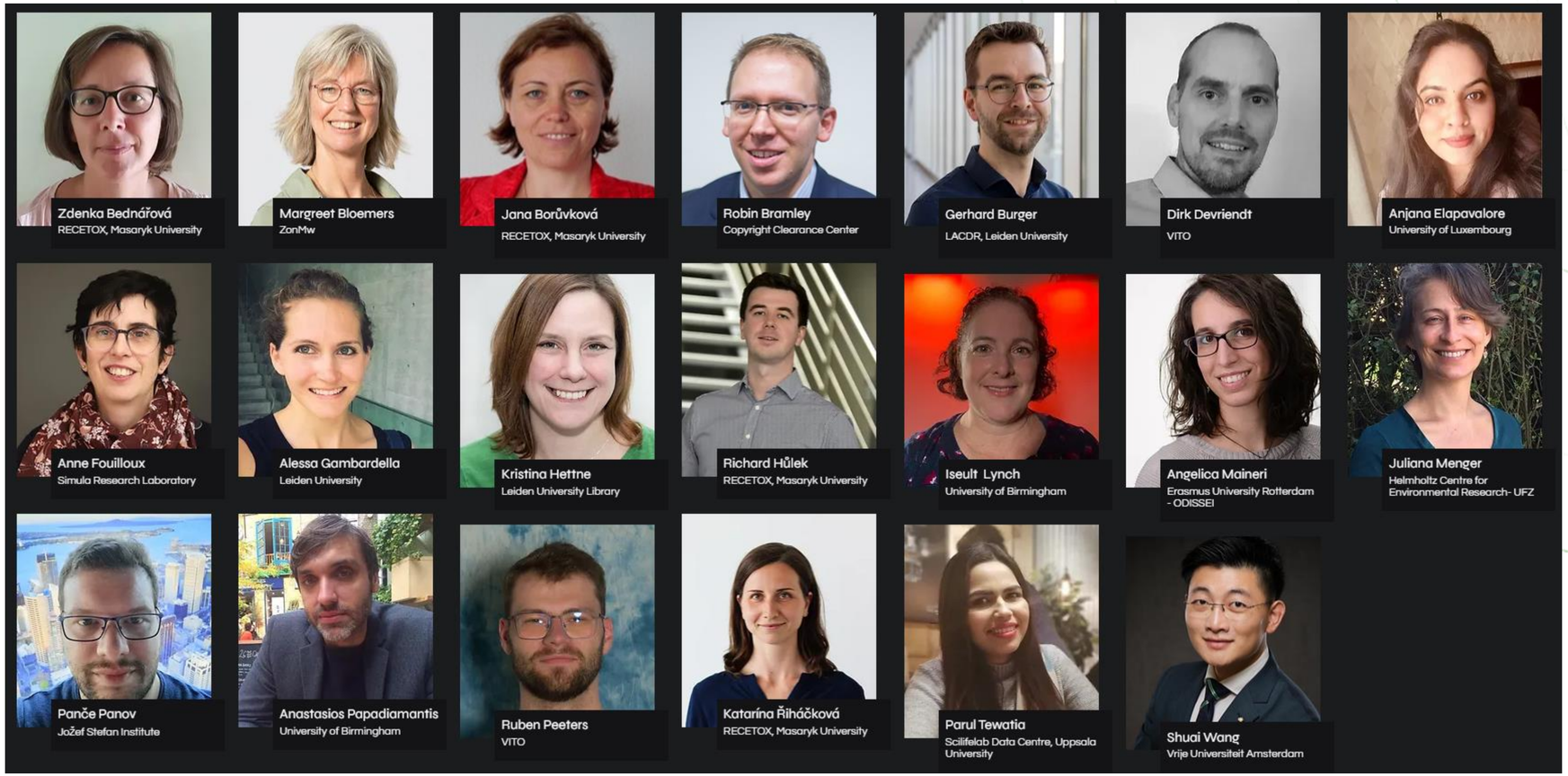
GFF 3PFF Qualification

First facilitator qualification celebration day: https://osf.io/a3cgj/

nanopublication
assertion
provenance
publication info

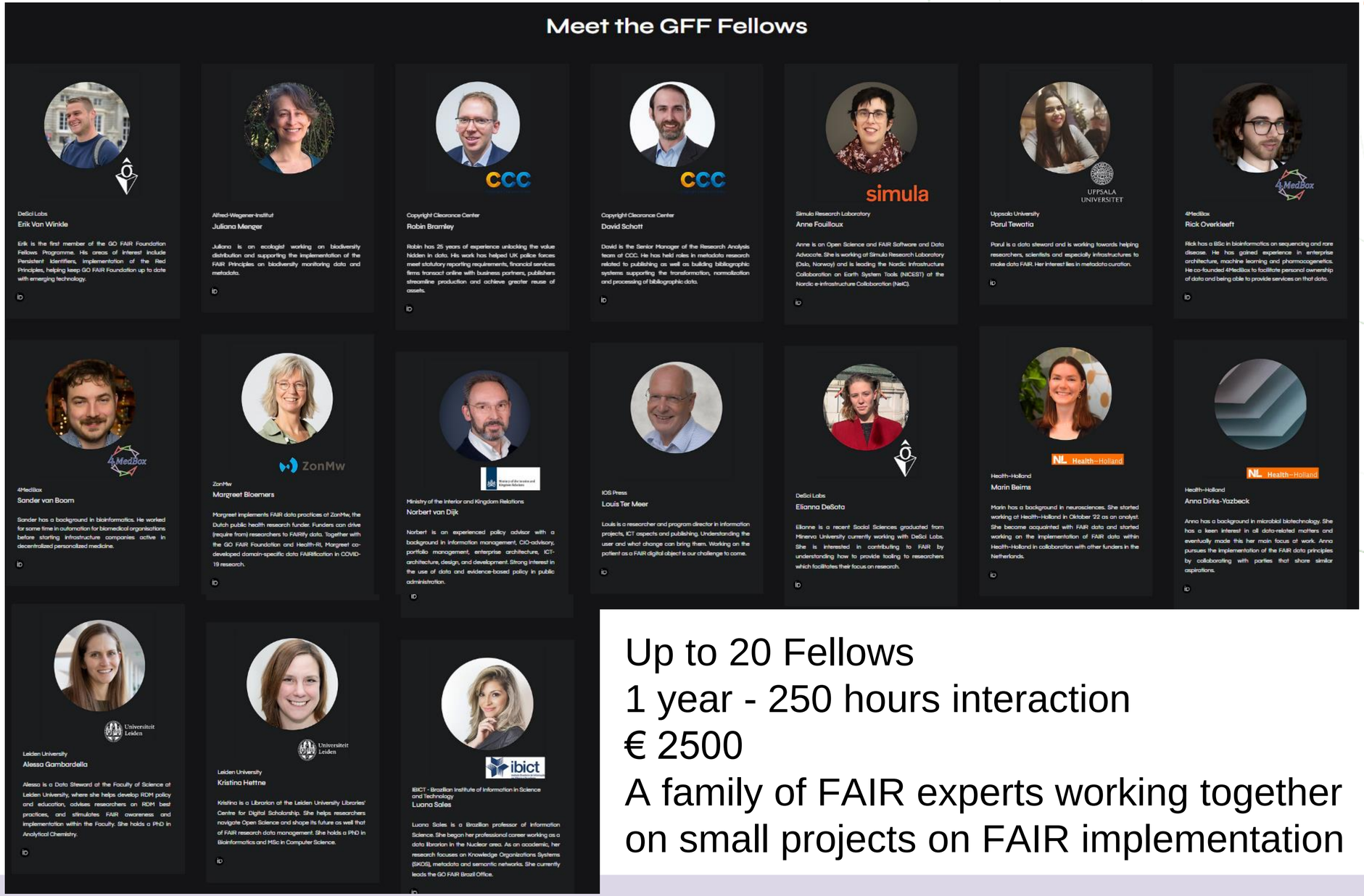
https://w3id.org/np/RARnX0EDZbpTvjSem7xkx5KeTyvK_hAGNILETCnXCFuYA

GFF qualified 3PFF Facilitators



Up to 50 persons trained and becoming qualified until the end of the year!

GFF Fellowship



Up to 20 Fellows
1 year - 250 hours interaction
€ 2500
A family of FAIR experts working together on small projects on FAIR implementation


GO FAIR foundation
Home
FAIR
Criteria
Qualification
Fellow
Training
About
FIP
M4M
FO
Workshops
Training
Services
https://www.gofair.foundation/training
Workshops

Course Overview

The FAIR Awareness Training consists of 5 training units:
Unit 1: November 27, 2024 (afternoon 13:00-17:00 CET) - 1. History of FAIR
Unit 2: November 29, 2024 (afternoon 13:00-17:00 CET) - 2. FAIR Principles (F, A, I, R)
Unit 3: December 4, 2024 (afternoon 13:00-17:00 CET) - 3. Good FAIR Practices
Unit 4: December 5, 2024 (afternoon 13:00-17:00 CET) - 4. FAIR Data Stewardship
Unit 5: December 11, 2024 (afternoon 13:00-17:00 CET) - 5. FAIR Assessment tools

Historical Context of FAIR

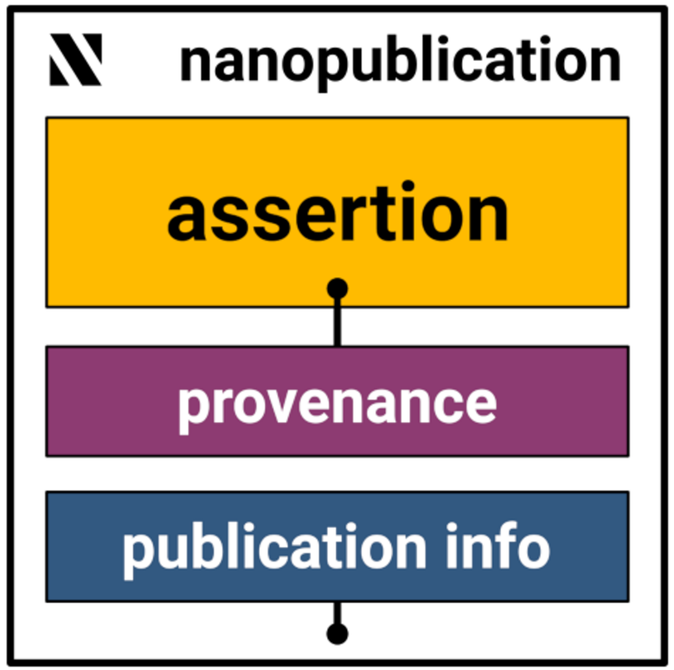
14:00-14:45
(Erik)

Resume 16:00 CET

Become a nanopublisher

16:00-17:00
(Barbara & Andrea)

Nanopublication



A nanopublication is a small knowledge graph implemented in RDF with metadata about that knowledge graph structured into three elements:

- Assertion
- Provenance
- Publication information

FAIR Implementation Community

Definition: A FAIR Implementation Community (FIC) is a self-identified collection of people and/or organizations with the aim to implement the FAIR Principles

Fortunately, the FIC for ITINERIS was already created by Andrea Tarallo:

Find here the nanopub representation

FAIR Data Stewardship Event

Definiton: A meeting specifically designed for current or aspiring data stewards to provide a rigorous understanding of the FAIR principles from theory to their concrete implementation.

Let's define this FAIR Awareness training event creating some metadata:
Short name: FA.5.T.1 (it is the 5th training for FAIR Awareness)
Long name: FA.5.T.1 | ITINERIS FAIR Awareness training session 1
Date/time/duration
3PFF type: FAIR awareness
Workshop type: training
ORCIDs of the facilitators and assistants
The participating community: ITINERIS
Link to the online resource: OSF and ITINERIS
Event type: virtual event

Andrea will be define it in https://nanodash.knowledgepixels.com/ using this template

Become a nanopublisher

Requirement:

- ORCID
- You need to be “approved” by someone else
- Go to GitHub FA training page “How to become a Nanopulisher”

Please write your introduction nanopub into the common notes:
https://bit.ly/FA-5-T-1_ITINERIS

Register your attendance at this FAIR Awareness event

Now let‘s declare our participation at this 3PFF event in https://nanodash.knowledgepixels.com/ using this template

This event is called “FA.5.T.1”:

- Choose in the first drop-down **participated as participant in**
- Type **FA.5.T.1** in the second box

And publish 👊

Homework

Read the FAIR Principles paper from 2016:
https://doi.org/10.1038/sdata.2016.18

Watch this movie (Not FAIR):
https://www.youtube.com/watch?v=N2zK3sAtr-4

FAIR Well!

THANKS!

Erik Schultes, Barbara Magagna, Andrea Tarallo
27 November 2024

IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-Mission 4 "Education and Research" - Component 2: "From research to business" - Investment 3.1: "Fund for the realisation of an integrated system of research and innovation infrastructures"

Finanziato dall'Unione europea NextGenerationEU
Ministero dell'Università e della Ricerca
Italiadomani