

# AgBioData RCN Education Working Group



# AgBioData RCN Aims



1. Develop recommendations, standards and implementation plans for FAIR data



Findable  
Accessible  
Interoperable  
Reusable

2. Expand the network



3. Develop educational materials to train researchers about FAIR data standards



4. Develop a roadmap for a sustainable GGB Database Ecosystem



# Education WG Membership

Erin Antognoli	USDA National Agricultural Library
Leyla Cabugos	California Polytechnic State University,
Chao Cai	Purdue University
Alenka Hafner	Pennsylvania State University
Beant Kapoor	University of Tennessee, Knoxville
John McNamara	Washington State University
Annarita Marrano	Phoenix Bioinformatics/AgBioData
Megan O'Donnell	Iowa State University, University Library
Leonore Reiser	Phoenix Bioinformatics
Meg Staton	University of Tennessee, Knoxville



# Educational Products and Goals

Create educational curriculum that can be incorporated into various types of educational settings.

- develop training in the history, importance, and current best practices for FAIR data science in genomics, genetics and breeding
- history and structure of GGB Databases and how they benefit the entire scientific community via public data deposition/integration.



# Defining Stakeholders

Who will utilize the materials?  
Who will advertise the materials?

- Educators
- Databases
- Funding Agencies

Who would benefit from this knowledge? Who would engage with the material?

- Researchers
- Educators, from high school to university
- Students, from high school to university

# Modalities

## In person, interactive



- Slides
- Activity Descriptions
- Discussion Prompts

## Self directed, asynchronous



- Videos
- Activity Descriptions
- Reflection Exercises

# Year 1 - Focusing our Scope

- ▶ Discovery: There is A LOT of FAIR data curriculum already out there.
- ▶ Solution: Focus on the database aspect, as that is less well covered, and particularly thin for agricultural resources.



**FAIRSFAR**  
Fostering Fair Data Practices in Europe

Project Title	Fostering FAIR Data Practices in Europe
Project Acronym	FAIRSFAR
Grant Agreement No	831558
Instrument	H2020-INFRAEOSC-2018-4
Topic	INFRAEOSC-05-2018-2019 Support to the EOSC Governance
Start Date of Project	1st March 2019
Duration of Project	36 months
Project Website	<a href="http://www.fairsfair.eu">www.fairsfair.eu</a>



# Curriculum

- ▶ What is a Biological Data Repository?
- ▶ FAIR and Databases
- ▶ Bio-databases: Types of Data, Finding and Obtaining data
- ▶ Data Management Plans/TRUST Principles
- ▶ Submitting data
- ▶ How to use your library resources
- ▶ Databases for agriculture

**Slides drafted for 5/7 lessons**  
**Videos complete for 2/7 lessons**



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Transparency  
Responsibility  
User focus  
Sustainability  
Technology

## The TRUST Principles for digital repositories

[Dawei Lin](#) , [Jonathan Crabtree](#), [Ingrid Dillo](#), [Robert R. Downs](#), [Rorie Edmunds](#), [David Giaretta](#), [Marisa De Giusti](#), [Hervé L'Hours](#), [Wim Hugo](#), [Reyna Jenkyns](#), [Varsha Khodiyar](#), [Maryann E. Martone](#), [Mustapha Mokrane](#), [Vivek Navale](#), [Jonathan Petters](#), [Barbara Sierman](#), [Dina V. Sokolova](#), [Martina Stockhause](#) & [John Westbrook](#)

[Scientific Data](#) **7**, Article number: 144 (2020) | [Cite this article](#)

**27k** Accesses | **77** Citations | **147** Altmetric | [Metrics](#)

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Where to host?

The Zenodo logo consists of the word "zenodo" in a white, lowercase, sans-serif font, centered on a solid blue rectangular background.

Open Science Framework

# Curriculum

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## Future Additions?

- ▶ Technology of databases (intro)
- ▶ Technology of databases (advanced)
- ▶ Ontologies
- ▶ Community recommendations?

# White Paper:

“A teaching and training framework for biological data repositories as essential sources for FAIR data, scientific knowledge, and new knowledge generation”

- ▶ Motivation and Introduction to Biological Databases
  - ▶ Who, what, why of agricultural databases
  - ▶ Databases are essential to FAIR data
- ▶ Skills and competence framework
  - ▶ Competence profiles for high school, bachelor, master and doctoral level
  - ▶ Learning outcomes



# Community Feedback

- ▶ Databases - what do our researchers need to know?
- ▶ Researchers - How are databases useful to you? What are the pain points or confusion related to agricultural databases?
- ▶ Have you had any classes or training on databases? What worked and what didn't? What knowledge would be helpful?



# Timeline

- ▶ Year 1
  - ▶ FAIR data(base) Curriculum
  - ▶ FAIR practical labs/projects
- ▶ Year 2
  - ▶ FAIR data(base) summer workshop **IN PERSON TBA**
  - ▶ FAIR data(base) white paper submitted



# Future Educational Products and Goals

**Generate an accessible and widely applicable guide for FAIR data management available to all agricultural scientists.**

- overview of the current database environment
- the set of FAIR data management published standards from other WG
- specific instructions for handling the most common types of data

Timeline: Year 2->3



# Next steps

- ▶ Feedback!
- ▶ We'd love new members
  - ▶ Students welcome!
  - ▶ Additional representation from livestock communities

Booth #230

Tuesday 9:30-11:00am

 @AgBioData

 Join us on Slack  
<https://www.agbiodata.org/join-slack>

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