The AgBioData Consortium and Research Coordination Network:

Enhancing Agricultural Research and Discovery through Improved Data Management and Education

Plant Bioinformatics Resources for FAIR Agricultural Data Discovery and Reuse Workshop

Plant Biology 2023 Conference

Savannah (GA)
August 6, 2023

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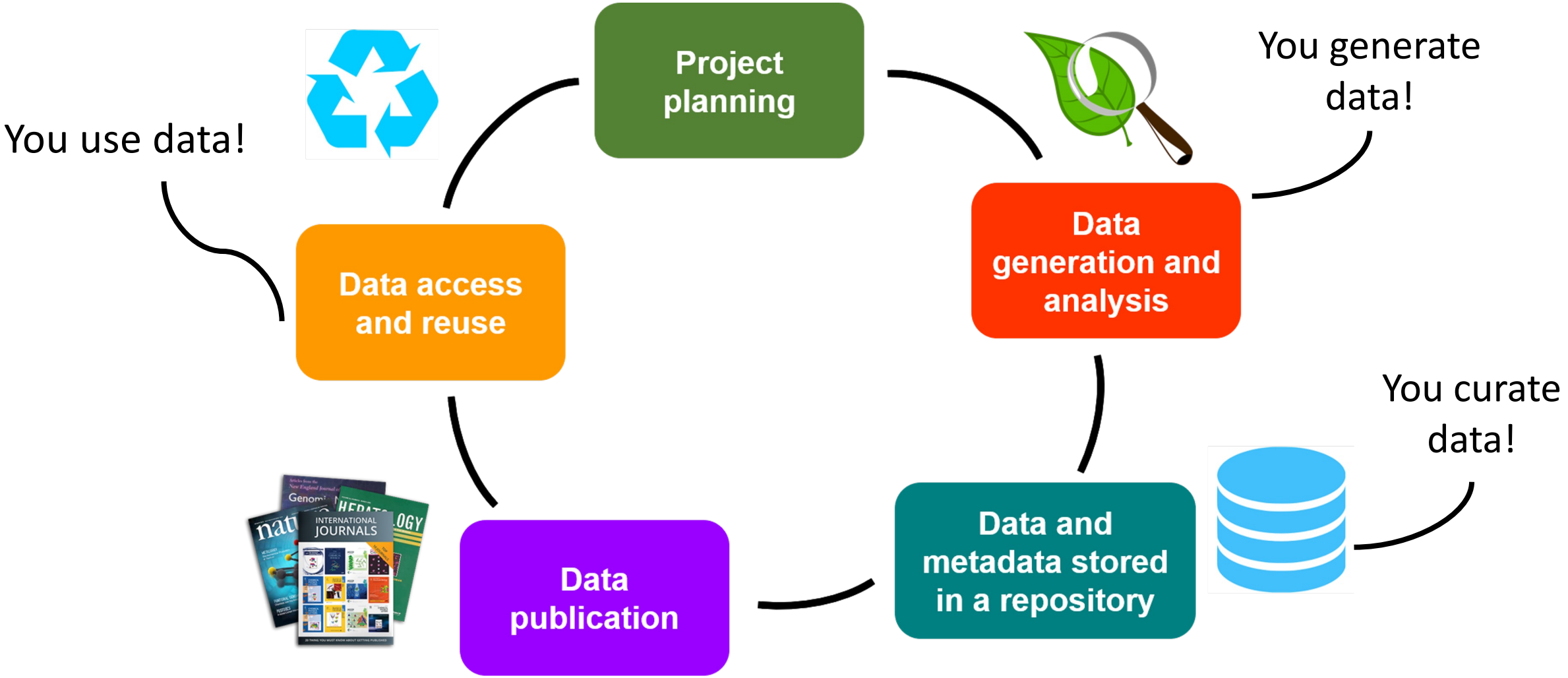
The AgBioData Consortium

- ★ Founded in 2015
- ★ 45 Genetic, Genomics, and Breeding (GGB) resources
- ★ Over 250 members
- ★ **Mission:** *ensure standards and best practices for the acquisition, display, and retrieval of genomic, genetic, and breeding data.*

How do the FAIR principle relates to you?



What can you do to make your data FAIR?

- ❑ Become familiar and understand the FAIR principles
- ❑ Submit your data to a stable, long-term repository
- ❑ Include complete and detailed metadata with your data

How AgBioData can help you?

- ✓ Webinars and a network of experts in the field for support
- ✓ Education Curriculum on databases and FAIR data
- ✓ Our member databases hosts different types of data and provide guidelines and support on what, how, and where to share

What can you do to make your data FAIR?

- ❑ If there are community-standards, apply them when formatting your data
- ❑ Use established nomenclature guidelines for your species if they exist
- ❑ Release your data with clearly defined terms of use

How AgBioData can help you?

- ✓ The member databases are working with the different stakeholders to establish community-standards in agricultural research
- ✓ Contact AgBioData/Community DB curators if you have any questions or seek for support with data management (e.g., DMP for grant proposals, etc.)

Award Abstract
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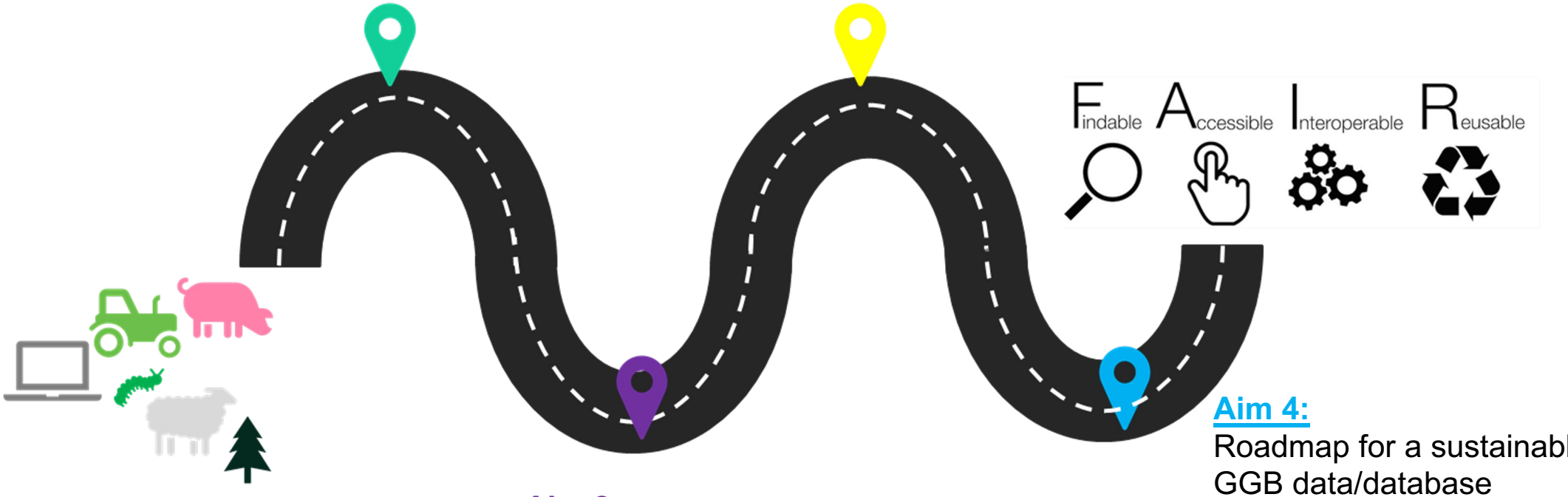
Aim 1:
Recommendations, standards, and implementation plans for FAIR data.

Aim 3:
Educational and training materials for researchers.



Aim 2:
Expand the network to include key stakeholders.

Aim 4:
Roadmap for a sustainable GGB data/database ecosystem.

Past working groups & deliverables

- **Genotype to Phenotype**

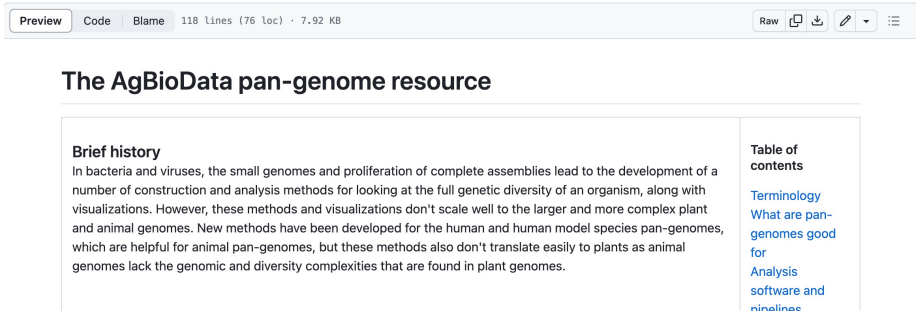
Review

Agricultural sciences in the big data era: Genotype and Phenotype Data Standardization, Utilization and Integration

Cecilia H. Deng[1#*], Sushma Naithani[2#], Sunita Kumari[3$], Irene Cobo-Simón[4], Elsa H. Quezada-Rodríguez[5,6], Maria Skrabisova[7], Nick Gladman[3,8], Melanie J. Correll[9], Akeem Babatunde Sikiru[10], Olusola O Afuwape[11], Annarita Marrano[12], Ines Rebollo[13], Wentao Zhang[14] and Sook Jung[15#]

Preprints; https://doi.org/10.20944/preprints202306.1013.v1

- **Pan-genomes**



https://github.com/AgBioData/Pan-genomes/blob/main/Pan-genome_resource.md

- **Data Federation**
- **Ontologies**

[Submitted on 18 Jul 2023]

Data sharing and ontology use among agricultural genetics, genomics, and breeding databases and resources of the AgBioData Consortium

Jennifer L. Clarke, Laurel D. Cooper, Monica F. Poelchau, Tanya Z. Berardini, Justin Elser, Andrew D. Farmer, Stephen Ficklin, Sunita Kumari, Marie-Angélique Laporte, Rex T. Nelson, Rie Sadohara, Peter Selby, Anne E. Thessen, Brandon Whitehead, Taner Z. Sen

Over the last several decades, there has been rapid growth in the number and scope of agricultural genetics, genomics and breeding (GGB) databases and resources. The AgBioData Consortium (this https URL) currently represents 44 databases and resources covering model or crop plant and animal GGB data, ontologies, pathways, genetic variation and breeding platforms (referred to as 'databases' throughout). One of the goals of the Consortium is to facilitate FAIR (Findable, Accessible, Interoperable, and

https://doi.org/10.48550/arXiv.2307.08958

Our current working groups

New working groups coming soon!

- Data Federation Training
- Data Reuse
- FAIR Scientific Literature
- Genome Assembly and Annotation Nomenclature
- Public Genetic Resources
- Standards for genetic variation

Aim 1

- Diversity, Equity, and Inclusion (DEI) Recruiting

Aim 2

- Education

Education Curriculum on databases and FAIR data

Aim 3

- Sustainability

Aim 4

Community workshops and outreach

Bring together the working groups and all the stakeholders that generate, use, curate, and manage data in agriculture

- 2022 AgBioData Community Workshop (*March 15-17; Virtual)*

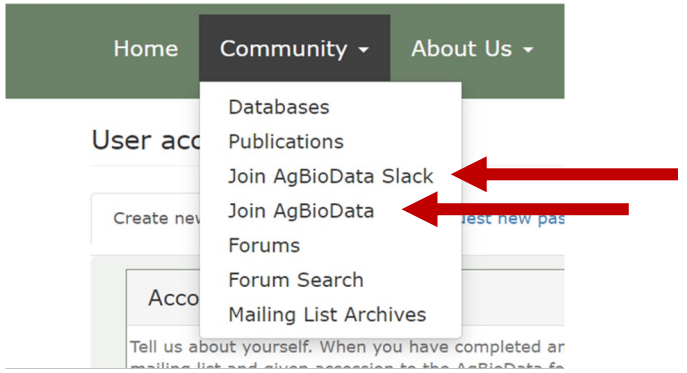
- The AgBioData Consortium: Challenges and Recommendations for FAIR Genetic, Genomic and Breeding Data" at PAG 30 (*San Diego, January 2023*)

- 2023 AgBioData Community Workshop (*May 1-2; Chicago – Hybrid)*

- "Bringing FAIR Data in the Classroom" at Plant Biology 2023 Conference (*August 5; Virtual*)

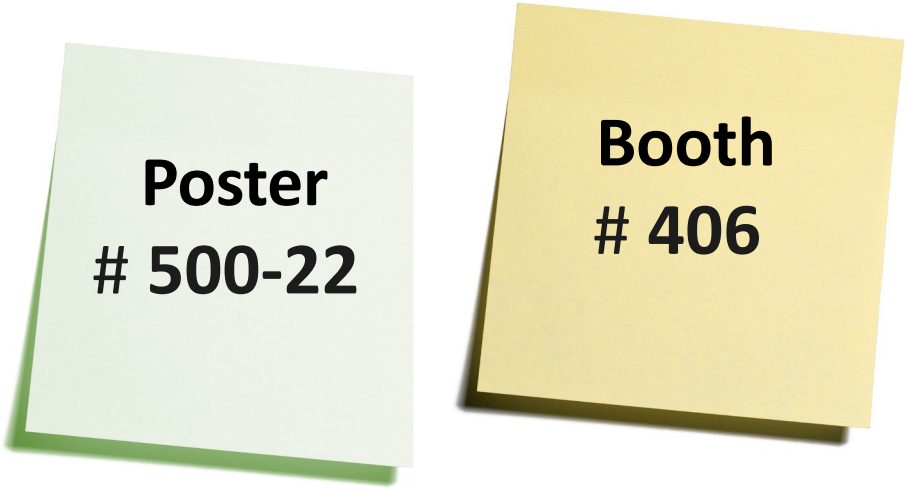
2024 Community Workshop
Virtual – Spring 2024!!!!

How to participate in AgBioData:



- **Interested in joining our working groups?**
  Do you need help with your data?
  Send an email to agbiodata@gmail.com!
- **Become a member!**
  Visit our website www.agbiodata.org
- Join our Slack workplace!
- @AgBioData
- Follow us on LinkedIn
- Monthly meetings/webinars (1st Wed of the month)
- **If you have a GGB resource, join the consortium!**

Everything you need in one place!
https://linktr.ee/agbiodata



Acknowledgements

AgBioData SC members:
Jacqueline Campbell
Peter Harrison
Sunita Kumari
Dorrie Main
John P. McNamara
Sushma Naithani
Monica Poelchau
Leonore Reiser
Meg Staton

Past AgBioData SC members:
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The AgBioData consortium

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