

# Mallory A Freeberg, PhD

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*Who I Am* Community Builder. Human Data Sharing Expert. Metadata Enthusiast. Open Science Advocate.

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Website: [malloryfreeberg.github.io/whoami](https://malloryfreeberg.github.io/whoami)      *ORCID:* [0000-0003-2949-3921](#)

*Professional Experience* **EMBL European Bioinformatics Institute**, Cambridge, UK  
*Human Genomics Team Leader* May 2024 - present

- Leading multiple teams contributing to Ensembl, a foundational resource providing scientists with data and tools to study genomes
- Providing scientific and strategic oversight of the DECIPHER platform for enabling clinical interpretation of human genomic variation

*Coordinator*, European Genome-phenome Archive Jun 2021 - Apr 2024

- Contributed expertise to help establish the Federated EGA Network for transnational discovery of and access to sensitive human data ([blog post](#))
- Engaged with external partners and stakeholders to ensure human data submission, discovery, and distribution services align with community standards and data protection regulations
- Managed a 14-person team responsible for operating production data archive services ([publication](#))

*Project Lead*, UK Biobank, European Genome-phenome Archive Aug 2019 - May 2021

- Oversaw data flow to archive 500,000 whole human genomes totalling 12PB of data
- Built and led 3-person team to successfully distribute 4PB of data to cloud-based analysis platform

*Senior Bioinformatician*, Human Cell Atlas Data Coordination Platform Oct 2017 - Jul 2019

- Coordinated data wrangling work for 6-person team across UK- and US-based institutions
- Performed curation and ingestion of flagship HCA datasets into the Platform
- Developed HCA metadata standard for cellular-resolution transcriptomics data ([publication](#))

**Johns Hopkins University**, Baltimore, MD USA  
*Trainer*, Galaxy Training Network, The Galaxy Project Jan 2017 - Sep 2017

- Designed and delivered seven Galaxy training workshops in three countries ([publication](#))
- Created training materials and computational workflows to support reproducible transcriptomics research ([contributions](#))

*Postdoctoral Research Fellow*, Department of Biology Jun 2015 - Sep 2017

- Investigated post-transcriptional gene regulatory networks using neural networks
- Piloted Oxford Nanopore direct RNA sequencing protocols to catalog transcriptomes

*Education* **PhD Bioinformatics**, University of Michigan, USA May 2015  
Department of Computational Medicine and Bioinformatics  
Dissertation: Computational analysis of the post-transcriptional gene regulatory network ([thesis](#))

**BSc Bioinformatics**, Saint Vincent College, USA May 2009  
Herbert M. Boyer School of Natural Science, Mathematics, and Computing  
Dissertation: Functional annotation of non-coding elements in the *Amphioxus* genome

*Selected Publications* Rujano MA, Boiten J-W, Ohmann C, *et al.* (2024) Sharing sensitive data in life sciences: an overview of centralized and federated approaches. *Briefings in Bioinformatics*. DOI:[10.1093/bib/bbae262](#)

Thakur M, Bateman A, Brooksbank C, Freeberg MA, *et al.* (2022) EMBL's European Bioinformatics Institute (EMBL-EBI) in 2022. *Nucleic Acids Res.* DOI:[10.1093/nar/gkac1098](#)

Freeberg MA, Fromont L, D'Altri T, *et al.* (2021) The European Genome-phenome Archive in 2021. *Nucleic Acids Res.* DOI:[10.1093/nar/gkab1059](https://doi.org/10.1093/nar/gkab1059)

Rehm HL, Page AJH, Smith L, *et al.* (2021) GA4GH: International policies and standards for data sharing across genomic research and healthcare. *Cell Genomics.* DOI:[10.1016/j.xgen.2021.100029](https://doi.org/10.1016/j.xgen.2021.100029)

⇒ Full list of publications can be found on [Google Scholar](#).

*Selected Invited Talks* Federated EGA: Providing global discovery and access for sensitive human data. *ISMB/ECCB*; Jul 2023; Lyon, FR ([slides](#))

The Federated EGA: Global discovery and access for sensitive human data. *GA4GH 10th Plenary*; Sep 2022; Barcelona, ES ([slides](#))

FAIR principles and promoting openness in the life sciences. *NIHR Statistics Group Workshop*; Feb 2022; virtual ([slides](#))

The European Genome-phenome Archive Metadata Model. *GHGA Workshop on Metadata in Biomedical Genome Research*; Jun 2021; virtual ([slides](#))

*Selected Conferences & Workshops* "Exploring gene and environmental exposure interactions to understand human health and disease" *EMBL-EBI Training Course*; Feb 2024; Cambridge, UK; Scientific Organiser and Trainer ([course](#))

"Demonstrating Federated EGA services for sensitive data discovery and access" *ELIXIR All Hands*; Jun 2023; Dublin, IE; Organiser and Presenter ([workshop](#))

*Leadership Roles* Co-lead, *GA4GH Implementation Forum* (Mar 2024 - Present)  
Support adoption of GA4GH products and tools, working closely with organisations in the genomics and health community to address key challenges and promote best practices in genomic data sharing

Co-lead, *GA4GH "Future of VCF" Working Group* (Mar 2022 - Feb 2024)  
Guide discussions and assessment of solutions for scaling the Variant Call File format for representing genetic variants across large-scale studies

Organiser, *ELIXIR Federated Human Data Community* (Feb 2022 - Apr 2024)  
Set agenda and priority topics for FHD Community meetings, co-organise FHD Community Day event, coordinate federated human data activities across ELIXIR members

*Teaching & Mentoring* Mentor, *Bioinfo4Women* (Jul 2024 - Present)  
Promote research done by women in computational biology with a focus on their transition from postdoc to junior independent positions

Mentor, *Open Life Science* (Jul 2020 - Present)  
Mentor participants on open science practices as part of a 16-week mentorship and training program to empower open science ambassadors

Instructor, *Johns Hopkins University*, Baltimore, MD USA (Jan 2017 - May 2017)  
Created materials for and ran the Advanced Academic Program online course "Bioinformatics: Tools for Genome Analysis"

<i>Training Courses</i>	ELIXIR LEadership And Diversity (ELEAD) mentoring programme	2023-2024
	Emotional Intelligence and Mindfulness	2020
	Talented Women's Impact Programme	2019-2020
	EICAT Complementary Scientific Skills Training - Scientific Project Management	2019