

Mallory A Freeberg, PhD

Who I Am Community Builder. Data Sharing Expert. Bioinformatics & Metadata Enthusiast. Open Science Advocate.

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Professional Experience **EMBL European Bioinformatics Institute**, Cambridge, UK
Coordinator, European Genome-phenome Archive Jun 2021 - present

- Contribute expertise to help establish the Federated EGA Network for transnational discovery of and access to sensitive human data ([blog post](#))
- Engage with external partners and stakeholders to ensure data submission, discovery, and distribution services align with community standards
- Manage up to 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 Corvo A, Matalonga L, Spalding D, *et al.* (2023) Remote visualization of large-scale genomic alignments for collaborative clinical research and diagnosis of rare diseases. *Cell Genomics*. DOI:[10.1016/j.xgen.2022.100246](https://doi.org/10.1016/j.xgen.2022.100246)

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](https://doi.org/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* 1. DOI:[10.1016/j.xgen.2021.100029](https://doi.org/10.1016/j.xgen.2021.100029)

Füllgrabe A, George N, Green M, *et al.* (2020) Guidelines for reporting single-cell RNA-seq experiments. *Nat Biotechnol* 38:1384-6. DOI:[10.1038/s41587-020-00744-z](https://doi.org/10.1038/s41587-020-00744-z) (*arXiv preprint* DOI:1910.14623v1)

⇒ 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

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

Resource considerations for establishing and operating a federated human data node. *ELIXIR All Hands*; Jun 2022; Amsterdam, NL ([poster](#))

Managing single cell transcriptomics data. *EMBL-EBI Training Course*; Jul 2019; Cambridge, UK ([course](#))

The Data Coordination Platform: Making the Human Cell Atlas data easily accessible. *The Biology of Genomes*; May 2018; Cold Spring Harbor, NY USA ([poster](#))

Leadership Roles

Co-lead, *GA4GH "Future of VCF" Working Group* (Mar 2022 - Present)

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 - Present)

Set agenda and priority topics for FHD Community meetings, co-organise FHD Community Day event, coordinate federate human data activities across ELIXIR members

Chair, *Federated EGA Operations Committee* (Jan 2021 - Present)

Lead Committee in fulfilment of responsibilities, coordinate with Committee members to make progress towards shared goals and milestones

Teaching & Mentoring

Mentor, *general* (2020 - Present)

Mentor staff and peers to support them achieving their career and professional development goals

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

[UK STEM Ambassador](#) (Jan 2018 - Present)

Give talks, demonstrate science experiments, share STEM career guidance

Training Courses

ELIXIR LEadership And Diversity mentoring programme

2023-present

Managing Managers

2021

Emotional Intelligence and Mindfulness

2020

Talented Women's Impact Programme

2019-2020

EICAT Complementary Scientific Skills Training - Scientific Project Management

2019

Handling Conflict and Difficult Conversations

2018