

Unlocking FAIR image data - the BioImage Archive, powered by Recommended Metadata for Biological Images

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Abstract

Biological imaging data has immense potential for reuse. New scientific discoveries, broad based AI model training and integrated reference datasets are all possible if this data can be organised and made findable and usable in standardised formats, following the FAIR principles. However this cannot be accomplished without suitable metadata standards. REMBI (Recommended Metadata for Biological Images) provides guidelines for metadata to accompany imaging datasets that allow interoperability and reuse of those datasets.

The BioImage Archive, EMBL EBI's deposition database for life sciences imaging data, is a key part of European infrastructure for the long term management of images. The Archive has recently implemented a new metadata model based on REMBI. The implementation is user-friendly, provides multiple modes of input, and is designed to allow use by the wider imaging community.

In this talk, we will describe how the model both supports reproducibility and reuse of data in the Archive's collections, as well as providing a reference implementation for general management of imaging data. We will also discuss future direction, and how shared models and data formats can form the foundation for a wide ranging image data ecosystem.