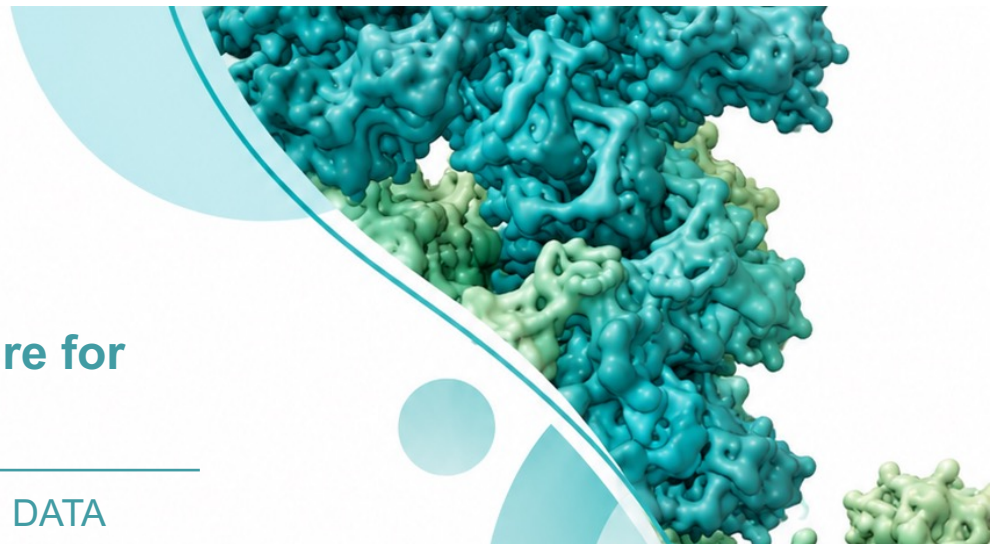


OpenEM

Open research data infrastructure for electron microscopy (EM)

A SWISS COLLABORATION FOR FAIR EM DATA



1 What is OpenEM?

OpenEM is a collaboration of Swiss EM facilities working to improve findable, accessible, interoperable and reusable (FAIR) data practices.

It helps structure EM datasets and metadata, supports data cataloguing and transfer, and prepares data for sharing and deposition.



openem.ch

2 Why is OpenEM needed?

Large EM datasets are difficult to manage

Metadata are often incomplete or inconsistent

Sharing and deposition take time and manual effort

3 How does OpenEM work?

Microscope data → **Metadata extraction** → **Ingestor** → **SciCat Catalog** → **Sharing/ Publication** → **Repositories**
EMDB / EMPIAR / PDB

OpenEM connects facility data capture, metadata standardization, cataloguing, transfer, archive, and publication

4 Core components

OSC-EM metadata schema

Supports structured, interoperable EM metadata

SciCat

advance your data to advance your science

Searchable data catalogue and dataset management

Ingestor

Registers datasets and coordinates metadata and transfer

Authentication

Access through academic identity systems

5 Benefits

For facilities

- ✓ More standardized data handling
- ✓ Clearer data tracking
- ✓ Better metadata quality
- ✓ Improved readiness for archive and reuse

For researchers

- ✓ Easier dataset discovery
- ✓ Clearer metadata for publications
- ✓ Simpler preparation for deposition
- ✓ Better reuse and reproducibility

6 Partners

Université de Genève · Paul Scherrer Institut (PSI) · Universität Bern · EPFL · Unil. · ETH zürich · Universität Basel · Empa Materials Science and Technology

More information: **openem.ch**