

Data Standardization — GlycoCT and FAIR Repositories — Hands-on

Build practical skills in representing, annotating and sharing glycomics data using community standards. This module covers GlycoCT and related formats, metadata and MIRAGE guidelines, controlled vocabularies, and end-to-end submission workflows to glycan repositories in a FAIR-compliant manner.

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Session 1

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Glycan Formats, Notations & GlycoCT

Overview of machine readable glycan formats

[GlycoCT, WURCS and IUPAC based encodings](#)
[symbolic and linear representations](#) [strengths and limitations per use case](#)

Anatomy of a GlycoCT record

[RES and LIN sections](#) [monosaccharide codes and](#)

linkages **representing branching and modifications**

Practical encoding of example glycans in GlycoCT

core N glycans and O glycans **terminal sialylation**
and fucosylation **checking syntax and consistency**
with tools

Session 2

Fee: Rs 11800 Apply Now

Metadata, Ontologies & MIRAGE Guidelines

Minimum information for glycomics experiments

MIRAGE concepts and scope **sample, instrument and**
method fields **linking raw data and processed results**

Controlled vocabularies and ontology mapping

instrument, tissue and species terms **glycan**
structure and class terms **ensuring consistency**
across studies

Designing a MIRAGE style metadata template

core columns for LC MS glycomics **linking sample**
IDs to clinical data **versioning and change tracking**
of metadata

Session 3

Fee: Rs 14800 Apply Now

Repositories, Submission Workflows & IDs

Landscape of glycan and glycomics repositories

GlyTouCan and related resources **UniCarb style**
databases **links to proteomics and metabolomics**
archives

Stepwise submission of glycans and datasets

registering structures with GlycoCT **uploading metadata and result tables** **assigning identifiers and accession codes**

FAIR principles applied to glycomics datasets

findable IDs and rich metadata **accessible and interoperable formats** **reusable licensing and citation practices**

Session 4

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Mini Capstone: GlycoCT & FAIR Submission Pack

Preparing a small glycomics dataset for submission

Theory plus Practical

Encoding glycans, filling metadata and packaging files

generating GlycoCT for key structures **completing a MIRAGE inspired template** **checking FAIR and repository requirements**

Deliverables: submission bundle and documentation stub

ZIP folder with data and metadata **README and method description text** **list of accession IDs or placeholders**