OBO Foundry in 2021: Operationalizing Open Data Principles to Evaluate Ontologies

OBO Foundry Operations Committee

The OBO principles provide a map towards open, interoperable ontologies

The OBO Foundry is a community of ontology developers who are committed to developing a family of interoperable ontologies that are both logically well-formed and scientifically accurate under the guidance of a set of evolving principles.
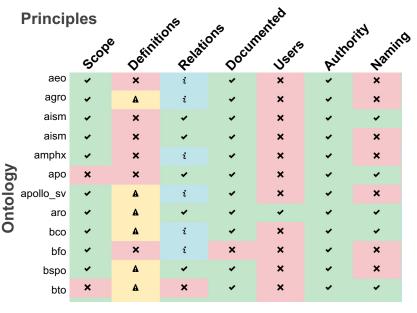
Some Example Principles

P1 **Open:** The ontology must be openly available to be used by all without any constraint other than (a) its origin must be acknowledged and (b) it is not to be altered and subsequently redistributed in altered form under the original name or with the same identifiers.

P7 **Relations:** Relations should be reused from the Relations Ontology (RO).

P10 **Commitment To Collaboration** - OBO Foundry ontology development, in common with many other standards-oriented scientific activities, should be carried out in a collaborative fashion.

The OBO Dashboard

Often the interpretation of the principles was down to the community, and therefore variable. To operationalise many of the OBO principles we developed the **OBO Dashboard**. The Dashboard implements computational checks for certain aspects of the principles, such as the presence of an open license, the documentation of usages and the representation of the ontology in a standard format.

Principles

Ontology	Scope	Definitions	Relations	Documented	Users	Authority	Naming
aeo	✔	✘	_i_	✔	✘	✔	✘
agro	✔	⚠	_i_	✔	✘	✔	✘
aism	✔	✘	✔	✔	✘	✔	✔
aism	✔	✘	✔	✔	✘	✔	✘
amphx	✔	✘	_i_	✔	✘	✔	✘
apo	✘	✘	✔	✔	✘	✔	✔
apollo_sv	✔	⚠	_i_	✔	✘	✔	✘
aro	✔	⚠	✔	✔	✔	✔	✔
bco	✔	⚠	_i_	✔	✘	✔	✔
bfo	✔	✘	_i_	✘	✘	✔	✘
bspo	✔	⚠	✔	✔	✘	✔	✘
bto	✘	⚠	✘	✔	✘	✔	✔

A snapshot of the OBO Dashboard.

The OBO 2023 QC Challenge

(1) For open ontologies to provide the **central framework and semantic fabric for the integration of biological and biomedical data**, we need to strive for a more **consistent implementation of the OBO principles** and metadata recommendations.

(2) The dashboard gives us a great first pass towards that goal, beyond philosophical debates - a practical computational check for the operationalised principles.

(3) New ontologies submitted to OBO must pass the dashboard before being considered for review.

(4) Our **big community challenge** now is to get all our current ontologies in the registry to adopt the operationalised OBO principles.

More information

dashboard.obofoundry.org/