

GreenPhyl RDF data model

Prefixes:

@base <<http://www.southgreen.fr/agrold/>> .
@prefix rdf:<<http://www.w3.org/1999/02/22-rdf-syntax-ns#>> .
@prefix rdfs:<<http://www.w3.org/2000/01/rdf-schema#>> .
@prefix xsd:<<http://www.w3.org/2001/XMLSchema#>> .
@prefix agrold_vocabulary:<<http://www.southgreen.fr/agrold/vocabulary/>> .
@prefix obo:<<http://purl.obolibrary.org/obo/>> .
@prefix uniprot:<<http://purl.uniprot.org/uniprot/>> .
@prefix tigrlocus:<<http://www.southgreen.fr/agrold/tigr.locus/>> .
@prefix tairlocus:<<http://identifiers.org/tair.locus/>> .
@prefix pubmed:<<http://identifiers.org/pubmed/>> .
@prefix interpro:<<http://identifiers.org/interpro/>> .
@prefix ncbi_taxon:<http://purl.obolibrary.org/obo/NCBITaxon_> .
@prefix greenphyl_family:<<http://www.southgreen.fr/agrold/greenphyl.family/>> .
@prefix greenphy_annotation:<<http://www.southgreen.fr/agrold/greenphyl.annotation/>> .

Predicates to be used:

rdf:type
rdf:subject
rdf:predicate
rdf:object
rdfs:subClassOf
rdfs:label
agrold_vocab:description
agrold_vocab:taxon
agrold_vocab:contains
agrold_vocab:is_orthologous_to
agrold_vocab:is_paralogous_to
agrold_vocab:is_member_of
agrold_vocab:xRef
agrold_vocab:has_annotation
agrold_vocab:has_score
agrold_vocab:assigned_by
agrold_vocab:has_uniprot_accession
agrold_vocab:number_of_sequences
agrold_vocab:has_thresold
agrold_vocab:curation_status
agrold_vocab:has_uniprot_accession
agrold_vocab:has_go_identifier
obo:BFO_0000056 # participates_in - Biological process

obo: BFO_0000085 # has_function - Molecular Function
obo:BFO_0000082 # located_in - Cellular Component

Protein information:

ID: Uniprot <<http://purl.uniprot.org/uniprot/>>
Name: Literal
Description: literal
Protien Ontology term: SO_0000104 <obo:SO_0000104>
Taxon: NCBI <http://purl.obolibrary.org/obo/NCBITaxon_>
Gene: MSU/TIGR Locus ID <<http://www.southgreen.fr/agrold/tigr.locus/>> (O.sativa);
TAIR ID <<http://identifiers.org/tair.locus/>> (A.thaliana)
IPR: InterPro <<http://identifiers.org/interpro/>>
GO: ID <<http://purl.obolibrary.org/obo/>>
Homology info: Orthology: Uniport ID (URI)
 Paralogy: Uniport ID (URI)
 Score: literal
Annotation: Literal
DB xref: URI or literal, depends on the kind of xref e.g IDs
Reference: Pubmed ID <<http://identifiers.org/pubmed/>>

Protein RDF Model:

E.g. Arabidopsis

Note: For the corresponding ortholog protein a prefix need to be based on the source organism.

tair:ATXXXX

```
rdf:type      agro_vocab:Protein ;
rdfs:subClassOf  obo:SO_0000104
rdfs:label    "name" ;
agrold_vocab:description  "description" ;
agrold_vocab:taxon  ncbi_taxon:XXXX ;
obo:BFO_0000056 # participates_in      obo:GO_ID ;
obo: BFO_0000085 # has_function  obo:GO_ID ;
obo:BFO_0000082 # located_in      obo:GO_ID ;
agrold_vocab:contains      interpro:XXXXX ;
agrold_vocab:is_member_of  greenphyl_family:XXXXX ; # family ID
agrold_vocab:is_orthologous_to  uri:XXXXXX ;
agrold_vocab:has_annotation  greenphy_annotation:ID1XXXXX_ID2XXXX ;
agrold_vocab:is_paralogous_to  uri:XXXXXX ;
agrold_vocab:has_annotation  greenphy_annotation:ID1XXXXX_ID3XXXX ;
agrold_vocab:has_uniprot_accession      uniprot:XXXXX ;
agrold_vocab:xRef  pubmed:XXXXXX ;
```

agrold_vocab:xRef tairlocus:XXXXXX .

Reification

greenphyl_annotation:ID1XXXXX_ID2XXXX

 rdf:type rdf:Statement ;
 rdf:subject tair:XXXXX ; # ID1
 rdf:predicate agro_vocab:is_orthologous_to ;
 rdf:object tair:XXXXX ; # ID2
 agrold_vocab:has_score "score" ; # Literal
 agrold_vocab:assigned_by "GreenPhyl" .

Family information:

ID : Internal <<http://www.southgreen.fr/agrold/greenphyl.family/>>

cluster (family): OBI_0000251

Name: Literal

Level: Literal

Number_of_sequences: Literal

Evidence:Literal

GO: ID <<http://purl.obolibrary.org/obo/>>

DB xref: URI or literal, depends on the kind of xref e.g IDs

Family RDF model:

greenphyl_family:GXXXX

 rdf:type agro_vocab:Protein_Family ;
 rdf:subClassOf obo:OBI_0000251 ;
 rdfs:label "name" ;
 agrold_vocab:description "description" ;
 agrold_vocab:has_go_identifier obo:GO_ID ;
 agrold_vocab:evidence "Evidence" ;
 agrold_vocab:number_of_sequences "#"^^xsd:integer ;
 agrold_vocab:has_threshold "#"^^xsd:integer ; # e.g. 1, 2 ,3
 agrold_vocab:curation_status "Status" ; # Annotation in progress
 agrold_vocab:xRef pubmed:XXXXXX .