

eagle-i Public SPARQL queries

For a nice tutorial on SPARQL, check out [SPARQL 101 at the Semantic University](#).

The following queries can be copied and pasted directly into the public SPARQL endpoint. Basic queries have been written and added to this document as requested by team members. These queries can be modified as needed (the [Ontology Browser](#) is a useful source for finding appropriate predicates). Copy, paste, and submit these queries at your preferred SPARQL endpoint.

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Basic queries

Below are some simple queries for returning instance types. The results are usually the instance URI and corresponding label.

All software instances

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?resource_uri a ei:ERO_0000071.
?resource_uri rdfs:label ?software_label.}
```

All instruments

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?resource_uri a ei:ERO_0000004.
?resource_uri rdfs:label ?instrument_label.}
```

All Cell lines

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?resource_uri a ei:ERO_0000009.
?resource_uri rdfs:label ?cell_lines.}
```

Labs that have specified a lab data format

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
```

```
PREFIX dcterm: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT distinct ?lab_uri ?lab_name
WHERE{
?lab_uri ei:ERO_0000054 ?lab_data_format.
?lab_uri rdfs:label ?lab_name.}
```

All organizations and their asserted types

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterm: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?organization_uri a ei:OBI_0000245.
?organization_uri rdfs:label ?org_name.
graph ?g {?organization_uri a ?assertedType}
?assertedType rdfs:label ?resource_type_label.
FILTER(?g != repo:NG_Inferred).}
```

Resources that derive from anatomical structures

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterm: <http://purl.org/dc/terms/>
PREFIX : <http://eagle-i.org/ont/repo/1.0/>
SELECT ?resource ?label ?anatomical_entity
WHERE{
?resource <http://eagle-i.org/ont/app/1.0/derives_from_anatomical_structure> ?anat.
?resource rdfs:label ?label.
?anat rdfs:label ?anatomical_entity.}
```

All instrument types in the ontology

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterm: <http://purl.org/dc/terms/>
PREFIX : <http://eagle-i.org/ont/repo/1.0/>
```

```
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?s rdfs:subClassOf ei:ERO_000004.
?s rdfs:label ?instrument_type.}
```

Advanced queries

Total orphaned resources

This query returns resources that are published but the organizations with which they are affiliated are not.

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT ?orphaned_resource ?orphaned_resource_label ?unpublished_related_resource ?
unpublished_related_resource_label ?relation_label ?unpublished_related_resource_status
WHERE{
?orphaned_resource rdfs:label ?orphaned_resource_label.
?orphaned_resource ?p ?unpublished_related_resource.
?p rdfs:label ?relation_label.
?unpublished_related_resource rdfs:label ?unpublished_related_resource_label.
?orphaned_resource repo:hasWorkflowState ?orphaned_resource_status.
?unpublished_related_resource repo:hasWorkflowState ?unpublished_related_resource_status.
FILTER ( (STR(?unpublished_related_resource_status) = "http://eagle-i.org/ont/repo/1.0/
WFS_Draft") || (STR(?unpublished_related_resource_status) = "http://eagle-i.org/ont/repo/1.0/
WFS_Curation") ) .
FILTER (STR(?orphaned_resource_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Published").}
ORDER BY ?relation_label
```

Orphaned resources

This query returns published resources that reference unpublished resources

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{{
?resource_uri rdfs:label ?resource_label.
```

```

?resource_uri repo:hasWorkflowState ?resource_repo_status.
?resource_uri ei:ERO_0000070 ?org_uri.
?org_uri rdfs:label ?org_label.
?org_uri repo:hasWorkflowState ?org_repo_status.}
UNION {
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?resource_repo_status.
?resource_uri <http://eagle-i.org/ont/data/human_study_performed_by> ?org_uri.
?org_uri rdfs:label ?org_label.
?org_uri repo:hasWorkflowState ?org_repo_status.}
UNION {
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?resource_repo_status.
?resource_uri <http://eagle-i.org/ont/data/research_opportunity_provided_by> ?org_uri.
?org_uri rdfs:label ?org_label.
?org_uri repo:hasWorkflowState ?org_repo_status.}
UNION {
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?resource_repo_status.
?resource_uri <http://purl.obolibrary.org/obo/ERO_0000390> ?org_uri.
?org_uri rdfs:label ?org_label.
?org_uri repo:hasWorkflowState ?org_repo_status.}
UNION {
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?resource_repo_status.
?resource_uri <http://www.obofoundry.org/ro/ro.owl#located_in> ?org_uri.
?org_uri rdfs:label ?org_label.
?org_uri repo:hasWorkflowState ?org_repo_status.}
FILTER ( (STR(?org_repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Draft") || (STR(?
org_repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Curation") ) .
FILTER (STR(?resource_repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Published").}

```

Resources with same label

Note that this query is computationally expensive and as such, is quite slow. This query returns resources and classes with labels that match other instances or classes

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *

```

```

WHERE{
?resource_one rdfs:label ?resource_one_label.
?resource_two rdfs:label ?resource_two_label.
FILTER ( (str(?resource_one)!=str(?resource_two)) && (str(?resource_one_label)=str(?
resource_two_label))).}

```

Labs contact lists

This query returns contact information for all laboratories

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?lab_uri a <http://vivoweb.org/ontology/core#Laboratory>.
?lab_uri rdfs:label ?lab_name.
OPTIONAL{
?lab_uri ei:ERO_0000041 ?lab_email.}
OPTIONAL{
?lab_uri ei:ERO_0000021 ?contact_person.
?contact_person ei:ERO_0000041 ?contact_person_email.}
OPTIONAL{
?lab_uri ei:ERO_0000022 ?PI.
?PI ei:ERO_0000041 ?pi_email.}
OPTIONAL{
?lab_uri ei:ERO_0001715 ?coPI.
?coPI ei:ERO_0000041 ?copi_email.}
OPTIONAL{
?lab_uri ei:ERO_0000596 ?director.
?director ei:ERO_0000041 ?director_email.}
?lab_uri repo:hasWorkflowState ?repo_status.}
ORDER BY ?repo_status

```

Class tooltips (same for all repos)

This query returns all class tooltips

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

```

```

PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{
?uri a owl:Class.
?uri rdfs:label ?class_label.
?uri <http://purl.obolibrary.org/obo/IAO_0000115> ?class_definition.
OPTIONAL{
?uri <http://eagle-i.org/ont/app/1.0/preferredDefinition> ?class_eagle_i_preferred_definition.}}

```

Properties tooltips (same for all repos)

This query returns all property tooltips

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT *
WHERE{{
?uri a owl:ObjectProperty.
?uri rdfs:label ?property_label.
?uri <http://eagle-i.org/ont/app/1.0/preferredDefinition> ?property_definition.}
UNION{
?uri a owl:DatatypeProperty .
?uri rdfs:label ?property_label.
?uri <http://eagle-i.org/ont/app/1.0/preferredDefinition> ?property_definition.}}

```

Resource contact different from lab contact

This query returns all resources with contact information different from their affiliated lab

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX : <http://eagle-i.org/ont/repo/1.0/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>

```

```

SELECT ?resource ?resource_label ?resource_type ?contact_person_uri ?
lab_contact_person_uri
WHERE{
graph ?g {?resource a ?assertedType}
?resource rdfs:label ?resource_label.
?assertedType rdfs:label ?resource_type.
?resource <http://purl.obolibrary.org/obo/ERO_0000021> ?contact_person_uri.
OPTIONAL{
?resource <http://www.obofoundry.org/ro/ro.owl#located_in> ?lab_uri.
?lab_uri <http://purl.obolibrary.org/obo/ERO_0000021> ?lab_contact_person_uri.}
OPTIONAL{
?resource <http://purl.obolibrary.org/obo/ERO_0000390> ?lab_uri.
?lab_uri <http://purl.obolibrary.org/obo/ERO_0000021> ?lab_contact_person_uri.}
OPTIONAL{
?resource <http://eagle-i.org/ont/data/human_study_performed_by> ?lab_uri.
?lab_uri <http://purl.obolibrary.org/obo/ERO_0000021> ?lab_contact_person_uri.}
OPTIONAL{
?resource <http://eagle-i.org/ont/data/research_opportunity_provided_by> ?lab_uri.
?lab_uri <http://purl.obolibrary.org/obo/ERO_0000021> ?lab_contact_person_uri.}
OPTIONAL{
?resource <http://purl.obolibrary.org/obo/ERO_0000070> ?lab_uri.
?lab_uri <http://purl.obolibrary.org/obo/ERO_0000021> ?lab_contact_person_uri.}
FILTER(?g != repo:NG_Inferred).
FILTER (STR(?resource_type) != "core laboratory").
FILTER (STR(?resource_type) != "laboratory ").
FILTER (STR(?contact_person_uri) != STR(?lab_contact_person_uri)).}
ORDER BY ?resource_type

```

All resources in curation

This query returns all resources that are currently 'in curation'

```

PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
SELECT ?resource_uri ?resource_label ?repo_status
WHERE{
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?repo_status.
FILTER(STR(?repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Curation").}

```

All published resources

This query returns all resources that are currently 'published'

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
SELECT ?resource_uri ?resource_label ?repo_status
WHERE{
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?repo_status.
FILTER(STR(?repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Published").}
```

All draft resources

This query returns all resources that are currently 'in draft'

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
SELECT ?resource_uri ?resource_label ?repo_status
WHERE{
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?repo_status.
FILTER(STR(?repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Draft").}
```

All withdrawn resources

This query returns all resources that are currently 'withdrawn'

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
```

```

SELECT ?resource_uri ?resource_label ?repo_status
WHERE{
?resource_uri rdfs:label ?resource_label.
?resource_uri repo:hasWorkflowState ?repo_status.
FILTER(STR(?repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Withdrawn").}

```

Organizations with resources missing contact information

This query returns all organizations without contact information that house resources

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT DISTINCT ?org_uri ?org_name ?org_email ?contact_person ?contact_person_email ?
pi_email ?repo_status
WHERE{{
?resource <http://www.obofoundry.org/ro/ro.owl#located_in> ?org_uri}
UNION{?resource <http://eagle-i.org/ont/app/1.0/human_study_performed_by> ?org_uri}
UNION{?resource <http://eagle-i.org/ont/app/1.0/research_opportunity_provided_by> ?org_uri}
UNION{?resource <http://purl.obolibrary.org/obo/ERO_0000390> ?org_uri}
UNION{?resource <http://purl.obolibrary.org/obo/ERO_0000070> ?org_uri}
?org_uri a <http://xmlns.com/foaf/0.1/Organization>.
?org_uri rdfs:label ?org_name.
?org_uri repo:hasWorkflowState ?repo_status.
OPTIONAL{
?org_uri ei:ERO_0000041 ?org_email.}
FILTER (! BOUND(?org_email))
OPTIONAL{
?org_uri ei:ERO_0000021 ?contact_person.
?contact_person ei:ERO_0000041 ?contact_person_email.
}FILTER (! BOUND(?contact_person_email))
OPTIONAL{
?org_uri ei:ERO_0000022 ?PI.
?PI ei:ERO_0000041 ?pi_email.}
FILTER (! BOUND(?pi_email))
FILTER(
STR(?repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Published" || STR(?repo_status)
= "http://eagle-i.org/ont/repo/1.0/WFS_Curation" || STR(?repo_status) = "http://eagle-i.org/ont/
repo/1.0/WFS_Draft")}

```

Listing of all external links in records

This query returns all URLs from free-text URL and website fields

```
SELECT ?s ?o
WHERE{{
?s <http://purl.obolibrary.org/obo/ERO_0000480> ?o}
union {?s <http://purl.obolibrary.org/obo/servicefeeURL> ?o}
union {?s <http://eagle-i.org/ont/app/1.0/Profilesurl> ?o}}
```

Outstanding term requests

This query returns all resources with outstanding term requests along with their respective term tracker URLs

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX : <http://eagle-i.org/ont/repo/1.0/>
SELECT ?resource ?label ?term_request
WHERE{
?resource <http://eagle-i.org/ont/datatools/1.0/has_term_request> ?term_request.
?resource rdfs:label ?label.}
```

Instances without labels

This query returns all instances in the repo that lack a label

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX repo: <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
SELECT DISTINCT ?resource_uri ?resource_label ?repo_status
WHERE{
?resource_uri repo:hasWorkflowState ?repo_status.
OPTIONAL{
?resource_uri rdfs:label ?resource_label.}
FILTER (! BOUND(?resource_label))}
```

```
FILTER(STR(?repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Published" || STR(?
repo_status) = "http://eagle-i.org/ont/repo/1.0/WFS_Curation" || STR(?repo_status) = "http://
eagle-i.org/ont/repo/1.0/WFS_Draft")}
```

List resources for affiliated organizations

This query returns all resources from labs affiliated with a specified organization. To specify the organization, change the XXXX to the EXACT LABEL of the affiliated department, hospital, etc.

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX dcterms: <http://purl.org/dc/terms/>
PREFIX : <http://eagle-i.org/ont/repo/1.0/>
PREFIX ei: <http://purl.obolibrary.org/obo/>
SELECT ?aff_org_label ?resource_label ?resource
WHERE{{
?resource <http://www.obofoundry.org/ro/ro.owl#located_in> ?org_uri}
UNION{?resource <http://eagle-i.org/ont/app/1.0/human_study_performed_by> ?org_uri}
UNION{?resource <http://eagle-i.org/ont/app/1.0/research_opportunity_provided_by> ?org_uri}
UNION{?resource <http://purl.obolibrary.org/obo/ERO_0000390> ?org_uri}
UNION{?resource <http://purl.obolibrary.org/obo/ERO_0000070> ?org_uri}
?org_uri a <http://xmlns.com/foaf/0.1/Organization>.
?org_uri rdfs:label ?org_name.
{?org_uri ei:ERO_0000066 ?aff_org}
UNION{?org_uri ei:ERO_0001279 ?aff_org}
?resource rdfs:label ?resource_label.
?aff_org rdfs:label ?aff_org_label.
FILTER(regex(?aff_org_label, "XXXX")).
}
```