

# Worked ontology example using Person, Role, and Project instead of Grant

A question has come up in the VIVO community about using Project instead of Grants – when a VIVO institution may not receive grants but does want to track projects.

In the VIVO-ISF ontology, a Grant is a subclass of `vivo:Relationship`, since it represents the agreement between a funding organization and a receiving organization, with the investigator roles usually also specified.

A Project, however, is a subclass of `Project`, which in turn is a subclass of `bfo:Process`. The project is the activity undertaken or the investigation, not just the agreement.

The properties used are therefore slightly different to connect a Person, Role, and Project vs. a Person, Role, and Grant, as indicated on the [VIVO-ISF 1.6 relationship diagrams: Grant](#) page.

## Example

We have a researcher, Marie Curie, who has the Project Lead role on a Project. In the VIVO front end display, there appears to be a direct relationship between the person and the project, and an inverse relationship in return. The role and date information appear as modifiers to the direct relationship, but are maintained through the ontology as an intermediate Role object bearing the title of the role ("Project Lead") and the date range.

## Public display view

**VIVO** | connect • share • discover

Home | People | Organizations | Research | Events

 **Curie, Marie T.** | Faculty Member



Research | Contact | View All

**other research activities**

[Detecting Sequestered Carbon Project](#) Project Lead 2012 – 2017

**VIVO** | connect • share • discover

Home | People | Organizations | Research | Events

**Detecting Sequestered Carbon Project** | Project 

Overview

**participant**

[Curie, Marie T.](#) Project Lead 2012 – 2017

## Site admin view

This can be seen more clearly in the back-end editors view (when logged in with Site Admin privileges):

Note in the listing of object property statements at the bottom of the image that the Person has a "bearer of" relationship ([http://purl.obolibrary.org/obo/RO\\_0000053](http://purl.obolibrary.org/obo/RO_0000053)) to the Role – and no direct relationship to the Project.

## Individual Control Panel

Name **Curie, Marie T.**

class [Agent \(foaf\)](#), [Continuant \(obo\)](#), [Entity \(obo\)](#), [Faculty Member \(vivo\)](#), [Independent Continuant \(obo\)](#), [Person \(foaf\)](#), [Thing](#)

display level unspecified

edit level unspecified

last updated

URI <http://vivo.vivoweb.org/individual/n4705>

publish level unspecified

Display This Individual (public)

Edit This Individual

Faculty Member (vivo)

Raw Statements with This Resource as Subject

Add New Individual of above Type

Raw Statements with This Resource as Object

Change URI

---

☐ [Faculty Member \(vivo\)](#)

Remove Checked Asserted Types

Add Type

---

Object (individual-to-individual) Property Statements

add new statement

refresh list

Subject	Predicate	Object	actions	
Curie, Marie T.	<a href="#">has contact info</a>	<a href="#">n6538</a>	<div>Edit</div>	<div>Delete</div>
Curie, Marie T.	<a href="#">bearer of</a>	<a href="#">Project Lead</a>	<div>Edit</div>	<div>Delete</div>

On the intermediate Role page, the relationships in both directions may be seen: the Role "inherits in" ([http://purl.obolibrary.org/obo/RO\\_0000052](http://purl.obolibrary.org/obo/RO_0000052)) the Person and is "realized in" ([http://purl.obolibrary.org/obo/BFO\\_0000054](http://purl.obolibrary.org/obo/BFO_0000054)) the Project.

## Individual Control Panel

Name **Project Lead**

class [Continuant \(obo\)](#), [Entity \(obo\)](#), [Realizable Entity \(obo\)](#), [Researcher Role \(vivo\)](#), [Role \(obo\)](#), [Specifically Dependent Continuant \(obo\)](#), [Thing](#)

display level unspecified

edit level unspecified

last updated

URI <http://vivo.vivoweb.org/individual/n1674>

publish level unspecified

Display This Individual (public)

Edit This Individual

Researcher Role (vivo)

Raw Statements with This Resource as Subject

Add New Individual of above Type

Raw Statements with This Resource as Object

Change URI

---

☐ [Researcher Role \(vivo\)](#)

Remove Checked Asserted Types

Add Type

---

Object (individual-to-individual) Property Statements

add new statement

refresh list

Subject	Predicate	Object	actions	
Project Lead	<a href="#">realized in</a>	<a href="#">Detecting Sequestered Carbon Project</a>	<div>Edit</div>	<div>Delete</div>
Project Lead	<a href="#">inherits in</a>	<a href="#">Curie, Marie T.</a>	<div>Edit</div>	<div>Delete</div>
Project Lead	<a href="#">date/time interval</a>	<a href="#">n3357</a>	<div>Edit</div>	<div>Delete</div>

Finally, from the Project perspective, only the return (inverse) relationship to the Role is seen: the Project "realizes" ([http://purl.obolibrary.org/obo/BFO\\_0000055](http://purl.obolibrary.org/obo/BFO_0000055)) the Role.

## Individual Control Panel

Name	Detecting Sequestered Carbon Project
class	<a href="#">Entity (obo)</a> , <a href="#">Occurrent (obo)</a> , <a href="#">Process (obo)</a> , <a href="#">Project (vivo)</a> , <a href="#">Thing</a>
display level	unspecified
edit level	unspecified
last updated	
URI	<a href="http://vivo.vivoweb.org/individual/n3075">http://vivo.vivoweb.org/individual/n3075</a>
publish level	unspecified

[Display This Individual \(public\)](#)[Edit This Individual](#)[Project \(vivo\)](#)[Raw Statements with This Resource as Subject](#)[Add New Individual of above Type](#)[Raw Statements with This Resource as Object](#)[Change URI](#)☐ [Project \(vivo\)](#)[Remove Checked Asserted Types](#)[Add Type](#)

### Object (individual-to-individual) Property Statements

[add new statement](#)[refresh list](#)

Subject	Predicate	Object	actions
Detecting Sequestered Carbon Project	<a href="#">realizes</a>	<a href="#">Project Lead</a>	<a href="#">Edit</a> <a href="#">Delete</a>

## The triples underneath

For the Person (<http://vivo.vivoweb.org/individual/n4705>):

pred	obj	graph
<a href="#">&lt;http://purl.obolibrary.org/obo/ABO_2000028&gt;</a>	<a href="#">&lt;http://vivo.vivoweb.org/individual/n1674&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://purl.obolibrary.org/obo/RO_0000053&gt;</a>	<a href="#">&lt;http://vivo.vivoweb.org/individual/n1674&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://vivoweb.org/ontology/core#FacultyMember&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://www.w3.org/2000/01/rdf-schema#label&gt;</a>	<a href="#">"Curie, Marie T." &lt;http://www.w3.org/2001/XMLSchema#string&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://vitro.mannlib.cornell.edu/ns/vitro/0.7#mostSpecificType&gt;</a>	<a href="#">&lt;http://vivoweb.org/ontology/core#FacultyMember&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000001&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000002&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000004&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://www.w3.org/2002/07/owl#Thing&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://xmlns.com/foaf/0.1/Agent&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://xmlns.com/foaf/0.1/Person&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>

For the Role (<http://vivo.vivoweb.org/individual/n1674>):

pred	obj	graph
<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000054&gt;</a>	<a href="#">&lt;http://vivo.vivoweb.org/individual/n3075&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://purl.obolibrary.org/obo/RO_0000052&gt;</a>	<a href="#">&lt;http://vivo.vivoweb.org/individual/n4705&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://vivoweb.org/ontology/core#dateTimeInterval&gt;</a>	<a href="#">&lt;http://vivo.vivoweb.org/individual/n3357&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://vivoweb.org/ontology/core#ResearcherRole&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://www.w3.org/2000/01/rdf-schema#label&gt;</a>	<a href="#">"Project Lead" &lt;http://www.w3.org/2001/XMLSchema#string&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://vitro.mannlib.cornell.edu/ns/vitro/0.7#mostSpecificType&gt;</a>	<a href="#">&lt;http://vivoweb.org/ontology/core#ResearcherRole&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000001&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000002&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000017&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000020&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000023&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://www.w3.org/2002/07/owl#Thing&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>

And finally, for the Project (<http://vivo.vivoweb.org/individual/n3075>):

pred	obj	graph
<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000055&gt;</a>	<a href="#">&lt;http://vivo.vivoweb.org/individual/n1674&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://vivoweb.org/ontology/core#Project&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://www.w3.org/2000/01/rdf-schema#label&gt;</a>	<a href="#">"Detecting Sequestered Carbon Project" &lt;http://www.w3.org/2001/XMLSchema#string&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-2&gt;</a>
<a href="#">&lt;http://vitro.mannlib.cornell.edu/ns/vitro/0.7#mostSpecificType&gt;</a>	<a href="#">&lt;http://vivoweb.org/ontology/core#Project&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000001&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000017&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000020&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://purl.obolibrary.org/obo/BFO_0000023&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>
<a href="#">&lt;http://www.w3.org/1999/02/22-rdf-syntax-ns#type&gt;</a>	<a href="#">&lt;http://www.w3.org/2002/07/owl#Thing&gt;</a>	<a href="#">&lt;http://vitro.mannlib.cornell.edu/default/vitro-kb-inf&gt;</a>