

# ROH Ontology Classes, Object Properties and DataType Properties

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## 1. Ontologies used

Prefix	Ontology name	Ontology namespace	Ontology website
bibo	Bibliographic Ontology	<a href="http://purl.org/roh/mirror/bibo#">http://purl.org/roh/mirror/bibo#</a>	<a href="http://bibliontology.com/">http://bibliontology.com/</a>
cito	CITO, the Citation Typing Ontology	<a href="http://purl.org/spar/cito#">http://purl.org/spar/cito#</a>	<a href="https://sparontologies.github.io/cito/current/cito.html">https://sparontologies.github.io/cito/current/cito.html</a>
foaf	FOAF: Friend of a Friend Ontology	<a href="http://purl.org/roh/mirror/foaf#">http://purl.org/roh/mirror/foaf#</a>	<a href="http://xmlns.com/foaf/spec/">http://xmlns.com/foaf/spec/</a>
gn	GeoNames Ontology	<a href="http://purl.org/roh/mirror/geonames#">http://purl.org/roh/mirror/geonames#</a>	<a href="http://www.geonames.org/ontology/documentation.html">http://www.geonames.org/ontology/documentation.html</a>
obo-bfo	OBO Foundry, Basic Formal Ontology	<a href="http://purl.org/roh/mirror/obo/bfo#">http://purl.org/roh/mirror/obo/bfo#</a>	<a href="http://www.obofoundry.org/ontology/bfo.html">http://www.obofoundry.org/ontology/bfo.html</a>
obo-ero	OBO Foundry, eagle-i Research Resource Ontology (ERO)	<a href="http://purl.org/roh/mirror/obo/ero#">http://purl.org/roh/mirror/obo/ero#</a>	<a href="https://open.csi.cmc.harvard.edu/wiki/display/leapdev/Ontology">https://open.csi.cmc.harvard.edu/wiki/display/leapdev/Ontology</a>
obo-iao	OBO Foundry, Information Artifact Ontology	<a href="http://purl.org/roh/mirror/obo/iao#">http://purl.org/roh/mirror/obo/iao#</a>	<a href="https://github.com/information-artifact-ontology/iao">https://github.com/information-artifact-ontology/iao</a>
obo-ro	OBO Foundry, Relations Ontology	<a href="http://purl.org/roh/mirror/obo/ro#">http://purl.org/roh/mirror/obo/ro#</a>	<a href="http://www.obofoundry.org/ontology/ro.html">http://www.obofoundry.org/ontology/ro.html</a>
owl	OWL Web Ontology Language	<a href="http://www.w3.org/2002/07/owl#">http://www.w3.org/2002/07/owl#</a>	<a href="https://www.w3.org/TR/owl-features/">https://www.w3.org/TR/owl-features/</a>

rdf	The RDF Concepts Vocabulary (RDF)	<a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>	<a href="https://www.w3.org/TR/rdf-concepts/">https://www.w3.org/TR/rdf-concepts/</a>
rdfs	RDF Schema 1.1	<a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>	<a href="https://www.w3.org/TR/rdf-schema/">https://www.w3.org/TR/rdf-schema/</a>
roh	Red de Ontologías Hércules / Hercules Network of Ontologies	<a href="http://purl.org/roh#">http://purl.org/roh#</a>	<a href="https://github.com/HerculesCRUE/GnossDeustoOnto/tree/master/Documentation">https://github.com/HerculesCRUE/GnossDeustoOnto/tree/master/Documentation</a>
rohes	Red de Ontologías Hércules / Hercules Network of Ontologies, Spanish specialization	<a href="http://purl.org/rohes#">http://purl.org/rohes#</a>	<a href="https://github.com/HerculesCRUE/GnossDeustoOnto/tree/master/Documentation">https://github.com/HerculesCRUE/GnossDeustoOnto/tree/master/Documentation</a>
rohum	Red de Ontologías Hércules / Hercules Network of Ontologies – University of Murcia Specialization	<a href="http://purl.org/rohum#">http://purl.org/rohum#</a>	<a href="https://github.com/HerculesCRUE/GnossDeustoOnto/tree/master/Documentation">https://github.com/HerculesCRUE/GnossDeustoOnto/tree/master/Documentation</a>
skos	SKOS Simple Knowledge Organization System	<a href="http://www.w3.org/2004/02/skos/core#">http://www.w3.org/2004/02/skos/core#</a>	<a href="https://www.w3.org/TR/2008/WD-skos-reference-20080829/skos.html">https://www.w3.org/TR/2008/WD-skos-reference-20080829/skos.html</a>
uneskos	SKOS UNESCO Thesaurus	<a href="http://purl.org/umu/uneskos#">http://purl.org/umu/uneskos#</a>	<a href="https://skos.um.es/unescothes/downloads.php">https://skos.um.es/unescothes/downloads.php</a>
vcad	vCard Ontology - for describing People and Organizations	<a href="http://purl.org/roh/mirror/vcard#">http://purl.org/roh/mirror/vcard#</a>	<a href="https://www.w3.org/TR/vcard-rdf/">https://www.w3.org/TR/vcard-rdf/</a>
vivo	VIVO core ontology	<a href="http://purl.org/roh/mirror/vivo#">http://purl.org/roh/mirror/vivo#</a>	<a href="https://wiki.lyrasis.org/display/VIVO/The+core+ontology+and+its+annotations">https://wiki.lyrasis.org/display/VIVO/The+core+ontology+and+its+annotations</a>

## 2. Concepts modelled

### 2.1. vivo:AcademicDegree

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
vivo	AcademicDegree				vivo	abbreviation	rdfs:Literal	
					roh	title	xsd:string	

### 2.2. roh:Accreditation

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	Accreditation	vivo	hasGoverningActivity	foaf:Organization	roh	title	xsd:string	
		vivo	hasSubjectArea	owl:Thing	vivo	description	xsd:string	
		roh	accreditationOf	foaf:Agent				
		roh	issuedBy	roh:AccreditationIssuer				
		vivo	dateIssued	vivo:DateTimeValue				
	roh AcademicAccreditation				roh	title	xsd:string	
	rohes AyudanteDoctor							
	rohes CatedraticoUniversidad							
	rohes ContratadoDoctor							
	rohes ProfesorUniversidadPrivada							
	rohes TitularUniversidad							
	roh Certificate				roh	title	xsd:string	
	roh Award							
	roh CourseCertificate							
	roh LanguageCertificate				roh	language	xsd:string	
					roh	listeningSkill	xsd:string	{"A1", "A2", "B1", "B2", "C1", "C2"}
					roh	readingSkill	xsd:string	{"A1", "A2", "B1", "B2", "C1", "C2"}
					roh	speakingSkill	xsd:string	{"A1", "A2", "B1", "B2", "C1", "C2"}

							roh	spokenInteractionSkill	xsd:string	{"A1", "A2", "B1", "B2", "C1", "C2"}
	roh	DegreeHomologation	vivo	relates	vivo:AwardedDegree					
	roh	License								
	roh	ResearchAccreditation								
		rohes	Sexenio	vivo	dateTimeInterval	vivo:DateTimeInterval				

### 2.3. rohes:Account

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
rohes	Account	rohes	charges	roh:Expense				
	rohes	ActivoNoCorriente						
		rohes	InmovilizacionesIntangibles					
		...						
	rohes	ComprasYGastosPorNaturaleza						
		rohes	Perdidas					
		rohes	ServiciosExteriores					
		...						
		rohes	Suministros					
		...						

### 2.4. roh:Activity

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	Activity	roh	participatedBy	foaf:Agent	vivo	identifier	xsd:string	
		bibo	presents	bibo:Document	roh	description	xsd:string	
		vivo	relates	roh:Expense or obo-bfo:Role	vivo	freeTextKeyword	xsd:string	
		obo-bfo	realizes	obo-bfo:Role	vivo	contactInformation	rdfs:Literal	
		vivo	hasSubjectArea	skos:Concept	roh	title	xsd:string	
		vivo	dateTimeInterval	vivo:DateTimeInterval				
		gn	locatedIn	gn:Feature				
	vivo	Competition						
	bibo	Conference			vivo	abbreviation	rdfs:Literal	
	vivo	Course	obo-ro	partOf	vivo:AcademicDegree	vivo	courseCredits	xsd:int
					vivo	courseHours	xsd:string	
	vivo	Exhibit						
	bibo	Hearing						
	vivo	Internship						
	vivo	Interview						
	vivo	Meeting						
	bibo	Performance						
	vivo	Presentation						
	vivo	InvitedTalk						
	roh	PanelTalk						

	roh	ThesisViva							
	bibo	Workshop							

## 2.5. foaf:Agent

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
foaf	Agent		roh	<b>hasContactInfo</b>	vcard:Organization	vivo	freeTextKeyword	xsd:string	
			roh	<b>hasAccreditation</b>	roh:Accreditation				
			roh	<b>hasRole</b>	obo-bfo:Role				
			foaf	<b>mBox</b>	owl:Thing				
			vivo	<b>relatedBy</b>	vivo:Relationship				
	foaf	Organization	roh	<b>hasKnowledgeArea</b>	skos:Concept	vivo	<b>identifier</b>	xsd:string	
			vivo	<b>affiliatedOrganization</b>	foaf:Organization	vivo	<b>abbreviation</b>	rdfs:Literal	
			vivo	<b>hasSuccessorOrganization</b>	foaf:Organization	roh	<b>description</b>	xsd:string	
			vivo	<b>hasPredecessorOrganization</b>	foaf:Organization	roh	<b>researchLine</b>	xsd:string	
			obo-ro	<b>hasPart</b>	foaf:Organization	roh	<b>foundationDate</b>	xsd:string	
			roh	<b>hasInfrastructure</b>	roh:Infrastructure				
			foaf	<b>homePage</b>	foaf:Document				
			roh	<b>participates</b>	roh:Activity				
			roh	<b>produces</b>	roh:ResearchObject				
			roh	<b>grantedBy</b>	roh:FundingAmount				
			vivo	<b>dateTimeInterval</b>	vivo:DateTimeInterval				
			gn	<b>locatedIn</b>	gn:Feature				
	roh	AccreditationIssuer	roh	<b>issues</b>	roh:Accreditation				
	roh	FundingOrganization	roh	<b>promotes</b>	roh:FundingProgram or roh:FundingSource				
			roh	<b>funds</b>	roh:Funding				
	roh	ResearchGroup				roh	<b>excellenceLabel</b>	xsd:boolean	
	vivo	University	roh	<b>awards</b>	vivo:AwardedDegree				
	foaf	Person	roh	<b>hasKnowledgeArea</b>	skos:Concept	vivo	<b>identifier</b>	xsd:string	
			vivo	<b>relates</b>	vivo:AwardedDegree	vivo	<b>researcherId</b>		
			roh	<b>spends</b>	roh:PersonExpense	roh	<b>birthdate</b>	xsd:string	
			roh	<b>hasContract</b>	roh:PersonContract	vivo	<b>eRACommonsId</b>		
			roh	<b>hasCV</b>	roh:CurriculumVitae	roh	<b>description</b>	xsd:string	
			roh	<b>hasPosition</b>	vivo:Position	roh	<b>firstName</b>	xsd:string	
			roh	<b>participates</b>	roh:Activity	roh	<b>gender</b>	xsd:string	
			roh	<b>elegibleFor</b>	roh:Accreditation	roh	<b>researchLine</b>	xsd:string	
			foaf	<b>homePage</b>	foaf:Document	foaf	<b>surname</b>	xsd:string	
			foaf	<b>image</b>	foaf:Image	foaf	<b>name</b>	xsd:string	
			roh	<b>correspondingAuthor</b>		foaf	<b>nickname</b>	xsd:string	
			roh	<b>supervisorOf</b>	bibo:Thesis	roh	<b>taxID</b>	xsd:string	
						roh	<b>title</b>	xsd:string	
						roh	<b>ORCID</b>	xsd:string	
						vivo	<b>scopusId</b>		
						rohes	<b>secondFamilyName</b>	xsd:string	

## 2.6. skos:Concept

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
skos	Concept		roh	knowledgeAreaOf					
	roh	KnowledgeArea							
		roh	UNESCOKnowledgeArea						
		rohes	FECYTKnowledgeArea						
	roh	ProjectClassification							
		roh	European						
		roh	International						
		roh	National						
		rohes	PlanEstatat2017-2020						
		roh	Own						
		roh	Regional						
	roh	HRClassification							
		roh	TrainingStaffPlacement						
		roh	TechnicalSupportStaffGrant						
		roh	Mobility						
		roh	PostDocContract						
		roh	PostDocGrant						
		roh	PostDocContinuityGrant						
		roh	PreDocContract						
		roh	PreDocGrant						
		roh	PreDocGrantContract						
		roh	ResearchStartGrant						

## 2.7. roh:CurriculumVitae

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	CurriculumVitae		roh	CVOF	foaf:Person	roh	cites	xsd:string	
						roh	factorH	xsd:string	
						roh	summary	xsd:string	

## 2.8. roh:Expense

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	Expense		roh	spentBy		roh	currency	xsd:string	
			vivo	dateTimeValue	vivo:DateTimeValue	vivo	description	xsd:string	
						roh	monetaryAmount	xsd:float	
						roh	title	xsd:string	
	roh	PersonExpense				roh	expenseModality		
	roh	ProjectExpense							
	roh	ResearchObjectExpense							

		rohum	GastosCorrientesBienesYServicios							
		rohum	ArrendamientosYCanones							
		rohum	IndemnizacionesServicio							
		rohum	MaterialSuministrosOtros							
		rohum	ReparacionesMantenimientoConservación							
		rohum	InversionesReales							

## 2.9. gn:Feature

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
gn	Feature	gn	<b>featureClass</b>		gn	geonamesID	rdfs:Literal	
		gn	featureCode	gn:Code	gn	countryCode	rdfs:Literal	
		gn	parentAMD1	gn:featureCode	gn	name	xsd:string	
		gn	parentAMD2	gn:featureCode	gn	population	xsd:integer	
		gn	parentAMD3	gn:featureCode				
		gn	parentAMD4	gn:featureCode				

## 2.10. roh:Funding, roh:FundingAmount, roh:FundingProgram & roh:FundingSource

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	Funding	obo-ro	<b>hasPart</b>	roh:FundingAmount	vivo	identifier	xsd:string	
		roh	<b>fundedBy</b>	roh:FundingProgram	vivo	description		
		vivo	dateTimeInterval	vivo:DateTimeInterval	vivo	freeTextKeyword		
		roh	<b>financedBy</b>	roh:FundingSource	roh	<b>publicFunding</b>	xsd:boolean	
		roh	hasContract	vivo:Contract				
		roh	<b>supports</b>	roh:PersonContract or roh:Project				
		roh	hasKnowledgeArea	skos:Concept				
		vivo	dateTimeInterval	vivo:DateTimeInterval				
	roh Grant							
	roh Loan							
	roh Outsourcing							
	roh RefundableAdvance							
roh	FundingAmount	roh	<b>grants</b>	foaf:Organization	roh	currency	xsd:string	
		obo-ro	<b>partOf</b>	roh:Funding	roh	monetaryAmount	xsd:float	
		vivo	dateTimeInterval	vivo:DateTimeInterval				
roh	FundingProgram	roh	<b>promotedBy</b>	roh:FundingSource	vivo	identifier	xsd:string	
		gn	locatedIn	gn:Feature	roh	title	xsd:string	
		vivo	dateTimeInterval	vivo:DateTimeInterval	vivo	description	xsd:string	
		obo-ro	<b>hasPart</b>	roh:FundingProgram				
roh	FundingSource	roh	<b>promotedBy</b>	vivo:FundingOrganization				
		roh	funds	roh:FundingProgram				

## 2.11. roh:Infrastructure

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	Infrastructure		roh	<b>infrastructureOf</b>	foaf:Agent	roh	<b>title</b>	xsd:string	
						vivo	<b>description</b>	xsd:string	
	roh	Equipment				vivo	<b>freeTextKeyword</b>	xsd:string	
	roh	Facility	obo-ro	<b>hasPart</b>	roh:Facility				
	roh	Software	vivo	<b>hasSubjectArea</b>	skos:Concept				
			roh	<b>correspondingAuthor</b>	foaf:Person				

## 2.12. roh:Metric

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	Metric		roh	<b>metricOf</b>	roh:ResearchObject	roh	<b>metricName</b>	xsd:string	
	roh	DegreeMetric							
		roh	ThesisMetric			roh	<b>cumLaude</b>	xsd:boolean	
						roh	<b>mark</b>	xsd:string	
			rohes	PhDThesisMetric		rohes	<b>doctoradoEuropeo</b>	xsd:boolean	
						rohes	<b>doctoradoInternacional</b>	xsd:boolean	
						rohes	<b>mentionCalidad</b>	xsd:boolean	
						rohes	<b>premioExtraordinarioDoctorado</b>	xsd:boolean	
	roh	PublicationMetric				roh	<b>impactFactor</b>	xsd:float	
						roh	<b>quartile</b>	xsd:string	{"Q1", "Q2", "Q3", "Q4"}
						roh	<b>ranking</b>	xsd:string	

## 2.13. vivo:Project

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
vivo	Project		roh	<b>hasKnowledgeArea</b>	skos:Concept	vivo	<b>identifier</b>	xsd:string	
			vivo	<b>relates</b>	roh:Audit or obo-bfo:Role	vivo	<b>abbreviation</b>	rdfs:LITERAL	
			roh	<b>hasContract</b>	vivo:ProjectContract	vivo	<b>description</b>	rdfs:LITERAL	
			obo-ro	<b>hasPart</b>	vivo:Project	roh	<b>title</b>	xsd:string	
			vivo	<b>participates</b>	roh:Activity	roh	<b>projectStatus</b>	xsd:string	{"CLOSED", "OPEN", "PROPOSED", "SUBMITTED", "REJECTED"}
			roh	<b>spends</b>	roh:ProjectExpense	vivo	<b>freeTextKeyword</b>	xsd:string	
			roh	<b>produces</b>	roh:ResearchObject	roh	<b>modality</b>	xsd:string	
			vivo	<b>relatedBy</b>	roh:Dossier or roh:Justification or obo-bfo:Role	roh	<b>foreseenJustificationDate</b>	xsd:dateTime	
			roh	<b>isSupportedBy</b>	roh:Funding	roh	<b>needsEthicalValidation</b>	xsd:boolean	
			gn	<b>locatedIn</b>	gn:Feature				
			vivo	<b>dateTimeInterval</b>	vivo:DateTimeInterval				
			roh	<b>hasProjectCategorization</b>	roh:ProjectClassification				

		roh	hasHRClassification	roh:HRClassification				
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## 2.14. vivo:Relationship

Prefix	Class		Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
vivo	Relationship								
	vivo	AdvisingRelationship	vivo	dateTimeInterval	vivo:DateTimeInterval				
			vivo	hasSubjectArea	skos:Concept				
			vivo	relates	vivo:AdvisorRole or vivo:AdviseeRole or foaf:Person				
			vivo	<b>degreeCandidacy</b>	vivo:AcademicDegree				
	vivo	AwardedDegree	roh	<b>awardedBy</b>	vivo:University				
			vivo	relates	foaf:Person or roh:AcademicDegree				
			vivo	dateTimeValue	vivo:DateTimeValue				
	vivo	Contract	roh	<b>contractOf</b>		bibo	<b>abstract</b>	xsd:string	
			roh	<b>contractSigningDate</b>	vivo:DateTimeValue	roh	<b>fileURI</b>		
			vivo	assignedBy	foaf:Organization	roh	<b>attachment</b>	owl:Thing	
			vivo	hasSubjectArea	skos:Concept				
			vivo	relates	roh:Funding or bibo:Patent or foaf:Agent or obo-bfo:Role				
			vivo	dateTimeInterval	vivo:DateTimeInterval				
			vivo	supportedInformationResource	obo-lao:InformationContentEntity				
	roh	PersonContract	roh	<b>hasHRClassification</b>	roh:HRClassification				
	roh	ProjectContract							
	vivo	Position	vivo	relates	foaf:Organization	vivo	<b>rank</b>	xsd:int	
			vivo	relates	foaf:Person	vivo	<b>hrJobTitle</b>		
			vivo	dateTimeInterval	vivo:DateTimeInterval				
		vivo	FacultyAdministrativePosition						
		vivo	FacultyPosition						
		rohes	CuerpoDocente						
			rohes: CatedraticoEscuelaUniversitaria						
			rohes: CatedraticoDeUniversidad						
			rohes: ProfesorTitularDeEscuelaUniversitaria						
			rohes: ProfesorTitularDeUniversidad						
		rohes	PDIContratado						
			rohes: Ayudante						
			rohes: ProfesorAsociado						
			rohes: ProfesorAyudanteDoctor						
			rohes: ProfesorContratadoDoctor						
			rohes: ProfesorEmerito						
			rohes: ProfesorVisitante						
		vivo	LibrarianPosition	roh	produces	roh:DegreeThesis			



		vivo	NonAcademicPosition							
		vivo	NonFacultyAcademicPosition							
		vivo	PrimaryPosition							
		roh	ResearcherPosition							
	roh	SupervisingRelationship		vivo	dateTimeInterval	vivo:DateTimeInterval				
				roh	produces	roh:Thesis				
				vivo	relates	roh:SupervisorRole or roh:SuperviseeRole or foaf:Person				
		roh	DegreeSupervisingRelationship	roh	produces	roh:DegreeThesis				
		roh	MasterSupervisingRelationship	roh	produces	roh:MasterThesis				
		roh	PhDSupervisingRelationship	roh	produces	roh:PhDThesis				

## 2.15. roh:ResearchObject

Prefix	Class			Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
roh	ResearchObject			roh	hasKnowledgeArea	skos:Concept				
				roh	correspondingAuthor	foaf:Person				
				roh	producedBy	roh:Project				
	bibo	Collection					bibo	oclcnum	rdfs:Literal	
		roh	Dossier	vivo	relates	roh:ProjectContract or bibo:Report or roh:Project	vivo	identifier	xsd:string	
				vivo	dateTimeInterval	vivo:DateTimeInterval	roh	title		
							vivo	description		
		bibo	Periodical	vivo	publisher	foaf:Organization	bibo	eissn	rdfs:Literal	
							bibo	issn	rdfs:Literal	
		bibo	Journal	vivo	dateIssued	vivo:DateTimeValue	vivo	abbreviation	rdfs:Literal	
		bibo	Magazine							
	bibo	Document		vivo	publishedIn	bibo:Collection or bibo:Book	bibo	doi	xsd:string	
				bibo	authorList	rdf:Seq	bibo	abstract	xsd:string	
				vivo	dateIssued	vivo:DateTimeValue	bibo	pageStart		
				bibo	editorList	rdf:Seq	bibo	pageEnd		
							bibo	volume	rdfs:Literal	
		vivo	Abstract							
		bibo	Article				bibo	issue		
		bibo	AcademicArticle							
			roh-iao:JournalArticle	roh	hasMetric	roh:PublicationMetric				
		vivo	ConferencePaper	bibo	presentedAt	bibo:Conference				
			roh:WorkshopPaper							
		vivo	EditorialArticle							
		bibo	Book	vivo	publisher	foaf:Organization	bibo	edition	rdfs:Literal	
							bibo	isbn	rdfs:Literal	
							vivo	placeOfPublication	rdfs:Literal	
							bibo	iccn	rdfs:Literal	
		bibo	Proceedings							
		vivo	ConferencePoster							
		vivo	Dataset	cito	isCitedAsDataSourceBy	foaf:Document				
		bibo	DocumentPart	vivo	publisher	foaf:Organization	vivo	placeOfPublication	rdfs:Literal	

			bibo	BookSection							
				bibo: Chapter							
		bibo	Patent	vivo	publisher	foaf:Organization	vivo	identifier	xsd:string		
				gn	locatedIn	gn:Feature	roh	modality	xsd:string		
				vivo	dateIssued	vivo:DateTimeValue					
				roh	ownerOrganization	foaf:Organization					
		bibo	Report	vivo	distributor	foaf:Organization	roh	status	xsd:string	["ACCEPTED", "REJECTED"]	
				vivo	publisher	foaf:Organization					
			roh	EthicalReport							
				roh: EthicalAudit							
				roh: EthicalValidation							
			roh	EvaluationSummary			roh	evaluationStatus	xsd:string	["FINAL", "PROVISIONAL"]	
			roh	Justification	vivo	relates	roh:Project				
			vivo	ResearchProposal	vivo	relates	roh:Justification or roh:ProjectContract or roh:Project or roh:ResearchProposal				
		bibo	Thesis				vivo	abbreviation	rdfs:Literal		
							vivo	placeOfPublication	rdfs:Literal		
			roh	DegreeThesis							
			roh	MasterThesis							
			roh	PhDThesis							
		bibo	Webpage								

## 2.16. obo-bfo:Role

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
obo-bfo	Role	vivo	dateTimeInterval	vivo:DateTimeInterval	roh	dedication	xsd:string	["PARTIAL", "TOTAL"]
		roh	inheresIn	foaf:Agent	vivo	description	xsd:string	
		vivo	relatedBy	roh:Project or vivo:Relationship				
		roh	hasKnowledgeArea	skos:Concept				
		obo-bfo	realizedIn	roh:Activity				
		roh	roleOf	foaf:Agent				
	vivo	AdministratorRole						
	vivo	AdviseeRole						
	vivo	AdvisorRole						
	vivo	AttendeeRole						
	vivo	AuditeeRole						
	vivo	AuditorRole						
	vivo	EditorRole						
	vivo	EducatorRole						
	vivo	EmployeeRole						
	vivo	ExternalMemberRole						
	vivo	FundingRole						
	vivo	LeaderRole						
	vivo	MemberRole						
	vivo	OrganizerRole						

vivo	PresenterRole							
vivo	ResearcherRole							
vivo	ReviewerRole							
vivo	StudentRole							
vivo	SuperviseeRole							
vivo	SupervisorRole							
vivo	TeacherRole							
vivo	ThirdPartyContractorRole							

## 2.17. obo-ero:Service

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
obo-ero	Service	roh	isProvidedBy	foaf:Organization	vivo	identifier	xsd:string	
					roh	title	xsd:string	
					vivo	description	xsd:string	
	vivo AccessService							
	vivo AnalysisService							
	roh ExternalMemberRole							
	vivo ...							

## 2.18. rohes:Tax

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
rohes	Tax				rohes	rate	xsd:float	
	rohes IVA							
	rohes IRPF							
	rohes IRNR							

## 2.19. obo-bfo:TemporalRegion

Prefix	Class	Prefix	Object property (bold indicates explicit Domain, otherwise a Restriction)	Range Class	Prefix	Datatype Property (bold indicates explicit domain; otherwise a restriction)	Range Datatype (if typed)	Range values
obo-bfo	TemporalRegion							
	obo-bfo OneDimensionalTemporalRegion							
	vivo DateTimeInterval	vivo	start	vivo:DateTimeValue				
		vivo	end	vivo:DateTimeValue				
	obo-bfo ZeroDimensionTemporalRegion							
	vivo DateTimeValue				vivo	dateTime	xsd:dateTime	