

DINGO: A KNOWLEDGE GRAPH ONTOLOGY FOR PROJECTS AND GRANTS

(WITH SPECIALISATIONS FOR WIKIDATA AND SCHEMA.ORG)

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Status Of This Document

This document contains the specification of the ontology/datamodel DINGO (Data Integration for Grant Ontology). The model was presented at the Meetup in Berlin on 17th-19th of June ([WikiProject Wikidata for research](#)), and discussed by a specific working group (whose members are indicated as Editors). Further revision led to the final version of this document.

This document is a stable document and may be used as reference material or cited from another document. Its aim is to draw attention to the specification and to promote its widespread deployment. This enhances the functionality and interoperability of data dealing with research and/or other cultural activities, and their funding.

Introduction

Researchers, scholars, funding agencies, face increasing pressure to report on impact, quality and sustainability of research, other technical and cultural projects, as well as of funding policies and practices. Policy debates in fact revolve more and more on data-driven assessments of the research and /or cultural landscape.

Such analyses and assessments exhibit a series of specific aspects:

1. They require the collection and processing of a large amount of data coming from a number of different sources (for example, funding agencies databases, bibliographic sources, project archives and reports, research and cultural prizes, ...).
2. The various data must be combined and processed together to make useful inferences. This at the moment is done, if ever, in isolation by each actor and on an ad-hoc basis, which limits the (re-)usability of data.
3. The datamodels informing analogous data coming from different (but equivalent) sources -such as two different funding agencies operating with similar programs- are not standardized, which poses high barriers to the automatization of linkage and re-use of data.
4. The format itself of data is often not standardized (several kinds of repositories and information systems). The difficulty in merging data leads to a lack of interoperability.
5. The lack of analysis contextualisation and of comparison perspective between different realities in the research/cultural landscape due to the lack of interoperability and linkage between data limits the reach, insight and capacity of the analysis to inform strategic discussion.

Solutions to these problematic points would be beneficial to the whole interested community. This would require in primis

1. the definition of consensus data models/datamodels/ontologies
2. the adoption of technologies and standardization that are positioned toward interoperability and automatization.

In the past recent years a number of ontologies have been presented concerning some of the relevant aspects of the research, cultural and scholar world, such as ontologies for publications such as [SPAR](#) and [DC Terms](#), or patents, such as the [US patent ontology](#). However, very little has been done about the funding aspects (to our knowledge only two ontologies exist, and they are very limited in vocabulary as they were conceived as a complement to other ontologies such as the SPAR, see the section [Relation with other ontologies, extensions and integrations of the model](#)).

DINGO, the Data Integration and Extension for Grant Ontology, is an ontology expressly designed to

provide an extensible interoperable framework for formally conceptualizing and expressing the relevant parts of the research/cultural landscape in relation to funding, such that they can easily be shared between different actors and platforms. It is conceived to have sufficient richness of expression to satisfy complex requirements (see sections [Aims of the model](#) and [Relation with other ontologies, extensions and integrations of the model](#), while at the same time being simple enough to be of immediate use also for the simplest use cases.

We provide also concrete examples of its use [here](#).

General Description And Design Decisions

The ontology presented here conceptualizes and represents part of the research/cultural landscape, with particular focus on the research/cultural activities and their funding.

We provide a graphical representation of the ontology:

The model is based on the following simple principles and specific relevant design decisions:

1. the model distinguishes six principal classes: Project, Grant, Funding Agency, FundingScheme, Role, Person, Organisation, Criterion;
2. a Project is an organised endeavour (collective or individual) planned to reach a particular aim or achieve a result
3. a Grant is a disbursed fund paid to a recipient or beneficiary (a Participant) and the process for it
4. a Project may be funded by one or more Grants simultaneously or in sequence
5. a Grant may fund one or several Projects
6. Grants can be awarded to Person(s) or to Organisation(s), hence beneficiaries can be a Person or an Organisation
7. Projects can be participated by Person(s) or to Organisation(s), hence a participant, individuated by a Role, can be a Person or an Organisation
8. a participant (Person or Organisation) in a Project may not beneficiary of the Grant(s) funding the Project; accordingly, the model reflect that participants of Project and beneficiaries of Grant funding the same Project may be different
9. Funding Agencies are the organisations materially disbursing and administrating the Grant process

, note that they are typically distinguished from ultimate funders, which are entities establishing the agencies and/or the funding resources, and which are modeled in DINGO via the `dg:funder` predicate (Example: the ERC is a funding agency that has been established and works for the ultimate funder European Commission, which provides its budget)
10. Funding Schemes are specifications of Grant coverage, Grant eligibility, Grant reimbursement rates, Grant specific criteria for funding, Grant population targets, and similar features; such feature specifications constitute the Criterion to award funds (Grants)
11. Funding Schemes may be su-specifications of more general Funding schemes
12. Criteria can be of different nature, modeled in this ontology via different sub-classes, and multiple Criteria can coexist in a single FundingScheme

Aims Of The Model

The principal aim of the DINGO ontology is to provide a standardised description and format to share data between systems. The intended interoperability is both among systems curated/owned by different entities, and for data sharing between devices and platforms.

Special care has been devoted to minimize the efforts in applying/adopting the ontology by users. In particular, while the model has been created using Linked Data fundamentals, it is apt to different implementations, also of non-graph type, and thus it does not address specifically the optimization of graph inference and graph-based queries.

We would like to stress the practical aims that have moulded such ontology. We also present specifications of such ontology for existing knowledge graphs (namely, Wikidata and Schema.org), to given the right

consideration also to relevant implementation aspects. This has also allowed us to prepare a pilot example of such a knowledge graph.

Relation With Other Ontologies, Extensions And Integrations Of The Model

The ontology presented here conceptualizes and represents part of the research/cultural landscape, with particular focus on the research/cultural activities and their funding. It allows for and benefits from extensions with ontologies describing other specific aspects, such as for example the outputs or products of such research activities, which are not modeled by DINGO itself. Data models for those areas have been and are being developed (for example see [FABIO](#) concerning publications). Specularly, data models based on those ontologies can be integrated and extended via DINGO to cover also for funding information and data. To our knowledge the existing ontologies about funding ([FRAPO](#) and the one used in [Springer Nature SciGraph](#)) are more limited in vocabulary, both in number of entities as well as richness of predicates, thus leading to a more partial conceptualisation of the knowledge area.

Serialisations

The examples presented in this document are written and [serialised in Turtle](#). The turtle serialisation file is available [here](#). We have also provided a [serialisation of the model written as Shape Expressions](#) which allow also for data validation in graph-based RDF implementations.

Data Validation

We also provide a definition of the [model in Shape Expression](#) language, which is usable for data validation.

Normativity

The model should be normative in its definition and characterisations, but given the, at the moment, lack of standardisation in the available datasets and the notable differences among them, we prefer to adopt an “elastic” point of view on conformance.

By this we mean that if there exists classes and attributes in datasets conforming to the model ones they must be represented as indicated in this model. Otherwise, in absence of the relative pieces of data, certain classes and relative predicates may be left absent.

Terminology

We briefly list here the terms we will be using in the rest of this document to present and describe the model.

- **Item** An element of interest, typically represented by an IRI and associated to a graph node in graph-based representations of the model.
- **Property** A feature of a Resource with a particular data type. Properties can be both other Items, as well as literals such as a string, integer, date.
- **Class** Items are divided and classified in groups called “classes” and are related to them via typing. Classes are Items as well, and as such are individuated by IRIs. An element Item realisation of a Class is called an Instance.
- **Type** A special Property associating an Instance to the Class it belongs to.

Ontology Detailed Description

The namespace used for the ontology description is: <https://w3id.org/dingo#>.

We describe here below in details the vocabulary (ontology) of DINGO. A synthetic one-sentence description of the vocabulary could be: Funders empower Funding Agencies implementing Funding Schemes, to provide Grants, which have Beneficiaries in various Roles, in partial Payments to Projects, which have Participants in various Roles, in order to advance knowledge and produce results and new outputs.

Prefixes

Prefix	Namespace	Description
rdf	http://www.w3.org/1999/02/22-rdf-syntax-ns#	rdf-schema
rdfs	http://www.w3.org/2000/01/rdf-schema#	rdf-schema
schema	http://schema.org/	schema.org
skos	http://www.w3.org/2004/02/skos/core#	skos-reference
wd	http://www.wikidata.org/entity/	wikidata-namespaces
p	http://www.wikidata.org/prop/	wikidata-namespaces
dg		DINGO namespace

Classes

Grant

A disbursed fund paid to a recipient or beneficiary and the process for it.

Predicates:

[dg:start_time](#);
[dg:end_time](#);
[dg:economic_value](#);
[dg:implementation_of](#);
[dg:finances](#);
[dg:disbursed_by](#);
[dg:beneficiary](#);
[dg:hasPart](#);
[dg:agency_identifier](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

GrantPayment

A single payment to a recipient or beneficiary within a Grant.

Predicates:

[rdf:type](#);
[dg:point_in_time](#);
[dg:isPartOf](#);
[dg:agency_identifier](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

Project

An organised endeavour (collective or individual) planned to reach a particular aim or achieve a result.

Predicates:

[dg:official_website](#);
[dg:participant](#);
[dg:inception](#);
[dg:start_time](#);
[dg:end_time](#);
[dg:title](#);
[dg:field_of_work](#);
[dg:main_topic](#);
[dg:objective](#);
[dg:product_or_material_produced](#);
[dg:abstract_or_summary_description](#);
[dg:funded_by](#);
[dg:short_name](#);

[dg:budget](#)
[rdfs:label](#)
[rdfs:comment](#);
[skos:altLabel](#);

Role

The function assumed by or ascribed to an entity (typically person, group of persons or organisation) in a particular situation. It can be used to precise or represent additional information about a relationship or property such as participation or membership.

Note: the class should be only used to derive subclasses.

Predicates:

[dg:participant_of](#)
[dg:beneficiary_of](#)
[dg:start_time](#);
[dg:end_time](#);
[dg:role_label](#);
[dg:entity_taking_role](#);
[dg:agency_identifier](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

Equivalent Class: [schema:Role](#)

PersonRole

Function assumed by or ascribed to a person that takes part in something.

Predicates:

[rdf:subClassOf](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Role](#)

OrganisationRole

Function assumed by or ascribed to an organisation that takes part in something.

Predicates:

[rdf:subClassOf](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Role](#)

Person

A person (alive, dead, undead, or fictional).

Predicates (specific for this ontology):

[schema:familyName](#);
[schema:givenName](#);
[schema:additionalName](#);
[dg:official_website](#);
[schema:hasOccupation](#); ATTENTION: ONLY PENDING.
[dg:academic_degree](#);
[dg:employer](#);

[dg:field_of_work](#);
[dg:orcid_id](#);
[dg:takes_role](#);
[schema:affiliation](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);
[owl:equivalentClass](#);

Same Classes ([owl:equivalentClass](#)): [schema:Person](#)

Organisation

Social entity with a collective goal.

Predicates:

[dg:inception](#);
[dg:start_time](#);
[dg:end_time](#);
[schema:legal_name](#);
[dg:official_website](#);
[dg:country](#);
[dg:field_of_work](#);
[dg:headquarters_location](#);
[dg:grid_id](#);
[dg:short_name](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

Same Classes ([owl:equivalentClass](#)): [schema:Organisation](#)

Company

A commercial business.

SubClass of: [dg:Organisation](#)

EducationalOrganisation

Institution that provides education.

SubClass of: [dg:Organisation](#)

Same Classes ([owl:equivalentClass](#)): [schema:EducationalOrganization](#)

HigherEducationOrganisation

Place of postsecondary education (e.g., universities, vocational universities, community colleges, liberal arts colleges, institutes of technology, and others).

SubClass of: [dg:Organisation](#)

ResearchPerformingOrganisation

Organisations devoted to research activities.

SubClass of: [dg:Organisation](#)

HealthcareOrganisation

Organization that provides health care and related services.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:MedicalOrganization](#);

NonprofitOrganisation

Business entity that pays no income tax, as it furthers a religious, scientific or social cause, providing a public benefit.

SubClass of: [dg:Organisation](#)

FacilityOrganisation

A place providing for a particular purpose.

SubClass of: [dg:Organisation](#)

GovernmentalOrganisation

Organisation depending on a government or State.

SubClass of: [dg:Organisation](#)

ArchiveOrganisation

Institution that holds artifacts and other objects of scientific, artistic, cultural, historical, or other importance.

SubClass of: [dg:Organisation](#)

CulturalOrganisation

Cultural institution or cultural organization is an organization within a culture/subculture that works for the preservation or promotion of culture.

SubClass of: [dg:Organisation](#)

PerformingGroup

A performance group, such as a band, an orchestra, or a circus.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:PerformingGroup](#);

SportsOrganisation

Represents the class of all sports organizations, including sports teams, governing bodies, and sports associations.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:SportsOrganization](#)

SupranationalOrganisation

International organisation with power and influence in the jurisdictions of its member states. Example: European Union.

SubClass of: [dg:Organisation](#)

IntergovernmentalOrganization

Organization composed primarily of sovereign states. Example: United Nations.

SubClass of: [dg:Organisation](#)

FundingAgency

Organisation that materially disburse and administer the Grant process.

Predicates:

[dg:inception](#);
[dg:end_time](#);
[dg:official_website](#);
[dg:implements](#);
[dg:disburses](#);
[dg:crossref_id](#);
[dg:short_name](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Organisation](#)

FundingScheme

Plan, design, and/or program that determines and organizes the funding.

Predicates:

[dg:official_website](#);
[dg:inception](#);
[dg:start_time](#);
[dg:end_time](#);
[schema:legal_name](#);
[dg:funder](#);
[dg:implemented_by](#);
[dg:has_implementation](#);
[dg:criterion](#)
[dg:hasPart](#)
[dg:isPartOf](#)
[dg:agency_identifier](#);
[dg:short_name](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

Criterion

Specification of Grant coverage, Grant eligibility, Grant reimbursement rates, Grant specific criteria for

funding, Grant population targets, and similar features.

Note: the class should be only used to derive subclasses.

Predicates:

[dg:critierion_description](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

ThematicCriterion

Grants are awarded on the basis of specified thematic/subject areas or well-defined areas of investigation indicated by the funding body.

Predicates:

[dg:field_of_work](#);
[dg:main_topic](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

OrganisationalCriterion

Grants are awarded on the basis of specified organisational form of the project, for instance demanding for participation of different research groups (synergy).

Predicates:

[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

CareerPurposeCriterion

Grants are awarded on the basis of career-related goals and applicants must be at a defined career stage (defined academic degree) to be achieved.

Predicates:

[dg:academic_degree](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

InfrastructurePurposeCriterion

Grants are awarded to cover for the expenses of infrastructure.

Predicates:

[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

CareerStageCriterion

Grants are awarded on the basis of career stage limits.

Predicates:

[dg:baseline_academic_degree](#);
[dg:min_years_from_baseline_degree](#);
[dg:max_years_from_baseline_degree](#);
[dg:min_research_years](#);
[dg:excluded_academic_degree](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

EmploymentCriterion

Grants are awarded on the basis of employment conditions by an organisation eligible for funding at the time of applying or receiving the funds.

Predicates:

[dg:percentage_employment](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

AgeCriterion

Grants are awarded on the basis of age limits.

Predicates:

[dg:min_age](#);
[dg:max_age](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

WorkingTimeCriterion

Grants are awarded on the basis of percentage of work time specifically devoted to the funded research.

Predicates:

[dg:percentage_working_time](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

GeographicCriterion

Grants are awarded on the basis of geographic areas, either where the project has to be implemented, or where the researcher must have been operating before applying for funding, or where the participants must be resident or citizens.

Predicates:

[dg:implementation_country](#);

[dg:person_location](#);
[dg:organisation_location](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

BottomUpCriterion

Grants are awarded on the basis of the research proposal itself without restriction on theme/subject or research area. The funding body does not specifies beforehand missions, targets nor topics of the research projects that can apply.

Predicates:

[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

SubClass of: [dg:Criterion](#)

AcademicDegree

College or university diploma

Predicates:

[dg:degree_title](#);
[rdfs:label](#);
[rdfs:comment](#);
[skos:altLabel](#);

Same Classes (owl:equivalentClass): <https://www.wikidata.org/entity/Q189533>

Predicates/Properties

economic_value

Amount in a specific currency (relationship between the item and a value expressed in a currency unit).

Domain: [rdfs:Resource](#)

Range: [schema:MonetaryAmount](#)

implementation_of

The relationship between the grant (subject) and the decision, plan, program (object) that the grant is the concrete realisation of. Inverse relation is [dg:has_implementation](#) .

Domain: [dg:Grant](#)

Range: [dg:FundingScheme](#)

has_implementation

The inverse relation of [dg:implementation_of](#) .

Domain: [dg:FundingScheme](#)

Range: [dg:Grant](#)

implements

The relationship between the funding agency (subject) and the decision, plan, program (object) that the funding agency implements and administers. Inverse relation is [dg:implemented_by](#) .

Domain: [dg:FundingAgency](#)

Range: [dg:FundingScheme](#)

implemented_by

The inverse relation of [dg:implements](#) .

Domain: [dg:FundingScheme](#)

Range: [dg:FundingAgency](#)

finances

The relation between the Grant (subject) and the Project (object). Inverse relation is [dg:funded_by](#) .

Domain: [dg:Grant](#)

Range: [dg:Project](#)

funded_by

The inverse relation of [dg:finances](#).

Domain: [dg:Grant](#)

Range: [dg:Project](#)

beneficiary

The relation between the Grant (subject) and a (one of the) person(s) or organisation(s) beneficiary of it identified by his/her/its role. The inverse relation is [dg:beneficiary_of](#) .

Domain: [dg:Grant](#)

Range: [dg:Role](#)

beneficiary_of

Inverse relation of [dg:beneficiary](#) .

Domain: [dg:Role](#)

Range: [dg:Grant](#)

agency_identifier

The identifiers used by the funding agency to denote an item (grant, payment, project,). Typically these are not universal identifiers.

Domain: UNION{[dg:Grant](#), [dg:GrantPayment](#), [dg:Project](#) [dg:Role](#) [dg:FundingScheme](#)}

Range: [xsd:string]<https://www.w3.org/TR/xmlschema-2/#string>

participant

The relation between the Project (subject) and a (one of the) person(s) or organisation(s) contributing to or taking part in it identified by his/her/its role. The inverse relation is [dg:participant_of](#) .

Domain: [dg:Project](#)

Range: [dg:Role](#)

participant_of

Inverse relation of [dg:participant](#) .

Domain: [dg:Role](#)

Range: [dg:Project](#)

haspart

The relation between a superset and its direct subset(s). Indicates an item that is a part (also in generalised sense) of the subject item. The inverse relation is [dg:isPartOf](#)

Domain: [rdfs:Resource](#)

Range: [rdfs:Resource](#)

ispartof

The relation inverse of [dg:hasPart](#).

Domain: [rdfs:Resource](#)

Range: [rdfs:Resource](#)

point_in_time

The moment in time when an event occurs.

Domain: [rdfs:Resource](#)

Range: UNION{[xsd:date](#), [xsd:dateTime](#)}

Equivalent property: <https://www.wikidata.org/prop/P585>

inception

Date or point in time when the subject was founded/created.

Domain: [rdfs:Resource](#)

Range: UNION{[xsd:date](#), [xsd:dateTime](#)}

Equivalent property: <https://www.wikidata.org/prop/P571>

start_time

The time an item starts to exist/operate or a statement starts being valid.

Domain: [rdfs:Resource](#)

Range: UNION{[xsd:date](#), [xsd:dateTime](#)}

end_time

The time an item ceases to exist or a statement stops being valid.

Domain: [rdfs:Resource](#)

Range: UNION{[xsd:date](#), [xsd:dateTime](#)}

Equivalent property: <https://www.wikidata.org/prop/P582>

title

The title of a project (original or translated).

Domain: [dg:Project](#)

Range: [[xsd:string](#)]<https://www.w3.org/TR/xmlschema-2/#string>)

field_of_work

Specialisation of a person, project or organisation.

Domain: [dg:Project](#)

Range: [rdfs:Resource](#)

main_topic

Primary topic of a project. Use to individuate more precisely the subject of a project. For instance, a research project may have “field of work” = Classical Studies and “main topic”=Homer Iliades.

Domain: [dg:Project](#)

Range: [rdfs:Resource](#)

objective

Desired result or outcome.

Domain: [dg:Project](#)

Range: [rdfs:Resource](#)

product_or_material_produced

Material, product or outcome produced by a Project.

Domain: [dg:Project](#)

Range: [rdfs:Resource](#)

abstract_or_summary_description

Short summary description of a project.

Domain: [dg:Project](#)

Range: [\[xsd:string\]https://www.w3.org/TR/xmlschema-2/#string](#)

budget

Amount of money necessary or planned for a determined purpose.

Domain: [rdfs:Resource](#)

Range: [schema:MonetaryAmount](#)

role_label

Label (name) of a Role.

Domain: [dg:Role](#)

Range: [\[xsd:string\]https://www.w3.org/TR/xmlschema-2/#string](#)

role_type

Item representing the specific class of a Role.

Domain: [dg:Role](#)

Range: [rdfs:Resource](#)

entity_taking_role

The person or organisation or entity (object) assuming or to whom is assigned the role (subject).

Domain: [dg:Role](#)

Range: [UNION{dg:Person, dg:Organisation}](#)

takes_role

The role (object) assumed or assigned to a person or organisation or entity (subject).

Domain: [UNION{dg:Person, dg:Organisation}](#)

Range: [dg:Role](#)

academic_degree

Qualification awarded to the person taking the role by a higher education organisation, normally at a college or university.

Domain: [dg:Person](#)

Range: [dg:AcademicDegree](#)

Equivalent property: <https://www.wikidata.org/prop/P512>

employer

A person or company that provides a job (possibly paying wages or a salary) to the person taking the role.

Domain: [dg:Person](#)

Range: UNION{[dg:Person](#), [dg:Organisation](#)}

country

Country where the organisation is officially located.

Domain: [dg:Organisation](#)

Range: [schema:Country](#)

headquarters_location

Address of the headquarters of the organisation.

Domain: [dg:Organisation](#)

Range: [schema:PostalAddress](#)

short_name

Acronym or short name of an organisation or project or funding scheme.

Domain: UNION{[dg:Organisation](#), [dg:Project](#), [dg:FundingScheme](#)}

Range: [xsd:string]<https://www.w3.org/TR/xmlschema-2/#string>

official_website

URL of the official website of an item.

Domain: UNION{[dg:Organisation](#), [dg:Person](#), [dg:FundingAgency](#), [dg:Project](#), [dg:FundingScheme](#)}

Range: [schema:url](#) [rdfs:Literal](#)

Equivalent property: <https://www.wikidata.org/prop/P856>

disburses

The relation between the funding agency (subject) and the disbursed grant (object). The inverse relation is

[dg:disbursed_by](#).

Domain: [dg:FundingAgency](#)

Range: [dg:Grant](#)

disbursed_by

Inverse relation of [dg:disburses](#).

Domain: [dg:Grant](#)

Range: [dg:FundingAgency](#)

funder

The ultimate funder who decided and is ultimately responsible for the funding scheme. (Example: FundingScheme Horizon2020 dg:funder European Commission).

Domain: [dg:FundingScheme](#)

Range: [rdfs:Resource](#)

criterion

Property by which a distinction or classification is made. When applied to, for instance, FundingScheme items it indicates criterion item establishing the eligibility conditions, target and other relevant points of the FundingScheme to fund an application.

Domain: [dg:FundingScheme](#)

Range: [dg:Criterion](#)

criterion_description

Description of the eligibility, targets and other relevant points of the FundingScheme.

Domain: [dg:FundingScheme](#)

Range: [xsd:string](#)

agency_identifier

Identifier (for example of Project, Grant, GrantPayment, PersonRole instance, OrganizationRole instance or FundingScheme) in the database/archive of the funding agency.

Domain: {[dg:Grant](#), [dg:GrantPayment](#), [dg:Project](#), [dg:Role](#), [dg:FundingScheme](#)}

Range: [xsd:string](#)

grid_id

Institutional identifier from the GRID.ac global research identifier database.

Domain: [dg:Organisation](#)

Range: [xsd:string](#)

crossref_id

Identifier for an organisation that funds research, in the Crossref registry.

Domain: [dg:FundingAgency](#)

Range: [xsd:string](#)

wikidata_item_id

Identifier for a class or item existing in Wikidata.

Domain: {[dg:Grant](#), [dg:GrantPayment](#), [dg:Project](#), [dg:Role](#), [dg:Person](#), [dg:Organisation](#), [dg:FundingAgency](#), [dg:FundingScheme](#), [dg:AcademicDegree](#)}

Range: [xsd:string](#)

orcid_id

Nonproprietary alphanumeric code to uniquely identify scientific and other academic authors.

Domain: [dg:Person](#)

Range: [xsd:string](#)

baseline_academic_degree

Academic degree used as minimal/reference point for establishing a set of age limits or other classification.

Domain: [dg:CareerStageCriterion](#)

Range: [dg:AcademicDegree](#)

min_years_from_baseline_degree

Minimum number of years counting from the year of when the [baseline academic degree](#) was obtained.

Domain: [dg:CareerStageCriterion](#)

Range: [xsd:positiveInteger](#)

max_years_from_baseline_degree

Maximum number of years counting from the year of when the [baseline academic degree](#) was obtained.

Domain: [dg:CareerStageCriterion](#)

Range: [xsd:positiveInteger](#)

min_research_years

Minimum number of research years required.

Domain: [dg:CareerStageCriterion](#)

Range: [xsd:positiveInteger](#)

excluded_academic_degree

Academic degree possessing which the subject of the statement cannot apply to the funding program.

Domain: [dg:CareerStageCriterion](#)

Range: [dg:AcademicDegree](#)

percentage_employment

Minimum percentage of employment required (for example to be eligible for funding).

Domain: [dg:EmploymentCriterion](#)

Range: [xsd:positiveInteger](#)

min_age

Minimum age required.

Domain: [dg:AgeCriterion](#)

Range: [xsd:positiveInteger](#)

max_age

Maximum age allowed.

Domain: [dg:AgeCriterion](#)

Range: [xsd:positiveInteger](#)

implementation_country

Country or geographical administrative entity where the project must be implemented.

Domain: [dg:GeographicCriterion](#)

Range: [schema:Country](#) U [dg:SupranationalOrganisation](#)

person_location

Country or geographical administrative entity where the person must reside or be citizen or have undertaken research up to the moment of applying for funding.

Domain: [dg:GeographicCriterion](#)

Range: [schema:Country](#) U [dg:SupranationalOrganisation](#)

organisation_location

Country or geographical administrative entity where an organisation must be established to apply for funding.

Domain: [dg:GeographicCriterion](#)

Range: [schema:Country](#) U [dg:SupranationalOrganisation](#)

percentage_working_time

Amount of working time in percentage.

Domain: [dg:WorkingTimeCriterion](#)

Range: [xsd:positiveInteger](#)

degree_title

Title denoting the academic degree.

Domain: [dg:AcademicDegree](#)

Range: [xsd:string]]<https://www.w3.org/TR/xmlschema-2/#string>)

Ontology Serialisation In Turtle Language

The turtle serialisation file is available [here](#).

```
@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 dc: <http://purl.org/dc/elements/1.1/>
@prefix dcterms: <http://purl.org/dc/terms/>
@prefix foaf: <http://xmlns.com/foaf/0.1/>
@prefix wd: <http://www.wikidata.org/entity/>
@prefix p: <http://www.wikidata.org/prop/>
@prefix owl: <http://www.w3.org/2002/07/owl#>
@prefix skos: <http://www.w3.org/2004/02/skos/core#>
@prefix schema: <http://schema.org/>
@prefix dg: <https://dcodings.github.io/GrantModel/DINGO/DINGO-OWL#>

dg:Grant a rdfs:Class ;
  rdfs:label "Grant" ;
  rdfs:comment "The class for grant: a disbursed fund paid to a recipient
or beneficiary (a Participant) and the process for it." ;
  rdfs:isDefinedBy dg: .

dg:GrantPayment a rdfs:Class ;
  rdfs:label "GrantPayment" ;
  rdfs:comment "The class for grant payments: a single payment to a
recipient or beneficiary within a Grant." ;
  rdfs:isDefinedBy dg: .

dg:Project a rdfs:Class ;
  rdfs:label "Project" ;
  rdfs:comment "The class for projects: an organised endeavour (collective
or individual) planned to reach a particular aim or achieve a result." ;
  rdfs:isDefinedBy dg: .

dg:Role a rdfs:Class ;
  rdfs:label "Role" ;
  rdfs:comment ""The class for roles: the function assumed by or ascribed
to an entity (typically person, group of persons or organisation) in a
particular situation.
It can be used to precise or represent additional information about a
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relationship or property such as participation or membership. The class
should be only used to derive subclasses.""" ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:Role .

dg:PersonRole a rdfs:Class ;
    rdfs:label "PersonRole" ;
    rdfs:comment "The class for person roles: function assumed by or
ascribed to a person that takes part in something." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Role .

dg:OrganisationRole a rdfs:Class ;
    rdfs:label "OrganisationRole" ;
    rdfs:comment "The class for organisation roles: function assumed by or
ascribed to an organisation that takes part in something." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Role .

dg:Person a rdfs:Class ;
    rdfs:label "Person" ;
    rdfs:comment "The class for persons: alive, dead, undead, or fictional."
;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:Person .

dg:Organisation a rdfs:Class ;
    rdfs:label "Organisation" ;
    rdfs:comment "The class for organisations: social entities with a
collective goal." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:Organisation .

dg:Company a rdfs:Class ;
    rdfs:label "Company" ;
    rdfs:comment "A commercial business." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:Organisation ;
    rdfs:subClassOf dg:Organisation .

dg:EducationOrganisation a rdfs:Class ;
    rdfs:label "EducationOrganisation" ;
    rdfs:comment "Institution that provides education." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:EducationalOrganisation ;
    rdfs:subClassOf dg:Organisation .

dg:HigherEducationOrganisation a rdfs:Class ;
    rdfs:label "HigherEducationOrganisation" ;
    rdfs:comment "Place of postsecondary education (e.g., universities,
vocational universities, community colleges, liberal arts colleges,
institutes of technology, and others)." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:ResearchPerformingOrganisation a rdfs:Class ;
    rdfs:label "ResearchPerformingOrganisation" ;
    rdfs:comment "Organisations devoted to research activities." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:HealthcareOrganisation a rdfs:Class ;
    rdfs:label "HealthcareOrganisation" ;
    rdfs:comment "Organization that provides health care and related
services." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:MedicalOrganization ;
    rdfs:subClassOf dg:Organisation .

dg:NonprofitOrganisation a rdfs:Class ;
    rdfs:label "NonprofitOrganisation" ;
    rdfs:comment "Business entity that pays no income tax, as it furthers a
religious, scientific or social cause, providing a public benefit." ;

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    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:FacilityOrganisation a rdfs:Class ;
    rdfs:label "FacilityOrganisation" ;
    rdfs:comment "A place providing for a particular purpose." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:GovernmentalOrganisation a rdfs:Class ;
    rdfs:label "GovernmentalOrganisation" ;
    rdfs:comment "Organisation or agency depending on a government or
State." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:GovernmentOrganization ;
    rdfs:subClassOf dg:Organisation .

dg:ArchiveOrganisation a rdfs:Class ;
    rdfs:label "ArchiveOrganisation" ;
    rdfs:comment "Institution that holds artifacts and other objects of
scientific, artistic, cultural, historical, or other importance." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:CulturalOrganisation a rdfs:Class ;
    rdfs:label "CulturalOrganisation" ;
    rdfs:comment "Cultural institution or cultural organization is an
organization within a culture/subculture that works for the preservation or
promotion of culture." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:PerformingGroup a rdfs:Class ;
    rdfs:label "PerformingGroup" ;
    rdfs:comment "A performance group, such as a band, an orchestra, or a
circus." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:PerformingGroup ;
    rdfs:subClassOf dg:Organisation .

dg:SportsOrganisation a rdfs:Class ;
    rdfs:label "SportsOrganisation" ;
    rdfs:comment "Represents the class of all sports organizations,
including sports teams, governing bodies, and sports associations." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass schema:SportsOrganisation ;
    rdfs:subClassOf dg:Organisation .

dg:SupranationalOrganisation a rdfs:Class ;
    rdfs:label "SupranationalOrganisation" ;
    rdfs:comment "International organisation with power and influence in the
jurisdictions of its member states. Example: European Union." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:IntergovernmentalOrganisation a rdfs:Class ;
    rdfs:label "IntergovernmentalOrganisation" ;
    rdfs:comment "Organization composed primarily of sovereign states.
Example: United Nations." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:FundingAgency a rdfs:Class ;
    rdfs:label "FundingAgency" ;
    rdfs:comment "The class for funding agencies: organisation that
materially disburse and administer the Grant process." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Organisation .

dg:FundingScheme a rdfs:Class ;
    rdfs:label "FundingScheme" ;
    rdfs:comment "The class for funding schemes: plans, designs, and/or
programs that determines and organizes the funding." ;
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    rdfs:isDefinedBy dg: .

dg:Criterion a rdfs:Class ;
    rdfs:label "Criterion" ;
    rdfs:comment "Specification of Grant coverage, Grant eligibility, Grant
reimbursement rates, Grant specific criteria for funding, Grant population
targets, and similar features." ;
    rdfs:isDefinedBy dg: .

dg:ThematicCriterion a rdfs:Class ;
    rdfs:label "ThematicCriterion" ;
    rdfs:comment "Grants are awarded to projects on the basis of specified
thematic/subject areas or well-defined areas of investigation indicated by
the funding body." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:OrganisationalCriterion a rdfs:Class ;
    rdfs:label "OrganisationalCriterion" ;
    rdfs:comment "Grants are awarded on the basis of specified
organisational form of the project, for instance demanding for participation
of different research groups (synergy)." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:CareerPurposeCriterion a rdfs:Class ;
    rdfs:label "CareerPurposeCriterion" ;
    rdfs:comment "Grants are awarded on the basis of career-related goals
and applicants must be at a defined career stage (defined academic degree)
to be achieved." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:InfrastructurePurposeCriterion a rdfs:Class ;
    rdfs:label "InfrastructurePurposeCriterion" ;
    rdfs:comment "Grants are awarded to cover for the expenses of
infrastructure." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:CareerStageCriterion a rdfs:Class ;
    rdfs:label "CareerStageCriterion" ;
    rdfs:comment "Grants are awarded to projects on the basis of career
stage limits." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:EmploymentCriterion a rdfs:Class ;
    rdfs:label "EmplymentCriterion" ;
    rdfs:comment "Grants are awarded on the basis of employment conditions
by an organisation eligible for funding at the time of applying or receiving
the funds." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:AgeCriterion a rdfs:Class ;
    rdfs:label "AgeCriterion" ;
    rdfs:comment "Grants are awarded to projects on the basis of age
limits." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:WorkingTimeCriterion a rdfs:Class ;
    rdfs:label "WorkingTimeCriterion" ;
    rdfs:comment "Grants are awarded to projects on the basis of percentage
of work time specifically devoted to the funded research." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:GeographicCriterion a rdfs:Class ;
    rdfs:label "GeographicCriterion" ;
    rdfs:comment "Grants are awarded to projects on the basis of geographic
areas, either where the project has to be implemented, or where the
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researcher must have been operating before applying for funding, or where
the participants must be resident or citizens." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:BottomUpCriterion a rdfs:Class ;
    rdfs:label "BottomUpCriterion" ;
    rdfs:comment "Grants are awarded to projects on the basis of the
research proposal itself without restriction on theme/subject or research
area. The funding body does not specify beforehand missions, targets nor
topics of the research projects that can apply." ;
    rdfs:isDefinedBy dg: ;
    rdfs:subClassOf dg:Criterion.

dg:AcademicDegree a rdfs:Class ;
    rdfs:label "AcademicDegree" ;
    rdfs:comment "The class for academic degrees: college or university
diploma." ;
    rdfs:isDefinedBy dg: ;
    owl:equivalentClass wd:Q189533 .

dg:economic_value a rdf:Property ;
    rdfs:label "economic_value" ;
    rdfs:comment "Amount in a specific currency (relationship between the
item and a value expressed in a currency unit)." ;
    rdfs:domain rdfs:Resource ;
    rdfs:range schema:MonetaryAmount ;
    owl:equivalentProperty schema:MonetaryAmount ;
    rdfs:isDefinedBy dg: .

dg:implementation_of a rdf:Property ;
    rdfs:label "implementation_of" ;
    rdfs:comment "The relationship between the grant (subject) and the
decision, plan, program (object) that the grant is the concrete realisation
of." ;
    rdfs:domain dg:Grant ;
    rdfs:range dg:FundingScheme ;
    owl:inverseOf dg:has_implementation ;
    rdfs:isDefinedBy dg: .

dg:has_implementation a rdf:Property ;
    rdfs:label "has_implementation" ;
    rdfs:comment "The relationship between the decision, plan, program
(subject) and the grant (object) that the grant is the concrete realisation
of." ;
    rdfs:domain dg:FundingScheme ;
    rdfs:range dg:Grant ;
    owl:inverseOf dg:implementation_of ;
    rdfs:isDefinedBy dg: .

dg:implements a rdf:Property ;
    rdfs:label "implements" ;
    rdfs:comment "The relationship between the funding agency (subject) and
the decision, plan, program (object) that the funding agency implements and
administers." ;
    rdfs:domain dg:FundingAgency ;
    rdfs:range dg:FundingScheme ;
    owl:inverseOf dg:implemented_by ;
    rdfs:isDefinedBy dg: .

dg:implemented_by a rdf:Property ;
    rdfs:label "implemented_by" ;
    rdfs:comment "The relationship between the decision, plan, program
(subject) and the funding agency (object) that the funding agency implements
and administers." ;
    rdfs:domain dg:FundingScheme ;
    rdfs:range dg:FundingAgency ;
    owl:inverseOf dg:implements ;
    rdfs:isDefinedBy dg: .

dg:finances a rdf:Property ;
    rdfs:label "finances" ;

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    rdfs:comment "The relation between the Grant (subject) and the Project
(object).";
    rdfs:domain dg:Grant ;
    rdfs:range dg:Project ;
    owl:inverseOf dg:funded_by ;
    rdfs:isDefinedBy dg: .

dg:funded_by a rdf:Property ;
    rdfs:label "funded_by" ;
    rdfs:comment "The relation between the Grant (subject) and the Project
(object).";
    rdfs:domain dg:Project ;
    rdfs:range dg:Grant ;
    owl:inverseOf dg:finances ;
    rdfs:isDefinedBy dg: .

dg:beneficiary a rdf:Property ;
    rdfs:label "beneficiary" ;
    rdfs:comment "The relation between the Grant (subject) and a (one of
the) person(s) or organisation(s) receiving beneficts from it identified by
his/her/its role." ;
    rdfs:domain dg:Grant ;
    rdfs:range dg:Role ;
    owl:inverseOf dg:beneficiary_of ;
    rdfs:isDefinedBy dg: .

dg:beneficiary_of a rdf:Property ;
    rdfs:label "beneficiary_of" ;
    rdfs:comment "The relation between a (one of the) person(s) or
organisation(s) receiving benefits from a Grant identified by his/her/its
role (subject), and the Grant." ;
    rdfs:domain dg:Role ;
    rdfs:range dg:Grant ;
    owl:inverseOf dg:beneficiary ;
    rdfs:isDefinedBy dg: .

dg:participant a rdf:Property ;
    rdfs:label "participant" ;
    rdfs:comment "The relation between the Project (subject) and a (one of
the) person(s) or organisation(s) contributing to or taking part in it
identified by his/her/its role." ;
    rdfs:domain dg:Project ;
    rdfs:range dg:Role ;
    owl:inverseOf dg:participant_of ;
    owl:equivalentProperty p:P710 ;
    rdfs:isDefinedBy dg: .

dg:participant_of a rdf:Property ;
    rdfs:label "participant_of" ;
    rdfs:comment "The relation between a (one of the) person(s) or
organisation(s) participant of a Project identified by his/her/its role
(subject), and the Project." ;
    rdfs:domain dg:Role ;
    rdfs:range dg:Project ;
    owl:inverseOf dg:participant ;
    rdfs:isDefinedBy dg: .

dg:hasPart a rdf:Property ;
    rdfs:label "hasPart" ;
    rdfs:comment "The relation between a superset and its direct subset(s).
Indicates an item that is a part (also in generalised sense) of the subject
item." ;
    rdfs:domain rdfs:Resource ;
    rdfs:range rdfs:Resource ;
    owl:inverseOf dg:isPartOf ;
    rdfs:isDefinedBy dg: .

dg:isPartOf a rdf:Property ;
    rdfs:label "isPartOf" ;
    rdfs:comment "The relation between a subset and its direct superset(s).
Indicates an item that is a part (also in generalised sense) of the object
item." ;

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    rdfs:domain rdfs:Resource ;
    rdfs:range rdfs:Resource ;
    owl:inverseOf dg:hasPart ;
    rdfs:isDefinedBy dg: .

dg:point_in_time a rdf:Property ;
    rdfs:label "point_in_time" ;
    rdfs:comment "The moment in time when an event occurs." ;
    rdfs:domain rdfs:Resource ;
    rdfs:range [ a owl:Class; owl:unionOf (xsd:date xsd:dateTime) ] ;
    owl:equivalentProperty p:P585 ;
    owl:equivalentProperty schema:Time ;
    rdfs:isDefinedBy dg: .

dg:inception a rdf:Property ;
    rdfs:label "inception" ;
    rdfs:comment "Date or point in time when the subject was
founded/created." ;
    rdfs:domain rdfs:Resource ;
    rdfs:range [ a owl:Class; owl:unionOf (xsd:date xsd:dateTime) ] ;
    owl:equivalentProperty p:P571 ;
    rdfs:isDefinedBy dg: .

dg:start_time a rdf:Property ;
    rdfs:label "start_time" ;
    rdfs:comment "The time an item starts to exist/operate or a statement
starts being valid." ;
    rdfs:domain rdfs:Resource ;
    rdfs:range [ a owl:Class; owl:unionOf (xsd:date xsd:dateTime) ] ;
    owl:equivalentProperty p:P580 ;
    owl:equivalentProperty schema:startTime ;
    rdfs:isDefinedBy dg: .

dg:end_time a rdf:Property ;
    rdfs:label "end_time" ;
    rdfs:comment "The time an item ceases to exist or a statement stops
being valid." ;
    rdfs:domain rdfs:Resource ;
    rdfs:range [ a owl:Class; owl:unionOf (xsd:date xsd:dateTime) ] ;
    owl:equivalentProperty p:P582 ;
    owl:equivalentProperty schema:endTime ;
    rdfs:isDefinedBy dg: .

dg:title a rdf:Property ;
    rdfs:label "title" ;
    rdfs:comment "The title of a project (original or translated)." ;
    rdfs:domain dg:Project ;
    rdfs:range xsd:string ;
    owl:equivalentProperty p:P1476 ;
    rdfs:isDefinedBy dg: .

dg:field_of_work a rdf:Property ;
    rdfs:label "title" ;
    rdfs:comment "Specialisation of a person, project or organisation." ;
    rdfs:domain dg:Project ;
    rdfs:range rdfs:Resource ;
    owl:equivalentProperty p:P101 ;
    owl:equivalentProperty schema:Specialty ;
    rdfs:isDefinedBy dg: .

dg:objective a rdf:Property ;
    rdfs:label "objective" ;
    rdfs:comment "Desired result or outcome." ;
    rdfs:domain dg:Project ;
    rdfs:range rdfs:Resource ;
    owl:equivalentProperty p:P1056 ;
    rdfs:isDefinedBy dg: .

dg:product_or_material_produced a rdf:Property ;
    rdfs:label "product_or_material_produced" ;
    rdfs:comment "Material, product or outcome produced by a Project." ;
    rdfs:domain dg:Project ;
    rdfs:range rdfs:Resource ;
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owl:equivalentProperty p:P3712 ;
owl:equivalentProperty schema:produces ;
  rdfs:isDefinedBy dg: .

dg:abstract_or_summary_description a rdf:Property ;
  rdfs:label "abstract_or_summary_description" ;
  rdfs:comment "Short summary description of a project." ;
  rdfs:domain dg:Project ;
  rdfs:range xsd:string ;
  rdfs:isDefinedBy dg: .

dg:role_label a rdf:Property ;
  rdfs:label "role_label" ;
  rdfs:comment "Label (name) of a Role." ;
  rdfs:domain dg:Role ;
  rdfs:range xsd:string ;
  owl:equivalentProperty schema:roleName ;
  rdfs:isDefinedBy dg: .

dg:role_type a rdf:Property ;
  rdfs:label "role_type" ;
  rdfs:comment "Item representing the specific class of a Role." ;
  rdfs:domain dg:Role ;
  rdfs:range rdfs:Resource ;
  rdfs:isDefinedBy dg: .

dg:entity_taking_role a rdf:Property ;
  rdfs:label "person_taking_role" ;
  rdfs:comment "The person or organisation or entity (object) assuming or
to whom is assigned the role (subject).";
  rdfs:domain dg:Role ;
  rdfs:range [ a owl:Class; owl:unionOf (dg:Person dg:Organisation) ] ;
  owl:inverseOf dg:takes_role ;
  rdfs:isDefinedBy dg: .

dg:takes_role a rdf:Property ;
  rdfs:label "person_taking_role" ;
  rdfs:comment "The role (object) assumed or assigned to a person or
organisation or entity (subject).";
  rdfs:domain [ a owl:Class; owl:unionOf (dg:Person dg:Organisation) ] ;
  rdfs:range rdfs:Person ;
  owl:inverseOf dg:takes_role ;
  rdfs:isDefinedBy dg: .

dg:academic_degree a rdf:Property ;
  rdfs:label "academic_degree" ;
  rdfs:comment "Qualification awarded to the person taking the role by a
higher education organisation, normally at a college or university." ;
  rdfs:domain dg:Person ;
  rdfs:range dg:AcademicDegree ;
  owl:equivalentProperty p:P512 ;
  rdfs:isDefinedBy dg: .

dg:employer a rdf:Property ;
  rdfs:label "employer" ;
  rdfs:comment "A person or company that provides a job (possibly paying
wages or a salary) to the person taking the role." ;
  rdfs:domain dg:PersonRole ;
  rdfs:range [ a owl:Class; owl:unionOf (dg:Person dg:Organisation) ] ;
  rdfs:isDefinedBy dg: .

dg:country a rdf:Property ;
  rdfs:label "country" ;
  rdfs:comment "Country where the organisation is located officially." ;
  rdfs:domain dg:Organisation ;
  rdfs:range schema:Country ;
  owl:equivalentProperty p:P17 ;
  rdfs:isDefinedBy dg: .

dg:headquarters_location a rdf:Property ;
  rdfs:label "headquarters_location" ;
  rdfs:comment "Address of the headquarters of the organisation." ;
  rdfs:domain dg:Organisation ;

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    rdfs:range schema:PostalAddress ;
owl:equivalentProperty p:P159 ;
    rdfs:isDefinedBy dg: .

dg:official_website a rdf:Property ;
    rdfs:label "official_website" ;
    rdfs:comment "URL of the official website of an item." ;
    rdfs:domain [ a owl:Class; owl:unionOf (dg:Organisation dg:Person
dg:FundingAgency dg:Project dg:FundingScheme) ] ;
    rdfs:range schema:url ;
    owl:equivalentProperty p:P856 ;
    rdfs:isDefinedBy dg: .

dg:short_name a rdf:Property ;
    rdfs:label "short_name" ;
    rdfs:comment "Acronym or short name of an organisation or project or
funding scheme." ;
    rdfs:domain [ a owl:Class; owl:unionOf (dg:Organisation dg:Project
dg:FundingScheme) ] ;
    rdfs:range schema:url ;
    owl:equivalentProperty p:P1813 ;
    rdfs:isDefinedBy dg: .

dg:disburses a rdf:Property ;
    rdfs:label "disburses" ;
    rdfs:comment "The relation between the funding agency (subject) and the
disbursed grant (object).";
    rdfs:domain dg:FundingAgency ;
    rdfs:range dg:Grant ;
    owl:inverseOf dg:is_disbursed_by ;
    rdfs:isDefinedBy dg: .

dg:disbursed_by a rdf:Property ;
    rdfs:label "is_disbursed_by" ;
    rdfs:comment "The relation between the disbursed grant (subject) and the
funding agency (object).";
    rdfs:domain dg:Grant ;
    rdfs:range dg:FundingAgency ;
    owl:inverseOf dg:disburses ;
    rdfs:isDefinedBy dg: .

dg:funder a rdf:Property ;
    rdfs:label "funder" ;
    rdfs:comment ""The ultimate funder who decided and is ultimately
responsible for the funding scheme.
(Example: FundingScheme Horizon2020 dg:funder European Commission)."" ;
    rdfs:domain dg:FundingScheme ;
    rdfs:range rdfs:Resource ;
    rdfs:isDefinedBy dg: .

dg:criterion a rdf:Property ;
    rdfs:label "criterion" ;
    rdfs:comment "Property by which a distinction or classification is made.
When applied to, for instance, FundingScheme items it indicates criterion
item establishing the eligibility conditions, target and other relevant
points of the FundingScheme to fund an application." ;
    rdfs:domain dg:FundingScheme ;
    rdfs:range dg:Criterion ;
    owl:equivalentProperty p:P1013 ;
    rdfs:isDefinedBy dg: .

dg:criterion_description a rdf:Property ;
    rdfs:label "criterion_description" ;
    rdfs:comment "Description of the eligibility, targets and other relevant
points of the FundingScheme." ;
    rdfs:domain dg:FundingScheme ;
    rdfs:range xsd:string ;
    rdfs:isDefinedBy dg: .

dg:agency_identifier a rdf:Property ;
    rdfs:label "agency_identifier" ;
    rdfs:comment "Identifier (for example of Project, Grant, GrantPayment,
PersonRole instance, OrganizationRole instance or FundingScheme) in the

```

```
database/archive of the funding agency." ;
  rdfs:domain [ a owl:Class; owl:unionOf (dg:Grant dg:GrantPayment
dg:Project dg:Role dg:FundingScheme ) ];
  rdfs:range xsd:string ;
  rdfs:isDefinedBy dg: .

dg:grid_id a rdf:Property ;
  rdfs:label "grid_id" ;
  rdfs:comment "Institutional identifier from the GRID.ac global research
identifier database." ;
  rdfs:domain dg:Organisation ;
  rdfs:range xsd:string ;
  owl:equivalentProperty p:P2427 ;
  rdfs:isDefinedBy dg: .

dg:crossref_id a rdf:Property ;
  rdfs:label "crossref_id" ;
  rdfs:comment "Identifier for an organisation that funds research, in the
Crossref registry." ;
  rdfs:domain dg:FundingAgency ;
  rdfs:range xsd:string ;
  owl:equivalentProperty p:P3153 ;
  rdfs:isDefinedBy dg: .

dg:wikidata_item_id a rdf:Property ;
  rdfs:label "wikidata_item_id" ;
  rdfs:comment "Identifier for a class or item existing in Wikidata." ;
  rdfs:domain dg:Grant ;
  rdfs:range xsd:string ;
  rdfs:isDefinedBy dg: .

dg:orcid_id a rdf:Property ;
  rdfs:label "orcid_id" ;
  rdfs:comment "Nonproprietary alphanumeric code to uniquely identify
scientific and other academic authors." ;
  rdfs:domain dg:Person ;
  rdfs:range xsd:string ;
  owl:equivalentProperty p:P496 ;
  rdfs:isDefinedBy dg: .

dg:baseline_academic_degree a rdf:Property ;
  rdfs:label "baseline_academic_degree" ;
  rdfs:comment "Academic degree used as minimal/reference point for
establishing a set of age limits or other classification." ;
  rdfs:domain dg:CareerStageCriterion ;
  rdfs:range dg:AcademicDegree ;
  rdfs:isDefinedBy dg: .

dg:min_years_from_baseline_degree a rdf:Property ;
  rdfs:label "min_years_from_baseline_degree" ;
  rdfs:comment "Minimum number of years counting from the year of when the
dg:baseline_academic_degree was obtained." ;
  rdfs:domain dg:CareerStageCriterion ;
  rdfs:range xsd:positiveInteger ;
  rdfs:isDefinedBy dg: .

dg:max_years_from_baseline_degree a rdf:Property ;
  rdfs:label "max_years_from_baseline_degree" ;
  rdfs:comment "Maximum number of years counting from the year of when the
dg:baseline_academic_degree was obtained." ;
  rdfs:domain dg:CareerStageCriterion ;
  rdfs:range xsd:positiveInteger ;
  rdfs:isDefinedBy dg: .

dg:min_research_years a rdf:Property ;
  rdfs:label "min_research_years" ;
  rdfs:comment "Minimum number of research years required." ;
  rdfs:domain dg:CareerStageCriterion ;
  rdfs:range xsd:positiveInteger ;
  rdfs:isDefinedBy dg: .

dg:excluded_academic_degree a rdf:Property ;
  rdfs:label "excluded_academic_degree" ;
```

```
    rdfs:comment "Academic degree possessing which the subject of the
statement cannot apply to the funding program." ;
    rdfs:domain dg:CareerStageCriterion ;
    rdfs:range dg:AcademicDegree ;
    rdfs:isDefinedBy dg: .

dg:min_age a rdf:Property ;
    rdfs:label "min_age" ;
    rdfs:comment "Minimum age required." ;
    rdfs:domain dg:AgeCriterion ;
    rdfs:range xsd:positiveInteger ;
    owl:equivalentProperty p:P2899 ;
    rdfs:isDefinedBy dg: .

dg:max_age a rdf:Property ;
    rdfs:label "max_age" ;
    rdfs:comment "Maximum age allowed." ;
    rdfs:domain dg:AgeCriterion ;
    rdfs:range xsd:positiveInteger ;
    owl:equivalentProperty p:P4135 ;
    rdfs:isDefinedBy dg: .

dg:implementation_country a rdf:Property ;
    rdfs:label "implementation_country" ;
    rdfs:comment "Country where the project must be implemented." ;
    rdfs:domain dg:GeographicCriterion ;
    rdfs:range schema:Country ;
    rdfs:isDefinedBy dg: .

dg:person_location a rdf:Property ;
    rdfs:label "person_location" ;
    rdfs:comment "Country or geographical administrative entity where the
person must reside or be citizen or have undertaken research up to the
moment of applying for funding." ;
    rdfs:domain dg:GeographicCriterion ;
    rdfs:range schema:Country ;
    rdfs:range schema:SupranationalOrganisation ;
    rdfs:isDefinedBy dg: .

dg:organisation_location a rdf:Property ;
    rdfs:label "organisation_location" ;
    rdfs:comment "Country or geographical administrative entity where an
organisation must be established to apply for funding." ;
    rdfs:domain dg:GeographicCriterion ;
    rdfs:range schema:Country ;
    rdfs:range schema:SupranationalOrganisation ;
    rdfs:isDefinedBy dg: .

dg:percentage_working_time a rdf:Property ;
    rdfs:label "percentage_working_time" ;
    rdfs:comment "Amount of working time in percentage." ;
    rdfs:domain dg:WorkingTimeCriterion ;
    rdfs:range xsd:positiveInteger ;
    rdfs:isDefinedBy dg: .

dg:percentage_employment a rdf:Property ;
    rdfs:label "percentage_employment" ;
    rdfs:comment "Minimum percentage of employment required (for example to
be eligible for funding)." ;
    rdfs:domain dg:EmplymentCriterion ;
    rdfs:range xsd:positiveInteger ;
    rdfs:isDefinedBy dg: .

dg:degree_title a rdf:Property ;
    rdfs:label "degree_title" ;
    rdfs:comment "Title denoting the academic degree." ;
    rdfs:domain dg:AcademicDegree ;
    rdfs:range xsd:string ;
    rdfs:isDefinedBy dg: .

dg: a owl:Ontology ;
    dc:title "OGEID Ontology" ;
    dcterms:creator [a foaf:Person; foaf:name "Diego Chialva"], [a
```

```
foaf:Person; foaf:name "" ] ;
  dcterms:modified "2018-07-30T10:20:10Z" ;
  rdfs:comment "The DINGO ontology defines the terms of the DINGO
vocabulary." ;
  owl:versionInfo "2018-07-30T10:20:10Z" .
```

Shape Expressions

```
PREFIX shexmi: <http://www.w3.org/ns/shex-xmi#>

<#GrantShape> {
  dg:start_time          xsd:date OR xsd:dateTime ? ;
  dg:end_time            xsd:date OR xsd:dateTime ? ;
  dg:economic_value      schema:MonetaryAmount ? ;
  dg:implementation_of   @<#FundingSchemeShape> ? ;
  dg:finances             @<#ProjectShape> ? ;
  dg:disbursed_by        @<#FundingAgencyShape> ? ;
  dg:beneficiary          @<#RoleShape> ? ;
  dg:hasPart              IRI ? ;
  dg:agency_identifier    xsd:string ? ;
  rdfs:label              xsd:string ? ;
  rdfs:comment            xsd:string ? ;
  skos:altLabel           xsd:string ? ;
}

<#GrantPaymentShape> {
  rdf:type                [dg:GrantPayment] ? ;
  dg:point_in_time        xsd:date OR xsd:dateTime ? ;
  dg:isPartOf             IRI ? ;
  dg:agency_identifier     xsd:string ? ;
  rdfs:label               xsd:string ? ;
  rdfs:comment             xsd:string ? ;
  skos:altLabel           xsd:string ? ;
}

<#ProjectShape> {
  dg:official_website     IRI ? ;
  dg:participant          @<#RoleShape> ? ;
  dg:inception            xsd:date OR xsd:dateTime ? ;
  dg:start_time           xsd:date OR xsd:dateTime ? ;
  dg:end_time             xsd:date OR xsd:dateTime ? ;
  dg:title                 xsd:string ? ;
  dg:field_of_work         IRI ? ;
  dg:main_topic           IRI ? ;
  dg:objective            IRI ? ;
  dg:product_or_material_produced IRI ? ;
  dg:abstract_or_summary_description xsd:string ? ;
  dg:funded_by            @<#GrantShape> ? ;
  dg:short_name           xsd:string ? ;
  dg:budget                schema:MonetaryAmount ? ;
  rdfs:label               xsd:string ? ;
  rdfs:comment             xsd:string ? ;
  skos:altLabel           xsd:string ? ;
}

<#RoleShape> {
  dg:participant_of       @<#ProjectShape> ? ;
  dg:beneficiary_of       @<#GrantShape> ? ;
  dg:start_time           xsd:date OR xsd:dateTime ? ;
  dg:end_time             xsd:date OR xsd:dateTime ? ;
  dg:entity_taking_role   @<#PersonShape> OR ? @<#OrganisationShape> ;
  dg:role_label           xsd:string ? ;
  dg:agency_identifier     xsd:string ? ;
  rdfs:label               xsd:string ? ;
  rdfs:comment             xsd:string ? ;
  skos:altLabel           xsd:string ? ;
}

<#PersonRoleShape> EXTENDS @<#RoleShape>{
```

```

}

<#OrganizationRoleShape> EXTENDS @<#RoleShape>{
}

<#PersonShape> {
  schema:familyName      xsd:string ? ;
  schema:givenName       xsd:string ? ;
  schema:additionalName  xsd:string ? ;
  dg:official_website    IRI ? ;
  schema:hasOccupation   xsd:string ? ; // shexmi:comment ""Attention: only
pending in schema.org, type not well defined."" ;
  dg:academic_degree     @<#AcademicDegreeShape> ? ;
  dg:employer            @<#PersonShape> OR @<#OrganizationShape> ? ;
  dg:field_of_work       IRI ? ;
  dg:orcid_id            xsd:string ? ;
  schema:affiliation     @<#OrganizationShape> ? ;
  rdfs:label             xsd:string ? ;
  rdfs:comment           xsd:string ? ;
  skos:altLabel          xsd:string ? ;
}
// shexmi:comment ""owl:equivalentClass [schema:Person]

<#OrganizationShape> {
  dg:inception           xsd:date OR xsd:dateTime ? ;
  dg:start_time          xsd:date OR xsd:dateTime ? ;
  dg:end_time            xsd:date OR xsd:dateTime ? ;
  schema:legal_name     xsd:string ? ;
  dg:official_website    IRI ? ;
  dg:country             schema:Country ? ;
  dg:field_of_work       IRI ? ;
  dg:headquarters_location schema:PostalAddress ? ;
  dg:organization_type  @<#OrganizationTypeShape> ? ;
  dg:grid_id            xsd:string ? ;
  dg:short_name          xsd:string ? ;
  rdfs:label             xsd:string ? ;
  rdfs:comment           xsd:string ? ;
  skos:altLabel          xsd:string ? ;
}

<#FundingAgencyShape> EXTENDS @<#Organisation>{
  dg:inception           xsd:date OR xsd:dateTime ? ;
  dg:end_time            xsd:date OR xsd:dateTime ? ;
  dg:official_website    IRI ? ;
  dg:implements          @<#FundingSchemeShape> ? ;
  dg:disburses           @<#GrantShape> ;
  dg:crossref_id         xsd:string ? ;
  dg:short_name          xsd:string ? ;
}

<#FundingSchemeShape> {
  dg:official_website    IRI ? ;
  dg:inception           xsd:date OR xsd:dateTime ? ;
  dg:start_time          xsd:date OR xsd:dateTime ? ;
  dg:end_time            xsd:date OR xsd:dateTime ? ;
  schema:legal_name     xsd:string ? ;
  dg:funder              IRI;
  dg:implemented_by     @<#FundingAgencyShape>;
  dg:criterion           @<#CriterionShape> ? ;
  dg:hasPart             IRI ? ;
  dg:isPartOf            IRI ? ;
  dg:agency_identifier   IRI ? ;
  dg:short_name          xsd:string ? ;
  rdfs:label             xsd:string ? ;
  rdfs:comment           xsd:string ? ;
  skos:altLabel          xsd:string ? ;
}

<#CriterionShape> {
  dg:criterion_description xsd:string ? ;
  rdfs:label              xsd:string ? ;
  rdfs:comment            xsd:string ? ;
}

```

```

    skos:altLabel          xsd:string ? ;
  }

  <#ThematicCriterionShape> {
    dg:field_of_work      IRI ? ;
    dg:main_topic         IRI ? ;
    rdfs:label            xsd:string ? ;
    rdfs:comment          xsd:string ? ;
    skos:altLabel        xsd:string ? ;
  }

  <#OrganisationalCriterionShape> {
  }

  <#CareerPurposeCriterionShape> {
    dg:academic_degree    @<#AcademicDegreeShape> ? ;
  }

  <#CareerStageCriterionShape> {
    dg:baseline_academic_degree    @<#AcademicDegreeShape> ? ;
    dg:excluded_academic_degree    @<#AcademicDegreeShape> ? ;
    dg:min_years_from_baseline_degree    xsd:positiveInteger ? ;
    dg:max_years_from_baseline_degree    xsd:positiveInteger ? ;
    dg:min_research_years           xsd:positiveInteger ? ;
  }

  <#EmploymentCriterionShape> {
    dg:percentage_employment        xsd:positiveInteger ? ;
  }

  <#InfrastructurePurposeCriterionShape> {
  }

  <#AgeCriterionShape> {
    dg:min_age                      xsd:positiveInteger ? ;
    dg:max_age                      xsd:positiveInteger ? ;
  }

  <#WorkingTimeCriterionShape> {
    dg:percentage_working_time      xsd:positiveInteger ? ;
  }

  <#GeographicCriterionShape> {
    dg:implementation_country        schema:Country OR
    dg:SupranationalOrganisation ? ;
    dg:person_location              schema:Country OR
    dg:SupranationalOrganisation ? ;
    dg:organisation_location        schema:Country OR
    dg:SupranationalOrganisation ? ;
  }

  <#BottomUpCriterionShape> {
  }

  <#AcademicDegreeShape> {
    dg:degree_title                 xsd:string ? ;
  }

  <#OrganizationTypeShape> [
    dg::Company
    dg:EducationalOrganization
    dg:HigherEducationalOrganization
    dg:ResearchPerformingOrganization
    dg:HealthcareOrganization
    dg:NonprofitOrganization
    dg:FacilityOrganization
    dg:GovernmentalOrganization
    dg:ArchiveOrganization
    dg:PerformingGroup
    dg:SportsOrganization
    dg:SupranationalOrganisation
    dg:IntergovernmentalOrganisation
  ]

```

Wikidata Variations

Wikidata is a collaboratively edited knowledge base hosted by the Wikimedia Foundation, which can be read both by humans and machines. It consists in a triple store with some specific features compared to the “pure” standard RDF vocabulary and triples. Furthermore, being a community, Wikidata has some rules that affect the full usage of our model: in particular, it is expensive to create new properties.

Overall, the main points concerning the specific variations of our model for Wikidata application are:

1. Wikidata’s datamodel allows to associate *qualifiers* and *references* to statements. These allows to 1) constrain (qualify) and 2) characterize sources and curation of statements, making certain reifications in our model (such as the *Role* class) less necessary and natural.
2. creating new properties is much more “expensive” in the Wikidata community than creating new Classes.

These conditions have prompted us to the following variations in our model.

Note: in what follows we have attempted to map the predicates defined by DINGO into the semantically closest possible properties of the Wikidata datamodel. In some cases we have mapped DINGO’s predicates into not exactly semantically equivalent properties. The reason is that the creation in Wikidata of new properties is an expensive community process, hence we have preferred use already existing properties (essentially they are a supertype/superset of DINGO’s predicates).

Classes

Grant

A disbursed fund payed to a recipient or beneficiary (a Participant) and the process for it.

Predicates:

[p:P31 \(P31_instance_of\)](#) ;
[p:P580 \(P580_start_time\)](#) ;
[p:P582 \(P582_end_time\)](#) ;
[p:P1552 \(P1552_has_quality -economic value of the grant-\)](#) ;
[p:P1535 \(P1535_used_by\)](#) ;
[p:P527 \(P527_has_part\)](#) ;
[dg:implementation_of](#) ;
[dg:agency_identifier](#) ;
[dg:beneficiary](#) ;
[dg:disbursed_by](#) ;

GrantPayment

A single payment to a recipient or beneficiary within a Grant.

Predicates:

[p:P585 \(P585_point_in_time\)](#) ;
[p:P1552 \(P1552_has_quality -economic value of the payment-\)](#) ;
[p:P361 \(P361_part_of\)](#) ;
[dg:agency_identifier](#) ;

Project

An organised endeavour (collective or individual) planned to reach a particular aim or achieve a result.

Predicates:

[p:P31 \(P31_instance_of\)](#) ;
[p:P710 \(P710_participant: person\(s\) and/or organisation\(s\)\)](#) ;
[p:P580 \(P580_start_time\)](#) ;

[p:P582 \(P582_end_time\)](#) ;
[p:P571 \(P571_inception\)](#) ;
[p:P1476 \(P1476_title\)](#) ;
[p:P101 \(P101_field_of_work\)](#) ;
[p:P3712 \(P3712_objective_of_project_or_mission\)](#) ;
[p:P1056 \(P1056_product_or_material_produced\)](#) ;
[p:P2770 \(P2770_source_of_income\)](#) ;
[p:P856 \(P856_official_website\)](#)[\]\(https://www.wikidata.org/prop/P856\)](https://www.wikidata.org/prop/P856) ;
[dg:main_topic](#) (not to confuse with [p:P921](#) “main_subject”, which has a more restrictive meaning in Wikidata, as “subject of a work” (literary));
[dg:abstract_or_summary_description](#);

Person

A person (alive, dead, undead, or fictional) that takes part in a project or is benefited by a grant.

Predicates:

[p:P734 \(P734_family_name\)](#);
[p:P735 \(P735_given_name\)](#);
[p:P1344 \(P1344_participant_of, used both as participant in a project and as beneficiary of a grant\)](#);
[p:P106 \(P106_occupation\)](#) ;
[p:P512 \(P512_academic_degree\)](#) ;
[p:P108 \(P108_employer\)](#) ;
[p:P1416 \(P1416_affiliation\)](#) ;
[p:P101 \(P101_field_of_work_specialty\)](#) ;
[p:P856 \(P856_official_website\)](#);
[p:P496 \(P496_orcid_id\)](#);
[dg:beneficiary_of](#) (used for person benefitting from a grant);

Organisation

Social entity with a collective goal.

Predicates:

[p:P31 \(P31_instance_of\)](#) ;
[p:P1344 \(P1344_participant_of, used both as participant in a project and as beneficiary of a grant\)](#);
[p:P1448 \(P1448_official_name\)](#) ;
[p:P17 \(P17_country\)](#) ;
[p:P159 \(P159_headquarters_location\)](#) ;
[p:P856 \(P856_official_website\)](#) ;
[p:P2427 \(P2427_grid_id\)](#);
[p:P3153 \(P3153_Crossref_funder_id\)](#) ;
[p:P1813 \(P1813_short_name\)](#);
[dg:beneficiary_of](#) (used for organisation benefitting from a grant);
[dg:short_name](#);

Company

A commercial business.

SubClass of: [dg:Organisation](#)

Educational Organisation

Institution that provides education.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:EducationalOrganization](#)

HigherEducationOrganisation

Place of postsecondary education (e.g., universities, vocational universities, community colleges, liberal arts colleges, institutes of technology, and others).

SubClass of: [dg:Organisation](#)

ResearchPerformingOrganisation

Organisations devoted to research activities.

SubClass of: [dg:Organisation](#)

HealthcareOrganisation

Organization that provides health care and related services.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:MedicalOrganization](#);

NonprofitOrganisation

Business entity that pays no income tax, as it furthers a religious, scientific or social cause, providing a public benefit.

SubClass of: [dg:Organisation](#)

FacilityOrganisation

A place providing for a particular purpose.

SubClass of: [dg:Organisation](#)

GovernmentalOrganisation

Organisation depending on a government or State.

SubClass of: [dg:Organisation](#)

ArchiveOrganisation

Institution that holds artifacts and other objects of scientific, artistic, cultural, historical, or other importance.

SubClass of: [dg:Organisation](#)

CulturalOrganisation

Cultural institution or cultural organization is an organization within a culture/subculture that works for the preservation or promotion of culture.

SubClass of: [dg:Organisation](#)

PerformingGroup

A performance group, such as a band, an orchestra, or a circus.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:PerformingGroup](#);

SportsOrganisation

Represents the class of all sports organizations, including sports teams, governing bodies, and sports associations.

SubClass of: [dg:Organisation](#)

Same Classes (owl:equivalentClass): [schema:SportsOrganization](#)

SupranationalOrganisation

International organisation with power and influence in the jurisdictions of its member states. Example: European Union.

SubClass of: [dg:Organisation](#)

IntergovernmentalOrganization

Organization composed primarily of sovereign states. Example: United Nations.

SubClass of: [dg:Organisation](#)

FundingAgency

Organisation that materially disburse and administer the Grant process.

Predicates:

[p:P31 \(P31_instance_of\)](#) ;
[p:P582 \(P582_end_time\)](#) ;
[p:P571 \(P571_inception\)](#) ;
[p:P17 \(P17_country\)](#) ;
[p:P159 \(P159_headquarters_location\)](#) ;
[p:P1448 \(P1448_official_name\)](#) ;
[p:P856 \(P856_official_website\)](#) ;
[p:P3153 \(P3153_Crossref_funder_id\)](#) ;
[dg:short_name](#) ;
[dg:implements](#) ;
[dg:disburses](#) ;

FundingScheme

Plan, design, and/or program that determines and organizes the funding.

Predicates:

[p:P31 \(P31_instance_of\)](#) ;
[p:P527 \(P527_has_part\)](#) ;
[p:P361 \(P361_part_of\)](#) ;
[p:P17 \(P17_country\)](#) ;
[p:P1013 \(P1013_criterion_used\)](#) ;
[p:P1448 \(P1448_official_name\)](#) ;
[p:P856 \(P856_official_website\)](#) ;

[dg:short_name](#);
[dg:implemented_by](#);
[dg:has_implementation](#);
[dg:agency_identifier](#);
[dg:funder](#);

Criterion

Specification of Grant coverage, Grant eligibility, Grant reimbursement rates, Grant specific criteria for funding, Grant population targets, and similar features.

Note: the class should be only used to derive subclasses.

Predicates:

[dg:criterion_description](#);

ThematicCriterion

Grants are awarded on the basis of specified thematic/subject areas or well-defined areas of investigation indicated by the funding body.

Predicates:

[p:P101 \(P101_field_of_work\)](#) ;
[dg:main_topic](#);

SubClass of: [dg:Criterion](#)

OrganisationalCriterion

Grants are awarded on the basis of specified organisational form of the project, for instance demanding for participation of different research groups (synergy).

SubClass of: [dg:Criterion](#)

CareerPurposeCriterion

Grants are awarded on the basis of career-related goals and applicants must be at a defined career stage (defined academic degree) to be achieved.

Predicates:

[p:P512 \(P512_academic_degree\)](#) ;

SubClass of: [dg:Criterion](#)

InfrastructurePurposeCriterion

Grants are awarded to cover for the expenses of infrastructure.

SubClass of: [dg:Criterion](#)

CareerStageCriterion

Grants are awarded on the basis of career stage limits.

Predicates:

[dg:baseline_academic_degree](#);
[dg:min_years_from_baseline_degree](#);

[dg:max_years_from_baseline_degree](#);
[dg:min_research_years](#);
[dg:excluded_academic_degree](#);

SubClass of: [dg:Criterion](#)

EmploymentCriterion

Grants are awarded on the basis of employment conditions by an organisation eligible for funding at the time of applying or receiving the funds.

Predicates:

[dg:percentage_employment](#);

SubClass of: [dg:Criterion](#)

AgeCriterion

Grants are awarded on the basis of age limits.

Predicates:

[p:P2899 \(P2899_minimum_age\)](#) ;
[p:P4135 \(P4135_maximum_age\)](#) ;

SubClass of: [dg:Criterion](#)

WorkingTimeCriterion

Grants are awarded on the basis of percentage of work time specifically devoted to the funded research.

Predicates:

[dg:percentage_working_time](#);

SubClass of: [dg:Criterion](#)

GeographicCriterion

Grants are awarded on the basis of geographic areas, either where the project has to be implemented, or where the researcher must have been operating before applying for funding, or where the participants must be resident or citizens.

Predicates:

[dg:implementation_country](#);
[dg:person_location](#);
[dg:organisation_location](#);

SubClass of: [dg:Criterion](#)

BottomUpCriterion

Grants are awarded on the basis of the research proposal itself without restriction on theme/subject or research area. The funding body does not specifies beforehand missions, targets nor topics of the research projects that can apply.

SubClass of: [dg:Criterion](#)

Properties

P710_participant

Used both for participant in a project and beneficiary (principal or secondary) of a grant, both for persons and for organisations.

Inverse property of [p:P1344 \(P1344_participant_of\)](#).

Qualifiers:

[p:P580 \(P580_start_time\)](#) ;
[p:P582 \(P582_end_time\)](#) ;
[p:P3831 \(P3831_object_has_role\)](#) ;

P1344_participant_of

Used both for participant in a project and beneficiary (principal or secondary) of a grant, both for persons and for organisations.

Inverse property of [p:P710 \(P710_participant\)](#).

Qualifiers:

[p:P580 \(P580_start_time\)](#) ;
[p:P582 \(P582_end_time\)](#) ;
[p:P2868 \(P2868_subject_has_role\)](#) ;

Schema.Org Variation

Schema.org is a collaborative, community activity with a mission to create, maintain, and promote schemas for structured data on the Internet, on web pages, in email messages, and beyond.

Note: in what follows we have attempted to map the predicates defined by DINGO into the semantically closest possible predicates and classes of the schema.org ontology. When equivalent classes to those of DINGO were available, we have listed here only the predicates *not* present in the schema.org relevant classes. In some cases we have mapped DINGO's predicates into not exactly semantically equivalent properties. The reason is that the creation in schema.org of new properties is an expensive community process, hence we have preferred use already existing properties (which are a supertype/superset of DINGO's predicates).

Classes

MonetaryGrant

A disbursed fund paid to a recipient or beneficiary and the process for it.

Predicates:

[schema:startTime](#)
[schema:endTime](#)
[schema:MonetaryAmount](#)
[dg:implementation_of](#);
[dg:finances](#);
[schema.org:provider](#)
[schema.org:recipient](#)
[dg:hasPart](#);
[dg:agency_identifier](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

GrantPayment

A single payment to a recipient or beneficiary within a Grant.

Predicates:

[schema:Time](#)

[schema:isPartOf](#)
[dg:agency_identifier](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

Project

An organised endeavour (collective or individual) planned to reach a particular aim or achieve a result.

Predicates:

[dg:official_website](#);
[dg:participant](#);
[dg:inception](#);
[schema:startTime](#)
[schema:endTime](#)
[dg:title](#);
[schema:Specialty](#)
[dg:main_topic](#);
[dg:objective](#);
[schema:produces](#)
[dg:abstract_or_summary_description](#);
[dg:funded_by](#);
[dg:short_name](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [schema:Thing](#)

Role

The function assumed by or ascribed to an entity (typically person, group of persons or organisation) in a particular situation. It can be used to precise or represent additional information about a relationship or property such as participation or membership.

Note: the class should be only used to derive subclasses.

Note: the property [schema:additionalType](#) is used to avoid the need to create several additional properties in [schema.org](#) such as [principal_investigator](#), [collaborator](#), or else, and instead converting property creation in new Item Class creation.

Predicates:

[dg:participant_of](#)
[dg:beneficiary_of](#)
[schema:startTime](#)
[schema:endTime](#)
[schema:roleName](#)
[dg:role_type](#);
[schema:Specialty](#)
[dg:agency_identifier](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

Equivalent Class: [schema:Role](#)

PersonRole

Function assumed by or ascribed to a person that takes part in something.

Note: this Class is created to avoid creating additional properties to specify the Role of an Item, and instead rely on the creation of other Items instantiating PersonRole.

Predicates:

[rdf:subClassOf](#);
[dg:person_taking_role](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Role](#)

OrganisationRole

Function assumed by or ascribed to an organisation that takes part in something.

Note: this Class is created to avoid creating additional properties to specify the Role of an Item, and instead rely on the creation of other Items instantiating OrganisationRole.

Predicates:

[rdf:subClassOf](#);
[dg:organisation_taking_role](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Role](#)

Person

A person (alive, dead, undead, or fictional).

Predicates specific for this ontology:

: [dg:academic_degree](#);
[dg:employer](#);
[dg:orcid_id](#);
[schema:affiliation](#);

Organisation

Social entity with a collective goal.

Predicates specific for this ontology:

: [dg:official_website](#);
[dg:country](#);
: [dg:grid_id](#);
[dg:short_name](#);

Company

A commercial business.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

EducationalOrganisation

Institution that provides education.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

Same Classes (owl:equivalentClass): [schema:EducationalOrganization](#)

HigherEducationOrganisation

Place of postsecondary education (e.g., universities, vocational universities, community colleges, liberal arts colleges, institutes of technology, and others).

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

ResearchPerformingOrganisation

Organisations devoted to research activities.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

HealthcareOrganisation

Organization that provides health care and related services.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

Same Classes (owl:equivalentClass): [schema:MedicalOrganization](#);

NonprofitOrganisation

Business entity that pays no income tax, as it furthers a religious, scientific or social cause, providing a public benefit.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

Same Classes (owl:equivalentClass): [schema:NGO](#);

FacilityOrganisation

A place providing for a particular purpose.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

GovernmentalOrganisation

Organisation depending on a government or State.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

ArchiveOrganisation

Institution that holds artifacts and other objects of scientific, artistic, cultural, historical, or other importance.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

CulturalOrganisation

Cultural institution or cultural organization is an organization within a culture/subculture that works for the preservation or promotion of culture.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

PerformingGroup

A performance group, such as a band, an orchestra, or a circus.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

Same Classes (owl:equivalentClass): [schema:PerformingGroup](#);

SportsOrganisation

Represents the class of all sports organizations, including sports teams, governing bodies, and sports associations.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

Same Classes (owl:equivalentClass): [schema:SportsOrganization](#)

SupranationalOrganisation

International organisation with power and influence in the jurisdictions of its member states. Example: European Union.

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

IntergovernmentalOrganization

Organization composed primarily of sovereign states. Example: United Nations

SubClass of: [dg:Organisation](#) **Subclass of:** [schema:Organization](#)

FundingAgency

Organisation that materially disburse and administer the Grant process.

Predicates:

[dg:inception](#);
[schema:endTime](#)
[dg:implements](#);
[dg:disburses](#);
[dg:crossref_id](#);
[dg:short_name](#);

SubClass of: [schema:Organisation](#)

FundingScheme

Plan, design, and/or program that determines and organizes the funding.

Predicates:

[dg:official_website](#);
[dg:inception](#);
[schema:startTime](#)
[schema:endTime](#)
[schema:legal_name](#);
[dg:country](#);

[dg:funder](#);
[dg:implemented_by](#);
[dg:has_implementation](#);
[dg:criterion_description](#);
[dg:hasPart](#);
[dg:isPartOf](#);
[dg:agency_identifier](#);
[dg:short_name](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

AcademicDegree

College or university diploma

Predicates:

[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

Same Classes (owl:equivalentClass): <https://www.wikidata.org/entity/Q189533>

Criterion

Specification of Grant coverage, Grant eligibility, Grant reimbursement rates, Grant specific criteria for funding, Grant population targets, and similar features.

Note: the class should be only used to derive subclasses.

Predicates:

[dg:criterion_description](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

ThematicCriterion

Grants are awarded on the basis of specified thematic/subject areas or well-defined areas of investigation indicated by the funding body.

Predicates:

[dg:field_of_work](#);
[dg:main_topic](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

OrganisationalCriterion

Grants are awarded on the basis of specified organisational form of the project, for instance demanding for participation of different research groups (synergy).

Predicates:

[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

CareerPurposeCriterion

Grants are awarded on the basis of career-related goals and applicants must be at a defined career stage (defined academic degree) to be achieved.

Predicates:

[dg:academic_degree](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

InfrastructurePurposeCriterion

Grants are awarded to cover for the expenses of infrastructure.

Predicates:

[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

CareerStageCriterion

Grants are awarded on the basis of career stage limits.

Predicates:

[dg:baseline_academic_degree](#);
[dg:min_years_from_baseline_degree](#);
[dg:max_years_from_baseline_degree](#);
[dg:min_research_years](#);
[dg:excluded_academic_degree](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

EmploymentCriterion

Grants are awarded on the basis of employment conditions by an organisation eligible for funding at the time of applying or receiving the funds.

Predicates:

[dg:percentage_employment](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

AgeCriterion

Grants are awarded on the basis of age limits.

Predicates:

[dg:min_age](#); <https://schema.org/requiredMinAge> ? #Need to enlarge domain and semantic.
[dg:max_age](#); <https://schema.org/requiredMaxAge> ? #Need to enlarge domain and semantic.
[schema:name](#);
[schema:description](#);

[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

WorkingTimeCriterion

Grants are awarded on the basis of percentage of work time specifically devoted to the funded research.

Predicates:

[dg:percentage_working_time](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

GeographicCriterion

Grants are awarded on the basis of geographic areas, either where the project has to be implemented, or where the researcher must have been operating before applying for funding, or where the participants must be resident or citizens.

Predicates:

[dg:implementation_country](#);
[dg:person_location](#);
[dg:organisation_location](#);
[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

BottomUpCriterion

Grants are awarded to projects on the basis of the research proposal itself without restriction on theme/subject or research area. The funding body does not specifies beforehand missions, targets nor topics of the research projects that can apply.

Predicates:

[schema:name](#);
[schema:description](#);
[schema:alternateName](#);

SubClass of: [dg:Criterion](#)

Examples

We propose here a couple of examples, in Turtle code, to illustrate how the ontology can be used. The examples have different features, so that they can be, we hope, more informative.

Example 1

This example illustrates how to use the ontology with a single-researcher project and its funding. The project in question is the project [Platos Idee den Guten](#). We model in details its most relevant aspects, based on the available data, for showing the ontology case use. For resources (data) which are not directly modeled in the ontology, we provide less details in this example.

```
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema> .
@prefix wd: <http://www.wikidata.org/entity/> .
```

```
@prefix p: <http://www.wikidata.org/prop/> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix schema: <http://schema.org/> .
@prefix fabio: <http://purl.org/spar/fabio/> .
@prefix dcterms: <http://purl.org/dc/terms/> .
@prefix dg:

dg:SNSF_platos a dg:Project
  dg:start_time 1981-10-01
  dg:end_time 1983-09-30
  dg:title Platos Idee des Guten
  dg:field_of_work dg:philisophy
  dg:main_topic dg:Humanities
  dg:main_topic dg:Social_Sciences
  dg:main_topic dg:Literature
  dg:main_topic dg:philosophy
  dg:product_or_material_produced dg:platos_pr_book
  dg:funded_by dg:SNSF_platos_grant
  dg:participant dg:Ferber_Rafael_role
  dg:participant dg:University_of_Zurich_role
  dg:agency_indentifier 1000-001094

dg:SNSF_platos_grant a dg:grant
  dg:start_time 1981-10-01
  dg:end_time 1983-09-30
  dg:economic_value dg:value_SNSF_platos_grant
  dg:implementation_of dg:SNSF_Project_funding_Div_I-III
  dg:finances dg:SNSF_platos
  dg:disbursed_by dg:SNSF
  dg:beneficiary dg:Ferber_Rafael_role
  dg:agency_indentifier 1000-001094

dg:value_SNSF_platos_grant a schema:MonetaryAmount
  schema:currency EUR
  schema:value 50000

dg:platos_pr_book a fabio:book
  dcterms:title Platos Idee des Guten
  dcterms:creator dg:Ferber_Rafael

dg:Ferber_Rafael_role a dg:PersonRole
  dg:start_time 1981-10-01
  dg:end_time 1983-09-30
  dg:entity_taking_role dg:Ferber_Rafael
  dg:start_time 2006-12-01
  dg:end_time 2010-06-30
  dg:role_label contact person
  dg:participant_of dg:SNSF_platos
  dg:beneficiary_of dg:SNSF_platos_grant

dg:Ferber_Rafael a dg:Person
  schema:familyName Ligabue
  schema:givenName Marco
  dg:takes_role dg:Ferber_Rafael_role
  schema:hasOccupation # CAREFUL ONLY IN PENDING.
  dg:academic_degree dg:Doctorat
  dg:employer University_Luzern
  schema:affiliation University_Luzern

dc:Doctorat a dg:AcademicDegree

dg:SNSF_Project_funding_Div_I-III a dg:FundingScheme
  dg:inception 1992-00-00
  schema:legal_name Project funding (Div. I-III)
  dg:funder dg:Switzerland
  dg:implemented_by dg:SNSF
  dg:isPartOf dg:SNSF_Project_funding

dg:SNSF_Project_funding a dg:FundingScheme
  dg:inception 1992-00-00
  schema:legal_name Project funding
  dg:funder dg:Switzerland
```

dg:implemented_by dg:SNSF
dg:criterion dg:SNSF_Project_funding_WorkingTimeCriterion
dg:criterion dg:SNSF_Project_funding_GeographicCriterion
dg:criterion dg:SNSF_Project_funding_CareerStageCriterion
dg:criterion dg:SNSF_Project_funding_EmploymentCriterion
dg:hasPart dg:SNSF_Project_funding_Div_I-III

dg:criterion dg:SNSF_Project_funding_WorkingTimeCriterion
dg:criterion_description Applicants must be able to show that they are employed at least 50% for the duration of the project at a research institution eligible for research funding from the SNSF. Special rules apply to positions for clinically active researchers as well as staff at museums and archives and self-employed persons.
dg:percentage_working_time 50

dg:criterion dg:SNSF_Project_funding_GeographicCriterion
dg:criterion_description "1 Natural persons carrying out scientific research in Switzerland or with close links to Switzerland are eligible to submit an application.

2 Scientific research is deemed to be conducted in Switzerland or to be closely linked to Switzerland if the applicant is employed as a researcher at a higher education institution or at a research institution outside the higher education sector that is domiciled in Switzerland and whose basic financing is predominantly Swiss in accordance with Swiss law, or if the applicant has been given an assurance of such employment in writing. The relevant place of research may be located outside Switzerland.

3 The research activities, along with any scientific teaching activities, must constitute the equivalent of at least 50% FTE. Researchers devoting less than 50% of their time to scientific activities are eligible to submit an application if their scientific research and teaching activities are usually carried out as part of another professional activity. The details are set out in the Implementation Regulations issued by the Research Council.

4 Self-employed researchers must meet, mutatis mutandis, all the requirements set out under paragraphs 1-3 and must be able to show that they are working as independent researchers in Switzerland."
dg:person_location Switzerland
dg:organisation_location Switzerland

dg:criterion dg:SNSF_Project_funding_CareerStageCriterion
dg:criterion_description "Applicants must have obtained a doctorate four years before the submission date of the application or they must have completed three years of research work as their main source of income since obtaining their higher education degree. Such research work will be regarded as equivalent to a doctorate."
dg:baseline_academic_degree dg:doctorate
dg:min_years_from_baseline_degree 4
dg:min_research_years 3

dg:criterion dg:SNSF_Project_funding_EmploymentCriterion
dg:criterion_description "Applicants must be able to show that they are employed at least 50% for the duration of the project at a research institution eligible for research funding from the SNSF. Special rules apply to positions for clinically active researchers as well as staff at museums and archives and self-employed persons."
dg:percentage_employment 50

dg:University_of_Zurich_role a dg:OrganisationRole
dg:entity_taking_role dg:University_of_Zurich
dg:participant_of dg:SNSF_platos
dg:start_time 1981-10-01
dg:end_time 1983-09-30
dg:role_label host institution

dg:University_of_Zurich_address a schema:PostalAddress
schema:addressCountry dg:Switzerland
schema:addressLocality Zurich
schema:postalCode CH-8006
schema:streetAddress Rämistrasse 71

```

dg:University_of_Zurich a dg:HigherEducationOrganisation
  dg:country dg:Switzerland
  dg:inception 1883
  schema:legal_name Universität van Zürich
  dg:headquarters_location dg:University_of_Zurich_address
  dg:official_website https://www.uzh.ch
  dg:short_name UZH
  dg:grid_id grid.7400.3

dg:SNSF a dg:FundingAgency
  dg:inception 1952
  dg:official_website http://www.snf.ch
  dg:implements dg:SNSF_Project_funding
  dg:disburses dg:SNSF_platos_grant
  dg:crossref_id 501100001711
  dg:short_name SNSF
  schema:legal_name Swiss National Science Foundation (SNSF)
  dg:country dg:Switzerland
  dg:headquarters_location dg:SNSF_address
  dg:grid_id grid.425888.b

dg:SNSF_address a schema:PostalAddress
  schema:addressCountry dg:Switzerland
  schema:addressLocality Berne
  schema:postalCode CH-3001
  schema:streetAddress Wildhainweg 3

dg:Switzerland a schema:Country

dg:Humanities wd:Q11862829

dg:Social_Sciences wd:Q11862829

dg:Literature wd:Q11862829

dg:philosophy wd:Q11862829

dg:doctorate a dg:AcademicDegree

```

Example 2

This second example shows how to use the ontology to model a consortium-based project and funding. The project in question is [Seq-Cure](#), also [here](#). In this case, again, we exemplify all available relevant fields, but we avoid modeling “analogous data” duplicates (as that would be beyond the scope of an example for the ontology): for example, we model in detail one of the organisations participating to the project, but we do not go in detail for the other ones.

```

@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema> .
@prefix wd: <http://www.wikidata.org/entity/> .
@prefix p: <http://www.wikidata.org/prop/> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix schema: <http://schema.org/> .
@prefix fabio: <http://purl.org/spar/fabio/> .
@prefix dg:

dg:EC_Seq_Cure a dg:Project
  dg:start_time 2006-12-01
  dg:end_time 2010-06-30
  dg:budget dg:value_EC_LIFE_Seq_Cure_budg
  dg:title Integrated systems to enhance sequestration of carbon,
producing energy crops by using organic residues
  dg:field_of_work dg:agriculture
  dg:field_of_work dg:forestry
  dg:field_of_work dg:engineering
  dg:main_topic dg:agriculture
  dg:main_topic dg:forestry
  dg:main_topic dg:renewable_energy
  dg:main_topic dg:carbon_sequestration

```

dg:main_topic dg:organic_waste
dg:main_topic dg:biogas
dg:main_topic dg:climate_change_adaptation
dg:main_topic dg:green_house_gas
dg:objective dg:renewable_energy
dg:objective dg:carbon_sequestration
dg:objective dg:chain_energy_production
dg:objective dg:methodology
dg:product_or_material_produced dg:energy_production
dg:product_or_material_produced dg:microirrigazione_suina_paper
dg:funded_by dg:EC_LIFE_Seq_Cure_grant
dg:short_name Seq-Cure
dg:participant dg:marco_ligabue_role
dg:participant dg:CRPA_role
dg:participant dg:Fondazione_CRPA_role
dg:participant dg:Terremerse_role
dg:participant dg:AAS_Tadini_role
dg:participant dg:AAS_Stuard_role
dg:participant dg:MPI-BGC_role
dg:participant dg:Confederazione_Italiana_Agricoltori_Piacenza_role
dg:official_website http://www.crpa.it/nqcontent.cfm?a_id=3995
dg:abstract_or_summary_description The aim of the Seq-Cure project is to contribute to the reduction of atmospheric CO2 emissions and to the increase of soil carbon sequestration through: the production of biomass intended for energy conversion, - the use of organic residues to fertilize energy crops.

dg:EC_LIFE_Seq_Cure_grant a dg:grant
dg:start_time 2006-12-01
dg:end_time 2010-06-30
dg:economic_value dg:value_EC_LIFE_Seq_Cure_grant
dg:implementation_of dg:EC_Life_program_Climate_Change
dg:finances dg:EC_LIFE_Seq_Cure
dg:disbursed_by dg:EC_EASME
dg:beneficiary dg:CRPA_role
dg:beneficiary dg:Fondazione_CRPA_role
dg:beneficiary dg:Terremerse_role
dg:beneficiary dg:AAS_Tadini_role
dg:beneficiary dg:AAS_Stuard_role
dg:beneficiary dg:MPI-BGC_role
dg:beneficiary dg:Confederazione_Italiana_Agricoltori_Piacenza_role
dg:agency_identifier LIFE06 ENV/IT/000266

dg:value_EC_LIFE_Seq_Cure_budg a schema:MonetaryAmount
schema:currency EUR
schema:value 1,917,051.00

dg:value_EC_LIFE_Seq_Cure_grant a schema:MonetaryAmount
schema:currency EUR
schema:value 955,989.00

dg:EC_Life_program_Climate_Action a dg:FundingScheme
dg:inception 1992-00-00
schema:legal_name LIFE Climate Action
dg:funder dg:EuropeanUnion
dg:implemented_by dg:EC_EASME
dg:criterion dg:EC_Life_program_Climate_Action_Criterion
dg:isPartOf dg:EC_Life_program

dg:EC_Life_program_Climate_Action_Criterion a dg:ThematicCriterion
dg:criterion_description Projects proposed under this program should support the implementation of the EU's climate policy and prepare the EU for the climate action challenges in the coming years.
dg:main_topic dg:climate_change_adaptation
dg:main_topic dg:climate_change_mitigation
dg:main_topic dg:climate_Governance_&_Information

dg:EC_Life_program_Environment a dg:FundingScheme
dg:inception 1992-00-00
schema:legal_name LIFE Environment
dg:funder dg:EuropeanUnion
dg:implemented_by dg:EC_EASME
dg:criterion dg:EC_Life_program_Environment_Criterion
dg:isPartOf dg:EC_Life_program

dg:EC_Life_program_Environment_Criterion a dg:ThematicCriterion
dg:criterion_description Projects proposed under this program should 1) develop, test and demonstrate policy or management approaches, best practices and solutions, including development and demonstration of innovative technologies, to environmental challenges, suitable for being replicated, transferred or mainstreamed, including with respect to the link between the environment and health, and in support of resource efficiency-related policy and legislation, including the Roadmap to a Resource Efficient Europe; and to improve the knowledge base for the development, implementation, assessment, monitoring and evaluation of Union environmental policy and legislation, and for the assessment and monitoring of the factors, pressures and responses that impact on the environment within and outside the Union. should support the implementation of the EU's climate policy and prepare the EU for the climate action challenges in the coming years; 2) support the conservation of nature and biodiversity, 3) promote awareness raising on environmental matters, including generating public and stakeholder support of Union policymaking in the field of the environment, and promote knowledge on sustainable development and new patterns for sustainable consumption, support communication, management, and dissemination of information in the field of the environment, and facilitate knowledge sharing on successful environmental solutions and practice, including by developing cooperation platforms among stakeholders and training; and to promote and contribute to more effective compliance with and enforcement of Union environmental legislation

dg:main_topic dg:Nature_&_Biodiversity
dg:main_topic dg:Environment_&_Resource_Efficiency
dg:main_topic dg:Environmental_Governance_&_Information

dg:EC_Life_program a dg:FundingScheme
dg:inception 1992-00-00
schema:legal_name LIFE
dg:funder dg:EuropeanUnion
dg:implemented_by dg:EC_EASME
dg:criterion dg:EC_Life_program_Climate_Action_Criterion
dg:criterion_description The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental and climate policy and legislation by co-financing projects with European added value.

dg:hasPart dg:EC_Life_program_Climate_Action
dg:hasPart dg:EC_Life_program_Environment
dg:official_website <http://ec.europa.eu/environment/life/index.htm>

dg:EC_EASME a dg:FundingAgency
dg:inception 2013-00-00
dg:start_time 2014-00-00
dg:official_website <https://ec.europa.eu/easme/>
dg:implements dg:EC_Life_program
dg:disburses dg:EC_LIFE_Seq_Cure_grant
dg:crossref_id FIND
dg:short_name EASME
schema:legal_name Executive Agency for Small and Medium-sized Enterprises EASME
dg:country dg:Belgium
dg:headquarters_location dg:EASME_address
dg:grid_id FIND

dg:CRPA_role a dg:OrganisationRole
dg:entity_taking_role dg:CRPA
dg:participant_of dg:EC_LIFE_Seq_Cure
dg:beneficiary_of dg:EC_LIFE_Seq_Cure_grant
dg:start_time 2006-12-01
dg:end_time 2010-06-30
dg:role_label coordinator

dg:Belgium a schema:Country

dg:Italy a schema:Country

dg:EuropeanUnion a dg:SupranationalOrganisation

dg:EASME_address a schema:PostalAddressaddressCountry
schema:Country dg:Belgium

schema:addressLocality Brussels
schema:addressRegion Emilia Romagna
schema:postalCode B-1210
schema:streetAddress Place Charles Rogier 16

dg:CRPA_address a schema:PostalAddress
schema:addressCountry dg:Italy
schema:addressLocality Reggio Emilia
schema:addressRegion Emilia Romagna
schema:postalCode 42121
schema:streetAddress Viale Timavo 43/2

dg:CRPA a dg:Company
dg:country dg:Italy
dg:inception 2013-00-00
dg:start_time 2014-00-00
schema:legal_name Centro Ricerche Produzioni Animali C.R.P.A. S.p.A.
dg:field_of_work dg:agribusiness
dg:headquarters_location dg:CRPA_address
dg:official_website www.crpa.it
dg:short_name CRPA
dg:takes_role dg:CRPA_role

dg:agribusiness a wd:Q396622

dg:marco_ligabue a dg:Person
schema:familyName Ligabue
schema:givenName Marco
dg:takes_role dg:marco_ligabue_role

dg:marco_ligabue_role a dg:PersonRole
dg:participant_of dg:EC_LIFE_Seq_Cure
dg:beneficiary_of dg:EC_LIFE_Seq_Cure_grant
dg:start_time 2006-12-01
dg:end_time 2010-06-30
dg:role_label contact person
dg:entity_taking_role dg:marco_ligabue

dg:microirrigazione_suina_paper a fabio:JournalArticle

dg:agriculture a wd:Q3958441
rdfs:comment agriculture

dg:forestry a wd:Q3958441
rdfs:comment forestry

dg:renewable_energy rdfs:comment renewable energy

dg:carbon_sequestration rdfs:comment carbon sequestration

dg:organic_waste rdfs:comment organic waste

dg:biogas rdfs:comment biogas

dg:climate_change_adaptation rdfs:comment climate change adaptation

dg:climate_change_mitigation rdfs:comment climate change mitigation

dg:main_topic dg:climate_Governance_&_Information rdfs:comment Climate Governance & Information

dg:main_topic dg:Nature_&_Biodiversity rdfs:comment Nature & Biodiversity

dg:main_topic dg:Environment_&_Resource_Efficiency rdfs:comment Environment & Resource Efficiency

dg:main_topic dg:Environmental_Governance_&_Information rdfs:comment Environmental Governance & Information

dg:green_house_gas rdfs:comment green house gas

dg:chain_energy_production rdfs:comment chain energy production

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dg:methodology rdfs:comment methodology
dg:Fondazione_CRPA a dg:ResearchPerformingOrganisation
dg:Terremerse a dg:Organisation
dg:AAS_Tadini a dg:Company
dg:AAS_Stuard a dg:Company
dg:MPI-BGC a dg:ResearchPerformingOrganisation
  schema:legal_name Max Planc Institute for Biogeochemistry
dg:Confederazione_Italiana_Agricoltori_Piacenza a dg:Organisation
dg:Fondazione_CRPA_role a dg:OrganisationRole
  dg:organisation_taking_role dg:Fondazione_CRPA
dg:Terremerse_role a dg:OrganisationRole
  dg:organisation_taking_role dg:Terremerse
dg:AAS_Tadini_role a dg:OrganisationRole
  dg:organisation_taking_role dg:AAS_Tadini
dg:AAS_Stuard_role a dg:OrganisationRole
  dg:organisation_taking_role dg:AAS_Stuard
dg:MPI-BGC_role a dg:OrganisationRole
  dg:organisation_taking_role dg:MPI-BGC
dg:Confederazione_Italiana_Agricoltori_Piacenza_role a dg:OrganisationRole
  dg:organisation_taking_role
dg:Confederazione_Italiana_Agricoltori_Piacenza
```