Organizational-Ontology - Mapping mit Wikidata

Nadine Schröder (Matr.Nr.: 1378413)
Master Informations- und Wissensmanagement
Semantische Datenintegration
10.06.2017

HOCHSCHULE HANNOVER
UNIVERSITY OF APPLIED SCIENCES AND ARTS
–
Fakultät III
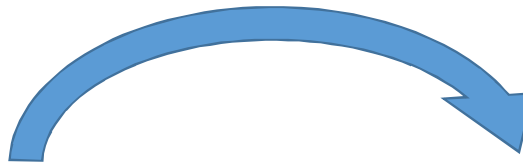*Medien, Information*
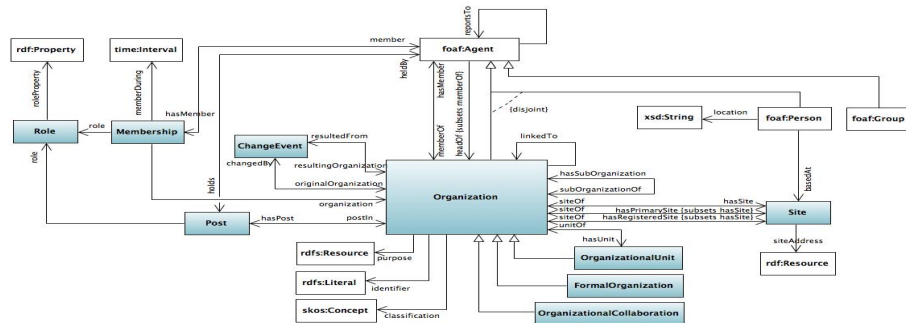*und Design*

Überblick

- Ziel der Aufgabe

- Mapping Properties

- Core Organization-Ontology

- Ergebnisse des Mappings

- Erfahrungen & Erkenntnisse

Ziel: Konkordanz


ORGANIZATION ONTOLOGY

Mapping Properties

- [exact match](#) (=same as)

- [equivalent property](#)
- [equivalent class](#)

- [external subproperty](#)
- [external superproperty](#)

- external subclass ?   → [narrower external class](#)
- external superclass ?   → ~~broader external class~~

Core Organization Ontology

- Status: W3C Recommendation https://www.w3.org/TR/vocab-org/
- „Core base concept"
- Organisationsstruktur
  - Überblick über eine Organisation
  - Gliederung in Abteilungen
- Berichtsstruktur
  - Mitgliedschaften
  - Rollen und Beziehungen zu Personen
- Standort
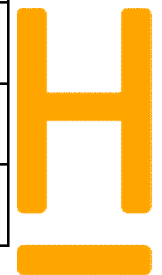- Organisationsentwicklung/-geschichte
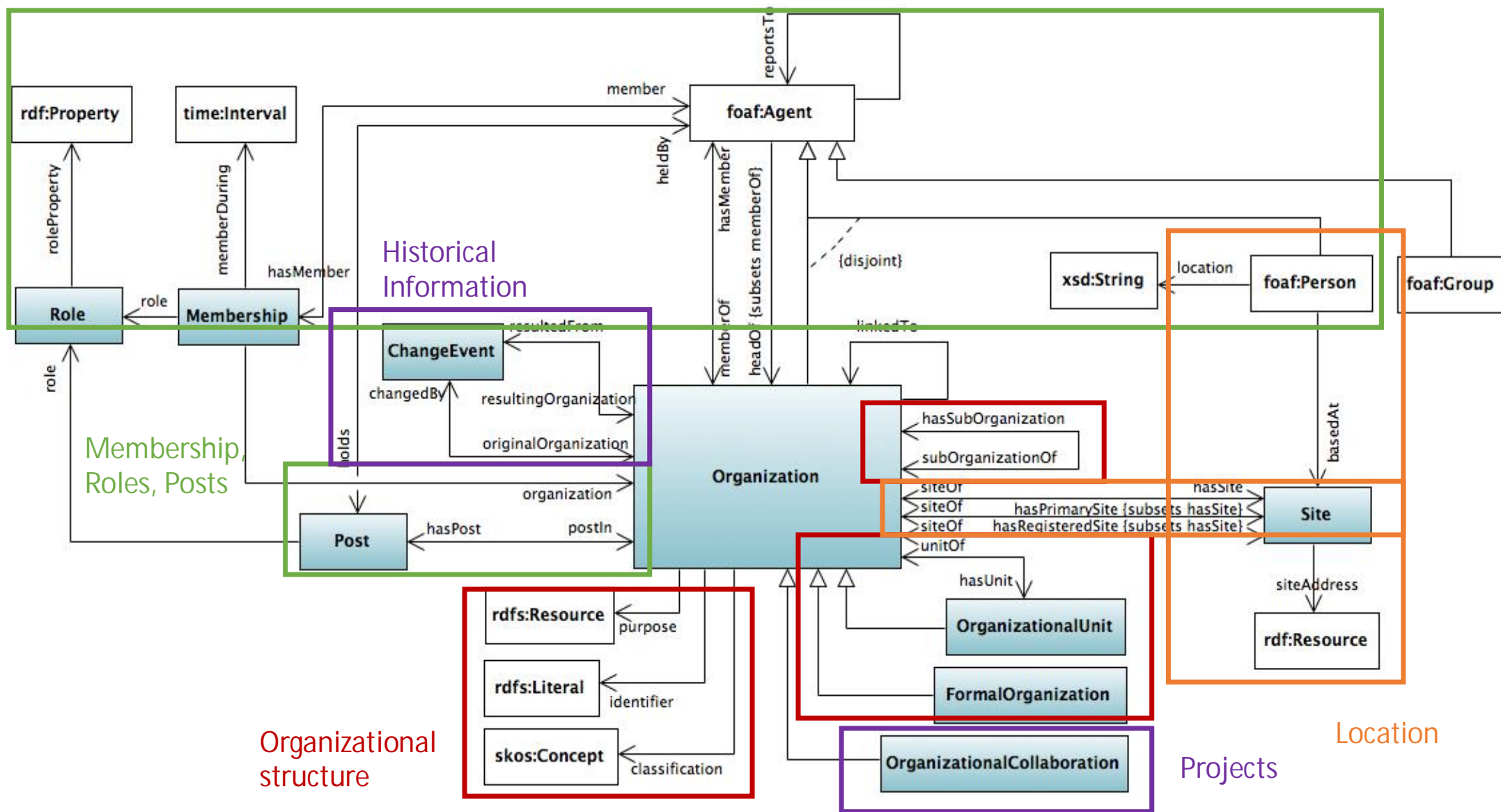
Organizational structure
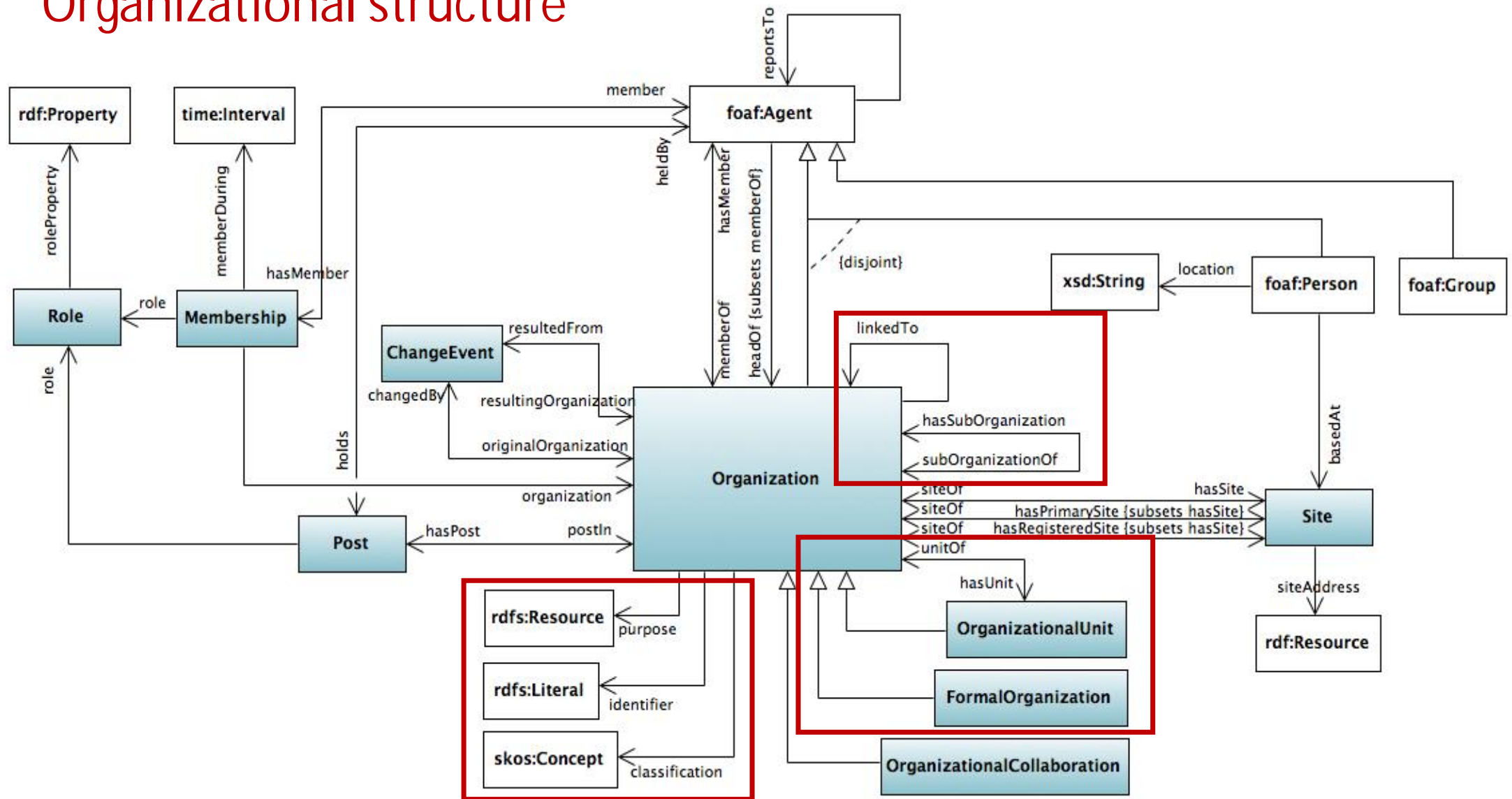
1. Organizational structure

	ORG	Mapping Property	Wikidata
Class	org:Organization	equivalent class	organization (Q43229)
Property	org:subOrganizationOf	equivalent property	parent organization (P749)
Property	org:hasSubOrganization	equivalent property	subsidiary (P355)
Property	org:linkedTo	equivalent property	connects with (P2789)
Class	org:OrganizationalUnit	exact match	organizational unit (Q679206)
		equivalent class	division (Q334453)
Property	org:unitOf	equivalent property	business division (P199)
Property	org:hasUnit		

1. Organizational structure

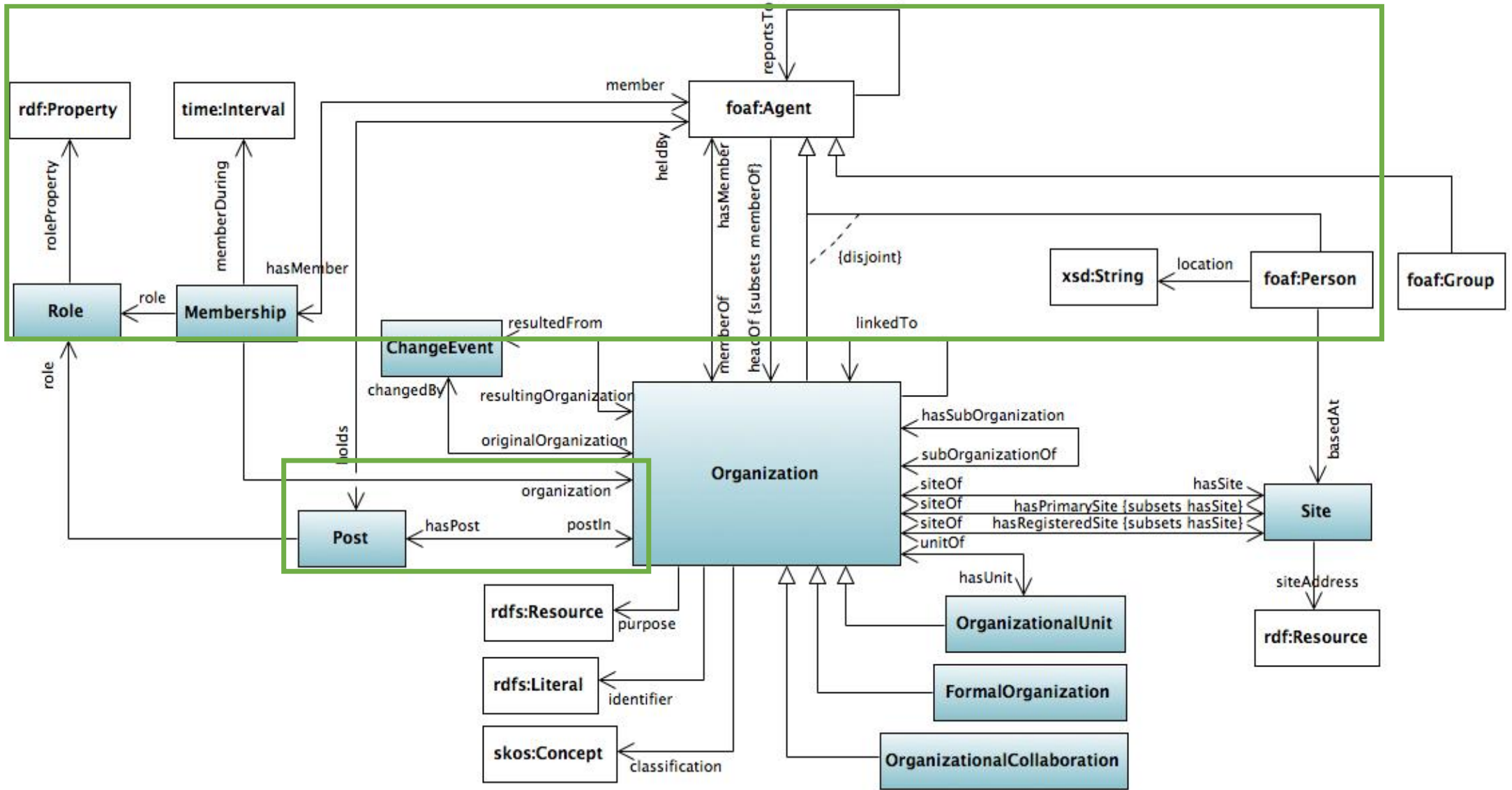|	ORG	Mapping Property	Wikidata
Class	org:FormalOrganization	equivalent class	type of organisation (Q17197366) type of business entity (Q1269299)
Property	org:hasFormalOrganization	equivalent property	legal form (P1454)

Beispiele Formal Organization
business enterprise
form of government
religious organization
charity

Property	org:purpose	equivalent property	use (P366)
Property	org:classification		
Property	org:identifier	equivalent property	Legal Entity ID (P1278)

Membership, Roles, Posts

2. Membership, Roles, Posts

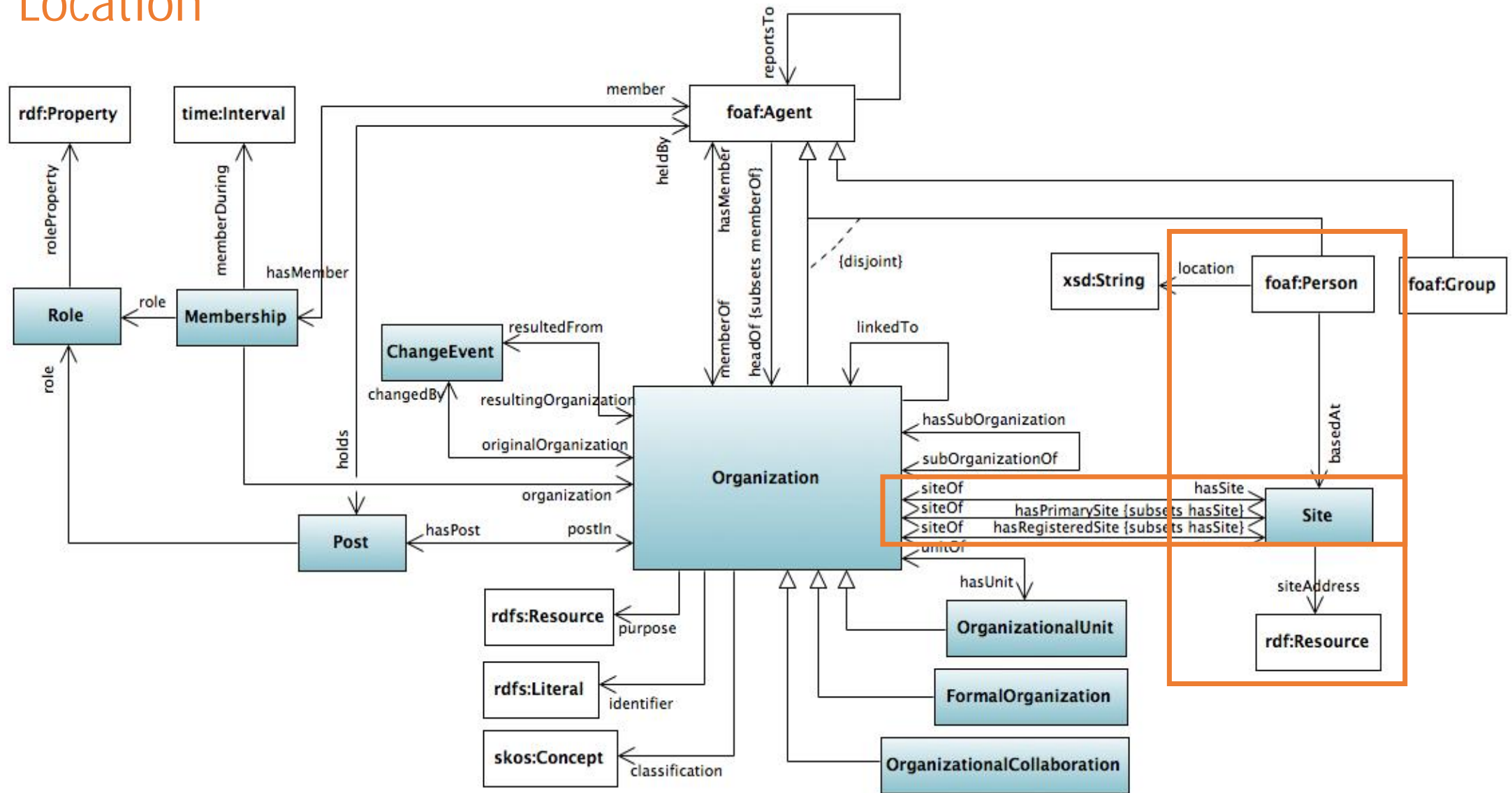|	ORG	Mapping Property	Wikidata
Property	org:memberOf	equivalent property	member of (P463) affiliation (P1416)
Property	org:hasMember		
Property	org:headOf	equivalent property	manager/director (P1037) chief executive officer (P169)
Class	org:Membership	equivalent class	member (Q9200127)
Property	org:member		
Property	org:hasMembership		
Property	org:organization	equivalent property	employer (P108)
Property	org:memberDuring	equivalent property	work period (start) (P2031) work period (end) (P2032)

2. Membership, Roles, Posts

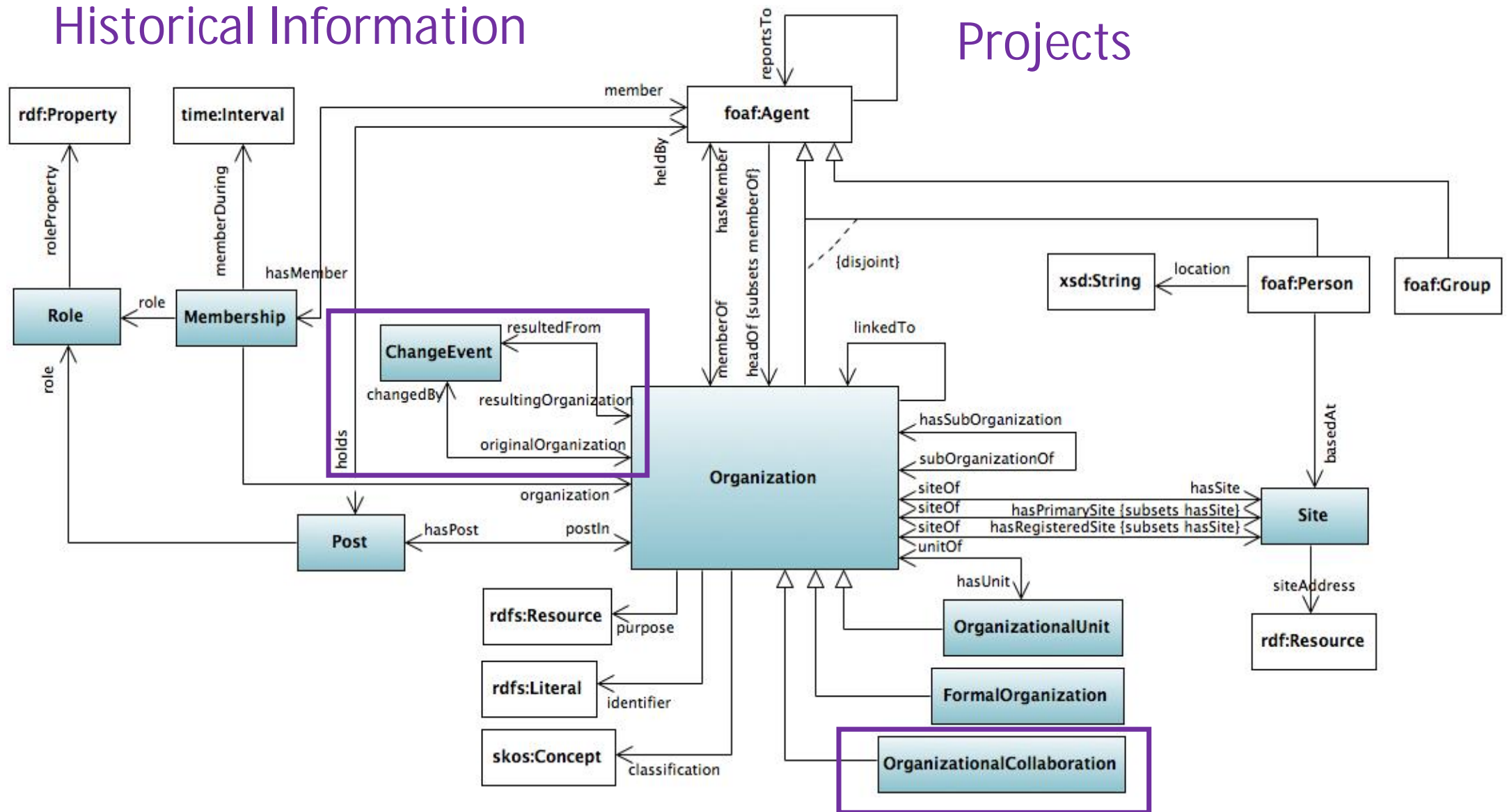|	ORG	Mapping Property	Wikidata
Class	org:Role	equivalent class	role (Q214339) (=soziale Rolle?)
Property	org:roleProperty		
Property	org:remuneration	equivalent property	base salary (P3618)
Class	org:Post	equivalent class	position (Q4164871)
Property	org:heldBy	equivalent property	position held (P39)
Property	org:holds		
Property	org:postIn		
Property	org:hastPost		
Property	org:reportsTo	equivalent property	represented by (P1875)
Property	org:role	equivalent property	officeholder (P1308)

Location

3. Location

	ORG	Mapping Property	Wikidata
Class	org:Site	equivalent class	seat (Q470540)
Property	org:siteAddress	equivalent property	located at street address (P969)
Property	org:hasSite	external subproperty	location (P276)
Property	org:siteOf		
Property	org:hasPrimarySite	equivalent property	headquarters location (P159)
Property	org:hasRegisteredSite		
Property	org:basedAt	equivalent property	work location (P937)
Property	org:location		

Historical Information | Projects

4. Projects & Historical Information

RDF/S	ORG	Mapping Property	Wikidata
Class	org:OrganizationalCollaboration	narrower external class	collaboration (Q1145523) cooperation (Q380962)
Class	org:ChangeEvent	narrower external class	change (Q1150070) Beispiele: Restructuring (Q1376796) merger (Q28944408)
Property	org:originalOrganization	external subproperty	replaces (P1365)
Property	org:changedBy	external subproperty	replaced by (P1366)
Property	org:resultedFrom	external subproperty	follows (P155)
Property	org:resultingOrganization	external subproperty	followed by (P156)

Wikidata

Core organization ontology (Q29862575)

ontology for organizational structures
ORG

✎ edit

▾ In more languages Configure

Language	Label	Description	Also known as
English	Core organization ontology	ontology for organizational structures	ORG
German	No label defined	No description defined	
French	No label defined	No description defined	
Bavarian	No label defined	No description defined	

Statements

instance of	⇕ ontology	✎ edit
	▾ 0 references	
		+ add reference
	+ add	

official website	⇕ https://www.w3.org/TR/vocab-org/ 🔗	✎ edit
	▾ 0 references	
		+ add reference
	+ add	

BARTOC ID	⇕ 18148	✎ edit
	▸ 1 reference	
	+ add	

Wikidata

organization (Q43229)

social entity with a collective goal

organisation | org

▼ In more languages Configure

Language	Label	Description	Also known as
English	organization	social entity with a collective goal	organisation org
German	Organisation	soziales Gebilde mit einem gemeinsamen Ziel	
French	organisation	structure sociale à but collectif	
Bavarian	No label defined	No description defined	

equivalent class	http://dbpedia.org/ontology/Organisation	edit
	described at URL http://mappings.dbpedia.org/index.php/OntologyClass:Organisation	
	▸ 1 reference	
	http://schema.org/Organization	edit
	▼ 0 references	
		+ add reference
	http://www.w3.org/ns/org#Organization	edit
	▼ 0 references	
		+ add reference
		+ add

https://www.wikidata.org/wiki/Q43229

```
1  # ontology mappings from Wikidata
2  SELECT ?wd ?wdLabel ?type ?uri ?prefix ?localName
3  WHERE
4  {
5    {
6        { ?wd wdt:P1628 ?uri . BIND("equivalent property" AS ?type) } UNION
7      { ?wd wdt:P1709 ?uri . BIND("equivalent class" AS ?type) } UNION
8      { ?wd wdt:P2888 ?uri . BIND("exact match" AS ?type) } UNION
9      { ?wd wdt:P2235 ?uri . BIND("superproperty" AS ?type) } UNION
10     { ?wd wdt:P2236 ?uri . BIND("subproperty" AS ?type) }
11   }
12   BIND( REPLACE(STR(?uri),'[^#/]+$','') AS ?prefix)
13   BIND( REPLACE(STR(?uri),'^.*[#/]','') AS ?localName)
14
15   # filter by ontology
16   FILTER(?prefix = "http://www.w3.org/ns/org#")
17
18     SERVICE wikibase:label { bd:serviceParam wikibase:language "en" }
19  } ORDER BY ?prefix ?localName
```

http://bit.ly/2phmEcx

Press [CTRL-SPACE] to activate auto completion.   Data updated a few

Q Find anything

Show

Limit

▶ Run   Clear   9 Results in 4265 ms   Display ▾   Download ▾

wd	wdLabel	type	uri	prefix	localName
Q wd:Q1269299	type of business entity	equivalent class	<http://www.w3.org/ns/org#FormalOrganization>	http://www.w3.org/ns/org#	FormalOrganization
Q wd:Q17197366	type of organisation	equivalent class	<http://www.w3.org/ns/org#FormalOrganization>	http://www.w3.org/ns/org#	FormalOrganization
Q wd:Q43229	organization	equivalent class	<http://www.w3.org/ns/org#Organization>	http://www.w3.org/ns/org#	Organization
Q wd:Q679206	organizational unit	equivalent class	<http://www.w3.org/ns/org#OrganizationalUnit>	http://www.w3.org/ns/org#	OrganizationalUnit
Q wd:Q470540	seat	equivalent class	<http://www.w3.org/ns/org#Site>	http://www.w3.org/ns/org#	Site
Q wd:P937	work location	equivalent property	<http://www.w3.org/ns/org#basedAt>	http://www.w3.org/ns/org#	basedAt
Q wd:P159	headquarters location	equivalent property	<http://www.w3.org/ns/org#hasPrimarySite>	http://www.w3.org/ns/org#	hasPrimarySite
Q wd:P1278	Legal Entity ID	equivalent property	<http://www.w3.org/ns/org#identifier>	http://www.w3.org/ns/org#	identifier
Q wd:P2789	connects with	equivalent property	<http://www.w3.org/ns/org#linkedTo>	http://www.w3.org/ns/org#	linkedTo

Erfahrungen & Erkenntnisse

- Suchstrategien
  - Vom Speziellen zum Allgemeinen
  - Von Property zu Class
  - Synonyme, verwandte Begriffe
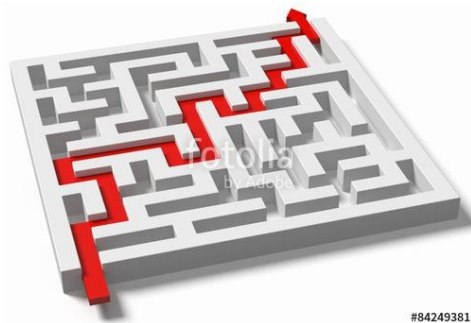
http://www.planet-wissen.de/gesellschaft/psychologie/entscheidungen_die_wahl_zwischen_alternativen/pwieratamptatwieentscheidetmansichrichtig100.html

Erfahrungen & Erkenntnisse

- Probleme
  - Abstrakte Begriffe der org-Ontology
  - Bedeutungen von Wikidata-Einträgen unklar
  - Inverse Property

- Mapping Property
  - equivalent property / class
  - external subproperty