This document consists of Query written in SPARQL.

1. What are the trending topics across different conferences?

**SELECT**

**?conference ?domain (COUNT(?domain) AS ?count)**

**WHERE**

**{**

**?paper ACE:isAcceptedAt ?conference. ?paper ACE:hasDomain ?domain;**

**}**

**GROUP BY ?domain**

**ORDER By DESC(?count)**

(If OWL reasoning has to be included then additional triple (?paper RDF:type ACE:ConferencePaper) has to be included in the query. This involves Max cardinality / Existential Restriction depending on the selected ACE profile.

2. Which research groups are active in specific fields?

**SELECT**

**?researchGroup ?domain**

**WHERE**

**{**

**?paper ACE:isAcceptedAt ?conference. ?paper ACE:hasDomain ?domain.**

**?paper ACE:hasAuthor ?author. ?author OWL2Bench:hasAffiliation ?researchGroup;**

**?conference ACE:hasOrganizingCommitteeMember ?organizer. ?conference ACE:hasDomain ?domain.**

**?organizer OWL2Bench:hasAffiliation ?researchGroup;**

**}**

(If OWL reasoning has to be included then additional triple (?organizer RDF:type ACE:OrganizingCommittee) can be be included in the query. This involves SubProperty hierarchy and Universal Quantifier depending on the selected ACE profile.

3. What are the publication activities of different organizations?

**SELECT**

**?organization ?domain**

**WHERE**

**{**

**?paper ACE:hasDomain ?domain.**

**?paper ACE:hasAuthor ?author. ?author OWL2Bench:hasAffiliation ?organization**

**}**

(If OWL reasoning has to be included then additional triple (?paper RDF:type ACE:AcademicManuscript) can be be included in the query. This involves SubClass hierarchy and Min cardinality / Existential Restriction depending on the selected ACE profile.

4. Which conferences match users' research interests?

**SELECT**

**?domain ?conference (COUNT(?domain) AS ?count)**

**WHERE**

**{**

**?conference ACE:hasDomain ?domain;**

**?paper ACE:hasDomain ?domain. ?paper ACE:isAcceptedAt ?conference;**

**}**

**GROUP BY ?domain**

(If OWL reasoning has to be included then additional triple (?paper RDF:type ACE:ConferencePaper) has to be included in the query. This involves Max cardinality / Existential Restriction depending on the selected ACE profile.

5. Who are the interdisciplinary authors in a specific field?

**SELECT ?author ?domain1 ?domain2**

**WHERE**

**{ ?paper ACE:isAcceptedAt ?conference . ?paper ACE:hasAuthor ?author . ?paper ACE:hasDomain ?domain1 . ?paper ACE:hasDomain ?domain2 . ?domain1 RDF:type ?ResearchField1 . ?domain2 RDF:type ?ResearchField2 .**

**FILTER (?ResearchField1!= ? ResearchField2)**

**}**

(If OWL reasoning has to be included then additional triple (?paper RDF:type ACE:Manuscript) has to be included in the query. This involves Max cardinality / Existential Restriction depending on the selected ACE profile.

6. Which sessions are the most popular?

**SELECT**

**?session ?count (COUNT(?person) AS ?count)**

**WHERE**

**{**

**?person ACE:attends ?session;**

**}**

**GROUP BY ?session**

**ORDER By DESC(?count)**

(If OWL reasoning has to be included then additional triple (?session RDF:type ACE:Session) has to be included in the query. This involves Owl:oneOf. )

7. What is the global research focus in a given field? (such as AI)

**SELECT**

**?country ?domain**

**WHERE**

**{**

**?paper ACE:hasDomain ACE:ai. ?paper ACE:hasAuthor ?author.**

**?author OWL2Bench:hasAffiliation ?organization.**

**?organization Location:hasLocation ?location. ?location Location:isPartOf ?country.**

**}**

(This involves hasValue and transitive object property OWL constructs. Users can replace the domain name. Also by replacing it with ‘?domain’ will list out all the domains)

8. Which organizations are funding researchers in a given field?

**SELECT**

**?organization ?domain**

**WHERE**

**{**

**?person ACE:getsStudentGrant ?award. ?award ACE:isFundedBy ?organization. ?organization RDF:type OWL2Bench:Organization;**

**}**

**GROUP BY ?organization**

(If OWL reasoning has to be included then additional triple (?person RDF:type ACE:StudentGrantAwardee) has to be included in the query. This involves existential restriction.

9. What are the networking opportunities in a given field?

**SELECT**

**?author ?organization ?domain**

**WHERE**

**{**

**?paper1 ACE:hasDomain ?domain. ?paper2 ACE:hasDomain ?domain. ?paper1 ACE:hasAuthor ?author1. ?paper2 ACE:hasAuthor ?author2. Filter(?paper1!=?paper2)**

**}**

**GROUP BY ?domain**

(If OWL reasoning has to be included then additional triple (?paper RDF:type ACE:ConferencePaper) has to be included in the query. This involves Max cardinality / Existential Restriction depending on the selected ACE profile.

10. What are the academic collaboration networks?

**SELECT**

**?author ?collaborator**

**WHERE**

**{**

**?author ACE:hasCoAuthor ?coAuthor. ?coauthor OWL2Bench:hasAffiliation ?collaborator**

**}**

This involves Object Property Role Chain

11. Who are the non-academic collaborators in a given field?

**SELECT**

**?author ?collaborator**

**WHERE**

**{**

**?author ACE:hasCoAuthor ?coAuthor. ?coauthor OWL2Bench:hasAffiliation ?collaborator. ?collaborator RDF:type OWL2Bench:NonAcademicOrganization**

**}**

This involves Object Property Role Chain

12. What is the geographical distribution of research activities?

**SELECT**

**?country ?domain**

**WHERE**

**{**

**?paper ACE:hasDomain ACE:ai. ?paper ACE:hasAuthor ?author.**

**?author OWL2Bench:hasAffiliation ?organization.**

**?organization Location:hasLocation ?location. ?location Location:isPartOf ?country.**

**}**

(If OWL reasoning has to be included then additional triple (?paper RDF:type ACE:ConferencePaper) has to be included in the query. This involves Max cardinality / Existential Restriction depending on the selected ACE profile.

13. What is the impact of different platforms on conference trends?

**SELECT**

**?conference (COUNT(?person) AS ?count)**

**WHERE**

**{**

**?conference ACE:hasEventMode ?mode. ?person ACE:attends ?conference;**

**}**

**GROUP BY ?conference**

**ORDER By DESC(?count)**

(This involves Inverse depending on the selected ACE profile.