This document outlines the key competency questions aimed at analysing various aspects of academic conferences. Each competency question is accompanied by a description, background data required, and OWL constructs involved, providing a comprehensive understanding of the queries and their requirements.

* **Question**: The competency question that needs to be answered.
* **Description**: Provides a description of the query
* **Background data**: Specifies whether location and organization information, which is static, is required. The queries may or may not involve this for answering. Including the background data effects the performance of the reasoners and this performance depends on its size as well as the complexity of the graphs.
* **OWL constructs involved**: Lists the OWL 2 construct that will be involved for reasoning, using ACE ontology available in different OWL 2 profiles. If we include this in our query then we can see whether the reasoner supports a particular construct and also see what impact a particular construct has on the performance of the reasoners.

1. **Trending Topics Across Conferences**
   * **Question**: What are the trending topics across different conferences?
   * **Description**: Enables researchers to stay informed about the most relevant and exciting topics
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: Max Cardinality / Existential Restriction
2. **Active Research Groups**
   * **Question**: Which research groups are active in specific fields?
   * **Description**: Assists in recognizing key players and potential collaborators in a particular field
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: SubProperty hierarchy and Universal Quantifier
3. **Publication Activities of Organizations**
   * **Question**: What are the publication activities of different organizations?
   * **Description**: Provides insights into research productivity and interdisciplinary interests
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: SubClass hierarchy and Min cardinality / Existential Restriction
4. **Conference Match by Research Interests**
   * **Question**: Which conferences match users' research interests?
   * **Description:** Facilitates the identification of conferences aligned with an individual's research interests.
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: Max cardinality / Existential Restriction
5. **Interdisciplinary Authors**
   * **Question**: Who are doing interdisciplinary research?
   * **Description**: Identifying authors who engage in interdisciplinary research promotes collaboration across disciplines
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: Max cardinality, existential and subproperty hierarchy
6. **Session Popularity**
   * **Question**: Which sessions are the most popular?
   * **Description**: Helps identify the most engaging topics and popular speakers, enhancing the conference experience
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: oneOf
7. **Global Research Focus**
   * **Question**: What is the global research focus in a given field?
   * **Description**: Identifying the countries that are most active in a particular field can inform global research trends
   * **Background data**: Location.owl and Organization.owl (mandatory)
   * **OWL constructs involved**: hasValue and transitive object property
8. **Funding Organizations**
   * **Question**: Which organizations are funding researchers in a given field?
   * **Description**: Identifying funding organizations that support student grants enhances awareness of financial opportunities for attendees
   * **Background data**: Location.owl (optional), Organization.owl (Mandatory)
   * **OWL constructs involved**: Existential Restriction
9. **Networking Opportunities**
   * **Question**: What are the networking opportunities in a given field?
   * **Description**: Identifying tweets expressing their interest in specific topics or research areas assists in potential collaborations within the areas of interest
   * **Background data**: Location.owl (optional), Organization.owl (optional)
   * **OWL constructs involved**: Existential Restriction
10. **Collaboration Networks**
    * **Question**: What are the academic collaboration networks?
    * **Description**: Monitoring the collaboration networks among researchers in a specific field helps understand the dynamics of academic collaboration
    * **Background data**: Location.owl and Organization.owl (mandatory)
    * **OWL constructs involved**: Object Property Role Chain
11. **Non-academic Collaborators**
    * **Question**: Who are the non-academic collaborators in a given field?
    * **Description**: Monitoring the network of non-academic collaborators connected to academic organizations sheds light on industry-academia partnerships and knowledge transfer
    * **Background data**: Location.owl (optional), Organization.owl (optional)
    * **OWL constructs involved**: Object Property Role Chain
12. **Geographical Distribution**
    * **Question**: What is the geographical distribution of research activities?
    * **Description**: Determining the geographical distribution of conference attendees enables the assessment of diversity and identifies active countries in specific research fields
    * **Background data**: Location.owl and Organization.owl (mandatory)
    * **OWL constructs involved**:
13. **Platform Impact**
    * **Question**: What is the impact of different platforms on conference trends?
    * **Description**: Offers insights into conference engagement trends
    * **Background data**: Location.owl (optional), Organization.owl (optional)
    * **OWL constructs involved**: