

An Indian-Australian research partnership



**Project Title:**

**Project Number**

Monash Supervisor(s)  *Full names and titles*

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IITB Supervisor(s)  *Full names and titles*

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## Research Academy Themes:

Highlight which of the Academy's Theme(s) this project will address? 1.

*(Feel free to nominate more than one. For more information, see [www.iitbmonash.org](http://www.iitbmonash.org))*

1. **Advanced computational engineering, simulation and manufacture**

## The research problem

*Define the problem*

Geospatial databases are often used across domains and issues in semantic interoperability remain one of the major barriers towards effective and widespread use of geospatial data. Ontology based mapping of geospatial data as potential solution to semantics based translation of geospatial data remains one of the challenging areas of research.

Automatic and semi-automatic ontology mapping requires the combination of lexical similarity, structural similarity and other constraints expressed in schemas and other database constituents. The use of probability based approaches and heuristics in the learning, matching and use of such ontologies for semantic interoperability in geospatial databases is required. We need to set up a methodology to use an semantic entropy for such ontology mapping requirements.

## Project aims

*Define the aims of the project*

The goal of the project is to build the theory AND the tools for the uncertainty based approaches to ontology mapping.