

## Collaborative Predictive Ontology Forum & Workshop Activity

Proposed to start mid-Spring 2010

Brief Summary Proposal by OpenTox Coordinator, Barry Hardy

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The field of predictive toxicology currently urgently requires the development of computable toxicology vocabularies and ontologies so as to support the software applications required by *in silico*, *in vitro* and *in vivo* toxicology methods and related analysis and reporting activities. Such ontology development will greatly aid the implementation of interoperable distributed computing applications supporting data management, model building, validation and reporting (including regulatory reporting and alternative testing submission requirements as required by REACH).

It is proposed that a combination of **Forum** and hands-on **Workshop** activity be run in mid-late Spring 2010 so as to progress developments in this area. These f2f activities would be supported by virtual meeting and community extension activities for ongoing development.

### Forum

The Two Day **Forum** would bring a combination of cross-sector developers, users, experts and regulators together to

- a) establish the key ontology requirements of stakeholders in this field
- b) develop a roadmap for ontology development satisfying these requirements
- c) identify the key existing ontology contributions that differing organisations, projects and existing ontology programs could make to such a roadmap
- d) design a core OpenTox and set of neighbouring ontologies for predictive toxicology including foundry and linked ontology concepts such as pursued by the OBO Foundry approach
- e) progress the mapping and serialization of such ontologies into the further development of industry standards such as ToxML e.g., for supporting unambiguous communications between web services
- f) establish a basis for collaboration between all actors to implement the ontology roadmap, including consideration of any additional fund raising that may be needed

The Forum format will involve short presentations to provide user, developer, regulatory and solution needs perspectives, followed by knowledge cafe discussions discussing requirements, use cases, challenges, issues, solutions, collaboration opportunities and ways forward in small groups.

### Workshop

The 1 Week Hands-On Ontology Development Workshop would subsequently bring a combination of cross-sector developers, users, experts and regulators together to

- a) design, implement and discuss the development of core and neighbouring ontologies required by the ontology development roadmap
- b) peer review the quality, logical consistency and contradictions of ontology terms and relationships
- c) map and test such ontologies against real industry use cases

The Workshop format will involve the setup of ontology development software either in a dedicated computer classroom and/or across the set of laptops of individual participants prior to the workshop week. During the workshop week a combination of ontology and domain experts will lead teams of small groups through the hands-on ontology development work. The goal will be to achieve as much implementation progress as possible during the week, and to establish the relationships and understanding for further development beyond the week.