IAOA Education Committee

FOIS 2012

Antony Galton

Items to Report

- Summer Institute 2011
- Summer School 2012
- Textbook

Summer Institute 2011

- Organised in cooperation with the Vespucci Initiative (www.vespucci.org)
- Theme: Ontology of Processes
- Took place in Fiesole, Italy, 12th-23rd July 2011.
- Facilitators: Werner Kuhn, Antony Galton, Michael Grüninger, David Mark
- 36 attendees, covering a wide range of backgrounds and experience

Summer School 2012

- First Interdisciplinary Summer School in Ontological Analysis
- Took place in Trento, Italy, 16th-20th July 2012.
- Lecturers: Nicola Guarino, Chiara Ghidini, Luciano Serafini, Christiane Fellbaum, Amanda Hicks, Kevin Mulligan, Giancarlo Guizzardi.
- Topics:
  - Applied ontology and ontological analysis
  - First-order logic for knowledge representation
  - Ontology, lexicon and cognitive science
  - Ontological analysis: the philosophical perspective
  - Logical tools for ontological analysis
  - Ontology-driven conceptual modelling
- 86 attendees
- Motivation: "For sure, a humble, truly interdisciplinary approach is needed, focusing on letting new ideas, approaches, methodologies emerge from the mutual cross-fertilization of different disciplines." (N. Guarino)

Ontology Textbook

- It is planned to produce an introductory textbook on ontology that might receive official endorsement from the IAOA.
- Progress has been slower than originally envisaged.
- Discussions with Fabian Neuhaus have led to a set of ground rules and a draft Table of Contents.
- The draft Table of Contents draws on the recommended core knowledge in the Communiqué from the 2010 Ontology Summit.

Ground Rules (summary)

1. Introductory textbook for use at final-year undergraduate or masters level.
2. Sufficient material for a 2-semester introductory course on ontology.
3. Editors will decide on topics to cover, and organise into chapters.
4. Editors will decide on uniform style, format and level, giving detailed guidelines for authors.
5. Experts invited to write the chapters.
6. Each chapter will have two second readers, at least one of whom is a contributor to another chapter.
7. Editors will read all material to check for coherence, consistency, coverage, and conformity to guidelines.
8. There will be a public reviewing period during which IAOA members can make suggestions for changes.
9. Official endorsement of the textbook will be sought from the IAOA executive council.

Draft Table of Contents

Introduction *What are ontologies and what are they for? — Motivating examples — Use cases (standards, interoperability, reasoning, search/retrieval, NLP, decision support) — Ontology types (application/reference; domain/upper; light-/heavyweight)*
Ontological Analysis *Philosophical foundations (universals and particulars, mereology, identity, dependence, time and change) — building an ontology (principles of classification, entities and relations, definitions and axioms, software tools, evaluation)*
Representation and Reasoning *Logic (FOL, modal, second-order) — Set Theory — Language (use/mention, type/token, sense/reference, speech acts) — Knowledge representation — Ontology representation languages*
Applications *Expand on 'Use cases' in introduction, in light of analysis and representation sections — Case studies of some specific upper and/or domain-level ontologies*