Special issue on Linked Data for Health Care and the Life Sciences

Editorial

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Health Care and Life Sciences (HCLS) have long been a test-bed for the standards proposed by the W3C to build the Semantic Web[1]: since HCLS is descriptive by nature and its descriptions have traditionally been produced according to *ad-hoc* schemas in isolated resources, HCLS offers an ideal use case for technologies like RDF[2], SPARQL[3] and OWL[4] [1,4]. This "marriage" of the HCLS domain with semantic technologies has resulted in a collection of resources that can be regarded as an HCLS-focused working implementation of the idea of the Semantic Web: the so-called Life Sciences Semantic Web (LSSW).

As part of the process of implementing the LSSW, the HCLS community has adopted the Linked Data practices to publish information in a machine-friendly and linkable fashion [3], as a "down-to-earth" version of a prospective fully-fledged Semantic Web. This has resulted in members of the HCLS community, like the W3C HCLS Interest Group[5], considerably contributing to the Linked Open Data (LOD) endeavour, with datasets like Bio2RDF [2] and Linked Open Drug Data (LODD) [5].

As the LOD network grows, producers and consumers alike are facing new challenges regarding interoperable vocabularies, filtering, graphical interfaces, best practices for dataset production, dataset quality evaluation, role of automated reasoning, *etc*. The aim of this special issue is to showcase some of the latest developments in the application of Linked Data in HCLS and help pave the way to solve such challenges. The issue comprises the following manuscripts: in "Applying Linked Data Approaches to Pharmacology: Architectural Decisions and Implementation" Alasdair J. G. Gray *et al.* describe the technical decisions made when building the Open Pharmacological Space (OPS), a drug discovery platform part of the Open PHACTS project[6]; in "Using the relation ontology Metarel for modelling Linked Data as multi-digraphs" Ward Blondé *et al.* describe Metarel, an ontology that describes class-level relations that can be used for SPARQL queries; in "A collaborative methodology for developing a semantic model for interlinking Cancer Chemoprevention linked-data sources" Dimitris Zeginis *et al.* describe how they used a new collaborative methodology to build a semantic model related to cancer chemoprevention.

The manuscripts went through a rigorous review process in which half of the submissions were accepted. We would like to thank the referees for their time and effort: Robert Stevens, Iker Huerga, Erick Antezana, Mari Carmen Suárez Figueroa, Mark D. Wilkinson, Andrea Splendiani, Helena Deus, Richard Boyce, Simon Jupp, Carlos Buil Aranda, Alejandro Rodríguez González, Matt-Mouley Bouamrane, Boris Villazón Terrazas, Rafael Valencia-García.

We hope that this special issue will inspire HCLS members to publish and consume HCLS related Linked Data in innovative ways, and in doing so help to build,

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in the long term, a more efficient LSSW that can yield new discoveries more rapidly. This should ultimately serve as an example of the utility of semantic technologies for the mainstream Web.

References

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