



UNIVERSITÀ DI PISA
DIPARTIMENTO DI INGEGNERIA DELL'INFORMAZIONE
Dottorato di Ricerca in Ingegneria dell'Informazione

Doctoral Course

“Linked Open Data: a paradigm for the Semantic Web”

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Short Abstract:

The Semantic Web transforms the Web of documents to the Web of Data. While the Web of documents is represented mainly by hyperlinks among Web pages, the Web of Data connects data, thus providing a mechanism to discover new relationships among resources and concepts.

The Linked Data paradigm is one of the main concepts behind the Semantic Web. Linked Data is a set of *best practices* to connect structured data over the Web. The aim of this series of lectures is to give an overview of the basic concepts of Semantic Web and Linked Data and to provide students with some tools used within the Linked Data world.

Course Contents in brief:

Theory

- Motivation
- Basics of Semantic Web
- Linked Open Data (LOD)
 - Best practices to publish in LOD
 - Licenses problems
 - Maintenance
- Data Model
 - RDF
 - Common ontologies
- Data Interlinking
- SPARQL

Laboratory

- Use case definition
- Setup of a LOD node with D2R
- Data browsing with LodLive
- Data linking with Silk

Total # of hours: 12

References:

- [1] Tom Heath and Christian Bizer (2011) *Linked Data: Evolving the Web into a Global Data Space* (1st edition). Synthesis Lectures on the Semantic Web: Theory and Technology, 1:1, 1-136. Morgan & Claypool.
 - [2] Tim Berners-Lee (2006-07-27). "Linked Data". *Design Issues*. W3C. Ultimo accesso 19 Settembre 2016
 - [3] W3C Working Group (2014) . Best practices to publish Linked Data. Technical Report. <http://www.w3.org/TR/ld-bp/>
 - [4] Bob DuCharme. (2011). *Learning SPARQL*. O'Reilly Media, Inc..
 - [5] Bizer, Christian, Heath, Tom and Berners-Lee, Tim (2009) *Linked Data - the story so far*. *International Journal on Semantic Web and Information Systems*, 5, (3), 1-22.
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CV of the Teacher

Angelica Lo Duca is a postdoctoral researcher at the Institute of Informatics and Telematics of the National Research Council of Pisa. . In 2012, she received her Ph.D. in Ingegneria dell'Informazione from the University of Pisa. She received her Bachelor's and Master's degrees in Computer Engineering from University of Pisa respectively in 2005 and 2007. Currently, she works at the Web Applications for the Future Internet Laboratory, in the Semantic Web and Data Visualization group. Her research interests include Semantic Web, Data Integration, Data Science and Data Security, applied to the fields of tourism and cultural heritage. She wrote more than 10 papers covering these topics. She also supervised different thesis about open linked data, cultural heritage and tourism.

Room and Schedule

Room: *Aula Riunioni del Dipartimento di Ingegneria dell'Informazione, Via G. Caruso 16, Pisa – Ground Floor*

Schedule:

2017/02/01– 10:00 – 13:00

2017/02/08 – 10:00 – 13:00

2017/02/15 – 10:00 – 13:00

2017/02/21 – 15:00 – 18:00