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## CURRICULUM VITAE

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23 JANUARY 2015

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## 1 Personal Data

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## 2 Education

### 2.1 Certifications

- *September 1996 - July 2001: **High School Degree:*** “Liceo Scientifico Tecnologico” (scientific orientation), I.T.I.S. “A.Meucci” in Cittadella (Padua).
- *October 2001 - December 2004: **Bachelor Degree in Computer Science Engineering, University of Padua.***  
Title of the dissertation: “Personal Information Repository”. Supervisor: Prof. G. Clemente.
- *January 2005 - December 2006: **Master Degree in Computer Science Engineering, University of Padua.***  
Title of the thesis: “Analysis, Management and Harvesting of Archive Metadata”. Supervisor: Prof. M. Agosti.
- *January 2007 - October 2007: **Post-graduate Degree Master on Design, Management and Conservation of Public and Private Digital Archives.***  
The Master program was jointly organized by the University of Padua and University of Macerata. Post-graduate Master Director: Prof. G. Bonfiglio-Dosio.
- *January 2008 - January 2011: **PhD in Information Engineering, Doctorate School in Information Engineering,*** specialization in “Science and Technology of Information”, Department of Information Engineering, University of Padua.  
Title of the thesis: “A Set-Based Approach to Deal with Hierarchical Structures”. Supervisor: Prof. M. Agosti; co-supervisor: Prof. N. Ferro.  
PhD thesis: <http://paduaresearch.cab.unipd.it/3734/>  
PhD defense presentation: [http://www.dei.unipd.it/~silvello/presentazioni/Silvello\\_2011-04-PhD.pdf](http://www.dei.unipd.it/~silvello/presentazioni/Silvello_2011-04-PhD.pdf)

### 2.2 Qualifications

- *September 2007: **GRE test*** (Graduate Record Examination, <http://www.ets.org/gre>) with quantitative score of 780 over 800.
- *October 2007: **Qualified to be admitted to the Italian Engineering Association*** (Ammesso all’iscrizione all’Ordine degli Ingegneri).
- *December 2008: **TOEFL Ibt exam*** (Test of English as a Foreign Language - Internet-based) with final score of 104 over 120.

### 2.3 Post-Doctoral Academic Appointments

- *February 2011 - January 2013: **Junior post-doc researcher*** at the Department of Information Engineering, University of Padua.  
Title of the research project: *"Harnessing the Scientific Data Produced by the Experimental Evaluation of Multilingual Information Access Systems by means of Advanced, Distributed and Open Infrastructures.* Scientific supervisor: Prof. N. Ferro.

- *February 2013 - January 2015: Senior post-doc researcher* at the Department of Information Engineering, University of Padua.  
Title of the research project: "*Experimental evaluation of proactive access information systems working on social and streaming data*". Scientific supervisor: Prof. N. Ferro.

## 2.4 Grants

- *February 2007 - December 2007: Grant* financed by the Department of Information Engineering, University of Padua, entitled: "Digital Archives Architectures: Design and Development of a Prototype System". Supervisor: Prof. M. Agosti
- **Grant** financed by BCS-IRSG (British Computer Society - Information Retrieval Specialist Group) for participation at "The 6th European Summer School in Information Retrieval" (ESSIR 2007) held in Glasgow from 27 August 2007 to 31 August 2007.
- **Grant** financed by BCS-IRSG (British Computer Society - Information Retrieval Specialist Group) for participation at "The 30th European Conference in Information Retrieval" (ECIR 2008) held in Glasgow (UK) from 30 March to 3 April 2008.

## 2.5 Service to the Academic Community

- **2009 - 2011:** Representative of postgraduate students of the School in Information Engineering, Department of Information Engineering, University of Padua (elective charge).
- **2012 - 2015:** Representative of post-doc researchers in the council of the Department of Information Engineering, University of Padua (elective charge).

## 2.6 Doctoral Formative Activities

Formative activities during the doctoral course included the following courses:

- **Optimization Libraries, University of Padua, Italy.** Prof. L. Brunetta, University of Padua.
- **Design Patterns in Software Development, University of Padua, Italy.** Ing. G. Manduchi, Consorzio RFX, Euratom-ENEA Association, Padua.
- **Applied Functional Analysis, University of Padua, Italy.** Prof. P. Ciatti, University of Padua.
- **Statistical Methods, University of Padua, Italy.** Prof. L. Finesso, University of Padua.

## 2.7 International Formative Activities

- *July 2004 - August 2004: ISPM - International Summer Program in Management at University of Michigan, Dearborn, USA.*  
This program was developed by the Faculty of Economics of the University of Padua together with the Department of Economics of the University of Michigan.

- *27 August 2007 - 31 August 2007: **ESSIR 2007 - 6th European Summer School in Information Retrieval***, Glasgow, UK.  
URL: <http://www.dcs.gla.ac.uk/essir2007/>
- *July 2008: **Informetrics, University of Umea, Sweden***. The course was organized by NORSLIS (*Nordic Research School in Library and Information Science*) and held by: Prof. O. Persson, Prof. B. Larsen, Prof. J. W. Schneider, Dr. I. I. Maestro, Dr. R. Klavans, Prof. R. Danell, Prof. L. Bjorneborn.
- *31 August 2009 - 4 September 2009: **ESSIR 2009 - 7th European Summer School in Information Retrieval***, Padua, Italy.  
URL: <http://essir2009.dei.unipd.it/>
- *23 January 2012 - 27 January 2012: **1st PROMISE Winter School 2012 - Information Retrieval meets Information Visualization***, Zinal, Valais, Switzerland.  
URL: <http://www.promise-noe.eu/events/winter-school-2012/>



### 3 Scientific Activity

#### Digital Libraries and Archives

The main research contributions within this field concern:

- formal models for dealing with hierarchical structures;
- methodologies for diachronic citations of hierarchical data and Linked Open Data (LOD) subsets;
- methodologies for enabling data-level interoperability via the LOD paradigm.

Over the past two decades, Digital Libraries (DLs) have been steadily evolving and shaping the way people and institutions study, learn, access and interact with our cultural heritage. Indeed, they are the compound and complex systems which manage digital resources from our cultural heritage belonging to different cultural organizations such as libraries, archives and museums. These institutions are quite different from several points-of-view: they have different internal organizations and traditions; their resources are different in nature, structure, and descriptions; and their users have different information needs which call for different methods for accessing resources. In this context our research focuses on archives which are an extremely valuable part of our cultural heritage since they represent the trace of the activities of a physical or juridical person in the course of their business. The fundamental characteristic of archives resides in their *hierarchical organization*, which expresses the *context* – i.e. the relationships and dependencies between the records of the archive.

Despite their importance, the models and technologies that have been developed over the past two decades in the DL field have not been specifically tailored to archives. Indeed, DL benefit from the existence of sophisticated formal models, such as the Streams, Structures, Spaces, Scenarios, Societies (5S) model<sup>1</sup>, which allow us to formally describe them and to prove their properties and features. Even if archives are a preponderant part of DL, so far there has been no attempt to develop a dedicated formal model, built around their peculiar constituents. Nor can we exploit the 5S model as it is for archives because it needs to be extended and adapted to archives.

Our research tackles this issue and focuses on the central role of formal models for DL; we consider these models a means of integration and cooperation able to enhance the interoperability between the different facets of DL, including their community, methodology and technology.

To this purpose, with the collaboration of Prof. Nicola Ferro, we proposed a set-based formal model for dealing with hierarchical structures based on the idea of expressing the hierarchical relationships between objects through the inclusion property between sets, in contrast to the binary relation between nodes exploited by the tree [12, 30, 57]. This model is called NESTed SeTs for Object hieRarchies (NESTOR) and it is composed of two set-based data models: the *Nested Sets Model* (NS-M) and the *Inverse Nested Sets Model* (INS-M) [5]. NESTOR has the same expressive power as the tree, is capable of handling structural and

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<sup>1</sup>Goncalves, M. A., Fox, E. A., Watson, L. T., Kipp, N. A., April 2004. Streams, Structures, Spaces, Scenarios, Societies (5S): A Formal Model for Digital Libraries. ACM Trans. on Inf. Sys. (TOIS) 22(2):270—312.

content components of a hierarchy separately, allows us to answer structural and content queries in an efficient and scalable way and it provides efficient methods for managing and updating hierarchies of objects [31, 49, 53].

NESTOR has been exploited to formally extend the 5S model to define a *digital archive* as a specific case of “digital library” able to take into consideration the peculiar features of archives [5, 21]. This defines an actual bridge between these two formal models and provides the following innovative outcomes: (i) it allows archives to exist and interact with other realities (i.e. libraries and museums); (ii) it provides archives the possibility of exploiting the full wealth of digital library technologies and methods; and (iii) it enables integrated access to heterogeneous contents.

The application of NESTOR in the field of digital archives provided three additional tangible outcomes: (i) it addresses the problem of interoperability between digital archives by extending the standard de-facto protocol for metadata exchange in distributed environment (Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)<sup>2</sup>) demonstrating how digital library technologies can be adopted with archives [5, 33]; (ii) it eases access to the resources, enhances interoperability, and provides additional and flexible representations of archival resources by forming compound digital objects made available as LOD on the Web [5, 47]; (iii) it integrates with formal models for digital annotations, helping both archivists and end-users in the description and interpretation of archival resources [5, 48].

Within the context of DL and in particular digital archives, it is important to enable diachronic citation – i.e. immune to changes – of digital material. In this field thanks to the collaboration with Prof. Peter Buneman at the University of Edinburgh, we defined a rule-based system for citing hierarchical data, which can be naturally applied to digital archives [7]. This laid the groundwork for the definition of a new methodology for citing LOD subsets [2] which is the first solution tackling this problem for Resource Description Framework (RDF) graphs.

Lastly, we analysed and provided solutions to the problem of interoperability in the context of the related field of digital geolinguistics; this research branch has been carried out thanks to the collaboration in a national project called Italian Syntactic Atlas (ASIt)<sup>3</sup>. In particular, we collaborated with Dr. Emanuele Di Buccio and Dr. Giorgio Maria Di Nunzio of the Department of Information Engineering of the University of Padua, with Dr. Jacopo Garzonio of the Department of Linguistic and Cultural Studies of Ca’ Foscari University of Venice and with Dr. Diego Pescarini of the Department of Linguistic and Literary Studies of the University of Padua. In this context, the heterogeneity of geolinguistic projects has been recognized as a key problem limiting the reusability of linguistic tools and data collections. We defined an approach based on LOD which moves the focus from the systems handling the data to the data themselves, with the outcome of increasing the level of interoperability of geolinguistic applications and the reuse of the data [22, 28]. We defined an extensible ontology for geolinguistic resources based on the common ground defined by current European linguistic projects [4]. We provided a Geolinguistic Linked Open Dataset based on the data case study of the ASIt linguistic project [6]. Finally, we defined a new methodology for establishing the distance between dialects based on the vector space model [18].

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<sup>2</sup><http://www.openarchives.org/>

<sup>3</sup>Atlante Sintattico d’Italia (ASIt), progetto FIRB (fondo per gli investimenti della ricerca di base) “Un’inchiesta grammaticale sui dialetti italiani: ricerca sul campo, gestione dei dati, analisi linguistica”.  
<http://asis-cnr.unipd.it/>

## Information Retrieval Evaluation

The main research contributions within this field are the:

- design and development of an infrastructure for managing and accessing experimental evaluation data;
- design of a new semantic model of the Information Retrieval (IR) scientific data and development of a system for exposing them as LOD on the Web;
- definition of a visual analytics system for carrying out performance and failure analysis;
- definition of a new IR effectiveness measure.

Information Retrieval (IR) systems cover a wide spectrum of current information access technologies ranging from general-purpose commodities like Web search engines to specialized systems for enterprise search, patent search and expertise search, just to name a few. These systems are faced with complex user needs, having to support diverse work and leisure tasks, and are challenged by every increasing amounts of heterogeneous data, with different degrees of structure, in multiple languages and multiple media. Therefore, designing and developing these faceted and complex systems are quite challenging activities and, since the inception of the field, they have been accompanied by thorough experimental evaluation methodologies in order to be able to measure the achieved performances, to assess the impact of alternatives and new ideas, and to ensure the levels of effectiveness needed to meet users expectations.

Experimental evaluation of multilingual and multimedia information access systems is a demanding activity that benefits from shared infrastructures and datasets which favor the adoption of common resources, allow for replication of the experiments, and foster comparison among state-of-the-art approaches. Therefore, experimental evaluation is carried out in large-scale evaluation campaigns at international level, such as the Text REtrieval Conference (TREC) in the United States or the Conference and Labs of the Evaluation Forum (CLEF) in Europe. Over the years, these initiatives accumulated large amounts of scientific data, comprising shared datasets, experimental results, performance measures, which provided the groundings for the subsequent scientific and technological development.

A crucial question we addressed in our research activities is how to ensure the best exploitation and interpretation of such valuable scientific data, possibly over large time spans. To answer this, with the collaboration of Prof. Maristella Agosti and Dr. Nicola Ferro, we started an effort aimed at modeling the experimental data and designing a software infrastructure able to manage and curate them, which led to the development of the Distributed Information Retrieval Evaluation Campaign Tool (DIRECT) system [27]. It allows the representation and management of the experimental evaluation workflow along with the data produced by covering the scientific data in a strict sense but it also addresses follow-up activities, like data visualization and interaction or scientific and bibliographical production. To the best of our knowledge, DIRECT is the most comprehensive tool for managing all the aspects of the IR evaluation methodology, the experimental data produced and the connected scientific contributions.

Nevertheless, compelling issues are still open. Indeed, both the scientific IR data and the scientific and technical literature built upon them grow and evolve over time while their context changes constantly. Therefore, we need to ensure that all this information is promptly curated, enriched and updated with links to other relevant information resources.

In order to address and tackle these issues, we collaborated with the Natural Language Processing research group of the Digital Enterprise Research Institute, University of Ireland in Galway. In particular, thanks to the joint work with Prof. Paul Buitelaar and Dr. Georgeta Bordea on semantic enrichment of experimental data, we reached two main research results: (i) design and development of a new semantic model of the IR scientific data; (ii) algorithms and tools able to semantically enrich scientific data in an automatic way and link them to external resources, in order to cope with their dynamic nature and evolution over time.

In particular, as far as the first contribution is concerned, we define a RDF model for representing experimental data and exposing them as LOD on the Web [9]. This enables a seamless integration of datasets produced by different international campaigns as well as the standardization of terms and concepts used to label data across research groups. As far as the second contribution is concerned, it builds upon the new RDF model and allows for automatically finding experts and topics in the scientific literature exploiting the scientific IR data as well as connecting the dataset with other datasets in the LOD cloud. This augments the access points to the data as well as the potential for their interpretability and re-usability [59].

Managing and exploiting experimental evaluation data by means of DIRECT and LOD advances give us the means for assessing the performances of IR systems and represent the starting point for investigating and understanding their behaviour. However, the complex interactions among the components of an IR system are often hard to trace down, to explain in the light of the obtained results, and to interpret in the perspective of possible modifications to be made to improve the ranking of the results, thus making this activity extremely difficult. These activities are called, in the IR field, *performance and failure analysis* and they are deemed fundamental activities in experimental evaluation and system development even though they are (especially the failure analysis part) too often overlooked due to their difficulty.

The joint research activities carried out with the visual analytics research group of “La Sapienza” University of Rome coordinated by Prof. Giuseppe Santucci allowed us to define a new methodology for reducing the effort needed to carry out performance and failure analyses by introducing the possibility of effectively interacting with the experimental results. This effort is the first concrete result of putting together IR and Visual Analytics methodologies [23, 25, 29]. All the outcomes of this research branch are summarized by the design, development, and validation of an innovative visual analytics environment, called Visual Information Retrieval Tool for Upfront Evaluation (VIRTUE) [3, 19].

Lastly, a fundamental role in IR evaluation is played by effectiveness measures that allow us to compare different systems and retrieval techniques with each other. In this respect, we proposed a new evaluation measure called Cumulated Relative Position (CRP) [26] which evaluates systems from the viewpoint of the avoidable effort for their users, measures their weariness while visiting a non-ideal ranking and expresses it as the amount of document misplacements in the ranking. The collaboration with the IR research group of University of Tampere (Finland) coordinated by Prof. Kalervo Järvelin contributed to the formal definition of the measure, the definition of three summary indicators for CRP which condense the quality of a ranking into a single number and the verification of its robustness, stability and sensitivity [1].

### 3.1 Research Collaborations

- *October 2009 - May 2010*: I was “Visiting Researcher” at the School of Informatics of University of Edinburgh (UK), collaborating with Prof. Peter Buneman. We worked on temporal RDF graphs and diachronic data citation [7].
- *March 2012*: I visited the Information Retrieval Research Group of University of Tampere (Finland). I worked on innovative IR evaluation metrics with Prof. Kalervo Järvelin, Dr. Heikki Keskustalo and Dr. Ari Pirkola [26].
- *April 2012*: I visited the Visual Analytics research group of “La Sapienza”, University of Rome (Italy). I worked on new visualization methodologies for IR experimental evaluation data with Prof. Giuseppe Santucci [25, 29].
- *July 2012*: I visited the Database research group of University of Modena and Reggio Emilia (Italy). I worked on evaluation techniques for keyword search in context with Prof. Sonia Bergamaschi and Dr. Francesco Guerra [24].
- *September 2012*: I visited the Visual Analytics research group of “La Sapienza”, University of Rome (Italy). I worked on a visual and interactive system for performing failure analysis with Prof. Giuseppe Santucci and Marco Angelini (PhD student). This research collaboration is still on-going with regular research exchanges on a bimonthly basis [3, 19, 23].
- *November 2012*: In the context of a scientific collaboration with the Natural Language Processing research group of the Digital Enterprise Research Institute, University of Ireland in Galway, led by Prof. Paul Buitelaar, on the semantic representation and enrichment of experimental evaluation data, I collaborated with Dr. Georgeta Bordea [60].
- *December 2012*: In the context of a scientific collaboration with the IR research group of University of Applied Science Zurich (Switzerland), led by Prof. Martin Bräschler, on the design and development of best practices for IR experimental evaluation and Web application evaluation I collaborated with Melanie Imhof [59].
- *December 2012*: In the context of a scientific collaboration with the information science research group of the Royal School and Library of Information Science (Denmark) on bibliometrics and informetrics I collaborated with Prof. Birger Larsen (now full professor at the Aalborg University Copenhagen, Denmark) [59].
- *February 2013*: In the context of a scientific collaboration with the research group of the University of Applied Sciences Western Switzerland (HES-SO), coordinated by Prof. Henning Müller, I collaborated with Antonio Foncubierto on the research aspects concerning “component-based evaluation” [59].
- *May 2013*: I visited the Natural Language Processing research group of the Digital Enterprise Research Institute, University of Ireland in Galway. I worked on semantic enrichment of experimental data with Prof. Paul Buitelaar and Dr. Georgeta Bordea [9, 60].
- *August 2013*: I visited the Information Retrieval research group of the University of Montreal (Canada). I worked on IR evaluation metrics and entity finding with Prof. Jian-Yun Nie.

## 3.2 Research Projects

The projects are ordered by starting date.

**DELOS (contract n. G038-507618, 2004 - 2007):** DELOS was the European network of excellence on Digital Libraries. It encompassed several research themes, such as: models and architectures for digital libraries; multimedia components; metadata and interoperability; cultural heritage preservation; digital libraries and information access systems evaluation. DELOS, part of the 6th Framework Programme of the European Commission, involved about 55 Universities and research institutions at the European level and was coordinated by the ISTI CNR in Pisa (Italy).

I worked in the DELOS network of excellence in 2007 analysing and designing the architecture of a Digital Library system for the management and exchange of meta-data [33, 36, 56].

**SIAR (2005 - on-going):** The SIAR (Regional Archival Informative System) project has the main goal of designing and developing an archival informative system for the description and integration of archives distributed in the territory of the Veneto Region. The work within this project involves methodologies proper of the Digital Libraries research fields and of traditional archival practice. The project also has the goal of developing a Web portal for general-purpose users in line with the purposes of the Archival National System (SAN) [50].

The SIAR project is co-funded by the Cultural Heritage Department of the Veneto Region and started in 2005 with the participation of the Department of Information Engineering and the Department of History of the University of Padua until 2009 [38, 39]. Since 2010 the project has been reshaped in order to meet new requirements and to fulfill National objectives and regulations; for this reason, the main actors involved are the Veneto Region, the Department of Information Engineering and the Archival Superintendence for the Veneto Region (MiBAC) [37].

I have been working in the project since 2006 and since 2010 I have been co-coordinating the joint activities of the engineering and archival working groups. I actively participated in the design and I carried out the development of the system from the data management and access level to the user-interaction and interface level. The first complete software system was released in 2010 and revised in 2011; it is currently used by archivists for description activities of archival resources. Since 2012, I have been part of the working group that re-engineered the system adding new features such as access control and advanced search facilities. Since 2013, I have been actively involved in the coordination activities concerning the development of the new system user interface. In particular, I am currently collaborating and co-supervising the work of Ing. Marco Dussin and Ing. Ivano Masiero who are working with the new user-interface.

In the context of this project I authored the following technical reports: [65–79].

**SAPIR (contract n. IST-045128, 2007 - 2009):** SAPIR was a project co-financed by the European Commission that brought to the development of a peer-to-peer system for advanced searching on multimedia (audio, video and text) data.

I collaborated in the activities of the project in 2009, curating the aspects related to the management, sharing and retrieval of compound digital objects in distributed environments [34, 55].

**PROMISE (contract n. 258191: 2010 - 2013):** PROMISE (Participative Research laboratory for Multimedia and Multilingual Information Systems Evaluation) was a network of excellence co-funded by the European Commission within the 7th Framework Programme; it involved about 15 Universities and research institutions at the European level and was coordinated by University of Padua (Italy). The URL of the project is: <http://www.promise-noe.eu/>

The network of excellence goal was to design and develop innovative methodologies, infrastructures and protocols needed for advancing experimental evaluation of information access systems in multilingual and multimodal environments.

I worked in the network of excellence from its beginning in 2010. I participated in the design and development of the infrastructure of the experimental evaluation system [27, 51]. In particular, I worked on the management, access and re-use of scientific data. Furthermore, I designed the RDF model and developed the infrastructural components for exposing experimental evaluation data as Linked Open Data on the Web.

From 2012 to the end of the project, I was actively involved in the coordination of Work Package 3 (design and development of the infrastructure) activities. In this context:

- *15 - 16 March 2012:* I participated in the second semesterly meeting in Wintertur (Switzerland).
- *22 - 23 October 2012:* I participated in the second annual review meeting at the European Commission office in Luxembourg.
- *18 - 19 March 2013:* I participated in the third semesterly meeting at the University of Sheffield (UK). On this occasion I was the rapporteur of the activities of WP3 and I gave a talk about past and future activities for infrastructure development.
- *27 - 28 September 2013:* I participated in the third annual project meeting at the Technical University of Valencia (Spain). On this occasion I gave a talk about the research activities of WP3.
- *21 - 22 October 2013:* I participated in the final review meeting at the University of Padua (Italy). On this occasion I was the rapporteur of the activities of WP3 and I gave a talk about the results achieved by WP3 in the three years of project.

I authored the following technical reports and deliverables: [59–64].

**CULTURA (contract n. 269973, 2011 - 2014):** CULTURA (Cultivating Understanding and Research through Adaptivity) is a STREP project co-financed by the European Commission the goal of which is to pioneer the development of the next generation of adaptive systems which will provide new forms of multi-dimensional adaptivity. The main challenge it faces is to instigate, increase and enhance engagement with digital humanities collections. To achieve this, it aims at changing the way cultural artifacts are experienced and contributed to by communities. The URL of the project is: <http://www.cultura-strep.eu/>

Within CULTURA I collaborated in the activities about user requirements analysis for developing models and systems able to manage digital archives of illuminated manuscripts of interest for different domains such as history of art, history of science, botany, astronomy and medicine. In particular, I participated in the evaluation with general users of the IPSA (Imaginum Patavinae Scientiae Archivum) system – which

is a digital archive of illuminated manuscripts, written and illustrated by the Paduan School, and related manuscripts produced in Europe – integrated in the CULTURA environment designed and developed within the project [42].

**PREFORMA (Contract n. 258191, 2014 - 2017):** PREFORMA (PREservation FORMats for culture information/ e-archives), is a Pre-Commercial Procurement (PCP) project co-funded by the European Commission under its FP7-ICT Programme. The main goal of the project is to address the challenge of implementing good quality standardised file formats and to give memory institutions full control of the process of the conformity tests of files to be ingested into archives. The URL of the project is: <http://www.preforma-project.eu/>

Within PREFORMA I collaborate in the activities of the WP7 Validation and testing and WP8 Competitive Evaluation and Monitoring of the RTD work.

### 3.3 Presentations and Invited Talks

- *A Distributed Digital Library System Architecture for Archive Metadata*, 4th Italian Research Conference on Digital Libraries, Padua, Italy, January 2008.
- *L'utilizzo dei metadati per il mantenimento della storia dei documenti d'archivio*, Uso didattico dell'informatica storica, Padua, Italy, June 2008 (**invited talk**).
- *A Methodology for Sharing Archival Descriptive Metadata in a Distributed Environment*, 12th European Conference on Research and Advanced Technology for Digital Libraries, Aarhus, Denmark, September 2008.
- *The Design of a DLS for the Management of Very Large Collections of Archival Objects*, Workshop on Very Large Digital Libraries, Aarhus, Denmark, September 2008.
- *Building a Distributed Digital Library System Enhancing the Role of Metadata*, BCS-IRSG Symposium: Future Directions in Information Access, London, UK, September 2008.
- *Design and Development of the Data Model of a Distributed DLS Architecture for Archive Metadata*, 5th Italian Research Conference on Digital Libraries, Padua, Italy, January 2009.
- *Enabling Cross-Language Access to Archival Metadata*, Natural Language Processing for Digital Libraries, Viareggio, Italy, June 2009.
- *The NESTOR Framework: How to Handle Hierarchical Data Structures*, 13th European Conference on Research and Advanced Technology for Digital Libraries, Kerkira, Greece, September 2009.
- *Access and Exchange of Hierarchically Structured Resources on the Web with the NESTOR Framework*, IEEE/WIC/ACM International Conferences on Web Intelligence, Milan, Italy, September 2009.
- *The NESTOR Framework: Manage, Access and Exchange Hierarchical Data Structures*, 18th Italian Symposium on Advanced Database Systems, Rimini, Italy, July 2010.



- *The NESTOR Model: Properties and Applications in the Context of Digital Archives*, 19th Italian Symposium on Advanced Database Systems, Maratea, Italy, July 2011.
- *Per il Sistema Informativo Archivistico Regionale. Lo stato dei lavori.*, Giornata Regionale degli archivi, Marciana National Library, Venice, Italy, November 2011.
- *Empowering Archives through Annotations*, 8th Italian Research Conference on Digital Libraries, Bari, Italy, January 2012.
- *Modeling Archives by Means of OAI-ORE*, 8th Italian Research Conference on Digital Libraries, Bari, Italy, January 2012.
- *Evaluation Infrastructures: Experimentation, Visualization and... Simulation*, University of Tampere, Finland, March 2012 (**invited talk**).
- *Structural and Content Queries on the Nested Sets Model*, 20th Italian Symposium on Advanced Database Systems, Venice, Italy, July 2012.
- *Visual Interactive Failure Analysis: Supporting Users in Information Retrieval Evaluation*, 4th Information Interaction in Context Symposium, Nijmegen, the Netherlands, August 2012.
- *Cumulated Relative Position: A Metric for Ranking Evaluation*, 3rd International Conference of the Cross-Language Evaluation Forum, Rome, Italy, September 2012.
- *Biblioteche digitali, tra valutazione, gestione e valutazione*, 2nd Annual Conference of the “Associazione per l’informatica umanistica e la cultura digitale”, Florence, Italy, December 2012 (**invited talk**).
- *Digital Archives: Extending the 5S Model through NESTOR*, 9th Italian Research Conference on Digital Libraries, Rome, Italy, January 2013.
- *Visual Interactive Failure Analysis: Supporting Users in Information Retrieval Evaluation*, University of Montréal, Canada, August 2013 (**invited talk**).
- *Formal Models for Digital Archives: NESTOR and the 5S*, International Conference on Theory and Practice of Digital Libraries, La Valletta, Malta, September 2013.
- *An Open Source System Architecture for Digital Geolinguistic Linked Open Data*, International Conference on Theory and Practice of Digital Libraries, La Valletta, Malta, September 2013.
- *Interaction User Models*, rapporteur of the activities of the working group on user models, Dagstuhl Seminar 13441 Evaluation Methodologies in Information Retrieval, Dagstuhl, Germany, October 2013 (**invited talk**).
- *Measuring and Analyzing the Scholarly Impact of Experimental Evaluation*, 10th Italian Research Conference on Digital Libraries, Padua, Italy, January 2014. This presentation was about a joint work between the University of Padua (Italy), “La Sapienza” University of Rome (Italy), the Aalborg University Copenhagen (Denmark), the University of Applied Sciences Western Switzerland and the Centre for Research and Technology Hellas (Greece).
- *A Methodology for Citing Linked Open Data Subsets*, 2nd International Workshop on Linking and Contextualizing Publications and Datasets, LCPD 2014: London, UK, September 12th, 2014.

- *CLEF 15th Birthday: What Can We Learn From Ad Hoc Retrieval?*, Information Access Evaluation. Multilinguality, Multimodality, and Interaction - Fifth International Conference of the Cross-Language Evaluation Forum, CLEF 2014: Sheffield, UK, September 15-18, 2014.
- *Linked Open Data and Digital Libraries*, Oxford-style debate with Karen Coyle at the 3rd Conference of the “Italian Association for Digital Humanities and Digital Culture”, AIUCD 2014: Bologna, Italy, September 18th, 2014 (**invited talk**).

### 3.4 Professional Activity as Reviewer

#### International Journal

- Information Processing and Management (IP&M)
- Information Retrieval (IR)
- Journal of the American Society for Information Science and Technology (JASIST)
- Journal of Visual Languages and Computing (JVLC)
- The International Journal of Digital Libraries (IJDL)
- International Journal of Computer and Information Technology (IJCIT)

#### International and National Conferences

- The 4th Italian Research Conference on Digital Libraries (IRCDL 2008)
- The 31st Annual International ACM Special Interest Group on Information Retrieval Conference (SIGIR 2008)
- The 17th ACM Conference on Information and Knowledge Management (CIKM 2008)
- The 8th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2008)
- The 12th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2008)
- The 16th Italian Symposium on Advanced Database Systems (SEBD 2008)
- The 31st European Conference on Information Retrieval (ECIR 2009)
- The 5th Italian Research Conference on Digital Libraries (IRCDL 2009)
- The 17th Italian Symposium on Advanced Database Systems (SEBD 2009)
- The 13th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2009)
- The 9th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2009)
- The 2009 IEEE/WIC/ACM International Conferences on Web Intelligence (WI/IAT 2009)

- The 6th Italian Research Conference on Digital Libraries (IRCDL 2010)
- The 18th Italian Symposium on Advanced Database Systems (SEBD 2010)
- The 14th European Conference on Research and Advanced Technology for Digital Libraries (ECDL 2010)
- The 10th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2010)
- The 2010 IEEE/WIC/ACM International Conferences on Web Intelligence (WI/IAT 2010)
- The 33rd Annual ACM SIGIR Conference (SIGIR 2010)
- The 3rd Information Interaction in Context Symposium (IIiX 2010)
- The 34th Annual ACM Special Interest Group on Information Retrieval Conference (SIGIR 2011) - **Member of the poster programme committee**
- The 11th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2011)
- The 4th International Conference on Web Search and Data Mining (WSDM 2011)
- The 35th Annual ACM Special Interest Group on Information Retrieval Conference (SIGIR 2012) - **Member of the poster programme committee**
- The 12th ACM/IEEE-CS Joint Conference on Digital Libraries (JCDL 2012)
- The 2nd Research and Advanced Technology for Digital Libraries - International Conference on Theory and Practice of Digital Libraries (TPDL 2012)
- The 4th Information Interaction in Context Symposium (IIiX 2012)
- The 9th Italian Research Conference on Digital Libraries (IRCDL 2013), **Member of the programme committee**
- The 3rd Research and Advanced Technology for Digital Libraries - International Conference on Theory and Practice of Digital Libraries (TPDL 2013)
- The 22nd ACM Conference on Information and Knowledge Management (CIKM 2013)
- The 35th European Conference on Information Retrieval (ECIR 2013)
- The 21st Italian Symposium on Advanced Database Systems (SEBD 2013)
- The 10th Italian Research Conference on Digital Libraries (IRCDL 2014), **Member of the programme committee**
- Digital Libraries 2014, ACM/IEEE Joint Conference on Digital Libraries (JCDL 2014) and International Conference on Theory and Practice of Digital Libraries (TPDL 2014).
- The 36th European Conference on Information Retrieval (ECIR 2014)
- First Italian Conference in Computational Linguistics (CLIC-it 2014), **Member of the programme committee**
- Tenth Annual iConference 2015, **Member of the programme committee**

- The 11th Italian Research Conference on Digital Libraries (IRCDL 2015), **Member of the programme committee**
- The 23rd Italian Symposium on Advanced Database Systems (SEBD 2015), **Member of the programme committee**
- The 37th European Conference on Information Retrieval (ECIR 2015)

### 3.5 Organization of Scientific Events

- *4th Italian Research Conference on Digital Libraries (IRCDL 2008)*, 24-25 January 2008, Padua, Italy. URL: <http://ims.dei.unipd.it/websites/archive/ims2009/events/2008/ircdl/>  
Role: **Member of the organization committee**
- *5th Italian Research Conference on Digital Libraries (IRCDL 2009)*, 29-30 January 2009, Padua, Italy. URL: <http://ims.dei.unipd.it/websites/archive/ims2009/events/2009/ircdl/>  
Role: **Member of the organization committee**
- *7th European Summer School in Information Retrieval (ESSIR 2009)*, 31 August - 4 September 2009, Padua, Italy. URL: <http://essir2009.dei.unipd.it/>  
Role: **Member of the organization committee**
- *1st Conference on Multilingual and Multimodal Information Access Evaluation (CLEF 2010)*, 20-23 September 2010, Padua, Italy. URL: <http://clef2010.org/>  
Role: **Member of the organization committee**
- *20th Italian Symposium on Advanced Database Systems (SEBD 2012)*, 24-27 June 2012, Venice, Italy. URL: <http://sebd2012.dei.unipd.it/>  
Role: **Organization chair**
- *2nd PROMISE Winter School: Bridging between Information Retrieval and Databases*, 4-8 February 2013, Bressanone, Italy [10, 61]. URL: <http://www.promise-noe.eu/events/winter-school-2013/>  
Role: **Organization chair**
- *2nd Conference of the “Italian Association for Digital Humanities and Digital Culture” (AIUCD)*, 11-12 December 2013, Padua, Italy. URL: <http://aiucd2013.dei.unipd.it/>  
Role: **Member of the organization committee**
- *10th Italian Research Conference on Digital Libraries (IRCDL 2014)*, 30-31 January 2014, Padua, Italy. URL: <http://ircdl2014.dei.unipd.it/>  
Role: **Member of the organization committee**

## 4 Teaching

Teaching activities were carried on in the academic year 2007-2008 before starting the PhD course at the University of Padua; in the academic year 2008-2009 the number of teaching hours was limited by the regulation of the PhD course. In the academic year 2009-2010 I did not teach any course because I was visiting researcher at the University of Edinburgh and in 2010-2011 I did not teach because I was writing my PhD thesis. I restarted my teaching activity in the academic year 2011-2012.

### 4.1 Academic Year 2007-2008

- *Databases and Digital Libraries laboratory*, Faculty of Humanities, University of Padua. Teaching hours: 30.
- *Database Systems laboratory*, Bachelor course in Communication Sciences, Faculty of Humanities, University of Padua. Teaching hours: 30.

### 4.2 Academic Year 2008-2009

- *Programming Elements for the Presentation of Web Contents*, Master course in Communication Sciences, Faculty of Humanities, University of Padua. Teaching hours: 10.

### 4.3 Academic Year 2011-2012

- *Programming Elements for the presentation of Web Contents and Elements of Web 2.0: Collaboration and Sharing*, Master course in Communication Sciences, Faculty of Humanities, University of Padua. Teaching hours: 20.
- *Database Systems Laboratory*, Bachelor course in Information Engineering, Faculty of Engineering, University of Padua. Teaching hours: 12.

### 4.4 Academic Year 2012-2013

- *Design and Development of Web Sites*, Master course in Communication Sciences, University of Padua. Teaching hours: 42.
- March 2013 - September 2013: I co-supervised Giuliano De Boni for the master thesis in Information Engineering at the Department of Information Engineering of the University of Padua titled: "Sviluppo di un'interfaccia Web 2.0 per il Sistema Informativo Archivistico Regionale del Veneto".

### 4.5 Academic Year 2013-2014

- *Programming Elements for the Presentation of Web Contents*, Master course in Communication Sciences, University of Padua. Teaching hours: 12.

- *Metadata, Models and Systems for Digital Archives*, Lecture at the master course in History and Management of Archival and Bibliographical Heritage, University of Padua.

#### **4.6 Academic Year 2014-2015**

- *Information Retrieval*, Master course in Information Engineering, Department of Information Engineering, University of Padua. Teaching hours: 6.
- *Information Retrieval Evaluation*, Series of lectures at the Master course in Information Engineering, Department of Information Engineering, University of Padua.

## 5 Publications

### References

#### International Journal (peer-reviewed)

- [1] N. Ferro, G. Silvello, H. Keskustalo, A. Pirkola and K. Järvelin (2015). The Twist Measure for IR Evaluation: Taking User’s Effort into Account, *Journal of the Association for Information Science and Technology*, John Wiley & Sons, Inc. (in print).
- [2] G. Silvello (2015). A Methodology for Citing Linked Open Data Subsets, *D-Lib Magazine*, 21(1/2). DOI: 10.1045/january2015-silvello ISSN: 1082-9873.
- [3] M. Angelini, N. Ferro, G. Santucci, and G. Silvello (2014). A Visual Tool for Information Retrieval Performance Evaluation and Failure Analysis, *Journal of Visual Languages and Computing*, 25(4):394–413, Elsevier. ISSN 1045-926X.
- [4] E. Di Buccio, G. Di Nunzio, and G. Silvello (2014). A Linked Open Data Approach for Geolinguistics Applications, *International Journal of Metadata, Semantics and Ontologies*, 9(1):29–41, Inderscience Enterprise Ltd. ISSN 1744-2621.
- [5] N. Ferro and G. Silvello (2013). NESTOR: A Formal Model for Digital Archives. *Information Processing & Management (IP&M)*, 49(6):1206–1240, Elsevier. ISSN 0306-4573.
- [6] E. Di Buccio, G. Di Nunzio and G. Silvello (2013). A Curated and Evolving Linguistic Linked Dataset. *Semantic Web*, 4(3):265–270, P. Hitzler and K. Janowicz eds., IOS Press. ISSN 1570-0844.
- [7] P. Buneman and G. Silvello (2010). A Rule-Based Citation System for Structured and Evolving Datasets. *Bulletin of the Technical Committee on Data Engineering Bulletin*, September 2010, 3(3):33–41. IEEE Computer Society. ISSN 1053-1238.

#### International Scientific Dissemination Journal and Report

- [8] G. Silvello, L. Azzopardi, C. Clarke, M. Hagen, and R. Villa (2014). *Evaluation Methodologies in Information Retrieval (Dagstuhl Seminar 13441)*, M. Agosti, N. Fuhr, E. Toms and P. Vakkari eds. Dagstuhl Reports 3(10):123–126. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, Dagstuhl, Germany. ISSN 2192-5283.
- [9] N. Ferro and G. Silvello (2014). Making it Easier to Discover, Re-Use and Understand Search Engine Experimental Evaluation Data. *ERCIM News*, 96:26–27. ISSN 0926-4981.
- [10] M. Agosti, N. Ferro and G. Silvello (2013). PROMISE Winter School 2013: Bridging Between Information Retrieval and Databases. *SIGIR Forum*, 47(1):46–52. ACM New York, NY, USA. ISSN 0163-5840.
- [11] M. Agosti, R. Berendsen, T. Bogers, M. Braschler, P. Buitelaar, K. Choukri, G. M. Di Nunzio, N. Ferro, P. Forner, A. Hanbury, K. Heppin, P. Hansen, A. Järvelin, B. Larsen, M. Lupu, I. Masiero, H. Müller, S. Peruzzo, V. Petras, F. Piroi, M. de Rijke, G. Santucci, G. Silvello, and E. Toms (2012). PROMISE retreat report prospects and opportunities for information access evaluation. In: N. Ferro, R. Berendsen, A. Hanbury, M. Lupu, V. Petras, M. de Rijke, and G. Silvello, Eds., *SIGIR Forum* 46(2):60–84. ACM Press, New York, NY, USA. ISSN 0163-5840.

## International Book Chapter (peer-reviewed)

- [12] M. Agosti, N. Ferro, and G. Silvello (2011). Handling Hierarchically Structured Resources Addressing Interoperability Issues in Digital Libraries. In: Biba, M. and Xhafa, F. (Eds.), *Learning Structure and Schemas from Documents*. Studies in Computational Intelligence vol. 375, pp. 17–49. Springer Berlin-Heidelberg, ISBN 978-3-642-22912-1.

## International Proceeding (peer-reviewed)

- [13] N. Ferro and G. Silvello (2015). Rank-Biased Precision Reloaded: Reproducibility and Generalization. In N. Fuhr, A. Rauber, G. Kazai and A. Hanbury, eds. *Proc of the 37th European Conference on Information Retrieval (ECIR 2015)*, Lecture Notes in Computer Science (LNCS) 9022, pp. 768–780. Springer International Publishing Switzerland.
- [14] M. Angelini, N. Ferro, G. Santucci and G. Silvello (2015). Tutorial: Visual Analytics for Information Retrieval Evaluation (VAIRE 2015). In N. Fuhr, A. Rauber, G. Kazai and A. Hanbury, eds. *Proc of the 37th European Conference on Information Retrieval (ECIR 2015)*, Lecture Notes in Computer Science (LNCS) 9022, pp. 809–812. Springer International Publishing Switzerland.
- [15] M. Angelini, N. Ferro, B. Larsen, H. Müller, G. Santucci G. Silvello and T. Tsirikla (2014). Measuring and Analyzing the Scholarly Impact of Experimental Evaluation Initiatives, *Procedia of Computer Science*. In M. Agosti, T. Catarci and F. Esposito eds. 10th Italian Research Conference on Digital Libraries, IRDCL 2014, 38:133-137, Elsevier. ISSN 1877-0509
- [16] E. Di Buccio, G. M. Di Nunzio and G. Silvello (2014). Measuring Syntactic Distances between Dialects: A Web Application for Annotating Dialect Data, *Procedia of Computer Science*. In M. Agosti, T. Catarci and F. Esposito eds. 10th Italian Research Conference on Digital Libraries, IRDCL 2014, 38:44-47, Elsevier. ISSN 1877-0509
- [17] N. Ferro and G. Silvello (2014). CLEF 15th Birthday: What Can We Learn From Ad Hoc Retrieval? In: P. Clough et al. eds. *Proc. of the Information Access Evaluation. Multilinguality, Multimodality, and Interaction - Fifth International Conference of the Cross-Language Evaluation Forum (CLEF 2014)*, Lecture Notes in Computer Science (LNCS) 8685, pp. 32–44. Springer International Publishing Switzerland. ISBN 978-3-319-11381-4
- [18] E. Di Buccio, G. M. Di Nunzio and G. Silvello (2014). A Vector Space Model for Syntactic Distances Between Dialects. *Tenth International Conference on Language Resources and Evaluation (LREC 2014)*, 26-31 May, Reykjavik, Iceland. European Language Resources Association (ELRA), pp. 2486–2489. ISBN 978-2-9517408-8-4
- [19] M. Angelini, N. Ferro, G. Santucci and G. Silvello (2014). A Visual Interactive Environment for Making Sense of Experimental Data. *36th European Conference on Information Retrieval (ECIR 2014)*, Lecture Notes in Computer Science 8416, pp. 767–770, Springer International Publishing Switzerland. ISSN 0302-9743. ISBN 978-3-319-06027-9.
- [20] E. Di Buccio, G. M. Di Nunzio and G. Silvello (2013). A Geolinguistic Web Application Based on Linked Open Data. *Proc. of the 36th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR '13)*, G. J. F. Jones,



- P. Sheridan, D. Kelly, M. de Rijke and T. Sakai, pp. 1101-1102. ACM, New York, NY, USA. ISBN 978-1-450-32034-4
- [21] N. Ferro and G. Silvello (2013). Formal Models for Digital Archives: NESTOR and the 5S. In: *Proc. of the Research and Advanced Technology for Digital Libraries - International Conference on Theory and Practice of Digital Libraries (TPDL 2013)*, T. Aalberg, C.Papatheodorou, M. Dobрева, G. Tsakonas, C. J. Farrugia Eds., Lecture Notes in Computer Science 8092, pp. 192–203. Springer Berlin Heidelberg, Germany. ISBN 978-3-642-40500-6
  - [22] E. Di Buccio, G. M. Di Nunzio, and G. Silvello (2013). An Open Source System Architecture for Digital Geolinguistic Linked Open Data. In: *Proc. of the Research and Advanced Technology for Digital Libraries - International Conference on Theory and Practice of Digital Libraries (TPDL 2013)*, T. Aalberg, C.Papatheodorou, M. Dobрева, G. Tsakonas, C. J. Farrugia Eds., Lecture Notes in Computer Science 8092, pp. 438–441. Springer Berlin Heidelberg, Germany. ISBN 978-3-642-40500-6
  - [23] M. Angelini, N. Ferro, G. Santucci and G. Silvello (2013). Improving Ranking Evaluation Employing Visual Analytics. In: P. Forner, H. Müller, R. Paredes, P. Rosso, B. Stein eds. *Proc. of the Information Access Evaluation Meets Multilinguality, Multimodality, and Visualization. 4th International Conference of the CLEF Initiative (CLEF 2013)*, Lecture Notes in Computer Science (LNCS) 8138, pp. 29–40. Springer, Heidelberg, Germany. ISBN 978-3-642-40802-1
  - [24] S. Bergamaschi, N. Ferro, F. Guerra and G. Silvello (2013). Keyword Search and Evaluation over Relational Databases: an Outlook to the Future. In G. Koutrika and M. Theobald eds *Proc. 7th International Workshop on Ranking in Databases (DBRank 2013)*, pp. 1-3. ACM Press, New York, USA. ISBN 978-1-450-32497-7
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- [29] M. Angelini, N. Ferro, G. Santucci, and G. Silvello (2012). Visual Interactive Failure Analysis. In: N. Fuhr, J. Kamps, and S. Kraaij (Eds.), *Proceedings of the Fourth Information Interaction in Context Symposium* (IiX 2012). Nijmegen, the Netherlands, August 21–24, 2012. ACM Press, New York, USA, ISBN 978-1-4503-1282-0.
  - [30] N. Ferro and G. Silvello (2009). The NESTOR Framework: How to Handle Hierarchical Data Structures. In: M. Agosti, J. Luis Borbinha, S. Kapidakis, C. Papatheodorou, G. Tsakonas (Eds.), *Proceedings of the 13th European Conference on Research and Advanced Technology for Digital Libraries* (ECDL 2009), Lecture Notes in Computer Science (LNCS) n. 5741, pp. 215–226. Springer-Verlag, Berlin-Heidelberg, Germany, ISBN 978-3-642-04345-1.
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## National Journal

- [37] N. Ferro and G. Silvello, (2012). Per il Sistema Informativo Archivistico Regionale. Lo stato dei lavori. *Memoria e innovazione, Nuovi strumenti / Nuove esigenze*. Canova Edizioni, pp. 91–104. ISBN 978-88-8409-258-8.
- [38] M. Agosti, G. Bonfiglio-Dosio, N. Ferro and G. Silvello (2008). Metodologie e percorsi interdisciplinari per la ideazione di un Sistema Informativo Archivistico. *Memoria dell'Accademia Galileiana in Scienze, Lettere ed Arti in Padova*, Ente di Alta Cultura (D.P.R. 27/10/49 n.1005), pp. 261 – 287. ISSN 1592-1751.
- [39] M. Agosti, N. Ferro and G. Silvello, (2008). Proposta metodologica e architetture per la gestione distribuita e condivisa di collezioni di documenti digitali. In *Archivi*, 2(2):49–73. Cleup, ISBN 886-12-902-48.

## National Proceeding (peer-reviewed)

- [40] M. Agosti, N. Ferro, C. Hampson, G. Munnely, c. Ponchia and G. Silvello (2014). Enriching Digital Cultural Heritage Collections via Annotations: The CULTURA approach. In S. Greco and A. Picariello eds. *22nd Italian Symposium on Advanced Database Systems, SEBD 2014*, pp. 319-326.
- [41] M. Agosti, N. Ferro and G. Silvello (2014). Biblioteche digitali tra modellazione, gestione e valutazione. In F. Ciotti eds. *Digital Humanities: progetti italiani ed esperienze di convergenza multidisciplinare*, pp. 33–50. Atti del convegno annuale dell'Associazione per l'Informatica Umanistica e la Cultura Digitale (AIUCD). Sapienza Università Editrice, Roma, Italy. ISBN 978-88-98533-27-5. DOI 10.13133/978-88-98533-27-5.
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- [44] M. Angelini, N. Ferro, K. Järvelin, H. Keskustalo, A. Pirkola, G. Santucci, and G. Silvello (2013). Cumulated Relative Position: A Metric for Ranking Evaluation. In R. Basili, F. Sebastiani, and G. Semeraro eds. *Proc. 4th Italian Information Retrieval Workshop (IIR 2013)*, pp. 57–60. ISSN 1613-0073.
- [45] M. Angelini, N. Ferro, G. Santucci, and G. Silvello (2013). Visual Interactive Failure Analysis: Supporting Users in Information Retrieval Evaluation. In R. Basili, F. Sebastiani, and G. Semeraro eds. *Proc. 4th Italian Information Retrieval Workshop (IIR 2013)*, pp. 61–64. ISSN 1613-0073.
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Padua, 23 January 2015