

Alessandro Mosca: Curriculum Vitae

Personal information

ALESSANDRO MOSCA

Short bio

Alessandro Mosca is Researcher at the Laboratory for Applied Ontology (LOA) of the Institute of cognitive sciences and technologies (ISTC – Italian National Research Council). His research interests include the application of mathematical logic in the sub-field of artificial intelligence called “knowledge representation and reasoning” and in conceptual modelling for data management. He works on the theoretical and methodological aspects behind the creation of ontology-based data management solutions which, in particular, subsume the design and development of formal ontologies, multi-format data integration and access services, efficient ontology-based query answering.

Education since leaving school

JAN 2006: PhD in Computer Science.

Milano-Bicocca University (Italy).

- Dissertation title: *A Theoretical and Computational Inquiry into the Compounding Problem*.

Tutor: Prof. Giancarlo Mauri.

Co-tutor: Prof.ssa Stefania Bandini.

AUG 2003: School attendance.

[Kurt Gödel Society, at the Institut für Computersprachen - Technische Universität Wien and Institute for Algebra and Computational Mathematics - Vienna University of Technology.](#)

- *ESSLLI '03: 15th European Summer School in Logic, Language and Information.*

MAY 2003: School attendance.

Milano-Bicocca University, Università Politecnica di Milano (Italy).

- *Soft Computing 2003.*

School Director: Prof. Andrea Bonarini, Dott. Matteo Matteucci, Dott. Gabriella Pasi.

SEPT 2002: School attendance

Società Italiana di Logica e Filosofia delle Scienze (S.I.L.F.S.), Associazione Italiana di Logica e sue Applicazioni (A.I.L.A.) (Italy).

- *IV Scuola Estiva di Logica.*

School Director: Prof. Silvio Ghilardi.

JUN 2002: Master's degree.

Computer Science Department - Milano-Bicocca University (Italy).

- *Master Universitario in Informatica per Umanisti (MIU).*

MAY 2001: Master's degree in Philosophy.

University of Milano, Faculty of Humanities, Philosophy Department (Italy).

- *Thesis title: First-order Quantifiers as Modal Operators.*

Supervisor: Prof. Silvio Bozzi.

SEPT 2000: School attendance.

Società Italiana di Logica e Filosofia delle Scienze (S.I.L.F.S.), Associazione Italiana di Logica e sue Applicazioni (A.I.L.A.) (Italy).

- *III Scuola Estiva di Logica.*

School Director: Prof. Michele Abrusci.

Present appointment

APRIL 2024: *Researcher with a fixed-term contract* in the area of Knowledge Representation and Databases at the *Laboratory for Applied Ontology (LOA)* of the *Institute of cognitive sciences and technologies (ISTC)*, *Italian National Research Council (CNR)*, Italy.

My current research activity at LOA is in the field of logic-based Knowledge Representation and Reasoning (sub-field of Artificial Intelligence), Semantic Web Technologies and Data Management. More specifically, I work on foundational, methodological, experimental, and application-oriented aspects of access to structured and semi-structured data and information by leveraging its semantics. I am actively involved in the research activities carried out in the context of the [Future Artificial Intelligence Research - FAIR](#) (Spoke n. 10: Sustainable bio-socio-cognitive AI).

Professional experience
(including research visiting experiences)

MAR 2014 – JAN 2019: *Senior Researcher* SIRIS Lab, R&D Division of SIRIS Academic SL, Barcelona, Spain.

Brief description of responsibilities: In SIRIS I have been responsible for the research and development activities in Knowledge Representation and Reasoning (KR&R) for data management. Since March 2014, I have been one of the key persons in the preparation of all the company R&D project applications for the European Commission and Spanish competitive funds, and I coordinated the SIRIS research tasks in the ERC Advanced Grant "*EPNet - Production and distribution of food during the Roman Empire: Economics and political dynamics*" (Grant agreement ID: 340828, https://cordis.europa.eu/project/rcn/185438_en.html). I supervised the design and development of the open data management platform, called UNiCS (*University Analytics* - <http://unics.cloud>), and of the ontology-based data management technologies the company is still using. In particular, I have developed (together with Fernando Roda, and Guillem Rull) the UNiCS ontology behind the platform, which has been recently adopted by the AgID (Agency for Digital Italy) in the [OntoPiA](#) project, renamed as [HER](#) (Higher Education and Research Ontology). With the SIRIS LAB Research Division affiliation, I have co-authored several scientific publications introducing the SIRIS technologies and technological solutions to the scientific community (see, the publications list below). Indeed, the scientific dissemination of the SIRIS LAB results was also part of my responsibilities. During these four years, I've been responsible for the organisation and coordination of several technology-oriented seminars and courses (from introductory classes on Conceptual Modelling, Knowledge Representation and Reasoning, and Ontology-based Data Management, to more technical ones on the Semantic Web principles and techniques, and formal languages for relational and RDF-based query answering), both directed to the company clients and the SIRIS internal personnel. Since December 2015 until February 2018, I've been also a member of the SIRIS *Academic Advisory Board* as representative of the SIRIS LAB division of the company.

JUN 2018: *Visiting Researcher* (in the context of the European RISIS project "Research infrastructure for research and innovation policy studies", Grant agreement ID 313082, FP7-INFRASTRUCTURES). 'Knowledge Representation and Reasoning' Research Unit - Faculty of Science, Vrije Universiteit Amsterdam (VUA), Netherlands.

OCT 2012: *Visiting Researcher* (in the context of the European NET2 project "A network for enabling networked knowledge", Marie Curie action 'International Research Staff Exchange Scheme - IRSES', FP7-PEOPLE-2009-IRSES, Grant number 24761).

Meraka Institute CSIR Research and Development in Information and Communications Technology (ICT), Pretoria, South Africa.

Duties and responsibilities: Research-Publications.

Sector: Education - Research.

JAN - FEB 2011: *Visiting Researcher* (in the context of the European NET2 project "A network for enabling networked knowledge", Marie Curie action "International Research Staff Exchange Scheme - IRSES", FP7-PEOPLE-2009-IRSES, Grant number 24761).

Computer Science Department, Universidad de Chile, Santiago de Chile, Chile
Duties and responsibilities: Research-Publications.
Sector: Education - Research.

JAN 2010 - DEC 2012: *Assistant Professor.*

Faculty of Computer Science - Free University of Bozen-Bolzano, Italy
Duties and responsibilities: Teaching; Research; Examinations; Administration.

FEB 2009 - JUL 2009: *Visiting Researcher.*

Department of Logic, History and Philosophy of Science, University of Barcelona, Spain.

Duties and responsibilities: Research-Publications.

Sector: Education - Research.

SEPT 2006 - DEC 2009: *Postdoc Researcher.*

Department of Computer Science, Systems and Communication, University of Milano- Bicocca, Italy.

Duties and responsibilities: Seminal activities in courses; Research-Publications.

Sector: Education - Research.

AUG 2002 - OCT 2002: *Sometime labour.*

Computer Science Department - Milano-Bicocca University, Italy.

- Co-author of the study "An analysis of the Community of Practices, Final Report" (Knowledge Management).

Sector: Education - Research.

NOV 2000 - SEPT 2001: *Civil Service.*

Consorzio di cooperative Sistema Imprese Sociali di Milano, Italy.

- Attendant at the "Micro-nido Oplà!" (Oreno di Vimercate, Milano), held by the Cooperativa Sociale Grado 16 – Officine dell'Autopromozione in collaboration with the Vimercate municipality.

Sector: Education - Research.

JUN 1997 - AUG 1999: *Sometime labour.*

- Research on the popularity rating of the Ferrovie dello Stato [FS] transborder services (Ferrovie dello Stato, Italy).

- Library management (Librerie Feltrinelli Milano, Italy).

- Cultural events organisation and management (Associazione e Centro Culturale "Porte Aperte", Milano, Italy).

- Collaborator in a sociological research about the social conditions and quality of life of young people in the municipality of Brugherio (Fondazione IARD, Milano, Italy)

Sector: Education - Sociology - Library.

Professional experience in research and technology transfer projects (over the past 10 years)

2023-2024: *Co-Investigator.* "Knowledge Graph-driven Risk Propagation (KGDRIP)" research project, funded by Accenture Ltd (Israel).

2023: *Principal Investigator.* "Conceptual modelling for IKI's knowledge management (CONIKI)" research project, funded by OneOffTech (Berlin, Germany).

2022-2023: *Principal Investigator.* "CRISP Phase 2: Climate Risk Planning & Managing Tool for Development Programmes in the Agriculture & Food Sector (CRISP2)" research project, funded by GIZ (German Development Cooperation), done in collaboration with the EURAC Research Institute for Earth Observation and the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT).

2021-2022: Principal Investigator. "[CRISP](#) - Climate Risk Planning & Managing Tool for Development Programmes in the Agriculture & Food Sector" research project, funded by GLZ (German Development Cooperation), done in collaboration with the EURAC Research Institute for Earth Observation and the Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT).

2021-2022: Co-Investigator. "Mapping Patterns for Ontology-based Data Access (MP4OBDA)". Principal Investigator: Davide Lanti - KRDB Research Centre, Faculty of Computer Science, Free University of Bozen-Bolzano, Bolzano, Italy.

2019-2022: Co-Investigator. "[INODE](#) - Intelligent Open Data Exploration" (H2020-EU.1.4.1.3. - Development, deployment and operation of ICT-based e-infrastructures programme of the European Commission. Grant agreement ID 863410).

2020-2022: Co-Investigator. "[MENS](#) - Medieval Explorations in Neuro-Science (1050–1450): Ontology-Based Keyword Spotting in Manuscript Scans" ("4th call for Research" of the Autonomous Province of Bozen/Bolzano, Italy).

SEPT 2020. Organiser and Lecturer. "Digital Innovation: A Window on the Internet of Things and Big Data" (DIWIT), offered by the Smart Data Factory to the employees of the LVH.APA (Confartigianato Imprese - <https://www.lvh.it/>).

2019-Today: Co-Investigator. "Semantic modelling and semantic interoperability" (European Space Agency - ESA)
Principal Investigator: Enrico Franconi - KRDB Research Centre, Faculty of Computer Science, Free University of Bozen-Bolzano, Bolzano, Italy.

2018-2021: Co-Investigator. "Razonamiento automatico, ejecucion de modelos y analisis de datos a partir de ontologias (REMEDIAL)" (Proyectos excelencia y proyectos retos: Agencia Estatal de Investigación; Ministry of Economy, Industry and Competitiveness, Spain)
Principal Investigator: Prof. Ernest Teniente - Polytechnic University of Catalonia, BarcelonaTech (UPC), Barcelona, Spain.

2017- 2019: Project Coordinator. "OKHAERS: Ontology-based Knowledge Access for the higher education and research sector" (Project ID: 739717, Funded under: H2020-EU.2.3.2.2. - Enhancing the innovation capacity of SMEs).

2016-2019: Co-Investigator. "Desarrollo de un Sistema de Integración Semántica de fuentes de Datos multiformato (SISDe)" (PTQ-15-07419: Torres Quevedo Grant, Industrial Research/Technology Transfer, Ministry of Science, Innovation and Universities, Spain)
Principal Investigator: Guillem Rull - SIRIS Academic, Barcelona, Spain.

2016-2016: Project Coordinator. "University Analytics (UNiCS)" (Open Data Incubator for Europe - ODINE, <https://opendataincubator.eu/>).

2015-2018: Co-Investigator. "Análisis y caracterización de los patrones de interacción en la producción de conocimiento" (PTQ-14-06718: Torres Quevedo Grant, Industrial Research/Technology Transfer, Ministry of Science, Innovation and Universities, Spain)
Principal Investigator: Francesco Massucci - SIRIS Academic, Barcelona, Spain.

2014-Today: Co-Investigator. "[ORMIE](#) - Studying and developing a reasoning plugin for [NORMA](#) (Natural ORM Architect for Microsoft Visual Studio)"
Principal Investigator: Enrico Franconi - KRDB Research Centre, Faculty of Computer Science, Free University of Bozen-Bolzano, Bolzano, Italy.

2014-2017: Co-Investigator. "Proceso ligero de servitización basado en modelos: aplicación a las TIC (ELASTIC)"
(Proyectos excelencia y proyectos retos: Agencia Estatal de Investigación; Ministry of Economy, Industry and Competitiveness, Spain)
Principal Investigator: Esperanza Marcos Martínez - Polytechnic University of Catalonia, BarcelonaTech (UPC), Barcelona, Spain.

2014-2019: Co-Investigator. "EPNET - Production and distribution of food during the Roman Empire: Economics and political dynamics"
(FP7-IDEAS-ERC, Grant Agreement ERC-AG-SH6 - ERC Advanced Grant - The study of the human past. Grant agreement ID 340828)
Principal Investigator: Prof. José Remesal - University of Barcelona, Barcelona, Spain.

2013-2015: Co-Investigator. "An intelligent query interface based on ontology logics" (QueLo). Principal Investigator: Prof. Enrico Franconi - KRDB Research Centre, Faculty of Computer Science, Free University of Bozen-Bolzano, Italy. External partner: [Lorraine Laboratory of Research in Computer Science and its Applications - LORIA](#) (LORIA), France.

2013-2014: Co-Investigator. "KRDB Foundations of Data and Process" (KRDBFDP). Principal Investigator: Prof. Diego Calvanese - KRDB Research Centre, Faculty of Computer Science, Free University of Bozen-Bolzano, Italy.

2012-2013: Principal Investigator. "Business Process Engineering (BPE)" (CNR - Italian National Research Council, research project)
Principal Investigator: Prof. Enrico Franconi - KRDB Research Centre, Faculty of Computer Science, Free University of Bozen-Bolzano, Italy.

2010-2011: Co-Investigator. "ONTORULE - ONTOlogies meet business RULEs" (FP7-ICT/2009-2011 - Specific Programme "Cooperation": Information and communication technologies. Grant Agreement ID 231875).

Experience in academic teaching

2023-2024 Lecturer.
Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.
Teaching: ▪ *Data Profiling*, Master in Computational Data Science.
Duties and responsibilities: Teaching; Examinations; Administration.
Sector: Education – Research.

2022-2023 Lecturer.
Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.
Teaching: ▪ *Data Profiling*, Master in Computational Data Science.
Duties and responsibilities: Teaching; Examinations; Administration.
Sector: Education – Research.

2013-2014: Lecturer.
Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.
Teaching: ▪ *Logic*, Bachelor in Computer Science.
Duties and responsibilities: Teaching; Examinations; Administration.
Sector: Education – Research.

2010-2013: Lecturer.
Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.
Teaching: ▪ *Non-classical Logics*, European Master in Computational Logic.
Duties and responsibilities: Teaching; Examinations; Administration.
Sector: Education – Research.

2009-2010: Lecturer.

Faculty of Computer Science - Free University of Bozen-Bolzano, Italy
Teaching: ▪ *Functional and Logic Programming Language*; Master in Computer Science.

Duties and responsibilities: Teaching; Examinations; Administration.

Sector: Education - Research.

2009-2010: *Lecturer.*

Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.

Teaching: ▪ *Non-classical Logics*, European Master in Computational Logic

Duties and responsibilities: Teaching; Research-Publications; Examinations; Administration.

Sector: Education - Research.

2007-2008: *Lecturer.*

Computer Science Department - Milano-Bicocca University, Italy.

Teaching: ▪ *Computational Models in Artificial Intelligence*, Master in Artificial Intelligence.

Duties and responsibilities: Teaching; Research-Publications; Examinations.

Sector: Education - Research.

2004-2006: *Lecturer.*

Computer Science Department - Milano-Bicocca University, Italy.

▪ (1) Knowledge Representation, Master in Artificial Intelligence.

▪ (2) Programming Languages (I), Bachelor in Computer Science.

Sector: Education - Research.

2002-2004: *Not paid activity.*

Knowledge Engineering Lab - Computer Science Department - Milano-Bicocca University, Italy.

- Seminal activity in the context of the "Modelli Computazionali per la Comunicazione" course of the Communication Science Degree (Faculty of Psychology, Milano-Bicocca University).
- Seminal activity in the context of the "Knowledge Representation" course of the Computer Science Department (Milano-Bicocca University).
- Programming Languages (I), Lecturer (with a "LAE – Laureato Addetto alle Esercitazioni" contract).
European Master "Informatica per Umanisti (MIU)", Lecturer.
- European Master "Tecnologie Informatiche per la Nuova Economia (TINE)", Lecturer.
- Seminal activity in the context of the "Artificial Intelligence" course of the Computer Science Department (Milano-Bicocca University).
- Seminal activity in the context of the "Modelli Computazionali per la Comunicazione" course of the Communication Science Degree (Faculty of Psychology, Milano-Bicocca University).
- Seminal activity in the context of the "Metodi per la rappresentazione della conoscenza" course of the Communication Science Degree (Faculty of Psychology, Milano-Bicocca University).
- Programming Languages (I), Lecturer (with a "LAE – Laureato Addetto alle Esercitazioni" contract).

Sector: Education - Research.

Other academic responsibilities

SEPT 2009 - JUNE 2010: *PhD Committee Member.*

Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.

MAR 2010 - MAR 2014: *Study Plan Advisor.*

Faculty of Computer Science - Free University of Bozen-Bolzano, Italy.

Memberships

(including responsibilities for organizing conferences/seminars)

- Co-chair of the [International Workshop on Semantic Technologies for Data Management](#) (ST4DM), co-located with the *14th International Conference On Formal Ontology In Information Systems* (FOIS 2024), 15-19 July 2024 (Enschede, Netherlands).
- Member of the Program Committee of the [16th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management](#) (KEOD), held in conjunction with ICINCO 2024, WEBIST 2024 and CoopIS 2024, 17 - 19 November, 2024 (Porto, Portugal).
- Member of the Program Committee of the [24th International Conference on Knowledge Engineering and Knowledge Management](#), Amsterdam, Netherlands - November 26-28, 2024.
- Editor of the Special Issue on "Semantic Web and Ontology Design for Cultural Heritage" (<https://dl.acm.org/doi/full/10.1145/3626254>), *ACM Journal on Computing and Cultural Heritage*, 16(3): 1-5 (2023), ACM.
- Member of the Editorial Board of [Applied Ontology](#), ISSN print 1570-5838, ISSN online 1875-8533, IOS Press. Editors-in-Chief: Roberta Ferrario (Institute for Cognitive Sciences and Technologies, National Research Council, Italy); Michael Gruninger (University of Toronto, Dept. of Mechanical and Industrial Engineering, Canada). Since January 2022.
- Member of the Program Committee of the *International Semantic Web Conference (ISWC)*, (2022, 2023).
- Member of the Program Committee of the *Symposium on Open Data and Knowledge for a Post-Pandemic Era (ODAK 2022)*, 2022.
- Reviewer for the [Journal of Data Technologies and Applications](#), Editor-in-Chief: Miguel-Angel Sicilia (Computer Science, University of Alcalá, Spain), Emerald Publishing, ISSN: 2514-9288, 2021.
- Reviewer for the *Drug Discovery Today Journal* (<https://www.editorialmanager.com/drudis/mainpage.html>). Editor-in-Chief: Stephen Carney, Elsevier, ISSN:1359-6446 (2021).
- Editor of the Special Issue on "Semantic Web for Cultural Heritage" (<https://content.iospress.com/journals/semantic-web/12/2>), *Semantic Web*, 12(2): 163-167 (2021), IOS Press.
- Member of the Guest Editorial Board of the "Special Issue on Cultural Heritage and Semantic Web" by the *Semantic Web* journal (SWJ), IOS Press (2020).
- Co-chair and Proceedings editor of the *International Joint Workshop on "Semantic Web and Ontology Design for Cultural Heritage (SWODCH 2021)"*, (2021 - today).
- Chair of the "Open Data for Business" event, co-located with BOSK 2020, September 2020, Bolzano, Italy.
- Member of the Program Committee of the *1st International Workshop on Ontologies for Digital Humanities and their Social Analysis (WODHSA - <http://www.loa.istc.cnr.it/WODHSA/>)*, 2019.
- Chair of the *2nd International Workshop on Data meets Applied Ontologies in Open Science and Innovation (DAO-SI)*, co-located with the 2019 edition of the *Joint Ontology Workshops - Episode V: The Styrian Autumn of Ontology (JOWO)*, Graz (Austria).
- Member of the Program Committee of the *International Conference on Knowledge Engineering and Knowledge Management (EKAW)* (2018, 2020, 2022).
- Member of the Program Committee of the workshop "Ontology-based data access (OBDA) for classical archaeological and historical data: the EPNET experience", 19th International Congress of Classical Archaeology, Cologne/Bonn, 2018.
- Member of the Spanish node of the *Research Data Alliance (RDA)*, <https://rd-alliance.org/groups/rda-spain>, (2015 – today).
- Co-chair and Proceedings editor of the *International Workshop on Semantic Web for Cultural Heritage, (SW4CH)* (2015 – 2020).
- Member of the Program Committee of the *Workshop on Answer Set Programming and Other Computing Paradigms (ASPOC)* (2012 - today).
- Referee of the journal *Scienze e Ricerche*, ISSN:2283-5873 (2014 - today).
- Reviewer for the *Journal of Zhejiang University SCIENCE C - Computer & Electronics*, Editor-in-Chief: Yunhe Pan, Springer Berlin Heidelberg (2013, 2015).

- Reviewer for the *19th International Conferences on Logic for Programming Artificial Intelligence and Reasoning (LPAR)*, 15th-19th December 2013, Stellenbosch, South Africa.
- Additional reviewer for the *26th International Workshop on Description Logics*, July 23–26, 2013 Ulm, Germany.
- Member of the Program Committee of the *24-esimo Convegno Italiano di Logica Computazionale (CILC-09)*, Italian Association for Logic Programming, June 25-26, 2009, Department of Engineering, University of Ferrara, Italy.
- Co-chair for the workshop *Intelligent Agents and Services for Smart Environments*, hosted by the Annual Conference of the Society for the Study of Artificial Intelligence and the Simulation of Behaviour (AISB 2008), April 1-4, 2008, Aberdeen, Scotland.
- Member of the Organising Committee for the *First Workshop on Game Theory*, March 7-8, 2008, Center for Interdisciplinary Studies in Economics, Psychology and Social Sciences (CISEPS), University of Milano-Bicocca, Italy.
- Member of the Organising Committee for the workshop *From the technological Transfer to the Multidisciplinary Research: Towards a new computational approach to Archaeology*, March 8, 2007, Department of Archaeology, University of Bologna, Italy.
- Member of the Organising Committee for the *Second Workshop on Ontology, Conceptualizations and Epistemology for Software and Systems Engineering (ONTOSE-2008)*, June 2007, Department of Computer Science, Systems and Communication, University of Milano-Bicocca, Italy.
- Member of the Organising Committee for the *IX Congress of the Italian Association for Artificial Intelligence*, September 20-23, 2005, University of Milano-Bicocca, Italy.
- Member of the Organising Committee for the workshop *Knowledge Management: The Role, Contributions And Perspectives Of Artificial Intelligence*, Working Group on Artificial Intelligence in Companies, Italian Association for Artificial Intelligence (AI*IA), November 29-30, 2001, University of Milano-Bicocca, Italy.
- Member of the Organising Committee for the workshop *Competitive Innovation And Knowledge Management: Representation And Sharing of Added-value Competencies*, Working Group on Artificial Intelligence in Companies, Italian Association for Artificial Intelligence (AI*IA), November 20-21, 2002, University of Milano-Bicocca, Italy.

Research and scholarships

My interests are in: Knowledge Representation, Databases, Data Access and Integration, Description and Modal Logics, Ontologies, Conceptual Modelling, Computational Logics, Digital humanities, and Open Data for public policies. My research activity focuses on knowledge representation and conceptual modelling for data management. I work on the theoretical and methodological aspects behind the creation of ontology-based data management solutions, which subsumes the design and development of formal ontologies, conceptual modelling languages, and mappings specifications. In the data management domain, my focus is on multi-format data integration and access, efficient ontology-based query answering, formal semantics of conceptual modelling languages, temporal and multidimensional data representation, SPARQL querying support systems, data exploration techniques for non-technical users.

I had the opportunity to work at the design of applications that are fed by (open and legacy) data from the so-called research and innovation ecosystems. The Open Data platform called [UNiCS](#) is probably the most evident result of my attempt to apply the ontology-based approach to the semantic integration of that kind of data in a real application scenario. The [Toscana Open Research, Regional Research and Innovation Observatory](#) is another living example along this line.

My research career has been always characterised by a strong degree of interdisciplinarity, and I like to build linguistic and conceptual bridges between different disciplines. This attitude gave me the opportunity to directly work with domain

knowledge corpora by chemical engineers, [Roman Empire historians](#), policy makers, mechanical artefact designers, among others. The idea of using the principles and technologies of Knowledge Representation to allow the cross-domain interchange of meanings is surely one of the most relevant driving engines of my research activity.

Publications

▪ Conference papers

Lanti, D., Mosca, A., Calvanese, D. and Montali, M., 2023. Direct mappings under the lens of information capacity. In *36th International Workshop on Description Logics, DL 2023, Rhodes, Greece, September 2-4, 2023*. CEUR-WS.

Alisade, H., Calvanese, D., Klarer, M., Mosca, A., Ndefo, N., Rangger, B. and Tratter, A., 2023. Exploration of medieval manuscripts through keyword spotting in the MENS project. In *22nd International Conference of the Italian Association for Artificial Intelligence, AlxIA 2023 DP 2023, Rome, November 6-9, 2023* (pp. 67-74). CEUR-WS.

Gu, Z., Calvanese, D., Di Panfilo, M., Lanti, D., Mosca, A. (2023). Ontology-Based Data Federation - A Framework Proposal. In *Proceedings of the 31st Italian Symposium on Advanced Database Systems (SEBD 2023)*, Galzignano Terme (Italy) from the 2nd of July to the 5th of July 2023. To appear.

Gu, Z., Lanti, D., Mosca, A., Xiao, G., Xiong, J., Calvanese, D. (2023). Ontology-Based Data Federation. In *Proceedings of the 11th International Joint Conference on Knowledge Graphs (IJCKG 2022)*, October 27–28, 2022 Virtual Event, China. Association for Computing Machinery (ACM), United States, ISBN: 978-1-4503-9987-6.

Calvanese, D., Gal, A., Lanti, D., Montali, M., Mosca, A., Shraga, R. (2023). Conceptually-grounded Mapping Patterns for Virtual Knowledge Graphs (Discussion Paper). In *Proceedings of the 30th Italian Symposium on Advanced Database Systems (SEBD 2022)*, Tirrenia (PI), Italy, June 19-22, 2022. CEUR Workshop Proceedings, Vol-3194, ISSN 1613-0073, 2022.

Gu, Z., Lanti, D., Mosca, A., Xiao, G., Xiong, J., Calvanese, D. (2022). Ontology-based data federation. In *35th International Workshop on Description Logics, DL 2022, Haifa, Israel, August 7-10, 2022*.

Calvanese D., Gal, A., Haba, N., Lanti, D., Montali, M., Mosca, A., Shraga, R., ADaMaP: Automatic Alignment of Data Sources using Mapping Patterns. In *Proceedings of CaiSE 2021: International Conference on Advanced Information Systems Engineering*, Melbourne, Australia, June 28-July 2, 2021.

Calvanese, D., Ding, L., Mosca, A. and Xiao, G. (2021, July). Realizing Ontology-based Reusable Interfaces for Data Access via Virtual Knowledge Graphs. In *CHIItaly 2021: 14th Biannual Conference of the Italian SIGCHI Chapter* (pp. 1-5), 2021.

Calvanese, D., Gal, A., Lanti, D., Montali, M., Mosca, A., & Shraga, R. (2020). Mapping patterns for virtual knowledge graphs (A report on ongoing research). In *DL 2020, 33rd International Workshop on Description Logics*, Online, September 12-14, 2020. CEUR-WS.

Giménez, X., Mosca, A., Roda, F., Rondelli, B. and Rull, G., UNiCS: The Open Data Platform for Research and Innovation. In *Proceedings of the Posters and Demos Track of the 14th International Conference on Semantic Systems*, co-located with the 14th International Conference on Semantic Systems (SEMANTICS 2018), Vienna, Austria, September 10-13, 2018.

Bikakis, A., Jean, S., Markhoff, B., Mosca, A., *Proceedings of the Third International Workshop on Semantic Web for Cultural Heritage* co-located with the 15th Extended

Semantic Web Conference, SW4CH@ESWC 2018, Heraklion, Crete, Greece, June 3, 2018. CEUR Workshop Proceedings, Vol. 2094, ISSN 1613-0073, 2018.

Mosca, A., Roda, F. and Rull, G., UNICS - The Ontology for Research and Innovation Policy Making. In *Frontiers in Artificial Intelligence and Applications*, Vol. 306, pp. 200-207, IOS Press, 2018. (DOI: 10.3233/978-1-61499-910-2-200 - ISBN: 978-1-61499-909-6 (print) | 978-1-61499-910-2 (online)).

Mosca, A., Ontology-Mediated Data Integration and Access in Research and Innovation Policy. In Proceedings of the *Joint Ontology Workshops 2017 (JOWO 2017)*, Episode 3: The Tyrolean Autumn of Ontology. Bozen-Bolzano, Italy, September 21–23, 2017. CEUR-WS: 21-Jan-2018, <http://ceur-ws.org/Vol-2050/>.

Mosca, A., Rondelli, B., and Rull, G., The OBDA-Based 'Observatory of Research and Innovation' of the Tuscany Region. In Proceedings of the *Joint Ontology Workshops 2017 (JOWO 2017)*, Episode 3: The Tyrolean Autumn of Ontology. Bozen-Bolzano, Italy, September 21–23, 2017. CEUR-WS: 21-Jan-2018, <http://ceur-ws.org/Vol-2050/>.

Estañol, M., Massucci, F., Mosca, A., and Rafols, I., Integrating domain ontologies with topic modelling for mapping societal problems. In Proceedings of the *16th International Conference of the International Society for Scientometrics and Informetrics (ISSI 2017)*, ISSI 2017 Conference. October 16-20, 2017, Wuhan, China.

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Invited seminars and talks

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- [CGIAR - Ontologies Community of Practice](#) organisation: "The Virtual Knowledge Graph approach to data access and data integration: An introductory journey" (available [recording](#)), January 21, 2022. *Invited webinar*.
 - [ENCODE - Bridging the <gap> in Ancient Writing Cultures: ENhance COmpetences in the Digital Era](#) project conference event: "[Bridging the Gap with Linked Open Data](#)", May 25, 2021. *Invited panellist*.
 - Final event of the [ODEON: Open Data for European Open iNnovation](#) project (ICT-15-2014 - Big data and Open Data Innovation and take-up, ID:644683), December 17, 2020. *Invited seminar*.
 - [Fair Heritage: Digital Methods, Scholarly Editing and Tools for Cultural and Natural Heritage international conference](#), 17-19 June 2020, LE STUDIUM Loire Valley Institute for Advanced Studies. *Keynote speaker*.
 - [Gli Open Data: un'occasione per fare impresa!](#). Public event organised by Camera di Commercio di Padova, Regione del Veneto, and Unioncamere Veneto, April 20, 2020. *Invited seminar*.
 - Department of Computer Science and Information Systems, Birkbeck College, Monday, 18 June 2018. *Invited seminar*.
 - JIRC: Journée Informatique de Région Centre, Laboratoire d'Informatique Fondamentale et Appliquée de Tours, Polytech'Tours, Thursday, 29 November 2018. *Keynote speaker*.
 - Computer Department of Blois, François Rabelais University, 28 November 2018. *Invited seminar*.
 - The EOSC Stakeholder Forum, in Shape the future EOSC in Brussels 28-29 November 2017. *Invited panellist*.
 - The Joint Ontology Workshops 2017 Episode 3: The Tyrolean Autumn of Ontology (JOWO 2017), Bozen-Bolzano, Italy, September 21-23, 2017. *Keynote speaker*.
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**Language
competence**

First language: *Italian*

English

UNDERSTANDING

Listening: C1

Reading: C1

SPEAKING

Spoken interaction: C1

Spoken production: C1

WRITING: C1

French

UNDERSTANDING

Listening: B1

Reading: B1

SPEAKING

Spoken interaction: B1

Spoken production: B1

WRITING: B2

Spanish

UNDERSTANDING

Listening: B1

Reading: B1

SPEAKING

Spoken interaction: B1

Spoken production: B1

WRITING: B1

Catalan

UNDERSTANDING

Listening: B1

Reading: B1

SPEAKING

Spoken interaction: B1

Spoken production: B1

WRITING: B2