Aldo Gangemi - CV

A. Positions and Roles

Employment positions

1990-1994: Academic CNR grants (Borse di Studio) at Institute for Biomedical Technology, Italian National Research Council.
Research on medical terminologies and knowledge organization systems. Conceptual modelling in the European Union GALEN Project.

1995-2000: Junior researcher at Institute for Biomedical Technology, Italian National Research Council.
Research on knowledge representation in medicine, clinical guidelines, ontology engineering, conceptual modelling in Italian academic projects.

2004-2006: Professor ("professore a contratto") at Università per Stranieri di Perugia.
Teaching *Knowledge Engineering* courses at the faculty.

2009 (July-August): invited professor at Stanford University, Biomedical Informatics Dept.
Resarch on *Ontology Design*.

2001-2009: Senior researcher at Institute for Cognitive Sciences and Technology, Italian National Research Council.
2010-2012: Research Director at Institute for Cognitive Sciences and Technology, Italian National Research Council.

Research on ontology engineering, semantic web, natural language processing, cognitive and formal semantics in European Union projects WonderWeb, OntoWeb, METOKIS (local coordinator), NeOn (local coordinator and workpackage leader), and European EUREKA project IKF. Coordinator for CNR programme *Semantic Technologies* (funds administered: ≈1.5 million euro). Co-founder of the *Laboratory for Applied Ontology*, co-founder and scientific director of the *Semantic Technology Lab*.

2011 (May 15 to June 15); 2012 (June 1 to June 30): Invited Professor at Paris 13 University.
Research at the LIPN department on hybridising knowledge engineering and natural language processing, in particular for the legal domain.

2012-2017: Full Professor at the Department of Informatics of Paris 13 University (LIPN, Sorbonne Paris Cité, CNRS)

2012-2017: Associate research director at ISTC-CNR, Rome, Italy

2017-: On leave from the Department of Informatics of Paris 13 University

2017-: Full professor at the FICLIT Department, University of Bologna, Italy

Consultancy

2001-: Consultant/expert for:

- *Italian Ministry of Research: project reviewer for ICT*
- *Italian Ministry of Industry: project reviewer for ICT*
- *Regione Toscana: project reviewer for ICT and Humanities*
- *European Union FP6/FP7: project reviewer for ICT*
- *Vrije Universiteit Brussels – Belgium: project reviewer for ICT*
- *von Humboldt prize – Germany: reviewer*
- *ELSAG: ontology design, ontology-driven applications in the banking and regulatory domains*
- *Accenture: semantic CRM applications, ontology design*
- *Selesta: semantic service-level agreement applications, ontology design*
- *WIND telecommunications: taxonomy refactoring, search optimization*
- *ITER: semantic workflows*
- *RAI: semantic advertising, semantic search*
- *United Nations FAO Agency: ontology design, database reengineering, data linking in agriculture and fishery domains*
- *Italian Governmental Authority for Informatics in the Public Sector – CNIPA: coordinator of the working group on Semantic Inperoperability for Italian Public Administration Services*
- *European Media Lab – Germany: ontology design, bioinformatics*
- *Boehringer Ingelheim – Germany: ontology design*
- *Reinvent technologies – Canada: ontology design, lexical ontologies, semantic advertising, search optimization*
- *Almaviva (company) – Italia: ontology design, linked data*
- *DigitPA (Italian agency for informatics in the PA) – Italia: ontology design, linked open data*

Roles

2008-: Head of the Semantic Technology Lab. Supervised researchers 2008-17: 13. Total STLab funds 2008-12: ≈1.5M€

2006-: Coordinator for the Research Programme ("commessa") "Semantic Technologies" within the ICT Department of CNR

2004-: Reviewing service for the European Union (FP6 and FP7 projects), Italian Ministry of Research and Ministry of Industry (technology transfer and industrial projects from PNR – National Research Programmes–: PIA, FAR, FIT, PON), Tuscany Region, von Humboldt German Academic Prize, Free University of Brussels.
Reviewing of academic and industrial projects on semantic web, information system design, software engineering, etc.

1998-: Regular presence in the program, organization and scientific committees of relevant conferences, journals, workshops, organizations.
Journal editorial board member: Journal of Web Semantics, Semantic Web Journal, Applied Ontology Journal.

Conference scientific committee member: IJCAI (International Joint Conference on Artificial Intelligence), KR (International Conference on Knowledge Representation), ISWC

(International Semantic Web Conference), WWW (International World Wide Web Conference), EKAW (European Knowledge Engineering Conference), ESWC (European Semantic Web Conference), FOIS (Formal Ontology and Information Systems), CIKM (Conference on Information and Knowledge Management).

1998-: Presence in the advisory board of international agencies.
W3C-SWBPD-OEP (W3C Working Group on Semantic Web Best Practices and Deployment), W3C-eGovIG (W3C Working Group on eGovernment), ECDC (Working Group on Knowledge Management of the European Council for Disease Control and Prevention), Semic-IDABC (EU Working Group on Semantic Interoperability), W3C Ontology-Lexica Community Group.

1998-: Conference organization: FOIS1998 (Formal Ontology and Information Systems, *organization chair*), LREC2006 (Linguistic Resources and Evaluation Conference, *program chair*), EKAW2008 (European Conference on Knowledge Engineering and Knowledge Management, *conference chair*), SWAP2008 (Semantic Web Applications and Perspectives, *conference chair*), ESWC2010 (Extended Semantic Web Conference, *tutorials chair*), ISWC2011 (International Semantic Web Conference, *vice-chair*), WWW2015 (World Wide Web Conference, *general chair*), ESWC2017 (European Semantic Web Conference, *program chair*), ESWC2017 (European Semantic Web Conference, *general chair*).

2003-: Workshop organization: LegOnt2003 (*Third International Workshop on Legal Ontologies*, at International Conference on AI&Law, Edinburgh, 2003), OntoLex2004, *Second International Workshop on Ontologies and Lexica*, at LREC2004, Lisbon, 2004, WORM04 (*Second International Workshop on Regulatory Ontologies*, at ODBASE Conference, Cyprus, 2004), CORONT04 (*First International Workshop on Core Ontologies*, at EKAW2004, Northampton, 2004), WORM05 (*Third International Workshop on Regulatory Ontologies*, at ODBASE Conference, Cyprus, 2005), OPSW05 (*Ontology Engineering Patterns*, at ISWC2005, Galway, Ireland, 2005), EON06 (*Ontology Evaluation Workshop at WWW2006*, Edinburgh, 2006), OntoLex (*The ontology/lexicon interface workshop,* Busan, Corea, 2007*)*, KRSSW2008 (*Workshop on Knowledge Reengineering on the Semantic Web at ESWC2008,* Tenerife, Spain, 2008), SPIM2010 (Semantic Personalized Information Management at LREC2010, Malta, 2010), SPIM2011 (Semantic Personalized Information Management at ISWC2011, Bonn, 2011), WOP2012 (*Workshop on Ontology Patterns at ISWC2012*, Boston).

2004-: Invited talks in academic contexts:
· *Some design patterns for domain ontology building and analysis*, Knowledge Media Institute, 2004
· *Context types in Formal Ontology*, Free University of Bruxelles, 2004
· *Ontologie fondazionali*, University of Rome I, DSI, 2004
· *Modelli di progettazione ontologica per la complessità. Il caso dei beni culturali*, Minerva Project, Rome, 2004
· *Legal ontologies*, Final Conference of CNRS Action Spécifique Ontologie du droit et langage juridique, Paris, 2004
· *Ontology-driven Law: What representations are feasible, what inferences can be drawn?*, Colloque de l'Action Spécifique Ontologie du droit et langage juridique, Paris, 2004
· *Formal ontological methods for sharing scientific and cultural information*, Final Mesmuses Project Workshop, Florence, 2004
· *Modelli di progettazione ontologica comunitaria: lessico e conoscenza implicita nella società della conoscenza*, University of Rome II, AI, 2005
· *What's in a term*, European Media Laboratory, Heidelberg, 2005
· *Fishery Ontology Service Project*, University of Bolzano, 2005

- *Knowledge Content Objects: a grounded ontology for content management over the semantic web*, OntoHumanities Workshop, Florence, 2005
- *Trattamento del linguaggio naturale e ingegneria ontologica*, AI*IA NLP Workshop, Perugia, 2005
- *Ontology Design Patterns for Semantic Web Content*, University of Bologna, Dipartimento di Informatica, 2005
- *Social and logical reification*, ICIB-CNR, Napoli, 2006
- *Identity of Resources and Entities*, Semantic Web Applications and Perspectives, Pisa, 2006
- *Ontology Design Patterns*, DynamOnt Project, Salzburg, 2006
- *Ontologie e portali semantici: il caso della IntraWeb CNR*, Workshop on Portale di Ateneo, University of Bologna, 2006
- *Ontology design as mediation: The case for terminological resources*, CNR-ITTIG, Florence, 2006
- *A Collaborative Semantic Web Layer to Enhance Legacy Systems*, CNIPA, Rome, 2007
- *Formalizzare i(l) Web: comunità di pensiero, invarianti semantiche e applicazioni*, Signum, Scuola Normale, Pisa, 2007
- *Plans and Norms as unification criteria for Social Collectives*, Dagstuhl Seminar on Norms and Multi-Agent Systems, 2007
- *Sweet models: a DOLCE history*, Workshop on Legal Ontology Building, Barcelona, 2007
- *Suq semantics*, <u>Keynote Lecture</u> at Terminology and Knowledge Engineering Conference, Copenhagen, 2008
- *The Computational Ontology Perspective,* Approaches to Legal Ontologies Seminar, European University Institute, Florence, 2008
- Ontology and the lexicon: a roundtrip, <u>Keynote Lecture</u> at Conference sur le Traitement Automatique du Langage Naturel, Paris, 2009
- Pattern-based Ontology Design. Ontolog Invited Speaker Presentation (with Valentina Presutti): <u>http://ontolog.cim3.net/cgi-bin/wiki.pl?ConferenceCall_2009_02_05</u>, 2009
- *Semantic Web Ontologies: What worked, what didn't*, Dagstuhl Seminar on the Future of the Semantic Web, 2009
- *The STLab Research Programme*, STI2 workshop, Kalamaki, Crete, 2010
- *A Pattern Science for the Semantic Web*, <u>Keynote Lecture</u> at the Extended Semantic Web Conference, Hersonissos, Crete, 2010
- *Pattern-based Design of Medical Ontologies*, Paris 13 University, 2011
- *Combining Natural Language Processing and Semantic Web: some Applications,* Migrating Alphabets, CNR, Rome, 2011
- *A Pattern Science for the Semantic Web,* Workshop on La Strutturazione della Conoscenza nel Web, Università di Salerno, 2011
- *Tecnologie di Web Semantico per le Scienze Umane,* Conference Diritto romano e scienze antichistiche nell'era digitale, Firenze, 2011
- *Some Design Patterns for the Ontology-Lexicon Interface over the Web*, Invited talk at the Workshop on Ontologies and Lexical Semantics, Roma, 2011
- *Ontology Evaluation and Pattern-based Design*. Conference Call Ontology Summit 2012: <u>http://ontolog.cim3.net/cgi-bin/wiki.pl?ConferenceCall_2012_02_23</u>, slides: <u>http://tinyurl.com/bv8ncnv</u>, 2012
- *Knowledge Patterns*, seminars in the Philosophie du Web series, Sorbonne, Paris, 9-10 Juin 2012
- *Ontology Design: an Empirical Perspective*, *9th SSSW Semantic Web Summer School,* Cercedilla, Spain, 2012
- *A Roadmap for LOD in the PA*, <u>Keynote Lecture</u> at the OnToContent Workshop, Roma, 2012
- *Discovering, Recognizing, and Using Knowledge Patterns*, <u>Keynote Lecture</u> at the SOFSEM 2013 Conference, Špindlerův Mlýn, Czech Republic, 2013
- *Objective Fiction: The Semantic Construction of (Web) Reality*, <u>Keynote Lecture</u> at iSemantics 2013 Conference, Graz, Austria, 2013.

- *Extracting, Discovering and Using Knowledge Patterns on the Semantic Web*, Lecture at the Dagstuhl Seminar on Spatial Reference in the Semantic Web and in Robotics (Dagstuhl Seminar 14142), 2014.
- *Integration of Knowledge Extracted from Text and Data as Open-World Semantic Graphs*, <u>Keynote Lecture</u> at OVIVE Workshop@IC2014, Clermont-Ferrand, 2014
- *Open Knowledge Extraction: from Text to Knowledge Graphs*, Invited talk at WorksWeb 2015 Workshop, Paris, 2015
- *Creating and Using Ontologies in a Big Data World*, Invited talk at the Focolise International Summer School, Strasbourg, 2015
- *How many (polymorphic) frames? Classic KR in the World Wild Web*, <u>Keynote Lecture</u> at the International Workshop on Artificial Intelligence and Cognition, Turin, 2015
- *Tackling higher-order and contextual phenomena in Open Knowledge Extraction*. <u>Keynote Lecture</u> at the International Symposium "A Decade of ICR", Luxembourg, 2016
- *Knowledge Patterns in the Deep*. <u>Keynote Lecture</u> at the Ontology Patterns Workshop, Kobe, 2016
- *Patterns for Representing (Legal) Procedural Knowledge*. <u>Keynote Lecture</u> at the Law and the Semantic Web Workshop, Bologna, 2016

2004-: Invited talks in institutional and business contexts:
- *Ontology Design: A Primer*, Boehringer Ingelheim, 2007
- *CNR Semantic Intraweb Project*, Agricultural Ontology Workshop, UN-FAO, 2007
- *Il progetto STLab: tecnologie semantiche per una rete di conoscenza fra cittadini, organizzazioni e imprese*, CONSIP, Rome, 2008
- *Ontology and the Lexicon: a Roundtrip,* SRI Menlo Park, US, 2009
- *Ontology Design*, Almaviva, Roma, 2011
- *Knowledge Patterns: Frame Representation across AI, Semantic Web, Linguistics, and Cognitive Science*, IBM Watson Research Center, 2011
- *Machine Reading for the Semantic Web*, New York Semantic Web Meetup, New York, 2015

2000-: Teaching:
- PhD Course on *Ontology Patterns*, First International Semantic Web Research Summer School (ISWS-2018), Bertinoro, Italy (July, 2018).
- Course on *Knowledge Extraction* at the Pavia PhD School on Computational Linguistics, Italy (May, 2018)
- Master Course on *Knowledge Representation and Extraction*, Digital Humanities and Digital Knowledge Degree, University of Bologna (March-May, 2018)
- Course on *Fundamentals of Computer Science*, Humanities Degree, University of Bologna (March-May, 2018)
- Course on *Artificial Intelligence*, Humanities Degree, University of Bologna (February-March, 2018)
- PhD Course on *Ontology Design* at the Ninth LEX International Summer School (LEX2017), at Ravenna, Italy (September, 2017).
- PhD Course on *Knowledge aspects of the Semantic Web*, Thirteenth Summer School on Ontological Engineering and the Semantic Web (SSSW-2016), Bertinoro, Italy (July, 2016).
- Course on *Semantic Web*, Computer Science Department, Paris13 University, Paris (February-April, 2016).
- Course on *Web Content Management*, Computer Science Department, Paris13 University, Paris, Paris (February, 2016).
- Course on *Fundamentals of Computer Science*, Computer Science Department, Paris13 University, Paris (October-November, 2015).
- Course on *Semantic Web*, Computer Science Department, Paris13 University, Paris (October-November, 2015).
- Course on *Web Programming*, Computer Science Department, Paris13 University, Paris (February-May, 2015).

- Master Course on *Knowledge Engineering*, Computer Science Department, Paris13 University, Paris (February-May, 2015).
- Master Course on *Knowledge Representation*, Computer Science Department, Paris13 University, Paris (September-December, 2015).
- PhD Course on on *Ontology Design* at the Sixth LEX International Summer School (LEX2014), at Ravenna, Italy (September, 2014).
- Tutoring at the Tenth European Summer School on Ontological Engineering and the Semantic Web (SSSW-2013), at Cercedilla, Spain (July, 2013).
- PhD Course on *Ontology Design* at the Fifth LEX International Summer School (LEX2013), at Ravenna, Italy (September, 2013).
- Master Course on *Knowledge Engineering*, Department of Informatics, Paris13 University, Paris (January-May, 2013).
- PhD Course on *Ontology Design* at the Fourth LEX International Summer School (LEX2012), at Ravenna, Italy (September, 2012).
- Master Course on *Knowledge Representation*, Department of Informatics, Paris13 University, Paris (September-December, 2012).
- Tutoring at the Ninth European Summer School on Ontological Engineering and the Semantic Web (SSSW-2012), at Cercedilla, Spain (July, 2012).
- *Applicazioni Semantiche sugli Open Data*, <u>Doctoral lecture</u> at University of Bologna, Faculty of Law, Bologna, (March, 2012).
- PhD Course on on *Ontology Design* at the Third LEX International Summer School (LEX2011), at Ravenna, Italy (September, 2011).
- PhD Course on on *Ontology Design* at the Eighth European Summer School on Ontological Engineering and the Semantic Web (SSSW-2011), at Cercedilla, Spain (July, 2011).
- PhD Course on *Computational Ontologies* at the Computer Science Department of the University of Bologna (May, 2011).
- *Ontology Design*, <u>Doctoral lecture</u> at University of Bologna, Faculty of Law, Bologna, (March, 2011).
- PhD Course on *Computational Ontologies* at the Computer Science Department of the University of Bologna (February, 2010).
- PhD Course on on *Ontology Design* at the Second LEX International Summer School (LEX2010), at Ravenna, Italy (September, 2010).
- PhD Course on on *Ontology Design* at the First LEX International Summer School (LEX2009), at Fiesole, Italy (September, 2009).
- PhD Course on on *Ontology Design* at the Seventh European Summer School on Ontological Engineering and the Semantic Web (SSSW-2009), at Cercedilla, Spain (July, 2009).
- PhD Course on on *Ontology Design* at the University of Jönköping, Sweden, within the bilateral programme DEON between Jönköping University and CNR (November, 2009).
- PhD Course on *Computational Ontologies* at the Computer Science Department of the University of Bologna (October, 2009).
- Invited Tutorial on *Ontology Design* at the Seventh International Semantic Web Conference, Karlsruhe, Germany (October, 2008)
- PhD Course on *Computational Ontologies* at the Computer Science Department of the University of Bologna (September, 2008).
- PhD Course on on *Ontology Design* at the Sixth European Summer School on Ontological Engineering and the Semantic Web (SSSW-2008), at Cercedilla, Spain (July, 2008).
- Invited Tutorial on *Ontology Design* at the Sixth International Semantic Web Conference, Busan, Korea (November, 2007)
- PhD Course on *Ontology Design* for the PhD curriculum at the Computer Science Department of the University of Bologna (September, 2007).
- PhD Course on on *Ontology Design* at the Epoch Summer School, Procida, Italy, (2007).

- PhD Course on on *Ontology Design* at the Fifth European Summer School on Ontological Engineering and the Semantic Web (SSSW-2007), at Cercedilla, Spain (July, 2007).
- Tutorial on *Ontology Design Patterns* at the EKAW Conference, in collaboration with Guus Schreiber and Alan Rector (2006).
- PhD Course on on *Ontology Evaluation and Validation* at the Fourth European Summer School on Ontological Engineering and the Semantic Web (SSSW-2006), at Cercedilla, Spain (July, 2006).
- PhD Course on on *The emergent ontology: knowledge collectives and conceptual design patterns* at the Interdisciplinary College (IK2006), Günne, Germany (2006)
- PhD Course on on *Ontology Evaluation and Validation* at the Third European Summer School on Ontological Engineering and the Semantic Web (SSSW-2005), at Cercedilla, Spain (July, 2005).
- PhD Course on on *Ontologies: Theory, Methods and Tools* at the Second European Summer School on Ontological Engineering and the Semantic Web (SSSW-2004), at Cercedilla, Spain (July, 2004).
- Specialist course (supported by professorship) on *Knowledge Engineering* within the School of Strategic Design (Un. Diploma in Communication Studies) at the Università per Stranieri (University for Foreigners of Perugia), (2003-5)
- PhD Course on on *Semantic Web* at the ReasonPark Summer School (2003)
- Tutorial on *Formal Ontological Analysis and Conceptual Modelling* at the EKAW Conference, in collaboration with Nicola Guarino (2002).

Supervision of PhD, post-doc, research engineers, etc.

Jos Lehmann, post-doc, then researcher (2005-2007), current Google Scholar h-index=11. Now at University of Edinburgh, UK.
Carola Catenacci, post-doc (2005-2007), h-index su Google Scholar=10.
Massimiliano Ciaramita, post-doc (2005-2007), current Google Scholar h-index=28. Now at Google Research, Zurich, Switzerland.
Malvina Nissim, post-doc (2005-2007), current Google Scholar h-index=21. Now at University of Edinburgh, UK.
Valentina Presutti, ricercatore a TD (2009-2010), current Google Scholar h-index=26. Now researcher at ISTC-CNR.
Eva Blomqvist, ricercatore post-doc (2009-2010), current Google Scholar h-index=15. Now at University of Linköping, Sweden
Alfio Gliozzo, ricercatore (2009-2010), current Google Scholar h-index=22. Now at IBM Watson Research Center, New York, US
Alessandro Adamou, PhD (50%) (2009-2012), current Google Scholar h-index=3. Now at KMI, Open University, Milton Keynes, UK
Andrea Nuzzolese, PhD (2010-2013), poi assegnata (2013-2015) e ricercatore a TD, current Google Scholar h-index=15. Now researcher at ISTC-CNR
Silvio Peroni, post-doc (2012), current Google Scholar h-index=19.
Concetto Bonafede, research engineer (2009-2010)
Enrico Daga, research engineer (2009-2011), current Google Scholar h-index=6. Now PhD at KMI, Open University, Milton Keynes, UK
Alberto Musetti, research engineer (2011-2012)
Francesco Draicchio, laureando magistrale (2010-2011), research engineer (2011-2012)
Sergio Consoli, post-doc (2013-2015), current Google Scholar h-index=8. Ora a Philips Research, Eindhoven, Netherlands.
Diego Reforgiato, post-doc (2013-2015), current Google Scholar h-index=18. Now associate professor at University of Cagliari.
Misael Mongiovì, post-doc (2015), current Google Scholar h-index=6
Giorgia Lodi, post-doc (2015), current Google Scholar h-index=8
Luigi Asprino, research engineer (2015), PhD from 2016
Alessandro Russo, research engineer (2015), post-doc from 2016

Ehab Hassan, PhD (2013-2016)
Mehwish Alam, post-doc, 2016-8

PhD committees:

Roberto Garcia Gonzales (2008), Universidad Pompeu Fabre, Barcelona, Spain;
Milan Stankovic (2012), Université Paris IV Sorbonne ;
Amina Chniti (2013), Université Paris V ;
PhD School LAST-JD (legal informatics) (5 PhD), CIRSFID Università di Bologna (2013) ;
Khadija Elbedweihy (2014), University of Sheffield ;
Nada Mimouni (2015), Université Paris XIII ;
Manisha Pujari (2015), Université Paris XIII / INSA Lyon ;
Fadhela Kerdjoudj (2015), Université Paris-Est ;
Tatiana Lesnikova (2016), Université Grenoble-Alpes / INRIA;
Sayyed Ali Hossayni (2018), University of Girona, Spain

Committees for *habilitation à diriger des recherches*:

Christian Cote, Université Lyon 4 (2014) ;
Marc Spaniol, Université Caen (2014) ;
Cédric Pruski, Université de Luxembourg (2015)

B. Selected international, peer-reviewed publications (<u>main conferences, books and journals only</u>)

H-index=52; i10 index=148; hc-index=35; 12638 citations
(Google Scholar, October 2018)
Scopus h-index=29; 3283 citations, **October** *2018*
ISI h-index=16; 1299 citations, **October** *2018*

Full set of publications (>200) available from Google Scholar page: <u>http://scholar.google.it/citations?user=-iVGcoAAAAAJ</u>

1. Rossi Mori A, Thornton AM, Gangemi A, An Entity-relationship Model for a European Machine-Dictionary of Medicine, in RA Miller (ed.): *Proceedings of Fourteenth Annual SCAMC* (*Symposium on Computer Applications in Medical Care*) - *Standards in Medical Informatics*, Washington, IEEE Computer Society Press, 1990.
2. Rossi Mori A., Galeazzi E., Gangemi A., Pisanelli D.M., Thornton A.M. The Transfer of Medical Concepts in a Multilingual Environment, in G Negrini, T Farnesi, D Benediktsson (eds.): *Proceedings of the Conference: Documentary Languages and Databases*, Roma, Indeks Verlag, pp. 201-212, 1991.
3. Rossi Mori A, Gangemi A, Pisanelli DM, Thornton AM, Semantic Standards for the Representation of Medical Records, *Medical Decision Making*, 11, 4, 1991.
4. Gangemi A, Galanti M, Galeazzi E, Rossi Mori A, Beyond UMLS: Compositional Semantics for Medical Records, in R Scherrer & S Mandil (eds.): *Proceedings of 7th World Congress on Medical Informatics (MedInfo)*, Génève, 1992.
5. Gangemi A., Galanti M., Galeazzi E., Rossi Mori A., Knowledge Acquisition from Coding Systems, in A Neelameghan (ed.): *Proceedings of 2nd Int. ISKO Conference Cognitive Paradigms in Knowledge Organization*, Madras, 1992.
6. Rossi Mori A., Gangemi A., The Coding Cage, in A Reichert (ed.): *Proc. of 11th Int. Congress of the European Federation for Medical Informatics*, Jerusalem, 1993.
7. Gangemi A., Rossi Mori A., Composizionalità e modelli nell'analisi del linguaggio medico, *Lexicon Philosophicum* 7: *Ricerca e terminologia tecnico-scientifica*, Firenze, Olschki, 1994.
8. Gangemi A., Strategie dell'informazione scientifica: problemi di divulgazione, comprensione e rappresentazione della conoscenza a partire dall'analisi di un corpus di testi di genetica, in T De Mauro (ed.): *Studi sul trattamento linguistico dell'informazione scientifica*, Roma, Bulzoni, 1994.
9. Rector AL, Gangemi A, Galeazzi E, Glowinski A, Rossi Mori A, The GALEN CORE Model Schemata for Anatomy: Towards a Re-usable Application-Independent Model of Medical Concepts, in M Veloso (ed.): *Proceedings of 12th International Congress of the European Federation for Medical Informatics (MIE94)*, Lisboa, 1994.
10. Gangemi A, Steve G, Cognitive Design for Sharing Medical Knowledge Models, in Kaihara (ed.): *Proceedings of 8th World Congress on Medical Informatics,* Vancouver, 1995.
11. Steve G, Gangemi A, Rossi Mori A, Modelling a Sharable Medical Concept System: Ontological Foundation in GALEN, in *Proceedings of the Conference of the European Society for Artificial Intelligence in Medicine (AIME)* , 1995.
12. Steve G., Gangemi A., Rossi Mori A., Integrating Medical Terminological Sources: An Ontological Framework, *Proceedings of the Conference FLAIRS-96, Track on Information Interchange*, S Ali ed., pp 117-133, 1996.
13. Steve G, Gangemi A, Ontological Commitment for Medical Ontologies Reuse in the ONIONS Methodology, *Proceedings of the KAW-96 Conference, Track on Sharable and Reusable Ontologies*, B Gaines & M Musen eds, Calgary, pp 412-433, 1996.
14. Steve G, Gangemi A, Pisanelli DM, Giacomelli F, Ontological Integration of Medical Terminologies with ONIONS, *Proceedings of the Conference EJCIMKB-97*, H Kangassalo ed., pp. 82-98, 1997.
15. Rossi Mori A, Gangemi A, Steve G, Consorti F, Galeazzi E, An Ontological Analysis of Surgical Deeds, *Proceedings of the Conference AIME-97*, E Keravnou ed., Berlin, Springer Verlag, pp. 361-372, 1997.
16. Pisanelli DM, Gangemi A, Steve G, WWW-available Conceptual Integration of Medical Terminologies: the Onions Experience, *Journal of American Medical Informatics Association*, vol. 4, 575-579, 1997.
17. Gangemi A., The Ontological Stance in Artificial Intelligence: A Cognitive Semantic Perspective, *Proceedings of the Conference ICLC-97*, Tuggy L. (ed.), Amsterdam, Frije Universiteit P., p. 135, 1997.

18. Steve G, Gangemi A, Pisanelli DM, Integrating Medical Terminologies with ONIONS Methodology, in P-J Charrel et al (eds.) *Information Modelling and Knowledge Bases IX,* Amsterdam, IOS-Press, pp. 1-18, 1998.

19. Gangemi A., Pisanelli D.M., Steve G., Some Requirements and Experiences in Engineering Terminological Ontologies over the WWW *Proceedings of KAW98 Conference,* Banff (Canada), Un. of Calgary Press, pp.137-148, 1998.

20. Gangemi A., Pisanelli D.M., Steve G., Ontology Integration: Experiences with Medical Terminologies, in: *Formal Ontology in Information System*, Guarino N ed., Amsterdam, IOS-Press, pp.163-178, 1998.

21. Pisanelli DM, Gangemi A, Steve G, An Ontological Analysis of the UMLS Metathesaurus, *J. of American Medical Informatics Association,* vol. 5, pp. 810-814, 1998.

22. Pisanelli D.M., Gangemi A., Steve G., A Medical Ontology Library that Integrates the UMLS Metathesaurus, in: W Horn et al. (eds.), *Artificial Intelligence in Medicine,* Lecture Notes in Artificial Intelligence 1620, Berlin, Springer Verlag, pp. 239-248, 1999.

23. Pisanelli DM, Gangemi A, Steve G, Towards a Standard for Guideline Representation: an Ontological Approach, *Journal of American Medical Informatics Association,* vol. S4, pp. 906-910, 1999.

24. Gangemi A, Pisanelli DM, Steve G, An Overview of the ONIONS Project: Applying Ontologies to the Integration of Medical Terminologies, in *Data and Knowledge Engineering*, 1999, vol.31, pp. 183-220, 1999.

25. Gangemi A., Categorizzazioni. Un'indagine tra semiotica, ontologia e informatica, in G. Negrini (ed): *Categorie e modelli di conoscenza*, Milano, Franco Angeli, 2000.

26. Pisanelli DM, Gangemi A, Steve G, The Role of Ontologies for an Effective and Unambiguous Dissemination of Clinical Guidelines, in R Dieng, O Corby (eds.), Knowledge Engineering and Knowledge Management. Methods, Models, and Tools, Berlin, Springer-Verlag, pp. 129-139, 2000.

27. Gangemi A., Pisanelli D.M., Steve G., "Understanding Systematic Conceptual Structures in Polysemous Medical Terms", *Journal of American Medical Informatics Association*, 2000.

28. Gangemi A, Guarino N, Oltramari A, Conceptual Analysis of Lexical Taxonomies: The Case of WordNet Top-Level, in: C Welty, B Smith (eds.), *Proceedings of the 2001 Conference on Formal Ontology and Information Systems,* Amsterdam, IOS Press, 2001.

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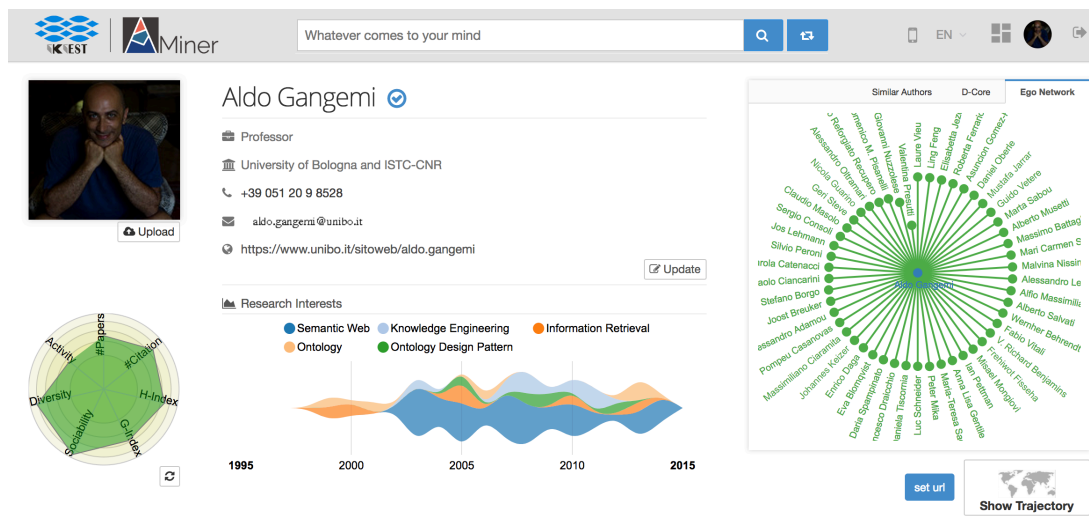
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158. A. Russo, G. D'Onofrio, A. Gangemi, F. Giuliani, M. Mongiovi, F. Ricciardi, F. Greco, F. Cavallo, P. Dario, D. Sancarlo, V. Presutti, A. Greco. Dialogue Systems and Conversational Agents for Patients with Dementia: the human-robot interaction. *Rejuvenation Research*, 2018.

All publications in numbers:

Type	Amount
Articles in international peer-reviewed journals	46
Books	8
Chapters of books with scientific committee	27
Papers in proceedings of international peer-reviewed conferences	73
Posters/demos in international peer-reviewed conferences	17
Articles in national peer-reviewed journals	7
Workshop proceedings	7
Papers in proceedings of international peer-reviewed workshops	52
Reports of scientific committes and international scientific projects	27

C. Research Support

1994-: Coordination of research activities (from 2008 as STLab coordinator).

· *MARE2,* tender of Department for Maritime Affairs of European Union, design and implementation of multilingual knowledge management system for fishery commercial denominations, deployment, updating, and maintenance, 2017-20.
· *ArCo*, contract with Italian Ministry of Cultural Heritage for ontology design for, and refactoring of catalographic cards of Italian Cultural Heritage objects, 2017-9.
· *OntoPiA*, contract with *Team Digitale,* agency of the Italian Presidency of the Council of Ministers, for the design of ontologies for the Italian Public Administration, and implementation of data refactoring and cleaning in the DAF framework, 2017-8.
· *Computational semantic analysis* — Axis 5 of LabEx (Laboratoire d'Excellence) EFL (Empirical Foundations of Linguistics) — automated abstractive text summarization, 2016-7
· *Cartographie de la diaspora des savoirs par fouille sémantique des résultats recherche sur le web,* ECOS-Nord project (France-Mexico), 2016-7
· *Golfred,* AUF-PIRAT project (France-Mexico), reading robots, 2015-7

- *MARIO,* H2020 project on human-robot dialogue systems for assistance to elderly people with mild dementia, 2015-7.
- *MARE,* tender of Department for Maritime Affairs of European Union, design and implementation of multilingual knowledge management system for fishery commercial denominations, production of related Linked Open Data, 2014-5.
- *FOOD,* sponsored by AgID (Ministry Council's Agency for Digital Italy) to produce Linked Open Data out of DOP products descriptions from the Ministry for Agriculture, 2014-5.
- *S&TDL* (Science and Technology Digital Library), MIUR-CNR-AgID sponsored project, semantic digital libraries, 2014-15.
- *Hermes*, Project of the FILAS programme (Lazio district) on new technologies for cultural heritage, 2014-15.
- *Semantic Sicily*, semantic technology transfer project sponsored by a Sicilian entreprise consortium, 2013-4.
- *PRISMA* (PiattafoRme cloud Interoperabili per SMArt-government, 2012-2015), PON-RC Italian Ministry of Research project, coordinator for STLab.
- *Semantic Scouting* (2009-2010), project sponsored by the technology Transfer agency of CNR, coordinator for five CNR institutes
- *SocNet* (2010-12), US National Science Foundation funded project on discoverying social networks in historical series and facts.
- *NeOn* (2006-10), EU FP6 Integrating Project (IP), scientific coordinator for ISTC-CNR. Aim: collaborative, networked ontology lifecycle management.
- *Historical Knowledge Representation* (2007-9), CNR project, coordinator. Aim: Representation and reasoning with historical models over spatio-temporal situations.
- *Semantic Intrawebs* (2006-10), CNR programme for the reengineering, integration, and porting to the semantic web of legacy administrative research databases.
- *Bony* (2008-9), EU Leonardo project for creating semantic, multi-lingual e-Learning units.
- *METOKIS* (2004-5), EU FP6 STReP project, scientific coordinator for my Lab. Aim: a platform for the management of knowledge work and the representation of workflows. Task of the LOA: ontology of plans and tasks.
- *Task force on Porting WordNet to the Semantic Web* within the W3C Semantic Web Best Practices and Deployment working group.
- *Fishery Ontology Service* (2002-4), institutional project, scientific coordinator. Joint project with UN-FAO. Aim: developing a modular ontology library for fishery (starting from existing thesauri), and deploying it for database and portal integration. Task of my Lab: scientific architecture, methodology, supervision and consultancy.
- *OntoWordNet* (2001-), academic research programme, scientific coordinator. In conjunction with the University of Rome La Sapienza and the University of Princeton. Aim: deriving a full-fledged formal ontology from the WordNet lexical database. Both formal ontology and machine learning techniques are used. In collaboration with Alessandro Oltramari.
- *IF-LEX*: Banking regulation dynamics and anti-money laundering ontology (2000-2003), industrial project, scientific coordinator for my Lab. Automatic warning system for bank transactions over legacy databases, driven by an ontology of anti-money laundering guidelines derived from legal regulations from the Bank of Italy.
- *ISK*: Ontology-driven quality assessment in service-level agreements (2002-2003), industrial project, scientific coordinator for my Lab. Automatic evaluation of the economic impact of service-level agreements and their deployment in the domain of information services, based on a modular ontology of service contracts and information services.
- *IES*: Ontology-driven Customer Relationship Management in the insurance domain (2003), industrial project, scientific coordinator for my Lab.
- *LegOntoWeb* (2002-2004), working group sponsored by EU FP5 OntoWeb project, coordinator.

- · *ONIONS* (1994-1999), academic research programme, scientific coordinator. Aim: developing a methodology for terminology reengineering, ontology construction and modularization. Mainly applied to biomedicine.

1992-: Participation in research activities (besides those coordinated).
- · *Tecnologie semantiche per il fisco italiano* (2012-2013), industrial project for Italian public/private company SOGEI.
- *IKS* (2009-12), EU FP7 Integrating Project (IP). Aim: semantic components for content management systems and technology transfer to SMEs.
- *WonderWeb* (2002-2004), EU FP5 FET, coordinated by the University of Manchester. Aim: excellence infrastructure for the Semantic Web. Task of my Lab: foundational ontology library, ontology building methodology, ontology of Web Services.
- *OntoWeb* (2002-2004), EU FP5 Thematic Network, coordinated by the University of Innsbruck (initially by the University of Amsterdam). Aim: Semantic Web research coordination. Task of my Lab: content standards, ontologies.
- *TICCA* (2002-2004), Italian project, coordinated by IRST, Trento. Aim: designing a conceptual architecture of agent-based systems. Task of my Lab: ontology of social interaction and organizations.
- *IKF* (2000-2003), EUREKA project, coordinated by NOMOS Sistema, Milan. Aim: industrial platform for knowledge fusion. Task of my Lab: foundational ontologies, methodologies, scientific supervision on domain ontology development. Three sub-projects.
- *SOLMC* (linguistic and ontological tools for conceptual modelling), and ONTOINT (ontological tools and methods for analysis, integration, and representation of heterogeneous knowledge) (1995-1998), Italian coordinated projects funded by the Italian Ministry of Research.
- *GALEN* (1992-1994), EU AIM project, coordinated by the University of Manchester. Aim: medical knowledge representation and terminology management. Task of ITBM: core models for biomedicine.

D. Software projects

ontologydesignpatterns.org (portal about best practices in ontology design)
data.cnr.it (linked open data from CNR)
SemanticScout (exploratory search system over linked data)
aemoo.org (differential exploratory search over Wikipedia, Twitter and Google News)
Semiosearch Wikifier (named entity recognizer and identity resolution service)
FRED (machine reading of natural language to RDF and OWL through semantic deep parsing)
Tipalo (machine reading of Wikipedia natural language definitions to RDF)
Sentilo (opinion mining service based on deep parsing and machine reading)
NeOn Toolkit (ontology editor)
LinkedOpenIPA (linked open data from the Italian Public Administration Index)
Smart City apps (georeferenced linked open data for the Municipality of Catania used in smart city apps)
MARE (multilingual open data for commercial designation of seafood in the EU)
FOOD (linked open data for Italian DOP products)
Framester (a giant hub of linguistic and factual data)