BIOGRAPHICAL SKETCH			
NAME **Aldo Gangemi**	POSITION TITLE Senior Researcher, ISTC-CNR		
INSTITUTION AND LOCATION			
	DEGREE	YEAR(s)	FIELD OF STUDY
University of Rome "La Sapienza"	M.S.	1989	Philosophy, Linguistics
Italian National Research Council	Ph.D. (equiv.)	1990-1994	Medical Informatics Knowledge Engineering

A. Positions and Honors

Employment

1990-1994: Ph.D. student (CNR grant) 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. (Title II funded).

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.

2001-2008: Senior researcher at Institute for Cognitive Sciences and Technology, Italian National Research Council.
Research on ontology engineering, semantic web, 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 "commessa" (programme) "Semantic Intrawebs". Co-founder of the Laboratory for Applied Ontology, co-founder and scientific director of the Semantic Technology Lab.

2001-2008: Consulting service for United Nations Agency FAO, European Union, Italian Governmental Authority for Informatics in the Public Sector (CNIPA), Italian Ministry of Research, Italian Ministry of Industry, Industrial companies ELSAG, NOMOS (Accenture), Selesta, WIND telecommunications, Boehringer Ingelheim, Reinvent technologies.
Design of ontology-driven industrial prototypes. Implementation of ontology libraries and semantic applications. Reengineering and integration of legacy systems.

Honors

2004-2008: Reviewing service for the European Union (IST projects), Italian Ministry of Research and Ministry of Industry (technology transfer and industrial projects), Von Humboldt German Academic Prize, Free University of Brussels.
Reviewing of academic and industrial projects on semantic web, information system design, software engineering, etc.

1998-2008: Regular presence in the program, organization and scientific committees of relevant conferences, journals, workshops, organizations.
Conference and journal scientific committee member: 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), *Journal of Applied Ontology*. W3C-SWBPD-OEP.

Conference organization: FOIS1998 (Formal Ontology and Information Systems), LREC2006 (Linguistic Resources and Evaluation Conference), EKAW2008 (European Conference on Knowledge Engineering and Knowledge Management), .

Workshop organization: WORM (Regulatory ontologies), LEGONT (Legal ontologies), CORONT (Core ontologies), OPSW (Ontology Patterns for the Semantic Web), OntoLex (Lexical semantics), SWAP2008 (Semantic Web Applications and Perspectives), KRRSW.

2000-2008: Regular invited talks in academic, institutional, and industrial contexts (UN-FAO, Boehringer Ingelheim, Wind, ELSAG, Thales, CNIPA, etc.)*. Tutorials for academics and professionals.*
2000-2008: Teaching:
- Invited Tutorial on *Ontology Design* at the Seventh International Semantic Web Conference, Karlsruhe, Germany (October, 2008)
- Course 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).
- Course 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).
- Course 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).
- Course 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).
- Course 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)
- Course 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).

B. Some selected Peer-Reviewed Publications (conferences, books and journals only)

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, Gangemi A, Pisanelli DM, Thornton AM, "Semantic Standards for the Representation of Medical Records", *Medical Decision Making*, 11, 4, 1991.
3. 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.
4. 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.
5. Gangemi A, Steve G, "Cognitive Design for Sharing Medical Knowledge Models", in Kaihara (ed.): *Proc. of 8th World Congress on Medical Informatics,* Vancouver, 1995.
6. 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.
7. Steve G, Gangemi A, "Ontological Commitment for Medical Ontologies Reuse in the ONIONS Methodology", *Proceedings of the Conference KAW-96, Track on Sharable and Reusable Ontologies*, B Gaines & M Musen eds, Calgary, pp 412-433, 1996.
8. 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.
9. 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.
10. 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.
11. 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.
12. Gangemi A, Pisanelli DM, Steve G, "Ontology Alignment: Experiences with Medical Terminologies", in: *Formal Ontology in Information System*, Guarino N ed., Amsterdam, IOS-Press, pp.163-178, 1998.

13.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.

14.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.

15.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.

16.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.

17.Gangemi A, Pisanelli DM, Steve G, "Understanding Systematic Conceptual Structures in Polysemous Medical Terms", in: J Marc Overhage (ed.), "Converging Information, Technology, and Health Care", *Proceedings of the 2000 AMIA Annual Symposium.*

18.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.

19.Gangemi A, Pisanelli DM, Steve G, "An Ontological Framework to Represent Norm Dynamics", in: R Winkels (ed.), *Proceedings of the 2001 Jurix Conference, Workshop on Legal Ontologies*, University of Amsterdam, 2001.

20.Gangemi A, Guarino N, Oltramari A Borgo S, "Cleaning-up WordNet's Top-Level", in Proceedings of the 1st International WordNet Conference, 2002.

21.Gangemi A, Guarino N, Masolo C, Oltramari A, Schneider L, "Sweetening Ontologies with DOLCE", in Benjamins et al. (eds.), Proceedings of the 13th European Conference on Knowledge Engineering and Knowledge Management (EKAW2002), Sigüenza, Spain, 2002.

22.Pisanelli DM, Gangemi A, Steve G, Battaglia M, "Ontological Analysis for the Unification of Biology", Proceedings of the 2002 AMIA Fall Symposium, 2002.

23.Navigli R, Velardi P, Gangemi A, "Ontology Learning and its Application to Automated Terminology Translation", IEEE Intelligent Systems, vol. 18, n.1, pp. 22-31, January 2003.

24.Gangemi A, "Some Tools and Methodologies for Domain Ontology Building", *Journal of Functional Genomics*, II, 2003.

25.Gangemi A, Navigli R, Velardi P, "The OntoWordNet Project: extension and axiomatization of conceptual relations in WordNet", Meersman R, et al. (eds.), Proceedings of ODBASE03 Conference, Springer, 2003.

26.Gangemi A, Mika P, "Understanding the Semantic Web through Descriptions and Situations", Meersman R, et al. (eds.), Proceedings of ODBASE03 Conference, Springer, 2003.

27.Gangemi A, Guarino N, Masolo C, Oltramari A, Sweetening WordNet with DOLCE, *AI Magazine*, Fall 2003.

28.Simonov M, Gangemi A, Soroldoni M. "Ontology-driven, Natural Language Access to Legacy and Web Services in the Insurance Domain", in Wecel K (ed.), Proceedings of the 7th International Conference on Business Information Systems (BIS), 2004.

29.Gangemi A, Catenacci C, Battaglia M. "The *Inflammation* Ontology Design Pattern: an Exercise in Building a Core Biomedical Ontology with Descriptions and Situations", in Pisanelli D (ed.), *Biomedical Ontologies*, IOS Press, Amsterdam, 2004.

30.Kumar A, Smith B, Pisanelli DM, Gangemi A, Stefanelli M, "An Ontological Framework for the Implementation of Clinical Guidelines in Health Care Organizations", in Pisanelli DM (ed.) "Ontologies in Medicine", Amsterdam, IOS Press, 2004, pp.95-107.

31.Oberle D, Mika P, Gangemi A, Sabou M. (2004). "Foundations for service ontologies: Aligning OWL-S to DOLCE", in Staab S and Patel-Schneider P (eds.), Proceedings of the World Wide Web Conference (WWW2004), Semantic Web Track, 2004.

32.Masolo C, Vieu L, Bottazzi E, Catenacci C, Ferrario R, Gangemi A, Guarino N, "Social Roles and their Descriptions", in Welty C and Dubois D (eds.), Proceedings of the Ninth International Conference on the Principles of Knowledge Representation and Reasoning (KR2004), 2004 (*Nominated among the 5 best papers*).

33.Gangemi A, Ratsch E, Rojas I, Saric J. "Modelling Gene Expression", in Workshop on Models and Metaphors from Biology to Bioinformatics Tools, in NETTAB2004, Camerino, Italy, 2004.

34.Lehmann J, Masolo C, Gangemi A, Borgo S, "Causality and Causation in DOLCE", in A Varzi, L Vieu (eds.), 3rd International Conference on Formal Ontology and Information Systems, Torino 2004.

35.Gangemi A, Sagri MT, Tiscornia, D, "A Constructive Framework for Legal Ontologies", in R Benjamins, J Breuker, P Casanovas, A Gangemi (eds.): Legal Ontologies and the Semantic Web, Springer, 2005.

36. Ciaramita M, Gangemi A, Ratsch E, Rojas I, Saric J. "Unsupervised Learning of Semantic Relations between Concepts of a Molecular Biology Ontology", in Proc. of International Joint Conference on Artificial Intelligence (IJCAI2005), 2005.

37. Behrendt W, Gangemi A, Maass W, Westenthaler R. "Towards an Ontology-based Distributed Architecture for Paid Content", in A Gomez-Perez, J Euzenat (eds.): Proceedings of the Second European Semantic Web Conference, Springer, 2005.

38. Gangemi A. "Ontology Design Patterns for Semantic Web Content". Musen et al. (eds.): Proceedings of the Fourth International Semantic Web Conference, Springer, 2005.

39. Kumar A., Smith B., Pisanelli M., Gangemi A., Stefanelli M. "Clinical Guidelines as Plans: An Ontological Theory". *Methods of Information in Medicine*, 2, 2006.

40. Gangemi A., Bottazzi E., Catenacci C., Lehmann J. "From Collective Intentionality to Intentional Collectives", *Cognitive Systems Research*, vol.7, 2-3, 2006.

41. Gangemi A., Catenacci C., Ciaramita M., Lehmann J. "Modelling Ontology Evaluation", Y. Sure (ed.), Proceedings of the Third European Semantic Web Conference, Springer, 2006.

42. Vrandecic D, Suarez M.C., Gangemi A., Sure Y. (eds.): Proceedings of Evaluation of Ontologies for the Web, 4th International EON Workshop, located at WWW2006, Edinburgh, Scotland, May 22nd, 2006.

43. Gangemi A., Catenacci C., Ciaramita M., Lehmann J. "Qood grid: A metaontology-based framework for ontology evaluation and selection", D. Vrandecic, M.C. Suarez, A., Gangemi, Y. Sure (eds.): Proceedings of Evaluation of Ontologies for the Web, 4th International EON Workshop, located at WWW2006, Edinburgh, Scotland, May 22nd, 2006.

44. Gangemi A., Presutti V. "The bourne identity of a web resource", P. Hayes, H. Halpin, H.S. Thompson (eds.): Proceedings of The Architecture and Philosophy of the Web: Identity, Reference, and the Web (IRW2006), WWW2006 Workshop, Edinburgh, Scotland, May 23rd, 2006.

45. Oberle D., Lamparter S., Grimm S.,Vrandecic D., Staab S., Gangemi A., "Towards Ontologies for Formalizing Modularization and Communication in Large Software Systems", *Journal of Applied Ontology, 2, 163-202*, 2006.

46. van Assem M., Gangemi A., Schreiber G., "Conversion of WordNet to a standard RDF/OWL representation", in Proceedings of LREC2006, Genova, 2006.

47. Vrandecic D., Gangemi A., "Unit Tests for Ontologies", M. Jarrar (ed.) Proceedings of OnToContent, OTM Conference, Montpellier, Springer, 2006.

48. Gangemi A., Presutti V. "A grounded ontology for identity and reference of web resources", P. Bouquet et al. (eds.), I3 Workshop, WWW2007, Banff, Springer, 2007.

49. Gangemi A., Presutti V. "C-ODO: an OWL meta-model for collaborative ontology design", N. Noy et al. (eds.), CKC Workshop, WWW2007, Banff, Springer, 2007.

50. Gangemi A., Presutti V. "Ontology Design for Interaction in a Reasonable Enterprise", P.Rittgen (ed.): Handbook of Ontologies for Business Interaction, IGI, 2007.

51. Gliozzo A., Gangemi A., et al. "A semantic web layer to enhance legacy systems", Abecker et al. (eds.): Proceedings of ISWC2007, Springer, 2007.

52. Maass W., Behrendt W., Gangemi A., "Trading digital information goods based on semantic technologies", *Journal of Theoretical and Applied Electronic Commerce Research*, 2007.

53. Lehmann A. Gangemi, A.: An ontology of physical causation as a basis for assessing causation in fact and attributing legal responsibility. *Artificail Intelligence and Law*, 15(3): 301-321 (2007)

54. A. Gangemi. Design Patterns for Legal Ontology Construction. In P. Casanovas, P. Noriega, D. Bourcier, F. Galindo (eds.): Trends in Legal Knowledge: The Semantic Web and the Regulation of Electronic Social Systems,European Press Academic Publ. 2007.

55. Ciaramita M., Gangemi A., Ratsch E., Šaric J. and Rojas I. Unsupervised Learning of Semantic Relations for Molecular Biology Ontologies. In: Ontology Learning and Population: Bridging the Gap between Text and Knowledge Volume 167 Frontiers in Artificial Intelligence and Applications Edited by: P. Buitelaar and P. Cimiano January 2008, 292 pp., hardcover ISBN: 978-1-58603-818-2

56. Gangemi, A. (2008). Norms and plans as unification criteria for social collectives. *Journal of Autonomous Agents and Multi-Agent Systems*, 16(3), 2008.

57. Presutti V., Gangemi A. Identity of Resources and Entities on the Web. *International Journal on Semantic Web and Information Systems*, 4(2), 2008.

58. Huang C.R., Calzolari N., Gangemi A., Lenci A., Oltramari A. Prevot L (eds.). *Ontologies and the Lexicon*. Cambridge University Press, 2008, to appear.

59. Gangemi A., Presutti V. "Ontology Design Patterns", in Staab S. et al. (eds.): Handbook of Ontologies (2nd edition), Springer, 2008, to appear.

60. Presutti V., Gangemi A. "Content Ontology Design Patterns as practical building blocks for web ontologies". In Spaccapietra S. et al. (eds.): Proceedings of ER2008, Barcelona, Spain, 2008

C. Research Support

1994-2008: Coordination of research activity.
- NeOn (2006-10), EU FP6 project, scientific coordinator for ISTC-CNR. Aim: collaborative, networked ontology lifecycle management.
- Semantic Intrawebs (2006-8), 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 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.

1992-2005: Participation in research activity (besides those coordinated).
- 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 my 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.