

# **Marco Colombetti**

## **Resume of Curriculum Vitae**

(Updated 1<sup>st</sup> September 2013)

### **1. Personal information**

16.04.1951      Born in Milano, Italy.

22.12.1976      Master Degree in Electronics Engineering at Politecnico di Milano, Italy.

### **2. Positions**

2002–            Full professor of Computer Science, School of Industrial and Information Engineering, Politecnico di Milano, Italy.

1991–2002      Associate professor of Computer Science, Faculty of Information Engineering, Politecnico di Milano, Italy.

1987–1991      Associate professor of Computer Science, Faculty of Engineering, Università di Udine, Italy.

1981–1987      Assistant professor of Computer Science, Faculty of Engineering, Politecnico di Milano, Italy.

### **3. Current teaching activities**

2003–            Professor of “Knowledge Engineering” and “Artificial Intelligence” (MSc in Computer Science and Engineering), School of Industrial and Information Engineering, Politecnico di Milano.

### **4. Current research interests**

Multiagent Systems, Agent Communication Languages, Artificial Institutions, Semantic Web Technologies, Human Communication and Interaction.

### **5. Recent international coordination activities**

2008-2012      Member of the Management Committee and Chair of the working group “Organisations”, European COST action IC0801 “Agreement Technologies”.

2009-2011      Member of the Board of Directors of the European Association for Multi-Agent Systems (EURAMAS).

## Marco Colombetti

### List of international publications

(Updated 1<sup>th</sup> September 2013)

#### Books

- 1 Dorigo, M., & M. Colombetti (1998). *Robot shaping: An experiment in behavior engineering*. MIT Press, Cambridge, MA, pp. xviii+203.

#### Edited books

- 1 Ossowsky, S. (ed.), G. Andrighetto, E. Argente, H. Billhardt, V. J. Botti, C. Castelfranchi, M. Colombetti, V. Julián, S. Modgil, A. Polleres, J. A. Rodriguez-Aguilar, J. Sabater-Mir, C. Sierra, F. Toni, G. Vouros, A. Zimmermann (co-eds.) (2013). *Agreement Technologies*, Springer, Dordrecht, NE, pp. xxxvi+645.

#### Guest-edited special issues of journals

- 8 Nissan, E., G. Gini, & M. Colombetti, eds. (2009). Marco Somalvico Memorial Issue, *Computational Intelligence*, 25 (2-3), 109–159.  
Guest editorial: Nissan, E., G. Gini, & M. Colombetti, eds. (2009). Marco Somalvico Memorial Issue, *Computational Intelligence*, 25 (2), *Computational Intelligence*, 109–113.
- 7 Nissan, E., G. Gini, & M. Colombetti, eds. (2009). An Artificial Intelligence Miscellanea, Remembering Marco Somalvico. *Applied Artificial Intelligence*, 23 (3), 179–295.  
Guest editorial: Nissan, E., G. Gini, & M. Colombetti, eds. (2009). An Artificial Intelligence Miscellanea, Remembering Marco Somalvico. *Applied Artificial Intelligence*, 23 (3), 179–185.
- 6 Nissan, E., G. Gini, & M. Colombetti, eds. (2008). Marco Somalvico Memorial issue. *Annals of mathematics and Artificial Intelligence*, 54 (4), 257–408.  
Guest editorial: Nissan, E., G. Gini, & M. Colombetti, eds. (2008). Marco Somalvico Memorial issue. *Annals of Mathematics and Artificial Intelligence*, 54 (4), 257–264.
- 5 Nissan, E., M. Colombetti, & G. Gini, eds. (2008). Robotics, virtual reality, and agents and their body: A special issue in memory of Marco Somalvico. *Journal of Intelligent and Robotic Systems*, 52 (3-4).  
Guest editorial: Nissan, E., G. Gini, & M. Colombetti (2008). Robotics, virtual reality, and agents and their body: A special issue in memory of Marco Somalvico. *Journal of Intelligent and Robotic Systems*, 52 (3-4), 333–341.
- 4 Nissan, E., G. Gini, & M. Colombetti, eds. (2008). Marco Somalvico memorial issue. *Cybernetics and Systems*, 39 (4), 305–466.  
Guest editorial: Nissan, E., G. Gini, & M. Colombetti (2008). Papers in sensing and in reasoning (Marco Somalvico memorial issue). *Cybernetics and Systems*, 39 (4), 305–309.
- 3 Colombetti, M., G. Gini, & E. Nissan, eds. (2007). In Memory of Professor Marco Somalvico, special issue of the *International Journal on Artificial Intelligence Tools*, 16 (2).  
Guest editorial: Colombetti, M., G. Gini, & E. Nissan (2007). Marco Somalvico Memorial Issue, *International Journal on Artificial Intelligence Tools*, 16 (2), 149–159.
- 2 Colombetti, M., G. Gini, & E. Nissan, eds. (2007). Marco Somalvico's Memorial Issue, special issue of the *Journal of Intelligent and Fuzzy Systems*, 18 (3).
- 1 Colombetti, M., ed. (2006). The Communication Sciences as a multidisciplinary enterprise, special issue of *Studies in Communication Sciences*, 6 (2), pp. 351.  
Guest editorial: Colombetti, M. (2006). The Communication Sciences as a multidisciplinary enterprise, special issue of *Studies in Communication Sciences*, 6 (2), 3–8.

#### Papers published in peer-reviewed journals

- 29 Carassa, A., & M. Colombetti (2013). Interpersonal responsibilities and communicative intentions. *Phenomenology and the Cognitive Sciences*. DOI: 10.1007/s11097-013-9325-z.

- 28 Chopra, A., A. Artikis, J. Bentahar, M. Colombetti, F. Dignum, N. Fornara, A. Jones, M. Singh, & P. Yolum (2013). Research directions in agent communication. *ACM Transactions on Intelligent Systems and Technology (TIST)*, 4 (2), Article No. 20. DOI: 10.1145/2438653.2438655.
- 27 Boissier, O., M. Colombetti, M. Luck, J.-J. Meyer, & A. Polleres (forthcoming). Norms, organisations, and semantics. *The Knowledge Engineering Review*.
- 26 Carassa, A., & M. Colombetti (2012). On normative cognition, and why it matters for cognitive pragmatics. *Intercultural Pragmatics*, 9 (2), 271–280.
- 25 Fornara, N., & M. Colombetti (2010). Representation and monitoring of commitments and norms using OWL. *AI Communications*, 23 (4), 341–356.
- 24 Carassa, A., & M. Colombetti (2009). Joint meaning. *Journal of Pragmatics*, 41 (9), 1837–1854.
- 23 Verdicchio, M., & M. Colombetti (2009). Communication languages for multiagent systems. *Computational Intelligence*, 25 (2), 136–159.
- 22 Arrigoni Neri, M., & M. Colombetti (2009). Ontology-based learning objects search and courses generation. *Applied Artificial Intelligence*, 23 (3), 233–260.
- 21 Fornara, N., F. Viganò, M. Verdicchio, & M. Colombetti (2008). Artificial institutions: A model of institutional reality for open multiagent systems. *Artificial Intelligence and Law*, 16 (1), 89–105.
- 20 Fornara, N., F. Viganò, & M. Colombetti (2007). Agent communication and artificial institutions. *Journal of Autonomous Agents and Multi-Agent Systems*, 14 (2), 121–142.
- 19 Colombetti, M., & P. Paolini (2006). Information technologies and human communication. In M. Colombetti, ed., *The Communication Sciences as a multidisciplinary enterprise*, special issue of *Studies in Communication Sciences*, 6 (2), 55–70.
- 18 Piccini, C., A. Carassa, & M. Colombetti (2006). Narrative activity within an institutional framework. In M. Colombetti, ed., *The Communication Sciences as a multidisciplinary enterprise*, special issue of *Studies in Communication Sciences*, 6 (2), 327–336.
- 17 Fornara, N., & M. Colombetti (2004). A commitment-based approach to agent communication. *Applied Artificial Intelligence*, 18 (9-10), 853–867.
- 16 Verdicchio, M., & M. Colombetti (2002). Commitments for agent-based supply chain management, *ACM SIGecom Exchanges*, 3 (1), 13–23, [http://www.acm.org/sigs/sigecom/exchanges/volume\\_3\\_\(02\)/](http://www.acm.org/sigs/sigecom/exchanges/volume_3_(02)/).
- 15 Colombetti, M. (2000). A language for artificial agents. *Studies in Communication Sciences*, 1 (1), 1–32.
- 14 Colombetti, M. (1999). A modal logic of intentional communication. *Mathematical Social Sciences*, 38, 171–196.
- 13 Urzelai, J., D. Floreano, M. Dorigo and M. Colombetti (1998). Incremental robot shaping. *Connection Science*, 10 (3-4), 341–360.
- 12b Dorigo, M., & M. Colombetti (1997). Reply to D. Floreano, Engineering adaptive behavior (Book Review of Robot shaping: An experiment in behavior engineering by M. Dorigo and M. Colombetti). In M.J. Mataric, ed., Special issue on complete agent learning in complex environments, *Adaptive Behavior*, 5 (3-4), 417–420.
- 12a Dorigo, M., & M. Colombetti (1997). Book Precis: Robot shaping: An experiment in behavior engineering (MIT Press/Bradford Books, 1997). In M.J. Mataric, ed., Special issue on complete agent learning in complex environments, *Adaptive Behavior*, 5 (3-4), 391–405.
- 11 Colombetti, M., M. Dorigo and G. Borghi (1996). Behavior Analysis and Training: A methodology for behavior engineering. *IEEE Transactions on Systems, Man, and Cybernetics - Part B*, 26 (3), 365–380.
- 10 Patel, M.J., M. Colombetti and M. Dorigo (1995). Evolutionary learning for intelligent automation: A case study. *Intelligent Automation and Soft Computing*, 1 (1), 29–42.
- 9 Dorigo, M., & M. Colombetti (1994). Robot shaping: Developing autonomous agents through learning. *Artificial Intelligence*, 71 (2), 321–370.
- 8 Colombetti, M., & M. Dorigo (1994). Training agents to perform sequential behavior. *Adaptive Behavior*, 2 (3), 247–275.

- 7 Airenti, G., B.G. Bara and M. Colombetti (1993). Failures, exploitations and deceits in communication. *Journal of Pragmatics*, 20, 303–326.
- 6 Colombetti, M. (1993). Formal semantics for mutual belief. *Artificial Intelligence*, 62 (2), 341–353.
- 5 Airenti, G., B.G. Bara and M. Colombetti (1993). Conversation and behavior games in the pragmatics of dialogue. *Cognitive Science*, 17 (2), 197–256.
- 4a Prato Previde, E., M. Colombetti, M.D. Poli and E. Cenami Spada (1992). Toward a comparative and evolutionary approach to cognition. Replies to commentaries, *International Journal of Comparative Psychology*, 6 (2), 116–119.
- 4 Prato Previde, E., M. Colombetti, M.D. Poli and E. Cenami Spada (1992). The mind of organisms: Some issues on animal cognition. Focal article, *International Journal of Comparative Psychology*, 6 (2), 79–100.
- 3 Airenti, G., & M. Colombetti (1987). Functional modeling in the execution of actions. *Computers and Artificial Intelligence*, 6 (5), 469–480.
- 2 Colombetti, M., & G. Guida (1984). DIL: A system for control definition in programming languages. *Computer Languages*, 9 (1), 1–22.
- 1 Airenti, G., B.G. Bara and M. Colombetti (1983). Knowledge and thought in a cognitive system. *Cybernetica*, 26 (1), 23–41.

#### Papers published in peer-reviewed books

- 16 Carassa, A., & M. Colombetti (2013). Creating interpersonal reality through conversational interactions. In M. Schmitz, B. Kobow, & H. B. Schmid, eds., *The background of social reality*, Springer, Berlin, 91–104.
- 15 Fornara, N., & M. Colombetti (2009). Specifying artificial institutions in the Event Calculus. In V. Dignum, ed., *Handbook of research on Multi-Agent Systems: Semantics and dynamics of organizational models*, IGI Global, Hershey, PA, 335–366.
- 14 Viganò, F., & M. Colombetti (2009). Verifying organizations regulated by institutions. In V. Dignum, ed., *Handbook of research on Multi-Agent Systems: Semantics and dynamics of organizational models*, IGI Global, Hershey, PA, 367–396.
- 13 Colombetti, M., N. Fornara, & M. Verdicchio (2004). A social approach to communication in multiagent systems. In A. Omicini, L. Sterling, P. Torroni, eds., *Declarative agent languages and technologies*, LNAI 2990, Springer, Berlin, 191–220.
- 12 Colombetti, M. and P.L. Lanzi (2001). Developing rational agents. In L. Cantoni, V. Di Gesù, eds., *Human and machine perception 3: Thinking, deciding, and acting*, Kluwer Academic/Plenum Publishers, 51–66.
- 11 Holland, H.J., L.B. Booker, M. Colombetti, M. Dorigo, D.E. Goldberg, S. Forrest, R.L. Riolo, R.E. Smith, P.L. Lanzi, W. Stolzmann, & S.W. Wilson (2000). What is a Learning Classifier System? In P.L. Lanzi, W. Stolzmann and S.W. Wilson, eds., *Learning Classifier Systems*, Springer, Berlin, 3–32.
- 10 Colombetti, M., & M. Dorigo (1999). Evolutionary computation in behavior engineering. In X. Yao, ed., *Evolutionary Computation: Theory and Applications*, World Scientific Publ. Co., Singapore, 37–80.
- 9 Colombetti, M. (1994). Adaptive agents: Steps to an ethology of the artificial. In F. Masulli, P.G. Morasso and A. Schenone, eds., *Neural Networks in Biomedicine*, World Scientific Publ. Co., Singapore, 391–403.
- 8 Airenti, G., B.G. Bara and M. Colombetti (1989). Dialogue as a cognitive process. In E. Weigand and F. Hundsnurscher, eds., *Dialoganalyse II*, Niemeyer, Tübingen, 71–83.
- 7 Airenti, G., B.G. Bara and M. Colombetti (1989). Knowledge for communication. In M. M. Taylor, F. Néel and D. G. Bouwhuis, eds., *The structure of multimodal dialogue*, North-Holland, Amsterdam, 145–158.
- 6 Colombetti, M., G. Guida, B. Pernici and M. Somalvico (1984). Reasoning in natural language for designing a data base. In A. Elithorn and R. Banerji, eds., *Artificial and human intelligence*, North-Holland, Amsterdam, 297–303.
- 5 Airenti, G., B.G. Bara and M. Colombetti (1984). An intrasystemic approach to belief. In A. Elithorn and R. Banerji, eds., *Artificial and human intelligence*, North Holland, Amsterdam, 265–269
- 4 Airenti, G., B.G. Bara and M. Colombetti (1984). Planning and understanding speech acts by interpersonal games. In B.G. Bara and G. Guida, eds., *Computational models of natural language processing*, North-Holland, Amsterdam, 9–31.

- 3 Colombetti, M., G. Guida and M. Somalvico (1983). NLDA: a natural language reasoning system for the analysis of data base requirements. In S. Ceri, ed., *Methodology and tools for data base design*, North-Holland, Amsterdam, 163–179.
- 2 Colombetti, M. (1980). O strukture znanij b modeli človeškega razuma. In S. Narin'jani, ed., *Predstavljenie znanij i modelirovanie processov ponimanij*, Akademija Nayk SSSR, Novosibirsk, 3–16.
- 1 Colombetti, M., P. Paolini and G. Pelagatti (1978). Nondeterministic languages used for the definition of data models. In H. Gallaire and J. Minker, eds., *Logic and Data Bases*, Plenum Press, New York, 237–257.

#### Papers published in the peer-reviewed pre- or post-proceedings of conferences

- 56 Okouya, D., N. Fornara, & M. Colombetti (2012). An Infrastructure for Open Interaction Systems. Position paper, Proceedings of the *1st International Conference on Agreement Technologies*, Dubrovnik, 442–443.
- 55 Fornara, N., D. Okouya, & M. Colombetti (2012). Using OWL 2 DL for expressing ACL content and semantics. In M. Cossentino, M. Kaisers, K. Tuyls, & G. Weiss, eds., *Multi-Agent Systems (revised selected papers from EUMAS 2011)*, Springer, Berlin, 97–113.
- 54 Fornara, N., & M. Colombetti (2012). Specifying and enforcing norms in artificial institutions: Retrospective review. In C. Sakama, S. Sardina, W. Vasconcelos, & M. Winikoff, eds., *Proceedings of the International Workshop on Declarative Agent Languages and Technologies (DALT 2011)*, LNCS 7169, Springer, Berlin, 117–119.
- 53 Carassa, A., & M. Colombetti (2011). Layers of joint commitments in interpersonal communication. *Proceeding of the 33<sup>st</sup> Annual Meeting of the Cognitive Science Society (CogSci 2011)*, Boston, 1055–1060.
- 52 Carassa, A., & M. Colombetti (2009). Situated communicative acts: A deontic approach. *Proceedings of the 31<sup>st</sup> Annual Meeting of the Cognitive Science Society (CogSci 2009)*, Amsterdam, 1382–1387.
- 51b Fornara, N., & M. Colombetti (2010). Ontology and time evolution of obligations and prohibitions using semantic web technology. In M. Baldoni, J. Bentahar, & M. v. R. J. Lloyd, eds., *Proceedings of Declarative Agent Languages and Technologies VII*, LNCS 5948, Springer, Berlin, 101–118.
- 51a Fornara, N., & M. Colombetti (2009). Ontology and time evolution of obligations and prohibitions using Semantic Web technology. *Proceedings of the COIN 2009 Workshop at AAMAS 2009*, Budapest.
- 50 Viganò, F., & M. Colombetti (2008). Model checking norms and sanctions in institutions. *Proceedings of Coordination, Organizations, Institutions, and Norms in Agent Systems III*, Revised Selected Papers, LNCS 4870, Springer, Berlin, 316–329.
- 49 Viganò, F., & M. Colombetti (2007). Specification and verification of institutions through status functions. In , eds., In *Coordination, Organizations, Institutions, and Norms in Multi-Agent Systems II*, LNCS 4386, Springer, Berlin, 125–141.
- 48 Viganò, F., & M. Colombetti (2007). Symbolic model checking of institutions. *Proceedings of the 9<sup>th</sup> International Conference on Electronic Commerce (ICEC '07)*, Minneapolis (MN), 35–44.
- 47 Laniado, D., D. Eynard, & M. Colombetti (2007). A semantic tool to support navigation in a folksonomy. *Proceedings of the 18th Conference on Hypertext and Hypermedia*, ACM Press, New York, 153–154.
- 46c Fornara, N., & M. Colombetti (2009). Specifying and enforcing norms in artificial institutions. In R. Goebel, J. Siekmann, & W. Wahlster, eds., *Revised selected and invited papers from the International Workshop on Declarative Agent Languages and Technologies VI, DALT 2008*, LNCS 5397, Springer, Berlin, 1–17.
- 46b Fornara, N., & M. Colombetti (2007). Specifying and enforcing norms in artificial institutions. In G. Boella, L. van der Torre, & H. Verhagen, eds., *Proceedings of the Dagstuhl Seminar on Normative Multiagent*, IBFI, Schloss Dagstuhl, D.
- 46a Fornara, N., & M. Colombetti (2006). Specifying and enforcing norms in artificial institutions. In A. Omicini, B. Dunin-Keplicz, & J. Padget, eds., *Proceedings of the Fourth European Workshop on Multi-Agent Systems (EUMAS 06)*, Lisbona, Portugal.

- 45 Verdicchio, M., M. Colombetti (2006). From message exchange to communicative acts to commitments. In A. Lomuscio, W. Van der Hoek, E.P. de Vink, & M. Wooldridge, eds., *Postproceedings of the Third International Workshop on Logic and Communication in Multi-Agent Systems (LCMAS 2005, Edinburgh)*, Elsevier, Electronic Notes in Theoretical Computer Science, 157 (4), 75-94.
- 44b Viganò, F., N. Fornara, & M. Colombetti (2006). An event-driven approach to norms in artificial institutions. In O. Boissier, J. Padget, V. Dignum, G. Lindemann, E. Matson, S. Ossowski, J. Simão Sichman, J. Vázquez-Salceda, eds., *Coordination, Organizations, Institutions, and Norms in Multi-Agent Systems*, Revised Selected Papers, LNCS 3913, Springer, Berlin, 142 – 154.
- 44a Viganò, F., N. Fornara, & M. Colombetti (2005). An event-driven approach to norms in artificial institutions. In D. Lindermann, S. Ossowski, J. Padget, & J. Vazquez Salceda, eds, *Proceedings of the AAMAS-05 Workshop on Agents, Norms and Institutions for Regulated Multiagent Systems*, Utrecht, 149–162.
- 43 Armano, G., P. Baroni, G. Cerchi, M. Colombetti, A. Gerevini, M. Mari, A. Poggi, C. Santoro, E. Tramontana, & M. Verdicchio (2005). ANEMONE - A network of multi-agent platforms for academic communities. *Proceedings of WOA 2005*, Camerino, I., 120-126.
- 42c Verdicchio, M., & M. Colombetti (2008). A commitment-based communicative act library. In J. van Diggelen, J.-J. Meyer, & R. Kremer, eds., *Agent Communication II*, Springer, Berlin, 61–75.
- 42b Verdicchio, M., & M. Colombetti (2005). A commitment-based communicative act library. In F. Dignum, V. Dignum, S. Koenig, S. Kraus, M.P. Singh, & M. Wooldridge, eds., *Proceedings of the Fourth International Joint Conference on Autonomous Agents and Multi Agent Systems (AAMAS 05)*, Edinburgh, ACM Press, 755–761.
- 42a Verdicchio, M., & M. Colombetti (2005). A commitment-based communicative act library. Extended Abstract. In M.P. Gleizes, G. Kaminka, A. Nowé, S. Ossowski, K. Tuyls, & K. Verbeeck, eds., *Proceedings of the Third European Workshop on Multiagent Systems (EUMAS 05)*, Bruxelles, 511–512
- 41 Fornara, N., F. Viganò, & M. Colombetti (2005). Agent communication and institutional reality. In R. M. van Eijk, M. P. Huget, & F. Dignum, eds., *Proceedings of the AAMAS-05 Workshop on Agent Communication (Revised Selected and Invited Papers)*, LNAI 3396, Springer, 1–17.
- 40 Viganò, F., N. Fornara, & M. Colombetti (2005). An operational approach to norms in artificial institutions. In F. Dignum, V. Dignum, S. Koenig, S. Kraus, M.P. Singh, & M. Wooldridge, eds., *Proceedings of AAMAS 2005*, Utrecht, 1289–1290.
- 39 Fornara, N., F. Viganò, & M. Colombetti (2004). A Communicative act library in the context of artificial institutions. In C. Ghidini, P. Giorgini, & W. van der Hoek, eds, *Proceedings of the 2nd European Workshop on Multi-Agent Systems (EUMAS 04)*, Barcelona, 223–235.
- 38 Verdicchio, M., & M. Colombetti (2004). Dealing with time in content language expressions. In R. van Eijk, M.-P. Huget, F. Dignum, eds., *Proceedings of the Workshop on Agent Communication, 3rd International Joint Conference on Autonomous Agents And Multiagent Systems (AAMAS 2004)*, New York, 90–104.
- 37 Fornara, N., V. Viganò, & M. Colombetti (2004). Agent communication and institutional reality. In R. van Eijk, M.-P. Huget, F. Dignum, eds., *Proceedings of the Workshop on Agent Communication, 3rd International Joint Conference on Autonomous Agents And Multiagent Systems (AAMAS 2004)*, New York, 4–18.
- 36 Fornara, N., & M. Colombetti (2003). A commitment-based agent communication language. *Proceedings of EUMAS 03*, Oxford, pp. 7.
- 35 Colombetti, M., N. Fornara, & M. Verdicchio (2003). Speech acts in artificial agent communication. In A. Giacalone Ramat and E. Rigotti, eds., *Proceedings of "Linguistics and the New Professions"*, Franco Angeli, Milano, 70–92.
- 34b Verdicchio, M., & M. Colombetti (2003). A model of artificial institutions for agent communication. *Proceedings of EUMAS 03*, Oxford, pp. 11.
- 34a Verdicchio, M., & M. Colombetti (2003). A model of artificial institutions for agent communication. *Proceedings of LCMAS 03 (Eindhoven)*, *Electronic Notes in Theoretical Computer Science*, 85 (2), Elsevier (<http://www.elsevier.nl/locate/entcs/volume85.html>).

- 33b Verdicchio, M., & M. Colombetti (2004). A logical model of social commitment for agent communication. In F. Dignum, ed., *Advances in agent communication*, LNAI 2922, Springer, Berlin, 128–145.
- 33a Verdicchio, M., & M. Colombetti (2003). A logical model of social commitment for agent communication. *Proceedings of AAMAS 2003*, Melbourne, 528–535.
- 32b Fornara, N., & M. Colombetti (2003). Protocol specification using a commitment-based ACL. In F. Dignum, ed., *Advances in agent communication*, LNAI 2922, Springer, Berlin, 108–127.
- 32a Fornara, N., & M. Colombetti (2003). Defining interaction protocols using a commitment-based Agent Communication Language. *Proceedings of AAMAS 2003*, Melbourne, 520–527.
- 31 Colombetti M., N. Fornara and M. Verdicchio (2002). The role of institutions in multiagent systems. *Proceedings of UKMAS 2002*, Liverpool.
- 30 Fornara, N., & M. Colombetti (2002). Operational specification of a commitment-based communication language. *Proceedings of AAMAS 2002*, Bologna, 1157–1164.
- 29 Colombetti, M., & M. Verdicchio (2002). An analysis of agent speech acts as institutional actions. *Proceedings of AAMAS 2002*, Bologna, 535–542.
- 28 Colombetti, M. (2000). Commitment-based semantics for agent communication languages, *Proceedings of the 1st International Workshop on the History and Philosophy of Logic, Mathematics and Computation (HPLMC-00)*, San Sebastian, E, 27–36.
- 27 Colombetti, M. (2000). A commitment-based approach to agent speech acts and conversations. *Proceedings of the Workshop on Agent Languages and Communication Policies, 4th International Conference on Autonomous Agents (Agents 2000)*, Barcelona, 21–29.
- 26b Pradella, M., & M. Colombetti (2001). A formal description of a practical agent for e-commerce. In F. Dignum, U. Cortés, eds., *Agent Mediated Electronic Commerce III*, Springer, Berlin, 84–95.
- 26a Pradella, M., & M. Colombetti (2000). A formal description of a practical agent for e-commerce. *Proceedings of the 3rd Workshop on Agent Mediated Electronic Commerce, 4th International Conference on Autonomous Agents (Agents 2000)*, Barcelona.
- 25 Lanzi, P.L., & M. Colombetti (1999). An extension to the XCS classifier system for stochastic environments, *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO 99)*, Orlando, FL, 353–360.
- 24 Colombetti, M. (1999). Semantic, normative, and pragmatic aspects of agent communication. *Proceedings of the Workshop on Agent Communication Languages, International Joint Conference on Artificial Intelligence (IJCAI '99)*, Stockholm, 51–61.
- 23 Colombetti, M. (1998). Different ways to have something in common. In T. Andreassen, H. Christiansen and H.L. Larsen, eds., *Proceedings of the 3rd International Conference on Flexible Query Answering Systems (FQAS'98)*, Roskilde, DK, May 1998), LNAI 1495, Springer, Berlin, D, 95–109.
- 22 Lomuscio, A., & M. Colombetti (1997). QLb: A quantified logic of belief. In J.P. Müller, M.J. Wooldridge and N.R. Jennings, eds., *Intelligent Agents III (Proceedings of the 3rd International Workshop on Agent Theories, Architectures, and Languages – ATAL 96)*, Budapest, 1996), Springer, Heidelberg, D, 71–85.
- 21 Colombetti, M. (1996). A formal model of intentional communication. *Preprints of the 2nd Conference on Logic and the Foundations of the Theory of Games and Decisions (LOFT 2)*, ICER, Torino.
- 20 Dorigo, M., & M. Colombetti (1994). The role of the trainer in reinforcement learning. *Proceedings of the MLC-COLT Workshop on Robot Learning*, July 1994, Rutgers University, New Brunswick, NJ, 37–45.
- 19 Dorigo, M., M.J. Patel and M. Colombetti (1994). The effect of sensory information on reinforcement learning by a robot arm. *Proceedings of the 5th International Symposium on Robotics and Manufacturing (ISRAM 94)*, Maui, HI, TSI Press.
- 18 Colombetti, M., & M. Dorigo (1993). Learning to control an autonomous robot by distributed genetic algorithms. In J.-A. Meyer, H. L. Roitblat and S. W. Wilson, eds., *From Animals to Animats 2 (Proceedings of the 2nd International Conference on Simulation of Adaptive Behavior, SAB 92)*, Honolulu, 1992), M.I.T., Cambridge, MA, 305–312.
- 17 Airenti, G., & M. Colombetti (1991). Artificial intelligence and the representation problem. *Proceedings of the 1st World Conference on the Fundamentals of Artificial Intelligence (WOCFAI 91)*, Paris, 17–28.

- 16 Airenti, G., & M. Colombetti (1990). Representations for action. *Actes du 4ème Colloque de l'Association pour la Recherche Cognitive*, INRIA, Paris, 49–64.
- 15 Airenti, G., M. Colombetti and M.C. Gallo (1986). The role of metaknowledge in text comprehension. In R. Trappl, ed., *Cybernetics and Systems 86 (Proceedings of the 8th EMCSR, Wien)*, Reidel, Dordrecht, 799–806.
- 14 Bonarini, A., F. Brioschi, M. Colombetti, F. Garzotto, L. Ghezzi, G. Gini, G. Guida, A. Morzenti, N. Muscettola and M. Somalvico (1985). *Man-machine interaction and inferential architecture for financial planning*. Proceedings of the ESPRIT Week, Bruxelles, pp. 24.
- 13 Airenti, G., & M. Colombetti (1985). Representing events and actions. *Proceedings of Cognitiva 85*, Paris, 515–520.
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