

Alessandro Antonucci - Curriculum Vitæ

(November 2009)

PERSONAL DETAILS

✉ Alessandro Antonucci at IDSIA Via Cantonale, Galleria 2 6928 Manno - Lugano (Switzerland)	☎ +41.91.610.85.90 ☎ +41.91.610.86.61 ☎ +39.339.567.23.28 ✉ alessandro@idsia.ch	Born in Milan, Italy 21 June 1974 Citizenship: Italian
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WORK AND TEACHING EXPERIENCE

Apr-03 → present	Researcher at the <i>Dalle Molle</i> Institute for the Artificial Intelligence, Lugano (Switzerland).
Set-06 → present	Teacher of <i>Computational Mathematics and Algorithms</i> (two semesters each academic year, 6 hours per week) at the <i>University of Applied Sciences and Arts of Southern Switzerland</i> (SUPSI).
Sep-05 → Jun-07	Teaching Assistant for the courses of <i>Mathematics</i> (summer semester 2007) e <i>Probability and Statistics</i> (winter semesters 2005, 2006 and 2007) at the Faculty of Informatics of the University of Lugano (USI).
Sep-00 → Apr-03	Teacher of Informatics, various professional courses supported by the European Social Foundation, Milan (Italy).
Sep-94 → Jun-99	Supervisor of Electromagnetism Laboratory, <i>Leonardo da Vinci</i> National Museum of Science and Technology, Milan (Italy).

EDUCATION

Apr-08	Ph.D. in Computer Science at the University of Lugano. Dissertation: <i>Imprecise probabilistic graphical models: equivalent representations, inference algorithms and applications</i> .
Nov-02	M.Sc. (Laurea) in Theoretical Physics at Università degli Studi, Milan (Italy). Dissertation: <i>Spectral properties and localization in non-Hermitian tight-binding models</i> . Grade: 110/110 cum laude.

SUMMER SCHOOLS AND VISITS

May-09	Spring School 2009 of Cost Action IC0702: Reasoning and Decision Making under Uncertainty and Imprecision, Mieres (Spain).
May-08	One week visit at the “Laboratoire d’Informatique de Paris 6” (LIP6), Paris.
Jul-08	Third SIPTA School on Imprecise Probabilities, Montpellier (France).
Jul-06	Second SIPTA School on Imprecise Probabilities, Madrid (Spain).
Apr-05 → May-05	Visiting research fellow at “Decision Making Lab”, São Paulo University (Brazil).
Jul-04	First SIPTA School on Imprecise Probabilities, Lugano (Switzerland).

PUBLICATIONS**Chapter in Books**

- Piatti, A., Antonucci, A., Zaffalon, M. (accepted for publication). Building Knowledge-Based Systems using Credal Networks: A Tutorial. Nova Science Publishers, New York.
- Antonucci, A., Piatti, A., Zaffalon, M. (2007). Credal Network for Operational Risk Management. *Knowledge-Based Intelligent Information and Engineering Systems*, pp.604-611. Springer, Berlin/Heidelberg.
- Antonucci, A., Salvetti, A., Zaffalon, M. (2006). Credal networks for hazard assessment of debris flows. In Kropp, J., Scheffran, J. (Eds), *Advanced Methods for Decision Making and Risk Management in Sustainability Science*. Nova Science Publishers, New York.

Journal papers

- Antonucci, A., Yi, S., de Campos, C.P., Zaffalon, M. (accepted for publication). Generalized loopy 2U: a new algorithm for approximate inference in credal networks. *International Journal of Approximate Reasoning*.
- Antonucci, A., Piatti, A., Zaffalon, M. (2009). Credal Network for Military Identification Problems. *International Journal of Approximate Reasoning*. **50**(4), 666–679.
- Antonucci, A., Zaffalon, M. (2008). Decision-Theoretic Specification of Credal Networks: A Unified Language for Uncertain Modeling with Sets of Bayesian Networks. *International Journal of Approximate Reasoning*. **49**(2), 345–361.
- Antonucci, A., Zaffalon, M. (2007). Fast algorithms for robust classification with Bayesian nets. *International Journal of Approximate Reasoning*. **44**(3), 200–223.

Conference Proceedings

- Antonucci, A., Piatti, A. (2009). Modeling unreliable observations in Bayesian networks by credal networks. In Proceedings of the Third International Conference on Scalable Uncertainty Management (SUM 2009), pp. 28–39.
- De Cooman, G., Hermans, F., Antonucci, A., Zaffalon, M. (2009). Epistemic irrelevance in credal networks: the case of imprecise Markov trees. In ISIPTA '09: Proceedings of the Sixth International Symposium on Imprecise Probability: Theories and Applications, SIPTA, pp. 149–158.
- Benavoli, A., Antonucci, A. (2009). Aggregating Imprecise Probabilistic Knowledge. In ISIPTA '09: Proceedings of the Sixth International Symposium on Imprecise Probability: Theories and Applications, SIPTA, pp. 31–40.
- Antonucci, A., Benavoli, A., Zaffalon, M., de Cooman, G., Hermans, F. (2009). Multiple model tracking by imprecise Markov trees. In FUSION 2009: Proceedings of the 12th International Conference on Information Fusion, IEEE.
- Antonucci, A., Zaffalon, M., Sun, Y., de Campos, C. P. (2008). Generalized loopy 2U: a new algorithm for approximate inference in credal networks. In Jaeger, M., Nielsen, T. D. (Eds), Proceedings of the Fourth European Workshop on Probabilistic Graphical Models. Hirtshals, pp. 17–24.
- Salvetti, A., Antonucci, A., Zaffalon, M. (2008). Spatially distributed identification of debris flow source areas by credal networks. In Sánchez-Marrè, M., Béjar, J., Comas, J., Rizzoli, A. E., Guariso, G. (Eds), iEMSs 2008: International Congress on Environmental Modelling and Software Integrating Sciences and Information Technology for Environmental Assessment and Decision Making (Transactions of the 4th Biennial Meeting of the International Environmental Modelling and Software Society), iEMSs.
- Antonucci, A., Brühlmann, R., Piatti, A., Zaffalon, M. (2007). Credal networks for military identification problems. In de Cooman, G., Vejnarová, J., Zaffalon, M. (Eds), *Proceedings of the Fifth International Symposium on Imprecise Probability: Theories and Applications (ISIPTA '07)*, pp. 1–10. Prague (Czech Republic). Action M Agency.
- Antonucci, A., Zaffalon, M. (2006). Locally specified credal networks. In Studený, M., Vomlel, J. (Eds), *Proceedings of the third European Workshop on Probabilistic Graphical Models (PGM-2006)*, pp. 25–34. Prague, (Czech Republic). Action M Agency.
- Antonucci, A., Zaffalon, M. (2006). Equivalence between Bayesian and credal nets on an updating problem. In Lawry, J., Miranda, E., Bugarin, A., Li, S., Gil, M.A., Grzegorzewski, P., Hryniewicz, O. (Eds), *Soft Methods for Integrated Uncertainty Modeling* (Proceedings of the third international conference on Soft Methods in Probability and Statistics: SMPS 2006), pp. 223–230. Springer.
- Antonucci, A., Zaffalon, M., Ide, J.S., Cozman, F.G. (2006). Binarization algorithms for approximate updating in credal nets. In Penserini, L., Peppas, P., Perini, A. (Eds), *Proceedings of the third European Starting AI Researcher Symposium (STAIRS-2006)*, pp. 120–131. Amsterdam. IOS Press.
- Antonucci, A., Zaffalon, M. (2005). Fast algorithms for robust classification with Bayesian nets. In Cozman, F. G., Nau, R., Seidenfeld, T. (Eds), *Proceedings of the fourth International Symposium on Imprecise Probabilities and Their Applications (ISIPTA '05)*, pp. 11–20. SIPTA.
- Antonucci, A., Salvetti, A., Zaffalon, M. (2004). Assessing debris flow hazard by credal nets. In Lopez-Diaz, M., Gil, M. A., Grzegorzewski, P., Hryniewicz, O., Lawry, J. (Eds), *Proceedings of the Second International Conference on Soft Methods in Probability and Statistics (SMPS-2004) - Soft Methodology and Random Information Systems*, pp. 125–132. Springer.
- Antonucci, A., Salvetti, A., Zaffalon, M. (2004). Hazard assessment of debris flows by credal networks. In Pahl-Wostl, C., Schmidt, S., Rizzoli, A. E., Jakeman, A. J. (Eds), *iEMSs 2004: Complexity and Integrated Resources Management, Transactions of the 2nd Biennial Meeting of the International Environmental Modeling and Software Society*, pp. 98–103. iEMSs.

AFFILIATIONS, REFEREE ACTIVITIES AND OTHERS

- Executive Editor, Society for Imprecise Probability Theories and Applications (SIPTA).
- Reviewer for the following international journals: *Journal of Statistical Theory and Practice*, *International Journal of Approximate Reasoning*.
- Reviewer for the following conferences: Sixth International Symposium on Imprecise Probability: Theories and Applications (ISIPTA '09), Conferencia de la Asociación Española para la Inteligencia Artificial (CAEPIA 2009), Third European Workshop on Probabilistic Graphical Models (PGM '06), Third Biennial Meeting of the International Environmental Modeling and Software Society (IEMSs 2006).
- Local Organizer, Third International Symposium on Imprecise Probabilities and Their Applications, and the First SIPTA School on Imprecise Probabilities, Lugano (Switzerland).

PROJECTS AND GRANTS

Apr-08 → Apr-10	<i>Projekt CREDO Phase II: Sensornetzwerke für Sicherungsoperationen</i> (postdoc grand funded by Armasuisse).
Mag-07 → Apr-07	<i>CREDO: Identifizierung von unbekanntem Objekten mittels kredaler Klassifizierung</i> (grant founded by Armasuisse).
Apr-03 → Apr-07	<i>Investigations on the theory and practice of credal classification</i> (Ph.D. grand founded by the Swiss National Foundation).
Aug-09	Carlo Cattaneo Award (first prize, CHF 10.000) for a research about: “ <i>risk analysis of debris flows in the area of Ticino Canton by credal networks</i> ”.

LANGUAGES AND COMPUTER SKILLS

Fluent English, French and Lithuanian. Basic German. Mother tongue Italian.

Deep knowledge of C++, Java, Perl, PHP, Python, L^AT_EX, XHTML, R, Matlab, Mathematica, Weka, ...