

# List of Publications

Ofer Arieli

## Articles in Scientific Journals and Books

1. O.Arieli, A.Avron. Reasoning with logical bilattices. *Journal of Logic, Language, and Information* 5(1), pages 25–63, 1996.
2. O.Arieli, A.Avron. The value of the four values. *Artificial Intelligence* 102(1), pages 97–141, 1998.
3. O.Arieli, A.Avron. A model theoretic approach to recover consistent data from inconsistent knowledge-bases. *Journal of Automated Reasoning* 22(3), pages 263–309, 1999.
4. O.Arieli. Four-valued logics for reasoning with uncertainty in prioritized Data. In: *Information, Uncertainty, Fusion*. B.Bouchon-Meunier, R.R.Yager, and L.A.Zadeh, editors, Kluwer Academic Publishers, pages 293–304, 1999.
5. O.Arieli, A.Avron. Bilattices and paraconsistency. In: *Frontiers of Paraconsistent Logic*. D. Batens, C. Mortensen, G. Priest, and J. Van Bendegem, editors, Studies in Logic and Computation 8, Research Studies Press, pages 11–27, 2000.
6. O.Arieli, A.Avron. General patterns for nonmonotonic reasoning: from basic entailments to plausible relations. *The Logic Journal of the Interest Group in Pure and Applied Logics (IGPL)* 8(2), pages 119–148, 2000.
7. O.Arieli. Paraconsistent declarative semantics for extended logic programs. *Annals of Mathematics and Artificial Intelligence* 36(4), pages 381–417, 2002.
8. O.Arieli, M.Denecker. Reducing preferential paraconsistent reasoning to classical entailment. *Journal of Logic and Computation* 13(4), pages 557–580, 2003.
9. O.Arieli. Reasoning with different levels of uncertainty. *Journal of Applied Non-Classical Logics* 13(3–4), pages 317–343, 2003.
10. O.Arieli, M.Denecker, B.Van Nuffelen, M.Bruynooghe. Coherent integration of databases by abductive logic programming. *Journal of Artificial Intelligence Research*, 21, pages 245–286, 2004.
11. O. Arieli, C. Cornelis, G. Deschrijver, E. E. Kerre. Relating intuitionistic fuzzy sets and interval-valued fuzzy sets through bilattices. In: *Applied Computational Intelligence*. D. Ruan, P. D'hondt, M. De Cock, M. Nachtgael, and E.E.Kerre, editors, World Scientific, pages 57–64, 2004.
12. O.Arieli, M.Denecker, B.Van Nuffelen, M.Bruynooghe. Computational methods for database repair by signed formulae. *Annals of Mathematics and Artificial Intelligence* 46(1–2), pages 4–37, 2006.
13. C.Cornelis, O.Arieli, G.Deschrijver, E.Kerre. Uncertainty modeling by bilattice-based squares and triangles. *IEEE Transactions on Fuzzy Systems*, 15(2), pages 161–175, 2007.
14. G.Deschrijver, O.Arieli, C.Cornelis, E.Kerre. A bilattice-based framework for handling graded truth and imprecision. *Uncertainty, Fuzziness and Knowledge-Based Systems*, 15(1), pages 13–41, 2007.
15. O.Arieli. Paraconsistent reasoning and preferential entailments by signed quantified Boolean formulae. *ACM Transactions on Computational Logic* 8(3), Article 18, 2007.
16. O.Arieli, M.Denecker, M.Bruynooghe. Distance semantics for database repair. *Annals of Mathematics and Artificial Intelligence* 50(3–4), pages 389–415, 2007.
17. O.Arieli. Distance-based paraconsistent logics. *The International Journal of Approximate Reasoning* 48(3), special issue on non-monotonic reasoning and uncertainty, pages 766–783, 2008.

18. O.Arieli. Reasoning with prioritized information by iterative aggregation of distance functions. *Journal of Applied Logic* 6(4), pages 589–605, 2008.
19. O.Arieli, A.Zamansky. Distance-based non-deterministic semantics for reasoning with uncertainty. *The Logic Journal of the Interest Group in Pure and Applied Logics* 17(4), pages 325–350, 2009.
20. M.Denecker, A.Cortés-Calabuig, M.Bruynooghe, O.Arieli. Towards a logical reconstruction of a theory for locally closed databases. *ACM Transactions on Database Systems* 35(3), Article 22, 2010.
21. O.Arieli, A.Zamansky. Simplified forms of computerized reasoning with distance semantics. *Journal of Applied Logic* 9(1), pages 1–22, 2011.
22. O.Arieli, A.Zamansky. A framework for reasoning under uncertainty based on non-deterministic distance semantics. *International Journal of Approximate Reasoning* 52(2), pages 184–211, 2011.
23. O.Arieli, A.Avron, A.Zamansky. Maximal and pre-maximal paraconsistency in the framework of three-valued semantics. *Studia Logica* 97(1), pages 31–60, 2011.
24. O.Arieli, A.Avron, A.Zamansky. Ideal paraconsistent logics. *Studia Logica* 99(1–3), pages 31–60, 2011.

## Refereed Papers in Conference Proceedings

1. O.Arieli, A.Avron. Logical bilattices and inconsistent data. *Proc. 9th Annual IEEE Symposium on Logic in Computer Science (LICS'94)*, pages 468–476, IEEE Press, July 1994.
2. O.Arieli, A.Avron. A bilattice-based approach to recover consistent data from inconsistent knowledge-bases. *Proc. 4th Bar-Ilan Symposium on Foundations of Artificial Intelligence (BISFAI'95)*, M.Koppel and E.Shamir, editors, pages 14–23, AAAI Press, June 1995.
3. O.Arieli, A.Avron. Automatic diagnoses for properly stratified knowledge-bases. *Proc. 8th IEEE International Conference on Tools with Artificial Intelligence (ICTAI'96)*, pages 392–399, IEEE Press, November 1996.
4. O.Arieli, A.Avron. Four-valued diagnoses for stratified knowledge-bases. *Proc. Annual Conference of the European Association for Computer Science Logic (CSL'96)*, September 1996 – Selected Papers. Lecture Notes in Computer Science No.1258, D.Van-Dalen and M.Benzem, editors, pages 1–17, Springer Verlag, 1997.
5. O.Arieli. A four-valued approach for handling inconsistency in prioritized knowledge-bases. *Proc. 10th Annual Conference of the Florida Artificial Intelligence Research Society (FLAIRS'97)*, pages 92–96, May 1997.
6. O.Arieli, A.Avron. The logical role of the four-valued bilattice. *Proc. 13th IEEE Annual Symposium on Logic in Computer Science (LICS'98)*, pages 218–226, IEEE Press, June 1998.
7. O.Arieli. Four-valued logics for reasoning with uncertainty in prioritized data. *Proc. 7th Conference on Information Processing and Management of Uncertainty in Knowledge-Base Systems (IPMU'98)*, pages 503–510, Editions EDK publishers, July 1998.
8. O.Arieli, A.Avron. Nonmonotonic and paraconsistent reasoning: From basic entailments to plausible relations. *Proc. 5th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ESCSQARU'99)*, Lecture Notes in Artificial Intelligence No.1638, A.Hunter and S.Parsons, editors, pages 11–22, Springer Verlag, July 1999.
9. O.Arieli. An algorithmic approach to recover inconsistent knowledge-bases. *Proc. 7th European Conference on Logics in Artificial Intelligence (JELIA'00)*, Lecture Notes in Artificial Intelligence No.1919, M.Ojeda-Aciego, I.P.de Guzman, G.Brewka, and L.M.Pereira, editors, pages 148–162, Springer, September 2000.

10. O.Arieli. Reasoning with modularly pointwise preferential relations. *Proc. 12th Belgian–Dutch Artificial Intelligence Conference (BNAIC’00)*, A. van den Bosch and H. Weigand, editors, pages 61–68, BNVKI Association, November 2000.
11. O.Arieli. B.Van Nuffelen, M.Denecker, M.Bruynooghe. Coherent composition of distributed knowledge-bases through abduction. *Proc. 8th International Conference on Logic Programming, Artificial Intelligence and Reasoning (LPAR’01)*, Lecture Notes in Computer Science No.2250, A.Nieuwenhuis, and A.Voronkov, editors, pages 620–635, Springer, December 2001.
12. O.Arieli, M.Denecker. Modeling paraconsistent reasoning by classical logic. *Proc. 2nd International Symposium on Foundations of Information and Knowledge Systems (FoIKS’02)*, Lecture Notes in Computer Science No.2284, T.Eiter and K.D.Schewe, editors, pages 1–14, Springer, February 2002.
13. O.Arieli. Paraconsistent semantics for extended logic programs. *Proc. International Conference of Artificial Intelligence (IC-AI’02)*, H.R.Arabnia and Y.Mun, editors, Vol.III, pages 1199–1205, CMSRA Press, June 2002.
14. O.Arieli, M.Denecker, B.Van Nuffelen, M.Bruynooghe. Repairing inconsistent databases: A model-theoretic approach and abductive reasoning. *Proc. ICLP’02 Workshop on Paraconsistent Computational Logic (PCL’02)*, Federated Logic Conference (FLoC’02), H.Decker, J.Villadsen and T.Waradai, editors, Datalogiske Skrifter Vol.95, pages 51–65, Roskilde University, July 2002.
15. O.Arieli. Preferential logics for reasoning with graded uncertainty. *Proc. 7th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU’03)*, Lecture Notes in Artificial Intelligence No.2711, T.D.Nielsen and N.L.Zhang, editors, pages 515–527, Springer, July 2003.
16. O.Arieli, M.Denecker, B.Van Nuffelen, M.Bruynooghe. Database repair by signed formulae. *Proc. 3rd International Symposium on Foundations of Information and Knowledge Systems (FoIKS’04)*, Lecture Notes in Computer Science No.2942, D.Seipel and J.Turell–Torres, editors, pages 14–30, Springer, February 2004.
17. B.Van Nuffelen, A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Data integration using ID-logic. *Proc. 16th International Conference on Advanced Information Systems Engineering (CAiSE’04)*, Lecture Notes in Computer Science No.3084, A.Persson and J.Stirna, editors, pages 67–81, Springer, June 2004.
18. O.Arieli. Paraconsistent preferential reasoning by signed quantified Boolean formulae. *Proc. 16th European Conference on Artificial Intelligence (ECAI’04)*, R.López de Mántaras and L.Saitta, editors, pages 773–777, IOS Press, August 2004.
19. O.Arieli, C.Cornelis, G.Deschrijver, E.Kerre. Relating intuitionistic fuzzy sets and interval-valued fuzzy sets through bilattices. *Proc. 6th International FLINS Conference on Applied Computational Intelligence (FLINS’04)*, D.Ruan et al., editors, World Scientific, pages 57–64, September 2004.
20. O.Arieli, C.Cornelis, G.Deschrijver, E.Kerre. Bilattice-based squares and triangles. *Proc. 8th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty (ECSQARU’05)*, Lecture Notes in Artificial Intelligence No.3571, L.Godo, editor, pages 563–575, Springer, July 2005.
21. B.Van Nuffelen, O.Arieli, A.Cortés-Calabuig, M.Bruynooghe. An ID-logic formalization of the composition of autonomous databases. *Proc. 8th International Conference on Logic Programming and Non-monotonic Reasoning (LPNMR’05)*, Lecture Notes in Artificial Intelligence No.3662, C.Baral, G.Greco, N.Leone and G.Tarracina, editors, pages 132–144, Springer, September 2005.
22. A.Cortés-Calabuig, M.Denecker, O.Arieli, B.Van Nuffelen, M.Bruynooghe. On the local closed-world assumption of data-sources. *Proc. 8th International Conference on Logic Programming and Non-monotonic Reasoning (LPNMR’05)*, Lecture Notes in Artificial Intelligence No.3662, C.Baral, G.Greco, N.Leone and G.Tarracina, editors, pages 145–157, Springer, September 2005.

23. O.Arieli, C.Cornelis, G.Deschrijver. Preference modeling by rectangular bilattices. *Proc. 3rd International Conference on Modeling Decisions for Artificial Intelligence* (MDAI'06), Lecture Notes in Artificial Intelligence No.3885, V.Torra et al., editors, pages 22–33, Springer, April 2006.
24. O.Arieli. Distance-based semantics for multiple-valued logics. *Proc. 11th International Workshop on Non-Monotonic Reasoning* (NMR'06), J.Dix and A.Hunter, editors, pages 153–161, June 2006.
25. O.Arieli, M.Denecker, M.Bruynooghe. Distance-based repairs of databases. *Proc. 10th European Conference on Logics in Artificial Intelligence* (JELIA'06), Lecture Notes in Artificial Intelligence No.4160, M.Fisher et al., editors, pages 43–55, Springer, September 2006.
26. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Representation of partial knowledge and query answering in locally complete databases. *Proc. 13th International Conference on Logic for Programming, Artificial Intelligence and Reasoning* (LPAR'06), Lecture Notes in Computer Science No.4246, M.Hermann and A.Voronkov, editors, pages 407–421, Springer, November 2006.
27. O.Arieli. Paraconsistent reasoning and distance minimization. *Proc. 3rd Conference on Computability in Europe* (CiE'07), In: Quaderni del Dipartimento di Scienze Matematiche e Informatiche 'Roberto Magari', Universita di Siena, S.B.Cooper, B.Loewe, and A.Sorbi, editors, pages 53–61, June 2007.
28. O.Arieli. Commonsense reasoning by distance semantics. *Proc. 11th. Conference on Theoretical Aspects of Rationality and Knowledge* (TARK'07), D.Samet, editor, pages 33–41, UCL Press, June, 2007.
29. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Approximate query answering in locally closed databases. *Proc. 22nd National Conference on Artificial Intelligence* (AAAI'07), AAAI Press, pages 397–402, July 2007.
30. O.Arieli. Reasoning with prioritized data by aggregation of distance functions. *Proc. 1st Conference on Artificial General Intelligence* (AGI'08), Frontiers in Artificial Intelligence, Volume 171, P.Wang, B.Goertzel, and S.Franklin, editors, pages 27–38, IOS Press, March 2008.
31. O.Arieli, A.Zamansky. Distance-based non-deterministic semantics. *Proc. 1st Conference on Artificial General Intelligence* (AGI'08), Frontiers in Artificial Intelligence, Volume 171, P.Wang, B.Goertzel, and S.Franklin, editors, pages 39–50, IOS Press, March 2008.
32. O.Arieli, A.Zamansky. Some simplified forms of reasoning with distance-based entailments. *Proc. 21st Canadian Conference on Artificial Intelligence* (AI'08), Lecture Notes in Artificial Intelligence No.5032, S.Bergler, editor, pages 36–47, Springer, May 2008.
33. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Efficient fixpoint methods for approximate query answering in locally complete databases. *Proc. LID'2008 – Logic in Databases*, May 2008.
34. O.Arieli, A.Zamansky. Reasoning with uncertainty by Nmatrix-metric semantics. *Proc. 15th Workshop on Logic, Language, Information and Computation* (WoLLIC'08), Lecture Notes Artificial Intelligence No.5110, W.Hodges and R.de-Queiroz, editors, pages 69–82, Springer, July 2008.
35. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Accuracy and efficiency of fixpoint methods for approximate query answering in locally complete databases. *Proc. 11th International Conference on Principles of Knowledge Representation and Reasoning* (KR'08), G.Brewka and J.Lang, editors, pages 81–91, AAAI Press, September 2008.
36. O.Arieli, A.Zamansky. Non-deterministic distance semantics for handling incomplete and inconsistent data. *Proc. 10th European Conference on Symbolic and Quantitative Approaches to Reasoning with Uncertainty* (ECSQARU'09), Lecture Notes in Artificial Intelligence No.5590, C.Sossai and G.Chemello, editors, pages 793–804, Springer, July 2009.
37. O.Arieli. On the application of the Disjunctive Syllogism in paraconsistent logics based on four states of information. *Proc. 12th International Conference on Principles of Knowledge Representation and Reasoning* (KR'10), pages 302–309, AAAI Press, May 2010.

38. O.Arieli, A.Avron, A.Zamansky. Maximally paraconsistent three-valued logics. *Proc. 12th International Conference on Principles of Knowledge Representation and Reasoning (KR'10)*, pages 310–318, AAAI Press, May 2010.
39. A.Avron, O.Arieli, A.Zamansky. On strong maximality of paraconsistent finite-valued logics. *Proc. 25th Annual IEEE Symposium on Logic in Computer Science (LICS'10)*, pages 304–313, IEEE Press, July 2010.
40. O.Arieli, A.Zamansky. Similarity-based inconsistency-tolerant logics. *Proc. 12th European Conference on Logics in Artificial Intelligence (JELIA'10)*, Lecture Notes in Artificial Intelligence No.6341, T.Janhunen and I.Niemelä, editors, pages 11–23, Springer, September 2010.
41. O.Arieli, A.Avron, A.Zamansky. What is an ideal logic for reasoning with inconsistency? *Proc. 22nd International Joint Conference on Artificial Intelligence (IJCAI'11)*, AAAI Press, T.Walsh, editor, pages 706–711, July 2011.
42. O.Arieli, A.Zamansky. Inconsistency-tolerance in knowledge-based systems by dissimilarities. *Proc. 7th International Symposium on Foundations of Information and Knowledge Systems (FoIKS'12)*, To appear in Lecture Notes in Computer Science, Th.Lukasiewicz and A.Sali, editors, Springer, March 2012.

## Unpublished Presentations in Scientific Meetings or Abstracts Only

1. O.Arieli, A.Avron. Bilattices and paraconsistency. *First World Congress on Paraconsistency (WCP'97)*, Ghent, Belgium, August 1997.
2. O.Arieli, A.Avron. Using four values for computerized reasoning. *The 1998 Annual Conference of the European Association for Computer Science Logic (CSL'98)*. Brno, Czech Republic, August 1998.
3. O.Arieli. Four-valued logics for reasoning with uncertainty. *The Benelux Workshop on Computational Logic (BenCL'2000)*, Peer, Belgium, May 2000 (The abstract of this talk appears in: Technical Report No. CW290, H.Vandecasteele and M.Bruynooghe, editors, Department of Computer Science, University of Leuven, May 2000).
4. O.Arieli. Database integration: preferential semantics and abductive reasoning. *Dagstuhl Seminar No.03241 on Inconsistency Tolerance in Database, Knowledge-bases, and Software Systems*, Schloss Dagstuhl, Wadern, Germany, June 2003. <ftp://ftp.dagstuhl.de/pub/Proceedings/03/03141/>.
5. A.Cortés-Calabuig, M.Denecker, O.Arieli, B.Van-Nuffelen, M.Bruynooghe. On the local closed-world assumption of data-sources. *Biennial Israeli Symposium on the Foundations of Artificial Intelligence (BISFAI'05)*, Haifa, Israel, June 2005.
6. B.Van-Nuffelen, M.Denecker, O.Arieli, A.Cortés-Calabuig, M.Bruynooghe. An ID-logic formalization of the composition of autonomous databases. *Biennial Israeli Symposium on the Foundations of Artificial Intelligence (BISFAI'05)*, Haifa, Israel, June 2005.
7. A.Cortés-Calabuig, M.Denecker, O.Arieli, B.Van-Nuffelen, M.Bruynooghe. On the local closed-world assumption of data-sources. *Proc. 17th Belgian-Dutch Conference on Artificial Intelligence (BNAIC'05)*, Brussels, Belgium, BNVKI Association, pages 333–334, October 2005.
8. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Representation of partial knowledge and reasoning in locally complete databases. *The Second International Workshop on Exchange and Integration of Data (EID'06)*, Brixen-Bressanone, Italy, June 2006.
9. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Using deductive databases technology for approximate query answering in partially complete databases. *Dutch-Belgian DataBase Day (DBDBD-07)*, Eindhoven, The Netherlands, November 2007.

10. A.Cortés-Calabuig, M.Denecker, O.Arieli, M.Bruynooghe. Approximate query answering in locally closed databases. *Proc. 19th Belgian-Dutch Conference on Artificial Intelligence (BNAIC'07)*, Utrecht, The Netherlands, pages 339–340, November 2007.
11. O.Arieli, A.Zamansky. Non-deterministic distance semantics for handling incomplete and inconsistent data. *10th Biennial Israeli Symposium on the Foundations of Artificial Intelligence (BISFAI'09)*, Ramat-Gan, Israel, June 2009.
12. O.Arieli, A.Avron, A.Zamansky. All natural three-valued paraconsistent logics are maximal. *The 3rd World Congress on Universal Logic (UniLog'2010), Special Session on Negation*. Lisbon, Portugal, April 2010.

## Theses

1. O.Arieli. *Multiple-valued logics for reasoning with uncertainty*. Ph.D. dissertation. Department of Computer Science, Tel-Aviv University, April 1999.