

Silvio Ghilardi - Full Publication List

Publications are sorted in a chronological order (a partial list of technical reports is also appended).

1985 and before:

- 1** S. Ghilardi, G. Meloni *Sulle relazioni di copertura nel modello dei filtri di una teoria proposizionale intuizionista*, Ist. Lomb. Accad. Sci. Lett. Rend. A 117, pp.223-235, (1983).
- 2** S. Ghilardi, G. Meloni *Modelli con coperture per la logica proposizionale intuizionista e locale*, Atti degli Incontri di Logica Matematica, vol. 2, Univ. di Siena, pp.333-338, (1985).
- 3** S. Ghilardi, G. Meloni *Completezza per logiche intermedie*, Atti degli Incontri di Logica Matematica, vol. 2 Univ. di Siena, pp.613-620, (1985).
- 4** S. Ghilardi, G. Meloni, C. Piersantini *Alcuni risultati sulle logiche intermedie proposizionali*, Atti degli Incontri di Logica Matematica, vol. 2, Univ. di Siena, pp.487-498, (1985).
- 5** S. Ghilardi, G. Meloni *Un approccio concettuale alla logica proposizionale cartesiana e distributiva*, in C. Mangione (ed.) “Scienza e filosofia. Saggi in onore di L. Geymonat”, Garzanti, Milano, pp.446-467, (1985).

1986-1990:

- 6** S. Ghilardi, G. Meloni *Modal and tense predicate logic: models in presheaves and categorical conceptualization*, in F.Borceux (ed.) “Categorical algebra and its applications, Proceedings Louvain-la-Neuve 1987”, Lecture Notes in Mathematics, Springer, Berlin, pp.130-142, (1988).

- 7 S. Ghilardi, G. Meloni *Un approccio concettuale alla logica predicativa modale e lineare distributiva*, Atti degli Incontri di Logica Matematica, vol. 4, Univ. di Siena, pp.63-68, (1988).
- 8 S. Ghilardi *Presheaf semantics and independence results for some non classical first order logics*, Archive for Mathematical Logic, 29, pp.125-136, (1989).
- 9 S. Ghilardi, G. Meloni *Philosophical and mathematical investigations in first order modal logic* in G.Usberti (ed.) "Problemi fondazionali nella teoria del significato", Olschki, Firenze, pp. 77-107, (1989).
- 10 S. Ghilardi *Fenomeni di incompletezza nelle logiche modali quantificate*, Atti degli Incontri di Logica Matematica, VI, Università di Siena, pp. 91-92 (1989).
- 11 G. Corsi, S. Ghilardi *Directed frames*, Archive for Mathematical Logic, 29, pp.53-67, (1989)
- 12 S. Ghilardi, G. Meloni *Modal logics with n-ary connectives*, Zeitschr. fur Math. Log. und Grundl. der Math., 36, pp.193-215, (1990).
- 13 S. Ghilardi *Modalità e categorie*, tesi di dottorato, Università degli Studi di Milano, (1990).

1991-1995:

- 14 S. Ghilardi, G. Meloni *Relational and topological semantics for modal and temporal first order predicative logic*, in G. Corsi, G. Sambin (eds.) "Nuovi problemi della logica e della filosofia della scienza", vol. II, CLUEB, Bologna, pp.59-77, (1991).
- 15 S. Ghilardi *Incompleteness results in Kripke semantics*, Journal of Symbolic Logic, 56, 2, pp.517-538, (1991).
- 16 S. Ghilardi *Quantified extensions of canonical propositional intermediate logics*, Studia Logica, 51, pp. 195-214, (1992).

- 17 G. Corsi, S. Ghilardi *Semantical aspects of quantified modal logic*, in Bicchieri C. - Dalla Chiara M.L. (eds.) "Knowledge, Belief and Strategic Interaction" Cambridge University Press, pp.167-196, (1992).
- 18 S. Ghilardi *Free Heyting algebras as bi-Heyting algebras*, Math. Rep. Acad. Sci. of Canada, XIV, 6, pp.240-244, (1992).
- 19 S. Ghilardi *An algebraic theory of normal forms*, Annals of Pure and Applied Logic, 71, 3 pp.189-245, (1995).
- 20 S. Ghilardi *Irreducible models and definable embeddings*, in Gabbay D. - Csirmaz L. - De Rijke M. (eds.) "Logic Colloquium '92 (Proceedings)", Studies in Logic, Language and Information, CSLI Publications, pp. 95-213, (1995).
- 21 S. Ghilardi, M. Zawadowski *A sheaf representation and duality for finitely presented Heyting algebras*, Journal of Symbolic Logic, 60, 3, pp.911-939, (1995).
- 22 S. Ghilardi, M. Zawadowski *Undefinability of propositional quantifiers in the modal system S4*, Studia Logics, 55, pp.259-271, (1995).

1996-2000:

- 23 S. Ghilardi, G. Meloni *Relational and partial variable sets and basic predicate logic*, Journal of Symbolic Logic, 61, 3, pp.843-872, (1996).
- 24 S. Ghilardi, M. Zawadowski *Model completions and r -Heyting categories*, Annals of Pure and Applied Logic, 88, pp.27-46, (1997).
- 25 S. Ghilardi *Unification through projectivity*, Journal of Logic and Computation, 7, 6, pp.733-752 (1997).
- 26 S. Ghilardi, G. Meloni *Constructive canonicity in non-classical logics*, Annals of Pure and Applied Logic, 86, pp.1-32 (1997).
- 27 S. Ghilardi *Unification in intuitionistic logic*, Journal of Symbolic Logic, vol.64, n.2, pp.859-880 (1999).

- 28 S.Ghilardi, P. Miglioli *On canonicity and strong completeness conditions in propositional intermediate logics*, *Studia Logica*, n.63, pp.1-33 (1999).
- 29 S. Ghilardi *Best solving modal equations*, *Annals of Pure and Applied Logic*, 102, pp.183-198 (2000).

2001-2005:

- 30 S. Ghilardi *Substitution, quantifiers and identity in modal logic*, in Hieke A. - Morscher E. (eds.) "New Essays in Free Logic (in honour of K. Lambert)", *Applied Logic Series*, vol.23, pp.87-115, Kluwer (2001).
- 31 S. Ghilardi *A resolution/tableaux algorithm for projective approximations in IPC*, *Logic Journal of the IGPL*, vol.10, n.3, pp.227-241 (2002).
- 32 S.Ghilardi, M. Zawadowski *Sheaves, Games and Model Completions (a categorical approach to non classical propositional logics)* , *Trends in Logic Series*, Kluwer (2002).
- 33 S. Ghilardi, M. Zawadowski *From bisimulation quantifiers to classifying toposes*, in F. Wolter, M. de Rijke, H. Wansing, M. Zakharyashev (eds.) 'Advances in Modal Logic, vol. III', *World Scientific Publ.*, pp.193-220 (2002).
- 34 C. Fiorentini, S. Ghilardi *Combining Word Problems Through Rewriting in Categories with Products*, *Theoretical Computer Science*, 294, pp. 103-149 (2003).
- 35 S. Ghilardi *Quantifier Elimination and Provers Integration*, *Proceedings of FTP (First Order Theorem Proving) 03*, *Electronic Notes in Theoretical Computer Science* 86, n.1 (2003).
- 36 S. Ghilardi, L. Santocanale *Algebraic and Model-Theoretic Techniques for Fusion Decidability in Modal Logic*, in Vardi M., Voronkov A. "Logic for Programming, Artificial Intelligence and Reasoning (LPAR 03)" *Springer LNAI*, vol.2850 pp.152-166 (2003).

- 37 S. Ghilardi *Model Theoretic Methods in Combined Constraint Satisfiability*, Journal of Automated Reasoning, vol. 33, no. 3-4, pp.221-249 (2004).
- 38 S. Ghilardi *Unification, Finite Duality and Projectivity in Varieties of Heyting Algebras*, Annals of Pure and Applied Logic, vol. 127/1-3, pp.99-115 (2004).
- 39 S. Ghilardi, L. Sacchetti *Filtering Unification and Most General Unifiers in Modal Logic*, Journal of Symbolic Logic, 69, 3, pp.879-906 (2004).
- 40 F. Baader, S.Ghilardi, C. Tinelli *A New Combination Procedure for the Word Problem that generalizes Fusion Decidability in Modal Logic*, Proceedings of the Second International Joint Conference on Automated Reasoning (IJCAR '04), Lecture Notes in Artificial Intelligence 3097, Springer, pp. 183-197 (2004).
- 41 S. Ghilardi *Sfidare l'Indecidibile (tecniche e metodologie del ragionamento automatico nella logica elementare con identità)*, Milano, Polimetrica, (2004).
- 42 F. Baader, S. Ghilardi *Connecting many-sorted theories*, Proceedings of the 20-th Conference on Automated Deduction (CADE-20), Lecture Notes in Artificial Intelligence, Springer, vol. 3632, pp. 278-294, (2005).
- 43 F. Baader, S. Ghilardi *Connecting many-sorted structures and theories through adjoint functions*, Proceedings of the Fifth International Workshop on Frontiers of Combining Systems (FroCoS 2005), Lecture Notes in Artificial Intelligence, Springer, vol. 3717, pp. 31-47, (2005).
- 44 S. Ghilardi, E. Nicolini, D. Zucchelli *A Comprehensive Framework for Combining Decision Procedures*, Proceedings of the Fifth International Workshop on Frontiers of Combining Systems (FroCoS 2005), Lecture Notes in Artificial Intelligence, Springer, vol. 3717, pp. 1-30, (2005).

2006-2010:

- 45 F. Baader, S.Ghilardi, C. Tinelli *A New Combination Procedure for the Word Problem that generalizes Fusion Decidability in Modal Logic*, Information and Computation, vol.204, n.10, pp.1413-1452 (2006).

- 46 S. Ghilardi, E. Nicolini, D. Zucchelli *Recent Advances in Combined Decision Problems*, in E. Ballo, M. Franchella (eds.) “Logic and Philosophy in Italy: Trends and Perspectives (Essays in Honor of C. Mangione)”, Polimetrica, Milano, (2006).
- 47 M. P. Bonacina, S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Decidability and Undecidability Results for Nelson-Oppen and Rewrite-based Decision Procedures*, Proceedings of the “Third International Joint Conference on Automated Reasoning (IJCAR 06)”, Springer LNAI, vol.4130, pp.513-527, (2006).
- 48 S. Ghilardi, C. Lutz, F. Wolter *Did I damage my Ontology ?*, Proceedings of “Principles of Knowledge Representation and Reasoning (KR 06)”, pp.187-197, AAAI Press, (KR06).
- 49 S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Deciding Extensions of the Theory of Arrays by Integrating Decision Procedures and Instantiation Strategies*, Proceedings of the 10th European Conference on Logic in Artificial Intelligence (JELIA 06), Springer Lecture Notes in Computer Science, vol. 4160, pp.177-189, (2006).
- 50 S. Ghilardi, C. Lutz, F. Wolter, M. Zakharyashev *Conservativity in Modal Logic*, “Advances in Modal Logic, Vol. VI”, pp.187-207, College Publications, (2006).
- 51 T. Bräuner, S. Ghilardi *First-Order Modal Logic*, in P. Blackburn, J. van Benthem, F. Wolter “Handbook of Modal Logic”, Elsevier, pp.549-620 (2007).
- 52 F. Baader, S. Ghilardi *Connecting many-sorted theories*, Journal of Symbolic Logic, vol. 72, n.2, pp. 535-583, (2007).
- 53 G. Bezhanishvili, S. Ghilardi, *An Algebraic Approach to Subframe Logics. Intuitionistic Case*, Annals of Pure and Applied Logic, vol. 147, pp. 84-100, (2007).
- 54 S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Combination Methods for Satisfiability and Model-Checking of Infinite-State Systems*, Proceedings of the 21-th Conference on Automated Deduction (CADE-21),

Lecture Notes in Artificial Intelligence, Springer, vol.4603, pp.362-378 (2007).

- 55 S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Noetherianity and Combination Problems*, Proceedings of the VI International Symposium on Frontiers of Combining Systems (FroCoS '07), Lecture Notes in Artificial Intelligence, vol.4720, pp.206-220, Springer, (2007).
- 56 S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Decision Procedures for Extensions of the Theory of Arrays*, Annals of Mathematics and Artificial Intelligence, 50(3-4), pp.231-254, (2007).
- 57 S. Ghilardi, E. Nicolini, D. Zucchelli *A Comprehensive Combination Framework*, ACM Transactions on Computational Logic, 9(2), pp.1-54, (2008).
- 58 S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Towards SMT Model-Checking of Array-Based Systems*, Proc. of the IV Int. Joint Conference on Automated Reasoning (IJCAR 08), Lecture Notes in Artificial Intelligence, vol. 5195, pp. 67-82, Springer, (2008).
- 59 F. Baader, S. Ghilardi, C. Lutz *LTL over Description Logics Axioms*, Proc. of the 11th Int. Conf. on Principles of Knowledge Representation and Reasoning (KR 08), AAAI Press, (2008).
- 60 S. Ghilardi, S. Ranise, T. Valsecchi *Light-Weight SMT-based Model Checking*, Proc. of the VIII Int. Work. on Automated Verification of Critical Systems, (AVOCS 08), Electr. Notes in Theor. Comp. Sci., to appear.
- 61 S. Ghilardi, S. Ranise, *Goal Directed Invariant Synthesis in Model Checking Modulo Theories*, Proc. of the 18th International Conference on Automated Reasoning with Analytic Tableaux and Related Methods (TABLEAUX 09), Lecture Notes in Artificial Intelligence, vol.5607, pp.173-188, Springer, (2009).
- 62 S. Ghilardi, S. Ranise, *Model Checking Modulo Theories at Work: the Integration of Yices in MCMT*, Proc. of Automated Formal Methods (AFM) 09, to appear in the ACM Digital Library.

- 63 S. Ghilardi, S. Ranise *MCMT: a Model Checker Modulo Theories* (system description), Proc. of the 5th International Joint Conference on Automated Reasoning (IJCAR 10), Lecture Notes in Artificial Intelligence, vol.6173, pp.22-29, Springer, (2010).
- 64 A. Carioni, S. Ghilardi, S. Ranise *MCMT in the Land of Parametrized Timed Automata*, Proc. of the 6th International Verification Workshop, VERIFY-2010, Easy Chair Proceedings, to appear.
- 65 F. Alberti, S. Ghilardi, E. Pagani, S. Ranise, G. P. Rossi *Automated Support for the Design and Validation of Fault Tolerant Parameterized Systems - A Case Study*. Brief Announcement in Proc. of DISC 2010, Springer LNCS, n.6343, pp.392-394; to appear as a full paper in Proc. of AVOCS 2010, Electr. Comm. of the EASST, vol.X, 2010.
- 66 S. Ghilardi, S. Ranise *Backward Reachability of Array-based Systems by SMT Solving: Termination and Invariant Synthesis*, Logical Methods in Computer Science, vol.6, n.4, 2010.
- 67 S. Ghilardi, *Continuity, Freeness, and Filtrations*, Journal of Applied Non-Classical Logics, vol.20, n.3, pp.193-217, 2010.

2011-2015:

- 68 G. Bezhanishvili, S. Ghilardi, M. Jibladze *An algebraic approach to sub-frame logics. Modal case*, Notre-Dame Journal of Formal Logic, vol.52, n.2, pp.187-202, 2011.
- 69 R. Bruttomesso, S. Ghilardi, S. Ranise *Rewriting-based quantifier-free interpolation for a theory of arrays*, Proceedings of Rewriting Techniques and Applications (RTA '11), Leibniz International Proceedings in Informatics, vol. 10, pp. 171-186, 2011.
- 70 R. Bruttomesso, S. Ghilardi, S. Ranise *A Combination of Rewriting and Constraint Solving for the Quantifier-free Interpolation of Arrays with Integer Difference Constraints*, Proceedings of the VIII International Symposium on Frontiers of Combining Systems (FroCoS '11), Lecture Notes in Artificial Intelligence, vol. 6989, pp. 103-118, Springer, 2011.

- 71** A. Carioni, S. Ghilardi, S. Ranise *Automated Termination in Model Checking Modulo Theories*, Proceedings of the V Workshop on Reachability Problems (RP '11), Lecture Notes in Computer Science, vol. 6945, pp. 110-124, Springer, 2011.
- 72** F. Baader, S. Ghilardi, *Unification in Modal and Description Logics*, Logic Journal of the IGPL, Volume 19, Issue 6, pp. 705-730, 2011.
- 73** F. Baader, S. Ghilardi, C. Lutz *LTL over Description Logics Axioms*, ACM Transactions on Computational Logic, to appear, 2012.
- 74** F. Alberti, S. Ghilardi, E. Pagani, S. Ranise, G. P. Rossi *Universal Guards, Relativization of Quantifiers, and Failure Models in Model Checking Modulo Theories*, Journal on Satisfiability, Boolean Modeling and Computation, vol.8, pp. 29-71, 2012.
- 75** F. Alberti, R. Bruttomesso, S. Ghilardi, S. Ranise, N. Sharygina *Lazy Abstraction with Interpolants for Arrays*, Proceedings of Logic for Programming, Artificial Intelligence and Reasoning (LPAR-18), Lecture Notes in Computer Science, Springer, to appear, 2012.
- 76** R. Bruttomesso, A. Carioni, S. Ghilardi, S. Ranise *Automated Analysis of Parametric Timing Based Mutual Exclusion Algorithms*, Proceedings of the Fourth NASA Formal Methods Symposium (NFM '12), Lecture Notes in Computer Science, vol. 7226, Springer, 2012, to appear.
- 77** R. Bruttomesso, S. Ghilardi, S. Ranise *Quantifier-free Interpolation for a Theory of Arrays*, Logical Methods in Computer Science, to appear.
- 78** F. Alberti, R. Bruttomesso, S. Ghilardi, S. Ranise, N. Sharygina *SA-FARI: SMT-based Abstraction for Arrays with Interpolants*, Proceedings of Computer Aided Verification (CAV '12), Lecture Notes in Computer Science, Springer, to appear, 2012.
- 79** R. Bruttomesso, S. Ghilardi, S. Ranise *From Strong Amalgamation to Modularity of Quantifier-Free Interpolation*, Proceedings of the VI International International Joint Conference on Automated Reasoning (IJCAR '12), Lecture Notes in Artificial Intelligence, Springer, 2012, to appear.

- 80** A. Carioni, S. Ghilardi, S. Ranise *Automated Termination in Model Checking Modulo Theories*, International Journal of Foundations of Computer Science, World Scient. Publ. Company, vol. 24, n.2, pp.211-232, February 2013.
- 81** N. Bezhanishvili, S. Ghilardi, M. Jibladze *Free modal algebras revisited: the step-by-step method*, in "Leo Esakia on Duality in Modal and Intuitionistic Logics", Outstanding Contributions to Logic, Springer, pp.43-62, (2014).
- 82** W. Conradie, S. Ghilardi, A. Palmigiano *Unified Correspondence*, Essays in honour of J. van Benthem, edited by A. Baltag and S. Smets, Trends in Logic, Springer, to appear.
- 83** R. Bruttomesso, S. Ghilardi, S. Ranise *Quantifier-Free Interpolation in Combinations of Equality Interpolating Theories*, ACM Transactions in Computational Logic, 15(1):5, 2014.
- 84** F. Alberti, S. Ghilardi, N. Sharygina *Definability of Accelerated Relations in a Theory of Arrays and its Applications*, Proceedings of FroCoS 2013, Springer LNAI, (2013).
- 85** N. Bezhanishvili, S. Ghilardi *Bounded Proofs and Step Frames*, Proceedings of Tableaux 2013, Springer LNAI, (2013).
- 86** S. Ghilardi, G. Mints *The logic of transitive and dense frames: from the step-frame analysis to full cut-elimination*, Logic J. of the IGPL, 22(4): 585-596 (2014).
- 87** F. Alberti, S. Ghilardi, N. Sharygina *Acceleration-based safety decision procedure for programs with arrays*, short papers (informal) track, LPAR 2013.
- 88** F. Alberti, S. Ghilardi, N. Sharygina *Decision Procedures for Flat Array Properties*, Proceedings of TACAS 2014, Springer LNCS, pp.15-30S, (2014).
- 89** F. Alberti, R. Bruttomesso, S. Ghilardi, S. Ranise, N. Sharygina *An extension of Lazy Abstraction with Interpolation for programs with arrays*, Formal Methods in System Design, 45(1): 63-109, Springer, (2014).

- 90 F. Alberti, S. Ghilardi, N. Sharygina *A framework for the verification of parameterized infinite-state systems*, Proceedings of CILC, pp.303-308, CEUR, 2014.
- 91 N. Bezhanishvili, S. Ghilardi *Multiple-conclusion Rules, Hypersequents Syntax and Step Frames*, Advances in Modal Logic 2014: 54-73, College Publications, 2014.
- 92 N. Bezhanishvili, S. Ghilardi *The bounded proof property via step algebras and step frames*, Annals of Pure and Applied Logic, 165(12): 1832-1863 (2014).
- 93 F. Alberti, S. Ghilardi, N. Sharygina *Booster: an acceleration-based verification framework for array programs*, Proceedings of ATVA 2014, pp.18-23, Springer LNCS, 2014.
- 94 F. Alberti, S. Ghilardi, N. Sharygina *Monotonic Abstraction Techniques: from Parametric to Software Model Checking*, Proceedings of MOD* 2014, EPTCS, to appear.
- 95 F. Alberti, S. Ghilardi, N. Sharygina *Decision Procedures for Flat Array Properties*, Journal of Automated Reasoning, vol. 54, n.4, pp.327-352, Springer, 2015.
- 96 F. Alberti, S. Ghilardi, N. Sharygina *A new Acceleration-based Combination Framework for Array Properties*, Proceedings of FroCoS 2015, Springer LNAI, 2015.

2016-2020

- 97 N. Bezhanishvili, D. Gabelaia, S. Ghilardi, M. Jibladze *Admissible bases via stable canonical rules*, Studia Logica, 104(2), pp.317-341, 2016.
- 98 F. Alberti, S. Ghilardi, N. Sharygina *A framework for the verification of parameterized infinite-state systems*, Fundamenta Informaticae, vol.150, pp.1-24, (2017).
- 99 S. Ghilardi, M. J. Gouveia, L. Santocanale *Fixed-point elimination in the Intuitionistic Propositional Calculus*, Proceedings of FoSSaCS 2016, pp. 126-141, Springer LNCS.

- 100 S. Ghilardi, S. van Gool *A Model-Theoretic Characterization of Monadic Second Order Logic on Infinite Words*, Journal of Symbolic Logic, Volume 82, Issue 1, pp. 62-76, (2017).
- 101 F. Alberti, S. Ghilardi, E. Pagani *Counting constraints in flat array fragments*, Proceedings of IJCAR 2016, Springer LNCS, vol.9706, pp.65-81, (2016).
- 102 S. Ghilardi, S. van Gool *Monadic second order logic as the model companion of temporal logic*, Proceedings of LICS, pp. 417-426, (2016).
- 103 N. Bezhanishvili, S. Ghilardi, F. Moellestrom Lauridsen *One-Step Heyting Algebras and Hypersequent Calculi with the Bounded Proof Property*, Journal of logic and Computation, to appear.
- 104 F. Alberti, S. Ghilardi, E. Pagani *Cardinality Constraints for Arrays (decidability results and applications)*, Formal Methods in System Design, pp.545-574, (2017).
- 105 M. Bersani, M. Erascu, S. Ghilardi, F. Marconi, M. Rossi *Formal Verification of Data-Intensive Applications through Model Checking Modulo Theories*, Proc. of SPIN 2017, to appear.
- 106 D. Bruschi, A. Di Pasquale, S. Ghilardi, A. Lanzi, E. Pagani *Formal verification of ARP (Address Resolution Protocol) through SMT-based model checking - A case study*, Proc. of iFM ("Integrated Formal Methods"), Springer LNCS, 2017, to appear.
- 107 S. Ghilardi, A. Gianola *Interpolation, Amalgamation and Combination (the non-disjoint signatures case)*, Proceedings of FroCoS 2017, Springer LNAI, to appear.
- 108 S. Ghilardi, E. Pagani *Counter Simulations via Higher Order Quantifier Elimination: a preliminary report*, Proc. of PxTP ('Proof Exchange in Theorem Proving'), EPTCS, 2017.
- 109 S. Ghilardi, E. Pagani *Second Order Quantifier Elimination: Towards Verification Applications*, Proc. of SOQE 17 ('Second Order Quantifier Elimination'), Dresden, CEUR, to appear.

- 110 S. Ghilardi, A. Gianola *Modularity Results for Interpolation, Amalgamation and Superamalgamation*, Annals of Pure and Applied Logic, pp.731-754 (2018).
- 111 S. Ghilardi, L. Santocanale *Ruitenburgs Theorem via Duality and Bounded Bisimulations*, Proceedings of AiML 2018, College Publications.
- 112 S. Ghilardi, M. J. Gouveia, L. Santocanale *Fixed-point elimination in the Intuitionistic Propositional Calculus*, ACM-TOCL, 21(1):1–37, (2019).
- 113 D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *From Model Completeness to Verification of Data Aware Processes*, in “Description Logic, Theory Combination, and All That”, LNCS, Springer 2019.
- 114 D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Model Completeness, Covers and Superposition*, Proc. of CADE, Springer LNCS, 2019.
- 115 D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Formal Modeling and SMT-Based Parameterized Verification of Data-Aware BPMN*, Proc. of BPM 2019, Springer LNCS.
- 116 L. Carai, S. Ghilardi *Existentially Closed Brouwerian Semilattices*, Journal of Symbolic Logic, 84(4): 1544-1575 (2019).
- 117 S. Ghilardi, L. Santocanale *Free Heyting Algebra Endomorphisms: Ruitenburg’s Theorem and Beyond*, Mathematical Structures in Computer Science, to appear.
- 118 D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *SMT-based Verification of Data-Aware Processes: a Model-Theoretic Approach*, Mathematical Structures in Computer Science, 30(3): 271-313 (2020).
- 119 D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Combined Covers and Beth Definability*, Proc. of IJCAR 20, Springer LNCS.
- 120 S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Petri Nets with Parameterised Data: Modelling and Verification*, Proc. of BPM 2020, Springer LNCS.

- 121 N. Bezhanishvili, S. Ghilardi, L. Landi *Model Completeness and Π_2 -rules: the case of Contact Algebras*, Proc. of AiML 2020, College Publ.
- 122 S. Ghilardi, A. Gianola, D. Kapur *Computing Uniform Interpolants for EUF via (conditional) DAG-based Compact Representations*, Proc. of CILC 2020, CEUR Workshop Proceedings, vol.2710, pp.67-81 (2020).

2021 and after:

- 123 S. Ghilardi, E. Pagani *Higher-Order Quantifier Elimination, Counter Simulations and Fault-Tolerant Systems*, Journal of Automated Reasoning, 65(3), pp. 425460, (2021).
- 124 G. Bezhanishvili, N. Bezhanishvili, L. Carai, D. Gabelaia, S. Ghilardi, M. Jibladze *Diego's Theorem for nuclear implicative semilattices*, Indagationes Mathematicae, 32(2), pp. 498535, (2021).
- 125 D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Model Completeness, Uniform Interpolants and Superposition Calculus (with Applications to Verification of Data-Aware Processes)*, Journal of Automated Reasoning, 2021, 65(7), pp. 941969, (2021).
- 126 S. Ghilardi, A. Gianola, D. Kapur *Interpolation and Amalgamation for Arrays with MaxDiff*, Proc. of FoSSaCS 2021, Springer LNCS, vol.12650, pp. 268288, (2021).
- 127 S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Delta-BPMN: a Concrete Language and Verifier for Data-aware BPMN*, Proc. of BPM 21, Springer LNCS, vol.12875, pp. 179196, (2021).
- 128 J. Abel Castellanos Joo, S. Ghilardi, A. Gianola, D. Kapur *AXD Interpolator: a Tool for Computing Interpolants for Arrays with MaxDiff*, Proc. of SMT Workshop 2021, Easy Chair Conf. Proc., vol.2908, pp. 4052.
- 129 D. Bruschi, A. Di Pasquale, S. Ghilardi, A. Lanzi, E. Pagani *A formal verification of ARPON a tool for avoiding Man-in-the-Middle attacks in Ethernet networks*, Transactions on Dependable and Secure Computing, 19(6), pp. 40824098, (2022).

- 130** S. Ghilardi, A. Gianola *Interpolations and Uniform Interpolation in Quantifier-Free Fragments of Combined First Order Theories*, *Mathematica*, 10(3), 461, Special Issue on "Decidability of Logics and Their Theories and Combinations", (invited contribution), (2022).
- 131** S. Ghilardi, G. Lenzi *Unification in Lax Logic*, *J. of Algebraic Hyperstructures and Logical Algebras*, Special issue for 75th Birthday of A. di Nola, vol.3, n.1, pp. 61-76, (2022).
- 132** S. Ghilardi, A. Gianola, D. Kapur *Uniform Interpolants in EUF: Algorithms using DAG-representations*, *Logical Methods in Computer Science*, 18(2), (2022);
- 133** S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Petri Net-Based Object-Centric Processes with Read-Only Data*, *Information Systems*, 127, 102011, (2022);
- 133** D. Calvanese, S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Combination of Uniform Interpolants via Beth Definability*, *Journal of Automated Reasoning*, 66(3), pp. 409435, (2022);
- 134** S. Ghilardi *The invariance modality*, in Citkin, Vandoulakis (eds.) "V.A. Jankov on Non-Classical Logics, History and Philosophy of Mathematics", *Outstanding Contributions to Logic*, 24, pp. 165175, (2022);
- 135** N. Bezhanishvili, L. Carai, S. Ghilardi, L. Landi *Admissibility of π_2 -Inference Rules: interpolation, model completion, and contact algebras*, *Annals of Pure and Applied Logic*, 174(1), 103169, (2023);
- 136** S. Ghilardi, A. Gianola, D. Kapur, C. Naso *Interpolation Results for Arrays with Length and MaxDiff*, *ACM Transactions on Computational Logic*, 24(4), 28, (2023);
- 137** S. Ghilardi, A. Gianola, M. Montali, A. Rivkin *Safety Verification and Universal Invariants for Relational Action Bases*, *Proc. of the 32nd Int. Joint Conf. on Art. Intell. (IJCAI)* pp. 32483257, (2023);
- 138** M. De Berardinis, S. Ghilardi *Profiniteness, Monadicity and Universal Models in Modal Logic*, *Annals of Pure and Applied Logic*, 175(7), 103454, (2024);

- 139 S. Ghilardi, L. Poidomani *Model Completeness for Rational Trees*, Proc. of the Int. Joint Conf. on Automated Reasoning (IJCAR 2024), Springer LNAI, to appear.
- 140 Rodrigo N. Almeida, S. Ghilardi *Unification With Simple Variable Restrictions and Admissibility of Π_2 -Rules*, Advances in Modal Logic, 15, pp.79-100 (2024).

Technical Reports (not updated):

- C. Fiorentini, S. Ghilardi *Path rewriting and Combined Word Problems*, Rapporto Interno n.250-00, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2000)
- S. Ghilardi *Reasoners' Cooperation and Quantifier Elimination*, Rapporto Interno n. 288-03, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2003).
- F. Baader, S.Ghilardi, C. Tinelli *A New Combination Procedure for the Word Problem that generalizes Fusion Decidability in Modal Logic*, Technical Report no. 03-03, Department of Computer Science, The University of Iowa (2003).
- F. Baader, S. Ghilardi *Connecting many-sorted theories*, LTCS Report 05-04, Technische Universität Dresden, 2005.
- S. Ghilardi, E. Nicolini, D. Zucchelli *A Comprehensive Framework for Combining Decision Procedures*, Rapporto Interno n. 304-05, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2005).
- M. P. Bonacina, S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Decidability and Undecidability Results for Nelson-Oppen and Rewrite-based Decision Procedures*, Rapporto Interno n. 308-06, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2006).
- S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Deciding Extensions of the Theory of Arrays by Integrating Decision Procedures and Instantiation Strategies*, Rapporto Interno 309-06, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2006).

- S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Combination Methods for Satisfiability and Model-Checking of Infinite-State Systems*, Rapporto Interno 313-07, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2007).
- F. Baader, S. Ghilardi, C. Lutz *LTL over Description Logics Axioms*, LTCS Report 08-01, Technische Universität Dresden, (2008).
- S. Ghilardi, E. Nicolini, S. Ranise, D. Zucchelli *Towards SMT Model-Checking of Array-Based Systems*, Rapporto Interno 318-08, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2008).
- S. Ghilardi, S. Ranise, *Goal Directed Invariant Synthesis in Model-Checking Modulo Theories*, Rapporto Interno 325-09, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2009).
- S. Ghilardi, S. Ranise, *MCMT v.1.0 - User Manual*, Rapporto Interno 329-10, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2010).
- S. Ghilardi *Continuity, Freeness, and Filtrations*, Rapporto Interno 331-10, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2010).
- R. Bruttomesso, S. Ghilardi, S. Ranise *Rewriting-based quantifier-free interpolation for a theory of arrays*, Rapporto Interno 334-10, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2010).
- A. Carioni, S. Ghilardi, S. Ranise *Automated Termination in Model Checking Modulo Theories (extended version)*, Rapporto Interno 336-11, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2011).
- R. Bruttomesso, S. Ghilardi, S. Ranise *From Strong Amalgamation to Combined Interpolation*, Rapporto Interno 337-12, Dipartimento di Scienze dell'Informazione, Università degli Studi di Milano, (2012)

- F. Alberti, S. Ghilardi, N. Sharygina *Tackling divergence: abstraction and acceleration in array programs*, Technical Report, Università della Svizzera Italiana, 2012.
- N. Bezhanishvili, S. Ghilardi, M. Jibladze *Free modal algebras revisited: the step-by-step method*, Logic Group Preprint Series, n.302, (2012), Utrecht University.
- N. Bezhanishvili, S. Ghilardi *Bounded Proofs and Step Frames*, Logic Group Preprint Series, n.306, (2013), Utrecht University.
- F. Alberti, S. Ghilardi, N. Sharygina *Decision Procedures for Flat Array Properties*, Technical Report, Università della Svizzera Italiana, 2013.
- N. Bezhanishvili, S. Ghilardi *Multiple-conclusion Rules, Hypersequents Syntax and Step Frames*, ILLC Prepublication Series Report PP-2014-05, University of Amsterdam, (2014).
- L. Carai, S. Ghilardi *Existentially Closed Brouwerian Semilattices*, preprint, arXiv:1702.08352 [math.LO], July 2017.