

PERSONAL INFORMATION

Silvio Ghilardi

ACTUAL POSITION

Full Professor in Mathematical Logic
Dipartimento di Matematica,
Università degli Studi di Milano

PREVIOUS POSITIONS

From 01/11/1998 to 28/02/2003

Associate Professor in Mathematical Logic
(Università degli Studi di Milano)

From 16/01/1991 to 31/10/1998

Assistant Professor in Algebra and Geometry
(Università degli Studi di Milano)

EDUCATION

- 1991 **PhD in Mathematics**
(Università degli Studi di Milano)
- 1982 **Master in Philosophy**
(Università degli Studi di Milano)

PERSONAL SKILLS

- Mother Tongue Italian
- Other Tongues English, French

RESEARCH ACTIVITY

In this Section we refer only to relevant research from the last five years: more complete information is available in the web site mentioned below.

Areas of Interest

Algebraic and Categorical Logic, Modal and Descriptive Logics, Automated Reasoning, Infinite-State Model-Checking.

Publications

1. S. Ghilardi, A. Gianola *Modularity Results for Interpolation, Amalgamation and Superamalgamation*, Annals of Pure and Applied Logic, 169(8), pp.731-754 (2018).
2. F. Alberti, S. Ghilardi, E. Pagani *Cardinality Constraints for Arrays (decidability results and applications)*, Formal Methods in System Design, pp.545-574, (2017).
3. N. Bezhanishvili, S. Ghilardi, F. Moellestrom Lauridsen *One-Step Heyting Algebras and Hypersequent Calculi with the Bounded Proof Property*, Journal of logic and Computation, pp.2135-2169 (2017).
4. 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).
5. N. Bezhanishvili, D. Gabelaia, S. Ghilardi, and M. Jibladze *Admissible bases via stable canonical rules*, Studia Logica, vol. 104(2), pp.317-341, (2016).
6. F. Alberti, S. Ghilardi, N. Sharygina *A framework for the verification of parameterized infinite-state systems*, Fundamenta Informaticae, vol.150, pp.1-24, (2017).
7. 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).
8. 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).
9. 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).
10. S. Ghilardi, G. Mints *The logic of transitive and dense frames: from the step-frame analysis to*

full cut-elimination, Logic Journal of the IGPL 22(4): 585-596 (2014).

11. R. Bruttomesso, S. Ghilardi, S. Ranise *Quantifier-Free Interpolation in Combinations of Equality Interpolating Theories*, ACM Transactions in Computational Logic, 15(1):5, (2014).
12. A. Carioni, S. Ghilardi, S. Ranise *Automated Termination in Model Checking Modulo Theories*, Int. J. of Foundations of Computer Science, vol. 24, n.2, pp.211-232, (2013).
13. W. Conradie, S. Ghilardi, and A. Palmigiano *Unified Correspondence*, J. van Benthem on Logic and Information Dynamics, edited by A. Baltag and S. Smets, Outstanding Contributions to Logic, pp. 933-976, Springer, (2014).
14. N. Bezhanishvili, S. Ghilardi, and 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).
15. S. Ghilardi, L. Santocanale *Ruitenburg's Theorem via Duality and Bounded Bisimulations*, Proceedings of AiML 2018, pp.277-290, College Publications, (2018).
16. S. Ghilardi, E. Pagani *Second Order Quantifier Elimination: Towards Verification Applications*, Proc. of the Workshop on Second Order Quantifier Elimination and Related Topics (SOQE 17), CEUR Workshop Proceedings, pp.36-50 (2017).
17. S. Ghilardi, E. Pagani *Counter Simulations via Higher Order Quantifier Elimination: a preliminary report*, Proc. of the Fifth Workshop on Proof eXchange for Theorem Proving (PxTP 17), EPTCS, pp.39-53, (2017).
18. S. Ghilardi, A. Gianola *Interpolation, Amalgamation and Combination (the non-disjoint signatures case)*, Proceedings of FroCoS 2017, Springer LNCS, vol.10483, pp.316-332, (2017).
19. D. Bruschi, A. Di Pasquale, S. Ghilardi, A. Lanzi, and 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, vol.10410, pp.391-406, (2017).
20. 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, ACM Publ., pp-98-101, (2017).
21. S. Ghilardi, S. van Gool *Monadic second order logic as the model companion of temporal logic*, Proceedings of LICS, ACM Publ., pp.417-426, (2016).
22. F. Alberti, S. Ghilardi, E. Pagani *Counting constraints in flat array fragments*, Proceedings of IJCAR, Springer LNAI, vol. 9706, pp.65-81, (2016).
23. F. Alberti, S. Ghilardi, A. Orsini, E. Pagani *Counter Abstractions in Model Checking of Distributed Broadcast Algorithms: Some Case Studies*, Proc. of CILC 2016, CEUR, pp.102-117, (2016).
24. S. Ghilardi, M. J. Gouveia, L. Santocanale *Fixed-point elimination in the Intuitionistic Propositional Calculus*, Proceedings of FoSSaCS 2016, Springer LNCS, vol.9634, pp. 126-141, (2016).
25. F. Alberti, S. Ghilardi, N. Sharygina *A new Acceleration-based Combination Framework for Array Properties*, Proceedings of FroCoS 2015, Springer LNCS, vol. 9322, pp.169-185, (2015).
26. F. Alberti, S. Ghilardi, N. Sharygina *Monotonic Abstraction Techniques: from Parametric to Software Model Checking*, Proceedings of MOD*, EPTCS 168, pp.1-11, (2014).
27. F. Alberti, S. Ghilardi, N. Sharygina *Booster: an acceleration-based verification framework for array programs*, Proceedings of ATVA 2014, Springer LNCS, vol. 8837, pp.18-23, (2014).
28. N. Bezhanishvili, S. Ghilardi *Multiple-conclusion Rules, Hypersequents Syntax and Step Frames*, Advances in Modal Logic 2014, pp. 54-73, College Publications, (2014).
29. F. Alberti, S. Ghilardi, N. Sharygina *A framework for the verification of parameterized infinite-state systems*, Proceedings of CILC 2014, CEUR, pp.303-308, (2014).
30. F. Alberti, S. Ghilardi, N. Sharygina *Decision Procedures for Flat Array Properties*, Proceedings of TACAS 2014, Springer LNCS, vol.8413, pp.15-30, (2014).
31. N. Bezhanishvili, S. Ghilardi *Bounded Proofs and Step Frames*, Proceedings of Tableaux 2013, Springer LNAI, vol. 8123, pp.44-58, (2013).
32. F. Alberti, S. Ghilardi, N. Sharygina *Definability of Accelerated Relations in a Theory of Arrays and Its Applications*, Proceedings of FroCoS 2013, Springer LNCS, vol. 8152, pp.23-39, (2013)

Invited Talks in Conferences/Workshops

- Syntax Meets Semantics, SYSMICS 2019,
- International Workshop on Unification, UNIF 2018,
- Logic, Algebra and Truth Degrees, LATD 2014,
- Topology, Algebra and Categories in Logic, TACL 2013.

Program Committees of Conferences/Workshops

AiML ('Advances in Modal Logic') 2014, 2016 and 2018; FroCoS ('Frontiers of Combining Systems' 2013, 2015 and 2017; TANCL ('Algebraic and Topological Methods in Non Classical Logics'), 2011; ADDCT ('Automated Deduction, Decidability, Complexity, Tractability), 2013, 2014 (co-chair); IJCAR ('International Joint Conference on Automated Reasoning'), 2014, 2016 and 2018; CADE ('Conference on Automated Deduction'), 2017 and 2019; UNIF ('International Workshop on

Unification'), 2013, 2015, 2016 (co-chair) and 2017; VSTTE ('Verified Software: Theories, Tools, and Experiments') 2013; MOD* ('MODEl-checking for self-* systems') 2014; SOAP ('Service-Oriented Architectures and Programming Conference') 2015; VPT ('Verification and Program Transformation') 2015; TABLEAUX 2015, DL ('Description Logics Workshop') 2015, 2016, 2017 and 2018; CSL ('Computer Science logic') 2016, LPAR ('Logic for Programming, Artificial Intelligence and Reasoning') 2017, ARCADE ('Workshop on Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements') 2017 and 2019, TACL ('Topology, Algebra and Categories in Logic') 2017 and 2019 (co-chair).

Editorial Activity	Associate Editor of the 'Journal of Automated Reasoning', Springer Publishers
Projects	Local Unity Coordinator of the 2010 PRIN Project (from 1/2/2013 to 1/2/2016) 'Metodi logici per il trattamento dell'informazione'
Current Teaching	Mathematical Logic I (Master in Mathematics) Automated Reasoning (Master in Mathematics) Formal Methods (Master in Computer Science)
Web Site	Personal Web Page: http://users.mat.unimi.it/users/ghilardi/

AUTHORIZATIONS

I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information.

I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section "Amministrazione trasparente", "Consulenti e collaboratori".

Date: November 12, 2018

Signature